

Lucy Kimani

Location: Nairobi, Kenya

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PROFESSIONAL SUMMARY

As an accomplished professional in **Geospatial Information Science and Remote Sensing**, I bring expertise in **spatial analysis, GIS, and machine learning**. My passion lies in addressing critical global challenges, particularly in agriculture, climate change, and environmental impact.

My expertise lies in **creating efficient workflows** and utilizing advanced technology for spatial data analysis. I unravel complex patterns in land systems, agriculture, climate, and the environment. I work with both spatial and non-spatial data, leveraging tools like **Google Earth Engine, QGIS, and the ArcGIS suite**. Additionally, I automate these workflows using programming languages such as **R and Python**.

As an Environmental Impact Assessment (EIA) Specialist, I **advocate for sustainable practices, ensuring a harmonious balance between human activities and the environment**.

TECHNICAL SKILLS

Languages	: Python, R
GIS software	: Esri ArcGIS Suite, and ArcGIS Online, QGIS
Libraries	: Leaflet, Open Layers, Geopandas
Databases	: PostgreSQL
Dev Tools	: Git, Github
Remote Sensing	: Google Earth Engine API for python, ENVI-IDL, SNAP
Data Collection	: ODK, Kobo Collect
Other	: Report Writing, Stakeholder Engagement

EXPERIENCE

Research Consultant <i>Alliance of Bioversity International and CIAT</i>	June 2021 - Present <i>Nairobi, Kenya</i>
<ul style="list-style-type: none">Creating innovative monitoring tools for agricultural systems to enhance our understanding of risks and shocks, facilitating the development of effective adaptation and mitigation strategies.Enhancing and maintaining of the Targeting Tools: a web based and desktop tool, which enable the integration of spatial data for Land Suitability, Land Statistics, and Land Similarity analyses.	
GIS Intern Tropical Forages <i>Alliance of Bioversity International and CIAT</i>	June 2020 – Dec 2020 <i>Nairobi, Kenya</i>
<ul style="list-style-type: none">Leveraging climate and agricultural expertise, enhanced productivity and resilience by matching forage options with specific climatic conditions.	
Geothermal Resource Assessment Intern <i>Geothermal Development Company</i>	Nov 2019 – Apr 2020 <i>Nakuru, Kenya</i>
<ul style="list-style-type: none">Contributed to the successful identification of the most viable places for geothermal drilling through suitability models that incorporated spatial, geophysical, geological, and geochemical data.	
EIA Associate Expert <i>National Environment Management Authority</i>	July 2019– Oct 2019 <i>Nakuru, Kenya</i>
<ul style="list-style-type: none">Through meticulous evaluations, stakeholder collaboration, and effective reporting, I contributed to successful, environmentally responsible project execution and regulatory compliance.	

PROJECTS

Mapping Climate Risks for Resilience

Alliance Bioversity International and CIAT

2022 - Present

Location (Nairobi)

- * Spearheaded the compilation and curation of climate risk datasets across diverse countries, including Ethiopia, Tanzania, Mali, Kenya, Tunisia, senegal , and Colombia. These datasets encompass critical factors like bio-climatic variables, drought, floods, heat stress, and water-logging. The outcome? Climate risk hot-spot maps that precisely pinpoint exposure levels for communities, crops, and livestock.

AirQo African Air Quality Prediction Challenge

Zindi Competitions- AirQo Research Initiative

2024 - 2024

Location (Nairobi)

- * Estimation of PM2.5 levels from satellite observations based on Aerosol Optical Depth (AOD) for eight cities in seven African countries - Lagos, Accra, Nairobi, Yaounde, Bujumbura, Kisumu, Kampala, and Gulu with varying ground monitoring resolutions, using machine learning algorithms

Impact Collaboration

Jameel Observatory

2023 - 2024

Location (Nairobi)

- * Assisted in addressing the challenge question: How can we bridge the disconnects between food security, climatic and natural disaster Early Warning Systems and the anticipatory actions that pastoral and agro-pastoral communities in the Horn of Africa can take to overcome recurring shocks and threats to their lives and livelihoods?

Targeting Tools Enhancement and Capacity Building

Alliance Bioversity International and CIAT

2022 - Present

Location (Nairobi)

- * This project not only expanded the geodatabase with new datasets but also provided our team with crucial skills for effective decision-making. I led capacity-building initiatives through webinars and hands-on training sessions.

Forage Suitability Analyses - Zambia

Alliance Bioversity International and CIAT

2020 - 2021

Location (Nairobi)

- * Analysed various forages(22 Species) under both current and future climate scenarios.

EDUCATION

Dedan Kimathi University of Technology

Bachelor of Science in Geospatial Information Science and Remote Sensing

Nyeri, Kenya

Sep 2015 – Apr 2019

TRAINING

Digital Earth Africa

Digital Earth Africa Agriculture and Food Security

Africa

Jan 2024

EO College (Land in Focus

Land in Focus: Hazards and Disasters

Online

March 2024

EO College (Earth Observation)

Towards Zero Hunger

Online

Apr 2024

EO College (Earth Observation)

Agriculture and Food

Online

May 2024

ESRI Training

GIS for Climate Action

Online

May 2024

PUBLICATIONS / POSTERS

- [Current and future forage suitability maps for Zambia](#)
- [Storymap-Current and future forage suitability maps for Zambia](#)
- [Scientific Contribution to the Tropentag 2023 Conference themed:Competing pathways for equitable food systems transformation:trade-offs and synergies under Climate change, Agriculture and Adaptation](#)