



# Biodiversity Conservation in Kenyan Protected Areas: Challenges and Opportunities

Njeri Kamau<sup>1</sup>, Eliud Kipchoge<sup>2,3</sup>, Wycliffe Ngumbu<sup>4</sup>, Carmen Ochienga<sup>4</sup>

<sup>1</sup> Department of Research, Kenya Agricultural and Livestock Research Organization (KALRO)

<sup>2</sup> Department of Research, Kenyatta University

<sup>3</sup> Kenya Agricultural and Livestock Research Organization (KALRO)

<sup>4</sup> Kenyatta University

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**Correspondence:** [nkamau@gmail.com](mailto:nkamau@gmail.com)

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## Author notes

*Njeri Kamau is affiliated with Department of Research, Kenya Agricultural and Livestock Research Organization (KALRO) and focuses on Environmental Science research in Africa.*

*Eliud Kipchoge is affiliated with Department of Research, Kenyatta University and focuses on Environmental Science research in Africa.*

*Wycliffe Ngumbu is affiliated with Kenyatta University and focuses on Environmental Science research in Africa.*

*Carmen Ochienga is affiliated with Kenyatta University and focuses on Environmental Science research in Africa.*

## Abstract

Kenyan protected areas play a crucial role in biodiversity conservation, yet they face significant challenges related to management and resource allocation. Data were gathered through standardised surveys conducted in four major protected areas, focusing on species diversity, habitat quality, and human impact levels. Statistical models were employed to assess trends over time. A notable finding is the decline in mammal species richness by 10% across all monitored sites since the inception of conservation efforts, with uncertainty represented by a 95% confidence interval at  $\pm 2.5\%$ . The analysis underscores the urgent need for enhanced monitoring and adaptive management strategies to mitigate ongoing biodiversity losses. Immediate implementation of targeted interventions such as habitat restoration projects is recommended to stabilise declining species populations. Protected Areas, Biodiversity Conservation, Monitoring Data, Statistical Analysis The empirical specification follows  $Y = \beta_{0+\beta} p X + \text{varepsilon}$ , and inference is reported with uncertainty-aware statistical criteria.

**Keywords:** *Savannah, Protected Areas, Ecosystem Services, Conservation Genetics, Community Engagement, Habitat Fragmentation, Adaptive Management*

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