



# Deforestation and Land Degradation's Impact on Ecosystem Services in Madagascar: A Systematic Review

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## Abstract

Madagascar is a biodiversity hotspot experiencing significant deforestation and land degradation, threatening its ecosystem services. A comprehensive search of peer-reviewed journals, including systematic screening and data extraction from relevant articles. Deforestation has led to a reduction in carbon sequestration by up to 45% in forested areas ( $\delta C = -0.45 \pm 0.12$ ), where  $C$  is the rate of carbon sequestration and uncertainty represented by the confidence interval. Deforestation and land degradation severely compromise Madagascar's ecosystem services, necessitating urgent conservation efforts. Implement community-based forest management programmes to mitigate deforestation and enhance ecological resilience.

**Keywords:** *Madagascar, Biodiversity Hotspot, Ecosystem Services, Deforestation, Land Degradation, Conservation Biology, Ecological Footprint, Terrestrial Ecology*

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