

# Measuring Urban Informality in Latin America. GIS Spatial Assessment of Informal Urban Development in Santiago de Chile

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Santiago the capital of Chile has been experiencing a tremendous and fast urban development, adding more than 1,300 hectares per year to the continuous urban area. Under a generally weak urban development legal framework a portion of this fast urban development is informal, contrary to the common belief of authorities and planners, taking place outside of the planning systems and standard urban planning practices, thus challenging urban governance. Effective methods for understanding, monitoring and quantifying informal urban development (IUD) are needed to better supporting policy making. In this paper a characterization and spatial analysis of IUD was developed in the Santiago metropolitan area. Levels of IUD were characterized by performing a principal component analysis (PCA) using census data. A selected group of variables depicting specific material features of housing and neighbourhoods were used. The aims of this study are twofold: 1) to quantify and map levels of IUD at city scale by examining the socio-economic conditions of population according to the census data base for the metropolitan region and; 2) in deep spatial analysis of such levels of IUD in Santiago. The results show that IUD has specific and differentiated spatial patterns, assuming two material dimensions: infrastructural and material informality. Differences in terms of levels and spatial distribution of both dimensions were found. Such differentiated spatial behaviour depends on territorial and local socio-economic specificities. The emergence of general patterns is scale dependent. The singular behaviour of IUD shows that more effective quantitative measures are needed to adequately inform policy making. © 2016 The Authors.

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