

Urban sprawl, compact urban development and green cities. How much do we know, how much do we agree?

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While urban systems are expanding at very fast rates all over the world, understanding their spatial development remains a complex and controversial issue, burdened with confusion in the literature. A common understanding of the spatial behavior of expanding urban systems needs robust conceptualization and empirical evidence. The physical growth of cities assumes different spatial patterns, usually in the form of urban sprawl resulting from multi-dimensional drivers and causing multi-dimensional economic, social and ecological impacts. The need to manage urban sprawl and its manifold adverse consequences by promoting compact urban development and urban densification/re-utilization has been widely promoted in science and policy-making. However, ensuring a high quality of life for urbanites demands integrative points-of-view for the types of compact development to promote, in particular regarding urban green spaces within densification processes. It is essential to consider the effects of compact development not only at larger scales, but also at neighborhood and household scales to pursue moderated and qualified densification, securing and (re-)developing urban green spaces and their multi-dimensional positive impacts. Urban sprawl and compact green cities require adequate and robust multi-dimensional spatially explicit indicators to support urban planners and policy makers. Through articles of this special issue, we explore in this synthesis paper the current international state of the art in developing, testing and implementing multi-dimensional ? ecological, economic, social ? and multi-scale ? regional, city, neighborhood ? indicators characterizing urban sprawl and compact green cities. The articles provide concepts and international case studies for land monitoring and planning recommendations for sustainable urban development. Such indicators give light to capture the social, economic and environmental dimensions of urban development while assessing the degree

and extent of sprawl and compact green cities in a global context. © 2018

Compact city

Ecosystem services

Green infrastructure

Socio-ecological system

Urban complexity