

CURRICULUM VITAE

PERSONAL INFORMATION

Name: Peter Kioko Kaloki

Tel: +254700139619

Email: p.kaloki@ymail.com

KEY COMPETENCIES.

- Innovation, creativity, ideation and proof of concept
- Seed systems, demand planning and forecast
- Project coordination
- Digital Agriculture techniques (including phenotyping)
- Human centred design techniques
- Managing people and processes
- Stakeholder mapping and management
- Capacity building – course design, training and coaching
- Process improvement / operational excellence
- Financial management
- Climate-smart agriculture
- Developing water use efficient varieties
- Market access and linkages
- Environmental characterization (Target population of environments and multi-environments)
- Course design (Agriculture and related subjects) and training/teaching

SOFT SKILLS

- Innovation/creativity
- Critical thinking
- Communication
- Teamwork
- Self-management
- Problem solving
- Emotional judgement
- Professional ethics
- Digital literacy

WORK EXPERIENCE.

2017 February to date, Syngenta Flowers

Technology Innovations Lead – East Africa

- Reporting to Technology Innovations Manager – Europe, Africa and Middle East

Duties

Project Coordination

- Maintaining and monitoring project plans and project schedules through project monitoring tools.

- Developing project strategies and follow up on implementation of the same.
- Allocating budgets and controlling expenditures.
- Organizing and participating (chairing) in stakeholder meetings.
- Documenting and making following up on important actions and decisions from meetings.
- Preparing necessary presentation materials for meetings.
- Ensuring project deadlines are met.
- Determining project challenges/changes and communicating them to stakeholders through flash reports.
- Regular assessment of project risks and issues and provide solutions where applicable.
- Work with the Project Manager to eliminate blockers
- Ensuring projects adhere to frameworks and all documentation is maintained appropriately for each project.
- Ensure stakeholder views are managed towards the best solution.
- Create a project management calendar for fulfilling each goal and objective.

Innovation and Technology Exchange

- Ideation to come up with new technology innovations and evaluating them through the innovation process flow (proof of concept, formal trials, upscaling, implementation and operationalization)
- Drive the R&D strategic agenda in East Africa and align it with the global research priorities
- Select and prioritize innovation ideas for further testing
- Lead and create innovation workspaces ideal for creativity
- Transfer technologies to the end users

Stakeholder management

- Developing and maintaining strong internal and external relationships for consensus building in a matrix organization
- Developing communication and stakeholder engagement strategies for effective project support and success
- Establishing, maintaining and developing positive relationships with the stakeholders both internal and external
- Ensuring the alignment of stakeholders to the organizational strategy and objectives and driving the one team mentality through team activities including boot camps
- Stakeholder mapping for successful project implementation

Forging strategic partnerships for sustainable development

- Identifying and mapping strategic partners
- Setting up meetings and leading discussions to initiate new partnerships
- Drafting partnership agreements with assistance from the legal department
- Ensuring partnership agreements are signed off and operationalized

Process improvement/Operational excellence/Lean

- Driving the cost effectiveness and efficiency of the organization through projects geared towards improving processes

- Stakeholder management to ensure buy-in to projects
- Cultivating the continuous improvement culture in our organization and create value in our operations

Managing People and Processes

- Fostering a one team mentality in the teams for effective service delivery
- Providing leadership to the Technology Innovations team in east Africa
- Evaluating individual and teams performance and giving regular feedback
- Assisting team members in designing personal development goals
- Team mapping and succession planning

Financial management

- Drawing budgets and sourcing funds
- Funds allocation/prioritization
- Budgetary controls to ensure no over-expenditure on line items
- Liaising with the finance officer for advise on financial status on a regular basis

Capacity building

- Identifying training needs of stakeholders
- Designing fit for purpose courses for the target stakeholders
- Training and coaching stakeholders
- Evaluation of trainings

Phytosanitation

- Drive phytosanitation programs in the East African farms through protocol and work instruction design and testing
- Ensure adherence to protocols through stakeholder awareness and internal process controls

Molecular lab

- Lab design, process flow mapping, and certification
- Protocol development and testing in the laboratory
- Ensure quality service through authorization to conduct tests by the Authorised Service Laboratory Naktuibouw (ASLN).
- Develop and foster partnerships with other labs to continually improve service delivery in our lab.

2013 March to 2017 January, University of Sydney, Australia (Plant Breeding Institute - Narrabri and Camden Campus)

PhD Research Fellow and Tutoring Assistant

- **PhD in Agriculture (Plant Breeding and Molecular Genetics)** - studied breeding for increased water use efficiency in chickpea as a climate change adaptation alternative. Through my research work, I gained experience in the use of gas exchange equipment (LICOR and Porometers), remote sensing equipment and unmanned aerial vehicles/drones (Digital agriculture) for field phenotyping and lab procedures/analysis. I got sufficient understanding and experience in plant hydraulics, assimilate partitioning and water use efficiency.

- Learnt elevator pitch process
- Leant teaching University students
- Assisted in class demonstration for undergraduate students.

2002 December to 2013 January, International Crops Research Institute for the Semi-Arid Tropics (ICRISAT).

Research Associate – Chickpea and Pigeonpea Breeding

- Reporting to Principal scientist and ICRISAT Director, Eastern and Southern Africa.

Duties

Project coordination and management

- Introducing new projects/ awareness creation to stakeholders on the ground.
- Implementing new projects and managing them up to project completion.
- Project coordination for various projects in Eastern and Southern Africa region.
- Managing stakeholders throughout the project to ensure successful completion.
- Maintaining and monitoring project plans and project schedules through project monitoring tools.
- Developing project strategies and follow up on implementation of the same.
- Allocating budgets and controlling expenditures.
- Site selection for farmer participatory varietal selection.
- Planting and managing on-farm evaluation sites in collaboration with the farmers and agricultural extension staff.
- Data collection and analysis of on-farm data.
- Creating market linkages by negotiating with buyers and linking them to farmers for better market access.

Technology innovation and development

- Stakeholder needs assessment to understand end-user needs and thus develop products aligned with market needs.
- Evaluation of large diverse chickpea germplasm sets through trial design and phenotyping in multi-locations/environments in eastern and southern Africa (Kenya, Tanzania, Uganda, Malawi, Mozambique and Zimbabwe). These were to be used as climate change adaptation alternatives.
- Managing nurseries in the field (agronomic practices, pest and disease control)
- Data collection of morphological, physiological and biochemical traits through field phenotyping platforms and lab procedures
- Identification of promising lines from the nurseries through field selection and recommending them to the senior breeder for advancing.
- Advancing selected materials through preliminary/advanced yield trials up to the point of submission to National Agricultural Research Systems (NARS) for release.
- Liaising with NARS to select materials fit to be entered into the National Performance trials (NPT).

- Developing protocols (Data collection parameters, agronomic practices and pest and disease management) for use during NPT evaluation and also involved in site selection for testing the candidate materials.
- Participating in NPT tours to monitor and evaluate the candidate materials for eventual release.

Capacity building

- Training agricultural field staff and farmers on integrated pest management good agronomic practices and climate-smart agriculture in eastern and southern Africa.
- Identifying training needs of field staff, farmers and field extension workers during workshops and farm visits.
- Developing courses with suitable content for use in training on climate-smart agriculture, plant breeding principles, agronomic practices, pest and disease management for training field staff, farmers, extension workers, university students on field attachment and other collaborators in eastern and southern Africa (ESA).
- Developing training manuals and pamphlets for farmers, extension staff and collaborators on climate-smart agriculture, agronomic practices, pest and disease management.
- Supervising university students while on attachment at ICRISAT field stations located at University of Nairobi Kabete (CAVS) and KALRO Kiboko sub-centre.

Seed systems

- Developing a sustainable seed supply programme to ensure enough supply of varieties with market preferred traits to our partners and collaborators.
- Seed bulking (agronomic practices, pest and disease management).
- Germplasm conservation through seed rejuvenation and proper short/ medium term seed storage to ensure high viability.
- Variety purification through clean seed production by employing seed production techniques which ensure maintenance of clean seed stocks.
- Seed certification in collaboration with Kenya plant health inspectorate service (KEPHIS).
- Obtaining import permits and phytosanitary certificates for receiving and sending seeds to collaborators.

Data handling

- Collecting and supervising data collection for on-farm and on-station trials
- Cleaning and analyzing data using Genstat.

Managing People and Processes

- Officer-in-charge managing ICRISAT Kabete and Kiboko field stations taking care of field trials and staff.
- Maintain good relationship with the host institution (University of Nairobi CAVS and KALRO Kiboko sub-centre).
- Budget planning and controls

Reports and publications

- Writing reports and contributing in publications and book chapters.

2001 November to 2002 November, DUDUTECH (K) LTD.

Integrated pest management field trials Manager.

- Reporting to Technical Director, Dudutech.

Duties.

- Capacity building – develop training materials as well as training and coaching new graduate trainees and enable them take up new roles in the company
- Prioritizing Research and Development of integrated pest management field trials and mass rearing of beneficial insects.
- Resourcing and implementing Research and Development programmes for field trials.
- Managing production levels of beneficial insects to meet the budgets for integrated pest management trials.
- Conducting efficacy trials of new integrated pest management products on flowers and vegetables (Botanicals).
- Conducting efficacy trials of natural enemies on flowers and vegetables and determining the pest threshold levels.
- Identifying training needs for staff and devise training programmes.
- Setting up field experiments, writing research protocols, data collection and analysis
- Preparing weekly work plans.
- Controlling labour numbers and supervising site operators at the beneficial mass rearing site.

2001 May to 2001 October, DUDUTECH (K) LTD. (Homegrown's sister company).

Site operator.

- Reporting to Technical Director, Dudutech.

Duties.

- Capacity building – develop training materials as well as training and coaching new graduate trainees and enable them take up new roles in the company
- Mass rearing of natural enemies i.e *Phytoseiulus persimilis*, *Diglyphus isaea*, *Encarsia formosa*, *Amblyseius spp* and *Aphidius colemani* for use in all Homegrown vegetable and flower farms.
- Co-ordinating with farm managers to ensure timely delivery of natural enemies to the farms and evaluating the need for them.
- Setting up and managing field insectaries and preparing field insectary benefit reports.
- Monitoring pest and beneficial ratios in the commercial blocks.
- Estimating pest and beneficial populations in the field.
- Designing scouting stations in the field.
- Preparing weekly work plans and controlling labour numbers.

2001 March to 2001 April, HOMETGROWN (K) LTD.

Integrated pest management assistant.

- Reporting to principal agronomist, Homegrown (K) LTD.

Duties.

- Mass rearing of of natural enemies i.e *Phytoseiulus persimilis* and *Diglyphus isaea* for use in all Homegrown vegetable farms.
- In charge of Research and Development department in Homegrown, Naivasha Agronomy. Did setting up of field trials (Germination trials, yield trials, fertilizer trials, chemical efficacy trials) and data analysis.

2000 September to February 2001, HOMETGROWN (K) LTD.

Homegrown graduate entry scheme trainee.

- Reporting to General Manager Flowers.

Areas trained on:

- Exposed to the production practices of a large vegetable and flower exporter.
- Trained on cultural practices in cut-flowers i.e planting, support work, pinching, knocking.
- Trained on fertigation systems in flowers using fertilizer injectors (Venturi and Dosatron systems), learnt how to prepare fertigation programmes for different crop requirements.
- Trained on crop protection in flowers and vegetables, both in greenhouse and out door flowers. Learnt how to prepare spray programmes and spray application techniques to target specific pests and diseases.
- Trained on post harvest treatment of flowers and shipping.
- Trained on farm waste management i.e composting. Did a trial on “*Best method for composting salad onions*”.
- Trained on how to use tensiometers and suction probes to monitor crop water requirement.
- Trained on how to measure nutrient contents from water samples obtained from suction probes.

2000 June to 2000 August, United Nations Environment Programme (UNEP).

Intern

- Reporting to Programme officer, Division of Policy Development and Law (DPDL).

Duties.

- Wrote a policy paper entitled “*Combating malnutrition, an environmental perspective*”.
- Wrote an article entitled “*Health and nutrition of women, an environmental perspective*” for the Sub-committee on nutrition (SCN) news.
- Did literature search from the internet, CD-ROMS and UNEP publications.
- Involved in data collection, drafting and compiling final report presented to the Programme officer.

1999 May to 1999 July, International Crops Research Institute for the Semi Arid Tropics (ICRISAT).

- Student attachment.
- Reporting to Principal scientist and ICRISAT country representative.

Duties.

- Dealt with chickpea and pigeonpea physiology, agronomy, crop protection and nutrition.
- Did selection of cultivars suitable for bulking up and eventual seed release to the farmers.
- Did data collection and analysis.

EDUCATIONAL BACKGROUND.

2013 March to 2017 October: University of Sydney, Australia

- PhD in Agriculture (Plant breeding and Molecular Genetics). Studied breeding for increased water use efficiency in chickpea.

2008 October – December 2011: University of Nairobi, Kenya

- Master of Science in Genetics and Plant Breeding. Units include population genetics, Quantitative genetics, Biotechnology, Cytogenetics, Biodiversity, Seed technology among others. My thesis was on *‘Genetic variability and heritability of Chickpea (Cicer arietinum) genotypes to normal and elevated temperatures.*

2005 Sept. – July 2008: University of Nairobi, Kenya

- Master of Arts in International studies. Units included International conflict management, Environmental law, International law, International economic policy analysis, International relations, Diplomacy among others. My dissertation was on “*The conflict-climate change nexus: A case study of Turkana.* I explored the vulnerabilities of the pastoral community and how this is related to violent conflict and hence a threat to human security. I also studied their coping and adaptation strategies to climate change”.

1995-2000: Egerton University, Kenya.

- Bachelor of Science degree in Agriculture (Agronomy). *Second class Honours upper division.*

1990-1993: Kigumo Bendera High School, Kenya.

- Kenya Certificate of Secondary school Education (O level-B+).

OTHER COURSES.

2018 February

- Trained on plant sampling for disease diagnosis and testing by Naktuinbouw, The Netherlands

2017 April

- Trained as an auditor by SGS (QMS ISO 9001:2015 certification)

2016 February

- Principles and practice of University Teaching offered at University of Sydney. Trained on teaching and student engagement both in class and during assessments, teaching inclusively, student evaluation and assessment using manual and online blackboard techniques, introduction to Turnitin and bloom's taxonomy of learning.

2011 August

- Agrobase generation II training. Trained on data management, pedigree management, setting up trials and preparing field books.

2010 May

- Multi- environment trials data analysis (ICRISAT India/ Egerton University). Course covered basic statistics, experimental designs, single and multisite analysis, genotype X environment analysis using GGE biplots, stability analysis (AMMI, factorial regression, Eberhart and Russel model)

2010 April

- Chickpea breeding for heat tolerance. Trained on breeding strategies and evaluation procedures for heat tolerance by Dr. Pooran Gaur at ICRISAT India. Trained on data analysis of chickpea data collected from contrasting environments as part of my thesis work.

2009 July – 2010 January

- Policy fellow – African Climate Change Fellowship Programme (ACCFP) hosted at Egerton University and executed by START, University of Dar es Salaam and Africa Academy of Sciences. Learnt vulnerability assessment, climate change adaptation options and coping strategies, integrating agricultural products thus plant varieties in climate change coping and adaptation strategies as part of mitigation strategies against climate change impacts in chickpea.

2007 June

- Plant variety protection under the UPOV convention, Distinctness, uniformity and stability (DUS) examination and data management.

2006 September

- Biodiversity data analysis (GENSTAT, Biodiversity R, Popgene)

2002 November

- Data analysis using Genstat

2002 June.

- Integrated pest management (IPM) practitioners certificate level 2.

2002 April.

- Integrated pest management (IPM) practitioners certificate level 1.

1999.

- First aid certificate stage 1 and 2.

AUDITS AND CERTIFICATIONS CONVERSANT WITH:

- KFC – Kenya Flower Council
- ASLN – Authorised service Laboratory Naktuinbouw
- NAKT ELITE – Naktuinbouw Elite stock
- USDA – United States department of agriculture
- FAIRTRADE
- RAINFOREST

COMPUTER KNOWLEDGE AND STATATISTICAL PACKAGES.

GENSTAT, SPSS, R, IRRISTAT, CROPSTAT, SPAD, Biodiversity R, POPGENE, MS Office, Mac OS, MS Outlook.

SCHOLARSHIPS AND FELLOWSHIP AWARDS

- Australia Awards Africa, scholarship for a PhD in Agriculture at the University of Sydney (2013).
- Bill and Melinda Gates Foundation, Scholarship for MSc. In Genetics and plant breeding at the University of Nairobi, Kenya under the TL II Project (2008)
- IDRC Canada and DFID UK, a fellowship award at the African Climate Change Fellowship Programme (ACCFP), was a fellow at Egerton University and studied climate change adaptation and coping strategies in Agriculture (2009)
- Netherlands Fellowship Programme (NFP), awarded a fellowship to study climate change adaptation organized by Wageningen University in Ethiopia (2010).

MERIT AWARDS

2007: Millennium ICRISAT science Award, 2007 as part of a team award as the outstanding scientific support team in contributing to the development of improved medium duration pigeonpea in the harsh semi-arid tropics of Eastern and Southern Africa.

1999: President's award scheme (PAS) gold certificate.

1998: President's award scheme (PAS) silver certificate.

LIST OF PUBLICATIONS

- **Kaloki, P.**, Luo, Q., Trethowan, R., Tan D.K.Y., 2019. Can the development of drought tolerant ideotype sustain Australian chickpea yield? International Journal of Biometeorology. <https://doi.org/10.1007/s00484-019-01672-7>
- **Kaloki, P.**, Trethowan, R., Tan, D.K.N.Y., 2019. Genetic and environmental influences on chickpea water-use-efficiency. Journal of Agronomy and Crop Science. 00: 1– 7. <https://doi.org/10.1111/jac.12338>
- **Kaloki, P.**, Trethowan, R., Tan, D.K.N.Y., 2019. Effect of genotype-by-environment-by-management interactions on chickpea phenotypic stability.

- Carola H Blessing, Alban Mariette, **Peter Kaloki**, Helen Bramley, 2018. Profligate and conservative: water use strategies in grain legumes, Journal of Experimental Botany, Volume 69, Issue 3, Pages 349–369
- **Peter Kaloki**, Kahi Ngugi, Said Silim, Mary Mburu. 2013. Assessing genetic variability in chickpea genotypes grown under optimum and high field temperature environments in Kenya. Asian Academic Research Journal of Multi-disciplinarity: 1 (8) 105-120.
- Kimurto, P.K. and Towett, B and Mulwa, R S and Njogu, N and Kosgei, A and Songok, S and Oyier, M and Rutto, D. and Korir, P and Rao, G and Silim, S and **Kaloki, P** and Muruiki, R and Barmao, G and Macharia, J K (2014) An overview of chickpea breeding programs in Kenya. Legume Perspectives (3). pp. 55-57. ISSN 2340-1559
- Kimurto P.K, Towett B.K., Mulwa R.M.S., Njogu N., Jeptanui L., Gangarao N.V.R.O., Silim S., **Kaloki P.K.**, Korir P.K. & Macharia J.K. 2013. Evaluation of chickpea genotypes for resistance to Ascochyta blight (*Ascochyta rabiei*) disease in the dry highlands of Kenya. Journal of Phytopathologia Mediterranea (2013) 52, (1); 613–611.
- Sreenivasaprasad, S., Takan, J. P., Mgonja, M. A., Manyasa, E. O., **Kaloki, P.**, Wanyera, N. M., Okwadi, J., Muthumeenakshi, S., Brown, A. E., and Lenné, J. M. (2005), 'Enhancing finger millet production and utilisation in East Africa through improved blast management and stakeholder connectivity', in Harris, D., Richards, J. I., Silverside, P., Ward, A. F. and Witcombe, J. R., eds, *Pathways out of Poverty*, Aspects of Applied Biology, Vol 75, pp 11-22.
- J.M. Lenné, J.P. Takan, M.A. Mgonja, E.O. Manyasa, **P. Kaloki**, N. Wanyera, J. Okwadi, S. Muthumeenakshi, A.E. Brown, M. Tamale and S. Sreenivasaprasad (2007), '*Finger millet blast disease Management: A key entry point for fighting malnutrition and poverty in East Africa*', in Outlook on AGRICULTURE Vol 36, No 2, 2007, pp 101–108.

LIST OF THESES PUBLISHED INTO BOOKS

- Genetic variability and heritability of chickpea (*Cicer arietinum*) genotypes to normal and elevated temperatures. 2012. Thesis, University of Nairobi (Published at LAP Lambert Academic Publishers, Saarbrücken, Germany, 2013. ISBN: 978-3-659-37430-2)
- The conflict-climate change nexus: A case study of Turkana. 2008. Thesis, University of Nairobi (Published at LAP Lambert Academic Publishers, Saarbrücken, Germany, 2013. ISBN: 978-3-659-37898-0)

PUBLISHED REPORTS

- Sustainable Climate Change Adaptation Options in Agriculture: The Case of Chickpea in the Semi-Arid Tropics of Kenya, 2010. Fellowship report

submitted to African Climate Change Fellowship Programme (ACCFP) hosted at START, Washington DC.

PROFESSIONAL ORGANIZATION MEMBERSHIP

- Crop Science Society of America
- America Society of Agronomy
- Soil Science Society of America
- Society of Crop Agribusiness Advisers of Kenya

REFEREES.

Professor Richard Trethowan

Director, IA Watson Grains Research Centre
Plant Breeding Institute, Faculty of Agriculture and Environment
School of Life and Environmental Sciences
THE UNIVERSITY OF SYDNEY
107 Cobbitty Rd, Cobbitty, NSW 2570
Tel: +61 2 9351 8860 Fax: +61 2 9351 8875 Mobile: +61 400 320 558
Email: richard.trethowan@sydney.edu.au

Dr Daniel Tan

Associate Professor in Agronomy
Plant Breeding Institute, Faculty of Agriculture and Environment
School of Life and Environmental Sciences
THE UNIVERSITY OF SYDNEY
Biomedical Building (C81), Faculty of Agriculture and Environment
The University of Sydney, Sydney, NSW 2006, Australia
Tel: +61 2 8627 1052 Fax: +61 2 8627 1099
Email: daniel.tan@sydney.edu.au

Prof. Mary Mburu

Associate Professor and The Registrar, Administration and Human Resource Management
South Eastern Kenya University (SEKU)
P.O Box 170 – 90200, Kitui, Kenya
Tel: +254 724 416769
Email: mwambui2011@gmail.com