

## Dr. George Kiambuthi Wainaina (PhD)

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### EDUCATION

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**PhD** in Sustainability Transitions and Innovation Management, Utrecht University, Netherlands 2019-2023  
(External student)

- Thesis focus: *Challenges of Improving Livelihoods in low income urban Settings, A Sociotechnical Transitions Perspective*

**MSc** in Water Science (Policy option) Pan African University/University of Tlemcen, Algeria 2016-2018

- Thesis focus: *Comparative Analysis of Factors That Influence Consistent Use of Household Water Treatment and Storage in Northern Kenya*

**BSc** in Water and Environmental Engineering, Egerton University, Kenya 2008-2013

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### EXPERIENCE

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**Scientific Knowledge broker and Backstopping Consultant at ETH-Eawag and The Swiss Agency for Development Cooperation (SDC) Zurich, Switzerland** 04/2023– Current

- Developed and implementing innovative partnerships and collaboration strategy for Eawag - Sandec and SDC in line with WASH.
- Fostering and maintaining partnerships with complementing organizations including Sanitation and Water for All (SWA), Rural Water Supply Network (RWSN), African Water & Sanitation Association (AfWaSa), and Kenyan water sector among others.
- Organizing and conducting courtesy visits to partners and Swiss embassies to foster and strengthen relations
- Collaborating and coordinating over 50 senior and junior researchers in developing, synthesising and disseminating scientific knowledge to engage practitioners in different formats and platforms online and offline.
- Maintaining funder relations with SDC for the Water, Behavior Change & Environmental sanitation program

#### Consulting

- Providing technical support for the global WASH development program portfolio at SDC including ex ante economic and financial analysis
- WASH stakeholder identification, mapping and analysis for International Water Association

**Doctoral researcher and Project lead at Eawag** Zurich, Switzerland 01/2019-03/2023

Led and managed the Sanitation Upgrading Strategies for Informal Settlements (SUSIS) Project that contributed to my PhD as an external student:

- Developed and implemented the research proposal, strategy, structure, and processes for a sanitation upgrading strategies project, which evaluated a \$165million World Bank-funded urban development program in Kenya.
- Coordinated & collaborated with 5 permanent and over 20 transient team members that included senior researchers, and practitioners face to face and remotely in the USA, Kenya, and Switzerland.
- Reviewed and analyzed extensive scientific and practice literature to establish gaps on the relationship between infrastructure, basic service provision and development as well as prioritize locations for fieldwork.
- Planned and executed a one-year data collection exercise for 16 informal settlements in Kenya and to engage government, private sector, NGOs, funding officers and project beneficiaries and gather insights.
- Synthesized project outputs into scientific publications, practice briefs for newsletters, a research briefs.

- Disseminated and validated findings in multiple global conferences, online media, institutional newsletters, and practitioner workshops.

**Consultant for Sanivation Ltd Kenya, Nyahururu and Gusii Water & Sanitation Company,** 11/2021 - 06/2022  
Naivasha Kenya, 100 days

- Delivered a fecal sludge chain baseline study and plan for Nyahururu and Gusii Water & Sanitation Companies in Kenya
- Managed logistics and financial resources for six team members including conducting inception workshops and interviews with stakeholders and household surveys
- Implemented participatory approach to mediate the vision of Sanivation as a social enterprise and that of the water utility who was a key partner in the exercise
- Researched and compiled reports on sanitation gaps and situational analysis, sludge quantification, proposed solutions and costing, greenhouse gas emissions along the sanitation chain and 3-statement financial models.

**Consultant for Volks Wagen Foundation via Eawag - Sandec,** Germany/Rwanda, 12 days 11/2021 -12/2021

- Established and mapped potential collaborators for water and sanitation projects in Rwanda.
- Interviewed 14 executive government and NGO officials heading water and sanitation services in Kigali and analyzed them using Nvivo software
- As part of the team coming up with a final report for the assignment, I contributed on sections on stakeholder analysis, and reviewed the final report and presented findings to the foundation's staff

**Consultant for SNV Netherlands,** Nanyuki Kenya, 20 days 06/2021 - 08/2021

- Mapped water quality and quantity in Laikipia, Isiolo and Samburu counties (socio-economic and geodatabase) using Arc Gis
- Assembled the team, conceptualized the bid successfully and implemented the project
- Remotely supervised stakeholder workshops, household surveys and transect walks
- Developed MS excel monitoring tools for water quality and quantity for 10 water hotspots in Ewaso Ng'iro basin

**Consultant for Water and Sanitation for the Urban Poor via Eawag,** Nairobi Kenya, 60 days 10/2019 - 04/2020

- Led Eawag's team that provided technical support for the development of Malindi Citywide Inclusive Sanitation Plan (CWIS) in collaboration with the water utility in Malindi and Sanivation Limited
- Contributed to problem identification, solutions proposal and prioritization, and dissemination workshops
- Reviewed reports from consultants to ensure quality standards in terms of practicability of sanitation technologies to context and costing of solutions
- Analyzed and mapped fecal sludge flows using fecal flow diagram (SFD) for Malindi and Watamu and compiled the final report
- Trained and supervised 10 enumerators on site in collecting data using open data kit ODK and analyzed the data. Collaborated with and synergized data collection activities with other consultants involved in waste management activities

**Eawag Partnership Program Fellow at Eawag,** Zurich Switzerland 8 months fulltime 11/2017 – 08/2018

- Performed fieldwork in Northern Kenya for 4 months
- Performed descriptive statistics and regression models using SPSS software (sample size of 108) to determine significant predictors of consistent use of house hold filters in protracted droughts
- Delivered user-centred recommendations to filter manufacturers to improve filter use effectiveness

- Published the research findings in a scientific journal

**Clerk of Works at Limuru Constituency Development Fund**, Limuru Kenya

03/2014-08/2016

- Supervised the construction of 60 basic service infrastructure projects (classrooms, boreholes, roads, toilets etc.) worth more than USD 2,000,000 within two years
- Managed and mediated hundreds of politically motivated conflicts during project implementation
- Coordinated multiple stakeholders including contractors, public works officers, head teachers, and community committees, and liaised between all the county and national government departments
- Participated in strategy development and projects awareness public meetings for developing proposals for new projects and explained technical details
- Monitored and reported monthly to the member of parliament and constituency development fund board on the progress of all the projects

**Cofounder and advisor at Magazine Reel**, Nairobi Kenya

2012-2021

This was an online student targeted magazine

- Secured \$18,780 seed capital from Safaricom for the start up. [Link](#)
- Scouted and mentored student journalists, contributed to and moderated news and opinion articles in early stages
- Conducted multiple pivots in search for a working business model
- Supported the exit plan for the business

**Co-founder and advisor at Dripsol Company**, Limuru Kenya

2013-2018

This company provided drip irrigation solutions tailored to small holder farmers.

- Mentored 10 technicians who later started working independently
- Secured \$5000 seed capital from investors. [Link](#)
- Installed 70 small holder irrigation projects between 2013 and 2015
- Advised on business development: sales lead development, market research and partnerships development
- Manoeuvred failure, resilience and managing pivoting challenges in a start-up

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**SHORT COURSES**

- *Coping With Climate Change In Managing Water Systems*, 2 weeks – [University of Bonn, Germany](#)

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**OTHER SKILLS**

**Research methods**      Qualitative comparative analysis, process tracing, descriptive & inferential statistics  
**Country experiences**    Kenya – 20+years, Algeria 1.5 years, Switzerland – 5+ years

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**RELEVANT SCIENTIFIC PUBLICATIONS**

Wainaina, G. K., Ochieng, F., Peter, M., Raude, J. M., Meierhofer, R., & Marks, S. J. (2023). Determinants of consistency of use of household water filters in emergencies: Insights from a protracted drought in Northern Kenya. *PLOS Water*, 2(6), e0000093.

Wainaina, G. K., Truffer, B., & Lüthi, C. (2022). The role of institutional logics during participation in urban processes and projects: Insights from a comparative analysis of upgrading fifteen informal settlements in Kenya. *Cities*, 128, 103799. <https://doi.org/10.1016/j.cities.2022.103799>

Wainaina, G. K. (2021). Challenges in adoption of water-saving practices: Perspective from drip irrigation adoption in Kenya. *World Water Policy*, 7(1), 74-87.

Wainaina, G. K., Truffer, B. (2024). The missing link for effective informal settlement upgrading: Appropriation shaping the outcome of new infrastructure. *Urban Studies*.

Wainaina, G. K., Truffer, B., Lüthi, C., & Mang'ira, P. K. (2023). The lack of organizational learning in slum upgrading success: the case of the Kenya Informal Settlement Improvement Programme 2011–2020. *Environment & Urbanization*, 35(2), 490-507.

Wainaina, G. K., Truffer, B., & Murphy, J. T. (2023). Structural tensions limiting success of infrastructure upgrading: A multi-regime perspective. *Environmental Innovation and Societal Transitions*, 48, 100747.

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## RELEVANT CONFERENCE PARTICIPATION

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- IWA Water and Development congress and exhibition 2023: water, sanitation, and climate resilience – keys to a water-wise future, Kigali—speaker in a plenary panel and panel moderation
- Stockholm World Water Week 2023: Seeds of Change: Innovative Solutions for a Water-Wise World, Stockholm—Session organization and moderation
- IRC All Systems Connect International Symposium 2023: Connecting people and ideas, systems and solutions to achieve justice for all, Hague—Participation in a debate
- 12<sup>th</sup> International Sustainability Transitions Conference 2021: Mainstreaming Sustainability Transitions: From Research towards Impact. Karlsruhe—Paper presentation
- 4th Tripartite OACPS/EC/UN-Habitat Conference 2021 : Slum upgrading and prevention in the decade of action—Participated
- 11<sup>th</sup> International sustainability transitions conference 2020 Vienna: Governing in an era of change, making sustainability transitions happen—Paper presentation
- 4<sup>th</sup> Network for Early career researchers in Sustainability Transitions (NEST) Lisbon: Transitions to where? Shared values and visions for sustainability research—Paper presentation
- 5<sup>th</sup> Fecal sludge management conference 5 (FSM 5). 2019 Cape Town—moderated a session
- Sanitation conference, 2019 Kenya—session presentation