

CURRICULUM VITAE

1. GENERAL:

Name: Elenestina Mutekenya Mwelwa (Mrs)
Profession: Hydrologist / Environmentalist
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2. EDUCATIONAL BACKGROUND:

2.1 March 2010 - Commenced PhD Study with UNESCO-IHE, Institute for Water Education, Delft, The Netherlands

Research has a focus on Flow, morphology and vegetation interactions of the Middle Zambezi Flood Plain within the Mana Pools and the Lower Zambezi National Parks. The task has been to reconstruct the flood plain function in the pre-Kariba time and see what changes have occurred, and go further to look at future projections in terms of sustainability of the flood plain. Various research tools have used which include SOBEK-Rural model to get an understanding on how the river flows are interacting with both morphology and vegetation of the flood plain. With the use of GIS, analysis of map layers and satellite images of different periods to study any changes that may have taken place in the river reach and flood plain. Because of importance of this habitat for wildlife, an ecological assessment has been included with *Faidherbiah Albida* tree as an indicator for habitat suitability. The expected output for this research will include quantification of the required magnitude, timing and duration of flood for the environmental sustainability of the Middle Zambezi catchment.

2.2 2002 – 2004: Master of Science Degree with Distinction in Hydrology at the Institute of Water Research, Rhodes University, Grahamstown, South Africa

Undertook a research study in the Application of the Pitman Rainfall-runoff model on the Kafue River Basin. This involved detailed physical and hydrological study of the sub-catchments in the Kafue River to determine their response to river flow generation from rainfall. This led to coming up with specific Pitman model parameters for application in the model. The model converts rainfall data into river flow data. This is particularly useful for estimating river discharge from ungauged catchments (catchments without measuring stations) and for providing longer periods of data for use in water resources planning and designs.

2.3 1992 –1993: Post - Graduate Diploma in Water Resources Surveys with emphasis in Watershed Management and Conservation, International Institute for Aerospace Survey and Earth sciences (ITC), Enschede, The Netherlands.

The course was based on a Multi-disciplinary approach. Besides dealing with various hydrological aspects such as rainfall, runoff, erosion and sediment transport, attention was given to social and economic factors in the development of comprehensive plans for watersheds. The training program included the use of Geoinformation systems for watershed management.

2.4 1984 – 1988: BA degree in physical Geography, University of Zambia, Lusaka, Zambia.

The Degree had specific emphasis in:

- Quantitative methods of Data Processing;
- Biogeography
- Advanced Geomorphology;
- Advance Climatology;
- Geographical Hydrology;
- Rural Geography
- Cartography, Air-photo interpretation and photogrammetry
- Hydrological Research Project on “The effects of Urban Construction on Surface storm water Drainage”.

2.5 Short Professional Development Courses Attended

- 2007 (27th May): International Hydropower Association, Antalya, Turkey
- 2005 (5 – 22 September): International Institute For Hydropower, Trondheim, Norway.
- 1996 (August): Environmental Capacity Enhancement Project (ECEP), Cape Town, South Africa.
- 1995 (July to September): Laboratory of Hydrology, Vrije Univeriteit, Belgium.
- Period between February 1995 - November 1995 Attended Workshops in Professional Development organised by SADC AAA.3.4 Hydroelectric Hydrological Assistance Project, funded by CIDA through SNC-Shawigan, ZESCO LTD. Lusaka, Zambia.
- 1991 (May to September): Institute of Meteorological Training, Nairobi, Kenya.

3. WORK EXPERIENCE:

- 3.1 August 2011 to Date - Chief Hydrologist in the Hydrology Department of ZESCO.** Water resources management for the purpose of achieving successful hydropower planning and forecasting. Management of hydrology database for ease of processing, analysis and interpretation of seasonal hydrological trends for the hydroelectricity sector.
- 3.2 April 2007 to August 2011 - Senior Manager – Environment and Social Affairs Unit, ZESCO.** As Manager, my main function was to supervise and coordinate the work of staff in the Environmental Unit to ensure that assignments are executed to acceptable quality and within the specified timeframe. The main task included coordination and undertaking environmental and social Impact assessments for all power generation, power transmission and distribution projects.
- 3.3 January 1999 to April 2007 – Chief Environmental Scientist at Environment and Social Affairs Unit, ZESCO.** The main task in this position was the coordination of environmental task teams and ensuring that the work outputs were on time and in excellent quality.
- 3.4 February 1997 to January 1999 - Hydrologist at Environment and Social Affairs Unit, ZESCO LTD:** With the main responsibility of obtaining and compiling essential hydrological and hydrogeological data to assess potential and existing hydropower generation facility locations and develop water management plans which meet environmental regulatory and project specific requirements.
- 3.5 1988 - 1997 Hydrologist - Department of Water Affairs:** Upon completion of my first degree, I joined the Department of Water Affairs in the Hydrological Branch as Hydrologist, a position I held up February 1997. Surface water Resources Appraisal in the practical aspects of hydrological data collection, analysis, publication and storage.

4. PUBLICATIONS:

- The effects of Urban Construction on surface Storm Water Drainage in Emmasdale Residential Area in Lusaka. UNZA, 1988. (Academic)
- Hydrological data processing using a Database Management System - Hydata. A case of Sondu River at Sondu Town. DMC 1991. (Academic)
- Hydrological and Watershed management study of Canas catchment. ITC 1993. (Academic)
- The Status of Wetlands of Zambia: Management and Conservation Issues. Environmental Council of Zambia, 1994.

- Bibliography of Documentation on the Hydrology of the Kafue River Basin, WWF – Partners for Wetlands Project – Kafue Flats, Lusaka, 1999.
- The Application of a Monthly time step Pitman rainfall-runoff model to the Kafue River Basin of Zambia, MSc. Thesis, Institute for Water Research, Rhodes University, Grahamstown, South Africa, 2004

5. PROFESSIONAL SKILLS AND MEMBERSHIP:

- 5.1 Driver's license class "B". I am computer literate in the following programmes: Microsoft Word, Microsoft Excel, Microsoft Access and I am flexible to learn new programmes.
- 5.2 Professional body membership include: ITC Alumni; Zambia-Netherlands Alumni Association (ZANETA); Association for Women in Science and Technology (ZAWIST); and Impact Assessment Association of Zambia (IAAZ).

6. HOBBIES:

My hobbies include: reading, writing, gardening, travelling, cooking, sewing and listening to music.

7. REFEREES:

- 7.1 Prof. Nigel Wright
Professor of Water and Environmental Engineering,
School of Engineering, Faculty of Engineering,
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- 7.2 Dr. Lindsay Beevers
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- 7.3 Prof. Denis Hughes,
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- 7.4 Dr. Joseph Mutale,
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8. CERTIFICATION:

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

Date: 26th March, 2013

Full name: Elenestina Mutekenya Mwelwa (Mrs.)

Signature: 