

Name	Dr. John Wasige
Area of Expertise	Global Change, Sustainable Agriculture and Development
Languages	English
Contact Address :	
Faculty of Agriculture and Animal Sciences, Busitema University PO BOX 203 Soroti, Uganda	
e-mail: johnwasige@gmail.com, ejwasige@yahoo.com	
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Academic Qualifications	
2015-2016: PostDoc Research Fellow at Makerere University/ ETH Zurich, Switzerland	
2014-2015: PostDoc Research Fellow at Makerere University/ Lund University, Sweden	
<u>PhD</u> Global Change and Sustainable Ecosystems Health Monitoring sciences , University of Twente, The Netherlands, 2013	
MSc. Global Change Ecology, University of Bayreuth, 2018-2020	
MSc. Soil Science, Makerere University, Uganda, 2002-2004	
BSc. Agriculture, Makerere University, Uganda, 1998	
Training certificate in project management in International cooperation, Bonn Germany, 2020	
Other skills (e.g. Computer literacy, etc.)	
<ul style="list-style-type: none"> • Background in large-scale Remote Sensing (multitemporal) and Vegetation biophysical property retrieval from remote sensing (MODIS, Landsat, ASTHER, SPOT-NDVI, NOAA- AVHRR: Image time series processing and analysis (automatic image- time-series modeling) • GIS and geospatial analytics / modeling, Building geodatabases and running GIS models • Solid understanding of the following concepts: Anomaly Detection and Target Detection in large-scale spatial analysis and conservation prioritization, • Knowledge of multi-sector analytical/ Modeling tools (ArcGIS, ENVI, ERDAS, IDRISI, DSSAT, NUTMON, CENTURY, arcSWAT, TIMESAT, QGIS for mapping, system analysis, Scenario analysis, spatial analysis, and simulation modeling) • Programming in: R, Python • Ability to conduct statistical analyses and interpret results in: GENSTAT, SPSS, R, Multivariate Statistical Analysis and MS Excel spread sheets • Experimental Design, Questionnaire Development, Field data collection, editing and analysis 	
Summary of Professional Background	
Dr. JOHN WASIGE holds a PhD in Sustainable Agriculture and Environmental Health Monitoring sciences and 2 (two) international Post-Doc Research experience at European universities of working with global land health projects. His practice areas cover agriculture and rural development, Global	

change and food security, Land and water Health monitoring for food security, Organic agriculture, climate smart agriculture, agricultural and pastoral production, early warning systems, biodiversity conservation and sustainable resource use, development communication, digital development and E-Governance, education and skill development, international environmental policy; project evaluation and proposal development as well as Project Management. He has strong expertise in cross-sectorial approaches such as ecosystem and landscape approaches and relations between ecosystem services and human well-being. He is principal international consultant guiding the implementation and delivery of global change, Agricultural and environmental outcomes for major corporates and the public sector, with multilateral institutions (UNCCD, UNDP (GEF, GCF), FAO, and EU) and USAID. He has experience in global and national capacity building in Environmental monitoring through delivering and moderating in; workshops, webinars and zoom meetings. He has just concluded a lead consultancy assignment as for the ministry of agriculture in Uganda (MAAIF) and UN-FAO, where he developed Long-Term Agriculture Strategies (LTS) under future climate change and as a contribution to updating Nationally Determined Contributions commitments to the Paris agreement. The scope of that assignments included the following;

- Characterize the current climate change baseline impacts and vulnerability for agriculture in Uganda;
- Review past climate change modelling information for Uganda and identify the gaps;
- Provide an ensemble of downscaled Regional Climate Model (RCM) projections from the ten Coordinated Regional Climate Downscaling Experiment (CORDEX) to support building of future climate scenarios; Using RCPs (2.6, 2.5, 8.5) develop future climate scenarios for the agriculture;
- Simulate selected agricultural commodities (crops, livestock, fisheries and aquaculture) under future climate scenarios to determine adaptation and mitigation options;
- Delineate agricultural hotspots based on the future projections - reference period 1981-2010;
- Development of long term low carbon, climate resilient agricultural development pathways for upscaling the best practices, lessons learnt and present to the national stakeholders and other experts.

He has strong managerial competency with experience in Results Based Management to organizational goals, project implementation, monitoring and evaluation and fostering regular discussion of performance and provision of feedback and coaching to staff. He is mature and confident in dealing with senior and high ranking members of national and international institutions.

He has a strong record of English writing, video documentation skills, communication skills and publication based on independent thinking.

Vision: creating a thriving planet for all living beings for generations to come.

Career Goal: His ultimate goal is to advance our knowledge to Increase Food Production, household Incomes, ecosystem restoration and to achieve a balance between development and sustainable ecosystems.

Research Statement: He is motivated by a fundamental curiosity as to how the Global Earth System works and a belief that we must understand the consequences of human-caused changes to the earth system, the way the earth's living systems function, and how to control the negative consequences. To achieve this, I am guided by the following;

- To study World Biomes/ Ecosystems at landscape, regional and global scales and make fundamental use of geographic information systems, satellite imagery, airborne data and, surface observations, ground measurements and agent-based, dynamical, process-based, and geo-statistical modeling to address large scale ecosystem dynamics and land-climate interactions, elucidate how these complex systems respond to external and internal stressors, perform regional risk/ scenario analysis and forecasting of coupled natural human systems
- By using advanced theories of applied systems analysis, new information technologies and integrated biophysical, social and economic modeling techniques to develop rational, realistic and science-based regional, national and global strategies for the production of food, feed, fiber, and bio-energy that sustain ecosystem services and safeguard food security.
- To teach and mentor the next generation leaders who are able to critically assess, develop, and promote sustainable futures for life on Earth.

Causes John cares about

- Sustainability
- Environmental/ Ecosystem Health
- Human Systems and Environment
- Poverty Alleviation
- Food security
- Climate change and drought
- information technologies for development

Signature Areas

- climate change adaptation and mitigation
- Soil degradation and restoration
- Soil health and global food security
- Soil quality and sustainable agriculture
- Conservation agriculture
- Soils of the tropics

Research Interests

- World Agricultural Production Agriculture: Food Security and Livelihoods, Food Security Early Warning systems (real-time monitoring agriculture production), management of spatial-temporal variability in agricultural systems;
- Agricultural development in developing countries: Sustainable management of soil and water resources, Restoration and rehabilitation of degraded soils including mine lands, soil resilience, water quality, soil structure and compaction, Conservation agriculture, Agroforestry, Soils of tropical agroecosystems, Natural resources management with emphasis on food security and environmental quality;
- Global Environmental Change: climate change/drought impact assessment, Vulnerability Assessment, Disaster Risk Reduction (DRR)/ community resilience;
- Biosphere-Climate Interactions: Land degradation assessment and control, Ecosystem Goods and Services, Land Use and Land Cover Change, Hydrology and Erosion modeling, Food and Freshwater Security, Human- Global Biogeochemical Cycles, Environmental Impact Assessment (EIA), Strategic Environmental Assessment (SEA), species distributed modeling, spatial statistics and GIS/Remote Sensing

Regional Experience

Africa (West, East, South, Central), Europe (Netherland, Sweden, Belgium, Germany, Croatia, Italy), USA (Georgia, Colorado, S. Dakota, Minnesota, Boston), South America (Brazil), Asia and Global Small Island countries

Professional Associations

- The Group on Earth Observation's Global Agricultural Monitoring (GEOGLAM)
- Global Observation of Forest and Land Cover Dynamics (GOFC-GOLD)
- The Association Of African Remote Sensing Of The Environment (AARSE)
- University Network for Disaster Risk Reduction in Africa (UNEDRA)
- African Soil Science Society (ASSS)
- African Association for Biological Nitrogen Fixation (AABNF)
- Environmental Practitioner (EIA & Environmental Auditor) of Uganda
- World Association of Soil and Water Conservation
- Member, Uganda Group of the African Network of Ethnobotany (UGANEB)

Publications experience

- Kabirigi, M., F. K. Ngetich, K. K. Mwetu, P. Rushemuka, E. J. Wasige, Vicky M. Ruganzu, and N. L. Nabahungu, 2017. Implications of tillage practices, management of soil surface and fertilizer application on sustainable dryland agriculture: A case study of Eastern Rwanda. African Journal of Agricultural Research. Vol. 12(31), pp. 2524-2532. DOI: 10.5897/AJAR2017.12289
- Sakirat M. Shuaibu, John A. Ogbodo, Ejiet J. Wasige, Sani A. Mashi, 2016. Assessing the impact of agricultural drought on maize prices in Kenya with the approach of the SPOT-VEGETATION NDVI remote sensing. Journal for Food, Agriculture and Society, Vol 4, No 3: 8-18
- Kassim Ssekabira, Twaha Ali Basamba, Simon Peter Okurut, John Wasige, Ann Tumushabe, 2016. Carbon Sequestration for Enhanced Soil Quality in the Lake Victoria Crescent of East Africa. International Journal of Ecological Science and Environmental Engineering, 3(1): 32-36.
- Wasige, E.J., Groen, T.A., Rwamukwaya, M.B., Tumwesigye, W., Smaling, E.M.A., Jetten V., 2014. Contemporary land use/land cover types determine soil organic carbon stocks in south-west Rwanda. Journal of Nutrient Cycling in Agroecosystems. 100:19-33. DOI (10.1007/s10705-014-9623-z)
- Wasige, E. J., Groen, T. A., Smaling, E., Jetten, V., 2013. Monitoring Basin-Scale Land Cover Changes in Kagera Basin of Lake Victoria Using Ancillary Data and Remote Sensing. International Journal of Applied Earth Observation and Geoinformation 21, 32-42.
- Bamutaze, Y., M. M. Tenywa., M. J. G. Majaliwa., V. Vanacker., F. Bagoora., M. Magunda., J. Obando., and J. E. Wasige., 2010. Infiltration characteristics of volcanic sloping soils on Mt. Elgon, Eastern Uganda. Catena Volume 80, Issue 2: 122-130. doi:10.1016/j.catena.2009.09.006
- Wasige, E.J., Tenywa, M.M., Byalebeka, J.B., Majaliwa, M.J.G., Lufafa, A., 2002. Evaporation measurement and validation of meteorological models. MUARIK bulletin 5, 88-91. ISSN 1563-3721.

Monographs:

- Wycliffe Tumwesigye, John Wasige, Groen Thomas, 2015. EFFECT OF LAND USE CHANGE AND SLOPE POSITION ON SOIL ORGANIC CARBON IN KITABI WATERSHED RWANDA (https://www.geotechrwanda2015.com/wp-content/uploads/2015/12/148_Wycliffe-Tumwesigye.pdf)
- Sliuzas, R.V., Lwasa Shuaib, Jetten, V.G., Petersen, G., Flacke, J., Wasige, E.J. Searching for flood risk management strategies in Kampala. In: Planning for resilient cities and regions: proceedings of AESOP-ACSP joint congress, 15-19 July 2013, Dublin, Ireland. 10 p
- Wasige, E. J., 2009. Assessment of the Impact of Climate Change and Climate Variability on Crop Production in Uganda. END OF PROJECT TECHNICAL REPORT SUBMITTED TO START/ US National Science Foundation (<http://start.org/download/gec08/wasige-final.pdf>)

- Wasige, J. E., M.M. Tenywa, and G. Wyseure, 2006. Sensitivity analysis of the P-T model for promotion of water harvesting in the banana-coffee farming systems of Uganda. Proceedings of the 23th conference of the Soil Science Society of East Africa. 20th -24th December, HOTEL BROVADMasaka Uganda
- Musiime, O., M.M Tenywa, M.J.G Majaliwa, A.Lufafa, D.Nanfumba, J.Wasige1, P.L. Woomer2, &M.Kyondha, 2006. Soil moisture stress effect on yield in the rice production systems of Uganda. Proceedings of the 23th conference of the Soil Science Society of East Africa. 20th -24th December, HOTEL BROVADMasaka Uganda
- Nanfumba, D., M.M. Tenywa, O. Okui, P.L. Woomer, J.G. Majaliwa, A. Lufafa, O. Musiime and E. J. Wasige, 2006. Identification and characterization of the anopheles mosquito breeding habitats in wetland rice systems of Uganda. Proceedings of the 23th conference of the Soil Science Society of East Africa. 20th -24th December, HOTEL BROVADMasaka Uganda
- Nanfumba, D., M.M. Tenywa1, O. Okui, P.L. Woomer, J.G. Majaliwa, A. Lufafa, O. Musiime, M. Kyondha and E. J. Wasige, 2006. Effect of labour loss due to malaria on expected paddy rice yield in Bugiri district, Uganda. Proceedings of the 23th conference of the Soil Science Society of East Africa. 20th -24th December, HOTEL BROVADMasaka Uganda
- Nanfumba, D., Tenywa, M.M., Musiime, O., Majaliwa, M.J.G., Kyonda, M., Okui, O., Woomer, P.L., Wasige, E.J., Lufafa, A. 2005. Evaluation of the spatial prevalence of malaria in paddy rice growing systems in Uganda. Proceedings of the 7th African Crop Science Society Conference 5th -9th December Entebbe Uganda

Books and book chapters

- John A. Ogbodo, Ejiet John Wasige, Sakirat M. Shuaibu, Timothy Dube and Samuel Emeka Anarah, 2019. Remote Sensing of Droughts Impacts on Maize Prices Using SPOT-VGT Derived Vegetation Index. In P. Castro et al. (eds.): Climate Change-Resilient Agriculture and Agroforestry, Climate Change Management. Ecosystem Services and Sustainability. Springer Nature Switzerland AG. https://doi.org/10.1007/978-3-319-75004-0_14
- Wasige John E., Michel Kabiligi., Norman Kwikiriza., Robert Mwerera., Jane Bemigisha, Timothy Lubanga., Charles Galabuzi., Gerald Eilu., Daniel Nkondola, 2013. Planning Future Adaptation to climate change impacts on Crop yield in the upper catchment of Lake Victoria Basin. CABI book papers (in the press)
- Wasige John E., Michel Kabiligi., Norman Kwikiriza., Robert Mwerera., Jane Bemigisha, Timothy Lubanga., Charles Galabuzi., Gerald Eilu., Daniel Nkondola, 2013. Detecting long-term rainfall changes in Kagera basin to support climate change adaptastion policy. CABI book papers (in the press)
- Wasige John E., Michel Kabiligi., Norman Kwikiriza., Robert Mwerera., Jane Bemigisha, Timothy Lubanga., Charles Galabuzi., Gerald Eilu., Daniel Nkondola, 2013. Local perceptions to climate change effects and food security in the upper catchment of lake Victoria basin. CABI book papers (in the press)

Membership of professional bodies:

- The Association Of African Remote Sensing Of The Environment (AARSE)
- African Soil Science Society (ASSS)
- Global Observation of Forest and Land Cover Dynamics (GOFC-GOLD)
- The Group on Earth Observation's Global Agricultural Monitoring (GEOGLAM)
- African Association for Biological Nitrogen Fixation (AABNF)
- Environmental Practitioner (EIA & Environmental Auditor) of Uganda
- University Network for Disaster Risk Reduction in Africa (UNEDRA)
- World Association of Soil and Water Conservation

Prizes and scholarships

2015:2016: The Swiss Government Excellence Scholarship Award for Post-Doctorate Research

2014-2015: Swedish Institute Scholarship award for Post-Doctorate Research

2008-2013: Netherlands Fellowship Programme (NFP) award for PhD studies

2000-2002: The Rockefeller Foundation Scholarship award for M.Sc. Graduate Studies

1994- 1998: Uganda Government Scholarship award for under graduate studie

Current Grants Work:

Delivering crop yield nowcasts and forecasts by integrating satellite data and crop modelling in Sub-Saharan Africa. **\$300,000**. USAID funded project

Past Grants Work

- Targeting Crop Yield Increases Under Future Climate for Greater Food Security in Kagera Transboundary watershed (2011-2012): **\$45000**, START/US National Science Foundation funded project
- Improving NUTMON methodology for quantification of soil nutrient balances in steep landscapes (2011-2012): **\$12000**. IFS funded project
- Assessment of the Impact of Climate Change and Climate Variability on Crop Production in Uganda (2008): Amount: **\$14000**, START/ US National Science Foundation funded project

Collaborative projects Work:

- Integrated flood management in Kampala (Uganda): Overall assessment of flood risk with pilot flood hazard mapping: Client: UN habitant/ Kampala City Council Authority (KCCA), Uganda: Through this project, I have, Characterized rainfall and temperature changes during the last 30-50 years, Documented impacts of climate change on livelihoods and food production, Documented promising adaptation strategies to crop production, Modeled project climate change impacts and promising adaptation measures in the future and Made recommendations on policy and the regulatory framework. February-December/2012: Amount: **£200,000**
- Efficient Use of crop residues-Animal Feed versus Conservation Agriculture. ASARECA funded project involving Uganda, Ethiopia Agricultural Research Organizaion (EARO), Selian Agricultural Research Institute,Tanzania and KARI, Kenya (2006-2008). Amount: **£415, 000**
- GIS and Remote sensing Applications to strengthen decentralized local government planning and decision making in rice production systems of Uganda. Donor: Rockefeller Foundation (2004-2006). Amount: **\$65000**
- Application of the PARCHED-THIRST MODEL in selection of best Bet rain water harvesting practices for Lake Victoria Basin Uganda. VLIR SOUTH-INITIATVE. Cooperation between Makerere University, Kampala and Katholieke Universitiet Leuven, Belgium (2005-2006). Amount: £15, 000
- January-March/2005: Public Policy: “Halving Hunger by 2015 in the context of Millennium Development Goal: it can be done”. An input into the development of Uganda’s national plan to achieve the hunger MDG. **Client:** UN/ Hunger Task Committee, Uganda
- February-December/2003: **Development of Water for Production Strategy 2003 – 2015**. Water Sector Reform: Water for Production Component. 2003. **Client:** Directorate of Water Development. Ministry of Water, Lands, and Environment, Uganda.
- February-May/2002: Assessment of Environmental Degradation in Usuk and Ngariam Sub-counties (Katakwi District Uganda) April 2002; **Client:** Makerere University Institute of Environment

Professional Experience

Date from – Date to	Location	Employer	Position	Description
November – December 2021	Uganda	UNDP	Consultant	<p>Documentation of Lessons Learned and Best Practices for Climate Smart agricultural (CSA) project in Budaka, Bugiri, Busia, Buyende, Kaliro, Kamuli and Namutumba Districts</p> <p>(1) I Documented Climate Smart Agricultural Lessons Learned And Best Practices In Buyende, Bugiri, Busia, Budaka, Kamuli, Kaliro, And Namutumba Districts,</p> <p>(2) I reviewed Policy, Legislative and Institutional Changes and Steps Required in Ensuring Appropriate and Effective Scaling Up of Climate Smart Agriculture in Uganda, and</p> <p>(3) I Developed A Strategic Plan for Ensuring Appropriate and Effective Country Wide Upscaling of Climate Smart Agricultural Practices in Uganda.</p>
July - September 2021	Uganda	UNDP	Consultant	<p>Mid-Term Evaluation of the project: UNDP/GCF project “Building Resilient Communities, Wetland Ecosystems and Associated Catchments In Uganda Project” (PIMS 5711).</p>
August - October 2020	Uganda	UNDP	Consultant	<p>Terminal Evaluation of the project: Integrated Landscape Management for Improved Livelihoods and Ecosystem Resilience in Mount Elgon</p>
2020	Rome Italy	FAO/ MAAIF	Climate Change/ Nationally Determined Contributions (NDC) Specialist	<p>Low Emission and Climate Resilient Development (LECRD) Project</p> <ol style="list-style-type: none"> 1. Characterize the current climate change baseline impacts and vulnerability for agriculture in Uganda; 2. Review past climate change modelling information for Uganda and identify the gaps;

				<ol style="list-style-type: none"> 3. Provide an ensemble of downscaled Regional Climate Model (RCM) projections from the ten Coordinated Regional Climate Downscaling Experiment (CORDEX) to support building of future climate scenarios; 4. Using RCPs (2.6, 2.5, 8.5) develop future climate scenarios for the agriculture sector; 5. Simulate selected agricultural commodities (crops, livestock, fisheries and aquaculture) under future climate scenarios to determine adaptation and mitigation options; 6. Delineate agricultural hotspots based on the future projections - reference period 1981-2010; 7. Prepare long term low carbon, climate resilient agricultural development pathways for Uganda and present to the national stakeholders and other experts
2020	Uganda	Busitema University	Senior Lecturer	<ol style="list-style-type: none"> a) Designs, prepares and develops instructional methods and materials b) Delivers lectures and evaluates post graduate and undergraduate students performance c) Supervises post graduate and undergraduate academic research d) Carries out research and publishes academic papers in his field of specialisation e) Participates in the review and development of the university curriculum f) Participates in the university, regional and international academic conferences, seminars and workshops g) Provides technical support and supervision to Lecturers and other junior academic staff
2019	Bayreuth Germany	University of Bayreuth Germany	Research Scientist	Understanding the environmental stresses emerging as a consequence of global change, as well as the consequences of local responses to these stressors
2017_2018	Bonn Germany	The United Nations Convention to Combat Desertification (UNCCD) Bonn Germany on the Land Degradation Neutrality	Associate programme officer	My work involved making a contribution to achievement of Sustainable Development Goal (SDG) 15, Life on Land, and in particular its target 15.3 states: "By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world" and SDG 15.3.1 indicator: 'Proportion of land that is degraded over total land area', as a means to

		<p>target setting programme (LDN TSP) Data Team</p>		<p>understanding the status of land degradation and the potential for land restoration under the Global Mechanism of the UNCCD - Land Degradation Neutrality target setting programme (LDN TSP). I developed and provided to countries ad-hoc high resolution Time-Series Earth Observation (EO) Data derived from Landsat and MODIS for three biophysical indicators (Land cover change (LC), Land Productivity Dynamics (LPD), Soil Organic Carbon (SOC) stocks).</p> <p>My professional responsibilities involves developing Automated open-source (R, python, QGIS) Time-Series processing chain, interpret trends, maintenance and transfer to countries of a Geographical Information Systems service (GIS) and associated high quality biophysical indicators data. The automated process involves: (1) Data cleaning & formatting; Clipping, re-projection, resampling, batch processing, (2). Aggregation/Extraction of IPCC LC classes, (3). Change detection/extraction of change matrix (LC, SOC stocks, LPD), (4). Cross tabulation/ area calculations, (5). Map layout and (6). Communicating products; among other things to help small insland countries (Fiji, cape Verde, Samoa, Comoros, Mauritius, Nues, St. Lucia, Seychelles, Domic, st kitts and nevis, St. Vincent and the Grenadines) in establishing baselines and national voluntary targets for LDN. I have developed a new tool for automated big data process of LPD product . I Supported the provision of the technical backstopping to countries for using selected default geospatial data for the assessment of baselines, interpretation of indicator trends, identification of land degradation processes, establishment of targets and monitoring of progress; Participates in the delivery of capacity building activities and in the development of training materials; Contributes to drafting of background papers and inputs for publications; Supported the identification and dissemination of good practices for establishing and strengthening national land degradation monitoring systems; and performs any other job related activity required to achieve the goals and objectives of the unit, sub-unit, programme of the UNCCD</p>
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November – December	Uganda	UNDP	Consultant	Terminal Evaluation of the project: Strengthening Climate Information and Early Warning Systems (SCIEWS) for Climate Resilient Development and Adaptation to Climate Change Uganda Project
Sep 2015 - Aug 2016	Switzerland	Swiss Federal Institute for Aquatic Science and Technology, ETH Zurich, Switzerland	Research Fellow	Tasks included acquisition, processing, quality assessment of near real-time large scale satellite imagery (MODIS), crop and geospatial databases for development of free & open-source GIS spatial – temporal methodologies for forecasting crop yield in a risky rainfed environment in Sub Saharan Africa. I analyzed Satellite imagery to provides a solution to weather index-based products for crop/ livestock insurance (crop/pasture index). The major output was: 1) developed free & open-source GIS (R, python & QGIS) methodologies/tools for processing a near-real time big data satellite imagery and interpreting trends in biomass/ NDVI changes over Sub Saharan Africa; 2) a manuscript on Integration of Earth Observation / satellite data and crop modeling for mapping real-time crop yield predictions in Africa
Dec 2015	Uganda	UNDP Uganda	Consultant	Terminal Evaluation of the project: Enabling Environment for SLM to overcome land degradation in the Uganda cattle corridor Districts
Sept 2014 - Aug 2015	Sweden	Lund University, Sweden	Research Fellow	Research applied innovative free & open-source GIS methodologies for acquisition, processing, quality assessment and analysis of a 30 year large scale time series of satellite imagery (NOAA AVHRR NDVI) and climate data sets for detecting environmental change and trends in biomass/ NDVI, identifying biophysically resilient landscapes with similar seasonal trends of ecosystem functioning, hot spots analysis and parse out variation due to local and seasonal influences in Sub Saharan African (SSA). The major output was: 1) developed free & open-source GIS methodologies/tools for acquisition & processing a 30 year (1981-2011) big data satellite imagery and interpreting trends in biomass/ NDVI changes as affected by land use and climate change over Sub Saharan Africa; 2) a manuscript on: Monitoring trends and tipping points in phenology from NDVI data and their relationship to climate in Sub Saharan Africa

Jan 2013 - Aug 2014	Uganda	National Research Organisation (NARO)	National Resource and Land use planning Expert	<ul style="list-style-type: none"> • Primary responsibilities involved Identify new research directions; design, facilitate, and publish innovative research • Providing integrated remote sensing/GIS analysis of scientific questions, analyzing time series and Integration multi-temporal and multi-resolution satellite data derived from GIS and remote sensing for environmental planning and food security/ drought monitoring. • Modeling and analysis applied to areas including climate change; natural hazards; natural resource management; resources and planning, and water resources management. • Support the implementation of national policies, strategies and programmes on food security in coordination and consult with national authorities, civil society organizations, parliamentarians and other development partners; • propose practical improvements to existing farming systems, formulate crop budgets and define the technical parameters for the establishment of farm models for financial and economic analysis; • Design and carry out research on the preparedness of vulnerable sectors to cope with land degradation and the current and projected impacts of climate change, in particular those related to food security and biodiversity; • identify opportunities, barriers and solutions for, and participate in, strengthening NARO's role and visibility within government, intergovernmental and interagency processes concerned with environmental agreements and international instruments of concern to the NR management (including UNFCCC, CBD and CCD)
Jan – Feb 2014	Uganda	UNDP	Consultant	<p>Mainstreaming Sustainable Land Management (SLM) activities in the six cattle corridor districts of Uganda</p> <p>Main Program Features: Terminal Evaluation of the SLM-UNDP project Report</p>
Jan 2008 – Aug 2013	Netherlands	ITC-University of Twente, The Netherlands and College of Agricultural	Doctorate Researcher	<p>PhD Thesis title is: SPATIALLY EXPLICIT APPROACH TO DETERMINE HYDROLOGY, EROSION AND NUTRIENTS DYNAMICS OF LAND USE SYSTEMS IN THE UPSTREAM CATCHMENT OF LAKE VICTORIA BASIN). A copy of the thesis can be accessed through the link: http://www.itc.nl/library/papers_2013/phd/wasige.pdf The depth of my PhD</p>

		and Environmental Sciences, Makerere University		programme was built on a suite of modeling tools under GIS platform: NUTMON (nutrient and livelihoods monitoring) model and spatial explicit hydrological and soil erosion model to analyze the interactions between land use changes, crop-livestock systems interactions, livelihoods, food security and the environment at a range of scales (plot, farm, catchment level and basin scale).
Feb 2012 – March 2013	Uganda	UN habitant/ Kampala City Council Authority (KCCA),	National consultant	Integrated flood management in Kampala (Uganda): assessment of flood risk with pilot flood hazard mapping: Through this project, I have, Characterized rainfall and temperature changes during the last 30-50 years, mapped flood risk areas. Documented impacts of climate change on livelihoods and food production, Documented promising adaptation strategies to crop production, Modeled project climate change impacts and promising adaptation measures in the future and Made recommendations on policy and the regulatory framework.
2011-2012	Uganda	START/US National Science Foundation	Principal Investigator	Targeting Crop Yield Increases Under Future Climate for Greater Food Security in Kagera Tran boundary watershed. I worked with farmers and stakeholders to develop community-level climate adaptation plans for farming communities in the cattle corridor using experiential learning approach. During this activity, agricultural production constraints were diagnosed and improved land use and management practices identified
2011-2012	Uganda	International Foundation for Science (IFS)	Principal Investigator	Improving NUTMON methodology for quantification of soil nutrient balances in steep landscapes. This study found out that the current agricultural production systems in south west Rwanda promotes soil fertility mining. Nutrient losses were mainly the result of erosion, crop harvest and leaching. The options for nutrient replacement being promoted include; fertiliser application, minimum or zero tillage, rotations containing grain legumes, rotations containing legume and grass legume, a combination of one or more of the above options plus erosion control measures in the cropping systems.
2008	Uganda	START/ US National Science Foundation	Principal Investigator	Assessment of the Impact of Climate Change and Climate Variability on Crop Production in Uganda: Amount: \$14000. I have applied GIS-DSSAT crop model

				to assess climate change and management impacts on crop production in Uganda (http://start.org/download/gec08/wasige-final.pdf). The outcomes of this study were also presented during national workshop and FAO Uganda food security cluster meeting.
Oct 2002 – Aug 2009	Uganda	College of Agricultural and Environmental Sciences, Makerere University	Graduate Researcher	Primary responsibilities as faculty member were to: 1) offer undergraduate/ graduate courses in: 1) SOS 4204: Soil Productivity Management & Assessment, SSL 4105: Remote sensing & GIS in Land Use/ land degradation assessment, SOS 4101: Soil Survey & Land Evaluation, SOS 3201: Soil Conservation & Land Reclamation; SSL 3103: Agricultural Land Resources and Environment Management, 2) coordinate the GIS Certificate Programmes; 3) mentoring undergraduate/ graduate research projects; 4) obtain external funding for faculty. The position was approximately 70% research, 20% teaching/advising, and 10% outreach and service
Jan - Dec 2005	Uganda	UN-FAO	Research Assistant	Uganda Conservation Agricultural (CA) Project (Part-Time) I was responsible to link crop, livestock, forest researchers with farmers, identifying training gap and organize training for farmers, development agents (DAs) and experts, field days and field visits, popularize and disseminate agricultural technologies generated by the centers, and coordinate assessment and diagnostic studies. As planning and M&E representative, I monitored whether budgets and other properties were used properly for the intended purposes and whether research activities were running smoothly. I also facilitated quarterly review meetings and compiled monthly, quarterly and yearly physical and financial reports of the center. Built capacity of farmer field school facilitators and service providers in experiential learning methods to assist farmers in diagnosing and addressing their soil and water management and production constraints, developing improved land use and management practices in Uganda, Kenya, and Ethiopia.
Nov - Dec 2003	Uganda	Katholieke Universiteit Leuven of Belgium	Visiting Scientist	Worked and conducted research on application of the PARCHED-THIRST model in land management planning in Uganda. The major output was an article on sensitivity analysis of the of the PARCHED-THIRST model

Mar - Dec 2003	Uganda	International Food Policy Research Institute	Research Assistant	Tasked with supervising research team collecting data for food policy analysis. I was responsible for supervise staff and developing work plans and planning the surveys. I was responsible for checking the quality of data recorded by enumerators, preparing data for input into computers. Train subordinate staff on how to analyze and present data. Other responsibilities included; compiling and synthesis research results, compiling and organizing journal articles, updating and maintaining databases, assisting in related to programs and projects, assisting in coordinating meetings and travel arrangements and preparing materials
Feb – May 2002	Uganda	Makerere University Institute of Environment	Research Assistant	Assessment of Environmental Degradation in Usuk and Ngariam Sub-counties (Katakwi District Uganda) April 2002;
Jan 1999 – Sept 2002	Uganda	Ministry of Agriculture, Animal Industries & Fisheries	Agriculture Officer	Responsible for planning agricultural production, conducting surveys to identify farmers' problems and advice on modern methods of land and water resource utilization, design and effective data collection protocols on the potential for farming intensification by smallholder and resource-poor rural households, design and analysis of on-farm soil trials, sensitizing non-technical groups on sustainable environmental management, write articles on state of food security and environment. I always had a strong interest to change farmers' life though agricultural research and many technologies which I believe are available from different research institute but remain on the shelf. The only option to change farmers' life, and this will be true only through sustainable agricultural technology.

REFEREES

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