**MAKOANYE MAPHUTSENG**
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## Summary

Passionate and results-driven Soil Scientist with a Master of Science in Integrated Catchment and Water Resources Management, complemented by a strong foundation in Applied Meteorology and Climate Change. I bring over three years of experience supporting government agencies and NGOs through roles such as Project Assistant at Lesotho Meteorological Services and Agricultural Assistant at the Ministry of Agriculture. My work has focused on climate-resilient agriculture, environmental data management, and stakeholder engagement across diverse rural contexts. Experienced in coordinating field projects, delivering technical support, and promoting sustainable land-use practices. Adept at managing workloads efficiently, with strong time management and advocacy skills. I am committed to continuous learning and innovation in environmental science. Explore my GIS portfolio for examples of my work: https://tinyurl.com/5rrrkx2a

## Experience

- **Lesotho Meteorological Services - BTR1/NC4 Project** March 2024 - Present (Part-time)
  Forestry and Other Land Use Sector Technical Contributor - 5th National Greenhouse Gas Inventory
  - Contribute to data collection, processing, and analysis for the Forestry and Other Land Use (FOLU) sector as par of Lesotho's 5th National Greenhouse Gas Inventory.
  - Support development of activity data and emission factor inputsin line with the 2006 IPCC Guidelines.
  - Conduct quality control checks and ensure consistency with previous inventory submissions, improving transparency and accuracy of national reporting.
  - Provide technical insights drawing from experience as former AFOLU sector coordinator during the 4th GHG inventory cycle.
- **Ministry of Agriculture, Food Security, and Nutrition** February 2022 - January 2024
  Agricultural Assistant
  - Encouraged farmers to adopt sustainable practices techniques by providing exposure to new knowledge, information, skills, inputs, and processes, and helping them with information on adapting to climate change.
  - Performed scheduled sub-center farmers' monitoring and data collection on their produce.
  - Participated in government-aided mass animal vaccination for anthrax at Likotsi sub-center.
  - Communicated the most viable markets for farmers' produce.
  - Provided training and support on modern farming techniques.
- **Lesotho Meteorological Services** April 2018 - March 2021
  Project Assistant

- Devised and implemented efficient and secure procedures for data handling and analysis, contributing to the integrity and reliability of meteorological data for monitoring purposes.
- Established and maintained robust data sharing procedures with upper management and external stakeholders, ensuring coherent reporting and collaboration.
- Created and updated records and files to maintain document compliance.
- Managed climate data archiving, data cleaning, and ensured strict Quality Assurance/Quality Control (QA/QC) measures, critical for accurate monitoring and reporting.
- Developed and disseminated Agrometeorological bulletins and performance reports to the public and stakeholders, enhancing information flow and accountability.
- Coordinated data collection and analysis for Agriculture, Forestry, and Other Land Uses (AFOLU) for the compilation of Greenhouse Gases Inventory, directly contributing to national reporting requirements and environmental monitoring.
- Distributed seasonal forecasts and performance results to the public through stakeholder meetings in three selected constituencies in Mohale's Hoek district.
- Represented Lesotho Meteorological Services in the Lesotho Vulnerability Assessment Committee (LVAC), contributing to food security monitoring and timely data for national interventions.
- Monitored household livelihoods to inform decision-makers on drought impacts and appropriate interventions across water, agriculture, food security, and health sectors.
- Provided technical support to ministries and civil society organizations in using climate data for evidence-based decision-making.

## Education

- **National University of Lesotho** 2025
  Master of Science in Integrated Catchment and Water Resources Management
- **National University of Lesotho** 2014
  Bachelor of Science in Agriculture (Soil Science)

## Certifications

- **Water Pollution Management in Achieving SDG 6.3 - Cap-Net UNDP, 2025 (Online Course)**
  Completed a comprehensive training on water pollution drivers, prevention strategies, stakeholder engagement, and policy integration to support Sustainable Development Goal 6.3 on improving water quality.
- **United Nations Climate Change Secretariat — 2024**
  Training programme for technical experts participating in the technical expert review of biennial transparency reports
- **Waternet International Summer School 2024**
  Face-to-Face training by EO Africa R&D Facility, Maseru: Cloud-based Earth observation Image analysis for monitoring surface water dynamics
- **Certificate of Proficiency - Forestry and Other Land Uses (FOLU) 2021**
  GHG Management Institute (GHGMI) – Certificate of Proficiency - Forestry and Other Land

Uses (FOLU) based on 2006 IPCC Guidelines for National Greenhouse Gas Inventories

## Skills

- Advanced experience in Geographic Information System (GIS) and Remote Sensing
- Data collection, management, analysis, and interpretation
- Proficient in R and Python for data analysis and statistical modeling, and SPSS
- Google Earth Engine (gee)
- Climate Change Adaptation | Horticulture | Agronomy | Soil Science | Environmental Management | Integrated Water Resources Management
- Proficient in Microsoft Office Suite, Climsoft, R-Instat, and other tools used for data analysis.
- Problem Solving | Self Learning | Adaptability | Flexibility | Team Collaboration | Communication

## Projects

- **National GHG Inventory (AFOLU coordination)**
  Led data collection, analysis, and quality control for the Agriculture, Forestry, and Other Land Use sector (AFOLU) during the 4th national GHG inventory, demonstrating strong abilities in data processing, analysis, and quality assurance for large-scale environmental reporting
- **Lesotho Vulnerability Assessment and Analysis (2020–2021)**
  Contributed to the Lesotho Vulnerability Assessment and Analysis Report (2020 and 2021) by providing timely data analysis for emergency interventions and programming, and integrating crucial factors like nutrition, chronic illnesses, and gender into vulnerability assessment and analysis. This project demonstrates experience with impact studies and comprehensive data evaluation.

## MSc Research

- **Master's Dissertation – National University of Lesotho (2025)**
  Title: Impacts of Climate Change on Streamflow and Hydrological Extremes in the South Phuthiatsana Catchment
  - Conducted a comprehensive analysis of historical and projected climate data to assess the effects of climate change on streamflow variability and hydrological extremes.
  - Applied hydrological modeling and statistical techniques to evaluate trends, simulate future scenarios, and identify potential risks to water resources.
  - Provided actionable insights to support integrated water resources management and climate adaptation strategies in the catchment.

## Reference

- **Khoboso Seutloali - National University of Lesotho Water Institute (NULWI)**
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- **Dr. Liphapang Khaba - Lerotholi Polytechnic**
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