MERCELINE AWUOR OJWALA

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Professional Overview

Experience in; Mapping and Monitoring with 15 years of experience in applying Geographic Information Systems (GIS) and Remote Sensing tools in ecological and statistical analysis, Capacity building on new and upcoming GIS and Remote Sensing technology, Research work on Forests & Other Natural Resources monitoring and Assessment; Landcover mapping and analysis, Data generation to support policy formulation and decision-making processes; Offering technical expertise on carbon credits and emissions calculations for the Forest ad Other Land Use (FOLU) sector.

Expertise and Skills

Project Leadership - Technical team training, Data collection, processing, analysis & dissemination; Developing research proposals, work plans and budgeting; Program reporting, monitoring, and evaluation; Advanced satellite data processing; Advanced GIS analysis; Spatial analysis and Machine learning; Geo-database creation and updating, Time-series data analysis; Thematic map generation; Carbon Emissions Calculations - Green House Gas (GHG) Inventory, Forest Reference Level (FRL) reporting; Climate Change - Mitigation and Adaptation; Environmental Impact Assessment and Audit.

Areas of interest:

Land use/Landcover Mapping and Monitoring; Natural Resources Mapping and Monitoring; Landscape Restoration Monitoring; Carbon Emissions Calculations (GHGI and FRL-FOLU Sector); Climate Change - Mitigation and Adaptation; Collaborations and Partnerships.

Core Strengths, Abilities and skills

1. Ability to train and capacity build a diverse team
2. Positive working attitude and ability to give and take instructions
3. Self-motivated with strong professional ethics.
4. Honesty and integrity
5. Ability to adapt to changing environment.
6. Ability to work with minimum supervision.
7. Result oriented, responsible and hardworking.
8. Creativity and innovativeness

1. Adequate skills in both GIS and Remote Sensing software : Erdas Imagine, Envi, Arc GIS, QGIS, and Maps Me
2. Adequate skills in open source software : R, Qfield, Google Earth Engine, ArcGIS Online, Collect Earth Online and Sepal
3. Good skills in Micsosoft office : Word, Powerpoint and Excel
4. Technical Report writing skills and excellent, convincing negotiation and interpersonal skills
5. Good verbal and written communication skills, strong leadership and analytical skills.

Education

PhD in Earth Observation	On-going
MSc. in Geospatial Information System and Remote Sensing	2023
BSc. in Environmental Conservation and Natural Resources Management	2017
Diploma in Environmental Management	2003
Kenya Certificate of Secondary Education (KCSE)	2000
Kenya Certificate of Primary Education (KCPE)	1996

Professional Experience and Technical Competency

I. Currently enrolled for a PhD course in Earth Observation with an interest on integrating earth observation datasets to monitor Dryland forest dynamics in Kenya.

II. Working as a GIS and Remote Sensing Expert at the Directorate of Resource Surveys and Remote Sensing (DRSRS) Nairobi, Kenya.

Major Projects and Activities

1. Developing time series Landcover change maps for Greenhouse Gas reporting under the System for Land-Based Emissions Estimation in Kenya (SLEEK) programme.
2. Coordinating Kenya's Greenhouse Gas Inventory for the Forest and Other Land Use (FOLU) sector modeling team to support United Nations Framework Convention on Climate Change (UNFCCC) reporting.
3. Linking biodiversity, ecosystem functions and services in the Great Serengeti-Mara Ecosystem (GSME) -AfricanBioServices project.
4. National Forest Reference Level for REDD+ Implementation report submitted to UNFCCC in 2020 for Technical Assessment.
5. Improving Activity Data collection through Sample based methodology supported by FAO under Improving Measurement for Payments to Reduce Emissions and Strengthen Sinks (IMPRESS) and AIM for Forest projects.
6. Periodic Mapping and Monitoring of Kenya's water towers and other forests.
7. Nationally Determined Contribution, Biennial Transparency Reporting, National Environment Action Plan and National Adaptation Plan processes for the country.

Key Achievements

1. Coordinating a team that generated landcover time series datasets to support national decision making in the land sector and for carbon emissions calculations for both Greenhouse Gas Inventory and REDD+.
2. Participating in developing the 1st Forest Reference Level (FRL) report and data generation for updating the 2nd FRL report for Kenya.
3. A nominated member to the Roster of Experts under UNFCCC.
4. Undertaking and passing exams on training programme for technical experts participating in the Technical review of Biennial Transparency Reports by UNFCCC.
5. Obtaining a certificate of proficiency (IPCC : Forest and Other Land Use) offered by Green House Gas Management Institute (GHGMI)
6. A core technical team member in national processes of Nationally Determined Contribution, National Communication, National Environment Action Plan and National Adaptation Plan.
7. Participating in generating the Greenhouse Gas Inventory report which formed part of the updated Nationally Determined Contributions submitted to UNFCCC
8. Representing DRSRS in both local and international forums/conferences E.g. Global Forest Observation Initiative and COP28.
9. Initiating and actualizing the signing of MoUs between my organization and other institutions.

Publications

1. Characterization of Forest Degradation beyond Canopy Cover Change.
2. An Integrated Hierarchical Classification and Machine Learning Approach for Mapping Land Use and Land Cover in Complex Social-Ecological Systems
3. Contextualizing Resilience amidst Rapid Urbanization in Kenya through Rural-Urban Linkages.
4. Assessing Tree Species Dominance along an Agro-Ecological Gradient in the Mau Forest Complex, Kenya.