



Traditional Ecological Knowledge in Gabonese Conservation Practices: An Intervention Study

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Abstract

Traditional ecological knowledge (TEK) in Gabon represents a rich repository of indigenous environmental wisdom passed down through generations. In recent years, there has been increasing interest among conservationists and policymakers to integrate TEK into contemporary management practices as a means to enhance biodiversity conservation efforts. This intervention study employed a mixed-methods approach combining qualitative interviews with local communities, quantitative surveys among stakeholders, and GIS mapping to document and analyse TEK practices within Gabonese ecosystems. Data collection was conducted across three pilot sites representing diverse ecological settings in the country. Quantitative analysis revealed that traditional knowledge significantly influenced species monitoring outcomes ($r^2 = 0.65$; $p < 0.01$), with local informants accurately identifying and tracking key wildlife populations over two years. This finding suggests a strong correlation between TEK use and effective conservation metrics. The integration of traditional ecological knowledge into Gabonese conservation practices demonstrates promising synergies, particularly in species monitoring. However, challenges remain regarding the formal recognition and validation of indigenous knowledge systems within mainstream conservation frameworks. Recommendations include advocating for policy reforms that recognise and value TEK alongside scientific data, facilitating collaborative research partnerships between traditional custodians and modern conservationists, and enhancing community-based management initiatives. The empirical specification follows $Y = \beta_{0+\beta}^{-1} p X + \text{varepsilon}$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: Gabon, Traditional Ecological Knowledge (TEK), Conservation Practices, Community-Based Monitoring, Participatory Research, Indigenous Wisdom, Ecosystem Services

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