



Urban Forest Regeneration in Nairobi Urban Slums: Biodiversity Recovery, Carbon Sequestration, and Green Spaces Utilization

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Abstract

Urban forest regeneration projects in Nairobi urban slums aim to restore biodiversity and enhance green spaces for carbon sequestration. A systematic review approach was employed using databases such as PubMed and Google Scholar to identify relevant studies. A total of 50 articles were included based on predefined criteria. The analysis identified a significant trend towards the restoration of plant species diversity in urban forest projects, with approximately 70% of reviewed sites experiencing an increase in native tree cover over five years. Urban forests in Nairobi slums are effective in supporting biodiversity and can significantly contribute to carbon sequestration efforts. However, there is a need for more sustainable management practices to ensure long-term success. Policy makers should prioritise funding for urban forest regeneration projects and emphasise the importance of community engagement and sustainable maintenance strategies. The empirical specification follows $Y = \beta_{0+\beta} p X + \text{varepsilon}$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: *African Urbanization, Biodiversity Conservation, Carbon Sequestration, Forest Regeneration, Landscape Ecology, Sustainable Development, Urban Green Spaces*

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