

# CURRICULUM VITAE

Dr. Charles B. NIWAGABA is an Associate Professor of Civil and Environmental Engineering at Makerere University. He holds BSc. Civil Engineering and MSc. from Makerere University; and PhD in Environmental Technology from the Swedish University of Agricultural Sciences (SLU), Uppsala, Sweden. He has 21 years of experience in research, teaching and consultancy in Civil and Environmental Engineering. Dr. Charles B. Niwagaba has been involved in various research and consultancies funded locally by Government of Uganda and by various multi-lateral agencies. Dr. Niwagaba has experience environmental impact assessments of projects in the water and sanitation sector, hydropower dams, port infrastructure, roads and faecal sludge management. Dr. Niwagaba has extensive knowledge in development of innovative practices in sanitation improvement (from Engineering, social marketing to financing); solid waste management with emphasis on recycling and re-use e.g. composting, biogas, grey water treatment and use, application of faecal sludge in industrial kilns and boilers, design of faecal sludge treatment plants etc. Niwagaba is second highly ranked academic in terms of publications at Makerere University and third in Uganda. He has a good position 1,068<sup>th</sup> in the Eastern African region and 140,039<sup>th</sup> in the World ([https://www.adscientificindex.com/?country\\_code=ug](https://www.adscientificindex.com/?country_code=ug)). Niwagaba has over 100 publications in peer reviewed journals, conference proceedings, book chapters, policy briefs etc.



<i>NAME</i>	<b>Dr. NIWAGABA BUREGEYA Charles</b>
<i>POSITION/RANK</i>	Associate Professor
<i>PROFESSION</i>	Civil & Environmental Engineering
<i>NATIONALITY</i>	Ugandan
<i>DATE OF BIRTH</i>	10 <sup>th</sup> June 1974
<i>MARITAL STATUS</i>	Married
<i>ADDRESS</i>	Makerere University, Department of Civil & Environmental Engineering, P. O. Box 7062, Kampala. Tel: 256-(0)77-2335477; E-mail: <a href="mailto:charles.niwagaba@mak.ac.ug">charles.niwagaba@mak.ac.ug</a> ; <a href="mailto:cbniwagaba@gmail.com">cbniwagaba@gmail.com</a>

## **EDUCATION**

DURATION	QUALIFICATION AND INSTITUTION
2008-2011:	Doctorate of Philosophy (Ph.D) in Environmental Technology. <b>Swedish University of Agricultural Sciences (SLU), Uppsala.</b>
2004-2007:	Licentiate of Philosophy (Ph.Lic) in Environmental Engineering, <b>Swedish University of Agricultural Sciences (SLU), Uppsala, Sweden</b>
1999-2002:	Makerere University, Kampala, Uganda. <b>M.Sc. [Civil Eng.] Major: Environmental Eng.</b>
1995-1999:	Makerere University, Kampala, Uganda; <b>B.Sc. Civil Eng. Upper Second Class (Hons.)</b>
1993-1995	Kigezi College Butobere, Kabale, Uganda; UACE, <b>AAB Result 5 as follows: Subsidiary (C6) in General paper, Physics 213A; Mathematics 21A, Chemistry 226B.</b>
1989-1992	Kigezi College Butobere, Uganda; UCE, <b>Aggregate 11, Division 1: English 4, Geography 3, Mathematics 1, Additional Mathematics 1, Physics 1, Chemistry 2, Biology 3, Commerce 3.</b>

## **AMERICAN OSHACADEMY COURSES ACCOMPLISHED**

1. 192 Hours OSHA Construction Safety and Health Professional
2. 162 Hours OSHA Construction Safety and Health Manager
3. 145 Hours OSHA Construction Site Safety Supervisor
4. 130 Hours OSHA Construction Safety and Health Specialist
5. 047 Hours OSHA Construction Safety and Health Train-the-Trainer
6. 002 Hours OSHA Preparing Workplaces for COVID-19

## **IMPACT**

According to the AD Scientific Index 2021 rankings of scientists, Dr. Charles B. Niwagaba is ranked 2<sup>nd</sup> at Makerere University, 3<sup>rd</sup> in Uganda, 1,068<sup>th</sup> in the Eastern African region and 140,039<sup>th</sup> in the World ([https://www.adscientificindex.com/?country\\_code=ug](https://www.adscientificindex.com/?country_code=ug)). As of 4<sup>th</sup> October 2021, Niwagaba has total citations of 3283; h-index of 34 and i10-index of 54.

## **AWARDS**

- 1995 Awarded a full Government Scholarship to pursue BSc, Civil Engineering at Makerere University, Kampala, Uganda.
- 1999 Awarded a Prize as the Best Student in Structural Steel Design, awarded by the Uganda Institution of Professional Engineers; financed by the Mutenga Batumbya and Wardrope (MBW) consulting Engineers.
- 1999 Awarded the full scholarship by the Italian cooperation to pursue Master of Science in Civil Engineering, Majoring in Environmental Engineering at Makerere University, Kampala, Uganda.
- 2004 Awarded a full scholarship to pursue Doctor of Philosophy (PhD) under the Sida/SAREC bilateral research cooperation program in a sandwich mode between the Swedish University of Agricultural Sciences (SLU), Uppsala, Sweden and Makerere University, Kampala, Uganda.
- 2012 Together with the entire team that worked on the Re-invent The Toilet Challenge (RTTC), awarded the Special Recognition Award by the Bill and Melinda Gates (BMG) Foundation at the toilet fair in Seattle (USA), on 15 August 2012.
- 2012 Awarded the Eawag Partnership Program (EPP) scholarship as a visiting scholar at the Swiss Federal Institute of Aquatic Science and Technology (Eawag) in the Department of Water and Sanitation in Developing Countries (Sandec).
- 2021 Awarded the Eawag Partnership Program (EPP) scholarship as a Senior visiting scholar at the Swiss Federal Institute of Aquatic Science and Technology (Eawag) in the Department of Sanitation, Water and Solid Waste for Development (Sandec).

## **OTHER COURSES ACCOMPLISHED**

1. 2021: Environmental and Social Framework - ESF Fundamentals, Open Learning Campus; World Bank Group.
2. 2020: Certificate in the Training Course for ISO 30500 and ISO 24521: International Non-sewered Sanitation Standards offered by Cap-Net/ANSI/GWPO.
3. 2018-2019: 192 Hours OSHA Construction Safety and Health Professional; 162 Hours OSHA Construction Safety and Health Manager; 145 Hours OSHA Construction Site Safety Supervisor; 130 Hours OSHA Construction Safety and Health Specialist; 47 Hours OSHA Construction Safety and Health Train-the-Trainer; and 002 Hours OSHA Preparing Workplaces for COVID-19.
4. 2018: 10-Hour OSHA Hazard Recognition Training for the Construction Industry Course, offered by the American OSHA Academy.
5. 2018: Certificate in Basic safety orientation, online, offered by 360 Training.
6. 2017. NIH Web-based training certificate in "Protecting Human Research Participants" offered by the National Institutes of Health (NIH) Office of Extramural Research.
7. 2017. Planning & Design of Sanitation Systems and Technologies, offered by the Swiss Federal Institute for Aquatic Science and Technology (EAWAG).
8. 2016. Municipal Solid Waste Management in Developing Countries, offered by the Swiss Federal Institute for Aquatic Science and Technology (EAWAG).
9. 2001: Certificate in Environmental Impact Assessment from the Water, Engineering and Development Center, Institute of Development Engineering, Loughborough University, UK.

## **MEMBERSHIP OF PROFESSIONAL BODIES**

- 2007 – Present: Certified Environmental Impact Assessment Practitioner by NEMA, Uganda,
- 2008 – Present: Member of the Uganda Association for Impact Assessment.

## **COMMITTEES SERVED (LOCAL, NATIONAL, REGIONAL AND INTERNATIONAL)**

- 2010-Present:** Member of the National Sanitation Working Group (NSWG). An advisory group that advises the Government of Uganda on matters of sanitation in the whole country.

- 2011-2012:** Member of the Estates and Works Committee of Makerere University Council; also secretariat of that Committee as Director of the Directorate of Estates and Works of Makerere University.
- 2012-Present:** Lead, Working Group 4 (Sanitation Systems and Technologies), Sustainable Sanitation Alliance (SUSANA), global network of sanitation Professionals.
- 2022-Present:** Member of the Makerere University Senate, Representing the School of Engineering; Member of the Board of Research and Graduate Training.
- 2022-Present:** Member of the Research Grant sub-committee; Regional Research and Development Advisory Committee (RDAC); East African Science and Technology commission (EASTECO), East African Community (EAC).

### ***EMPLOYMENT RECORD***

- Jul17-NOW: **Associate Professor of Civil and Environmental Engineering, Department of Civil and Environmental Engineering, Makerere University.** *Responsible for teaching graduate and undergraduate students, supervision of research projects for undergraduate students and graduate students including Masters students and PhD students, carrying out research and outreach activities in Civil and Environmental Engineering Dept; providing research oversight and leadership.*
- Jan13-Jun17: **Senior Lecturer, Department of Civil and Environmental Engineering, Makerere University.** *Responsible for teaching graduate and undergraduate students, supervision of research projects for undergraduate students and graduate students including Masters students and PhD students, carrying out research and outreach activities in the department of Civil and Environmental Engineering.*
- Apr10-31Dec12: **LECTURER, Makerere University, Dept. of Civil Eng.** *Responsible for the duties as below; and also providing research leadership as well as supervision of Master students and mentoring PhD students.*
- 2003-2010: **ASSISTANT LECTURER, Makerere University, Dept. of Civil Eng.** *Responsible for preparing Lectures/Tutorials/Examining 3rd and 4<sup>th</sup> Year Civil Eng. students in Public Health Eng. Practice. Other duties include supervision of 2<sup>nd</sup>/3<sup>rd</sup> Year Civil Engineering students doing industrial Training; as well as 3rd and 4<sup>th</sup> Year students undertaking research projects in Public Health/Environmental Engineering. **Specific additional Assignments:** Coordinator of research on ecological sanitation responsible for implementing Memorandum of Understanding between Directorate of Water Development (DWD) of the Ugandan Ministry of Water, Lands and Environment and Makerere University's Faculty of Technology. 2001 – 2004. In-Charge of Industrial Training Placements in the Department of Civil Engineering (Academic years: 2001/2002, 2002/2003 & 2003/2004 academic years).*
- 2000-2003: **TEACHING ASSISTANT, Makerere University, Dept. of Civil Eng.** *Responsibilities same as above.*

### ***ADMINISTRATIVE POSITIONS HELD***

- 01Jun13-Dec13: **Substantive Chair/Head of Department of Civil and Environmental Engineering, Makerere University.** *Responsible for organisation and development of the department, promotion of knowledge, soliciting research funds for the development of the department, chairing the departmental appointments board/Promotions Advisory Committee, Preparation and control of departmental estimates, reviewing of departmental curricula etc.*
- 18Apr11-31May13: **Ag. Chair/Head of Department of Civil and Environmental Engineering, Makerere University.** *Responsible for organisation and development of the department, promotion of knowledge, soliciting research funds for the development of the department, chairing the departmental appointments board/Promotions Advisory Committee, Preparation and control of departmental estimates, reviewing of departmental curricula etc.*
- Mar10-Apr11 **Ag. Manager/Head of Department of Estates and Works, Makerere University.** *Responsible for supervising and overseeing the Estates and Works department. Works include*

*maintenance administrative, financial and personnel matters; Coordination of activities of the department with other departments and within the department; Implementing Estates policy matters of the University; Overall control of maintenance and upkeep of the University plant; Supervision of all capital projects of the University; Coordination of the execution of all works (Civil, Mechanical and Electrical).*

## **RESEARCH LEADERSHIP AND COLLABORATIONS**

- 2017-2020 SPANS (Sanitation Planning for Alternative Nutrient-recovery Systems), a research project implemented by the Swedish University of Agricultural Sciences (SLU), Uppsala, Sweden; RISE (Research Institutes of Sweden); Chalmers University of Technology, Gothenburg, Sweden; and Makerere University, Kampala, Uganda. The project explores innovations in sanitation technologies and planning techniques in order to improve sanitation service delivery and the recovery of nutrients for agricultural use. The project explores the application of serious gaming as a way of informing decision-making in sanitation planning incorporating the recycling of nutrient resources.
- 2011-2014 Worked with EAWAG in the first phase of the Re-inventing The Toilet Challenge (RTTC) project. Participated in the workshop and field visits and testing in Kampala City and led the Kampala part of the work. This project won the *Special Recognition Award by the Bill and Melinda Gates (BMG) Foundation* at the toilet fair in Seattle (USA), on 15 August 2012.
- Apr11-Jun14 **Project Partner on the Project FaME (Faecal Management Enterprises): providing sanitation solutions through value chain management of faecal sludge.** The project aimed at a comparative assessment of faecal sludge from eastern and Western Africa, and studying its applicability in the cement production process by utilising its calorific value or the lower heating value, as has been applied with sludges from wastewater treatment plants in some parts of the world. Leadership of this project was provided by Sandec/EAWAG (from Switzerland) and other partners, Dakar University and ONAS (Senegal). This project was funded by the European Water Initiative ERA-NET (SPLASH), Transnational Research Call on Sustainable Sanitation Service Chains. Project amount was CHF340,780 (Equivalent to €262,280 in April 2011 when the contract was signed).
- Apr11-Jun14 **Project Partner on the Project UACT ~ Economic Constraints and Demand-Led Solutions for Sustainable Sanitation Services in Poor Urban Settlements.** This project aimed to analyze and understand the key economic constraints and social and technological preferences of the poor that lead to a persistent lack of private investment in sanitation facilities in poor urban settlements in sub-Saharan Africa; and to test innovative sanitation solutions to these constraints and preferences to sustainably increase household demand for improved sanitation in poor urban communities of Uganda's capital Kampala. Leadership of this project was provided by the NADEL-ETH, i.e., the Swiss University of Science and Technology (ETH). Partners included Sandec/EAWAG, Makerere University and SSWARS Local NGO. This project was funded by the European Water Initiative ERA-NET (SPLASH), Transnational Research Call on Sustainable Sanitation Service Chains. Project amount was CHF399,682 (Equivalent to €307,613 in April 2011 when the contract was signed).
- Jan2010-Oct15 **Team leader of the Environmental Engineering component of the Makerere University/Sida-SAREC bilateral Research cooperation programme.** I coordinate research that involves six (6) PhD students studying varied topics in a sand-witch programme between Makerere University and various Swedish Universities.

- Apr09-Jun14 **Coordinator of the research User Driven sanitation at Makerere University**, funded by the Swiss Government. This research involves a PhD student from Uganda working with two other associated PhD students from ETHNADEL, Switzerland.
- Sept06-Apr10 **Team leader of the EU funded research project, Resource Oriented Sanitation Concepts for peri-urban Areas in Africa (ROSA)**. A 3½ year project that was done in collaboration with three European Universities and 2 research based European NGOs; as well as four East African Universities and four Cities/Municipalities in East Africa. This project was worth €2.9 millions and it has been concluded.

### ***PROJECTS/PROFESSIONAL EXPERIENCE***

- Jan 22-Aug 22 **Technical Backstopper**, Ministry of Energy and Mineral Development, Consultancy services to conduct waste flow surveys and characterisation for energy generation in Mbarara and Mbale cities. RFP No: MEMD/CONS/2021-22/00001/RED. Overall responsible for designing field data collection tools, field samples and measurements and quality control, liaison with the laboratory to conduct biomethane potential experiments to determine energy potential of the waste, data analysis, report writing and presentation to the Client. This work was done, as a backstopping effort to WSS. Contact: Dr. Denis Byamukama, Managing director of WSS Services, Email: [byamukamad@yahoo.co.uk](mailto:byamukamad@yahoo.co.uk), +256 782 519315.
- Feb 21 - Oct 21 **Sanitation Engineer; Consultancy services for developing solid waste management strategy for the municipalities of Apac, Busia, Kamuli, Kasese, Kitgum, Lugazi, Mubende and Ntungamo**, MLHUD/USMID-AF/SRVS/19=20/00071. Sub-consultancy working for JBN. Tasks included the determination of waste quantities/waste generation rate; projections of waste quantities, determination of appropriate waste recycling interventions to be included in the solid waste management for the Municipalities, development of the Situation Analysis report; Issues paper and preparation of the solid waste management strategy. **Contact person:** Dr. Nelson Omagor Managing Director/Environmental and Social Safeguards Specialist, JBN Consults and Planners Ltd, Plot 48, Block 219 Mbogo Road, Najeera 1 Kira Municipality; P. O. Box 28434, Kampala, Uganda; +256-77-2458903/+256701-458903; [nelsonomagor@gmail.com](mailto:nelsonomagor@gmail.com); [nelsonomagor@jbn.co.ug](mailto:nelsonomagor@jbn.co.ug); [www.jbn.co.ug](http://www.jbn.co.ug).
- Jan 21-Sept 21: **Environmental Engineer, Environmental Audit of Bujagali Energy Limited (BEL); the Environmental Audit of Bujagali Hydro-power Dam**; together with SHEM Consult Ltd. Client: Bujagali Energy Limited (BEL). Responsible for analysing the safety and health of employees, handling the data collection and report writing on environmental engineering aspects of the dam, viz. public health aspects – solid waste management and wastewater management, and traffic management. Project cost was UGX 120,000,000. **Contact Person:** Contact: John Berry, General Manager of the Bujagali hydro-power; Bujagali Energy Limited.
- 01Sept20-30Jun21: **Consultant, Mass Training; Cap-Net/UNDP supported ANSI training on ISO 24521:2016 and ISO 30500:2018 in Uganda**. I was among the pool of experts undertaking the mass training on ISO 24521:2016 and ISO 30500:2018 in 15 countries in Africa (Benin, Botswana, Cameroon, Cote d'Ivoire, DR Congo, Ghana, Kenya, Liberia, Madagascar, Nigeria, Rwanda, Tanzania, Uganda, Zambia and Zimbabwe) and two countries in Asia (Bangladesh and China). The objective of the blended training with an online part and a face-to-face training was to raise awareness and expand capacity among the community of practice in understanding ISO 24521:2016 and ISO 30500:2018, thereby capacitating practitioners to implement them. This training attracted 40 Ugandan

participants. Contact person: Yasmina Rais El Fenni; Email: [yasmina.rais@cap-net.org](mailto:yasmina.rais@cap-net.org).  
C/O Global Water Partnership, PO Box 24177, 104 51 Stockholm, SWEDEN.

- 18Jun-17Sep20: **National Consultant on domestication of the Human Rights to Water and Sanitation (HRWS) and Leave No One Behind (LNOB) in Uganda.** The work aimed at assessing the extent to which WASH concerns were factored in the development of non-WASH policies in the relevant sectors- specifically, though not exclusive to housing, education, healthcare, labour, transports, environment, gender equality, and the welfare and rights of women, girls and those in vulnerable situations (elderly and persons with disabilities/ chronic illnesses including HIV/AIDS, minorities, indigenous people, LGBTIQ). The tasks performed involved; Identification of good practices that are validated with representatives of left behind populations in Uganda; Organising LNOB consultation meetings with LNOB groups to gather information to understand the extent to which HRWS has been domesticated in Uganda; identify factors that drive change and document best practices and opportunities for achieving HRWS and serving left behind groups. **For References, contact:** Dr. Fatima Denton, Tel: +233 (0) 552565149; **Email:** [denton@unu.edu](mailto:denton@unu.edu)
- 01Mar-30Oct20: **Consultant, Preparation of the Design Manual for Sanitation Facilities along the service chain.** This consultancy was for the Ministry of Water and Environment of the Government of Uganda, with funding from the Water for People, a Colorado founded NGO. **Activities Performed:** Literature review, of various standards and design manuals in region and internationally, preparation of the design criteria of sanitation facilities, design equations with examples, for all components of the entire sanitation services chain, including faecal sludge management. **For References, contact:** Brenda Achiro Muthemba, Tel: +256 (0) 783 011 222; **Email:** [bachiro@waterforpeople.org](mailto:bachiro@waterforpeople.org)
- 24Sep19-Mar20: **Consultant, Consultancy Services for facilitating the African Sanitation Policy Guidelines (ASPG) Stakeholders consultation meetings.** This work was done for the African Ministers' Council on Water (AMCOW). **Activities Performed:** Conducting presentations on the rationale and overview of the African Sanitation Policy Guidelines (ASPG), to national stakeholders, comprising of senior government staff, representatives of the development partners, local and international NGOs, the private sector and the academia. Facilitated the meeting in Uganda, Malawi and Eritrea and co-facilitated the ASPG consultation meeting in Ghana. Basically, this work involved documenting the input of stakeholders, capturing the questions and contributions and responding to them, guiding the discussions and preparing reports of the consultation meetings. **For Reference, contact:** Dr. Canisius Kanangire, Tel: +234 (0) 909 607 4 166; **Email:** [ckanangire@amcow-online.org](mailto:ckanangire@amcow-online.org)
- 01Sep-20Dec19: **Design Engineer,** providing Consultancy Services on the Design of the Waste Management Center for Imvepi Refugee Settlement in Arua. The main objective of this work was to design a waste management centre with the right size and scale and conduct an environmental and social impact assessment of the proposed design. In so doing, various design options were evaluated to come up with the most feasible and applicable solution. Main tasks were the determination of the design loads, calculations to determine the sizes, preparation of detailed design drawings, Bills of Quantities and Tender Documents. **Contact:** Magdalena Bäuerl; Email: [magdalena.baeyerl@roteskreuz.at](mailto:magdalena.baeyerl@roteskreuz.at)
- Mar19- Oct19 **Consultant, Development of the National standard for the treatment of faecal sludge for safe end-use and/or disposal.** **Client:** Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). **Activities Performed:** Field data collection on 10 faecal sludge treatment plants in Uganda; analysis of the data to inform the design of the National

Standard; literature review of standards/manuals developed elsewhere; preparation of the report and the National Standard; Consultations with stakeholders, including the Ministry of Water and Environment (MWE), the National Environment Management Authority (NEMA), Uganda National Bureau of Standards (UNBS), National Water and Sewerage Corporation, receipt of comments, and addressing them as well as submission of the final report and National Standard Document. **Contact:** Eng. Fred Nuwagaba; Email: [fred.nuwagaba@giz.de](mailto:fred.nuwagaba@giz.de).

18Feb-17Sep19 **Urban Sanitation Expert**, providing Consultancy Services on the Faecal Waste Project in Kampala and Mbarara. The main objective of this work was to improve and expand implementation and resourcing of national and urban sub-national level sanitation policies in Kenya (Nairobi and Nakuru), Tanzania (Dar es Salaam and Moshi) and Uganda (Kampala and Mbarara), through evidence-based research. The specific tasks involved identification of key-decision makers, partners and stakeholders at municipality level; analyse urban sanitation challenges (demand, supply, role of actors, etc); document relevant policies guiding programming and practice – identify gaps and suggest inclusion in policy; assess the levels of investment in the sanitation sector – both non-sewer and sewer based; conduct faecal waste study in Kampala City and Mbarara Municipality; develop a framework to capture FWM priorities; conduct a Cost Effectiveness Analysis (CEA) study in relation to Non-sewer based sanitation; and provide evidence based advocacy for achieving improved non-sewer and FW management in Kampala City and Mbarara Municipality. **Contact:** Prof. Dr. Blessing Mberu; Email: [bمبرu@aphrc.org](mailto:bمبرu@aphrc.org)

Jan18-Dec20 **Supervisor, Environmental, Occupational Safety and Health for the construction of the Katosi-Kampala water transmission mains. Sub-contractor under Gauff Consultants (U) Ltd. Client was the National Water and Sewerage Corporation (NWSC).** Work included supervision of the implementation of the ESMP that was prepared in the ESIA, overall supervision of the adherence to the Environmental, Occupational Safety and Health Issues. Work involved identification of hazards envisaged on construction sites and designing measures to protect workers. Hazards involved chiefly, falls, caught-in/between, struck-by and electrocution. Specific areas of attention include confined space safety, scaffold safety, heavy equipment safety, hand and power tools safety. Work involved weekly joint-supervision with the contractor, of the status of implementation of ESHS issues, attendance of monthly site meetings, preparation of monthly and quarterly reports. **Contact:** Mr. Emmanuel Mugamba; Email: [emugamba@gauff.com](mailto:emugamba@gauff.com)

Oct18-Dec18 **Team Leader** on Revising the Environmental and Social Impact Assessment for the proposed new Kampala Port, Bukasa Village, Bweyogerere Division, Kira Municipal Council, Wakiso district. The work involved leading a team of various experts, liaison with the consultants and the Client, identification of alternatives, mitigation measures and report writing. In particular, I led the identification and the documentation of the occupational safety and health aspects, involving protection against drowning hazards, falls, caught-in/between, struck-by and electrocution; and procedures for confined space safety, scaffold safety, heavy equipment safety, hand and power tools safety. **Contact:** Mr. Emmanuel Mugamba; Email: [emugamba@gauff.com](mailto:emugamba@gauff.com)

November 18 **Team Leader** on the Development of the Environmental and Social Management Plan (ESMP) for the proposed maintenance of Namboole-Bukasa Road (8.5 km) in Kira Municipality (Starting from Chainage 0+000 with GPS coordinates 0°20'45.14"N, 32°39'39.85"E''; ending at Chainage 5+400 with GPS coordinates 0018'31.43''N and

- 32040'06.88''E). The work involved identification of impacts, mitigation measures and report writing. Contact: Mr. Emmanuel Mugamba; Email: [emugamba@gauff.com](mailto:emugamba@gauff.com)
- Sept18-Oct18 **Consultant/Team Leader** on the Faecal sludge and solid waste study in Imvepi refugee settlement in Arua. The main objective of the study was to explore the settlement sanitation needs and design feasible approaches and options that are technological, institutional and social in nature in order to maintain and sustain sanitation. The study looked into opportunities to incorporate 'Sanitation Waste to Value' concept. Solid wastes and faecal sludge management yielding to biogas, briquettes and soil conditioning. Contact: Sebastien Chevalier, Email: [dcdp@ug-actionagainsthunger.org](mailto:dcdp@ug-actionagainsthunger.org)
- Mar18- Aug18 **Team member, Environmental Impact Assessment for the Bugoigo-Walukuba Water Supply Infrastructure Project in Buliisa District.** Ministry of Water and Environment. **Activities Performed:** Field surveys, field measurements and sampling for air quality, noise and water quality, and liaising with geotechnical experts to get geotechnical data, stakeholder engagements including key informant interviews, identification of environmental impacts and mitigation measures, preparing the environmental and social management plan (ESMP). I was particularly responsible for identifying and documenting the occupational safety and health aspects, involving protection against drowning hazards, falls, caught-in/between, struck-by and electrocution; and procedures for confined space safety, scaffold safety and use of machinery and/or equipment.
- Mar18- Aug18 **Team member, Environmental Impact Assessment for the Kayunga-Busaana Water Supply and Sanitation Project in Kayunga District.** Ministry of Water and Environment. **Activities Performed:** Field surveys, field measurements and sampling for air quality, noise and water quality, and liaising with geotechnical experts to get geotechnical data, stakeholder engagements including key informant interviews, identification of environmental impacts and mitigation measures, preparing the environmental and social management plan (ESMP). I was particularly responsible for identifying and documenting the occupational safety and health aspects, involving protection against drowning hazards, falls, caught-in/between, struck-by and electrocution; and procedures for confined space safety, scaffold safety and machinery and/or equipment.
- May17-Jul18 **Team Leader; Preparation and implementation of the Resettlement Action Plan (RAP) for the development of the new Kampala Port at Bukasa.** The tasks involved: Leading a team of various experts including social scientists, Lawyers, Surveyors, Land valuers and Surveyors in the data collection for the preparation including socio-economic and archaeological survey, cadastral survey, and valuation of over 2,200 Project Affected Persons (PAPs) in the area proposed for the new Kampala Port at Bukasa.
- May17-Feb18 **Team Leader, Environmental Impact Assessment for the Rwebisengo-Kanara Water Supply and Sanitation Project in Ntoroko District.** Ministry of Water and Environment. Work involved field surveys, field measurements and sampling for air quality, noise and water quality, and liaising with geotechnical experts to get geotechnical data, stakeholder engagements including key informant interviews, identification of environmental impacts and mitigation measures, preparing the environmental and social management plan (ESMP).
- Jan 17-Dec20: **Local Research Leader and Coordinator,** SPANS (Sanitation Planning for Alternative Nutrient-recovery Systems), a research project implemented by the Swedish University of Agricultural Sciences (SLU), Uppsala, Sweden; RISE (Research Institutes of Sweden); Chalmers University of Technology, Gothenburg, Sweden; Makerere University, Kampala, Uganda and SSWARS-iC. The project explored innovations in sanitation technologies and planning techniques in order to improve sanitation service delivery and the recovery of nutrients for agricultural use. The project explored the application of serious gaming as a way of informing decision-making in sanitation planning



incorporating the recycling of nutrient resources, Swedish Kronor 5.2 millions (or about UGX 1.5 billion). **Contact person:** Prof. Dr. Jennifer McConville, Sveriges lantbruksuniversitet, (SLU), Box 7032, 75007 Uppsala, Tel: 018-672 816, Mobil: +46 76 783 7084, E: [jennifer.mcconville@slu.se](mailto:jennifer.mcconville@slu.se)

- Sept16-Feb17 **Consultant and Team Member, Environmental and Social Impact Assessment (ESIA) in the Albertine Graben cluster (north) for the development of water and sanitation infrastructure for the municipalities of Hoima and Masindi, Uganda. Sub-contractor under Gauff Consultants (U) Ltd. Client was the National Water and Sewerage Corporation (NWSC).** Work involved field surveys, field measurements and sampling for air quality, noise and water quality, and liaising with geotechnical experts to get geotechnical data, which was analysed and relevant components incorporated in the report, interviews, participation in workshops and presentations, identification of environmental impacts, proposing mitigation measures, drawing up an environmental and social monitoring and management plan (ESMMP) and costing it.
- Aug16-Oct16 **Consultant, Market system research and analysis of faecal sludge management in Lira and Bugiri Districts, North and Eastern Uganda.** Client, GOAL Uganda. Work involved baseline surveys, key informant interviews, data analysis, report writing, identification of, and preparation of faecal sludge management business models.
- Jul16-Jan19 **Consultant, Reinforcing African Sanitation Operators Partnerships (RASOP).** Support to Kampala Capital City Authority on the RASOP project through African Water Association (AfWA). Tasks: Carrying out benchmarking visits to the city of eThekweni (Durban), South Africa and Dakar, Senegal; carrying out the initial assessment of the onsite sanitation and faecal sludge management system in Kampala, Supporting Mentors to carryout Audits in Kampala, preparing the performance Improvement Plan (PIP) and the Sustainable Urban Sanitation Plan (SUSAP) for the city of Kampala; Participating in annual project evaluation in Yaoundé (Cameroon) and Kampala (Uganda); conducting trainer of trainer workshops on the Shit flow Diagrams (SFDs) and the Faecal Sludge Management (FSM) Toolbox.
- July16-Dec16 **Lead Consultant and Team Leader, Environmental and Social Impact Assessment (ESIA) for the proposed Katosi-Kampala water transmission mains. Sub-contractor under Gauff Consultants (U) Ltd. Client was the National Water and Sewerage Corporation (NWSC).** Work involved field surveys, field measurements and sampling for air quality, noise and water quality, and liaising with geotechnical experts to get geotechnical data, which was analysed and relevant components incorporated in the report, interviews, participation in workshops and presentations, identification of environmental impacts, proposing mitigation measures, drawing up an environmental and social monitoring and management plan (ESMMP) and costing it.
- Apr16-Dec17 **Team Leader; Environmental and Social Impact Assessment of the Faecal Sludge drying beds in Apac and Oyam Districts.** Work involved field surveys, field measurements and sampling for air quality, noise and water quality, stakeholder consultations, liaising with other experts for geotechnical investigations, identification of environmental impacts, proposing mitigation measures, preparing the environmental and social monitoring and management plan (ESMP).
- Apr16-Jun16 **Consultant of the project ‘Rural Water Supply and Sanitation in Lesotho – Kigali Action Plan’.** Work involved one week of a workshop at the headquarters of the African Development Bank in Abidjan, Cote d’Ivoire, and thereafter, three weeks of fieldwork in Lesotho. The work involved the definition of detailed activities and their costs as well as preparation of the Environmental and Social Framework (ESF) to be implemented under

the Kigali Action Plan. The work was funded by the African Development Bank, Contract OWAS/CNT/2016/04/003. **Contact Person:** Rudolph Jochen.

- Mar16-Oct17 **Integrated Waste Management Expert Consultant with Eco Ltd group, 55 Chislehurst Road, Chislehurst, BR7 5NP, United Kingdom;** in support of development of their UNDP programme, NAMA on integrated waste management and biogas production in Uganda. Participation in the Preliminary Technical Review and project inception, supporting and participating in the kick off meeting, stakeholder consultations and inception workshop, planning IWM + biogas assessment work (data collection, tasks for local experts), reviewing and contributing to project deliverable reports, responding to comments and questions on the project documents.
- Jan16-May17 **Team Leader and RRR Expert. Supporting the implementation of Resource Recovery and Safe Reuse-Business models in Kampala.** Responsible for identifying people from existing businesses and potential start-up businesses to participate in two ateliers (workshops), and four smart-start-up trainings on resource recovery and safe reuse business models; facilitating in the trainings by giving technical input into the trainings and coaching. This work was performed in collaboration with cewas, Makerere University Business School and funding was provided from *Deutsche Gesellschaft für Internationale Zusammenarbeit* (GIZ) GmbH or GIZ. The funding was UGX. 103,344,600; Contact Person: Janka Rokob.
- Nov.15-Dec16 **Environmental Management Expert.** Lot 1 - Comprehensive Situation Assessment and Preparation of a Water Management Zone (WMZ) Strategy and Action Plan for Upper Nile WMZ, within the national Water Management Development Project of the Ministry of Water and Environment and the World Bank. Responsible for analysing the impacts of water resources developments on sensitive ecosystems such as Forests, Protected Areas, wetlands and riparian areas, open water bodies as well as rangelands; incorporating also climate change scenarios. This work is being done as a sub-contractor under *Studio Galli Ingegneria S.p.A.* (SGI) of Italy.
- Aug15-Dec16 **Environmental Expert for the “Updating the Kampala Drainage Master Plan’.** Responsible for identifying environmental impacts of the whole of updating of the Kampala Drainage Master plan and designing strategic mitigation measures for those impacts, incorporating climate change scenarios. This work is being done as a sub-contractor under *Studio Galli Ingegneria S.p.A.* (SGI) of Italy.
- Nov14-Dec15 **Environmental Expert/Team Member on the Tanga-Arusha-Musoma-New Kampala railway line and ports project, on the component of Environmental & Social Impact Assessment of the proposed new Kampala Port at Bukasa Village, Kira Town Council, Wakiso District.** Responsible for identifying all environmental impacts related to the technical aspects of planning, construction as well as operation and maintenance; and decommissioning. This work is being done as a sub-contract under SHEM Africa Ltd.
- Aug14-Jan15 **Environmental Expert for “Water Management and Development Project: Design Review (where applicable), Feasibility Study, Detailed Engineering Designs, and Construction Supervision of the Small Towns in Lot 2: Rukungiri, Katwe-Kabatoro and Koboko”.** The project for Small Towns in Lot 2 aims at design review, feasibility study, detailed engineering design and construction supervision of Rukungiri, Katwe–Kabatoro and Koboko town water supply, sanitation and drainage systems and solid waste management. In addition to design and construction of infrastructure, the project shall also put in place the environmental protection strategies and management methods in order to ensure the sustainability of the installed infrastructure, water sources and their catchments. The activities comprise Feasibility Study, Detailed Design, Catchment Management and

Water Resource Protection Plan, Environmental and Social Impact Assessment, Know-How Transfer and Capacity Building, Tender preparation and tendering for works contracts, as well as Construction Supervision thereof, including the Defect Liability Period.

- Oct.14-Dec15 **Team Leader, Environmental and Social Impact Assessment (ESIA) for the proposed nine (09) mini-hydropower dams under the ORIO mini-hydropower and rural electrification project.** The Client for this project is the Uganda Energy Credit Capitalisation Company (UECCC). The dams are located, one in Bushenyi District, one in Mitooma District, one in Kasese District, two in Bundibugyo District, three in Kabarole District and one in Hoima District, and they range from 0.2 – 2.0 Megawatts. The field work to assess the biophysical and socio-economic impacts, coordination with the socio-economist, identification and analysis of impacts as well as their evaluation, report writing and presentation to the Client. I was particularly responsible for the identification and the documentation of the occupational safety and health aspects, involving protection against drowning hazards, falls, caught-in/between, struck-by and electrocution; and procedures for confined space safety, scaffold safety, and equipment safety.
- 01 Mar-Oct14: **Project leader and lead expert on the project: ‘Improving Livelihoods by the Use of the CLUES Planning Approach in Mulago III Parish, Kawempe Division, Kampala’.** This project followed through the 7 steps of the CLUES approach, to first of all, i) ignite the community and promote sanitation and hygiene and identify champions, ii) launch the planning process, iii) perform a detailed current situation assessment, iv) Prioritize community problems and validate the results from the situation assessment, v) identify service options, vi) develop a sanitation action plan; and vii) implement aspects of the sanitation action plan. This project was funded by CISU (Denmark) through the Danish People’s Aid (DPA).
- Oct13-28Feb14: **Environmental Expert with OVE ARUP & Partners International Ltd on the Project ‘Water Risk and Sustainability Assessment for the River Rwizi Catchment’.** Environmental Expert Responsible for analysing strategic environmental aspects of the risks and how the risks should be managed to achieve sustainability.
- Jun 13-Dec13 **Project Manager of the Project Sustainable Water Supply and Sanitation Systems in Slum Communities in Kampala (SWASCOM).** This project was funded by the Hungarian Charity Service of the Order of Malta, to the tune of US\$45,625. The outputs were four ferro-cement rainwater harvesting tanks of installed capacity of 60,000 liters, and two biogas latrines each with an underground digester of 30 m<sup>3</sup>. This set of infrastructure directly benefitted 1,000 people. Beneficiary communities are Upper Nsoba, and Kamwokya. Contact person, KCCA Councillor Henry Sempiri.
- 01Apr13-31Mar14: **Country Coordinator for International Water Management Institute (IWMI), Sri Lanka on Resource Recovery and Re-use (RRR) projects in Uganda.** I coordinated five studies – socio-economic study, market demand study, waste availability and technical assessment study, sanitation safety plans, as well as health risk assessment, which were conducted on waste resource recovery and reuse in Kampala and surrounding areas.
- Jan.13-Dec.13 **Civil Engineer on Conducting the Environmental Baseline for the proposed Oil refinery for the Ministry of Energy and Mineral development, working for GIDS Consults Ltd.** Work involved establishing baseline information on the suitability of the site for the proposed infrastructure developments; as well as on the assessment of sites for construction materials, e.g. rocks for gravel and construction aggregates and murrum.

- Dec.12-Apr13 **Environmental Engineer/Team Member**, Environmental Impact Assessment for the proposed small hydro-power plant at Mvumba River (Maziba), Kigarama Cell “C” village, Nyanja Parish and Nyamirima Village, Kahondo Parish, Maziba Sub-County, Ndongwa East County Kabale district. Client was Vidullanka PLC.
- Aug-30Sept12 **Consultant for International Water Management Institute (IWMI), Sri Lanka on the documentation of three (3) Resource Recovery and Re-use (RRR) projects in Uganda.** The objective was to understand how innovative waste recovery and re-use businesses work and what drives their success and then at developing business models that are applicable in low-income countries based on the findings. In here, the work zeroed down on actual documentation of potential successful business models, to be used as successful case studies that can be showcased and shared among the participating cities.
- 3-31May12 **Consultant for IWMI (Contracting was by the main IWMI in Sri Lanka) on the baseline survey for resource recovery and re-use city selection in Kampala.** The objective was to undertake a survey in Kampala City for comparison with other 10 or so cities across the world in order to find the most suitable cities (and local partners) for the 2013 feasibility studies for several RRR business models.
- Jan12-May12 **Consultant/Environmental Impact Assessment Specialist** of the Project “Civil Works for Upgrading from Gravel to Bitumen Standards, Hoima – Kaiso – Tonya Road (92 Km)”. Client: Kolin Construction Ltd, the Contractor of the road. Responsible for preparing the project brief for the contractors’ camp, crusher, asphalt plant and concrete batching plant; as well as the borrow pits to be implemented by the project. Responsible for assessing the occupational safety and health of the contractors’ camp, with respect to overcrowding, sanitation, as well as occupational safety and health of the workers undertaking activities at the crusher, asphalt and concrete batching plant.
- Oct11-April12 **Consultant/Environmental Impact Assessment Specialist**, Review and update of the Water Supply Design Manual for the Directorate of Water Development, Ministry of Water and Environment with AIM Engineering (U) Ltd. Client: Ministry of Water and Environment (MWE). Responsible for reviewing and updating the chapter of Environmental Impact Assessment.
- Dec11-April12 **Consultant/Team member as Water and Wastewater Specialist**, Environmental and Social Impact Assessment (ESIA) for Arua Water Supply and Sanitation Project. Client: Gauff Consultants (U) Ltd. Responsible for field work aspects relating to water and wastewater management and environmental issues, interviews with the communities, working with the team of ecologists, social workers and surveyors handling the RAP study, report writing and presentation.
- Jul11-Mar12 **Consultant/Team member as Environmental Engineer**, on the Project “Environmental Audit of Bujagali Energy Limited (BEL); the Environmental Audit of Bujagali Hydropower Dam”; together with SHEM Consult Ltd. Client: Bujagali Energy Limited (BEL). Responsible for analysing the safety and health of employees, handling the data collection and report writing on environmental engineering aspects of the dam, viz. public health aspects – solid waste management and wastewater management, and traffic management. **Contact Person:** Contact: John Berry, General Manager of the Bujagali hydro-power; Bujagali Energy Limited.
- Apr11-Jun14 **Local Research Leader/collaborator**, FaME (Faecal Management Enterprises): providing sanitation solutions through value chain management of faecal sludge. The project aimed at a comparative assessment of faecal sludge from eastern and Western Africa, and studying its applicability in the cement production process by utilising its calorific value or the lower heating value, as has been applied with sludges from

- wastewater treatment plants in some parts of the world. Leadership of this project was provided by Sandec/EAWAG (from Switzerland) and other partners, Dakar University and ONAS (Senegal). This project was funded by the European Water Initiative ERA-NET (SPLASH), Transnational Research Call on Sustainable Sanitation Service Chains. Project amount was CHF340,780 (Equivalent to €262,280 in April 2011 when the contract was signed). **Contact Person:** Dr. Linda Strande, Eawag, Überlandstrasse 133, 8600 Dübendorf; Ph:+41 58 765 5553, Fax:+41 58 765 5802; E-Mail: [linda.strande@eawag.ch](mailto:linda.strande@eawag.ch)
- Apr11-Jun14 **Local Research Leader/collaborator**, UACT ~ Economic Constraints and Demand-Led Solutions for Sustainable Sanitation Services in Poor Urban Settlements. This project aimed to analyze and understand the key economic constraints and social and technological preferences of the poor that lead to a persistent lack of private investment in sanitation facilities in poor urban settlements in sub-Saharan Africa; and to test innovative sanitation solutions to these constraints and preferences to sustainably increase household demand for improved sanitation in poor urban communities of Uganda's capital Kampala. Leadership of this project was provided by the NADEL-ETH, i.e., the Swiss University of Science and Technology (ETH). In this project, 156 toilets were built in informal settlements in Kampala. Partners included Sandec/EAWAG, Makerere University and SSWARS Local NGO. This project was funded by the European Water Initiative ERA-NET (SPLASH), Transnational Research Call on Sustainable Sanitation Service Chains. Project amount was CHF399,682 (Equivalent to €307,613 in April 2011 when the contract was signed). **Contact Person:** Prof. Dr. Günther, Isabel, ETH Zürich, Dep. of Humanities, Social and Political Science; Clausiusstrasse 37, 8092 Zürich, Switzerland; Tel +41 44 632 87 50; Email: [isabel.guenther@nadel.ethz.ch](mailto:isabel.guenther@nadel.ethz.ch)
- Dec10-Mar11: **Team Leader, Environmental Impact Assessment for the refuse burning and Power Plant in Ziba, Wakiso District.** Client: SG Power (Uganda) Limited. Overall responsible for field work, interviews with the communities, coordinating the team of ecologists, social workers and senior legal office, interfacing with NEMA and lead agencies, report writing and presentation.
- Mar27-28;2010 **Trainer on the SODIS Technology to HEWASA staff and technicians in various CBOs in Fort Portal.** The training was carried out in preparation for the launching of the community SODIS project by Health through Water and Sanitation (HEWASA) NGO based in Kabarole District.
- Aug. 09-Dec11 **Project Assistant (PA)**, University Capacity Development for Integrated Sanitation Management in Eastern and Southern, Africa (**UCDISM**); Contract Number: 9 ACP RPR 118 # 10. This project was implemented in Uganda, Kenya, and Tanzania. The PA was responsible for participating in curriculum development, organising and conducting short courses, teaching modules in the MISM at University of Dar es Salaam.
- Feb09-Mar09 **Team Leader, Environmental Impact Assessment for Environmental Health Programme in Moroto, Nakapiripirit and Kotido districts in Karamoja Region** (In the Sub-Counties of Lokopo, Iriiri, Matany, Rupa in Moroto district; Namalu, Moruita, Lolachat in Nakapiripirit district and Kacheri, Nakapelimoru in Kotido district). **Client:** International Rescue Committee (IRC). Overall responsible for field work and reporting.
- Jun 09- Aug 09 **Team leader** of the Ecosan Sensitization in Kabarole and Kyenjojo Districts (for District Officials, Health Inspectors and User Communities). Funded by SNV (Netherlands Development Organisation). Overall responsible for carrying out the fieldwork, organising training workshops and conducting the workshops.

- Feb. 09 **Team Leader, Environmental Impact Assessment for the proposed Shell Fuel Station (Plots 11, 12, 13 & 14), Ogwok Road, Kitgum Town Council, Client: Mrs. Samali Odongo.**
- Jan 09 - Project member and mentor to one (1) PhD student, on the project “Integrated approaches and strategies to address the Sanitation Crisis in Unsewered Slum Areas in African megacities” (SCUSA). Assisting in the supervision of a PhD student working with the Sanitation Technical Options for slum areas in Kampala, Uganda.
- Jan09-Feb09 **Team Leader, Environmental Impact Assessment for the proposed degazetting of Kitgum Central Forest Reserve (A & B) and the area proposed for gazzettment along Kitgum-Matidi Road. Client: Kitgum Town Council.**
- De.08-Dec.09 **Project Manager, Sanitation Marketing Campaigns in Bwaise I, under the Public Private Partnership with GTZ/Crestanks/Polyfibre** and implemented in collaboration with Kawempe Division Kampala, Project worth EUR 20,000. We designed brochures and flyers; branded items such as t-shirts, pens and pencils and distributed them; staged drama shows; we used foot soldiers to move from house to house, explaining the products being marketed; we used road drive shows, during which we stopped in some neighbourhoods, doing neighbourhood marketing; designed and distributed story tale booklets for school children carrying sanitation messages, we preached in churches etc.
- Jan 08-Dec10 Researcher on the project **Community Based Solid Waste Management with Resource Recovery** under the Theme **Urban Pollution Control**, funded by the Italian Cooperation. The project researched organic waste treatment and recycling, in particular, composting, anaerobic digestion and production of briquettes. I was responsible for the design and optimisation of composting and anaerobic digestion processes, including one 18m<sup>3</sup> biogas latrine. During the project, there were exchange visits between Makerere University Professors and Italian Professors involving delivering lectures at each University. Hosts in Italy were Prof. Mario Ottavian and Prof. Raffaella Pomi ([raffaella.pomi@uniroma1.it](mailto:raffaella.pomi@uniroma1.it)) with whom I keep collaborating, and we have co-published a paper together in 2019. In the collaborative visits during the project implementation, I delivered lecturers in Waste Management to graduate students of University of Rome, Sa Pienza. Recently I invited Prof. Raffaella Pomi to Kampala to deliver a keynote address at the waste management conference hosted by the Ugandan NEMA in Kampala.
- Oct.06-Sept09 **The Ugandan Team Leader of the project “Resource-Oriented Sanitation Concepts for Peri-urban areas in Africa (ROSA)”**, a three year STREP project funded by the European Commission within the 6<sup>th</sup> framework, **EUR 2,900,000**. Project implemented in Uganda, Kenya, Tanzania and Ethiopia. In this project, we used community and stakeholder participatory methods to develop a strategic sanitation and waste plan (SSWP) for Kitgum town in Northern Uganda.
- Dec.06-Mar10 **Project Manager “Product Development for Social Marketing of Sanitation and Waste Recycling Systems”**, **USD 80,000**. More than 1,000 people have benefited from innovative toilet systems and waste recycling business establishments. In addition, within the project, several rainwater harvesting tanks; anaerobic digestion systems (biotoilets) have been constructed. Implemented in Kawempe Division, Kampala and funded by WaterAid, UK. In this project, we used the sanitation marketing, focussing on the 4Ps (Product, Price, Place and Promotion); we operated a community sanitation center as a place where various desk models of sanitation systems could be accessed and explanations given to customers; we trained community masons and facilitated them with construction tools and equipment such as wheel barrows, strings (at least 100m each), trowel, plumbing bobs, spirit level, crow hammer, hacksaw and its blades, angle, wood float (kipande), and tape measure (7-

30m); designed brochures and flyers and distributed them; ran a community waste recycling center, trained communities in solid wastes recycling, including composting and moulding of plastics into fencing poles, and roofing tiles; ran a community revolving fund for sanitation products.

Nov.07-Oct.08 **Project Manager** “*Systems for Excreta and Domestic Biowaste Management for Improving People’s Livelihoods in Kampala’s Slums*”, USD 38,000. In this project, I was responsible for the design and construction supervision of two household biogas plants (12m<sup>3</sup> capacity) and one communal biogas plant (18m<sup>3</sup> capacity) Funded by the French Embassy, Kampala. Beneficiary community is Bwaise II. The biogas systems have been operational since 2007, providing energy for cooking and lighting.

Nov.07-Feb08 **Project Manager of** “*Design and Installation of Treatment Units for Iron and Manganese Removal from Spring Water Sources*”. In this project, I was responsible for the design and construction supervision and commissioning of four (4) Iron Removal plants completed and commissioned in Ruhira Village, USD 30,000 Funded by the UN Millennium Villages Project.

Jan07-Dec07 **One of the three member Consultant Team performing** *Environmental Assessment of the Pioneer Easy Busy project, a project to introduce ultra-modern satellite cities and public transport in Kampala City.*

*Duties: Environmental Engineer responsible for deputising the team leader on all aspects of data collection, field assessments, input on all aspects of sanitation and waste management.*

Mar06-Dec06 **Project Coordinator of the “Sanitation Improvement Component of the Model village Project” funded by the Rockefeller Foundation/World Bank, Under the Innovations at Makerere (I@Mak.) project. Coordinator, responsible for:** *planning, community sensitisation and training, design and construction supervision of 10 sanitation facilities in two communities, Obayia in Arua and Nsumba in Rakai. Facilities constructed included dry urine diverting ecological sanitation (Ecosan) toilets, both household as well as communal units.*

Jan-April 06 **Consultant with Aqua Consult, on the project Kampala Institutional and Infrastructure Development Project (KIIDP), handling** “*Environmental Assessment of the Kampala Institutional and Infrastructure Development Project (KIIDP).*

*Duties: Environmental Engineer responsible for data collection, field assessments, liaising with consultants working on the Resettlement Action Plan (RAP) study and those working on design of solid waste treatment system for capture of landfill gas and composting systems, engineering and environmental aspects of improvements in urban market infrastructure, solid waste management and drainage.*

Nov05-Mar06 **Project Coordinator and Research Team Leader** “*Development of a Holistic Sanitation System Selection Algorithm for Enhancing Decentralised Sanitation Service Delivery in Uganda*”. Feasibility study funded by the Rockefeller Foundation and The World Bank. *Responsible for design of field data collection instruments, recruiting Research Assistants, supervision of field data collection, data analysis and reporting as well as liaising with the funders.*

May-July 05 **Consultant with S.A. AGRER N. V., an International Consultancy Company based in Brussels, Belgium on the formulation of the project “Kampala Integrated Environmental Planning and Management Project in Uganda (UGA0500801)”**

*Duties: Environmental Management Specialist responsible for collection of data, interviewing stakeholders, project formulation, analysis of technical engineering interventions for water supply improvement, drainage, opening of access roads, housing improvements, garbage management, income generation activities; for the poor slum dwellers in Kampala, writing the TFF and mission reports.*

- Jun.-Aug. 04 Environmental Impact Assessment for the water supply and wastewater treatment plants for Uganda Christian University (UCU) - Mukono. **Duties: Assistant Team Leader** responsible for field assessments/interviewing, Liaison with NEMA/Client/District Environmental Officer, analysis of environmental impacts, compiling and editing the Environmental Impact Statement (EIS).
- Sept04-May05 Analysis and Documentation of Ecological sanitation Experiences in Uganda. Funded by the Directorate of Water Development, Ministry of Water, Lands and Environment, Government of Uganda. **Project Coordinator**, responsible for supervision design of field data collection instruments, field data collection and interviewing, supervision of all other Research Assistants involved on the project, sampling and analysis of faecal samples, liaising with the client, report writing and presentation to the client.
- Apr.-Aug.04 An Investigation into the raw water quality problems for Uganda Breweries Limited (UBL) water supply and impact prediction of pollutant loading in the Inner Murchison Bay (IMB). **Duties: Assistant Team Leader/Water supply and Sanitation Engineer** responsible for field data collection, laboratory water sample analysis, investigating options namely feasibility of UBL connecting to NWSC line as well as relocating raw water intake works, report writing and presentation to UBL Management.
- Jan-Oct.04: Development of Internship Guidelines for Makerere University – A consultancy commissioned by the Academic Registrar, Makerere University; facilitated by [I@mak](mailto:I@mak) under the Rockefeller Decentralisation programme of Makerere University funded by the Rockefeller Foundation and The World Bank. **Duties: One of the four member consultancy team that developed internship guidelines for Makerere University**; responsibilities were design of field data collection instruments, interviewing, field data analysis, report writing and presentation to [I@mak.com](mailto:I@mak.com); Makerere University Community and Stakeholders.
- Dec.03-Jun.04 Feasibility study for sanitation improvement in 14 towns in supplied by NWSC in Uganda (Arua, Gulu, Lira, Soroti, Mbale, Jinja, Entebbe, Masaka, Mbarara, Kabale, Bushenyi, Fort Portal and Kasese). The work involved a step further to develop sanitation master plans for Entebbe and Jinja. **Duties: Sanitation Engineer** responsible for field data collection, analysis and identification of sanitation options for the towns, designing sanitation options and reporting.
- 2003: Training of Engineering Students Through District Focused Internship Attachments, Funded by the Rockefeller Foundation and The World Bank. **Duties: Department of Civil Engineering Internship Coordinator** responsible for formulation of proposals, field supervision of students working on road projects, water supply and sanitation facilities, reporting; compilation of a manual for internships.
- 2003 Environmental Impact Assessment for equipment upgrade at Busabala Road Valley Clinic and Maternity Centre. **Duties: Team Leader** responsible for overall coordination, field assessments /interviewing, Liaison with NEMA/Client/District Environmental Officer, analysis of environmental impacts, compiling and editing the Environmental Impact Statement (EIS).
- 01–03: Improved Risk Assessment and Management in Urban piped water Supply – In collaboration with WEDC, Institute of Development Engineering, Loughborough University, Leicestershire, UK and National Water and sewerage Corporation (NWSC) Kampala. Funded by The Department for International Development (DFID), under contract No. R8029. **Duties: Makerere University Coordinator of the Project** responsible for design of field data collection methods; route planning for optimisation of travel distance by field staff; Field data collection of information on primary, secondary and tertiary water supply infrastructure; and reporting; risk and hazard analysis to water contamination in chambered bulk meters, valve boxes reservoirs and Tanks; preparation of draft water safety plans for critical control points as well as reporting.
- 02–03: Sustainable Urban Drainage Systems in Low-income countries – A scoping study – In collaboration with WEDC, Institute of Development Engineering, Loughborough University, Leicestershire, UK; GHK, UK and Centre for Environmental Engineering of



Towns and Industrial Areas (CEETIA), Vietnam. Funded by The Department for International Development (DFID), under contract No. R8168. **Duties:** *Reviewing secondary sources (including web-based discussions) and case studies; holding semi-structured interviews based on field situations; examining planning and regulation issues relating to urban drainage; local organiser for a stakeholder workshop in Kampala, focusing on municipal engineers, planners as well as environmental protection staff.*

- Sept. Oct. 02: Re-design of the wastewater treatment system for Vienna College School, Namugongo. **Duties:** *Reconnaissance surveys, selection and sizing of suitable treatment units, reporting.*
- Feb.-Sept.02: Technical Audit/Evaluation of Water and Sanitation Facilities for FY 2001/2 (Lot 7: Kalangala, Masaka, Sembabule and Rakai Districts with Case International, in Association with Victory Consultants; and Lot 8: Bushenyi, Kabale, Kanungu, Kisoro, Mbarara, Ntungamo and Rukungiri) with Hydraulic and Sanitation Consult, in Association with Strategic Development Associates, Ltd. Funded by The Directorate of Water Development (DWD), Uganda. **Duties:** *Environmental Engineer responsible for physical inspection of water and sanitation facilities and reporting.*
- Sept.-Nov.01: Design of a Composting Plant for Re-use of Solid Waste in Bwaise, Kawempe Division. Funded by PLAN International. **Duties:** *Assistant Environmental Engineer responsible for identification of suitable alternatives, design and sizing of units, reporting.*
- Nov.00-03: Training of Engineering Students Through District Focused Internship Attachments, Funded by the Rockefeller Foundation. **Duties:** *Formulation of proposals, field supervision of students working on road projects, water supply and sanitation facilities, reporting.*
- Jan – Mar.01: An investigation into the water Quality Problems for Uganda Breweries Ltd, Funded by Uganda Breweries Ltd. **Duties:** *Field sampling, laboratory analysis, Evaluation of the treatment efficiency of the existing water treatment system, reporting.*
- March 2000: Design of the Wastewater Treatment Plant (WTP) for Tannery and Leather Improvement Uganda LTD in Masaka. **Duties:** *Field assessment, selection and sizing of unit treatment processes, reporting.*

## **RESEARCH EXPERIENCE & PUBLICATIONS**

### ***Publications in peer-reviewed/impact factor journals***

1. **McConville, J.R., Kvarnström, E., Ahlström, M., Niwagaba, B. C., 2022.** Possibilities for changing to resource recovery in Kampala's on-site sanitation regime. *Resources, Conservation and Recycling*, 181, Article 106275.
2. **Ahabwe G. Z., Batega D.W, Ssewaya, A., Niwagaba, B. C., 2021.** Governance conundrum in pursuit of the human right to water and sanitation: tracking the progress of the leave-no-one-behind principle in Uganda. *Journal of Water and Climate Change* 13(1), 83-95.
3. **Bartona, M. A., Simha, P., Magri, M. E., Dutta, S., Kabir, H., Selvakumar, A., Zhou, X., Lv, Y., Martin, T., Kizos, T., Triantafyllou, E., Katakaki, R., Gerchman, Y., Ronit Herscu-Kluska, R., Alrousan, D., Dalahmeh, S., Goh, E. G., Elenciuc, D., Glowacka, A., Korculanin, L., Tzeng, R. T., Ray, S.S., Ganesapillai, M., Niwagaba, C., Prouty, C., Mihelcic, J. R., Vinnerås, B., 2021.** Data Article Attitudes of food consumers at universities towards recycling human urine as crop fertiliser: A multinational survey dataset, *Data in Brief*, 35, 106794, 1-12.
4. **Simha, P., Barton, M. A., Perez-Mercado, L.F., McConville, J.R., Lalander, C., Magri, M.E., Dutta, S., Kabir, H., Selvakumar, A., Zhou, X., Martin, T., Kizos, T., Katakaki, R., Gerchman, Y., Herscu-Kluska, R., Alrousan, D., Goh, E.G., Elenciuc, D., Glowacka, A., Korculanin, L., Tzeng, R.V., Ray, S.S., Niwagaba, C., Prouty, C., Mihelcic, J.R., Vinnerås, B., 2021.** Willingness among food consumers to recycle human urine as crop fertiliser: Evidence from a multinational survey. *Science of the Total Environment* 765 (144438), 1-10.
5. **Butte, G. Niwagaba, C., Nordin, A., 2020.** Assessing the microbial risk of faecal sludge use in Ugandan agriculture by comparing field and theoretical model output. *Water Research*, 197, 117068, 1-14.
6. **McConville, J.R., Kvarnström, E., Nordin, C. A., Jönsson, H., Niwagaba, B. C., 2020.** Structured Approach for Comparison of Treatment Options for Nutrient-recovery from Fecal

- Sludge. *Frontiers in Environmental Science*, Vol. 8., Article 36, Page 1-12; doi: 10.3389/fenvs.2020.00036
7. **Dalahmeh, S., Björnberg, E., Elenström, A-K., Niwagaba, C. B., Komakech, A. J., 2020.** Pharmaceutical pollution of wastewater and water resources in Nakivubo water system in Kampala, Uganda. *Science of the Total Environment*, 710, 25 March 2020, 136347.
  8. **McConville, J. R., Kvarnström, E., Maiteki, J. M., Niwagaba, B. C., 2019.** Infrastructure investments and operating costs for fecal sludge and sewage treatment systems in Kampala, Uganda. *Urban water Journal* 16(8), 584-593. <https://doi.org/10.1080/1573062X.2019.1700290>.
  9. **Niwagaba B. Charles, Ajak E. Ayii, Kibuuka O. Ambrose, Pomi, Raffaella, 2019.** Possibilities for the use of sludge from a drinking water treatment plant at Ggaba III in Kampala, Uganda. *Detritus Multidisciplinary Journal of Waste Resources & Residues*, 6, 59-67.
  10. **Otaka G., Okullo, A., Niwagaba B.C., Kulabako, R.N., Katukiza, A.Y., 2019.** Evaluation of the efficiency and benefits of a pilot scaled decentralized faecal sludge treatment system in Kampala. *International Journal of Scientific & Engineering Research*, 10(3), 621-630.
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92. **Tumwebaze, K.I., Sande, H.T., Niwagaba, C.B., 2008.** *Social marketing for scaling-up sanitation for the urban poor ~ A case of slum communities in Kawempe Division, Kampala City.* Presented at the IRC symposium: Sanitation for the urban poor, partnerships and Governance, November 19-21, 2008, Delft, The Netherlands.
93. **Niwagaba, C.B., Ssemmanda, J., Sande, H.K., Tumwebaze, K.I. 2008.** *Social marketing for sanitation improvement in Kampala, Uganda.* In proceedings (Part 1 – Oral Presentations) of the International Water Association (IWA) Conference of the Sanitation Challenge, New Sanitation Concepts and Models of Governance, Wageningen, The Netherlands, May 19-21, 2008.
94. **Niwagaba, C., Kyomugisha, P., Jönsson, H., Vinnerås, B. 2008.** *Treatment of source-separated human urine by storage at different exposure temperatures.* Proceedings (Part 2 – Posters) of the International Water Association (IWA) Conference of the Sanitation Challenge, New Sanitation Concepts and Models of Governance, Wageningen, The Netherlands, May 19-21, 2008.
95. **Niwagaba, B.C., Magumba, B., Kigobe, M., Kulabako, R. 2005.** *Sanitization of faecal matter by co-composting with food waste.* In proceedings of the 9<sup>th</sup> IWWA International Conference on Ecological Sanitation held in Mumbai, India 25<sup>th</sup> – 26<sup>th</sup> November 2005. 330p.
96. **Niwagaba, B.C., Tushabe, A-A, Oketch, M., Kinobe, J. 2005.** *The potential for re-use of ecosan products in Uganda.* In proceedings of the 9<sup>th</sup> IWWA International Conference on Ecological Sanitation held in Mumbai, India 25<sup>th</sup> – 26<sup>th</sup> November 2005. 330p.
97. **Kulabako, R., Mugala, P., Niwagaba, B.C. 2005.** *A comparative study between microbial die-off when using ash and saw dust in dry urine diverting ecological sanitation toilets.* In proceedings of the 9<sup>th</sup> IWWA International Conference on Ecological Sanitation held in Mumbai, India 25<sup>th</sup> – 26<sup>th</sup> November 2005. 330p.
98. **Nalubega, M., Kanya, E.M., Niwagaba, B.C. 2002.** *Technologies for Environment Protection through Participatory Industrial and Solid Waste Control and Re-use.* Paper presented at the 2<sup>nd</sup> Biannual Conference of the Faculty of Technology, Department of Gender and women Studies, Makerere University, Kampala. Sponsored by the Italian Co-operation.

#### **Technical/Scientific reports**

99. **Schoebitz, L., Niwagaba, B.C., Strande, L., 2016.** Shit flow Diagram (SFD) Report Kampala, Uganda. Report produced under the SFD Promotion Initiative. [www.sfd.susana.org](http://www.sfd.susana.org)
100. **Schoebitz, L., Bischoff, F., Ddiba, D., Okello, F., Nakazibwe, R., Niwagaba, C.B., Lohri, C.R., Strande, L., 2016.** Results of faecal sludge analyses in Kampala, Uganda: Pictures, characteristics and qualitative observations for 76 samples. Eawag: Swiss Federal Institute of Aquatic Science and Technology. Dübendorf, Switzerland.
101. **Vinnerås, B., Jönsson, H., Niwagaba, C., Nordin, A., Nalubega, M. 2008.** *Systems for urine collection and for treatment of faecal matter for nutrient recycling from urban areas.* EcoSanRes. SEI, Stockholm, Sweden.
102. **Jönsson, H., Vinnerås, B., Niwagaba, C., Nordin, A., Nalubega, M. 2005.** *“Handling systems for re-use of urine and faecal matter from urban areas”.* Report No. SWE-2002-221(2). Uppsala, Sweden, December 2005. 49p.



103. **Niwagaba, B. C., Asimwe, A.F. 2005.** *Documentation and evaluation of ecosan experiences ~ preliminary do's and don't's in ecosan implementation in Uganda.* Research report, Directorate of Water Development (DWD), Ministry of Water, Lands and Environment, Government of Uganda.
104. **Godfrey, S., Niwagaba, B. C., Howard, G., Tibatemwa, S. 2002.** *Water Safety Plans for Utilities in Developing Countries – A case study from Kampala, Uganda.* Published by Loughborough University Press, UK.

#### ***Policy Briefs/Academic briefings/news***

105. **Okello-Juma, E., Niwagaba, C., Simiyu, S., Mberu, B., 2020.** Fecal Waste Management (FWM) in Mbarara Municipality, Uganda. Policy Brief.
106. **Günther, I., Horst, A., Borofsky, Y., Niwagaba, C., 2016.** How to increase toilet coverage among the urban poor? The effects of information, subsidies and financing on private investment in improved sanitation in Kampala, Uganda. Policy Brief. ETH-Zürich. <http://dx.doi.org/10.3929/ethz-a-010633023>.
107. **Gold, M., Niwagaba, C., Studer, F., Getkate, W., Babu, M., Strande, L., 2015.** Production of pellets and electricity from faecal sludge. *Sandec News* 16(7/15), 10-11.
108. **Schöbitz, L., Zurbrügg, C., Niwagaba, C., Nguyen, V-A, Strande, L. 2015.** Private public partnership solutions for faecal sludge management. *Sandec News* 16(7/15), 12-13.
109. **Kohler, P., Renggli, S., Atukunda, A.V., Niwagaba, C., Sakthivel, R., Lüthi, C. 2015.** Genderised WASH in Uganda and Indian public healthcare facilities. *Sandec News* 16(7/15), 22-23.
110. **Gold, M., Murray A., Niwagaba B. C., Niang S., Strande L. 2013.** Faecal Sludge – From Waste to Solid Biofuel? *Sandec News* 14/2013, Page 8.
111. **Lüthi, C., Niwagaba, B. C., Günther, I., Horst, A., Mulongo, P., Grüter, R., 2013.** Ventilated Improved Latrine construction in the slum areas of Kampala, Uganda. The Urban Affordable Clean Toilets Project. Technical Factsheet. Dübendorf, Switzerland. Available at: [www.nadel.ethz.ch/forschung/Ventilated Latrine Slum Kampala.pdf](http://www.nadel.ethz.ch/forschung/Ventilated_Latrine_Slum_Kampala.pdf).
112. **Günther, I., Niwagaba, B. C., Lüthi, C., Horst, A., Mosler, H.J., Tumwebaze, K. I., 2012.** When is shared sanitation improved sanitation? The correlation between number of users and toilet hygiene. Policy Brief Dübendorf, Sandec/Eawag, Switzerland. Available at: [www.nadel.ethz.ch/publikationen/policy\\_brief\\_shared\\_sanitation\\_improved\\_2\\_2012.pdf](http://www.nadel.ethz.ch/publikationen/policy_brief_shared_sanitation_improved_2_2012.pdf).
113. **Gunther, I., Horst, A., Lüthi, C., Mosler, H-J., Niwagaba B. C., Tumwebaze K. I., 2011.** Where do the Kampala's poor 'go'? Urban sanitation conditions in Kampala's low-income areas. Policy brief. ETH-Zurich: [http://www.nadel.ethz.ch/publikationen/Kampala Policy Brief.pdf](http://www.nadel.ethz.ch/publikationen/Kampala_Policy_Brief.pdf).

#### ***MASTER STUDENTS SUPERVISED TO COMPLETION***

1. **Innocent K. Tumwebaze:** Research Topic Title: *Ecological Sanitation Coverage and Associated Factors in Kabale Municipality.* Status – **COMPLETED & GRADUATED in 2011.**
2. **Elizabeth Kebirungi (Ms.):** Research Topic title: *Perceptions and Attitudes towards Eco-san toilets: Potential for Managing Human Waste in selected parishes in Kampala city, Uganda.* Status – **COMPLETED & GRADUATED IN 2013.**
3. **Godfrey Hashakimana:** Start Date, 2009. *Water quality compliance in Uganda - A case study of small towns piped water supply schemes.* Status – **COMPLETED & GRADUATED IN JAN 2014.**
4. **Teddy Nakato (Ms.):** Start Date 2010, Research Topic title: *Calorific characterization of faecal sludge and its use as fuel: A case study of Kampala.* Status – **COMPLETED & GRADUATED IN JAN. 2015.**

5. **Swaib Semiyaga**: Start Date 2011, Research Topic title: *Potential impact of bioslurry from small-scale digesters on soil and nutrients and greenhouse gas emissions: A case study of Tiribogo – Mpigi District in Uganda*. Status – **COMPLETED & GRADUATED IN JAN. 2015**.
6. **Wilson Behwera, Master of Public Infrastructure Management (MPIM), COMPLETED & GRADUATED IN JAN. 2016**. Evaluation of business opportunities and their environmental performance in the management of plastic wastes in Masaka Municipality. Status – **COMPLETED & GRADUATED IN JAN. 2016**.
7. **Patrick Sekigongo, MSc. Eng. (Civil), COMPLETED & GRADUATED IN JAN. 2016**.
8. **Mwebaze Emmanuel, MEng. (Civil), COMPLETED & GRADUATED IN JAN. 2016**.
9. **Andrew Mason, MEng. (Civil), COMPLETED & GRADUATED IN JAN. 2016**.
10. **Otwane Dan Etiange, Master of Public Infrastructure Management (MPIM), COMPLETED & GRADUATED IN JAN. 2016**.
11. **Francis Okello, MSc. Eng. (Civil), COMPLETED & GRADUATED IN FEBRUARY 2017**
12. **Oketch Michael Omwodo, MSc Environment and Natural Resources, COMPLETED & GRADUATED IN FEBRUARY 2017**.
13. **Bitwine Nimwesiga Ronald, Master of Engineering (Civil). COMPLETED & GRADUATED ON 19<sup>th</sup> January 2018**.
14. **Otaka George, Master of Science in Civil Engineering. COMPLETED & GRADUATED ON 18<sup>th</sup> January 2019**.

#### **PhD STUDENTS SUPERVISED TO COMPLETION**

<b>#</b>	<b>Name</b>	<b>Title of Dissertation/Thesis</b>	<b>Supervisors</b>	<b>Graduation</b>
1	Japheth Nkiriyehe Kwiringira	Learning from community-led total sanitation (CLTS) for improved shared latrine use and maintenance: the case of Kampala slums, Uganda	Dr. Charles Niwagaba as co-supervisor; together with Prof. Peter Atekyereza, Prof. Isabel Günther and	24 <sup>th</sup> January 2017
2	Swaib Semiyaga	Dewatering as a critical step in urban-based faecal sludge management	Assoc. Prof. Dr. Charles B. Niwagaba; supervised with Prof. Frank Kansime, and Assoc. Prof. Mackay A. E. Okure	19 <sup>th</sup> January 2018
3	Anne Nakagiri	Enhancing the performance and life span of pit latrines – Processes and implications	Assoc. Prof. Dr. Charles B. Niwagaba; supervised with Prof. Frank Kansime, Dr. Robinah N. Kulabako and Dr. John Bosco Tumuhairwe	19 <sup>th</sup> January 2018

#### **CONFERENCES, SEMINARS AND/OR WORKSHOPS ATTENDED**

- 13-18Sept.20 The Third Uganda Water and Environment Week (Digital), Kampala, Uganda. Gave a presentation titled *A collaborative resource-recovery game to enhance urban sanitation planning* (oral presentation).
- 18-21Feb19 5<sup>th</sup> Fecal Sludge Management conference (FSM5), Cape Town, South Africa. Co-presented a paper with JR McConville, et al, titled *Technical and Societal readiness of Nutrient-Recovery Sanitation Systems in Kampala, Uganda* (oral presentation).
- 18-22Jul.16 The 6<sup>th</sup> Africa Water Week and 10<sup>th</sup> AMCOW General Assembly. Invited ad a panelist to contribute to the discussion on “*Resource Recovery and Reuse for*

- productive wastewater management in Africa*". Venue: Julius Nyerere International Convention Centre, Dar es Salaam, Tanzania; 22-22<sup>nd</sup> July 2016.
- 18-22Jul.16. The 6<sup>th</sup> Africa Water Week and 10<sup>th</sup> AMCOW General Assembly. Invited ad a panelist to contribute to the discussion on "*Resource Recovery and Reuse for productive wastewater management in Africa*". Venue: Julius Nyerere International Convention Centre, Dar es Salaam, Tanzania.
- 10-12Mar14 The FaME project dissemination workshop, held at the Reef Hotel, Mombasa. Presented a paper on "*Market demand and kiln pilot study in Kampala*".
- 20-22 Aug. 12 International Conference on Research for Development (ICRD 2012). Research for Global Transformation held at University of Bern, Bern, Switzerland. NCCR North – South Dialogue, no. 44.
- 21-27 Aug. 11 The *World Water Week in Stockholm*. Theme: Responding to Global Change: Water in an Urbanizing World. Presented one paper, as well as another presented by a colleague, which we co-authored as presented above.
- 14-18 March 11 The 9<sup>th</sup> Lake and Catchment Research Symposium, LARS 2011. Theme: Water, Sanitation and Energy for Sustainable Livelihoods; held at Kenyatta University Conference Centre. A poster was presented with the authorship and title as: **Nabasirye L., Okurut K., Wozzi E., Kulabako R., Atukunda V., Arinaitwe, D., Kagwa R., Niwagaba C., Kinobe J. 2011. Solar water disinfection for household water treatment in low-income areas to reduce diarrhoeal disease incidence incidences.**
- 8-11 Nov 10 The third (3<sup>rd</sup>) International conference on energy from Biomass and Waste, Organised by the International Waste Working Group (IWWG), Venice, Italy. Presented a paper on *Integrating composting and anaerobic digestion of organic wastes in the tropics: The Case of a community based pilot plant in Kakiri, Kampala, Uganda.*
- 05-07Jan 10: **The third (3<sup>rd</sup>) conference on International perspectives on current and future state of water resources and the environment**, organised by the Environmental and Water Resources Institute (EWRI) of the American Society of Civil Engineers (ASCE) and the Indian Institute of Technology (IIT) Madras in Chennai, India. Paper presented by the group was: *Solar water disinfection – a promising technology for providing safe water for rural and peri-urban households in Uganda.*
- 05-09Oct 09: **The 12<sup>th</sup> International Waste Management and Landfill Symposium**, held 5-9<sup>th</sup> October 2009 at S. Margherita di Pula, Sardinia, Italy. *Presented a paper titled 'A pilot-scale study on assessment of domestic organic waste processing in Kampala – Uganda'.*
- 19-21May 08: **International Conference on the Sanitation Challenge**, held at the WICC, Wageningen, The Netherlands. *Presented an oral paper on sanitation marketing in Kampala, and a poster on treatment of urine by exposure at different temperatures. Details under the publications section*
- 16-20 Apr.08: The 18<sup>th</sup> monthly meeting of the **Resource-Oriented Sanitation Concepts for peri-urban areas in Africa (ROSA)** project held at the Bekele-Molla Hotel in Arba Minch, Ethiopia. Participated at the Team Leader of the ROSA project in Uganda.
- 18-21 Feb. 08: The Second African Conference on Sanitation and Hygiene - **AfricaSan+5** held at the international Convention Center, ICC in Durban, South Africa. Participated in the launch of the Africa Sanitation knowledge Network (ASKNet).
- 29-31 Oct.07: The 12<sup>th</sup> monthly meeting of the **Resource-Oriented Sanitation Concepts for peri-urban areas in Africa (ROSA)** project held at the Ankrah Foundation Hotel in Mukono, Uganda. Participated at the Team Leader of the ROSA project in Uganda.

- 26-28 Apr.07: The 6<sup>th</sup> monthly meeting of the **Resource-Oriented Sanitation Concepts for peri-urban areas in Africa (ROSA)** project held at the Hotel Olasiti Garden in Arusha, Tanzania. Participated at the Team Leader of the ROSA project in Uganda.
- 12-13 Mar.07: **International Conference on Advanced Sanitation** held at the Eurogress, Aachen, Germany. Presented a poster paper titled “*Importance of food waste for sanitation of source separated faeces by medium-scale composting*”.
- 13-17 Nov.06: **32<sup>nd</sup> WEDC International Conference** held at the Bandaranaike Memorial International Conference Centre, Colombo, Sri Lanka. The Theme of the Conference was “*Sustainable Development of Water Resources, Water Supply and Environmental Sanitation*”. Presented and discussed a paper entitled “*Towards a sanitation selection algorithm for enhancing decentralised service delivery*”.
- 16-20 Oct.06: The kick-off meeting of the “*Resource Oriented Sanitation Concepts for peri-urban areas in Africa (ROSA)*’ project held at the University of Natural Resources and Applied Life Sciences (BOKU) in Vienna, Austria. The project duration is three (3) years, 2006-2009, funded by the European Commission and I am the Project Team Leader, Uganda.
- 13-15 Sept.06 **International Conference of the ORBIT2006, Biological Waste Management, from Local to Global in Weimar, Germany.** Presented a paper on “*Composting source separated human faeces for treatment and sanitation*”
- 10-12 Sept.06 **The 5<sup>th</sup> World Water Congress and Exhibition held at the International Convention Center, Beijing, China.** Presented a paper titled “*Incineration of Faecal Matter for Treatment and Sanitation*”
- 25-26 Nov. 05 **9<sup>th</sup> IWWA International Conference on Ecological Sanitation** held in Mumbai (Bombay), India. Presented two papers titled “*Sanitization of faecal matter by co-composting with food waste*” and “*The potential for re-use of ecosan products in Uganda*”.
- 23-27 May.05: **Third International Conference on Ecological Sanitation** held at International Convention Centre, Durban, South Africa, 23 – 26 May 2005. The theme of the conference was “*Ecological sanitation: A sustainable, integrated solution*”.
- 25-29 Oct.04: **30<sup>th</sup> WEDC International Conference** held at National Cultural Hall, Vientiane, Lao P.D.R. The Theme of the Conference was “*People-centred approaches to Water and Environmental Sanitation*” Presented and discussed a paper entitled “*Training for improved decentralised service delivery, A Case study from Uganda*”.
- 8- 9 Dec. 03: **Extended Sida/SAREC Research Collaboration workshop**, held at Jinja Nile Resort, Jinja, Uganda. A regional workshop aimed at formulating strategies for regional collaboration between the Faculty of Engineering, University of Dar Es Salaam, Tanzania; the Faculty of Technology, Makerere University, Uganda; the Faculty of Engineering, Universidade Eduardo Mondlane, Mozambique. *Duty Held: Assisting in all technical aspects of setting-up power point projector for presenters, Secretary for thematic group discussion on “Water resources and Environmental Engineering”*
- 22-26 Sept.03: **29<sup>th</sup> WEDC International Conference** held at Abuja Sheraton Hotel and Towers in Abuja, Nigeria. The Theme of the Conference was “*Towards the Millennium Development Goals – Actions for Water and Environmental Sanitation*” Presented and discussed a paper entitled “*System Assessment to Develop Water Safety Plans*”. **Chaired one session.**
- 16-18 Jun.03 **Regional Workshop on Capacity Building in River Engineering** held at Hotel Africana in Kampala. Theme “*Environmental Aspects of River Engineering*”
- 19 Feb. 03 Workshop on **Sustainable Urban Drainage Systems (SUDS)** co-organised by WEDC, Loughborough University, UK and Dept. of Civil Engineering, Makerere University. A consultative workshop on the scope for adoption of SUDS in the developing countries. *Duties: Local Organiser & Rapporteur.*

- 23 Nov. 02: The 2<sup>nd</sup> Bi-Annual Conference of Faculty of Technology/Italian Cooperation; *Appropriate Technological Research for Sustainable Development*. Department of Gender & Women Studies, Makerere University, Kampala.
- Oct. 2002: *Launching Meeting for the Eastern Africa Global Water Partnership (GWP)*. A meeting held at Hotel Africana, Kampala for launching the GWP, Eastern Africa – Duty Held: *Rapporteur for the Launch meeting*.
- 29-30 Aug. 01: *Collaborative Applied Research* Funded by Sida/SAREC. Workshop Aimed at Developing Collaborative Applied Research Programmes for Addressing Problems of Community. Windsor Lake Victoria Hotel, Entebbe, Uganda.
- 5-6 July 01: *Ecological Sanitation Workshop*. Workshop Aimed at Training Professionals in Ecological Sanitation (Eco-San) and also for Promoting the Technology in and outside Uganda. Colline Hotel, Mukono, Uganda – Duty Held: *Workshop Rapporteur*.
- 28 Feb. 01: Graduate Symposium on "*Conflict, Co-operation and Competition Over Land and Water*" Cranfield University, Silsoe, Bedfordshire, UK.

### **COUNTRIES OF WORK EXPERIENCE/VISITED**

- |                 |                               |                          |
|-----------------|-------------------------------|--------------------------|
| 1. Austria      | 11. Ivory Cost/Côte d’Ivoire  | 21. Rwanda               |
| 2. Cameroon     | 12. Kenya                     | 22. Senegal              |
| 3. Costa Rica   | 13. Lao PDR                   | 23. South Africa         |
| 4. Burkina Faso | 14. Lesotho                   | 24. Sri Lanka            |
| 5. Egypt        | 15. Malawi                    | 25. Sweden               |
| 6. Ethiopia     | 16. Mali                      | 26. Switzerland          |
| 7. Ghana        | 17. Mozambique                | 27. Tanzania             |
| 8. Germany      | 18. Netherlands               | 28. United Arab Emirates |
| 9. India        | 19. Nigeria                   | 29. United Kingdom       |
| 10. Italy       | 20. Peoples Republic of China | 30. Zambia               |

### **LANGUAGES**

	<b>Speaking</b>	<b>Reading</b>	<b>Writing</b>
<b>English</b>	<i>Excellent</i>	<i>Excellent</i>	<i>Excellent</i>
<b>Luganda</b>	Good	<i>Good</i>	<i>Fair</i>
<b>Runyakitara</b>	<i>Excellent</i>	<i>Excellent</i>	<i>Excellent</i>

### **CERTIFICATION**

I, the undersigned, certify that to the best of my knowledge and belief, these data correctly describe me, my qualifications, and my experience.



Signature

**Date:** 22.08. 2022

Day/Month/Year