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## RESEARCH

| | |
|---|---|
| Interests | Capital Budgeting · Risk & Decision Analysis · Applied Statistics · Public Infrastructure Systems |
| Areas | Waste Management and Disposal · Water Science and Technology · Pollution · Public Health, Environmental and Occupational Health · Ecology · Global and Planetary Change |

## RESEARCH SUMMARY

| 49 | 1,226 | 13 | 19 | 1.47 | 12% |
|---|---|---|---|---|---|
| Publications | Citations | h-index | i10-index | Field-weighted impact | World top 10% |

Counted from the 49 publications listed below, 2000–2025. Field-weighted impact is the mean over the 26 works scored for it; 1.00 is the world average for works of the same field, type and year. 3 of the 26 papers scored for it are among the world's most cited tenth for their field, type and year.

## PUBLICATIONS

### Journal articles 41

1. Sarfo Mensah, **Emmanuel Donkor**, Francis Kwesi Bondinuba, Collins Ameyaw (2025). An evaluation of indoor thermal comfort performance of cavity and non-cavity timber building envelope typologies modelled for tropical climates. *International Journal of Building Pathology and Adaptation*. https://doi.org/10.1108/ijbpa-04-2025-0083
2. Agnes Adom-Konadu, Albert Lanor Sackitey, Joshua Kiddy K. Asamoah, Martin Anokye, **Emmanuel Donkor** (2025). Analyzing the impact of prevention strategies of a fractional order malaria model using Adam–Bashforth approach. *Franklin Open*. https://doi.org/10.1016/j.fraope.2025.100277
3. Panin Asirifua Obeng, **Emmanuel Amponsah Donkor**, Eric Awere, Sampson Oduro-Kwarteng, Esi Awuah, Peter Appiah Obeng (2025). The emergence of prefabricated VIP toilet seats with covers: The implication for odour control and potential improvement. *Journal of Water Sanitation and Hygiene for Development*. https://doi.org/10.2166/washdev.2025.239
4. Panin Asirifua Obeng, **Emmanuel Amponsah Donkor**, Eric Awere, Sampson Oduro-Kwarteng, Esi Awuah, Peter Appiah Obeng (2025). Understanding why Ghanaian informally trained artisans construct the ventilated improved pit latrine the way they do. *Water Practice & Technology*. https://doi.org/10.2166/wpt.2025.151
5. Panin Asirifua Obeng, **Emmanuel Amponsah Donkor**, Eric Awere, Sampson Oduro-Kwarteng, Peter Appiah Obeng, Esi Awuah (2024). Compliance of private ventilated improved pit latrines to odour and fly control guidelines: A technical audit in selected regions of Ghana. *Heliyon*. https://doi.org/10.1016/j.heliyon.2024.e33980
6. **E Donkor** (2024). DEVELOPING A NEW PRECAST CONCRETE DRAINAGE SYSTEM TOWARDS COST SAVINGS. *International Journal of Innovation and Development*. https://ijid.kstu.edu.gh/index.php/ijid/article/view/33
7. Vivien Chikogu Ameso, Helen Michelle Korkor Essandoh, **Emmanuel Amponsah Donkor**, Michael Obiekwe Nwude (2023). Comparative analysis of greywater pollutant removal efficiency with horizontal free water surface flow wetland with other wetland technologies. *Heliyon*. https://doi.org/10.1016/j.heliyon.2023.e17637

8. Panin Asirifua Obeng, **EA Donkor** (2023). The ventilated improved pit latrine: a theoretical evaluation of conventional design guidelines, user adaptations and prospects for improvement. *Journal of the Ghana Institution of Engineering (JGhIE)*. http://ghiejournal.com/index.php/jghie/article/view/48

9. Panin Asirifua Obeng, **Emmanuel Amponsah Donkor**, Eric Awere, Peter Appiah Obeng, Sampson Oduro-Kwarteng, Esi Awuah (2023). ventilated improved pit latrine: a theoretical evaluation of conventional design guidelines, user adaptations and prospects for improvement. *Journal of the Ghana Institution of Engineering (JGhIE)*. https://doi.org/10.56049/jghie.v23i1.48

10. Wilhemina Asare, Sampson Oduro–Kwarteng, **Emmanuel A. Donkor**, Mizpah A.D. Rockson (2022). Cost-effectiveness of incentive schemes for waste material resource recovery. *Cleaner Waste Systems*. https://doi.org/10.1016/j.clwas.2022.100019

11. Wilhemina Asare, Sampson Oduro-Kwarteng, **Emmanuel A. Donkor**, Mizpah A. D. Rockson (2021). Incentives for improving municipal solid waste source separation behaviour: the case of Tamale Metropolis, Ghana. *SN Social Sciences*. https://doi.org/10.1007/s43545-021-00139-0

12. Ebenezer Boakye, F. O. K. Anyemedu, **Emmanuel A. Donkor**, Jonathan A. Quaye-Ballard (2021). Variability of suspended sediment yield in the Pra River Basin, Ghana. *Environment Development and Sustainability*. https://doi.org/10.1007/s10668-021-01494-x

13. Isaac Monney, **Emmanuel Amponsah Donkor**, Richard Buamah (2020). Clean vehicles, polluted waters: empirical estimates of water consumption and pollution loads of the carwash industry. *Heliyon*. https://doi.org/10.1016/j.heliyon.2020.e03952

14. A Sulemana, **EA Donkor** (2020). Efficiency of Municipal Solid Waste Collection Systems in Ghana. *The Journal of Solid Waste Technology and Management*. https://www.ingentaconnect.com/content/jswt/jswt/2020/00000046/00000001/art00007

15. Addo Koranteng, Isaac Adu-Poku, **Emmanuel Donkor**, Tomasz Zawiła-Niedźwiecki (2020). Geospatial assessment of land use and land cover dynamics in the mid-zone of Ghana. *Folia Forestalia Polonica*. https://doi.org/10.2478/ffp-2020-0028

16. Alhassan Sulemana, **Emmanuel Amponsah Donkor**, Eric Kwabena Forkuo, Juliet Asantewaa, Isabella N. A. Ankrah, Abdul Muhaymin O. Musah (2020). OPTIMIZED ROUTING OF TRUCKS FOR INSTITUTIONAL SOLID WASTE COLLECTION IN KUMASI, GHANA. *Detritus*. https://doi.org/10.31025/2611-4135/2020.13896

17. Wilhemina Asare, Sampson Oduro Kwarteng, **Emmanuel A. Donkor**, Mizpah A.D. Rockson (2020). Recovery of Municipal Solid Waste Recyclables under Different Incentive Schemes in Tamale, Ghana. *Sustainability*. https://doi.org/10.3390/su12239869

18. Ebenezer Boakye, F. O. K. Anyemedu, **Emmanuel A. Donkor**, Jonathan A. Quaye-Ballard (2020). Spatial distribution of soil erosion and sediment yield in the Pra River Basin. *SN Applied Sciences*. https://doi.org/10.1007/s42452-020-2129-1

19. D. Sarpong, S. Oduro-Kwarteng, S. F. Gyasi, R. Buamah, **E. Donkor**, E. Awuah, M. K. Baah (2019). Biodegradation by composting of municipal organic solid waste into organic fertilizer using the black soldier fly (Hermetia illucens) (Diptera: Stratiomyidae) larvae. *International Journal Of Recycling of Organic Waste in Agriculture*. https://doi.org/10.1007/s40093-019-0268-4

20. Alhassan Sulemana, **Emmanuel Amponsah Donkor**, Eric Kwabena Forkuo, Sampson Oduro-Kwarteng (2019). Effect of optimal routing on travel distance, travel time and fuel consumption of waste collection trucks. *Management of Environmental Quality An International Journal*. https://doi.org/10.1108/meq-07-2018-0134

21. Ebenezer Boakye, F. O. K. Anyemedu, Jonathan A. Quaye-Ballard, **Emmanuel A. Donkor** (2019). Spatio-temporal analysis of land use/cover changes in the Pra River Basin, Ghana. *Applied Geomatics*. https://doi.org/10.1007/s12518-019-00278-3

22. Isaac Monney, Richard Buamah, **Emmanuel Amponsah Donkor**, Rashid Etuaful, Hugo Kim Nota, Hilco Ijzer (2019). Treating waste with waste: the potential of synthesized alum from bauxite waste for treating car wash wastewater for reuse. *Environmental Science and Pollution Research*. https://doi.org/10.1007/s11356-019-04730-0

23. **E Donkor** (2018). Biodegradation of heterogeneous mixture of organic fraction of municipal solid waste by black soldier fly larvae (Hermetia illucens) under the tropical climate conditions. *International journal of innovative science, engineering & technology*. https://scholar.google.com/scholar?cluster=15276744573911830617&hl=en&oi=scholarr

24. Alhassan Sulemana, **Emmanuel Amponsah Donkor**, Sampson Oduro-Kwarteng (2018). Cost drivers and functions for municipal solid waste collection systems in Ghana. *International Journal of Engineering & Technology*. https://doi.org/10.14419/ijet.v7i3.8852

25. A Sulemana, K Miezah, **Donkor** (2018). Customer satisfaction of solid waste collection services: A measure towards effective waste management. *International Conference on Solid Waste Technology and Management. http://solid-waste.org/past-conferences-and-proceedings/proceedings/2018-2/*.

26. Boakye Ebenezer, K. Anornu Geophery, A. Quaye-Ballard Jonathan, **A. Donkor Emmanuel** (2018). Land use change and sediment yield studies in Ghana: Review. *Journal of Geography and Regional Planning*. https://doi.org/10.5897/jgrp2018.0707

27. Alhassan Sulemana, **Emmanuel A. Donkor**, Eric K. Forkuo, Sampson Oduro-Kwarteng (2018). Optimal Routing of Solid Waste Collection Trucks: A Review of Methods. *Journal of Engineering*. https://doi.org/10.1155/2018/4586376

28. **E. A. Donkor**, R. Buamah, B. Kwakye Awuah (2016). Defluorination of drinking water using surfactant modified zeolites. *Journal of Science and Technology (Ghana)*. https://doi.org/10.4314/just.v36i1.3

29. **EA Donkor** (2016). Locating Facilities for Emergency Response Services: Insights for Ghanaian Professional Engineers. *Journal of the Ghana Institution of Engineers*. https://www.researchgate.net/profile/Emmanuel-Donkor/publication/321874643_Locating_Facilities_for_Emergency_Response_Services_Insights_for_Ghanaian_Professional_Engineers/links/5e33b05b92851c7f7f0eb815/Locating-Facilities-for-Emergency-Response-Services-Insights-for-Ghanaian-Professional-Engineers.pdf

30. **EA Donkor** (2016). Statistical analysis of water storage capacity and days-storage for single-family households in Accra. *Proceedings of the 39th WEDC International Conference, Kumasi, Ghana*. https://repository.lboro.ac.uk/articles/Statistical_analysis_of_water_storage_capacity_and_days-storage_for_single-family_households_in_Accra/9594434/files/17234642.pdf

31. Abdalla Abubakari, Anyemedu Fredrick Oppong-Kyekyeku, **Donkor Emmanuel**, Jackson Adiyiah Nyantakyi (2016). The Effect of Industrial Effluents on the Quality of Onukpawahe Stream, Tema-Ghana. *Journal of Environmental Science and Engineering B*. https://doi.org/10.17265/2162-5263/2016.10.001

32. **EA Donkor** (2014). Empirical tests of stochastic dominance in capital investment planning: A spreadsheet framework. *The Engineering Economist*. https://doi.org/10.1080/0013791x.2013.859336

33. **EA Donkor** (2014). Urban water demand forecasting: review of methods and models. *Journal of Water Resources Planning and Management*. https://doi.org/10.1061/(asce)wr.1943-5452.0000314

34. **E Donkor** (2013). Decreasing Climate-Induced Water Supply Risk Through Improved Municipal Water Demand Forecasting. *American Water Works Association*. https://scholar.google.com/scholar?cluster=18042014448513589078&hl=en&oi=scholarr

35. **EA Donkor** (2013). Effect of customer satisfaction on water utility business performance. *Journal-American Water Works Association*. https://doi.org/10.5942/jawwa.2013.105.0114

36. **EA Donkor** (2013). Improving the estimation of volumetric water sales for billing. *Journal-American Water Works Association*. https://doi.org/10.5942/jawwa.2013.105.0140

37. **EA Donkor** (2013). Optimal capital structure and financial risk of project finance investments: a simulation optimization model with chance constraints. *The engineering economist*. https://doi.org/10.1080/0013791x.2012.742948

38. **Emmanuel A. Donkor** (2010). Evaluating increasing block tariff pricing policies when applied to multiple household connections. *Water International*. https://doi.org/10.1080/02508060.2010.533346

39. Peter Appiah Obeng, **Emmanuel A. Donkor**, Anthony Mensah (2009). Assessment of institutional structures for solid waste management in Kumasi. *Management of Environmental Quality An International Journal*. https://doi.org/10.1108/14777830910939435

40. **E Donkor** (2005). Integrated Water Resources Management Plans: Training Manual and Operational Guide. *Capacity Building for Integrated Water Resources Management (Cap-Net), Global Water Partnership (GWP), United Nations Development Programme (UNDP)*. https://scholar.google.com/scholar?cluster=16654705602211446587&hl=en&oi=scholarr

41. **E Donkor** (2003). Partnership approach in capacity building for IWRM–WA-NET initiative. *Proceedings of the 29th WEDC International Conference*. https://scholar.google.com/scholar?cluster=4621658822128043563&hl=en&oi=scholarr

### Conference papers 4

1. A Sulemana, **Donkor** (2018). Route optimization for municipal solid waste collection in Sunyani, Ghana. *33rd International Conference on Solid Waste Technology and Management*.

2. **EA Donkor** (2016). Empirical evidence on the potential of rainwater harvesting for residential water supply in Accra. *Proceedings of the 39th WEDC International Conference, Kumasi, Ghana*. https://www.academia.edu/download/99807858/Donkor2348.pdf

3. **EA Donkor** (2015). A Cost Function for the Ghanaian Small Towns Water Industry. *Proceedings of the 1st International Conference on Engineering, Science, Technology and Entrepreneurship*. https://www.researchgate.net/profile/Emmanuel-Donkor/publication/305033519_A_Cost_Function_for_the_Ghanaian_Small_Towns_Water_Industry/links/577f82a508ae9485a4398993/A-Cost-Function-for-the-Ghanaian-Small-Towns-Water-Industry.pdf

4. **EA Donkor** (2015). Benchmarking: Performance Scorecards for Small Towns Water Utilities in Ghana. *Proceedings of the 1st International Conference on Engineering, Science, Technology and Entrepreneurship*.

### Reports 3

1. **E Donkor** (2008). Management of sewerage system: case study in Tema. *Loughborough University*. https://repository.lboro.ac.uk/articles/Management_of_sewerage_system_case_study_in_Tema/9597452/files/17237804.pdf

2. **E Donkor** (2002). Establishing nodal resource center in West Africa for capacity building in integrated water resources management. *Department of Civil Engineering*. https://scholar.google.com/scholar?cluster=8684027936477614016&hl=en&oi=scholarr

3. **EA Donkor** (2000). Water Sector Reforms: A Case Study of Ghana. *IHE*. https://scholar.google.com/scholar?cluster=10070040475151104545&hl=en&oi=scholarr

### Theses 1

1. **EA Donkor** (2000). Water Sector Reform: Case Study of Ghana. *International Institute of Infrastructural, Hydraulic, and Environmental Engineering (IHE), Delft, The Netherlands*.