

CURRICULUM VITAE

1.1 PERSONAL PROFILE

1.1.1 Personal Details:

Name : ENG. DR. ISAIAH BOSIRE OMOSA PE
Date of Birth : 8TH APRIL 1974
Age : 44 YEARS
Nationality : KENYAN
Designation : LECTURER
PF. No. : 6776

1.1.2 Academic and Professional Qualification

Academic Qualification

- **2013:** Doctor of Engineering degree (Environmental Science & Engineering), Doctor of Engineering certificate (Environmental Management and Sustainable Development), UNEP-Tongji Institute of Environment for Sustainable Development, Tongji University, Shanghai, China.
- **2005:** MSc (Civil Engineering- Environmental Health Engineering option), University of Nairobi, Kenya.
- **1998:** BSc (Civil Engineering), University of Nairobi, Kenya.
- **2004:** Completed a course on ArcView GIS 3.2a at the Regional Centre for Mapping of Resources for Development, Nairobi, Kenya.
- **2013:** Completed a course on Teaching Methodology at the Centre for Teaching Excellence and Evaluation, Kenyatta University.

1.1.3 Employment History

- **2011-to date:** Lecturer, Civil Engineering Department, Kenyatta University
- **2008:** Appointed part-time lecturer at the Civil Engineering Department of the University of Nairobi.
- **2006-2011:** Tutorial Fellow, Water and Environmental Engineering Department, Kenyatta University
- **2005-2006:** Civil/Structural Engineer, Ministry of Public Works, Kenya.
- **2003-2004:** Research Assistant, UNEP, Nairobi, Kenya.
- **2000-2003:** Projects Engineer, Masosa construction Ltd, Nairobi, Kenya.

1.1.4 Major Achievements since last Appointments

- Accreditation of the Civil Engineering program (Engineers Board of Kenya) while in office as Chair of Department
- Establishment of the Civil Engineering Workshop and Laboratories while in office as Chair of Department
- Establishment of the Civil Engineering Computer Laboratory while in office as Chair of Department
- Registration as a Professional Engineer by the Engineers Board of Kenya
- Corporate Membership in the Institution of Engineers of Kenya

1.2 RESEARCH PUBLICATIONS

1.2.1 Refereed Journal Papers

- **Omosa Isaiah** and Oonge Z.N.I. Assessment of the Biological Treatability of Black Tea Processing Effluent. Journal of Civil Engineering Research and Practice 2007, Vol 4 (1)
- **Omosa, I. B.**; Wang, H. T.; Cheng, S.; Li, F. T. Sustainable Tertiary Wastewater Treatment Is Required for Water Resources Pollution Control in Africa. Environ. Sci. Technol. 2012, 46 (13): 7065-7066.
- Wang, H. T.; **Omosa, I. B.**; Keller, A. A.; Li, F. T. Ecosystem protection, integrated management and infrastructure are vital for improving water quality in Africa. Environ. Sci. Technol. 2012, 46 (9), 4699-4700
- Hongtao Wang, Tao Wang, Bingru Zhang, Fengting Li, Brahim Toure, **Isaiah Bosire Omosa**, Thomas Chiramba, Mohamed Abdel-Monem, Mahesh Pradhan. Water and Wastewater Treatment in Africa - Current Practices and Challenges, 2013, CLEAN-Soil, Air, Water. DOI: 10.1002/clen.201300208
- Liu Wei, Yang Dianhai, Xu li, Jia Chuan, Lu Wenjian, **Bosire Omosa Isaiah** and Shen changming. Effect of Return Sludge Pre-concentration on biological phosphorous removal in a novel oxidation ditch. Chinese Journal of Chemical Engineering, 2012, 20(4), 747-753.
- Mutui F.N, **Omosa I.B.**, B. Cun-kuan, Oonge Z, Gaito V. Kenya's Water Resources: Scarcity or Sheer Mismanagement? International Research Journal of Environmental Sciences, 2016, Vol. 5(4), 54-60.

1.2.2 Other Publications

Book

- **Isaiah Omosa.** Tertiary treatment of municipal wastewater from lagoons; use of constructed wetlands and UV irradiation, 2014, Scholar's Press, ISBN: 978-3-639-70900-1.

Journal articles under review

- Omosa Isaiah Bosire, Yang Dianhai and Odira P.M.A. Review of wastewater treatment in Kenya; Need for reuse and way forward (under review)
- Omosa Isaiah Bosire, Hongtao Wang and Fengting Li. Comparing polyaluminium chloride and aluminium sulphate in drinking water treatment in Kenya (under review)
- Omosa Isaiah Bosire, Shuiping Cheng, Hongtao Wang and Fengting Li. The Railway-Water Supply Nexus in Kenya: A historical Perspective (under review)
- Omosa Isaiah Bosire, Oonge Zablon Isaboke, and Muhandiki Victor Shiholo. Catchment conservation and management in community water supply in Kenya: the case of Mbumbuni water scheme (under review)

1.3 QUALITY TEACHING AND LEARNING

1.3.1 Student-Lecturer Evaluation Results

- Scored grade **A (97%)** in 2013/2014 in both units (ECV505 & ECV506) handled and assessed in the academic year
- Scored grade **A (94%)** in 2014/2015 in a unit (SET 624) handled and assessed in the academic year
- Scored grade **A (90%)** in 2014/2015 in a unit (ECV 500) handled and assessed in the academic year

1.3.2 Training in Higher Education Teaching

- Completed a Course on Teaching Methodology offered by Centre for Teaching Excellence and Evaluation, Kenyatta University, 2013.

1.3.3 Postgraduate Supervision/Examination of Theses

On-going supervision of MSc. Research Work

- On-going Supervision of Mr. Isaac Kiunga's (J104/22984/2012) MSc. Research entitled 'Performance of Solar Water Distiller Utilizing Evacuated Tube Solar Concentrator'
- On-going supervision of ANNAH AWUOR DIANG'A's (J104/CTY/PT/22989/2012) MSc. Research entitled 'Development Of A Bio Methane And Organic Manure Producing System From Kitchen Waste Using Effective Micro-Organisms (EM) Technology'

On-going supervision of Ph.D Research Work

- On-going supervision of Mr. Job Muthini Kitetu's (J98/26821/2013) PhD entitled 'Development Of Gravity Duct Micro Hydropower Generation System For Rural Community Electrification In Makueni County, Kenya'

Examination of Theses

- Successfully examined a MSc. Thesis for Mr. Humphrey Mulindi entitled 'Development of Biomass Wastes Briquette Stove for Domestic Use'.

1.4 PROFESSIONAL/CONSULTING

1.4.1 Networking and Collaborations

In 2018 I collaborated with the University of Nairobi and JKUAT on the National NRF Grants for Multidisciplinary Collaborative Research 2018/2019

1.4.2 Consulting for External Institutions

2001: Research on a study of water demand management for the City of Nairobi under the 'Managing water for African Cities' project undertaken by UN- Habitat/Nairobi City Council.

2002: Site Agent on El nino emergency repairs and extensions to Kisii, Keroka and Gesusu Water supplies in Kisii District (Contract No. ENEP/WSS/PW54). In charge of all technical and administrative activities while implementing the works under Masosa Construction Ltd Kisii- Kenya

2004:

- Feasibility study and detailed design of improvements on non-motorized transport for Kakamega, Eldoret, Kisii & Kisumu towns for the Ministry of Local Government as a drainage engineer.
- Feasibility study on the Conceptual Trade-off Study on Water Supply for Titanium Mining operations in Kwale District of Kenya.
- Environmental Audit for Henkel (East Africa) Limited in 2004. Henkel has a factory in

Ruiru, two warehouses in Industrial area of Nairobi and a factory and warehouse in Mbaraki, Mombasa.

2005:

- Millennium Development Goals; Needs Assessment for water & sanitation sector in Kenya.
- Feasibility study and detailed design of storm water drainage in Naivasha, Karuri, Nyeri & Kerugoya/Kutus Towns for the Ministry of Local Government as a drainage engineer.
- Design of a conservation plan for Mbumbuni and Mulima Water Supply Projects in Makueni District for the Belgian Technical Corporation (BTC).

2005-2006:

- Rehabilitation and extension of sewerage works at Prisons staff Training College, Ruiru. Appointed Resident Engineer by the Ministry of Roads and Public Works.
- Design, Documentation and Supervision of Civil Works associated with Completion works to Kapkatet District Hospital
- Design, Documentation and Supervision of Civil Works associated with Completion works to Kapsabet Divisional Police Headquarters
- Design, Documentation and Supervision of Civil Works associated with Completion works to Tegat Health Centre
- Design, Documentation and Supervision of Civil Works associated with Completion works to Migori District Headquarters
- Design and Documentation of Civil Works associated with construction of Moi University swimming pool

2009: Feasibility Study and design for the Construction and Rehabilitation of 84km Road Surrounding Lake Muhazi in Rwanda.

2008-2009: Feasibility Study and design of the Hola - Garsen Road construction project. Involved in the hydrological study and drainage design for the 92km road

2012: Consultancy services for preparation of guidelines on minimum requirements for disaster preparedness and mitigation measures for water utilities in Kenya.

2014:

- Design of water supply, wastewater management and solid waste management at Karen Waterfront Development for Crossroads Ltd.

- Off-farm facilities development in Machakos County; Assessing, design and documenting selected abattoir facilities for upgrading. Client: LAND O' LAKES INC.

2015-16:

- Consultancy Services for the Technical Feasibility Studies and Designs for Special Sewer line to offload sewage from Lake vessels at Kisumu and Homa Bay Ports. This project is being carried out under the auspices of Lake Victoria Environmental Management Project Phase II.
- Consultancy services for carrying out survey works, detailed designs, preparation of tender documents and operations & maintenance manuals for storm water drainage, road improvement and security lighting in Kisii town.

2017:

- Feasibility Study, Preliminary and Detailed Engineering Design, Environmental and Social Impact Study and Tender Documentation of Suneka - Kiogoro By Pass, Kiogoro - Kegati By Pass, Nyakoe - Kegati By Pass, Suneka - Nyakoe By Pass And Major Link Roads Within Kisii County;
Task: Hydrological and hydraulic design of drainage structures
- Consultancy Services For Feasibility Study, Environmental and Social Impact Study And Preliminary Engineering Design of Homabay and Migori Town Roads
Task: Hydrological and hydraulic design of drainage structures
- Feasibility Study, Environmental And Social Impact Study And Preliminary Engineering Design Of Kisumu Town Roads
Task: Hydrological and hydraulic design of drainage structures

2018:

- Consultancy services to provide support to the assessment of the cost and capacity requirements of faecal sludge treatment plants(fstps) under the kenya towns sustainable water supply and sanitation programme (ktswssp)- masii, mwala, mbiuni, marsabit & chogoria

1.4.3 Membership to Professional Bodies

- Professional Engineer, Engineers Board of Kenya (Reg. No. A3047)
- Corporate Member, Institution of Engineers of Kenya (Reg. No. M5217)

1.5 ADMINISTRATION AND RESPONSIBILITIES

1.5.1 Recognized University Administrative Positions

- 2nd April 2013 to October 23rd 2014: Appointed Civil Engineering Departmental Examinations Coordinator.

- October 23rd 2014 to date: Appointed Civil Engineering Departmental Chair
- Member of departmental Research Committee
- Member of Postgraduate studies committee
- Committee chair to audit and rationalize the labour on construction sites

1.5.2 Other Responsibilities in the University

- Adjunct Senior Lecturer, Machakos University
- Academic advisor
- Departmental Time-tabler

1.6 COMMUNITY ENGAGEMENT AND OTHER CONTRIBUTIONS

1.6.1 Research Funding applied for so far

- Applied for research equipment as a grant from the China-Africa Science and Technology Partnership Program (CASTEP) (value: kshs 1,500,000).
- AFD grant application (value: kshs 20,000,000)
- EU-Intra Africa Academic Mobility
- NRF grant applications 2016/2017;2017/2018

1.6.2 Community Service and Outreach

- 2010: Appointed as Member by the Minister for Education to the District Education Board, Njiru District, Nairobi County.
- 2017: Appointed as Board Member of Drumvale Secondary School Board of Management
- Involved in the review of the Kenya Water Institute curriculum in December 2014.

1.6.3 Recognition, Awards and Honours

2011: Tongji University presidential award, Shanghai-China.

2014: Kenyatta University award

1.7 REFEREES

1. Eng. Prof. P.M.A. Odira, Professor, Department of Civil and Construction Engineering, University of Nairobi, P.O. Box 30197-00100 Nairobi;
Tel: 318262 Ext 28394
Mobile No: 0722849191
2. Eng. Dr. Oonge Z.N. Isaboke, Senior Lecturer, Department of Civil and Construction Engineering, University of Nairobi, P.O. Box 30197-00100 Nairobi;
TEL: +254-020-318262 ext. 28390
CELL: 0733750231/0720801680
3. Eng. Dr. Fidelis N. Kilonzo, Senior Lecturer, Department of Agricultural and Biosystems Engineering, Kenyatta University P.O Box 43844-00100, Nairobi Kenya.
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