




UNIVERSITY OF LIMPOPO

11 April 2026
09h00
Onkgopotse Tiro Hall,
University of Limpopo

FACULTY OF SCIENCE AND AGRICULTURE
DOCTOR OF PHILOSOPHY

Matlou Katlego Shirley




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Leading solutions for Africa



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CITATION

Matlou Katlego Shirley investigated wetland ecosystems in the Waterberg Mountain Complex by integrating hydroclimatic variability, physico-chemical water quality, sediment dynamics, heavy metal pollution, and macroinvertebrate assemblages. She demonstrated how climate variability and topographic gradients regulate wetland resilience and directly influence water quality and availability, highlighting their critical role in sustaining water security in semi-arid regions. By incorporating DNA metabarcoding with conventional approaches, she improved biomonitoring sensitivity. This work advances wetland conservation and water resource management, resulting in two peer-reviewed publications in *Sustainability* (MDPI) and *Ecohydrology and Hydrobiology* (Elsevier), and Runner-Up Best Poster Presentation at the National Wetland Indaba 2022.