

CURRICULUM VITAE

Dr. Kennedy Kitonga Mwetu, PhD.

1.0 BIODATA

University	Kenyatta	
School	Engineering and Architecture	
Department	Agricultural & Biosystems Engineering	
Designation	Lecturer	
Postal address	Box 43844-00100, Nairobi, Kenya	
Email	mwetu.kennedy@ku.ac.ke	
Consultation hours	12-5PM (Mondays)	

2.0 EDUCATION

Level	Qualification Name	Institution	Year
Doctor of Philosophy (PhD)	Hydraulics and Rural Water Management	University of Natural Resources and Life Sciences, Vienna (Austria)	2010
Post graduate course	Bayesian Uncertainty Analysis in Hydrological Modeling	European Geosciences Union (Austria)	2008
Post graduate course	Soil Erosion & Sediment Transport Measurement and Assessment	Czech Technical University (CTU), Prague (Czech Republic)	2007
Masters of Science (MSc.)	Water and Environmental Engineering	Egerton University (Kenya)	2004
Bachelor of Science (BSc.)	Agricultural Engineering	Egerton University (Kenya)	2001

3.0 PROFESSIONAL COURSES

Award level	Course title	Institution	Year
Certificate	High-Resolution Land Cover Intercomparison and Validation	Regional Centre for Mapping of Resources for Development (RCMRD), isprs, Politecnico-Milano & NGCC	2018
Certificate	GeoMedia and ERDAS Imagine	OAKAR Services Limited	2018
Certificate	Land Cover Mapping For Agricultural Change Assessment	Regional Centre for Mapping of Resources for Development (RCMRD), SIGMA & FAO	2016
Certificate	Student Training For Entrepreneurial Promotion (STEP)	Leuphana, University of Luneburg and Kenyatta University	2015
Certificate	Teaching Methodology, Setting of Examinations, Administration of Examinations, Marking and Analysis of Scores	Centre for Teaching Excellence & Evaluation, Kenyatta University	2013
Certificate	Publishing Scientific Research	Springer, Team hosted by Kenyatta University	2013
Certificate	Sustainable Land-Water Management: Towards Smart-Agriculture	African Institute of Capacity Development (AICAD), Kenya sponsored by World Bank	2012
Certificate	Performance Management and Contracting	Global Training Institute	2011
Certificate	Environmental Impact Assessment and Audit	South Eastern University College	2010

4.0 WORK EXPERIENCE

Period	Institution	Position
2011 - To date	Kenyatta University	Lecturer
2010 - 2011	South Eastern Kenya University	Lecturer
2006 - 2009	University of Natural Resources & Applied Life Sciences, Institute of Hydraulics & Rural Water Management (Austria)	Research Fellow
2005 - 2006	Flamingo Holdings; Homegrown (Kenya) LTD	Engineer
2002 - 2005	Egerton University, Faculty of Engineering & Technology	Tutorial Fellow

5.0 POSTGRADUATE STUDENTS SUPERVED & COMPLETED

1. Christine ombuna, MSc (Land and Water Management); The contribution of roof top rainwater harvesting and water sources for Nairobi County, Kenya.
2. Joas Tugizimana, MSc (Land and Water Management); Effects of soil and water conservation techniques on soil productivity and bean grain yield in Nyamasheke District, Rwanda.
3. Micheal Kabirigi, MSc (Integrated Soil Fertility Management); Effects of conservation Agriculture on bean and maize yield, soil properties and water productivity in Bugesera District, Rwanda.
4. Omayio Benard Mongare, MSc (Land and Water Management); effect of seed priming on maize yields, nutrient and water use efficiencies in semi –arid machakos and makueni counties, kenya.
5. Gabriel N. Njiru, MSc (Land and Water Management); Modeling soil erosion risk using revised universal soil loss equation in a GIS Framework for un-gauged watershed in Marsabit county, kenya.
6. Julieth Joseph Balilemwa, MSc (Land and Water Management); Assessment of soil moisture, maize performance under rainwater harvesting and practices used to cope with water scarcity in Morogoro, Tanzania.
7. Ronald Kibet Yego, MSc (Land and Water Management); Land use and land cover changes and its implications on food production in kiambu county, Kenya.
8. Chemutai Rose, MSc (Integrated Soil Fertility and Management); Status of soil fertility and management implications in selected farms in ruiru-sub county, Kenya.

6.0 PUBLICATION AND CONFERENCE PROCEEDINGS

1. Mwetu, K.K (2019) Influence of land cover changes and climatic variability on discharge regime of Njoro river catchment in Kenya. *Open Access Library Journal*, 6:e5461. <https://doi.org/10.4236/oalib.1105461>.
2. Njiru, G.N., Kariuki, P. and Mwetu, K. (2018) Modelling soil erosion for land management in ungauged golole catchment in Marsabit County, Kenya. *Open journal of soil science*, 8, 277-302.
3. C. Ombuna, K. Mwetu and B. Mochoge (2018) The Adoption of Roof Catchment Rainwater Harvesting and Major Water Sources in Nairobi County, Kenya. *Africa International Journal of Multidisciplinary Research* Vol. 2 (4) : 8-14.
4. Ombuna, C., Mochoge, B, and Mwetu, K. (2017) Contribution of rooftop rainwater harvesting in relation to total water supply in households, A case study of Nairobi County, Kenya, *European Journal of physical and Agricultural Sciences*, Vol. 5 NO. 2, 2017.
5. M. Kabirigi, F.K. Ngetich, K.K. Mwetu, P. Rushemuka, E.J. Wasige, Vicky M. Ruganzu and N.L. Nabahugu (2017) Implications of tillage practices, management of soil surface and fertilizer application on sustainable dryland agriculture. A Case

- study of Eastern Rwanda. *African Journal of Agricultural Reserach* Vol. 12(31) pp2524-2532.
6. Mwetu, K.K., Mutua, B.M. and Loiskandl, W. (2010) Linking stakeholders to catchment hydrology: Control and management of impacts of climate and land cover change on the hydrology. In: *Natural Resources 2010 Conference* Proceedings held on 25-27 October 2010 in Hannover, Germany.
 7. Mwetu, K.K., Wambua, R.M and Mutua, B.M. (2010) Assessment of land cover and climate change impacts on the hydrology, a case study of East Mau catchment in Kenya. In: *2010 Kenya's International conference* Proceedings on biodiversity, land use and climate changes, held on 15-17 September, 2010, Nairobi, Kenya.
 8. Mwetu, K.K., Loiskandl, W. and Fürst, J. (2010) Modelling responses of land-use and climate change on hydrology, A Case study of upper River Njoro catchment of Kenya. *Conference proceedings published in the Journal of International Water Association*; IWA-4331.
 9. Yillia, P.T., Kreuzinger, N. and Mwetu, K.K. (2009) Temporal variability of two contrasting transient pollution events in a pastoral stream. *Journal of Water Science & Technology*. 61(4), 1053-1063.
 10. Mwetu, K.K., Mutua, B.M., Kundu, P.M., Fürst, J. and Loiskandl, W. (2009) Effects of deforestation and climate variability on river discharge in the Njoro River catchment, Kenya. In: Semenye, P.P. and Mondob, H.O. (Eds.), *Proceedings of the SUMAWA Mau Forest Complex Conference*, pp 99-111. Egerton, Kenya; ISBN: 9966-05-180-5.
 11. Mwetu, K. K., Kundu, P.M., Mutua, B.M., Fürst, J. and Loiskandl, W. (2009) Response of river flow regime to land-cover and climate changes in Njoro River Catchment, Rift Valley Province in Kenya. In: *Kovar, P., Maca, P., Redinova, J. (Eds.), Proceedings of Water Policy (Water as a Vulnerable and Exhaustible Resource)*, Prague, Czech Republic; ISBN: 978-80-213-1944-8.
 12. Mwetu, K.K., Bett, E.K., Kiura, J. and Loiskandl, W. (2009) Deforestation effects on streamflow: Encouraging stakeholder participation, Kenya. Young scientists *Development Forum conference*. Presentation 4, 25th March, University of Natural Resources and Applied Life Sciences (BOKU), Vienna, Austria.
 13. Mwetu, K.K., Mutua, B.M., Kundu, P.M., Fürst, J. and Loiskandl, W. (2008) Spatial-temporal land cover mapping using imagery in River Njoro catchment, Kenya. In: ESRI (Eds.), *Proceedings 3rd ESRI Eastern Africa User conference (EAUC)*, Nairobi, Kenya.
 14. Mwetu, K.K., Mutua, B.M., Kundu, P.M., Fürst, J. and Loiskandl, W. (2008) Quantifying land cover change using remotely sensed data and Geographical Information System. A Case of River Njoro Catchment, Kenya. Proceedings of 2008, *Egerton University, 3rd Annual Research Week and International conference*. 16–18 September 2008, Kenya.
 15. Mwetu, K.K., Mutua, B.M., Kundu, P.M., Olumana, D.M. and Loiskandl W. (2007) Assessment of land use change using remote sensing and Geographical Information System. A case of Njoro catchment in Kenya. *International Conference*

on "Mountain forests in changing world". 2–4 April 2008. University of Natural Resources and Applied Life Sciences (BOKU), Vienna Austria.

16. Mwetu, K.K., Loiskandl, W. and Fürst, J. (2007) Evaluation of land use development on hydrological regimes. A case of Njoro watershed, Kenya. *Young scientists Development Forum conference*. Presentation 4, 18th December 2007. University of Natural Resources and Applied Life Sciences (BOKU), Vienna Austria.
17. Kundu, P.M., Owindo, S.F.O., Gichaba, M. and Mwetu, K.K. (2004) Impacts of land use change on hydrological regimes. A case study of River Njoro catchment in Rift Valley province in Kenya. *Proceedings of 16th Kenya society of agricultural engineers (KSAE). International conference*, Nairobi Kenya.

7.0 RESEARCH PROJECTS

Period	Project title	Sponsor/funding
2017 - 2020	Assessing Changes in Agricultural Land Use and their Implications on Food Production in Ruiru Sub-County, Kenya	Vice Chancellor Grant, Kenyatta university.
2012 - 2015	Promoting Agricultural productivity through improved water harvesting, utilization and capacity building in arid and semi-arid lands of Kenya	Global Knowledge Initiative and Pennsylvania State University, US.
2011 - 2013	Promotion of surface runoff and rainwater harvesting for application in Aquaculture and horticulture development in Kitui County, Kenya	National Council for Science and Technology.
2010	Public awareness on catchment hydrology: Deforestation and climatic variability effects on Water Resources	Austrian Agency for International Cooperation in Education and Research (OeAD-GmbH), Center for International Cooperation and Mobility (ICM).
2006 - 2010	Modeling Responses of Hydrology to Land-use / Land-cover Change and Climatic Variability: A Case study in River Njoro catchment of Kenya	Austrian Exchange Service (OÄD) under the North-South Dialogue Scholarship Programme.
2004 - 2005	Sustainable Management of Watersheds	Global Livestock CRISP project
2002 - 2004	Analysis of Extreme Rainfall and Stream flow Events from Upper Ewaso Ny'iro Drainage Basin in Kenya	collaboration by Laikipia Research Programme (LRP), Kenya; UNESCO; and Egerton University, Kenya

8.0 CONSULTANCY

Period	Consultancy description	Proponent/sponsor
2019 - To date	Design and operationalization of a foam mattress manufacturing plant, kitui county	Signdone Industries Ltd
2019	Design of Soil and Water conservation Structures for Kitui Campus, Kenyatta University	Kenyatta University
2018	Design of Earth Dam and Roof Catchment water harvesting system for Kitui Campus, Kenyatta University	Kenyatta University
2015	Hydrological Feasibility Study of Endau Hill Catchment, Kitui East Sub-County	County Government of Kitui; Order No: CGoKTI/98/2014-2015
2015	Design of Water Supply System for Mwea Aqua Fish, Muranga County	Mwea Aqua Fish Farm; Order No: HDFKTI/002/2014-2015
2015	Design of Kitui Campus Earth Pan for water harvesting	Kenyatta University
2012	Design of Earth Dam for Kitui Campus, Kenyatta University for water harvesting	Kenyatta University

9.0 PROFESSIONAL REGISTRATION

Registration date	Institution	position
2010	Engineers' Registration Board (ERB) of Kenya Registration No. 6112	Graduate engineer
2011	National Environment Management Authority (NEMA) of Kenya and Registration No. 2951	Lead expert
2019	Kenya Society of Environmental, Biological and Agricultural Engineers (KeSEBAE) of Kenya and Registration No. K19061	Member

10.0 RECOGNIZED AWARDS

Year	Award	Award description	Sponsor/organization
2019	Position 1	The runner's up community impact award	Kenya National Chamber of Commerce and Industry (KNCCI)
2023	Position 1	The best local manufacturer's stand (non-consumables)	Kitui Agricultural Show and Trade Fair (County Government of kitui)
2024	Position 1	The best medium trade stand (Commercial and Industrial).	Kitui Agricultural Show and Trade Fair (County Government of kitui)
2024	Position 1	The best Jua Kali stand	Kitui Agricultural Show and Trade

			Fair (County Government of kitui)
2024	Position 2	The best Striking display of locally manufactured products	Kitui Agricultural Show and Trade Fair (County Government of kitui)
2024	Position 3	The best local manufacturer's stand non-consumables	Kitui Agricultural Show and Trade Fair (County Government of kitui)

11.0 COMMUNITY ENGAGEMENTS AND OTHER CONTRIBUTIONS

11.1 School Boards of Management

Year	Institution	Role and Position assigned
2025	Endau Secondary School	BOM for the school and as a chair
2022	St. Ignatius Secondary School	BOM for the school and as a chair
2019	St. Ignatius Secondary School	BOM for the school and as a chair
2016	Endau Secondary School	BOM for the school and as a member
2012	Endau Secondary School	BOM for the school and as a member

11.2 Invited Guest Speaker

Year	Institution	Theme/Topic Discussed
2025	County Government of Kitui	Positioning local investors and partners in the industrialization Agenda for Kitui county.
2025	Equity Bank	16 th Annual Education and leadership Congress for <i>Wings to Fly and Elimu scholars</i> , Topic: Developing Leadership Skills: Ethical Leadership in the Global World 2024.
2024	Equity Bank	15 th Annual Education and leadership Congress for <i>Wings to Fly and Elimu scholars</i> , Topic: "Educate, Empower, Lead: The Triad to Success".
2024	Kenya School of Government, Embu Campus	Sustainable water for food security and nutrition in the face of climate change.
2024	Holy Ghost Schools - Makueni	Industrial Talk and inspire Entrepreneurial spirit

12.0 REFEREES

1. Dr. Eric Bett (PhD)
Snr. Lecturer / Researcher
Kenyatta University
P.O Box 43844-00100, Nairobi, Kenya
2. **Dr. Patrick Kariuki (PhD)**
Snr. Lecturer/researcher,
Dedan Kinanthi University of Technology,
P.O. Box 657_10100, Nyeri, Kenya.
, Email: kariuki@alumni.itc.nl
3. **Prof. Njehia Kamau (PhD)**
Associate Professor/Dean, School of Agriculture and Enterprise Development,
Kenyatta University. P.O Box 43844-00100, Nairobi, Kenya.