

Evaluating the Impact of Urbanization on Local Biodiversity and Ecosystem Functioning: A Case Study of Algiers, Algeria

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Abstract : Urbanization is one of the most significant drivers of biodiversity loss and ecosystem degradation. This study aims to evaluate the impact of urban expansion on local biodiversity and ecosystem functioning in Algiers, Algeria. Using a combination of field surveys, remote sensing data, and GIS analysis, we quantified changes in land use and land cover over the past three decades. Our results indicate a substantial reduction in green spaces and natural habitats, leading to a decline in native species diversity and abundance. Furthermore, we observed alterations in ecosystem services, including reduced air and water quality, increased urban heat island effects, and diminished carbon sequestration capabilities. This paper highlights the urgent need for sustainable urban planning and conservation strategies to mitigate the adverse effects of urbanization on biodiversity. We propose several policy recommendations, such as the creation of urban green belts, restoration of degraded areas, and incorporation of biodiversity considerations into city planning processes. By adopting these measures, Algiers can enhance its resilience to environmental changes and ensure the well-being of its inhabitants.

Keywords : biodiversity, ecosystem functioning, Algiers, urbanization

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