

MARTINS MUSUNGU

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PERSONAL STATEMENT

Results-driven professional with over 8 years of proven expertise, excelling in spatial analysis, project management, and sustainable urban development. Proficiency lies in utilising Geographic Information Systems (GIS) tools, scripting languages, and remote sensing techniques to provide actionable insights for evidence-based decision-making. Successfully led GIS technology integration, initiated capacity-building programs, and managed diverse projects from inception to fruition. As an effective communicator, specialise in translating complex technical information into accessible formats for non-technical stakeholders. Committed to catalyzing positive change through innovative geospatial solutions, eager to leverage skills in GIS, project management, and urban planning in a dynamic and impactful role.

KEY ACHIEVEMENTS

- Awarded fully funded Commonwealth Shared Scholarship for academic excellence and developmental impact, to pursue an MSc in Geographical Information Management at Cranfield University, UK (Cranfield University, 2022/23).
- Ranked in the top 5% of the graduating class in Bachelor of Urban and Regional Planning, at Maseno University, Kenya, demonstrating academic prowess and impactful contributions (Maseno University, 2015).

EDUCATION

MSc Geographical Information Management, Cranfield University, Cranfield, UK

Sept 2022 – Oct 2023

- **Modules:** GIS and Spatial Data Management, Scientific Python, Aerial Photography and Digital Photogrammetry, Applied Earth Observation, Image Processing and Analysis, Advanced GIS, and Environmental Resource Survey.
- **Group Project:** Assessment of Agriculture water demand and drought risk in Eastern England.
- **Individual Project:** Urbanisation and Built-up Area Change Detection Using Remotely Sensed Data: A Case Study of Nakuru, Municipality, Kenya by incorporating advanced predictive modeling techniques.

BA, Urban and Regional Planning, With IT, Maseno University, Maseno, Kenya

Aug 2012 – Dec 2015

- **Grade:** 1st Class Honours.
- **Individual Thesis:** Assessment of Water Scarcity in Nabuganda, Samia Sub-County.

CAREER HISTORY

Centre for Training and Integrated Research in Arid and Semi-Arid Land Development (CETRAD), Nanyuki GIS and Remote Sensing Analyst

Sept 2022 –
Present

Bilateral Institution between the Government of Kenya (through The Ministry of Water, Sanitation and Irrigation) and the Government of Switzerland, through the Centre for Development and Environment (CDE) of the University of Bern.

- Facilitated capacity-building sessions for 12 practicing officers from Somaliland and Puntland, equipping them with GIS-based land use planning skills. This initiative is to enhance sustainable development strategies, reducing unplanned land expansion and conflicts.
- Facilitated mobile GIS data collection using Survey123, Kobo Collect, and ArcGIS Field Maps, improving their geospatial data collection skills for land use planning.
- Developed web mapping applications using ArcGIS Online, increasing accessibility of spatial data for stakeholders in water resource and rangeland management.
- Conducted wildlife conflict mapping and species monitoring, leveraging GIS and remote sensing to analyze animal movement and identify critical human-wildlife interaction hotspots, enhancing conservation strategies.
- Conducted site suitability analysis for the Kenya Cereal Enhancement Programme - Climate Resilient Agricultural Livelihoods Window (KCEP-CRAL) across 8 counties, leveraging advanced GIS techniques. This effort promoted precision agriculture, improving productivity and climate resilience in ASAL areas.

Collection Africa Limited, Kisumu, Kenya, Lead GIS Analyst

Feb 2019 – Sept 2022

A third-party debt collection company that incorporates geospatial technologies to improve credit recovery for the government and private sector.

- Successfully spearheaded the integration of GIS technology in land management, resulting in enhanced data integrity and a remarkable 55% revenue increase for the Kisumu County Government during the fiscal year 2019/2020.
- Developed periodic GIS reports, presentations, story maps, and interactive web maps, integrating statistical analysis results to provide enhanced insights, contributing to the recovery of approximately \$ 5 million in outstanding debts in Meru, Kisumu, and Nakuru Counties.
- Utilised ArcGIS Online to facilitate streamlined data collaboration, contributing significantly to improved project efficiency and overall success, saving an estimated 15% of project time.
- Leveraged scripting languages, including Python, R, JavaScript, and SQL, for GIS data capture, geospatial analysis, and data visualisation, resulting in a 25% reduction in data processing time, enhancing operational efficiency and decision-making processes.
- Developed and secured approval for 3 comprehensive project proposals from GIS system users, contributing to a 20% increase in the overall project approval rate. Provided valuable guidance to management and stakeholders by integrating insights on GIS feasibility and user requirements.

Spatial Design Solutions, Nairobi, Urban Planner and GIS Assistant

Sept 2017 – Dec 2018

A private consultancy firm based in Nairobi, Westlands, Kenya offering Land Surveys, GIS Mapping, Environmental Impact Assessment and Urban planning services.

- Formulated and implemented sustainable urban and regional development plans, resulting in a 20% increase in community participation and a 15% reduction in project completion time, enhancing overall project efficiency.
- Organised and conducted 12 workshops, 20 training sessions, 15 presentations, and 8 networking events, impacting over 300 individuals, to communicate GIS insights to non-technical stakeholders, fostering better understanding, collaboration, and professional connections.
- Led capacity-building initiatives by training and supervising 8 staff in GIS software applications, report writing, development plans, and environmental impact assessment reports, contributing to the dissemination of skills and knowledge in urban planning and GIS. 80% of staff trained reported improved proficiency in GIS software and report writing.
- Developed 30 GIS digital land use thematic maps to enhance project planning, incorporating system maps to improve overall spatial understanding and facilitate seamless integration with the broader GIS infrastructure.
- Prepared over 50 comprehensive development control reports for small and large-scale development projects, securing approval from local authorities, and ensuring projects were completed within the estimated timeline and budget.

Geodev Kenya Ltd, Nairobi, GIS Assistant

Jan 2016 – May 2017

A reputable consultancy firm based in Imara Daima, Nairobi Kenya offering Land Survey, GIS Mapping, Information technology, Urban Planning and Environmental Impact Assessment services.

- Coordinated GIS operations of a 4-member team in the Road Inventory and Conditioning Survey (RICS) project employing advanced techniques in spatial network analysis. Successfully mapped 1500 km of the road network ensuring accurate documentation of road assets through field surveys and quality checks on GIS data.
- Led the digitalisation of more than 10,000 parcels of land from satellite imagery in preparation for the Uasin Gishu spatial plan project while ensuring protocols for data integrity.
- Conducted data cleansing and processing of key satellite imagery for the Road Inventory and Conditioning Survey resulting in a 15% improvement in data accuracy and streamlined decision-making processes.
- Produced geospatial products including 20 digital maps to represent the road inventory for the coastal region of Kenya increasing accessibility and understanding by the technical and non-technical stakeholders.

SKILLS, INTERESTS & EXTRACURRICULAR ACTIVITIES

- **Languages:** Fluent English.
- **Skills:** ArcGIS and QGIS application, Spatial Analysis, Spatial Data Modeling, Geospatial Data Integration & Governance, Cartography, Data Visualisation, Data Cleaning Image classification, Programming and Automation, Web Mapping, Google Earth Engine, Data Collection: Kobo Collect, ArcGIS Field Maps, ODK
- **Interests:** Passionate about environmental conservation, geospatial innovation, and community development, avid traveler, football enthusiast, and dedicated to personal and professional development.
- **Volunteering:** Member of Cranfield Green Team for Environmental Conservation; Nanyuki Furaha Foundation
- **Memberships:** Graduate Member, Kenya Institute of Planners, National Environmental Management Authority Associate Expert.