



***Curriculum Vitae for Professor Josiah Mwivandi Kinama  
(Agrometeorologist, associate professor and head of Agronomy)***

***CURRICULUM VITAE***

Professor Kinama is an associate professor and Agricultural scientist with extensive teaching, research and outreach experience with strengths and interests in agro-meteorology and modeling agricultural production, modeling climate change, climate change mitigation and adaptation research, crop water use, radiation use and expert in radiation and soil water balance and cropping practices, organic and inorganic fertilizer use. His past research activities include: rice production under irrigated and rain-fed agriculture, intercropping, gender roles and food security under climate change, fertilizer use under potato, maize, sorghum, production as well as climate data use and food production in Rwanda.

- i) Prof. Kinama has specialized in modeling crop production under different climatic scenarios to predict crop yields and management of yield gap analysis in handling food security under changing climate and variability. He has been involved in developing seed and planting materials, organic products and organic farming as well as fertilizer and soil amendments to safeguard and enhance food security and safety in Kenya, the East African region and beyond. Currently his research is on climate smart agriculture, sorghum production under water stress conditions, intercropping sorghum for striga control, integrated fish/guinea fowl/ yam system for food security in Muranga and maize production economize on water use and radiation use efficiencies. Sorghum accessions under climate variability in ASAL areas of Kenya, Castor and castor accessions in Kenya, Intercropping sorghum and green grams in ASALS of Kenya Projected changes in rainfall extremes characteristics over the IGAD region of Eastern Africa for sustainable food security. Impact of climate variability and change on water resources and governance in the lake Naivasha basin, Kenya. Evaluation of farmer research networks and alternative drivers of community based seed systems and adoption of improved sorghum seed in Homa Bay and Tharaka Nthi counties, Kenya. Effect of nitrogen, water use efficiency and climate variability on

sorghum genotypes productivity in semi - arid lands Growth , yield and leaf quality evaluation of on castor accessions.

- ii) Susceptibility of selected green gram varieties to infestation by storage bruchids and management of the pest with hermetic storage bag technology in Kenya , the effects of Soil types and moisture stress on growth and yield of upland rice at Mwea Kirinyanga district

He has attracted research funding on cassava value chain production in Kenya and beyond. Further he has been involved in developing and reviewing standards on planting materials, organic planting materials and organic products and fertilizer and soil amendments standards to enhance food security at the Kenya Bureau of Standards.

Prof. Kinama has been a consultant in Eastern region on rice production

Prof Kinama has supervised to completion and graduation of 8 PhD students and 32 MSc students as well as many more on going postgraduate students. He has further internally examined non supervised 8PhDs and externally examined 8PhDs and 13MScs, internally examined non supervised 15 Mscs. He has 6 on going PhD and several MSc students at various stages of their research.

His research has resulted in 54 publications in many refereed and peer reviewed journals. He has contributed heavily in the marketing of the University of Nairobi academic programs, innovations and technologies in Kenya, Eastern, Central, Southern Africa and beyond.

## 1. PERSONAL DETAILS

- i) Name: Josiah Mwivandi Kinama
- ii) Religion: Christian
- iii) Citizen: Kenyan
- iv) Marital status: Married with three children

## 2. Qualification: (PhD., MSc., Pg. diploma., BSc. in agriculture)

- i) University of Nairobi (1994 -1998), PhD (Meteorology)
- ii) University of East Anglia U.K (1989-1990), MSc.
- iii) University of Nairobi (1980-1981), (Post graduate diploma in soil and water conservation)
- iv) University of Nairobi (1976-1979), Bsc. (Degree in Agriculture)
- v) Machakos School (1970-1973), East African Certificate of Education (EACE)
- vi) Machakos School (1974-1975), East African Advanced certificate of Education (EAACE)
- vii) Kyevaluki Primary School (1964-1969), Certificate of Primary Education (C.P.E).

## 3. WORK EXPERIENCE

- i) **Currently associate Professor** – Department of Plant Science and Crop Protection, Faculty of Agriculture, College of Agriculture and Veterinary Sciences, University of Nairobi. I am head of agronomy unit teaching and supervising PhD, MSc and undergraduate students. I am involved in research, consultancy as well as chairman of a technical committee Kenya Bureau of Standards handling development of seeds and planting materials standards to enhance quality and safety of traded foods in Kenya and beyond. He is a member of standards development on fertilizer and soil amendments technical committee. Professor Kinama has been heavily involved in marketing university of Nairobi academic programs, innovations and technologies to the community, industry and other -related stakeholders in Kenya and beyond.
  - ii) **Senior lecturer 2008 -2021**
- ii) **Lecturer (2001 – 2007)**
    - a) **Lectures:** ACA601 - Agro-meteorology and crop modeling in agricultural Production, modeling climate change, ACS 602 - Agro-ecosystems analysis, SCC610 - Climate change and Food security, Seed Science and Technology, Agronomy of perennial crops, ACS 201 - Principles of Crop Production, ACS – 204 Ecology and agro-meteorology. Agro-ecology, Biodiversity and Agro-forestry resources conservation and management, ADR 721 - Agro-meteorology and modeling
    - b) **2001 – todote.** I have been a supervisor and examiner of post graduate students and 3<sup>rd</sup> year and 4<sup>th</sup> year undergraduates at department of Plant Science and Crop Protection and other related departments at the University of Nairobi
- iii) **Senior Research Scientist at KARI**
    - a) **1999-2000. Soil and water management project.** Was a lead scientist in “**the hard to quantify**” facts on soil erosion and nutrients losses and their effects on crop yields at the field scale using the nutrient monitoring model (NUT MON) in eastern Kenya.
    - b) **1997-1998:** Was a Regional research program coordinator (RRPC) and senior research scientist based at the KARI National Dryland Farming Research Center Katumani. Dealing with the coordination of all regional research programs at the centre and other collaborating agencies. Promoted participatory approach that identified and diagnosed farmers’ agricultural production problems as well as mounting on–farm research programs to address the same. Was instrumental in farmer training and developed technology transfer to farmers for increased food production and security. Provided leadership and scientific guidance to the multidisciplinary research team in the program as well as writing technical reports for the program to KARI and Funding Agencies
    - c) **1995-1996:** Wageningen Agricultural University in the Netherlands. **As a visiting scientist,** gained international exposure in working in agro-forestry systems , research and teaching, presented a scientific Paper and finalized PhD thesis writing
    - d) 1993-1995: (University of Nairobi/Wageningen Agricultural University). As **Research fellow at the International Centre for Research on Agro-forestry (ICRAF) now World Agroforestry Centre,** I undertook PhD program by research and thesis. **Did**

**Research** on - station hedgerow intercropping research and on-farm alley cropping handling, soil and water conservation on sloping land, competition for water, light and other growth resources in agro-forestry systems. Gained on the job international exposure in Agro-forestry Research with International Agricultural Research Centres (CGIARs)

- e) **1989-1992: Kenya Agricultural Research Institute (KARI).** On - farm soil and water management Research project. Did diagnostic farm surveys on farmers fields and designed appropriate research programs to address the farmers' problems
- f) **1985-1988: Ministry of Agriculture: Scientific Research Division.** Headed soil and water Management Research for sustainable food production at The National Dry Land Farming Research Centre (Katumani) - KARI
- g) **1979-1981 – Ministry of Agriculture - agricultural officer and deputy officer in-charge of farm mapping unit** dealing with land use planning and demarcations of large farms in the settlement schemes to boost food production, in key grain producing areas of rift valley in Kenya
- h) **1982-1983 – Ministry of Agriculture,** deputy officer in charge of soil and water management station in Kipkelion in Kericho district – dealing with opening up of more land, Kineni in Kisii, Kericho, Siaya, Muhoroni and sonny sugar belts. Handling overall capacity building in land preparation, planting and water storage to enhance sugar, tea and maize production
- i) **1983-1984: Ministry of Agriculture.** Officer In-charge of soil and water management station in Kajiado district. Dealing with opening up of more land in Loitoktok and Ngong divisions for increased food security through mechanization and irrigation development. Undertook farmer capacity building in land preparation, planting, weeding, harvesting, processing and marketing of main grain crops in Kenya.

#### **4. DOCTOR OF PHILOSOPHY (PHD) STUDENTS SUPERVISED**

##### **Completed and Graduated**

- i) Paulino Omo Paulino Omoj Omay, I84/51132/2016 (2019). Projected changes in rainfall extremes characteristics over the IGAD region of Eastern Africa for sustainable food security (supervisors - Muthama, Kinama and Oludhe) - 2024
- ii) Mwangi Ndiritu A82/52737/2018. Assessing Climate Smart Agency Governance Measures in Coffee Plantations Using Desmodium Legume Cover Crop. PhD in Environmental governance and Management (Supervisors – Kinama and Muthama) – **graduated 2022**
- iii) Abdimajid nunow Abdi, I84/50666/2016. Investigating how gender and community based adaptation capacities impact food security in Kajiado and Kiambu counties, Kenya (supervisors - Muthama, Inida and Kinama) - graduated in 2020
- iv) Seth Onyango A80/51134/2016. An economic analysis of impacts of zoonotic disease vector control on household income, a case of tsetse and trypanosomiasis suppression in

- Faza island of Kenya – ( supervisors - Wangia, Kinama and olet, 2016) - graduated in 2020
- v) Victoria Amwoliza Gioto I85/96312/2014. Increasing food production Resilience using eco-based farming practices under changing climate in Tharaka Nithi county, Kenya 2018. University of Nairobi (supervisors -Wandiga, Oludhe and Kinama) – graduated - 2018
  - vi) Kavila Kyuma A74/90121/2013. The effects of climate variability on prosopis juliflora spread, other vegetation trends and livestock dynamics in the drylands of Magadi in Kajiado county, 2014. University of Nairobi (supervisors -Wahome, Kinama, Wasonga) – graduated 2016
  - vii) Gerald Kyalo, 2016. Exploring improved nutrient options for increased rainfed lowland rice production in eastern and northern Uganda, University of Nairobi (supervisors - Cheminingwa and Kinama), 2016 - graduated, 2016.
  - viii) Sarah Muthenya N85/14558/2009. Effects of community livelihood practices on the conservation of *Melia volkensii* Gürke in Kibwezi, Kenya 2013, Kenyatta University ( supervisors (Mbugua, Waswa and Kinama), 2016 – graduated in 2017

**PhD - Internally examined non supervisor and graduated**

- i) Nyambariga Kibage - I85/99549/2015 **2024. Towards climate resilient food systems: assessment of food crisis and coping strategies in Taita taveta county, Kenya**
- ii) Zipporah Mueni Maluvu I85/96194/2014. PhD in Climate Change and Adaptation (**2024 – climate change perceptions, vulnerability and adaptation among smallholder farmers in Machakos county, Kenya**)
- iii) Emily Nyaboke Bosire I80/50271/2015. Modeling impacts of climate change on sorghum production in the semi-arid environment of Machakos county.. University of Nairobi
- iv) Agembo Oyange (2015). Diversity and effect of Azolla on paddy rice yield in Kenya, University of Nairobi
- v) Munialo Sussy – A80/5120/2016. Determination of factors influencing maize yield gaps on smallholder farms in two contrasting sites of western Kenya, University of Nairobi
- vi) Egeru Antony A74/82581/2011 2014. PhD – Dryland Resource management University of Nairobi A assessment of forage dynamics and its determinants under variable climate in karamoja sub-region of Uganda.
- vii) Mr. Biriiah Ndiso A80/80123/2010. PhD thesis – Enhancing performance of maize-cowpea based cropping systems in coastal lowland of Kenya through stress resilient varieties and soil moisture conservation practices
- viii) Mr. Mwangi Peter Wanjohi’s PhD degree thesis (‘Performance and influence of multipurpose legumes and their residues on maize in the cold semi-arid areas (The case of Laikipia district, Kenya) -2010
- ix) Maobe Samson Nyangau A80/7281/2000. Maize response to Mucuna Green Manure. PhD thesis - University of Nairobi.

- x) Mutonyi Jonathan Management strategies for low PH and potassium deficiency in the Mumias sugar zone of western Kenya. PhD 2014

### **PhD Students at writing thesis stage**

- i) Baraka Otieno J84/499921/2015. Evaluating Resilience of Socioeconomic and ecological Systems to Effects of climate Change in pastoral and agropastoral livelihoods of arid and semi-arid counties of Kenya: Case study of Narok and Laikipia counties - (supervisors - Wahome, Kinama and Wasonga)
- ii) Steven Tirop A82/96169/2014. Impact of climate variability and change on water resources and governance in the lake Naivasha basin, Kenya. (supervisors – Kinama, Nzioka)
- iii) Moyo Richard A80/80030/09. The effects of tillage and climate variability on the yield of cowpeas in semi-arid Zimbabwe, 2010. ( supervisors - Kinama, Onwonga, Keter)
- iv) Rukoroto Busolo (2009). Influence of mulching and alley cropping induced microclimate on the water requirements satisfaction index of maize (*Zea mays* L.) in Makueni district of Kenya - ( supervisors - Karanja, Muthama & Kinama)
- v) Carolyne Khalayi Wafula A80/53316/2018, (2020). Evaluation of farmer research networks and alternative drivers of community based seed systems and adoption of improved sorghum seed in Homa Bay and Tharaka Nthi counties, Kenya (supervisors Chimoita, Kinama and Nyangweso)
- vi) Peter Kathuli, A80/59824/2022. . Effect of nitrogen, water use efficiency and climate variability on sorghum genotypes productivity in semi - arid lands (supervisors - Kinama, Kitonyo, Nguluu, and Muui)

### **External PhD student examination list**

- i. **1) PhD- Peri-urban agrosystems dynamics and their implications on land suitability for vegetable farming in Nairobi Machakos interface, Kenya 2023 – Kenyatta University.**  
**Name**
  - ii) **David Makau Kalia Nyamai A501/MA1/3001/2019. Climate change perceptions, vulnerability and adaptation among smallholder farmers in Machakos county, Kenya – name – South Eastern Kenya University 2024**
  - iii) Samuel Kimani Kiumbuku. N85/26169/13. PhD. Gendered perspective on the impacts of climate variability on rural livelihoods in Makueni county, School of Environmental Studies. Kenya. Kenyatta University- 2018
  - iv) Serah Wairimu Kimaru PhD. Effects of water harvesting techniques on agricultural production in the low midland zone of Tharaka Nithi county, Kenya -2016. (Kenyatta University)
  - v) Ms. Wambui Nganga. PhD – Soil carbon sequestration potential in different land use types on small holder farms of Muranga county, Kenya- 2016. (Kenyatta University)

- vi) Omoyo PhD.(2012) Predicting Food security with agroclimatic data under climate variability and change in lower Eastern Kenyas ASALS, Masinde Muliro University of Science and Technology (MUUST)
- vii) David Gikungu Irungu.(PhD). Dynamic risk model for Rift Valley Fever Outbreaks based on climatic data in Kenya, Masinde Muliro University of Science and Technology (MUUST) 2015
- viii) Mary Stella Wabwoba (PhD). Household vulnerability to food Insecurity in Bungoma county, Masinde Muliro University of Science and Technology (MUUST) 2015

#### **MASTER OF SCIENCE STUDENTS SUPERVISED**

##### **Completed and graduated MSc. Students**

- i) Rahab Mangot, A56/78594/2015 MSc Agronomy. Effects of Soil types and moisture stress on growth and yield of upland rice at Mwea Kirinyanga district, 2015. (supervisors – Cheminigwa and Kinama) - 2024
- ii) Ochieng Bonface Orwa. A56/34292/2019. Evaluation of green gram yield under reduced tillage residue retention and intercropping with sorghum in dryland regions of Kenya (Kitonyo, Kinama, Cheminingwa) – 2024
- iii) Yumbya A56/37311/2020. MSc Agricultural Resource Management.on intercropping green gram and sorghum in Machakos(supervisors - Kinama and Kitonyo) -graduated 2024
- iv) Stephen Karanja A56/33830/2018. MSc Agronomy. Evaluation of water use efficiency and performance of selected pearl millet varieties intercropped with green gram in semi arid regions of Kenya (Kinama and Cheboi) - graduated 2024
- v) Robert Okum James A56/7827/2017 MSc Agronomy. Effects of improved tillage practices on moisture conservation, growth, nodulation and yield of selected green gram varieties in arid and semi-arid areas ( supervisors - Kinama and Cheminngwa) – defended thesis 2022
- vi) Daudi Dindi Aleri, A56/72232/2014 MSc Agronomy. Effect of plant density on the yield performance of hybrid maize varieties under irrigated and water stressed conditions in Kenya. (supervisors – Kinama, Cheminingwa) - graduated 2022
- vii) Ayor Elizabeth A56/89087/2016 MSc Agronomy. Effect of leaf harvesting intensity and frequency on growth, nodulation and yield of selected cowpeas in Bora and Awerial counties, Southern Sudan (supervisors - Cheminingwa and Kinama) – graduated, 2022
- viii) Bosco Lubajo A56/7830/2017. Effect of deficit irrigation on growth and yield maize in Kiboko station, Makueni county, Kenya – graduated 2022

- ix) Stellamaris Ndinda Mulika, A56/81523/2015, MSc. Agronomy. Effect of plant spacing and rhizobial inoculation on growth and yield of selected green gram varieties in lower eastern Kenya – graduation in 2022
- x) Moi Peter A56/7825/2017. Effect of intercropping sorghum with cowpea and its effect on growth and yield of sorghum (supervisors – Cheminingwa and Kinama) - graduated 2021
- xi) Caleb Wangira Mbayaki, A56/6710/2017. Performance and water productivity of selected sweet potato (*Ipomoea batatas L*) varieties intercropped with common beans in Katumani, Kenya. Graduated in 2021
- xii) Yarkwapolo, J. A56/79502/2015. Effect of tillage practices on water use efficiency and performance of common beans in Machakos county, Kenya. (supervisors - Ayuke, Kinama and Sijali) graduated in 2018
- xiii) Irandagiye Laetitia I54/5775/2017. Effect of uptake of climate information service on food crops productivity in Rwanda – (supervisors – Kinama and Karanja)
- xiv) Gladys Makaa A/56/74928/2014. MSc. Agronomy. Effect of nitrogen fertilizer rate and split application on the growth and yield of three lowland rice varieties in Mwea irrigation scheme, (supervisors - Cheminingwa, Kinama, Murori) - graduated in 2019
- xv) MPunga JEAN A56/83093/2015 – Evaluation of Promiscuous soybean varieties for agronomic and seed quality traits in maize/soybean intercropping systems in Kenya - (supervisors – Kinama, Olubayo, Wanderi, Muthomi and Nzube), Graduated in 2018
- xvi) Kagwiria, D. A56/84429/2016. Effect of organic and inorganic fertilizer regimes on sorghum growth, yield and feed quality.(supervisors – Kinama, Cheminingwa and Oscar) - graduated in 2019
- xvii) Kimeli, P. Kiplimo I54/64625/2013. Effects of participatory research on adaptation to climate change by small scale farmers: A case study of Lower Nyando Sub county, Kenya. (supervisors - Kinama and Opere) – graduated in 2019
- xviii) Charity Muchira, A56/86826/2016. The effect of direct seeding and transplanting on growth and yield of different rice varieties on rainfed and irrigated lowlands of Kenya. (supervisors – Kinama and Kimani) – graduated in 2019
- xix) Mbarushimana Jean Pierre A56/88227/2016. Effect of inorganic fertilizers and planting density on growth and yield of selected maize varieties in Eastern Rwanda. graduated in 2018. (supervisors – Kinama and Cheminingwa)



- xx) Barak Mudeny, A55/76188/2014. Effects of variety and methods of cassava propagation in Kenya, (supervisors - Kinama, Ulubayo and Kivuva) - graduated in 2016
- xxi) Raphael Khaemba A56/61323/2013. MSc. Agronomy. Effect of soil moisture conservation Practices on growth and yield of three Cowpea varieties under basin irrigation in Turkana County.2014. (supervisors - Kinama, Cheminingwa) – graduated 2016
- xxii) Collins, Juma A56/79557/2012. The use of short anthesis – silking interval in developing drought tolerant early maturing maize varieties in Kiboko, Kenya. (supervisors - Kinama & Kahiu) – graduated in 2013
- xxiii) Maina, M. A56/ . Effects of ratooning cotton on yield and quality in east and central Kenya, 2009. Msc agronomy (Cheminngwa & Kinama) 2014. Supervised and graduated - 2015
- xxiv) A. Nabwisa.A56/76042/2009. Assessment of genetic diversity in wild and cultivated jatropha curcus L. Accessions in Kenya. (supervisors - Kahiu & Kinama) – graduated 2013
- xxv) A. Munyithya. A56/75466/2014. Effect of plant spacing and intermittent flooding on growth and yield of selected lowland rice characteristics (supervisors - Chemingwa, Kinama and Murori) – graduated 2016
- xxvi) P .Mutiso A56/67615/2013. Effect of selected water harvesting techniques and micro-dosing on the yield of pearl millet in Makueni county – (supervisors - Kinama & Onyango) – graduated 2018
- xxvii) Munyao Ngila. A56/72405/2008. Rainwater harvesting for improved livestock production under climatic variability and change in Kajiado, Kenya graduated 2015.
- xxviii) Almas, Irika A56/84092/2012, MSc Agronomy.The effects of organic and inorganic fertilizers on the growth, yield and oil content of sunflower in acidic soils of Morogoro, Tanzania -. (supervisors -Kinama & Cheminngwa) – graduated 2015
- xxix) Nganga, G.A56/74516/2014. Effect of spacing and quantity of inorganic fertilizer use on tomato production 2014. Supervisors ( Onyango and Kinama) – graduated 2016
- xxx) Osama K. Sarah A56/77969/2009. MSc. Plant breeding and biotechnology. Marker assisted introgression of Striga Resistance from N13 to farmer preferred Sorghum variety 2012 (supervisors – Kinama & Kahiu) – graduated 2014

- xxxi) Marion, N.K. Gathumbi A56/ (2004/2005). MSc. Horticulture. The effects of fertilizer and mulberry variety on cocoon and silk quality. (Supervisors - Kinama and Obutho) - Graduated 2008
- xxxii) Regina Muthoni Nderitu, A56/7933/2006 – MSc agronomy 2006/2007. Groundnut production in different agro-ecological zones in western Kenya – fertilizer use and variety testing. – graduated 2008

#### **Selected theses examined MSc. students as non-supervisor**

- i) **Opondo Otieno A56/11393/2018. MSc Agronomy. Effects of nitrogen fertilizer and topping height on growth and yield and quality of flue cured Virginia tobacco 2024**
- ii) **Abel Odhiambo A56/14092/2018.MSc in plant breeding and biotechnology**
- iii) **Fadumo Ahmed Abdulahi I58/40868/2021. Assessment of climate change impacts on migration and human security in Banadir region of Somalia 2024**
- iv) **Addah Omwakwe A56/74072/2014,MSc. Agronomy Assessment of the nutrient status and nutrient limiting for maize production in small holder farms in Kenya 2023**
- v) **Lincy Cherono A56/35177/2019 MSc Agronomy. Evaluation of response of selected greengram varieties to varying moisture regimes and adaptation to non-tillage systems - 2023**
- vi) **Miriam Wathoni Wainaina A56/7596/2012 MSc. Agronomy. Effect of tied ridges on yield and yield components of maize, sorghum and dry bean under different agronomic management practices in central Kenya - 2023**
- vii) **A56/36145/2019. Sheila Siele MSc in plant breeding on characterisation of Guinea grass accessions for drought tolerance -2023**
- viii) **MS. Seraphine Uzamushaka, M.SC. Thesis A comparative analysis of maize-cowpea intercrop systems under tillage and non –till practices I western Kenya**
- ix) **Glosriose Nsengiyumva I58/68861/2013 MSc. climate change and adaptation. A participatory support tool for small holder farmers climate change adaptation in Bugesera District, Rwanda. graduated in 2016**
- x) **Kabutbei's JepNgetich, Msc. Agronomy A56/65414/2010. Adaptation of Andean Dry Bean Genotypes to drought stress. graduated 2014**
- xi) **N. Njiru A56/20720/08. MSc Soil Science. Assessing the impact of Climate variability and climate change on maize performance in Semi-arid eastern Kenya using APSIM- graduated 2010**

- xii) Kitonyo Onesmus Musembi. MSc. Agronomy. Performance of Farmer-preferred Maize varieties intercropped with beans in the semi- arid regions of Kenya’ - graduated – 2009
- xiii) Anna Itwari, A56/7876/2005. MSc in Agronomy. Influence of supplementary irrigation, organic manure application and soil type on micronutrient density in common bean (*Phaseolus Vulgaris L.*) – graduated -2008
- xiv) Okat Samuel Juma, A56/71100/2007 MSc. Agricultural Resource Management Impact of climate change and variability in Enkaroni Location, Kajiado district. graduated 2009
- xv) Wahome Kinguru Msc. J56/8/7801/2003. The importance and production of food grain legumes in the small holder farmers in Machakos, District. - graduated – 2005

### **Masters students at writing thesis stage**

- xxxiii) R. Ngina MSc. Agronomy A56/68515/2013. Intercropping pearl millet (*Pennisetum glaucum L*) with grain legumes for improved productivity and income in semi–arid Kenya – 2014, , ( supervisors - Onyango & Kinama)
- xxxiv) P. Leshani (2014) MSc Agronomy. Evaluating the performance of sorghum lines in Makueni County. ( supervisors- Kinama & Onyango).
- xxxv) Mbogo,W, MSc agronomy (A56/80517/2012. The effects of inorganic fertilizer and cattle manure on growth and yield of two Kenyan potato varieties in Kiambu County. (supervisors -Kinama, Onyango and Kabira) - submitted

### **Masters students at Research stage**

- i)G. Gurtrude A56/89289/2016 MSc Agronomy. Influence of soil PH on striga effect on growth and yield of WH505 maize under varying rates of organic and inorganic fertilizers (**supervisors** - kinama and Woyengo)
- ii)Ocaya Areyemo, A56/8077/2017 MSc Agronomy. Intercropping maize and legumes for management of striga in western Kenya (supervisors - Kinama, Cheminingwa and Kitonyo) – completed data, writing thesis 2022-2024
- iii)Saline Ojunga A56/38577/2020 MSc Agronomy. Growth, yield and leaf quality evaluation of on castor accessions in (supervisors - kinama, Kitonyo and Kasina)
- iv)Kyalo Kunyala, A56/37915/202. MSc Agricultural Resource Management. Susceptibility of selected green gram varieties to infestation by storage bruchids and management of the pest with hermitic storage bag technology in Kenya
- v)Morogo Maureen A56/36092/2019. on tea research (supervisors - Kinama and Chimoita)
- vi)Maureen Cheptum A56//359446/2019. MSc. Agricultural Resource Management A56/35946/2019. Effect of intercropping two sorghum varieties and common beans on performance and water productivity in Kenya (supervisors - Kinama and Cheboi)

vii) Charles Kogi, A56/37359/ 2020. MSc Agronomy. Integrated weed and soil fertility management climate resilience technologies and innovations for improving green gram production in Kenya ( supervisors - Kinama and Kitonyo)

viii) Charles Tabane Tseole, I56/34984/2019. Assessing the influence of ELNINO Southern Oscillation and Indian Ocean dipole events on rainfall variability in Lesotho and the impact on maize yield.(Bosire and Kinama)

ix) Job Neuon. Yield and growth of selected bean varieties rhizobia (2017). Msc Agronomy (Cheminingwa and Kinama)

x) Hafsa Mohamed – post harvest losses in Somalia (Kinama and Muthama) -2024

#### External **MSc student examination list**

- i) Nancy Nyambura Mburu, Sustainable land management in snowpeas farming for local ecosystems in Gathara ward Nyandarua county 2016 Msc – Kenyatta University, 2018
- ii) Peter Mwangi Njoroge N50/24419/13. M.ENV. Impact of land tenure change on land conservation in Kajiado county, Kenya. Kenyatta University, 2018
- iii) Mr. Urbanas Mutunga Mutua – A56/MAC/20087/2011. dry land biodiversity identification and its role in food and livestock production in Mwala and yatta sub-counties in Machackos county – SEKU
- iv) Muganga Mubembe A148F/29060/2014. Effect of selected integrated soil fertility management on soil chemical properties and cassava yield in South Kivu. DR Congo, Department of Agricultural Resource management, Kenyatta University. 2018
- v) Michel Kabirigi 2015. Effects of conservation agriculture on bean and maize yield, soil properties and water productivity in Bugesera District, Rwanda – Kenyatta University
- vi) Musyoki Maluki, 2015. Factors affecting adoption of agro-forestry practices by smallholder farmers in semi arid lands of Kenya – South Eastern Kenya University
- vii) Gitari Harun Ireri, Msc: Lime and manure application to acid soils and their effects on biochemical soil properties and maize performance at Kavutiri – Embu county, 2013 – graduated in 2013. Kenya University
- viii) Mnambole Arlindo (2003). Efficiency of integrated incorporation of cattle manure and mineral fertilizers on maize yields in acidic soils of Beira corridor, Mozambique Msc - graduated 2013, Kenyatta University
- ix) Maina Thuo, MSc. (2002). The potential of On-farm Approach in conservation of Indigenous Tree species among small holder farmers of Muranga District, Kenya. Kenyatta University -graduated in 2003
- x) Dekow S. Mohamed. (2002/2003) MSc. The Environmental Implications of Grazing Block Development, Garissa District. Kenyatta University- graduated in 2003.

- xi) Thomas, B. Yatich 2003/2004. Institutional and Physical frameworks for water management in Arid and Semi-arid areas of Marigat Division, Kenya. Kenyatta University- graduated in 2004.
- xii) Catherine Mbaisi (2005/2006) Msc. in Environmental Planning and Management. Land use changes and their impacts on agriculture, Kapsabet, Nandi North District. Kenyatta University- graduated in 2006
- xiii) Esther M. Mwele (2005/2006) – MSc. in Environmental Planning and Management. The challenges and opportunities for sustainable cattle ranches in Kitui district. Kenyatta University - Graduated in 2006.

### **SELECTED UNDERGRADUATE STUDENTS SUPERVISED BSC. Agriculture (crop science option) MAJOR SPECIAL PROJECTS**

- i) Sonia Ayeta Otini A85/4642/2014. Evaluation of vermin-compositing Tithonia on growth and development of Spinach
- ii) Ann Gachanja A22/2296/2014. Effects of various levels of poultry manure and plant spacing on the growth and yield of night shade (*Solanum Nigrum*)
- iii) Nzisa Kivaa A22/2012/2013. Effects of different rates of organic and inorganic fertilizers on growth and yield of beans
- iv) David Macharia Wamuyu A22/1771/2010. Evaluation of maize germplasm for i) insect maize resistance for Africa (IRMA) ii) water efficient maize for Africa (WEMA) improved maize for African soils (IMAS) iv) drought tolerant maize for Africa (DTMA) at Kiboko, Kenya by CTMMYT sponsored project
- v) Wambui Gitau A22/2331/2014. Effects of different levels of organic and inorganic fertilizers on carrot yield and quality
- vi) Charles Juma Wangui A22/2307/2014. Efficacy comparison of GNLD super Gro and AQUAWET when used with a market leading fungicide chlorotharonyl 50% W/V to control powdery mildew in snow peas
- vii) Hiram Mwangi – A22/2027/2013. Analysis of factors affecting coffee production in Kenya. Case study in university of Nairobi – upper Kabete farm.

## **5. ACADEMIC PUBLICATIONS**

### **Refereed journal articles**

- i) **Mwami.,R. Muasya, S, Nguluu.,J. Kinama, D. muli, A. Luvanda, A.Theuri, J Wambua, YouCai. Nov 2024. Enhancing sorghum grain yield and associated attributes through Effect of N fertilizers on nitrogen use efficiency and yield of selected sorghum Kenya, International Journal of Agriculture and Biology ISSN prnt,1560-8530,ISSNonline:1814-9596,24-0161/2024/32-6-623-632**  
<http://www.fspublishers.org>
- ii) **Mwami, B., Muasya Nguluu, S., Muui,C. The effect of rain water harvesting practices on biomass yield and morphometric traits of sorghum (sorghum**

- bicolor L Moench in semi arid Kitui county, Kenya (2024). 27(2024) 1-12 .  
journal of Tropical and subtropical ecosystems.
- iii) Yumbya, B., Kitonyo, O., Kinama, J. 2024. Green-gram sorghum intercropping: Effects on crop microclimate, competition, resource use and yield in south eastern Kenya. International journal of environment and climate climate 14(12):549-65, <https://doi.org/10.9734/ijecc/2024/vol141124644>
- iv) Kathuli, P, Kinama, J. Kitonyo, O, Nguluu, S, Muui, C, and Muasya, R (2023). Effect of Nitrogen fertilizer on water use efficiency of selected sorghum genotypes in semi arid regions in Kenya .East African Journal of Science, Technology and Innovation(EAJSTI) vol 5) 1-14pages
- v) Kathuli, P, Kinama, J. Kitonyo, O, Nguluu, S, Muui, C, and Muasya, R (2023) Effect of N fertilizers on nitrogen use efficiency and yield of selected sorghum genotypes in semi- arid regions of Kenya . EAJSTI vol4 (2)1-11pages
- vi) karanja, kinama and Cheboi (2024).Effect of water conservation technologies and cropping systems on growth and yield of selected pearl millet/greengram varieties in semi-arid areas of Katumani and Makueni (2024 – international journal of plant and soil science
- vii) Evaluation of CMIP6 historical simulations over IGAD region of Eastern Africa. Paulino, Muthama, Oludhe Kinama. Discover Environment 1((2023)1:11, DO:10.1007/S44274-023-00012-2, <https://doi.org/10.1007/C44274-00012-2>
- viii) Projected changes in wet and dry extremes in the CMIP6 multi- model ensemble over IGAD region of Eastern Africa, Paulino O, Muthama N Oludhe Kinama J, Atheru, Z and Guleid, A. 2024. Discover Atmosphere 2(1)DO 1):10.1007/s44292-024-00016-4
- ix) Observed changes in wet and dry spells over the IGAD region of eastern Africa. Sci rep 1316894 October 2023 <https://doi.10i.1038/s41598-023-44115-5>
- x) Kudum, A.E., Cheminingwa, G,N, Kinama, J.M and Mach, DM (2022). East African Journal of Science Research, Technology and innovation. Effect of intensity and frequency of leaf harvesting on growth, nodulation and yield of selected cowpea varieties in Vol. 3 (3) Pp 1-14
- xi) Robert Okumum, Josiah Kinama, Onesmus kitonyo and G.Cheminingw'a. Tillage and mulch on green gram production 2022. Advances in agriculture Vol.2022, article ID4037022, 11pages. <https://doi.org/10.1155/2022/4037022>
- xii) J.M. Ndiritu, J, M. Kinama and J.N. Muthama (2022). Assessment of ecosystems services, knowledge, attitudes and practices of coffee farmers using legume cover crops. Journal of Ecosphere. <http://onlinelibrary.wiley.com/r/ecs2> 1-16pp
- xiii) Moi, P., Kitonyo, O., Cheminingwa, G. and Kinama, J. (2021). Intercropping and nitrogen fertilization altered the pattern of leaf senescence in sorghum. International journal of Agronomy. Vol. 2021, ID 5348859, 14pp
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- xviii) Kyuma, K., Kinama,J.,Wahome, R. and Mwendwa, S. (2020). Estimating prosopis pod production in the drylands of Magadi in Kajiado, Kenya. *East African Journal of Science Technology and Innovation*, Vol1(4) 1-12
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- xx) Abdimajid Nunow, J. Muthama, M. Inida, Josiah. Kinama (2019). Comparative analysis of the role of gender in climate change adaptation within Kajiado and Kiambu counties, Kenya. *Journal of climate change and sustainability*. Vol. 2(1) pp28-37
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- xxiii) Onyango, S., Sabina Wangia, Josiah Kinama and Pamela Olet (2019). Impact of tsetse and Trypanosomiasis control on poverty. A case of Pate Island of Lamu county, Kenya. *African Journal of agricultural Research*. Vol. 14(3),pp.1400-1410.
- xxiv) Kagwiria Dorcas, Oscar K. Koech, Josiah M. Kinama, George N. Cheminingwa and Henry Fred Ojulong (2019).Sorghum production practices in an integrated crop,livestock production system in Makueni county, Kenya.*Tropical and SubTropical Agroecosystems*, 22(1):13-23
- xxv) Stellamaris, N. Mulika, George N. Chemining’wa and Josiah M. Kinama (2019). Influence of Green Gram (*Vigna radiata L.*) Varieties on Growth and Yield Attributes in Dry Ecological Zones of Kenya. *International Journal of Plant & Soil Science* 29(6): 1-6, 2019;
- xxvi) Rahab Magot, George. Cheminingwa, Josiah Kinama,John Kimani, majumi kikuta, Patrick Gicherugo Makihara, Hiroaki Samejima and Dai (2019). Growth of rice

varieties in different Kenyan soils under water deficit conditions. *Journal of agricultural science*, Vol.II. NO 6:2019-9752 ISSN 1916, E ISSN 1916-9760

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Adaptation of *Jatropha Curcusa L.* in the agroecological environments of Kenya: Genotype X environment interactions analysis
- lii) Kinama, J.M., Ong, C.K., Stigter C.J., Gichuki, F. (2011). *Journal of Agricultural Sciences and Technology.* Hedgerow intercropping on maize or cowpea/ senna for drymatter production in semi-arid eastern Kenya. Vol 1 no 3 – B1 (2011)372-384
- liii) Kinama, J.M., Nganga, J.K., Ong, C.K., Stigter, C.J., Gichuki, F. 2007. Contour hedgerows and grass strips in erosion and runoff control on sloping land in semi arid

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  - lv) Stigter, C.J., Kinama, J.M., Zhang, Y., Oluwasemire, K.O., Zheng,D., Nawal, K.N.and Ahmed, A. (2005). Agro-meteorological services and information for decision making: Some examples from China and Africa. *Japanese Agricultural Meteorology* 60 (2005): 327-330
  - lvi) Nutrient balances at farm level in Machakos (Kenya), using a participatory nutrient monitoring (NUTMON) approach. Gachimbi, L.N., Van Keulen, H., Kinama, J.M., Nguluu, S., Itabari, J.K., Ikombo, B.M., Thurairara, E.G., Karuku, A.M., de Jager, J. and Nandwa, S.M. (2005). *Journal of Land Use Policy* 22:13-22. The Netherlands
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## **Papers presented in scientific conferences, seminars and workshops**

### *Agro conference 2023 UON*

- i) Evaluation of sorghum-green gram intercropping configuration on microclimate manipulation and resource use efficiency Bernard M. Yumbya<sup>1</sup>, Onesmus M. Kitonyo<sup>1</sup> and Josiah M. Kinama<sup>1</sup>
- II) Effect of intercropping intimacy on growth and yield of green gram and sorghum Bernard M. Yumbya<sup>1</sup>, Onesmus M. Kitonyo<sup>2</sup> and Josiah M. Kinama<sup>2</sup>

iii) Evaluation of Morphological Traits and Biomass Yield of Castor (*Ricinus communis*) Accessions in Kenya. Ojung'a Saline<sup>1\*</sup>, Kinama J.<sup>1</sup>, Kitonyo O.<sup>1</sup>, Kasina M.<sup>2</sup> and Gatambia

iv) Effect of water conservation technologies and cropping systems on growth and yield of selected pearl millet and green gram varieties – karanja s kinama m and cheboi

v) Drivers of farmers research networks in sorghum seed systems in Homa bay and Tharaka Nthi counties, Kenya. Khalaki, Chimoita, Kinama and Gundu

vi) Green gram yield as influenced by tillage method, residue retention and intercropping with sorghum in Kenya. Boniface, O. Kitonyo, O., Cheminingwa, G. and Kinama, J.

vii) Effect of tillage method, residue retention and cropping system on soil moisture storage and water use efficiency of green gram O. Orwa, Onesmus M. Kitonyo, Jm Kinama, N. Chemining'wa

viii) Harnessing research in agriculture and environment for resilience and sustainable food systems and livelihoods ( Ndiritu, Kinama and Muthama)

ix) Kagwiria .Dorcas, Oscar K. Koech, Josiah M. Kinama, George N. Chemining'wa, and Henry Fred Ojulung (2018). Presented Poster paper on Constraints of sorghum production among small scale farmers in Makueni County, Kenya at the African sixth Science Week and Ruforum Biennial Conference at Kenyatta International Convention Centre (22<sup>nd</sup>-26<sup>th</sup> October, 2018).

x) Seth O. Onyango, S. Wangia, J. Kinama and P. Olet (2019). Factors affecting farmers choice of TseTse and Trypanosomiasis control methods in Lamu county, Kenya. Paper presented at the 35<sup>th</sup> General conference of the International Scientific Council for Trypanosomiasis research and control and 18<sup>th</sup> Pattec National Coordinators meeting. Abuja, Nigeria 22-27/9/2019

xi) Seth Onyango, Sabina Wangia, Josiah Kinama and Pamela Olet (2018). Impact of tsetse and trypanosomiasis control on poverty. Paper presented at The Animal production Society of Kenya 2018, Scientific symposium 4<sup>th</sup>-6<sup>th</sup> April, 2018, Nanyuki, Kenya.

xii) Seth Onyango, Sabina Wangia, Josiah Kinama and Pamela Olet (2017). Impact of TseTse and Trypanosomiasis control on household income in Pate Island of Lamu county Kenya. Paper presented at the 34<sup>th</sup> General Conference of the International Scientific Council for Trypanosomiasis Research and Control (ISCTRC) and the 16<sup>th</sup> PATTEC coordinators meeting, LUSAKA, Zambia (11<sup>th</sup>-16<sup>th</sup> September, 2017)

xiii) Paper on the effects of climate variability on *Prosopis juliflora* spread, other vegetation trends and livestock dynamics in the drylands of Magadi in Kajiado county

- presented during the 4<sup>th</sup> Ruforum Biennial conference held at VIP hotel Maputo Mozambique **19<sup>th</sup>-25<sup>th</sup> July 2014. (Kyuma, Wahome, Kinama and Wesonga)**
- xiv) Paper on effect of organic and inorganic sources of Nitrogen on growth, yield and oil content of sunflower in highly weathered soils in Morogoro, Tanzania . presented during the 4<sup>th</sup> Ruforum Biennial conference held at VIP hotel Maputo Mozambique **19<sup>th</sup>-25<sup>th</sup> July 2014. (Mwahija, Kinama and Chemingwa, Nyambilia)**
- xv) Nabiswa, W.A., Ngugi, E.K. and Kinama, J.M. Githinji. (2011). Genotype Environmental interactions of *Jatropha Curcas*. Growth and yield components. Agro 2011 Biannual Conference 26th-28th sept, 2011.
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- xvii) Kinama, J.M., Munyao, A.O, J. N., Kimenju, J.W., Nduku, J.M, and Mutiga (2011). Rain water harvesting for improved livestock production under climatic variability and change in Kajiado, Kenya. Paper presented at E agro conference, Faculty of Agriculture December 2011.
- xviii) Okat, S.K., Wangia, S.Mbugua, P., Kinama, J.M., Ojoo, R., Nduku J.M. and Mongare, P. Paper presented at the Veterinary Biennial Conference held at the College of Agriculture and Veterinary Sciences in July 2010 Impacts of Climate change and variability on the livestock based livelihoods in Enkaroni location of Kajiado district.
- xix) Moyo, R., Kinama, J.M., Onwonga, J. and Keter, M. (2010). Climate variability and tillage practices: Effects on soil moisture, carbon dynamics and crop productivity in semi-arid southern Zimbabwe. Paper presented at the Ruforum Scientific Conference in Kampala, Uganda between 20<sup>th</sup> to 24<sup>th</sup> September, 2010.
- xx) International Workshop on Addressing the Livelihood Crisis of Farmers: Weather and Climate Services (Brazil). Meeting farmers' needs for agrometeorological services: an overview and case studies. Kees Stigter, Sue Walker, H.P. Das, Samsul Huda, Zheng Dawei, Liu Jing, Li Chunqiang, Ismael H.D. Hurtado, Ahmed E. Mohammed, Ahmed T. Abdalla, Nageeb I. Bakheit, Nawal K.N. Al-Amin, Wei Yurong, Josiah M. Kinama, Durton Nanja, Pieter D. Haasbroek (2010).
- xxi) Githunguri, C.M., Kinama, J.M., Karuri, E.G., Gatheru, M. and Ragwa, S.M. 2009 Status in the Trade of Cassava and Cassava – Based Products in the Coastal, Eastern and Western Regions of Kenya, KARI, Biannual Conference, Nairobi
- xxii) **Kinama, J.M., Stigter, C.J., Ong, C., Ng'ang'a, J.K. and Gichuki, F.N. (2007). Alley cropping (contour hedgerow intercropping) maize or cowpea/senna for increased drymatter production in the semi-arid areas of Eastern Kenya.** Proceedings of African Crop Science Society (ACSS) in Melkia – Egypt, November, 2007.
- xxiii) **Kinama, J.M., Stigter, C.J., Ong, C.K., Ng'ang'a J.K. and Gichuki, F.N.** Comparison of soil moisture measurement by TDR and neutrone probe tube at 30cm depth and crop yields in a maize and cowpea agroforestry and grass strip farming system in semi-arid areas of eastern Kenya. Paper presented at the 24<sup>th</sup> Conference of the Soil Science Society of East Africa, Issak Walto Hotel, Embu , 26<sup>th</sup>-30<sup>th</sup> November 2007( pg. 271-301) proc
- xxiv) **Kinama, J. M.** and Stocking, M. The application of SLEMSA MODEL as land use management tool in the semi-arid areas of Kenya. Paper presented at the 24<sup>th</sup>

Conference of the Soil Science Society of East Africa, Issak Walto Hotel, Embu , 26<sup>th</sup>-30<sup>th</sup> November 2007(302-320) proc.

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- xxviii) **Kinama, J.M.**, Stigter, C.J., Ong, C., Ng'ang'a, J.K. and Gichuki, F.N. (1999) Erosion and runoff control in a maize /senna agro forestry system in a semi-arid area of Eastern Kenya. **Proc. of Soil Science Society of East Africa (SSSEA) held in Kampala, Uganda, Sept.1999. (I SBN No 9966-879-27-7) pp. 220-226**
- xxix) **Kinama, J.M.**, Stigter, C.J., Ong, C., Ng'ang'a, J.K. and Gichuki, F.N (1994).The effects of microclimate, soil and water conservation and competition of hedgerows on sloping lands for sustainable land use in Machakos District, Kenya. In C.J.Stigter, F.N. Wangati, J.K. Nga'ng'a and D.N. Mungai (eds). **The TTMI project and the picnic model. Proc. of international TTMI workshop April 1994 Nairobi, Kenya. (ISBN No 90-6754-403-5) pp136-146**
- xxx) Kinama,J.M (1986). An integrated approach to soil and water management in the arid and semi-Arid zones of Kenya paper: **Proceedings of the OAU drought symposium on food grain production in the semi-arid regions** of Africa held at Kenyatta International Conference centre Nairobi.19<sup>th</sup>-23<sup>rd</sup> May, 1986
- xxxii) Kamau, J.W., Kinama,J.M., Nguloo,S.N., Muhammed, L., Wyte,J.B.A., Rangwa, E.N. and Simiyu, P.M. (1998). Farmer's evaluation of cassava varieties in the semi-arid areas. In: eds. Akoroda, M.O, and Ngeve, J.M. Root crops in the 21<sup>st</sup> Century. Proceedings of the 7<sup>th</sup> Triennial Symposium of the International Society for tropical root crops – Africa Branch, held at Coutonou Benin, 1998. Pp378-383.
- xxxiii) C.J.Stigter, **J.M.Kinama**, S.B.B. Oteng'i and R.M.R. Kainkwa, **2006.** Problems with establishing agrometeorological services: austral climates can't escape. Invited keynote opening lecture as a guest speaker at the annual South African Society for Atmospheric Sciences (SASAS) conference, Bloemfontein, South Africa, October. South Africa, 23 September till 7 October 2006". Bruchem, The Netherlands
- xxxiiii) Kees Stigter, Tunji Oluwasemire, Lambert Onyewotu, Silvery Oteng'i, **Josiah Kinama**, Zheng Dawei, Zhao Caixia, Zhang Yingcui, V.R.K. Murthy, A.G.M. Rashidi, Ahmed T. Abdalla, Nawal K.N. Al-amin, Nageeb I. Bakheit, **2005.** Weather Services making a difference for poor farmers. II. How it can be done. Paper submitted as background paper for the first Asian Pacific Network (APN) meeting of the project "Climate and crop disease risk management: an international initiative in the Asia-Pacific region" in Hyderabad, India

### **Published Book chapters**

- i) On Agricultural Meteorology 2010. Design of protection of sloping land from soil loss and water run off using hedgerow intercropping (Kenya) 118-122. Josiah M. Kinama, C.J. Stigter, C.K. Ong (eds)
- ii) The TTMI Project and The Picknic model. An internal evaluation of approaches and results and of prospects for TTMI Units. Effects of microclimate, soil and water conservation of contour hedgerows on sloping lands for sustainable land use in Machakos district , Kenya CJ Stigter, F.J. Wangati,J.K. Nganga and D.N. Mungai (eds) chapter 17:136-146 (1994)
- iii) Alley cropping hedgerows in semi-arid areas on flat and sloping land. Soil and water conservation, competition, yields and economic factors. Stigter. C,J, Mungai J, Ong C.K, Kinama J.M and Otengi S. 2004. Case study of economically beneficial agro-meteorological applications and services and of other success stories in agro-meteorology for policy matters, CAgM Rep. 93, WMO/TD No. 1202 edited by W. Baier, 01/2004: chapter Annex 9: pages 44-47; WMO, Geneva.

### **Theses authored**

- i) MSc. Land degradation in the semi- arid areas of Kenya. The case of Katumani/Kimutwa area near Machakos Town, Kenya
- ii) PhD. The effects of contour hedgerows (alley cropping) on microclimate, soil and water conservation and competition on sloping lands for sustainable land use in Machakos district, Kenya

### **CONFERENCES/CONGRESS/SYMPOSIA/SEMINARS AND PROFESSIONAL MEETINGS ATTENDED**

#### **2024**

- i) attended Africa standards association online meeting on 12/3/2024
- ii) attended and chaired TC 19 meeting 23-25/3/204 on EAST harmonization online
- iii) Attended and chaired 8-9/11/2023 chaired development of standard ks 790 glossary of terms for seed specification
- iv) Attended and chaired 29/11/2023 chaired development of a) ks1170 brassica vegetable crops, b) ks693-2010 specification for seeds for bulb vegetables, c) ks 692-1987 solanaceous vegetable seeds, d) ks 691-2007 cucurbit vegetable seeds
- v) Attended 4-8/9/2023 Revision of fertilizer and soil ammendments standards harmonization (EAC) Weston hotel Nairobi Kenya – virtual (hybrid)
- vi) Attended 7-11/8/2023 EAC harmonization standards in Kigali, Rwanda.Virtual
- vii) KEBS 1.3.2022 fertilizer and soil amendments TTC Nairobi Kenya
- viii) East African seeds and harmonization standards 13/6/2022,Kampala Uganda – virtual
- ix) Fertilizer and soil conditioners KEBS TC meeting Nairobi 14/6/2022

- x) Attended a technical committee meeting on fertilizers and soil conditioners 16/12/2021 KEBS headquarters
- xi) participated in a virtual seed and propagation EASC harmonization standards in Kampala, Uganda 26-30/4/2021
- xii) Attended capacity building training on development and harmonization of East African standards at Lukenya Gate away Hotel Machakos county 22-27/11/2021
- xiii) Attended the 6<sup>th</sup> science week and Ruforum Biennial conference at Kenyatta International Convention centre Nairobi, Kenya. 2018
- xiv) Attended Africa 5<sup>th</sup> science week and Ruforum Biennial Conference at century city conference centre in Cape Town South Africa from 17<sup>th</sup>-21<sup>st</sup> October, 2016. Exhibited CAVS academic programs and innovations and University of Nairobi academic programs in banners, posters and brochures
- xv) Attended a Workshop on fertilizer and soil amendments standards sensitization at the BOMA hotel Nairobi June 28/6/2018
- xvi) Training workshop on mapping Crop Land and change detection in Kenya. Regional Centre for mapping of resources for Development held from 19<sup>th</sup> to 21<sup>st</sup> April, 2017.
- xvii)** Attended Kenya Organic Food Festival and exhibition (KOFFE) at Wangari Maathai Institute and exhibited CAVS academic programs in posters banners and value added product – cheese, yorghort, traditional dryland seed varieties, biofix – September 2018
- xviii) Attended the 4<sup>th</sup> innovations week and showcased CAVS innovations including mille cola drink, melia tissue culture, hyacinth as animal feed and as manure on 7<sup>th</sup>, 8<sup>th</sup>, and 9<sup>th</sup> March, 2018- University of Nairobi graduation square
- xix) Attended the University of Nairobi Open day from 1<sup>st</sup>-3<sup>rd</sup> February, 2018. Show cased CAVS academic programs including career path posters, academic programs via banners, brochures, exhibits including soil monolith, legume dryland seeds as well as microscopes.
- xx) Attended the 3<sup>rd</sup> Nairobi innovations week and show cased CAVs innovations (leather technologies, Hyacinth as feed, uni- seed , post harvest preservation techniques, University of Nairobi great court from 6<sup>th</sup>-10<sup>th</sup> March, 2017
- xxi) Attended and showcased CAVs academic programs and innovation at CUE Catholic university of East Africa (CUEA) hosted by CUE from 16<sup>th</sup>-20<sup>th</sup> March, 2017
- xxii) Attended Africa 5<sup>th</sup> science week and Ruforum Biennial Conference at century city conference centre in Cape Town South Africa from 17<sup>th</sup>-21<sup>st</sup> October, 2016. Exhibited CAVS academic programs and innovations and University of Nairobi academic programs in form of brochures, posters and banners
- xxiii) Attended a conference side event on TICAD on Enhancing Resilience against climate and ecosystem changes in sub-Saharan Africa through utilizing indigenous and local knowledge – university of Nairobi 25/8/2016



- xxiv) Attended and exhibited CAVS innovations and technologies, academic programs via banners, posters and brochures at the UON 2<sup>nd</sup> innovations week held at the graduation square August 1-6<sup>th</sup> 2016.
- xxv) Attended and exhibited CAVS academic programs via banners, posters and brochures hosted by CUE at Flamingo Hotel, Mombasa, April 2016.
- xxvi) Attended and exhibited academic programs and innovations via brochures, posters and banners at Kisii, Eldoret and Meru regional exhibitions in May, 2016.
- xxvii) Attended and exhibited academic programs via banners, posters, brochures and developed technologies at graduation square during UON open day May 2016
- xxviii) Attended and exhibited academic programs via brochures at Sarit International Education and EXPO fair, Nairobi – March 2016
- xxix) Attended and exhibited CAVS academic programs, technologies including released bean varieties, yorghut from camel milk, brochures, banners and posters during expo conference at Kabete campus, University of Nairobi from 4-6<sup>th</sup> Nov 2015
- xxx) Attended and exhibited CAVS innovations via banners posters and materials during the 1<sup>st</sup> Nairobi innovations week held at the graduation Square University of Nairobi from 3-7<sup>th</sup> August 2015
- xxxi) Attended a round table conference on trade barriers among EAC countries by world bank 17/5/2015, Nairobi.
- xxxii) Attended Kenya Forum for Agricultural advisory services Workshop at Green Hills hotel 21-22th May 2015. Exhibited released bean varieties CAVS academic program and seeds produce marketed by SEMIs and role of CAVS in agricultural extension and capacity building
- xxxiii) Attended Conference on 4<sup>th</sup> Science week at chancellors Square University of Nairobi 12-17<sup>th</sup> May 2015. Exhibited CAVS innovations including bean varieties for canning ponds consumption, released bean varieties and sold by SEMIs as well as academic programs banners, posters and brochures FOA, FVM and WMI.
- xxxiv) Attended a workshop on climate variability and change on Crop productivity as well as up-scaling of Crop Insurance for smallholder farmers in Kenya at PanAfric Hotel Nairobi on 17/12/2014.
- xxxv) Attended FARA15 celebrations and Exhibited UON/CAVS academic and innovations via posters, banners and brochures at Birchwood Hotel Johannesburg, South Africa from 22-28/11/2014.
- xxxvi) Attended and participated a stakeholder workshop on establishment of SEMIs as a Faculty fledged University of Nairobi Institute on 26/9/2014 at CHAK Guest House and Conference Centre, Nairobi.

- xxxvii) Attended Ruforum 4<sup>th</sup> Biennial conference exhibited CAVS and university of Nairobi academic programs, SEMIS project posters, CAVS posters, banners and brochures at VIP Hotel Maputo Mozambique 19<sup>th</sup>-25<sup>th</sup> July 2014.
- xxxviii) Attended 26<sup>th</sup> Commission of University education Exhibition held in Eldoret and exhibited CAVS academic programs via posters showing academic and Research Strengths as a marketing tools for forth coming university students 27-29/3/2014.
- xxxix) Attended the 16<sup>th</sup> Nairobi International Education Fair March 13<sup>th</sup>, 2014 SARIT Expo Centre, Nairobi and exhibited University of Nairobi six colleges academic programs 13-16/3/2014, Nairobi.
- xl) Attended five day development of National seeds standard workshop on standards for Maize, sunflower, sorghum, soybeans and groundnuts held at Greenhills hotel Nyeri county from 10-14/3/2014.
- xli) Attended and exhibited at soil testing launch and fertilizer flagoff at Egerton University. Showcased the released bean varieties and use of biofix to enhance legume production, semis and academic programs to Stakeholders students from high school, Egerton university students, the farming community at large President Kenyatta and his deputy Ruto in attendance 17-18/2 /2014 Nakuru, Kenya.
- xlii) Attended Kenya Bureau of Standards Rice Stakeholders Consultative meeting on request for another grade of RICE at BOMA RED COURT Hotel 26/11/2013, Nairobi.
- xliii) Attended ANAFE conference on Agribusiness making tertiary Education Relevant. Exhibited CAVS academic programs via presentation, posters, brochures and in particular the addressing of value chain addition in AGribusiness. 9-12<sup>th</sup> October 2013 at the World Agroforestry Centre (ICRAF) – Nairobi.
- xliv) Attended and exhibited CAVS and University of Nairobi Academic programs, innovations and developed technologies at the RUFORUM 9<sup>th</sup> Annual general meeting 18-21<sup>st</sup> September 2013 with over 30 African universities annual meeting at SERENA Hotel hosted by Rwanda National University.
- xlv) Attended Kenya Bureau of Standards – East African Technical Committee workshop on developing seed and propagation materials for east African region meeting at Serena Hotel Rwanda between 9<sup>th</sup>-11<sup>th</sup> September, 2013.
- xlvi) Attended and exhibited CAVS academic programs, research achievements and innovations at Commission for University Education at KICC, Nairobi. Theme Celebrating expansion of University education through diversity and integration June 2013.
- xlvii) Attended a field day at KARI Muguga 14<sup>th</sup> February 2013 to show case College of Agriculture and Veterinary Sciences proven technologies for uptake by the farming communities of Kiambu county including Tissue culture citrus, bean varieties, improved chicken, traditional fertilized eggs, rabbits as well as traditional vegetables.
- xlviii) Attended an international seminar as a panelist on water harvesting organized by the global knowledge initiative on sustainable water harvesting in Kenyatta University 16/1/2013 held at Kenyatta university conference centre.
- xliv) Attended Africa Agriculture Science Week and Forum for Agricultural Research in Africa (FARA) in Accra Ghana from 14-20<sup>th</sup> July, 2013. Exhibited College of Agriculture and Veterinary Sciences and University of Nairobi academic programs and Innovations as well as Semis seed management program.
- l) Attended International exhibition on higher education at SARIT Centre- Nairobi and showcased University CAVS programs and innovations May 2<sup>nd</sup>-4<sup>th</sup> 2013

- li) Attended Conference on Agricultural Sector Development Strategy (ASDS) Forum for the Agricultural sector Ministries at Safari Park Hotel from 14<sup>th</sup>-17<sup>th</sup> Oct, 2012. As an exhibitor displayed the agricultural innovations developed at Kabete Campus, University of Nairobi
- lii) Attended KARI Biennial Scientific Conference held in Nairobi 20-26<sup>th</sup> October, 2012. Exhibited CAVS scientific innovations and technologies as well as CAVS academic programs
- liii) Attended National Science Council and Technology Conference at the 1<sup>st</sup> National Science, Technology and Innovation week. Exhibited Agricultural innovations, breakthroughs and academic programs KICC 7<sup>th</sup>-11<sup>th</sup> May, 2012
- liv) Attended a workshop on Climate change adaptation for smallholder Agriculture in Kenya. End of Project workshop IFPRI-ILRI and UOG, KARI held at KARI Head Quarters 24-25<sup>th</sup> 2011 Nairobi.
- lv) Attended the first All Africa Horticulture Conference (AAHC) and exhibited CAVS innovations and academic programs held at Safari Park Hotel, Kenya, from 31<sup>st</sup> August to 3<sup>rd</sup> September 2009
- lvi) Attended a Workshop on Climate change as it affects agricultural resources, water resources, livestock and wild life resources held at International Livestock Research Institute (ILRI) from 2nd-3<sup>rd</sup> April 2009, Nairobi, Kenya
- lvii) Attended a Cassava stakeholders workshop on Development of East African Agricultural Productivity Program Document held on 12-2-2009 at Kilimo House, Nairobi, Kenya. 2009
- lviii) Attended a workshop on Competitive Agricultural Research Grant Fund Proposal Writing organised by Kenya Agricultural Productivity Project (KAPP), KARI at Kenya Institute of Administration (KIA) 2006
- lix) Attended a workshop on the Eleventh East and Central Africa Regional Forum for Training (ECA-RAFT) in Nazareth, Ethiopia 29-30<sup>th</sup> 2006 on preparation of a document for Regional Agro-forestry Training in middle colleges and Institutions of Higher learning
- lx) Attended an International Symposium on building Agricultural and Natural Resources Education in Africa: Quality and Relevance of Tertiary Education. Held from 14<sup>th</sup>-16<sup>th</sup> April, 2003, Kenyatta University, Nairobi
- lxi) *Review of journal articles and publications*
  - i) Journal of Meteorology and related sciences, Kenya Meteorological Society
  - ii) **Journal of sustainability**
  - iii) **World**
  - iv) **land**

## Research projects

- i) Kenya Agricultural Productivity Project on Cassava value chain in Kenya and beyond in collaboration with KALRO, Kenya Bureau of Standards, KIRDI, Maize cereals and produce board and MOA, 2009
- ii) National Research Fund (Seth Onyango - PhD student project 2017)
- iii) NACOSTI Research fund (Sarah Muthenya - PhD student 2012)
- iv) **National Research Fund Research Grant – 2020 Integrated Fish/Guinea Fowl Arrowroot production system**
- v) The effect of feather fertilizer on components and yield of irish potato in field and green house conditions – collaborative research (prof. mulaa and prof. kinama – a comparative evaluation with animal and chemical manures – soil health aspects 2025)

### **Consultancies**

- i) Analysis of The trends of yields, fertilizer use, hectarage, costs of fertilizers in rice production in East Africa. Consultancy done for Regional Centre for Remote sensing and resource mapping, Kenya 2014

### **Membership in university committees**

- i) College of Agriculture and Veterinary Sciences current Representative to University Exhibitions committee (2012-2018)
- ii) Former Chairman Faculty of agriculture 3rd year field and industrial attachment committee (2012-2016)
- iii) Chairman Faculty of Agriculture shows and exhibitions committee (2010-2017)
- iv) Former Member of Faculty Board of Post graduate examiners
- v) Former Member of the National and Regional Agro-forestry Teams (KEN-RAFT) steering committee for public universities (2012-2014)
- vi) Former Member of the faculty Time tabling committee (2009)
- vii) Member of the faculty board of examiners
- viii) Chairman Technical committee for developing standards of planting materials at The Kenya Bureau of standards (2009 todate)
- ix) A member of East African Technical Committee for developing standards on Seed and Propagation materials (2013 todate)
- x) A member of East African Technical Committee e for developing standards on fertilizers and soil amendments(2013 todate)

- xi) Member of the departmental curricula development committee
- xii) A member of the post graduate board of examiners
- xiii) Chairman mentorship committee at department of Plant Science and Crop Protection (2017)
- xiv) CAVS Champion on National values (2017)

#### **Membership in professional societies**

- i) International Society for Agro-meteorology (ISNAM)
- ii*) African Crop Science Society (ACSS)
- iii) Animal Production society of Kenya (APSK)
- iv) International Society of Tropical Foresters (ISTF) and
- v) Soil Science Society of East Africa (SSSEA)

#### **Awards**

- i) I was awarded the first Honorary Mention by International Society for Agricultural Meteorology (ISNAM) jury in the 2007 ISNAM contest on best examples for agro-meteorological services in 2008.

#### **Training of trainers**

- i) Was a facilitator for Kenya Pastoralists Week on effects of climate change and variability on pastoralists' livelihood in the Greater horn of Africa. Held at Kenyatta international conference centre (KICC) from 10-12th Dec. 2009.
- ii) Was a facilitator for the training of agricultural officers in Embu Agricultural Staff training centre on climate change and its effects on integrated Pest management (IPM) 20<sup>th</sup>-21st January 2012
- iii) Was a facilitator for training of agricultural officers in Embu agricultural Staff Training Centre on sustainable Agriculture practices and Climate change (9-12/4/2012)

#### **Social responsibility**

- i) Chairman St Peters nursery school management committee (2003-2005)
- ii) Secretary general Kahawa Sukari welfare committee for water delivery and environmental management (2002-2005)
- iii) Secretary Maki Men welfare and development Association – rewarding educational performance for children of Maki members, organising public lectures on role of education in churches (2010-2014)

**Referees**

- i. Prof. John Nzioka Muthama. Department of Meteorology University of Nairobi
- ii. Prof. Jonathan Nzuma, Department of Agricultural Economics, University of Nairobi