

CV- DR BAARU MARY WAMUYU

1.1 Personal Profile

1.1.1 Personal Details

Name: Dr. Baaru Mary Wamuyu

PF. No.: 7627

Department: Environmental Studies and Community Development

Designation: Lecturer

Email: baaru.mary@ku.ac.ke

Area of Specialization: Management of Soil and Water of dryland environments

Research Interests: Strategies to enhance and increase land productivity of dryland areas

Google Scholar: <https://scholar.google.com/citations?user=Oh6Yds4AAAAJ&hl=en>

ORCID ID: : <https://orcid.org/0000-0003-3359-3108>

1.1.2 Academic & Professional Qualifications

i) PhD Dryland Resource Management: University of Nairobi, 2011

Thesis Title:

Improving Smallholder Land Productivity through Promotion of Sustainable Soil and Water Conservation Technologies in Machakos District: A Case of Vegetative Macro Contour Lines (Doctoral Dissertation, University of Nairobi, Kenya, 2011).

ii) MSC Environmental Studies (Agroforestry and Rural Development), Kenyatta University, 2007

Thesis title:

Effect of organic and inorganic inputs on soil microbial biomass at Kabete, Kenya

iii) Bachelors Degree in Agriculture, University of Nairobi, 1989

iv) Certified Professional Mediator and Trainers, Mediation Training Institute International East Africa

1.1.3 Employment History

2012 to date Lecturer Kenyatta University

2005-2011 Ministry of Agriculture, Kilimo House, Directorate of Policy Affairs

1989-2004 Ministry of agriculture, Kiambu, Extension staff

1.1.4 Achievements

- i) Has won and implemented various grants focusing on management of water resources in arid and semi arid areas. One projects funded by Adaptation Fund/NEMA delivered a full functional borehole to Vota village of Machakos County, which the community is already utilizing both for domestic and farming
- ii) Has done a number of Consultancies in monitoring, evaluation and learning and in policy formulation.
- iii) Was recognized by African Women in Research and Development (AWARD) as one of the 10 finalists under women in science category.

1.2 Research Publications

1.2.1 Referred Journals

Baaru, M. W., & Gachene, C. K. K. (2016). Community empowerment through participatory resource assessment at Kathekakai settlement scheme, Machakos County, Kenya. *International Journal of Sociology and Anthropology*, 8(2), 15-22.

Mbugua, H., Baaru, M. W., & Gachene, C. K. (2019). Soil moisture variability effects on maize crop performance along a toposequence of a terraced vertisol in Machakos, Kenya. *Journal of Soil Science and Environmental Management*, 10(1), 21-28.

Kiumbuku, S., Baaru, M., Mutindia, J. (2020). Gender Analysis of Smallholder Farmers' Adaptive Capacity to Drought in Semi-arid Kenya. *Gender and Women Studies*. 3(1):5.

Kiumbuku, S. K., Baaru, M. W., & Mutinda, J. W. (2018) Do Smallholder Farmers Perceive Rainfall Variability the Same and Correctly? Gendered and Spatial Analysis of Perception Versus Actual Trends of Rainfall in Three Livelihood Zones in Kenya. *Journal of Environment and Earth Science* www.iiste.org Vol.8, No.9, 2018

Kimaru-Muchai, S. W., Ngetich, F. K., Baaru, M., & Mucheru-Muna, M. W. (2020). Adoption and utilisation of Zai pits for improved farm productivity in drier upper Eastern Kenya. *Journal of Agriculture and Rural Development in the Tropics and Subtropics (JARTS)*, 121(1), 13-22

Emerita, Njiru., Baaru, M. W & Gachene, C.K. (2022). Assessment of soil moisture and nutrients on terrace slope of hard-setting soils in semi-arid eastern Kenya. *Tropical and Subtropical Agroecosystems* 25 (2022): #124

WK Serah, Monica W Mucheru-Muna, Felix K Ngetich, Harun I Gitari, Emmanuely Z Nungula, Mary Baaru. (2023). Interactive Effects of Zai Pits and Conventional Practices with Soil Amendments on Soil Physico-chemical Properties. *International Journal of Bioresource Science*. DOI: 10.30954/2347-9655.02.2023.5

1.2.2 Other Publications

- i. University Level Scholarly Books

-

-
- ii. Patented Invention or Innovations
-
-
- iii. Tertiary Level Scholarly Books
-
-
- iv Book Chapters

Gachene, Charles KK, Anne N. Karuma, and Mary W. Baaru. "Climate Change and Crop Yield in Sub-Saharan Africa." In *Sustainable Intensification to Advance Food Security and Enhance Climate Resilience in Africa*. Springer International Publishing, 2015. 165-183.

Baaru, M. W., Mugendi, D. N., Bationo, A., Verchot, L., & Waceke, W. (2007). Soil microbial biomass carbon and nitrogen as influenced by organic and inorganic inputs at Kabete, Kenya. In *Advances in integrated soil fertility management in sub-Saharan Africa: challenges and opportunities* (pp. 827-832). Springer, Dordrecht.
https://doi.org/10.1007/978-1-4020-5760-1_78

- v Refereed Learning Modules

- vi. Reviewed Conference Papers

Baaru, M. W., & Gachene, C. K. (2019). Effect of Land tenure change on Land use in Machakos County, Kenya. *Abstracts of the ICA, 1*, NA-NA.

Baaru, M. W., Gachene, C. K. K., & Gathaara, V. (2013, October). Farmers perception on changes in natural resource base at Kathekakai settlement scheme, Machakos County, Kenya. In *Joint Proceedings of the 27th Soil Science Society of East Africa and the 6th African Soil Science Society Conference*.

- vii. Secondary School Level Textbooks

- viii Short Communication in Journals

Kimaru-Muchai, S. W., Ngetich, F. K., Mucheru-Muna, M. W., & Baaru, M. (2021). Zai pits for heightened sorghum production in drier parts of Upper Eastern Kenya. *Helijon*, 7(9).

- ix Consultancy and Project Reports
Consultancy reports for:

- a) Marereni salt dams at Malindi County
- b) Hand in Hand East Africa

Reports for following projects:

- a) Integrated programme to build resilience to climate change and adaptation capacity of vulnerable communities in Kenya
- b) Unlocking the agricultural potential in drylands: Enhancing efficient utilization of soil moisture for improved smallholder farm productivity in ASALs of Kenya.

x. Refereed Exhibitions and Performances

Baaru M.W. and Gachene., C.K.K (2014). Development and promotion of sustainable soil and water conservation technologies in semi arid areas of Kenya: *the case of vegetative macro contour line (CTA and FARA, 2014. Agricultural Innovations for Sustainable Development: Contributions for the 3rd Africa-Wide Women and Young Professionals in Science Competitions. Volume 4 Issue 3)*

xi Non - Reviewed Conference Papers

Baaru M.W, Gachene., C.K.K, Onwonga R.N., and Mbuvi J.P (2011). Effects of vegetative macro contour line on soil moisture conservation and crop performance in Kathekakai Settlement Scheme, Machakos County. National Council of Science and Technology Conference, Nairobi, Kenya. **Conference proceedings**

Xii Any other publications

Baaru, M. W., Gachene, C. K. K., & Onwonga, R. N. (2010). Assessment of changes in natural resources: A participatory approach. University of Nairobi,. Second RUFORUM Biennial Meeting 20 - 24 September 2010, Entebbe, Uganda

Gachene, C. K. K., Baaru, M. W., Gathaara, V., Onwonga, R., & Mbuvi, J. P. (2015). Factors that influence adoption of soil and water conservation technology at Kathekakai Location, Machakos. United Nations Development Programme (UNDP); Kenya.

xiii. Editorship of a Book or Conference Proceedings

Editor and member of planning team In *Joint Proceedings of the 27th Soil Science Society of East Africa and the 6th African Soil Science Society Conference.*

xiv. Scholarly Presentations at Conferences/Workshops/Seminars (Workshop program attached)

Research-to-Action Planning Virtual Workshop

Baaru Team/Kenya - February 23 – _April 1, 2021 | Virtual Sessions | 8:00 – _9:30am EST/4:00 _5:30pm UCT+3

xv Book Review Published in Refereed Journals

1.3 QUALITY TEACHING, LEARNING AND MENTORSHIP

1.3.1 Student Evaluations

Evaluation form attached

1.3.2 Trainings in Higher Education

1.3.3 Ongoing Supervisions

Kariuki Godhard Muiruri- N85/39467/2016:-Topic: Effects of Climate Variability on Food Security Among Rural Households in Kieni West Sub-County, Nyeri County, Kenya.

Maureen Cherono Bett-N50/CT/PT/27978/2014-Topic: Soil conservation technologies for sustainable crop production in Kipkelion Kericho County, Kenya

Virginia Wambui Mburu- N50/CTY/PT/26635/2019: Topic: Social and environmental impacts present during organic farming conversion from conventional farming. A case study Kagumo sub-county, Murang'a county.

1.3.4 SUPERVISION OF POSTGRADUATE STUDENTS

1.3.4.1 Masters

Wanjiku j. Wangari: Assessment of changes in landuse and land cover and soil erosion risk in kathe-kakai catchment machakos, Kenya: a geospatial approach.

Harun mbugua wairimu: Influence of spatial soil moisture variability on crop performance in a vertisol, Machakos County

Wairimu Margaret Maina: Assessment of the Impact of the Afforestation Reforestation Clean Development Mechanism on Sustainable Development in Aberdare, Kenya.

Samuel Wakungu Kiarie: Effects of trends of Climate Variability and Smallscale Farmers Perception and Adaptation Strategies in Kijabe Location, Kiambu County

Muriithi Eunice Weveti: Implications of consumption of Unrecorded Alcohol on Sustainable Lifestyles amongst Households in “Shauri Yako” Embu County

Caroline Gathoni: Adption of Melia (Malia Volkensii, Gurke) by Farmers in Makueni County, Kenya: Role of Income and Challenges Faced.

1.3.4.2 PhD

Emeritas Ndwiga- Effect of terraces on soil moisture, nutrient variability and crop yield in the hardsetting soils of semi-arid Kenya. (University of Nairobi)

Serah Wairimu Kimaru: Effects of Water Harvesting Techniques on Agricultural Production in the Low Midland Zones of Tharaka Nithi County, Kenya

Samuel Kimani Kiumbuku: Gendered perspective on impacts of climate variability on rural livelihoods in Makueni County, Kenya.

1.4 PROFESSIONAL/CONSULTANCY

1.4.1 Networks/Collaborations

1.4.2 Editorial Boards/Referee for professional periodicals
Member of Editorial Board- MAT journals

1.4.3 Consulting for international/national boards (Appointment letter attached)
Appointed as member of Tender evaluation committee for National Environment Management Authority (NEMA)

-
- 1.4.5 Consulting for organizations/institutions (Communication from Laser attached)
Listed in the pool of potential work assignments for USAID-LASER (Long-term Assistance and Services for Research) PULSE (Partners for University-Led Solutions Engine)
- 1.4.6 Membership to acad/prof bodies (Membership letter attached)
Member of Green Shift Africa- an African based NGO platform positioning itself and pioneering in green growth in Africa
- 1.4.7 Any other (Editorship/Peer review, external examiner, etc)
- a) Post graduate thesis external examiner for Faculty of Agriculture, University of Nairobi
 - b) Undergraduate thesis external examiner for Faculty of Agriculture, Jomo Kenyatta University

1.5 Administrative and Responsibilities

- 1.5.1 Recognized university administrative positions (Appointment letters attached)
Appointments:
- a) Examination Coordinator: 2012-2016
 - b) Chair of Departmental Research, innovation and consultancy committee

Department level appointments:

- a) Intellectual property rights and ethics review board (member)
- b) Curriculum Review and development committee (member)
- c) Publications and seminars committee (member)

- 1.5.2 Other responsibilities in the University

University level appointments:

- a) Staff mentor
- b) 2MW solar plant proposal development committee (member)

1.6 Community Engagements and Other Contributions

- 1.6.1 Research funding (Project documents attached)

Project title: Research to Action (R2A): Communication and Dissemination of Scientific research finding.

Role: Principal Investigator

Funder: USAID

Status: Completed

Project title: Connecting agropastoral food culture research to livestock commercialisation policy.

Funder: Institute Development Studies, UK

Role: Co-Principal Investigator

Status: Completed

Project title: A multidisciplinary project funded by Adaptation Fund Board to enhance adaptive capacity to climate change, titled Integrated Programme to Build Resilience to Climate Change & Adaptive Capacity of Vulnerable Communities in Kenya.

Funder: Adaptation Fund Board/NEMA

Role: Principal Investigator

Status: Completed

Project title: UNLOCKING AGRICULTURAL POTENTIAL IN DRYLANDS: Enhancing efficient utilization of soil moisture for improved smallholder farm productivity in ASALs of Kenya

Funder: USAID/National Academy of Sciences (NAS)

Role: Principal Investigator

Status: Completed

1.6.2 Community outreach

Member of Board of Management, Gaturiri Secondary School (Appointment letter attached)

1.6.3 Professional Affiliation & portfolios

1.6.4 Recognitions awards and honours

Honored by Deliverance Church International Leadership (Certificate attached)

1.6.5 Any other sub-category

Guest speaker at United States International University (USIU) to The International Business Operations Class (Appreciation letter attached)