

Curriculum Vitae for Dr Josiah Mwivandi Kinama (Agrometeorologist and Senior Lecturer and Head of Agronomy)

CURRICULUM VITAE

- Name: Josiah M. Kinama
- Date of birth: 20/12/1955
- Religion: Christian
- Citizen: Kenyan
- Marital status: Married with three children

- **Qualification: (PhD., Msc., Pg. diploma., BSc. in agriculture)**
- University of Nairobi/wageningen Agricultural University–The Netherlands (1993-1996), PhD
- University of East Anglia (1989-1990), Msc. (U.K)
- University of Nairobi (1980-1981), (Post graduate diploma in soil and water conservation)
- University of Nairobi (1976-1979), Bsc. (Degree in Agriculture)
- Machakos School (1970-1975), East African Certificate of Education and East African Advanced certificate of Education (EACE, EAACE)
- Kyevaluki Primary School (1964-1969), Certificate of Primary Education (C.P.E).

I possess Ten years of university teaching and **over twenty years** of agricultural research and technology development experience which has led to publications in reputable journals as well as six years of agricultural extension experience in the ministry of Agriculture and livestock development. I have been an **external examiner for post graduates thesis at Kenyatta University, Masinde Muliro University of Science and Technology as well as an internal examiner for both Msc and PhD graduates thesis at the University of Nairobi. Currently I am the head of Agronomy at the Department of Plant Science and Crop Protection at the Faculty of Agriculture, University of Nairobi.**

EMPLOYMENT AND EXPERIENCE

- **Full time lecturer (7.2001 –2007)**
- **Currently Senior Lecturer (25.7.2008 to date)** – Department of Plant Science and Crop Protection, Faculty of Agriculture, College of Agriculture and Veterinary Sciences, University of Nairobi.
- **Lectures:** Principles of Crop Production, Agro-ecology, Biodiversity and Agro-forestry resources conservation and management, Environmental Pollution and management in Agricultural Resource Management, Seed Science and Technology, Agronomy of perennial crops, Agro-meteorology and crop modeling in agricultural Production, modeling climate change in agro-ecosystems at MSc. and Doctorate level, examining and supervising students at both graduate and post Graduate level
- **Was a Part time lecturer (2000)** – Taught fertilizer and fertilizer use, Department of Agricultural Engineering, Jomo Kenyatta University of Agriculture and Technology

- **2001 – to date.** I have been a **supervisor and examiner on a collaborative basis at post graduate level** in the Department of Environmental Sciences at Kenyatta University
- **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.
- **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 programme as well as writing technical reports for the programme to KARI and Funding Agencies
- 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 the write up of the PhD.**
- 1993-1995: (University of Nairobi/Wageningen Agricultural University). As **Research fellow at the International Centre for Research on Agro-forestry (ICRAF), I undertook PhD programme** 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**
- **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
- **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
- **1979-1984: Ministry of Agriculture.** Agricultural extension (land use planning and demarcations of farms in the settlement schemes to boost food production, soil and water management and planning in key grain producing areas of Kenya, dam construction for water conservation, writing annual and technical reports. Undertook farmer capacity building in land preparation, soil and water conservation, planting, weeding, harvesting, processing and marketing of main crops in Kenya.

In addition, I am a member of International Society for Agro-meteorology (ISNAM), African Crop Science Society (ACSS), International Society of Tropical Foresters (ISTF) and Soil Science Society of East Africa (SSSEA).

At the same time, I have served in the following committees

- (i) Member of Faculty Board of Post graduate examiners
- (ii) Member of the National and Regional Agro-forestry Teams (KEN-RAFT) steering committee for public universities
- (iii) Member of the faculty Time tabling committee
- (iv) Member of the 4th year field and industrial attachment committee
- (v) Member of the faculty board of examiners
- (vi) Member of the Technical committee for developing standards of planting materials at The Kenya Bureau of standards
- (vii) Faculty of Agriculture Chairman shows and exhibitions committees
- (vii) A member of Faculty Post Graduate Studies Committee (FPSC)
- (viii) A member of the post graduate board of examiners
- (ix) Chairman Faculty of Agriculture Field/firm/industrial student attachment committee

On the other hand, I am actively involved in research and have strengths in the following areas of **current research including**:-

- (i) undertaking research on mulberry trees varietal testing for selection and silk production using silk worms as well as silk processing.
- (ii) undertaking research on production, processing and cassava marketing of cassava products in Eastern, western and Coast parts of Kenya and beyond
- (iii) undertaking research on modeling groundnut production (Testing and validating the use of APSIM model) in Western Kenya
- (iv) Undertaking research on fertilizer use and response to different varieties of groundnuts in western Kenya as well as testing the performance of promising groundnut varieties in two agro-ecological zones in western Kenya.
- (iii) Modelling groundnut production in western Kenya: A Lucrative Legume Project collaborative Research with ICRISAT, 2006.
- (iv) Water harvesting and early warning systems in agriculture and livestock production under climate change in Kajiado district under CHE Project
- (v) Effects of ratooning cotton on yield and quality in east and central Kenya.
- (vi) Groundnut production and APSIM model testing in western Kenya in collaboration with ICRISAT
- (vii) The effects of tillage and weeding on the yield of common bean in Kabete
- (viii) The effects of fertilizer and variety on the yield of groundnuts in western Kenya (in collaboration with ICRIST
- (ix) The effects of tillage and climate variability on the yield of cowpeas in semi-arid Zimbabwe 2010
- X) Effects of climate variability and change on livestock production in semi-arid rangelands of Southern Kenya 2010
- Xi) Canopy exposure, organic amendments and microcatchment as strategies to adapt to climate change in the production of butternut in ASALS of Kinya 2011.
- xii) The effects of integrated soil fertility management on growth, yield and quality of navy bean 2011

Further I am heavily involved in teaching and supervision of Post graduates as follows:-

(i) Over 15 Msc students in the areas of environmental agronomy and climate and crop modeling and Natural Resources Management) (a) **Thuo, Muhamed, Kimwele, Mbaisi – all graduated at Kenyatta University, Kibe preparing Msc Research Proposal at Kenyatta University.** (b) **Munyao, Muthoni Nderitu, Mwangi, Alex Nabwisa, M. Gathumbi, S. Macharia, All have graduated at The University of Nairobi. P. Runanu, Juma and Ogutu are currently writing their thesis at the University of Nairobi**

(ii) 3 PhD students in fields of agro-meteorology (climate change and variability) as well as natural resources management (**Richard Moyo and Rokorito – all are writing their thesi at The University of Nairobi, Muthenya – Kenyatta University currently Preparing Research Proposal**)

My Research has resulted in publications in both local and international journals as shown below: -

Journal publications

- Kahiungu, Alex Nabwisa and Josiah Kinama (2012). *Biofuels* (2012) 3(5), 535-543
Adaptation of *Jatropha Curcusa L.* in the agroecological environments of Kenya: GenotypeX environment interactions analysis.
- 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
- **J.M. Kinama, C.J. Stigter, C.K. Ong, J.K. Ng'ang'a and F.N. Gichuki, 2007.** Contour hedgerows and grass strips in erosion and runoff control on sloping land in semi-arid Kenya. ***Arid Land Research and Management* 21: 1-19.**
- **Kinama, J.M., Stigter, C.S, Ong, C.K, Ng'ang'a, J.K. and Gichuki, F.N. (2005).** Evaporation from soils below sparse crops in contour hedgerow agroforestry in semi-arid Kenya. ***Agricultural and Forest Meteorology Journal* 130 (2005) 149-162**
- **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**
- Nutrient balances at farm level in Machakos (Kenya), using a participatory nutrient monitoring (NUTMON) approach. Gachimbiri, L.N., Van Keulen, H., **Kinama, J.M., Nguluu, S., Itabari, J.K., Ikombi, B.M., Thurania, E.G., Karuku, A.M., de Jager, J. and Nandwa, S.M. (2005).** ***Journal of Land Use Policy* 22:13-22. The Netherlands**

- C.J. Stigter, S.B.B. Oteng'i, K.O. Oluwasemire, N.K.N. Al-amin, **J.M. Kinama** & L.O.Z. Onyewotu, **2005. Recent answers to farmland degradation illustrated by case studies from African farming systems. Annals of the Arid Zone, in print.**
- **Kinama, J.M.** (2004). Indigenous Technical Knowledge and Rural development in Eastern Kenya. South African Rural Development Quarterly. I **Vol2, 04,)** Oct-December 2004. **SSN 1812-299X.** A Quarterly publication of the rural forum.
- Ong, C.K., **Kinama, J.M** (1996). Agroforestry for soil and water conservation in drylands. E. Afr. For. **J. 62 (1). 151-162.** Nairobi, Kenya, 1996.

(ii) Publications in workshop proceedings

- **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.
- **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 Kenya. Paper presented at the 24th Conference of the Soil Science Society of East Africa, Issak Walto Hotel, Embu , 26th-30th November 2007
- **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 24th Conference of the Soil Science Society of East Africa, Issak Walto Hotel, Embu , 26th-30th November 2007
- **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.
- Okat, S.K., Wangia, S.Mbugua, P., Kinama, J.M., Ojoo, R., Ndutu 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.
- 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 20th to 24th September, 2010.
- 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 Dawei⁵, Liu Jing⁶, Li Chunqiang⁷, Ismabel 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).
- **Kinama, J.M.** (2005). Resources distribution for pastoral conflict management in the Northern Districts of Kenya. **Paper presented at the 4th Kenya Pastoralist Week**

held in Nairobi, December, 2005. **Cemiride, Kenya Pastoralist Week (KPW) Workshop proceedings.**

- **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. (ISBN No 9966-879-27-7) pp. 220-226**
- **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**
- 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.19th-23rd May, 1986

Awards

- **I was awarded the first Honorary Mention by an International Society for Agricultural Meteorology (ISNAM) jury in the 2007 ISNAM contest on best examples for agro-meteorological services in 2008.**
- **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.**
- **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) 20th-21st January 2012.**
- **Was a facilitator for the training of senior agricultural extension officers on sustainable agricultural development and climate change on conservation agriculture April 2012 Embu Agricultural Staff training centre.**

Published Book chapters

– Agricultural Meteorology

Design of protection of sloping land from soil loss and water run off using hedgerow intercropping (Kenya) 118-122

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