

# CURRICULUM VITAE

## I. PERSONAL DATA

NAME : Eng. Prof. **BERNARD N. KIMANI NJOROGE, Ph.D**  
*DUKE UNIVERSITY (U.S.A); M.Sc. NEW CASTLE  
UPON TYNE (U.K); B.Sc.(U.O.N.), CIVIL  
ENGINEERINGR. Eng.; M.I.E.K.*

ADDRESS : P. O. BOX 64683-0620, Nairobi,  
Kenya.

DATE OF BIRTH : September 22, 1956

NATIONALITY : Kenyan

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MARITAL STATUS: Married

## II. ACADEMIC QUALIFICATIONS

1994 Awarded the degree of Doctor of Philosophy (Ph.D.) in Civil Engineering, Duke University, Durham, North Carolina, USA.

1986 Awarded degree of Master Science in Environmental Engineering, The University of Newcastle upon Tyne, United Kingdom.

1980 Awarded the degree of Bachelor of Science in Civil Engineering, (*First Class Honours*), University of Nairobi

1976 Completed "A" Level Education, Alliance High School, Kikuyu

1974 Completed General Certificate of Education, Muhoho High School, Thika District

1970 Completed Primary School Education, Ndundu Primary School, Kiganjo, Mundoro

### **III. SCHOLARSHIP AWARDS**

- 1989 ó 1994 Won full Fulbright Scholarship to undertake Doctor of Philosophy Studies at Duke University, in the USA.
- 1985 - 1986 Awarded scholarship by World-Bank/NCC to undertake Master of Science Studies at the University of New Castle Upon Tyne, U.K.
- 1977 ó 1980 Won a Nairobi City Council scholarship to undertake undergraduate studies in Civil Engineering, University of Nairobi.

#### **IV. EMPLOYMENT HISTORY**

Dec 2002 ó  
To date                    **Associate Professor**, Department of Civil Engineering, University of Nairobi. I have risen through the academic rank to the position of Associate Professor in the Department of Civil and Construction Engineering.

My areas of specialization in teaching and Research is in the discipline of Civil Engineering.

1996 ó Dec 2002    **Senior Lecturer**, Department of Civil Engineering, University of Nairobi: Lectured and conducted research in the areas of Water Resources Engineering, Hydraulics, Public Health Engineering, Wastewater Engineering and Water Quality Modeling.

1995 ó 1996            **Lecturer**, Department of Civil Engineering, University of Nairobi, where I lectured and conducted research in the Broad area of Water and Wastewater Engineering, Unit Operations and Water Quality Modeling

1987- 1989            **Lecturer**, Department of Civil Engineering, University of Nairobi. Lectured in water and wastewater engineering area, Public Health Engineering, and Hydraulics.

1986 ó 1987            **Senior Engineer**, The Nairobi City Council, Water and Sewerage Department, I was the acting Chief Assistant Engineer, Sewerage Section, with duties and responsibilities of approving sewer extensions for development plans, officer in charge of sewerage services in the City and carrying out the administrative work in the section. I represented the section in Departmental planning meetings. Additional duties and responsibilities were in overseeing the orientation and training of newly employed graduate engineers posted in the Section.

1980 ó 1985            **Assistant Engineer** Water and Sewerage Department, Nairobi City Council. Trained in the various units in the Department: Planning, Design and

Construction of water and sewerage schemes and the Operation and Maintenance procedures and practices.

I was appointed liaison officer between NCC Water and Sewerage Department and SURECA a French consorting firm, which was undertaking a Leakage Detection Study and capacity building for the City of Nairobi.

I conducted feasibility studies for the sewerage schemes followed by detailed engineering designs for Kangemi, Kawangware, Benhard and Lavington Estates sewerage projects

I also planned and supervised the rehabilitation of Dandora (Kayole) Sewage Treatment Works.

I served as Assistant Resident Engineer for the construction of the Kahawa West Sewerage and Treatment Works.

## **V. ADMINISTRATIVE EXPERIENCE & RESPONSIBILITIES**

January 22, 2009

To date

I was appointed the Principal, College of Architecture and Engineering, University of Nairobi. I am the Administrative and Academic Head of the College. The College has 12 academic programs, a work force of about 300 academic and technical staff and 100 administrative staff and student population 4,500. I am a member of the University Management Board (UMB) which is the organ responsible for steering the University.

Nov. 10 2008 ó  
21<sup>st</sup> Jan 2009

served as acting Principal, College of Architecture and Engineering, University of Nairobi. Performing duties, which include carrying out the day-to-day administrative work as well as overseeing the smooth running of academic programs in the College. During my tenure of deanship I was appointed acting Principal whenever the incumbent Principal was out of the office.

**Feb 13, 2005 –  
Nov 10, 2008:**

### **The Dean Faculty of Engineering.**

During the period I served as the Dean of the Faculty of Engineering, University of Nairobi.

The Faculty of Engineering comprises of five professional programs in the departments of: Civil and Construction Engineering, Electrical and Information Engineering, Mechanical and Manufacturing Department, Geospatial and Space Technology and Environmental and Biosystems Engineering. The Faculty has a student population of about 1700 undergraduate and 40 postgraduate students. The Faculty has a moderately large faculty comprising of 90 academic staff, 70 technical staff and 15 administrative and secretarial staff.

### ***Academic Responsibilities:***

I chaired the following Faculty Board/Committee meetings

- **Faculty Board** meetings to consider academic matters of the Faculty, curriculum review, examinations Rules

and Regulations review, review of Academic Programs, and any other academic matters in Faculty.

- **Boards of Examiners** meetings for MSc and PhD theses examinations,
- **Other** Committees meetings in the Faculty

### *Administrative Responsibilities*

- Coordinating recruitment of all cadre of staff (academic, technical, administrative staff and junior staff) in the Faculty
- Chairing Staff Shortlisting Committees in the Faculty
- Attending the Staff Appointment Committee for the Faculty at the College and Central Administration
- Senate Representative in Staff Appointment Committees in other Departments in the College and University.
- Attending to matters relating to students affairs, overall students welfare in the Faculty, students Disciplinary and Appeals committees, and coordination of students professional welfare, clubs and activities.
- Member, College Academic Board and Member, College Management Board. Representing the Faculty in all College Boards where the University Policy from University Management Board (UMB) is channeled through to the Colleges for dissemination to the units in the Colleges, Faculty and Departments and other units.
- Member of University Senate representation the School in the Senate, which is the highest organ of the University in relation to academic matters

- Member of the Deans Committee, which is a Senate Committee that brings together the Deans and Directors of Schools and Faculties in the University to consider academic matters, such as review of academic programs, research and teaching programs, admission of students to the university in conformity with the Senate approved criteria, etc
- Member of the College of Architecture and Engineering Procurement Committee. The Committee's responsibilities include the evaluation and approval of the procurement of goods and services from the user departments in the College that falls under the threshold Ksh 500,000.

**August 1996-**

**September 2002**

Chairman Department of Civil Engineering

I served as the Chairman of Department of Civil Engineering for two terms (six years). The Department of Civil Engineering (by then called) was the largest in the Faculty of Engineering in terms of students numbers and staff.

The size of the Department was as follows:

Teaching faculty 34, technical staff 24, 320 undergraduate students and 10 postgraduate students.

### *Academic Responsibilities*

- Ensuring the smooth running of the academic programs in the Department
- Issuing staff duties and supervision
- Coordination of curriculum review
- Recruitment of external examiners
- Processing of examination
- Presentation of examinations results to the Faculty Board
- Representing the Department on all academic matters in the University
- Initiated the introduction of the parallel degree program.
- Representing the Department at Senate

### *Administrative Responsibilities*

- Recruitment of staff ó advertising, shortlisting and interviewing
- Training of the academic staff
- Representing the Department at the Faculty Board and College Academic Board meetings
- Management of students affairs óacademic issues, appeals and disciplinary cases.
- Coordinated the extension and rehabilitation of the Civil Engineering Block building

## VI. STATE APPOINTMENTS

July 2009

To date : Appointed Director, National Oil Corporation of Kenya

: serving as Chairman of the Finance and ICT Committee

: serving as committee member of Petroleum and Exploration Committee

May 2007- : Director, The National Irrigation Board

To date : Ministry of Water and Irrigation.

Appointed Committee Chairman: Research, Planning and Development Committee

### *Responsibilities*

- Developing organization's 5-years Strategic Plan (2008-2013)
- Steering the organization in the rehabilitation of the irrigation infrastructure in the country
- Guiding the organization towards realizing its target in increasing the country's irrigation potential (22,000 hectares per year) to meet the Vision 2030 target for the sector.
- Guiding the Organization in the preparation of the Performance Contract
  
- Ensuring that the components in the Performance Contract, falling under Planning, Research and Development are implemented as scheduled.
  
- Chairman of an Ad -hoc Committee on the revival of collapsed Mwea Rice Mills. This exercise involved brokerage between warring factions within the Mwea Rice Mills Company. The intervention has been successful and has resulted in the Mwea Farmers agree to deliver rice paddy to the Mills and the NIB resolved to revive the Mills.

May 2004 ó  
May 2007

Director, National Water Conservation and Pipeline Corporation (Ministry of Water and Irrigation). I served in the three committees of the Board in the following capacities:

### **Chairman, Corporation Tender Committee:**

#### ***Responsibilities***

Chaired the Tender Committee to receive technical evaluations reports from the Management and adjudicating as appropriate for the following scopes of the works:

- Pre-qualification of suppliers for goods and services
- Awarding of tenders for the following works:
  - Construction works
  - Drilling of boreholes
  - Construction of small dams and pans
  - Rehabilitation of flood protective works (dykes and gabions)
- Consultancy services:
  - Legal services
  - Technical Audit
  - Environmental Impact Audit/Assessment
  - Feasibility studies for water supply schemes
  - Detailed engineering design for dams and other water storage structures.
  - Benchmarking of prices for goods and services
  - Work environment and customer satisfaction surveys
- General goods and services
  - Procurement of construction equipment, plant and vehicles
  - Repair of motor vehicles and machinery
  - General office supplies

- Insurance medical cover for workers and for the organization

### **Member, Staff, Welfare and Establishment Committee**

#### ***Responsibilities***

- Overseeing the Corporation transforming from being a water retailer to a construction outfit of the Ministry of Water and Irrigation in conformity with the New Water Sector Reforms.
- Transfer of the Corporation's staff to other water sector institutions such as Water Services Boards and Water Service Providers
- Recruitment of the Corporation's senior staff
- Conducting staff disciplinary cases and appeals
- Dealing with union on matters relating to the unionisable staff
- Developing a scheme of service for the new-look Corporation

### **Member, Finance, Planning and Development**

#### ***Responsibilities***

- Played active role in developing the New Corporation's five year Strategic Plan (2006 ó 2011)
- Overseeing the preparation of the Performance Contract and taking part in the negotiations of the PC with the Ministry of Water and Irrigation and Office of the President
- Overseeing the transfer of the Corporation assets and liabilities to the new Water institutions
- Budget preparation and ensuring that the Corporation's activities are within the budgetary allocation
- Receiving and reviewing Audit reports
- Review of staff salaries and terms of service-

## **Member, Ad-hoc Committee on Standards**

Served as a member of an Adhoc Committee. This was a Committee of key professionals from the newly formed Water institutions. The Committee was charged with responsibility of developing Standards and Procedures to be followed by the various water Boards in their operation

August 2005-  
2012

### **Member, Kenya Technical Teachers College**

Have been serving as a Board Member of the Kenya Technical Teachers College (KTTC), Board of Governors.

#### ***Responsibilities***

- Overseeing the smooth running of the College
- Guiding the institution in the implementation of its Strategic Plan.
- Chairman of an Ad-hoc Committee to prepare roadmap for the upgrading of the institution into a University College (KTTC is one of the institutions the Government has earmarked for upgrading into a University College and is expected to start operating as a University College) in 2009.
- The Committee is mandated to prepare a road map for upgrading the institution and make specific recommendations regarding the degree programs to be mounted, the number of students to be admitted and the physical facilities that require rehabilitation and extra buildings to be put up. The College has been allocated a Development budget of Ksh 150,000, 000 for this purpose in this Financial Year.

March 2003-  
2010

### **Senate Representative, Directorate of Industrial Training, Ministry of Labour.**

I serve in the Construction, Civil Engineering and Allied Industries Training Committee.

## ***Responsibilities***

The main activities are:

- Approval of Training Program for the sector
- Approval of the sector budget
- Development of the policy to manage the sector

## **VII. TEACHING AND RESEARCH EXPERIENCE**

### **Summary:**

To date I have over 25 years experience of university teaching and research. During this period I have taught and examined undergraduate and postgraduate courses in the Department of Civil Engineering and other units/departments in the University; and supervised numerous undergraduate projects and postgraduate research.

#### *Undergraduate teaching*

Courses that I have taught include: Fluid mechanics, Hydraulics, Water and Wastewater Engineering and Public Health Engineering

#### *Postgraduate teaching:*

I have taught the following courses at the postgraduate level: Unit Operations and Processes, Solid Waste Management, Waste Water Treatment and Disposal; Pollution Control and Environmental Sanitation; Environmental and Economic Impact Assessment and Analysis.

#### *Supervision of Post graduates.*

I have supervised 16 MSc. Students in a wide range of topics in Civil and Environmental Engineering. I am also supervising one Ph.D. Candidate in the Department of Civil and Construction Engineering.

### **External Examiner**

I have been an External Examiner for the Department of Environment Health, Faculty of Health Sciences, Moi University (1996 -2000).

I am serving as an External Examiner for the Department of Civil and Environmental Engineering , JKUAT (2006/7 ó to to-date)

External Examiner (Post graduate) Department of Civil Engineering, University of Dar Es Salaam, 2007, 2008

External Examiner for MSc theses Department of Civil and Environmental Engineering, JKUAT, Four Students, 2006-2008.

I served as member of the Jury (external examiner) for Mr. Muthumbi Waweru, PhD. University of Ghent, Belgium. SEP 16, 2002.

## VII. SUMMARY OF PROFESSIONAL EXPERIENCE

Eng. Prof Njoroge professional experience has been gained through professional training and practice spanning 31 years of engineering training, teaching and practice.

Eng. Prof Njoroge is a Registered Engineer with the Engineer's Registration Board of Kenya and a Corporate Member of the Institution of Engineer's of Kenya.

Eng. Prof. Njoroge is a Registered Consulting Engineer. Eng. Prof. Njoroge's professional experience has spanned in the broad area of Civil and Environmental Engineering.

Eng. Prof. Njoroge is registered with the National Environment Management Authority (NEMA) as Lead Expert in Environmental Impact Assessment and Audit of environmental systems.

Eng. Prof. Njoroge has consulted widely in the following areas: Civil and Environmental Engineering: water and sewerage projects, Industrial pollution analysis and control, Civil Engineering planning, design and construction supervision of Projects.

## IX. PUBLICATIONS

*Refereed Journal papers:*

Mwangi, Faith Wanjiru and **B.N.K.Njoroge** Alternative Solid Waste Management Model for the Nairobi City, Submitted to the Journal of Environmental Engineering and Science, Canada 2008

Murigi, Mwangi Peter, and **B.N.K.Njoroge** Efficacy of Polyaluminium Chloride as a substitute for Alum in Water Treatment, Submitted in EAJE, 2008

**B.N.K.Njoroge** and S.G. Mwamachi ÷ Ammonia Removal from Synthetic Wastewater by use of Natural Zeolite ÷ Journal of Environmental Engineering and Science, Canada, November 2002.

**B.N.K. Njoroge** and J. K. Wairuri ÷ Potential of Softwood and hardwood sawdust in removal of Congo Red dye from wastewater ÷ EAJE. July 2002.

**B.N.K.Njoroge** and Githere P.G. ÷Removal of colouration from Textile wastewatersö EAJE. Vol 6, nr 2, 2002.

Nancy Macharia, **B.N.K.Njoroge**, D.M.Wanjau ÷Treatment of Dairy Wastewater by Physical Chemical Methodsö EAJE vol 4.nr.1, pp76 to 89. April 2001.

S. M.Njoroge, S.K.Ngari and **B.N.K.Njoroge** ÷Application of Ground Charcoal in the Removal of Organic Matter in Water Treatmentø EAJE vol 4 nr.1, pp 65-74April 2001.

B. Ochieng, S.K. Ngari, **B.N.K.Njoroge**, ÷Application of Ground Charcoal as a Coarse Medium in Dual Media Filtration of waterö EAJE vol 4nr.1 pp44-53, April 2001.

D.M.Migwi, **B.N.K.Njoroge** and D.M.Wanjau ÷Modified Anaerobic Process for Treatment of High Strength Industrial Wastewaterö EAJE, vol 4nr.1, pp 10 ó 24 April 2001

**Bernard N. Kimani Njoroge**, William P. Ball, Robert S. Cherry ÷Sorption of 1,2,4-trichlorobenzene and Tetrachloroethene with an authigenic soil profile: Changes in  $K_{oc}$  with soil depth. Journal of Contaminant Hydrology 29(1998) 347-377.

*Thesis:*

1. **Njoroge, Bernard N. Kimani** ÷Role of Soil Composition on Nonpolar Organic Chemicalsö, Ph. D. Thesis. Duke University, Durham, North Carolina, U. S. A. 1994.
2. **Njoroge, B. N. K.** ÷Industrial Waste Treatment Using Fluidized Bed Pilot Plant Studies.ö The M. Sc. Thesis. Newcastle Upon Tyne, U. K., 1986

*Conference Proceedings papers*

1. **Njoroge, Bernard Kimani N.;** Robert S. Cherry and William P. Ball ÷Effects of Soil Development and Morphology on the Sorption on Nonpolar Organic Chemicalsö The 207<sup>th</sup> Proceedings of the American Chemical Society Symposium, Division of Environmental Chemistry, San Diego, California, March 13-18, 1994.

2. J.N.Mukabi, **B.N.K.Njoroge**, T.Toda "Pragmatic Method of Evaluating Design Parameters Adopting Tropical Soils for Pavement Structures. Proceedings 14 th Road World Congress, Paris 2001".
3. JN Mukabi, **B.N.K Njoroge** and N Shimizu "A unique Method of Mechanical Stabilisation and Construction Adopted for a Road Project in Kenya" Conference on Construction Technology (Contec 2001) 11-13 October 2001.

## X. SUMMARY OF PROFESSIONAL EXPERIENCE

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Eng. Prof. Njoroge is a Registered Consulting Engineer. Eng. Prof. Njoroge's professional experience has spanned in the broad area of Civil and Environmental Engineering.

Eng. Prof. Njoroge is registered with the National Environment Management Authority (NEMA) as Lead Expert in Environmental Impact Assessment and Audit of environmental systems.

Eng. Prof. Njoroge has consulted widely in the following areas: Civil and Environmental Engineering: water and sewerage projects, Industrial pollution analysis and control, Civil Engineering planning, design and construction supervision. The major clients include: the World Bank Rural Water and Sanitation, UN-HABITAT, UNEP, The Plan International, Kenya, and the GTZ and The Lake Turkana Wind Project

The professional experiences are in the following areas:

- ❖ *Environmental Impact Audit and Assessment of existing and/or proposed projects*
- ❖ *Environmental pollution, prevention and Control. Waste water treatment plants, design and analysis, technologies of wastewater treatment, wastewater disposal and re-use*
- ❖ *Solid waste management, collection, transportation, and disposal; planning, design of solid waste disposal facilities, resource conservancy and recycle; sanitary landfill disposal and operations.*
- ❖ *Performance appraisal of environmental systems and cost effectiveness. Conducting and Preparing Economic and environmental impact assessment and statements.*

- ❖ *Systems development and institutional capacity building in civil and environmental engineering management. Master plans development in civil and infrastructure services and environmental management.*
- ❖ *Quality Assurance and Performance appraisal of Civil, Environmental and Water Resources Projects. Planning and Analysis of Water Resources Systems and evaluation of Water Resources Management Water Quality Management and Modeling.*
- ❖ *Feasibility studies: Baseline studies, preliminary and detailed designs preparations; tendering process, tender evaluations, technical and financial proposals and appraisal, project evaluation, monitoring, implementation and supervision.*
- ❖ *Planning, design and analysis of Environmental Services: Water supply and sanitation, solid waste management and disposal, environmental pollution and control, roads and drainage.*

#### **XI SELECTED CONSULTANCY WORK**

*Environmental Impact Assessment for the Rehabilitation and upgrading of the Road from Laisamis to Loyangalani, (ongoing)*

*Design of the Laisamis –Loiyangalani Road, for Lake Turkana Wind Power Project, Proposal in Progress*

*Environmental Impact assessment for the Proposed Lake Turkana Wind Power Project. A proposed 400 km 400KVA Transmission Line from Loyaingalani (Turkana) to Suswa, 2008*

*Resource person in capacity building (Middle level Managers & Senior Level Managers) on pollution, prevention and control component for the Water for Africa Cities Project client: UN-HABITAT 2004.*

*Consultant for the Nairobi Rivers Pollution Assessment and Monitoring Project, UNEP and UON, 2003-2004.*

*Environmental Impact Audit and Assessment Reports for wide range of industries and establishments 2004*

*Project Monitoring and Evaluation (Roads, Water and wastewater treatment, public health facilities, etc) for the El Nino Emergency Project, 1998 – 2003.*

*Preparation of a Field-note on Private Sector Participation on the Management of Public Toilets in Nairobi City. Client: WSP-AF (2002).*

*Team Leader for a Study on Private Sector Participation on the Management /Development of Public Toilets Within the City of Nairobi. Client: WSP-AF(2002).*

*Monitoring and Evaluation of El Nino Emergency Projects: Evaluation of the Actual outputs. Client: El Nino Emergency Project, 2000/2001.*

*Monitoring and Evaluation of the El Nino Emergency Projects: Evaluation of the Quality of structures and Facilities. Client: El Nino Emergency Project 2001/2002.*

*Feasibility study, Environmental and Economic Impact Assessment of an Irrigation Project at the Magogoni/ Gatwanyaga, Thika District. Undertook the Preparation of detailed designs for the Magogoni / Gatwanyaga irrigation project. Client: PLAN INTERNATIONAL, Eastern 2000.*

*Field-note on SSiPs (Field Note Number 5 on Small Service Providers make a Big Difference) for the Eastern Africa Cities, Nairobi, Kampala, Dar es Salaam and Mombasa. Client: WSP-ESA, 1999.*

*Prepared a Regional SSiPs Report from the Country Reports on Small Scale Independent Providers of Water and Sanitation Services for Kenya, Uganda and Tanzania. Client: WSP-ESA, 1999.*

*Edited SSiPs Reports prepared by various consultants in Urban Environmental Sanitation Services for Kampala, Nairobi, Mombasa and Dar es Salaam., Client: RWSG- EA,1999.*

*Study of Private Sector Participation in Urban Environmental Services in Mombasa (SSiPs): (Private Operators) of water supply, onsite sanitation services and solid waste disposal: Client, RWSG-ESA 1999.*

*A Case Study of the Environmental Sanitation Situation for the Mukuru, Kaiyaba area. Client: RWSG-ESA, 1999*

*Documentation Review study on Environmental Sanitation Services for Nairobi Informal Settlements. The World Bank- RWSG-ESA, Nairobi, 1996.*

*Feasibility and environmental Impact assessment studies for Njukuri/Nthambo water resources projects, sponsored by the PLAN INTERNATIONAL. Client: PLAN INTERNATIONAL, Eastern, 1999.*

*Feasibility and Environmental Impact Assessment studies of Gachaki Dam in Embu. Supervised the Construction of the Project. Client: PLAN INTERNATIONAL, Eastern, 1999.*

*Feasibility and environmental Impact assessment studies for Ngeca water resources projects. Planning, Design and supervision of water scheme for Ngeca rural community at Embu for PLAN INTERNATIONAL: Client: PLAN INTERNATIONAL, Eastern, 1998.*

*Conducted Workshop on Industrial Waste to the Industrialists in Eldoret town (food and agro-chemical industries, soft drinks, milk industry, textile, paper and other industries). The sponsors were GTZ, Eldoret Municipality, The Ministry of Local Government & Kenya Association of Manufacturers (KAM), Eldoret Branch, 1996.*

## **XII. MEMBERSHIP IN PROFESSIONAL BODIES & AFFILIATED ORGANIZATIONS**

- ❖ **Member, The Institution of Engineers' of Kenya (M 1335), 1988.**
- ❖ **Registered Engineer, The Kenya Engineers' Registration Board (A.1398), 1989.**
- ❖ **Registered with National Environment Management Authority as Lead Expert in Environmental Impact Assessment /Auditing, (2003**
- ❖ **Registered Consulting Engineer (2007)**