



Mitigating Environmental Sustainability Challenges and Enhancing Health in Urban Communities: The Multi-functionality of Green Infrastructure

* Dr. Adedotun Ayodele Dipeolu ¹ , Dr. Onoja Matthew Akpa ² and Prof. Joseph Akinlabi Fadamiro ³

¹ Department of Architecture, College of Engineering and Environmental Studies, Olabisi Onabanjo University, Ogun State, Nigeria

² Department of Epidemiology and Medical Statistics, College of Medicine, University of Ibadan, Nigeria

³ Department of Architecture, School of Environmental Technology, Federal University of Technology, Akure, Nigeria

¹ E mail: dipeolu.adedotun@oouagoiwoye.edu.ng, ² E mail: onojamatthew@yahoo.co.uk, ³ E mail: joechrisdamiro@yahoo.com



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ABSTRACT

Green Infrastructure (GI) facilities have capacity to enhance health and mitigate Environmental Sustainability Challenges (ESC). However, the extent of the mitigation and health benefits is unclear in developing countries. This study examined the impact of GI on ESC and Perceived Health (PH) of urban residents in Lagos Metropolis, Nigeria. Multi-stage sampling technique was used to select 1858 residents of Lagos Metropolis who completed semi-structured questionnaires. Descriptive statistics and chi-square test were used to explore data distributions and assess association of the availability of GI with resident's PH and ESC. Odds ratio with 95% confidence interval (OR;95%CI) were estimated for good health and ESC mitigation. Participants were mostly men (58.9%) and younger than 50 years old (86.3%). Good health (20.5%) and high mitigation of ESC (collection and disposal of waste-52.7% and official development assistance-63.9%) were reported where GI is mostly available. Participants were more likely to report good health (OR:1.40; 95%CI:1.02-1.92) and high mitigation of ESC [water quality (OR:1.42; 95%CI:1.12-1.81) passenger transport mode (OR:1.41; 95%CI:1.06-1.89)] where GI are mostly available. Availability of Green infrastructure is supporting health and mitigating environmental sustainability challenges in the study area. Green infrastructure should be provided in urban areas where environmental sustainability is under threat.

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1. Introduction

Urban sprawl, rapid depletion of forest areas and urban degradation among others has constituted daunting challenges to the environment in recent time. In addition, other more wide-spread land-uses, such as agriculture and industrial activities, have split up valuable landscapes, intensified the

use of more energy, fertilizer and water ([Jongman, 2003](#); [Gutman, 2007](#)).

*Corresponding Author:

Department of Architecture, College of Engineering and Environmental Studies, Olabisi Onabanjo University, Ogun State, Nigeria
Email address: dipeolu.adedotun@oouagoiwoye.edu.ng

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