



Research Article

Quantitative assessment of urban sustainability perceptions in Lurin, Peru

Ruth Ojeda-Zaga[‡], Vinicio Moya-Almeida[§], Natalia Alvarado-Arias[‡],
Diana Zuleta-Mediavilla[‡]

[‡] Escuela de Postgrado, Universidad César Vallejo, Lima, Peru

[§] Centro de Investigaciones Aplicadas y Mejoramiento de la Productividad Empresarial (SAPIENS), Facultad de Ingeniería, Universidad Hemisferios, Paseo de la Universidad, 300, 170147, Quito, Ecuador

[‡] Facultad de Arquitectura y Urbanismo, Universidad UTE, Quito, Ecuador

Corresponding author: Vinicio Moya-Almeida (viniciom@uhemisferios.edu.ec),

Natalia Alvarado-Arias (nathalia.alvarado@ute.edu.ec)

Academic editor: Carla-Leanne Washbourne

Received: 12 Jan 2024 | Accepted: 20 Jul 2024 | Published: 06 Aug 2024

Citation: Ojeda-Zaga R, Moya-Almeida V, Alvarado-Arias N, Zuleta-Mediavilla D (2024) Quantitative assessment of urban sustainability perceptions in Lurin, Peru. One Ecosystem 9: e118668.

<https://doi.org/10.3897/oneeco.9.e118668>

Abstract

In the current context, urban centres in Latin America are facing fundamental challenges in their endeavour for Sustainable Development. The focus of this study is the meticulous assessment of the perception of urban sustainability within the Lurin District of Peru. It introduces a system based on urban sustainability indicators, derived from social surveys and implements this system through linear regression models to discern their interrelations. The objective of the research is to quantify and evaluate essential elements linked to the management of natural resources, air and water quality, the advancement of sustainable mobility, education and the well-being of urban residents. By delineating these mathematical and statistical correlations amongst variables pertinent to urban sustainability, this study provides a robust framework for quantitative decision-making in the urban sphere. A methodology for the development of univariable and multivariable models has been demonstrated. Amongst the most important findings, it has been discovered that the variable Environmental Education System (SEA) is perceived as the least important and even negligible within the multivariable models. However, we believe this effect occurs because the impacts of education are perceived in the long term. This