

Samuel Mugisha

, BSc., MSc., PhD (Mak)

Senior Lecturer



Contact: Makerere University
Department of Zoology

P.o.Box 7062 Kampala

Tel: +256 414 531902

Mob:

Email:smugisha@zoology.mak.ac.ug

Areas of Specialization

Ecological Geographer, Remote Sensing and GIS, Project Planning and Management

B) MEMBERSHIP IN PROFESSIONAL SOCIETIES/NETWORKS:

East African Land Use/Cover Impacts and Dynamics (LUCID) Research Network
African Chapter of the International Association for Landscape Ecology (Founding Member)
Uganda Geological Society

(C) KEY QUALIFICATIONS:

Dr. Samuel Mugisha is a senior lecturer and specialist in the application of remote sensing (RS) and GIS technologies for land use-planning, environmental analysis and natural resources management. Over the last 15 years, Dr. Mugisha has acquired key skills required for sustainable use of land resources including computerized mapping (RS/GIS) and the use of Global Position Systems. Besides uninterrupted experience of more than 13 years of teaching both undergraduate and postgraduate courses at Makerere University Institute of Environment and Natural Resources and the Departments of Zoology/Botany, Dr. Mugisha is heavily involved in research and in the provision of advisory services to local, national and international clientele.

Research Interests

Dr. Mugisha's research interests include the impacts of land use changes on natural and human systems. It is in light of this that Dr. is a member of the East Africa-LUCID which is a network of scientists from Kenya, Tanzania, Uganda and USA. The mission of LUCID is to understand root causes of land use changes and their linkages to land degradation, human/animal diseases, biodiversity loss, climate change, societal conflicts and mass poverty. Dr. Mugisha's extra research interests include developing of alternative land use types to improve the livelihoods of African rural population.

(D) EDUCATION:

- 1997-2007 MAKERERE UNIVERSITY, KAMPALA
PhD. (Environmental Sciences). Thesis Title: "Remotely sensed data: potential for mapping Uganda's savannas".

- 1991-1994 MAKERERE UNIVERSITY, KAMPALA
MSc. (Environmental Sciences) Thesis Title: "Creation and Application of a Digital Land Resource Database for Rational Land Use Planning for Rural Areas of Uganda": a case study of areas adjacent to Kibale National Park.

- March, 2007- UGANDA MANAGEMENT INSTITUTE
date **Registered Masters student (Management Studies) Subjects:** Research Utilization, Communicating Research Findings, Project Monitoring and Evaluation

- 1985 - 1988 MAKERERE UNIVERSITY, KAMPALA. Bachelor of Science (Forestry) Subjects

- 2005-2006 Uganda Management Institute (UMI). **Postgraduate Diploma in Project Planning and Management**

(E) SPECIALIZED TRAINING:

- | Year | Institution and training |
|-------------|---|
| 2007 (Nov) | Outcome Mapping and Ecohealth Approach, IDRC-Nairobi, Kenya |
| 2001 -2002 | The Macaulay Land Use Research Institute, UK
Use of SYMOLAC (System for Monitoring Land Cover) software |
| 2000 | University of Florida, USA
GIS and Remote Sensing for Environmental Analysis and Land Use Planning. |
| 1998 | NEMA, Uganda
Environmental Impact Assessment for Development Projects in Uganda (training workshop) |
| 1997 | Geography Department, Kings College London, UK.
GIS and Remote Sensing techniques for environmental monitoring and modeling |
| 1995 | Makerere University, Institute of Computer Science
Computer Programming (C/C++) |
| 1994 | Institute of Terrestrial Ecology, Monks Wood, UK.
GIS and Remote Sensing techniques for Environmental Analysis and monitoring |

(G) RESEARCH EXPERIENCE AND ADVISORY SERVICES RENDERED TO LOCAL, NATIONAL AND INTERNATIONAL COMMUNITIES:

Year	Consultancy work
2010	Consultancy services to COWI-Uganda: preparation of a chapter on the linkages of land cover/use/vegetation to water resources for a technical assessment report for the Directorate of Water Resources Management (DWRM).
2010-2013	Research Coordinator (Uganda Chapter): Addressing the Impact of Climate Change on Agricultural Systems in East Africa: Application of the CLIP Coupled Climate-Crop Modeling System in Kenya, Tanzania and Uganda. Rockefeller Foundation funded project to Michigan State University (USA), ILRI, Dar University and Makerere University Trainer, Gulu University, Uganda: Habitat mapping and modeling to Gulu University Staff for WCS/USAID WILD North Project.
2009	Project team leader, Uganda: Baseline study for USAID Project on Livelihood Enterprises for Agricultural Development (LEAD) in Uganda.
2009	GIS specialist, Uganda: development of a GIS/MIS for the Geological Department, Government of Uganda/World Bank.
2008	Project team leader, Uganda: A customizing GIS/MIS for USAID/Uganda Mission.
2007	World Bank Technical Advisor, Nepal: Mapping of Micro Financial Institutions across Nepal.
2007	Project leader, Uganda: Malaria Knowledge translation for Bushenyi District Communities IDRC- Makerere University.
2004 - 2007	GIS/land use specialist, Uganda: The interaction between land and climatic parameters in East Africa for National Science Foundation/Michigan State University (USA).
2004	Project team leader, Uganda: Mapping the extent of farmed ecosystems in West Nile region using satellite data for Prime Minister's Office/Italian Regional Technical Cooperation Unit.
2005	Project Component Leader, East African Community: "Preparation of the land use/management component for Lake Victoria Environmental Management Project Phase II" for World Bank and the East African Community. The project was approved for funding by the World Bank in February, 2009.
2006-2008	Project Leader, Uganda: "Ecosystem approach to human health as a tool for understanding the impacts of malaria on the socio-economic status of rural communities in Uganda: The case of changing farming systems in Western Uganda" for International Development Research Centre - Makerere University.
2004 - 2006	Team leader, Uganda: Establishment of a GIS database and field surveys for the Productive Resource Investments for the Management of the Environment in South Western Uganda (PRIME-West) for USAID/Uganda.
2004 -2008	Team leader, Uganda. Mapping the extent of farmed ecosystems in Karamoja region using satellite data for the Karamoja Data Centre/Italian Regional Technical Cooperation Unit.
2004	Project leader, Uganda. "The impact of tobacco growing on woody biomass distribution

- in Arua District, north western Uganda” for the British-American Tobacco Company.
- 2003 **Mapping specialist, Uganda:** A methodological development for land use change monitoring (using IKONOS data and GPS) for FITCA/ILRI, Tororo District, Uganda.
- 2003 **Project coordinator, Uganda:** “The environmental impacts of increased cattle populations through controlling East Cost Fever” in Uganda for the International Livestock Research Institute (ILRI), Nairobi, Kenya.
- 2001-2004 **Project coordinator, Uganda:** “Land Use Change Analysis as a Tool for Analyzing Root Causes of Biodiversity Loss and Land Degradation in East Africa – Uganda Chapter” for ILRI/GEF/UNEP.
- 2003 **Project design team member, Uganda:** Improving rural employment and incomes of southwestern Uganda using a landscape approach for Alternatives Incorporated (DAI)/ USAID.
- 2003 **Project design team member, Uganda:** Linkages between natural resource management (NRM) and poverty in Uganda for the International Food Policy Research Institute (IFPRI).
- 2003 **Project coordinator, Uganda.** Environmental stress and its linkages to societal conflicts (Uganda Chapter) for EU/Partnership for African Environmental Sustainability.
- 2001-2002 **Visiting Researcher, Macaulay Land Use Research Institute, UK:** Evaluation of a **System for Monitoring Land Cover (SYMOLAC)** as a tool for monitoring biophysical-socio-economic parameters in East Africa” for the Scottish Government
- 2000-2001 **Mapping specialist, Lake Victoria Environmental Management Programme (LVEMP), Uganda.** Conducted inventorying and mapping of land use/vegetation types of Nakivubo Swamp using Aerial Digital Camera Data.

(H) RESEARCH GRANTS RECEIVED THROUGH COMPETITIVE PROPOSAL WRITING

USD 265,000 for an ecosystem approach human health: the case of malaria incidences and agricultural practices in Uganda. Funding provided by IDRC-Canada from 2004 to 2006.

USD 18,000 for translating malaria knowledge to rural communities of the Bushenyi District. Funding provided by IDRC-Canada from March to June 2007.

USD 90,000 for using land use changes as a tool to understanding biodiversity loss and land degradation. Funding provided by GEF/UNEP from 2000 to 2004.

(I) PUBLICATIONS

Journal Papers:

1. **Mugisha, S.** and Huising, J. 2002. Optimal Resolution for Large-Scale Vegetation Mapping

- Using Air-Borne Multispectral Data. International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, Vol. XXXIV, Part6/W6, pp. 155-161.
2. **Mugisha, S.** and Huising, J. 2002. Spectra of Mixed pixels: Do they Represent the Actual Land Cover on the Ground? A Case Study for a Wet Savanna Ecosystem in Uganda International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, Vol. XXXIV, Part6/W6, pp. 162-169.
 3. Fuller, R.M, Groom, G.B., **Mugisha, S.**, Ipulet, P., Pomeroy, D., and Ogutu-Ohwayo, 1998. Integration of Remote Sensing, GIS and Field surveys for biodiversity Assessment: a case study in the tropical forests and wetlands of Sango Bay, Uganda. Biological Conservation 86, 379-391.

Research Working Papers:

- Mugisha, S.**, 2003. Root Causes of Land Use Changes in Uganda: An Account of the past 100 years (1900 – 2000). GEF/UNEP/ILRI/MUIENR.
- Pomeroy, D, **Mugisha, S.**, Tukahirwa, J.M., and Namaganda, M., 2003. Linkages between Land Use Change, Biodiversity Loss and Land Degradation. UNEP/ILRI/MUIENR.