Daniel Ddiba

Date of birth: 22.10.1990
Sex: Male
Nationality: Ugandan
Address: Stockholm Environment Institute, Linnégatan 87D, 115 23 Stockholm
Email: daniel.ddiba@sei.org | ddiba@kth.se

BIO

Daniel Ddiba is an environmental engineer and researcher based at the Stockholm Environment Institute (SEI), and also affiliated with KTH Royal Institute of Technology. His work over the past decade lies at the intersection of urban infrastructure and natural resource management. He combines research and capacity development activities with an emphasis on the social-technical aspects of urban water, sanitation, waste management and the circular economy. His most recent projects focus on understanding the conditions that can accelerate the transition to circular sanitation and waste management systems in urban areas, including developing tools for infrastructure planning in multi-stakeholder contexts as well as comprehensive sustainability and governance assessments. Daniel's professional experience includes projects in the East Africa region, South America, Europe and Asia, in research, consulting and practice and he co-leads the working group on productive sanitation and food security in the Sustainable Sanitation Alliance. His academic background includes degrees in planning and decision analysis (Licentiate) as well as civil and environmental engineering (MSc & BSc). When not thinking about things like pee & poo and their linkages with sustainable development, Daniel enjoys reading a good book, walking in the woods, or visiting with friends. He is also an avid musician and plays multiple instruments.

RESEARCH INTERESTS

The overarching goal of my work is to generate knowledge and insights that contribute towards strategies for sustainable development in urban contexts. I combine applied scientific research and capacity development activities to tackle contemporary challenges at the intersection of urban infrastructure and natural resource management, with a focus on the social-technical aspects of urban water, sanitation, waste management and the circular economy. My training in engineering as well as planning and decision analysis, and my international experience enable me to bring interdisciplinary approaches to my work, weaving in both quantitative and qualitative methods, and provide me with tools to easily translate scientific output into policy and practice within multi-stakeholder settings.

SPECIALIZATION KEY WORDS

Circular economy, urban water & sanitation, urban sustainability, sustainable waste management and resource recovery, infrastructure planning, environmental assessment & systems analysis

EDUCATION AND TRAINING

2018 – 2022	PhD in Planning and Decision Analysis KTH Royal Institute of Technology, Stockholm, Sweden
2018 – 2020	Licentiate of Engineering, Planning and Decision Analysis KTH Royal Institute of Technology, Stockholm, Sweden
2014 – 2016	MSc Environmental Engineering and Sustainable Infrastructure

	KTH Royal Institute of Technology, Stockholm, Sweden
2009 – 2014	BSc Civil Engineering Makerere University, Kampala, Uganda
2013 – 2013	Global Village for Future Leaders of Business and Industry Lehigh University, PA, USA

WORK EXPERIENCE

2017 – current	Research Associate Stockholm Environment Institute, Stockholm Office, Sweden
2018 – current	Doctoral Student KTH Royal Institute of Technology, Stockholm, Sweden
2018 – current	Co-lead of the working group on productive sanitation systems Sustainable Sanitation Alliance
2016 – 2017	Independent Consultant on infrastructure planning Based in Kampala, Uganda
2015 – 2015	Research Intern ETH Zurich & Eawag – Swiss Federal Institute of Aquatic Science and Technology, Department of Urban Water Management
2014 – 2014	Teaching Assistant Mutesa I Royal University, Department of Civil Engineering
2013 – 2014	Research Assistant Makerere University, Department of Civil and Environmental Engineering
2011 – 2013	Construction Engineer Various building & road construction projects at Seroma-Ebenezer JV, Tamp-Blessed 3Ms JV and Butaleja Parents' Primary School

SELECTED RESEARCH PROJECTS AND FUNDING

Waves of Change	Scoping study and assessment contributing to reduction in plastic leakage to oceans in India, Kenya and Sweden (2021-2023), PI and Project Manager, **397,125 SEK**, Swedish Postcode Foundation via Hand in Hand Sweden.
Organic waste for Circular Economy	Upscaling organic waste processing ventures for circular economy in cities in SSA and East Asia (2021-2022), Modelling Lead, **671,805 SEK**, Swedish International Development Cooperation Agency (Sida) via SEI Seed & innovation Fund.
East African Fluorosis	Exploring the current state of knowledge on fluorosis & other water contaminants along the rift valley and differential exposure of city residents with a focus upon Nakuru, Kenya (2021-2022), **48,404 GBP**, SEI & University of York
UrbanCircle	Urban waste into circular economy benefits: developing tools to integrate waste management and resource recovery into a circular economy in urban areas (2018-2021), Project Manager, **6 million SEK**, Swedish Research Council Formas.
REVAMP	Resource Value Mapping: Developing a planning tool for estimating the resource recovery potential of urban organic waste streams (2016-current), Coordinator,

	Swedish Research Council Formas & Swedish International Development Cooperation Agency (Sida).
ITP SUWAS	International training programme on sustainable urban water and sanitation: capacity development for urban water & sanitation professionals in 5 African countries (2017-2021), Mentor for Kenya, **481,600 SEK**, Sida via Niras Sweden AB.
UCAF	Urban Circularity Assessment Framework: developing an adaptable city level circularity assessment framework that will assist cities in transitioning to a circular economy (2020-2022), Sweden's innovation agency Vinnova.
Bolivia WATCH	WASH Thinking Connected to Hydrology: research & capacity development to integrate sustainable sanitation and watershed management in Bolivia (2018-2022), Swedish International Development Cooperation Agency (Sida).
PEGaSus	Phosphorus efficiency in *Gallus gallus* and *Sus scrofa*: increasing sustainability in the phosphorus value chain within monogastric livestock production by identifying strategies for increasing phosphorus use efficiency (2017-2021), Swedish Research Council Formas & ERA-NET SusAn.
SEI Initiative on Sustainable Sanitation	Research, capacity development and policy engagement activities to mainstream sustainable sanitation within the sustainable development agenda globally (2015-2021), Swedish International Development Cooperation Agency (Sida).
ROSE	Resource-Oriented Sanitation in Emergencies: providing guidance for sanitation provision in emergency contexts with emphasis on resource recovery and sustainable resource management (2018-2018), Swedish Red Cross.
FaME	Faecal Management Enterprises: developing solutions for scalable reuse-oriented faecal sludge value chains that provide financial drivers to enhance sanitation services (2013-2014), European Union Water Initiative (ERA-NET SPLASH).
FAQ	FAecal sludge Quantification and characterization: developing a new methodology for quantifying and characterizing faecal sludge on a city-wide scale (2013-2014), Swiss Development Cooperation (SDC).

TEACHING EXPERIENCE

KTH Royal Institute of Technology: Lecturer on circular economy in the Environmental Management course AL2160 (2020-2021).

Niras Development Consulting: Development and delivery of a half-day seminar on resource recovery and business opportunities in the sanitation service chain to urban water & sanitation professionals from Africa and Asia (2017-2020).

Mutesa I Royal University: Lecturer and curriculum development for water resources engineering course (2014).

AWARDS AND RECOGNITIONS

2014 – 2016	Swedish Institute Study Scholarship
2013	Iacocca Institute Scholarship, for Future Leaders of Business and Industry
2013	Best paper award at the Education Without Borders International Conference
2008	Student of the Year, King's College Budo

MENTORING AND SERVICE

Supervision and mentoring of interns and MSc thesis projects: Regina Devota Mkanjala, Lynnete Cheruiyot, Mónica García Aguilar, Jairo Mosquera, Judith Kiende Mugambi, Johanna Alexson.

MEMBERSHIPS AND COMMITTEES

Co-lead for Working Group 5 on productive sanitation systems & core-group member, Sustainable Sanitation Alliance
UNEP-Global Wastewater Initiative
IWA Young Water Professionals Sweden

REVIEWER EXPERIENCE

Journals	International Journal of Urban Sustainable Development, Sustainability, Water, International Journal of Environmental Research and Public Health, Sustainable production and consumption, Utilities Policy, Environment Development & Sustainability
Grant awarding agencies	African Academy of Sciences, International Science Council, International Foundation for Science, Water Research Commission
Others	UN Environment, GRID Arendal, International Centre for Local Democracy, Africa Circular Economy Network, SLU Swedish University of Agricultural Sciences, International Union for Conservation of Nature, CGIAR/International Water Management Institute

INTERNATIONAL EXPERIENCE

Research and project collaborations

Africa: Water Research Commission (South Africa), University of KwaZulu-Natal (South Africa), Sanivation (Kenya), Egerton University (Kenya), Hand in Hand East Africa (Kenya), WaterAid Uganda, Makerere University (Uganda), Omega Technologie (Senegal), Cheikh Anta Diop University of Dakar (Senegal), Technical University of Thies (Senegal), Uganda Clays Ltd (Uganda), National Water and Sewerage Corporation (Uganda), Water for People (Rwanda)

Asia: Hand in Hand India, Xavier University (Philippines)

Europe: Toilet Board Coalition (Switzerland), SLU Swedish University of Agricultural Sciences (Sweden), Hand in Hand Sweden, Niras Sweden AB, WaterAid Sweden, Swedish Red Cross (Sweden), Ecoloop AB (Sweden), Utrecht University (the Netherlands), KWR Water Research Institute (the Netherlands), Eawag: Swiss Federal Institute of Aquatic Science and Technology (Switzerland), ETH Zurich (Switzerland), Leibniz Institute for Farm Animal Biology (Germany), Agri-Food and Biosciences Institute (UK), Aarhus University (Denmark), Technical University of Denmark (Denmark), Università Cattolica del Sacro Cuore (Italy), University of Rostock (Germany), Stockholm Resilience Centre (Sweden), Salvation Army (Sweden), Deutsche Gesellschaft für Internationale Zusammenarbeit – GIZ (Germany), Ragn-Sells AB (Sweden), Umeå Kommun (Sweden), City of Stockholm (Sweden), WSP Sweden, Azote AB (Sweden)

North America: Container based Sanitation Alliance (USA), University of Oregon (USA), Centre for Affordable Water and Sanitation Technology (Canada)

South America: Aguatuya (Bolivia), El Bosque University (Colombia)

Work & travel experience

Belgium, Denmark, Germany, India, Kenya, Rwanda, Sweden, Switzerland, Tanzania, The Netherlands, Uganda.

Languages

English (C2); Swedish (B1); Luganda, Lunyole & Lusoga (native proficiency)

PUBLICATIONS

Peer-reviewed articles

Vanhuyse, F., Fejzić, E., **Ddiba, D.**, & Henrysson, M. (2021). The lack of social impact considerations in transitioning towards urban circular economies: A scoping review. *Sustainable Cities and Society*, 103394. doi:10.1016/j.scs.2021.103394

Ddiba, D., Andersson, K., Rosemarin, A., Schulte-Herbrüggen, H., & Dickin, S. (2021). The circular economy potential of urban organic waste streams in low- and middle-income countries. *Environment, Development and Sustainability* doi:10.1007/s10668-021-01487-w

Ddiba, D., Andersson, K., Koop, S.H.A., Ekener, E., Finnveden, G. and Dickin, S. (2020). "Governing the circular economy: Assessing the capacity to implement resource-oriented sanitation and waste management systems in low- and middle-income countries." *Earth System Governance* 100063. doi:10.1016/j.esg.2020.100063

Strande, L., Schöbitz, L., Bischoff, F., **Ddiba, D.**, Okello, F., Englund, M., Ward, B. J., & Niwagaba, C. B. (2018). Methods to reliably estimate faecal sludge quantities and qualities for the design of treatment technologies and management solutions. *Journal of Environmental Management*, *223*, 898–907. doi:10.1016/J.JENVMAN.2018.06.100

Oster, M., Reyer, H., Ball, E., Fornara, D., McKillen, J., Sørensen, K. K. U., Poulsen, H. D. H., Andersson, K., **Ddiba, D.**, Rosemarin, A., Arata, L., Sckokai, P., Magowan, E., & Wimmers, K. (2018). Bridging gaps in the agricultural phosphorus cycle from an animal husbandry perspective - The case of pigs and poultry. *Sustainability*, *10*(6), 1825. doi:10.3390/su10061825

Gold, M., **Ddiba, D.**, Seck, A., Sekigongo, P., Diene, A., Diaw, S., Niang, S., Niwagaba, C., & Strande, L. (2017). Faecal sludge as a solid industrial fuel: a pilot-scale study. *Journal of Water Sanitation and Hygiene for Development*, *7*(2), 243–251. doi:10.2166/washdev.2017.089

Books and edited volumes

AfDB, UNEP and GRID-Arendal. (2020). *Sanitation and Wastewater Atlas of Africa*. AfDB, UNEP and GRID-Arendal. Abidjan, Nairobi and Arendal. (Several contributors including **Ddiba, D.**).

Tag-Eldeen, Z. N. & **Ddiba, D.** (eds.) (2016). *Global perspectives on sustainable urban and rural development: selected works 2014-2016*, KTH Royal Institute of Technology US-AB Press: Stockholm, ISBN: 978-91-7595-987-0

Tag-Eldeen, Z. N. & **Ddiba, D.** (eds.) (2016). *Contemporary challenges to sustainable development: selected works 2014-2016*, KTH Royal Institute of Technology US-AB Press: Stockholm, ISBN: 978-91-7595-986-3

Conference proceedings and presentations

Ddiba, D. (2019). The sanitation economy and climate change, at the Sanitation Economy Summit, Pune, 18th-21st November, 2019

Ddiba, D. (2019). REVAMP: Estimating the circular economy potential of sanitation at city scale, World Toilet Day Webinar by Sida & partners, 21st November, 2019

Ddiba, D. (2019). Assessing the governance capacity of cities to implement a circular economy: lessons from Naivasha, First Symposium on Circular Economy for Early Career Researchers, Stockholm, 27th November, 2019.

Ddiba, D. (2019). ITP SUWAS and its contribution to the WASH-related SDG targets, in ITP SUWAS City Seminar, Nakuru, 6th November, 2019.

Ddiba, D., Andersson, K., Koop, S. H. A., Ekener, E., Finnveden, G. & Dickin, S. (2019). A diagnostic framework to assess the governance capacity of cities to implement a circular sanitation economy: lessons from Naivasha, Kenya Sanitation Conference, Nairobi, 28th-31st October, 2019.

Ddiba, D. (2019). Assessing the governance capacity of cities to implement the circular economy using a diagnostic indicator-based framework, in SEI Innovation and Policy Forum, Nairobi, 15th-17th October, 2019.

Ddiba, D. (2019). Lessons from the SEI Initiative on Sustainable Sanitation, in SEI Innovation and Policy Forum, Nairobi, 15th-17th October, 2019.

Ddiba, D. (2019). Reflections on the governance of waste management in Kenya, Breakfast seminar - From Trash to Cash, Stockholm, 1st October, 2019

Ddiba, D. (2019). Assessing the societal impacts of resource recovery from organic waste streams at city scale, in 2nd Interdisciplinary PhD expert course on Sustainability Assessments for the Low-Carbon Economy at University of Antwerp, 10th-12th September, 2019

Ddiba, D. (2019). Unlocking the circular economy in cities: the opportunity in organic waste streams, Research Seminar, World Agroforestry Centre - ICRAF, Nairobi, May 2nd, 2019.

Ddiba, D. (2019). How sustainable sanitation can unlock the circular economy and contribute to the SDG agenda, Research Exchange Seminar, Egerton University, Nakuru, April 23rd, 2019.

Ddiba, D. (2018). SEI's work at the nexus of sanitation, waste & resource management, World Toilet Day Seminar, Utvecklingscentrum för Vatten, Norrtälje, November 19th, 2018.

Rosemarin, A., Andersson, K., Arata, L., Ball, E., **Ddiba, D.,** Magowan, E., Oster, M., Poulsen, H., Reyer, H., Fornara, D., McKillen, J., Sørensen, K., Sckokai, P., & Wimmers, K. (2018). Phosphorus efficiency in pigs & poultry: bridging the gaps in the phosphorus value chain, in European Sustainable Phosphorus Conference, Helsinki, June 11th, 2018.

Ddiba, D. (2018). Quantifying the resource recovery potential of organic waste streams in cities, in Life Cycle Assessment Modelling of Solid Waste Systems Course at DTU Technical University of Denmark, Copenhagen, June 4th - 10th, 2018.

Andersson, K. & **Ddiba, D.** (2017). Estimating and visualizing the value of urban waste recovery – The Resource Value Mapping (REVAMP) Tool. In proceedings of the 2nd IWA International Resource Recovery Conference (IWARR2019), 5 – 9 August 2017, New York, USA.

Niwagaba, B. C., **Ddiba, D.,** Sekigongo, P., Gold, M. & Strande, L. (2015). Faecal sludge as fuel in industrial kilns for brick production. In proceedings of the 3rd International Conference on Faecal Sludge Management (FSM3), 18 – 23 January 2015, Hanoi, Vietnam.

Ddiba, D., (2013). Mentorship: a missing link in education in Sub-Saharan Africa. In proceedings of the 7th Education without Borders International Conference, 25 – 27 March 2013, Dubai, U.A.E.

Reports and briefs

SuSanA (2021). WG1 Capacity Development: Capacity development for sustainable sanitation. SuSanA Factsheet for Working Group 1, Sustainable Sanitation Alliance. (Various contributors including **Ddiba, D.**)

Ddiba, D. and Waititu, A. (2021). Outcome Report for Nakuru, Kenya. ITP SUWAS 2019C, Niras & WaterAid Sweden, Stockholm.

Waititu, A. and **Ddiba, D.** (2021). Outcome Report for Narok, Kenya. ITP SUWAS 2019B, Niras & WaterAid Sweden, Stockholm.

Waititu, A. and **Ddiba, D.** (2021). Outcome Case Study: Establishment of a County Statistics Office with a pilot for WASH statistics – a change project by Richard Kereto. ITP SUWAS 2019B, Niras & WaterAid Sweden, Stockholm.

Shivaji, S. M., Waititu, A. and **Ddiba, D.** (2021). Outcome Case Study on Equity & Inclusion: Improving access to public sanitation facilities for marginalised groups in Nakuru Central Business District – a change project by Elizabeth Kiptoo. ITP SUWAS 2019C, Niras & WaterAid Sweden, Stockholm.

Fredby, J., Waititu, A. and **Ddiba, D.** (2020). Outcome Case Study: WASH in Early Childhood Development Centers of Flamingo Ward, Nakuru East Sub-County, Nakuru County – a change project by Vhanice Kwamboka. ITP SUWAS 2018C, Niras & WaterAid Sweden, Stockholm.

Mugambi, J. K., Windberg, C., **Ddiba, D.**, Ogol, T., Andersson, K., Gicheru, T. and Akinyi, E. (2020). Setting the stage for the circular economy: Waste resource recovery opportunities in Naivasha, Kenya. Stockholm Environment Institute, Stockholm.

Ddiba, D., Andersson, K. & Ogol, T. (2018). "UrbanCircle: turning urban waste into circular economy benefits." Stockholm Environment Institute (SEI) Project Brief. Stockholm, Sweden.

Schulte-Herbrüggen, H., **Ddiba, D.,** Bhattacharya, P., Kimanzu, N., Andersson, K., Dickin, S., Schulte-Herbrüggen, B. (2017). *Linking water–sanitation–agricultural sectors for food and nutrition security.* Swedish International Agricultural Network Initiative (SIANI) Discussion Brief. Stockholm, Sweden.

Spuhler, D., Adams, M., **Ddiba, D.** and Tempel, A. (2016). SuSanA's Contribution to Agenda 2030 for sustainable development: Position paper of Working Group 1 on Capacity Development. Sustainable Sanitation Alliance (SuSanA).

Ddiba, D., Andersson, K. & Rosemarin, A. (2016). *Resource Value Mapping (REVAMP): A tool for evaluating the resource recovery potential of urban waste streams.* Stockholm Environment Institute (SEI) Discussion Brief. Stockholm, Sweden.

Ddiba, D. (2016). Evaluating screening attributes to identify locally appropriate sanitation technology and system options for developing urban areas. Internship report for the GRASP project. Eawag: Swiss Federal Institute of Aquatic Science and Technology. Dübendorf, Switzerland.

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.

Popular articles and media coverage

Exploring the circular economy potential of Naivasha's organic waste. https://www.sei.org/featured/exploring-the-circular-economy-potential-of-naivashas-organic-waste/ (Feature article by Andersson, K., **Ddiba, D.** and Nzuve, L. – 2021)

How else can we power the planet? https://www.sei.org/featured/can-poop-power-the-planet/ (Podcast interview with among others **Ddiba, D.** on CBC – 2021)

The Kenya Sanitation Conference showed we know what to do – now it's time to do it https://www.sei.org/perspectives/kenya-sanitation-conference/ (Perspective article by **Ddiba, D.** – 2019)

Three fresh perspectives on sanitation for all https://www.sei.org/featured/three-fresh-perspectives-on-sanitation-for-all/ (Media feature by Liera, C., **Ddiba, D.** & Ekane, N. for World Toilet Day – 2019)

The Mad Science Plan To Power The World With Poop https://www.sei.org/about-sei/press-room/media-coverage/the-mad-science-plan-to-power-the-world-with-poop/ (Media interview with Ddiba, D. on Gizmodo – 2019)

REVAMP: Bringing urban waste into the circular economy https://www.sei.org/featured/revamp-urban-waste-circular-economy/ (Feature article by Andersson, K. & **Ddiba, D**. – 2019)

Der Schatz aus der Toilette [The treasure from the toilet], https://www.welt-sichten.org/artikel/33466/der-schatz-aus-der-toilette (Media interview with among others **Ddiba, D.** in the Welt-sichten Magazine – 2018)

Money from waste? Revamp your view on sanitation https://www.sei.org/perspectives/money-waste-revamp-view-sanitation/ (Perspective article by **Ddiba, D.** on World Bank Water Blog – 2018)

Do you know the value of your city's sewage? https://www.sei.org/perspectives/value-of-city-sewage/ (Perspective article by **Ddiba, D.,** Rosemarin, A. & Andersson, K. on Sustainable Cities Collective – 2016)

Theses

Ddiba, D. (2020). "Exploring the circular economy of urban organic waste in sub-Saharan Africa: opportunities and challenges." Licentiate Thesis Stockholm, Sweden: KTH Royal Institute of Technology, TRITA-ABE-DLT, 2016, 2020.

Ddiba, D. (2016). *Estimating the potential for resource recovery from productive sanitation in urban areas.* KTH Royal institute of Technology, TRITA-LWR Degree Project 2016:13, 86 pp.

Ddiba, D. & Namukwaya, B. D. (2013). *Design of a model irrigation scheme that utilises groundwater in the cattle corridor area of Uganda*. BSc thesis, Department of Civil and Environmental Engineering, Makerere University.

Further details about publications

ORCiD ID: www.orcid.org/0000-0001-5908-6417

ResearcherID: http://www.researcherid.com/rid/L-5913-2016

ResearchGate Profile: www.researchgate.net/profile/Daniel_Ddiba

Google Scholar Profile: https://scholar.google.se/citations?user=WFGdLKQAAAAJ&hl=en