

Profile

I am an Associate professor of Horticulture with over 19 years of experience in training, research and community outreach in the areas of crop production systems, post-harvest handling of produce, standards and food safety. The main focus in my research work has been on African traditional crops' production physiology, conservation and use; stress physiology and temperature-based modulation of growth and development in crops. Have experience in participatory farmer and end-user technology evaluation, selection and adoption in addition to systems intensification and market-led development. I have authored over 30 publications in various refereed journals, book and book chapters and supervised and mentored over 40 graduate students including Ph.Ds. I have expertise in Partnership Building and Resource Mobilization having participated in implementing research grants as either a principal investigator (PI) or a Co-PI/Co-researcher in several grants and the most recent ones include; Food safety in produce from informal settlements in Kenya supported by the United States Aid for International Development (2020-2022); Earth observation and environmental sensing for climate-smart sustainable agro-pastoral ecosystem transformation in East Africa (ESSA) supported by the European Union (2020-2024); Capacity development for conservation and utilization of plant genetic resources for agricultural productivity, resilience and sustainable livelihoods in East and Central Africa supported by the World Bank/SIDA (2014/2018); Developing a secure food system based on well-adapted pearl millet genotypes in appropriate crop mixtures in Kenya supported by Kenya government through the National Commission for Science, Technology and Innovation (2013-2015) among other.

I embrace a systems thinking approach to create sustainable food systems as a means of achieving food security and nutrition through the application of a multifaceted and a multi-sector effort to achieve the highest quality of life for all.

Education

PhD in Horticulture (crop Physiology and postharvest handling), Wageningen University, The Netherlands

January 2006 — December 2010

MSc Horticulture, University of Nairobi, Kenya

January 1997 — December 2002

BSc Agriculture, University of Nairobi, Kenya

January 1992 — December 1996

Details

ORCID

ID: htcid.org/0000-0003-2009-668X +254 - 715 - 606563 ceciliam.onyango@gmail.com cecilia.onyango@uonbi.ac.ke

Skills

Leadership Skills

Effective Teaching

Classroom Management

Agile Project Management

Critical Thinking

Extremely organized

Technological Skills

Effective Time Management

Ability to Work Under Pressure

Ability to Work in a Team

Languages

English

Swahili

Kisii

Employment History

Associate Professor at University of Nairobi, Kenya

October 2019 — Present

Area of specialization: Horticultural crops production,Indigenous crops production, crop physiology, post-harvest physiology and technology, standards and food safety, systems intensification and marketing, and crop biodiversity

Responsibilities: Teaching and examining undergraduate and postgraduate students in areas of crop physiology, Production of temperate vegetables, production of indigenous and unique vegetables, post harvest handling, food safety and eco-efficient bio-resource management.

Developing research proposal, supervising postgraduate students and coordinating Research projects

Other assignments:

- Chair, the Faculty of Agriculture timetabling committee
- Chair, Faculty of Agriculture O-DeL and E-learning programs
- Co-Chair- Ministry of Agriculture Horticulture Technical Working Group – Phytosanitary standards and Food safety sub-Committee
- Member of the Department of Crop Science and Plant Protection Research, Conferences and Workshop committee

Senior Lecturer at University of Nairobi, Nairobi

November 2014 — October 2019

Area of specialization: crop production, crop physiology, post-harvest physiology and technology, standards and food safety, systems intensification and marketing, and crop biodiversity

Responsibilities: Teaching and examining undergraduate and postgraduate students in areas of crop physiology, Production of temperate vegetables, production of indigenous and unique vegetables, post-harvest handling, food safety and eco-efficient bio-resource management.

Developing research proposal/projects, supervising postgraduate student thesis projects and coordinating Research projects

Other assignments:

- Chair- Faculty of Agriculture Industrial attachment committee
- Departmental representative in the Faculty of Agriculture timetabling committee
- Member of the Faculty Strategic Plan Committee

External examiner for MSc. Thesis at University of Limpompo - Turfloop Campus,, South Africa

January 2016 — Present

External examiner for MSc. and PhD Thesis at Jomo Kenyatta University of Agriculture and Technology, kenya

January 2016 — Present

External examiner for MSc. and PhD Thesis at Egerton University, Kenya

January 2016 — Present

External examiner for MSc. Thesis at University of the Free State, South Africa

January 2016 — Present

External examiner for MSc Thesis at Kenyatta University, Kenya January 2010 — Present

Internal examiner both MSc and PhD thesis at University of Nairobi, Kenya

January 2010 — Present

Internal examiner both MSc and PhD thesis in Horticulture, Agronomy, Agricultural Resource Management and Soil Science

Lecturer at University of Nairobi, Kenya

November 2010 — November 2014

Teaching and examining undergraduate and postgraduate students in areas of crop physiology, principles of agricultural sciences, vegetable production, postharvest handling, food safety and eco-efficient bioresource management.

Developing research proposal and Supervising postgraduate student thesis projects

Assistant Lecturer at University of Nairobi, Kenya

November 2001 — November 2010

Teaching and examining undergraduate students; Carrying out PhD research

PUBLICATIONS

Theses

- 1. Onyango M.C. (2010). Preharvest and postharvest factors affecting yield and nutrient contents of vegetable amaranth (var. *Amaranthus hypochondriacus*). PhD Thesis, Wageningen University. The Netherlands. ISBN 978-90-8585-615-3.
- 2. Onyango M.C. (2000). Effects of pigeon pea (*Cajanus cajan* (L) Millsp.) genotypes on pod and green pea yield and the nutritional quality as influenced by storage conditions. M.Sc. Thesis, University of Nairobi

Book

Onyango C.M., Wilson J., Gubbels, P. and Mokaya O. P. (2020). Surviving COVID-19: The neglected remedy. A mini Barefoot Guide. Agroecology Series. By the Natural Food Barefoot Guide Writer's Collective 2020. ISBN No. 978-1-928539-39-1

https://www.barefootguide.org/uploads/1/1/1/6/111664/barefoot-guide-surviving-covid-19-the-neglected-remedy.p

Book Chapter

Alsanius, B. W., A. Kosiba Held, M. Dorais, **C. M. Onyango** and L. Mogren (2017). Produce quality and safety. Rooftop Urban Agriculture. F. Orsini, M. Dubbeling and G. Gianquinto (eds). New York, Springer: 195-216

Publications in Refereed Journals

- 1. **Onyango C.M.**, Nyaga M.J., Wetterlind J., Soʻderstroʻm M. and Kristin Piikki (2021). Precision Agriculture for Resource Use Efficiency in Smallholder Farming Systems in Sub-Saharan Africa: A Systematic Review. Sustainability Journal, 13, 1158. https://doi.org/10.3390/su13031158
- 2. Nyaga M.J., **Onyango C.M.**, Wetterlind J. and So¨ derstro¨ m M. (2021). Precision agriculture research in sub-Saharan Africa countries: a systematic map. Precision Agriculture Journal. https://doi.org/10.1007/s11119-020-09780-w.
- 3. Mureithi, P.M., Kavoi B.M., **Onyango, C.M.** and Mathiu, M.P. (2020). Antiulcerogenic Effects of Selected African Nightshades (Solanum nigrum Linn.) Genotypes on the Rat Stomach: A Morphologic and Morphometric Study. International Journal of Morphology, 38(4):940-946
- 4. Kanyenji G.M., Ng'ang'a S.K., Oluoch-Kosura W. and **Onyango C.M.**-(2020). Prospects and constraints in smallholder farmers' adoption of multiple soil carbon enhancing practices in Western Kenya. Heliyon 6: e03226. https://doi.org/10.1016/j.heliyon.2020.e03226
- 5. Munialo S. Dahlin A. S., **Onyango C.M.**, Oluoch-Kosura W., Marstorp H. and Öborn I. (2019). Soil and management-related factors contributing to maize yield gaps in western Kenya. Food and Energy Security Journal.1-17. DOI: 10.1002/fes3.189
- 6. Munialo S., Hall O. Francisca A.B.M., Boke-Olén N., **Onyango M.C**-., Oluoch-Kosura W. Marstorp H. and Göran D. (2019). Micro-Spatial Analysis of Maize Yield Gap Variability and Production Factors on Smallholder Farms. Agriculture 9: 219 doi:10.3390/agriculture9100219
- 7. Nyaga S.N., Mathiu P.M., **Onyango C.M.** and Areba G.O. (2019). Antidiabetic properties of Solanum villosum and Solanum nigrum var.sarrachoides in a streptozotocin-induced diabetic mice model. International Journal of Basic & Clinical Pharmacology8(11):2396-2402. DOI:http://dx.doi.org/10.18203/2319-2003.ijbcp20194774
- 8. Chimoita, E.L., **Onyango, C.M.** Gweyi-Onyango, J.P. and Kimenju, J.W. (2019). Socioeconomic and Institutional Factors Influencing Uptake of Improved Sorghum Technologies in Embu, Kenya, East African Agricultural and Forestry Journal. 1-11. DOI: 10.1080/00128325.2019.1597568
- 9. Karanja D. N., Wahome R.G., Kunyanga C.N. and **Onyango C. M.** (2019). Perceptions and Attitudes of Academic Staff Towards
 Agricultural Training in Kenyan Universities. International Journal of
 Innovation Education and Research Vol.7 No. 4: 375-386

- 10. Agesa B.L., **Onyango C.M.**, Kathumo V. M., Onwonga R.N. and Karuku G.N. (2019). Climate Change Effects on Crop Production in Yatta sub-County:Farmer Perceptions and Adaptation Strategies. African Journal of Food, Agriculture, Nutrition and Development Vol. 19(1): 14010-14042
- 11. Kariuki P.M., **Onyango C.M**., Lukhoba C.W. and Njoka J.T. (2018). The Role of Indigenous Knowledge on Use and Conservation of Wild Medicinal Food Plants in Loita Sub-county, Narok County. Asian Journal of Agricultural Extension, Economics and Sociology 28 (2): 1-9.
- 12. Mutiso P. M., Kinama J. M., and **Onyango C.** (2018). Effect of in situ moisture conservation techniques on yield and water use efficiency of pearl millet in Makueni, Kenya. International Journal of Agronomy and Agricultural Research 12 (6): 186-196.
- 13. Masaku, M. K., Githiri S. M., **Onyango, C. M.** and Masinde, P. W. (2018). Genotypic variation of green gram accessions in the Arid and Semi-Arid lands of Kenya. Journal of Agriculture and Ecology Research International. 15(2): 1-15.
- 14. Masaku, M. K., S. M. Githiri, **C. M. Onyango** and P. W. Masinde (2018). Evaluation of Agronomic Performance of Green Gram Accessions Grown under Reduced Light Intensity in the Arid and Semi-Arid Areas of Kenya. International Journal of Plant & Soil Science, 23(2): 1-11
- 15. **Onyango C. M.**, Kunyanga C. N., Karanja D. N. and Wahome, R. G. (2018). Employer perceptions and attitudes towards agricultural university training in Kenya. International Journal for Innovation Education and Research Vol.6 No.1: 175-185
- 16. Njage, P.M.K., Sawe, C.T., **Onyango, C. M.**, Njagi, H.E.N., Aerts, M. and Molenberghs, G. (2017). Microbial Performance of Food Safety Control and Assurance Activities in a Fresh Produce Processing Sector Measured Using a Microbial Assessment Scheme and Statistical Modeling. Journal of Food Protection, 80 (1): 177–188
- 17. Chimoita, E.L., **Onyango, C.M.**, Kimenju, J.W., and Gweyi-Onyango, J.P. (2017). Agricultural Extension Approaches Influencing Uptake of Improved Sorghum Technologies in Embu County, Kenya. Universal Journal of Agricultural Research 5(1): 45-51
- 18. Mbogo, N. W, Kinama, J. M, **Onyango, C,** Kabira J. N (2017). Effect of inorganic fertilizer and cattle manure on growth and yield of two Kenyan potato varieties. International Journal of Agronomy and Agricultural Research (IJAAR)10 (1): 65-72
- 19. Ontita E.G., **Onyango C.M.**, Onwonga R.N. and Nyamongo D. (2016). Indigenous Knowledge on the Uses of African Nightshades (*Solanum nigram* L.) Species among three Kenyan Communities. Asian Journal of Agricultural Extension, Economics & Sociology 14(3): 1-8
- 20. Nyagari, E., **Onyango C. M.** and Onwong'a R. N. (2016). Effects of intercropping arrangements and fertilizer application on growth and yield of African nightshade (Solanum nigrum l.) in Kisii County, Kenya.

International Journal of Agriculture and Environmental Research Vol. 2 (5): 1069 - 1083

- 21. **Onyango C. M.**, Ontita Edward Gizemba, Onwong'a Richard Ndemo, Nyamongo Desterio and Gapusi Jean R. (2016). Status and Production Practices of Vegetable African Nightshade (Solanum nigrum L.) in Selected Communities of Kenya. American Journal of Experimental Agriculture 13(3): 1-12
- 22. **Onyango C.M.,** Onwonga R.N. and Kimenju J.W. (2016). Assessment of spider plant (*Cleome gynandra* L.) germplasm for agronomic traits in vegetable and seed production: A Green House Study. American Journal of Experimental Agriculture 10(1): 1-10
- 23. Kimaru S. Linguya, **Onyango C. M.**, Kimenju J. Wangai and Kilalo D. Chao (2015). Potential of intercropping for management of some arthropod and nematode pests of leafy vegetables in Kenya. Journal of Agricultural Sciences Vol. 60, No. 3: 301-314

DOI: 10.2298/JAS1503301L

- 24. Wangolo E.E., **Onyango C.M.**, Gachene C.K. K. and Mong'are P.N. (2015). Effects of shoot tip and flower removal on growth and yield of spider plant (Cleome gynandra L.) in Kenya. American Journal of Experimental Agriculture 8(6): 367-376
- 25. Chichongue O.J., Karuku G.N., Mwala A.K., **Onyango C.M**. and Magalhaes A.M. (2015). Farmers' risk perceptions and adaptation to climate change in Lichinga and Sussundenga, Mozambique. African Journal of Agricultural Research Vol.10 (17): 1938-1942
- 26. Hutchinson M.J., Miranyi, H.K., **Onyango C.M.** and Kimani E. (2015). Devitalisation of 'Bellerose' Cut Rose (Rosa hybrida L.) Flowers: Effects of Glyphogan® and Roundup® on Propagation Ability and Vaselife. Acta Hort. 1077: 83-94
- 27. Kimaru S.L, Kimenju, J.W., Kilalo D.C and **Onyango C.M.**-(2014). Growth and yield response of selected species of African leafy vegetables infested with root knot nematodes (Meloidogyne incognita). Global Journal of Biology, Agriculture and Health Sciences Vol 3 (4): 1-6
- 28. Namoi, N. L., Onwonga, R. N., **Onyango, C. M.,** Karuku, G. N. and Kathumo, V. M. (2014). Assessment of Soil Nutrient Balances in Organic Based Cassava (*Manihot esculenta* Crantz) and Sorghum (*Sorghum bicolor* (L.) Moench) Cropping Systems of Yatta Sub-county, Kenya. American Journal of Experimental Agriculture 4(12): 1557-1578
- 29. Namoi, N. L., Onwonga, R. N., Karuku, G. N., **Onyango, C. M.**-and Kathumo, V. M. (2014). Influence of Selected Ecological Farming Practices on Soil Moisture Retention and Yield of Sorghum (-*Sorghum bicolor* (L.) Moench) and Cassava (*Manihot esculanta* Crantz) in Semi-Arid Yatta Sub-County, Kenya. Agricultural Science; Vol. 6, No. 9: 214-231
- 30. Liavoga B. A., V. M. Kathumo, R. N. Onwonga, G. N. Karuku, and C. M. Onyango (2014). Assessment of Trends in Land Cover and Crop Type

- Change Over Two Decades in Yatta Sub County, Kenya. International Journal of Agriculture, Forestry and Fisheries. Vol. 2, No. 3, pp. 46-52.
- 31. Sawe, C. T., **C. M. Onyango** and P. M. K. Njage (2014). Current food safety management systems in fresh produce exporting industry are associated with lower performance due to context riskiness: Case study. Food Control 40: 335 343
- **32. Onyango M.C.,** Kunyanga C.N., Ontita •E.G., Narla R.D. and Kimenju J.W. (2013). Current Status on Production and Utilization of Spider Plant (Cleome gynandra L.) an Underutilized Leafy Vegetable in Kenya. Genet. Resour. Crop Evol. Vol. 60 (6): 2183-2189 DOI 10.1007/s10722-013-0036-7
- 33. Ngugi, K., and **Onyango M.C.** (2012). Analysis of the Molecular Diversity of Kenyan Sorghum Germplasm Using Microsatellites. J. Crop Sci. Biotech. 15 (3): 53 -57. DOI No. 10.1007/s12892-012-0009-y
- 34. Kirina T.K., Onwonga R.N., **Onyango M. C.**, Mbuvi J.P. and Kironchi G. (2012). Climate change and variability: Farmers' perception, experience and adaptation strategies in Makueni county, Kenya. Asian Journal of Agriculture and Rural Development, Vol. 2, No. 3, pp. 411-421
- 35. **Onyango M.C.,** Harbinson J., Imungi J.K., Onwonga R. N. and van Kooten O. (2012). Effect of nitrogen source, crop maturity stage and storage conditions on phenolics and oxalate contents in vegetable amaranth (*Amaranthus hypochondriacus* l.) .Journal of Agricultural Science Vol. 4, No. 7: 219 230.
- 36. **Onyango, M.C.**, Harbinson, J.., Imungi, J.K., Shibairo, S. I and Olaf van Kooten (2012). The Influence of organic and mineral fertilization on germination, leaf nitrogen, nitrate accumulation and yield of vegetable amaranth (*Amaranthus hypochondriacus*). Journal of Plant Nutrition, 35:1–24.
- 37. **Onyango M.C.,** Harbinson, J., Imungi, J.K., and van Kooten, O. (2011). Influence of maturity at harvest, N fertiliser and postharvest storage on dry matter, ascorbic acid and β -carotene contents of vegetable amaranth (Amaranthus hypochondriacus). Int. J. Postharvest Technology and Innovation, Vol. 2, No. 2, pp. 180-196.
- **38. Onyango, M.C.**, Shibairo, S. I., Imungi, J.K., and Harbinson, J. (2008). The physico-chemical characteristics and some nutritional values of vegetable amaranth sold in Nairobi-Kenya. Ecology of Food and Nutrition, 47: 382 398.

Publication in Conference proceedings

- 1. **Onyango C.M.** and Mokaya P.O. (2020). Revitalization of indigenous and African food cultures. AFSA's 3rd Biennial Food Systems Conference on Shaping the Future of Food Markets in Africa. October 27th 29th 2020.
- 2. **Onyango C.M.**, Onwongá R.N.., Ontita E. G. and Nyamongo D. (2016). Unlocking the potential of African nightshade for improved food security and livelihoods of smallholder farmers in Kenya. RUFORUM

biennial conference and Fifth African Higher education Week. October 14 - 21, 2016. Cape Town South Africa,

- 3. **Onyango C.M.**, Catherine N. Kunyanga, Edward G. Ontita, Rama D. Narla and John W. Kimenju (2013). Production, utilization and indigenous knowledge of spider plant (*Cleome gynandra*) in Kenya. 11th African Crop Science Society Conference (ACSSC), October 14-17, 2013, Imperial Botanical Beach, Entebbe in Uganda.
- 4. P. M. Kimani, C. M. Onyango, R. D. Narla, G. Chemining'wa, M. Ugen, Augustine Musoni and J.H. Nderitu (2013). Breeding Snap bean for Multiple Disease Resistance, Pod quality and Pod yield in Eastern Africa. 11th African Crop Science Society Conference (ACSSC), October 14-17, 2013, Imperial Botanical Beach, Entebbe in Uganda
- 5. Onyango, M.C., Harbinson, J., Imungi, J.K., Shibairo, S. I and Olaf van Kooten (2011). What went wrong with the use of traditional leafy vegetables such as Amaranth in Sub-Saharan Africa? In: African Crop Science Conference Proceedings October 10th 13th October 2011. Maputo, Mozambique.
- 6. **Onyango C.M.**, J.K. Imungi, L.O. Mose, J. Harbinson and Van Kooten, O. (2009). Feasibility of commercial production of amaranth leaf vegetable by small-scale farmers in Kenya In: African Crop Science Conference Proceedings, Vol. 9. Pp. 767 772. October 29th 2 November 2009. Cape town, South Africa.
- 7. **Onyango, M.C.** and Imungi, J.K. (2007). Postharvest handling and characteristics of fresh-cut traditional vegetables sold in Nairobi Kenya. In: Proceedings of the African Crop Science Conference Vol. 8. Part 3 and 4. October 27th 31st 2007:, El-Minia, Egypt.
- **8. Onyango, M.C.** and Silim, S.N. (2001). Effect of genotype, storage temperature, Shelling and duration of storage on quality of vegetable pigeonpea. In: Silim, S.N., Mergeai, G., and Kimani, P.M. (eds) 2001. Status and Potential of pigeonpea in Eastern and Southern Africa: Proceedings of a regional workshop, 12-15 Sep. 2000, Nairobi, Kenya

RESEARCH PROJECTS

- 1. PI, Functions in extension service pathways project Kenya, Sri Lanka and Laos. AgriFoSe2030 II sub-Project, June 2021 – 31 December 2023
- **2. Co-PI,** Agricultural biologicals: Identifying hurdles of use and by a Knowledge, Attitude and Practice (KAP) analysis of stakeholders in sub-Saharan Africa. AgriFoSe2030 II sub-Project, September 2021 December, 2022
- **3. PI,** Systematic Review course by Swedish University of Agricultural Sciences and the University of Nairobi. AgriFoSe2030 II sub-Project, 2021 2022
- **4. Co-PI,** Food safety in produce from informal settlements in Kenya project supported by the United States Aid for International Development, January 2020- December 2022.

- **5. Co-researcher,** Governance of food systems for improved food and nutritional security in Kenya. AgriFoSe2030 II. March 2021 December, 2022
- **6. Co-researcher,** Earth observation and environmental sensing for climate-smart sustainable agro-pastoral ecosystem transformation in East Africa (ESSA) supported by the European Union 2020-2024.
- **7. Principal investigator**, a knowledge synthesis on precision agriculture in sub-Saharan Africa. AgriFoSe2030 project March December 2018.
- **8. Co-researcher,** Scaling up soil carbon enhancement interventions for food security and climate across complex landscapes in Kenya and Ethiopia. BMZ Project 2017-2019
- **9. Co-researcher**, Unraveling the causes and implications of crop productivity gaps in underperforming regions through integration of geospatial, biophysical and socio-economic factors: EU Grant 2015-2018.
- **10. Principal investigator**, Unlocking the Potential of African Night Shade (*Solanum nigrum* L.) for Improved Food Security and Social Welfare of Kenyan Smallholder Farmers. RUFORUM grant 2014-2016
- **11. Principal investigator**, Capacity development for conservation and utilization of plant genetic resources for agricultural productivity, resilience and sustainable livelihoods in ECA 2014/2018
- 12. **Co-Investigator**, Enhancing the Quality of graduates of agriculture to meet tomorrows food security challenge (PREPARE-BSc). ACP-EU Co-operation Programme in Higher Education (EDULINK II) –Reference: EuropeAid/132023/D/ACT/ACPTPS. 2013 2016
- 13. **Principal investigator**, Developing a Secure Food System Based on Well Adapted Pearl Millet Genotypes in Appropriate Crop Mixtures. National Commission for Science, Technology and Innovation, Science, Technology and Innovation Grant. 2013/2014
- 14. **Principal investigator**, Contribution of *Cleome gynandra* (Cat's Whiskers) to Food, Nutrition and Income for Rural Populations. University of Nairobi, Deans' Committee Research grant- grant no. 500-655-665. 2011-2013
- 15. **Co-Investigator** Validation of Multiple Disease Resistant Snap Bean Varieties for Local and Export Markets. The Association Strengthening Agricultural Research in Eastern and Central Africa (ASARECA) High Value Non-Staple Crops Program Grant No. ASARECA / HVNSC / 012 /01. 2012 2013. **Co-Investigator**, Integrating Local Communities into the Management of Human-Wildlife Conflicts. Centre for Sustainable Drylands Ecosystems and Societies (CSDES) Project grants. 2012-2013.

SUPERVISION OF POST-GRADUATE STUDENTS University,Thesis Title, Name of Student University of Nairobi

- 1. Effect of spacing and quantity of inorganic fertilizer used on tomato seed production. Geoffrey M. Nganga (MSc.)
- 2. The role of rain-water harvesting on crop production by smallholder farmers in Laikipia Central District. Francis W. Wachira (MSc.).
- 3. Evaluation of Plant Tolerance and Intercropping on the Management of Insect Pests and Nematodes in Selected Species of Indigenous Leafy Vegetables. Samuel Kimaru (MSc.).
- 4. Investigating Factors Causing Frequent Devitalisation Treatment Non-Compliance of Kenyan Cut Flowers to Australia. Hilda Miranyi (MSc.)
- 5. Effect of Organic and Inorganic Fertilizers on the Yield of Maize (*Zea Mays* L.), Common Bean (*Phaseolus Vulgaris* L.) / and Soybean (*Glycine Max*) Intercrops in Mozambique. Oscar Chichongue (MSc.)
- 6. Performance and options for improvement of the fresh produce safety management systems in Kenya. Chemutai Tonui (MSc.)
- 7. Influence of agroecological intensification techniques on soil moisture, nutrient accumulation and yields of sorghum (sorghum bicolor I. Moench) and cassava (manihot esculanta crantz) in Yatta subcounty, Kenya. Namoi L. Nictor (MSc.)
- 8. Effects of combined organic and inorganic fertilizer and pinching on the yield of grain amaranth (*Amaranthus hypochondriacus*).

 Josephine Helena Love (MSc.)
- 9. Contributing towards crop production using cropping systems and organic inputs and enhancing farmer climate change adaptive capacity in the ASALs of Kenya. Beverly L. Agesa (MSc)
- 10. Effect of plant density and management practices on growth and yield of spider plant (Cleome gynandra L.) grown in Kenya. Emily E. Bean (MSc.).
- 11. Nutritive Value and the Levels of Cadmium and Lead in Raw And Cooked Vegetable Amaranth Grown with Effluent Water. Rose Uzel (MSc.).
- 12. The effect of change in farming systems on the soil resource in Subukia sub-County, Kenya. Grace Kinyori (MSc)
- 13. Effects of intercropping arrangements and fertilizer application on growth and yield of African nightshade (Solanum nigrum L.) in Kisii County, Kenya. Erick Nyagari (MSc)
- Morphological and genotypic characterization of African Nightshade (Solanum nigrum L) Genotypes. Noela Lilian Wesonga (MSc)
- 15. Use, Trade and Conservation Status of Wild Medicinal Food Plants in Dryland Areas of Kenya. Peris Mweru Kariuki (PhD).
- 16. Factors influencing Production of Improved Sorghum in Marginal areas of Embu, Kenya. Chimoita Evans (PhD)
- 17. Effect of fertilizer micro-dosing and moisture conservation techniques on yield, light and water use efficiency of pearl millet, Makueni-Kenya. Peter Mutiso (MSc.)
- 18. An Analysis of Intensity and Effectiveness of Adoption of Soil Carbon Enhancement Practices among Small Holder Farmers in Western Kenya. George Magambo Kanyenji (MSc)

- 19. Determination of factors causing maize yield gaps on smallholder farms in western Kenya. Muniaro Sussy (PhD)
- 20. Evaluation of anti-diabetic properties of *Solanum villosum* and *Solanum nigrum* var. *Sarrachoides* using a streptozotocin-induced diabetes mouse model. Samuel Nderitu Nyaga (MSc)
- 21. morphologic and morphometric study on anti-ulcerogenic effects of selected African nightshades (Solanum nigrum L.) genotypes in the rat. Pauline Mbeere Mureithi (MSc)

SLU university-Sweden

Effects of wood ash on soil fertility and plant performance in southwestern Kenya. Jonna Wiklund (MSc.)

Jomo Kenyatta University of Agriculture and Technology

Adaptation to climate change through integration of reduced canopy exposure and micro-catchments for green gram production in the arid and semi-arid areas of Kenya. Margaret Masaku (PhD).

ON-GOING PROJECTS

University of Nairobi

- 1. Influence of Farmers' Management Practices on Soil Organic Carbon Sequestration in Western Kenya. Mercy Jebet Korir (MSc)
- 2. Targeting Sustainable Land Management Interventions Aimed at Scaling Up Soil Carbon Among Farmers in Kenya and Ethiopia.

 Maina Wilson Nguru (MSc)
- 3. Microbiological quality of whole and semi processed kale (Brassica oleracea acephala) sold in selected wet markets in Nairobi. Tamana Clare Nelima (MSc)
- 4. Heavy metal safety of vegetables grown in urban areas in Nairobi county, Kenya. Wachira Githenya. (MSc)
- 5. Effect of inorganic fertilizer and cattle manure on growth and yield of two Kenyan potato varieties Nancy W. Mbogo (MSc.)
- Market assessment of organically grown produce in Nairobi,
 Kajiado and Kiambu Counties, Kenya. Musa Zakariyyah Olabode
 (MSc)

THESES EXAMINED

- PhD thesis: Development of biosolids from university wastewater treatment pond into potting substrate for greenhouse tomato (Solanum lycopersicum L) production. Egerton University
- 2. PhD thesis: A Comparative Analysis of the Use and Management of Wild Edible Plants on Food Security among Transhumance and Settled Farmers in Semiarid East Shewa, Ethiopia. University of Nairobi.
- 3. MSc. thesis: Effects of Tithonia diversifolia extract and Trichoderma asperellum on Botrytis cinerea, growth, yield and quality of strawberry (Fragaria ananassa var duch) fruit. Egerton University
- 4. MSc. thesis: Genetic diversity of Cleome species in South Africa. University of the Free State, South Africa

- 5. MSc. thesis: Genetic analysis of pod shattering and agronomic traits of Soybean (Glycine max. (L.) Merr,) in Kenya. University of Nairobi
- 6. MSc thesis: Plant growth and yield of selected vegetables under alternate furrow irrigation in the ASAL areas of eastern Kenya.

 Jomo Kenyatta University of Agriculture and Technology
- 7. MSc. thesis: Ripening physicochemical properties of new 'Fuerte-type' avocado selections. University of Limpompo
- 8. MSc. Thesis: Effects of postharvest silicon dips, cold storage temperature and duration on chilling susceptibility of a new citrus mandarin selection "M37". University of Limpompo
- 9. MSc. thesis: Effect of Targetes minuta and Capsicum frutescens extracts on growth, yield and Pectobacterium carotovorum of potatoes (Solanum tuberosum). Egerton University
- 10. MSc. thesis: Influence of colour of Agronet cover on pest infestation and tomato (Lycopersicon esculentum Mill) growth, yield and quality. Egerton University
- 11. MSc.thesis: Effect of inorganic fertilizer application regimes and rhizobium inoculation on growth, yield and quality of snap bean (*Phaseolus vulgaris*) varieties in Central Kenya. University of Nairobi
- 12. MSc. thesis: Effect of varying soya bean planting densities on maize and soya bean yields in a maize/soya bean intercrop system in western Kenya. University of Nairobi
- 13. MSc. Thesis: Performance of legume cover crops under coffee. University of Nairobi
- 14. MSc. Thesis: Performance of wild blackberry (Rubus spp) in Kenya under conventional production. Egerton University
- 15. MSc. Thesis: Optimizing in vitro micro-propagation protocols for Wild Blackberry (Rubus sp.). Egerton University.
- 16. MSc. Thesis: Effects of organic and inorganic fertilizer regimes on grain sorghum growth and yield in Makueni County, Kenya

CONSULTANCIES UNDERTAKEN

February 2021 - June 2021: To develop and implement good practice manuals on Sanitary and Phytosanitary (SPS) controls and management along food supply chains. This entailed Identification of current SPS concerns of key export market destinations for the prioritized horticultural supplies (fresh fruits, vegetables and flowers) during and post-COVID-19 pandemic; Development of a risk matrices, with clear risk management recommendations at each stage of the food supply chain for identified value chains; Develop phytosanitary protocol for management of key quarantine pests in export destinations such as False Codling Moth (FCM) on flowers and capsicums, fruit flies on mangoes and other fruits; Develop guidelines for fumigation of flowers and hot-water treatment for fruits; Develop good practice manuals to help relevant private sector actors comply with food safety and plant health requirements and Training of selected actors in the horticulture sector on the phytosanitary protocols, guidelines and good practice manuals to meet the SPS requirements, including SPS infrastructure upgrading/improvements.

Client: Trademark East Africa

2017: Olkaria IV RAP Land Productivity Assessment, Improvement and Stabilization Study

Client: Kenya Electricity Generating Company Limited (KENGEN)

2016-2020: Training on E-resource use in scientific research, oral communication and presentation, research proposal writing and thesis defense

Client: Training Centre in Communication (TCC), University of Nairobi

2015: Evaluation of Vegetable and fruit consumption trends study in Kenya-food for all project Kenya. A case study in Meru and Machakos counties

Client: Solidaridad Eastern & Central Africa Expertise Centre

2014: Carrying out community based permacultural initiatives towards the integrated rehabilitation on the Ewaso Ngiro (Kirisia forest) ecosystem project in Samburu County

Client: The Greenbelt Movement (GBM)

2013: Evaluation of the Safety of Selected Fruits and Vegetables Sold in the Domestic Markets in Kenya mainly in Nairobi, Machakos and Nakuru supermarkets and open air markets. **Client.** Solidaridad Eastern & Central Africa Expertise Centre

2012-2013 Conducted trainings on maturity indices, harvesting and postharvest handling of mangoes, banana and passion fruits to stakeholders in the value chains. It includes training on grades, reduction of losses, product quality and safety, the use of different packaging materials and the use of ripening chambers to maintain quality of the fruits as well as different processing methods for product diversification; design and installation of the ripening chamber.

Client. Kenya Horticulture Competitiveness Project (KHCP) by USAID.

2011-2012 Conducted a synthesis on technologies that are suitable to address productivity constraints in the horticulture value chain (Fruits and vegetables) in Kenya. Focus areas were Western and Nyanza provinces referred to as high potential areas and Eastern Province the semi arid region referred to as low potential area.

Client: Regional Strategic Analysis and Knowledge support system (ReSAKSS). End Date 30th March 2012.

OTHER ASSIGNMENTS UNDERTAKEN

- 1. Member of the Kenya National Academy of Sciences (MKNAS). 2022
- 2. Executive Committee Member ARUA Centre of Excellence in Sustainable Food Systems (ARUA-SFS) 2020- to date
- 3. Chair, Implementation Committee on Unleashing the Potential of Africa's Crops ARUA-SFS Research Focus Area 2 2021 to date

- 4. A reviewer for applications for the African Research Initiative for Scientific Excellence, pilot programme (ARISE-PP) implemented by the African Academy of Sciences (AAS). 2022
- A Reviewer for proposals to support cross-disciplinary research and innovation initiatives that contribute to Uganda's development agenda funded by the Government of Uganda under Makerere University. 2019 – to date
- A Reviewer for proposals for the Kenya Climate Smart Agriculture Program (KCSAP) funded by World Bank under the Ministry of Agriculture, Livestock and Fisheries - 2019
- 7. 7. Participated in the Development of the Agri-nutrition Implementation Strategy 2020-2025
- 8. 8. Member of the Nutrition Linkages Technical Working Group of the Ministry of Agriculture-2018 to date
- 9. 9. Member of the University committee that prepared the student of Nairobi Internship/ attachment / Apprenticeship policy
- 10. Participation in Developing an Antimicrobial Resistance
 National Action Plan and Policy in the Agricultural sector. 6th 8th
 June 2016. Garden hotel, Machakos
- 11. 11. Participation in The future of agricuture: Findings from policy research and implications for policy and practice, 28th July, 2016. Fairview Hotel, Nairobi
- 12. 12. Participation in the ISSD Africa Integrated Seed Sector development, 24th February, 2016. Jacaranda hotel, Nairobi

ADDITIONAL TRAINING RECEIVED

- Training on Nurturing a network of policy analysts for enhanced agricultural development and food security and nutrition.
 January - October 2018. ILRI, Nairobi. Kenya
- Training course in Theory of Change and Systematic review.
 Swedish university of Agricultural Sciences, Uppsala, Sweden.
 12th 16th March 2018
- 3. Lecturer training in didactics at the CSD Seminar room, Upper Kabete Campus, January 18-19 and September 18th -19th 2017, University of Nairobi
- Staff capacity building aimed at improving student retention and student qualification, October 2015-University of Copenhagen, Sweden
- Competence and skills training for PhD supervisors and established scientists by AGRA. University of Nairobi, September, 2015
- Staff capacity building aimed at improving student retention and student qualifications. University of Copenhagen. Sweden. 10th – 14th February, 2014
- 7. Improving and Internationalizing Higher Education Courses by SLU (Sweden) and Makerere University. 10th 15th August 2014. Kampala, Uganda.
- 8. Competence and skills Training for PhD Supervisors and Established Scientists by AGRA-Wageningen UR. 15th 17th January 2014. University of Nairobi. Nairobi, Kenya

- 9. Market access for sustainable development 4th 22nd November, 2013, Hof van Wageningen Hotel, Wageningen. The Netherlands.
- Teaching for sustainable development in higher education Training in pedagogy 13th – 17th May 2013. Kenya school of Monetary studies. Nairobi. Kenya
- 11. PhD supervision-Prepare PhD project. 23rd July 2011. College of Agriculture and Veterinary Sciences. University of Nairobi. Kenya
- 12. Application of molecular markers in crop improvement. 1st 5th August 2011. ILRI, Nairobi. Kenya.
- PhD proposal writing-Prepare PhD project. 8th 12th August 2011. College of Agriculture and Veterinary Sciences, University of Nairobi.
- 14. Advanced course on the quality and safety of horticultural crops 7th 25th August, 2007. Nanjing Agricultural University, China.
- 15. Effective scientific communication and publishing. 19th 23rd 2007.The training centre in communication. Nairobi. Kenya.
- 16. Techniques for writing and presenting a scientific paper. 27 30th June 2006. Wageningen University. The Netherlands.
- 17. Project and time management. May June 2006. Wageningen University. The Netherlands.

CONFERENCES, WORKSHOPS AND SEMINARS ATTENDED

- Data Analysis in Smart Agriculture by Oskar Marko (Biosense Institute, University of Novi Sad, Serbia). African Mathematics Seminar. 24th March 2021
- The Responsible Governance of Innovations for Food Security.
 Food Security Centre Regional Workshop hosted by Food Security
 Center (FSC), University of Nairobi, Kenya and the Department of
 Politics and International Studies, University of Warwick, England.
 25th 26th March, 2021
- 3. Alliance for Food Sovereignty in Africa's 3rd Biennial Food Systems Conference on Shaping the Future of Food Markets in Africa: What kind of markets do we need for the transition to agroecology? October 27th – 29th 2020
- 4. 1st International Conference on Agroecology "Transforming Agriculture and Food Systems in Africa". June 18th 20th, 2019. Safari Park Hotel and Casino, Nairobi, Kenya
- 5. Agri-nutrition Framework Development Workshop, February 4th 9th 2019, Ole Ken, Nakuru, Kenya
- 6. Policy Dialogue and Dissemination Workshop, September 25th 2018, Sarova Panafric Hotel, Nairobi, Kenya
- 7. The Kenya Organic Food Festival and Exhibition. 21st September, 2018, Wangari Maathai Institute, University of Nairobi. Kenya
- 8. 2nd Agri-nutrition Conference: Accelerating nutritional gains through Agriculture, 11th 13th September 2018. Kenya School of Government. Nairobi. Kenya
- 9. Agriculture for food security 2030 training workshop on Research to inform Policy and Practice in Kenya. 19th 21st February and 7th 9th May 2018. ILRI, Nairobi, Kenya.
- 10. The RUFORUM Biennial Conference and Fifth Higher Education Week. 14th 21 October 2016. Cape Town South Africa

- 11. Enhancing the Quality of graduates of agriculture to meet tomorrows food security challenge (PREPARE-BSc) Inception Workshop, 9th -11th January 2014, CHAK Conference and Guesthouse, Nairobi. Kenya
- 12. Transforming Agriculture for Economic growth in Eastern and central Africa 2nd ASARECA General assembly and Scientific Conference. 9th 13th December 2013. Royal Palace Hotel, Avenue de Large, Bujumbura, Burundi.
- 13. Sowing innovation for sustainable African crops production to meet food and nutrition security under climate change - 11th African Crop Science Society Conference (ACSSC), October 14-17, 2013, Imperial Botanical Beach, Entebbe in Uganda
- 14. Transformative education, Research and Engagement for dryland Resilience and Sustainability Preparing the next generation for sustainability. 1st Student led Conference 29th 30th May, 2013. University of Nairobi, College of Agriculture and Veterinary Sciences, Nairobi. Kenya.
- 15. Building resilience through best practices in livelihood and food security in ASALs of Kenya. University Faculty Workshop. FAO/IIRR. 23rd 26th April, 2013. Lukenya Gateway. Kenya
- 16. High value Non-Stable Crops/Stable Crops Programme Write-shop 29th October 4th November, 2012. Rider hotel-Seeta, Uganda

UNIVERSITY ODL MANUALS DEVELOPED

- ACS 104/AEX 102: Plant/Crop Physiology module By Cecilia M. Onyango. Lecture series. Published by University of Nairobi Council. Printed by College of Education and External Studies, University of Nairobi.
- AEX 203/AEB 107: Principles of Crop Production module By Cecilia M. Onyango.Lecture series. Published by University of Nairobi Council. Printed by College of Education and External Studies, University of Nairobi.
- 3. ACA 604: Eco-Efficient Bioresource Management By Cecilia M. Onyango.Lecture series. Published by University of Nairobi Council. Printed by College of Education and External Studies, University of Nairobi.

OUTREACH PROGRAMS

January 2014 — Present

•Scientific Camp of Excellence: mentoring girls in STEM for a secure sustainable future. Organized by UNESCO-Kenya office and the Ministry of Education.

MEMBERSHIPS

- 1. Kenya National Academy of Sciences (KNAS)
- 2. International Society of Horticultural Sciences (ISHS)
- 3. The African Crop Science Society

AWARDS

1. African Crop science Society Award, 2009

- 2. Netherlands Government Scholarship NUFFIC Scholarship Award 2006-2010
- 3. Member British Journal of Applied Science and Technology Revie

Courses

- 1. Plant/crop physiology
- 2. Indigenous and unique vegetable production
- 3. Temperate vegetable production
- 4. Crop and animal production
- 5. Crop production and food safety
- 6. Eco-efficient bioresource management
- 7. Production of herbs and spices
- 8. Floriculture production

◄ References

Dr. Said N. Silim, Senior Scientist from Sokoine University of Agriculture P.O. Box 3000, Chuo Kikuu, Morogoro -Tanzania saidsilim@gmail.com · + 255 688186030

Prof. Jasper K. Imungi, Professor of Food chemistry, Department of Food Science, Technology & Nutrition, from University of Nairobi P. O. Box 29053, Nairobi.

imungijk@yahoo.com · 254-020-632121

Prof. Olaf Van Kooten Professor of horticulture, supply chain and quality management Department of Plant sciences from Wageningen University

olaf.vankooten@wur.nl