

# Indicators of Cultural Ecosystem Services for urban planning: A review

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The concept of Ecosystem Services has gained traction on the scientific agenda and has found its way into research on urban environments. Cities and towns, like any other ecosystem, provide specific services to their inhabitants and communities and they are benefited by surrounding ecosystems as well. Among the different categories, typical Ecosystem Services categories such as food production and erosion control usually have a lesser importance within urban contexts.

However, the very diverse range of land uses and ecosystems in urban contexts provide specific Cultural Ecosystem Services including recreational, cultural and educational values. However, to date only limited attention has been given to the provision of Cultural Ecosystem Services (CES), especially considering the relevant benefits that communities and urban planning processes can derive from them. In this document we review existing approaches for the assessment of CES in urban contexts and provide a critical overview of how indicators are used to assess and measure CES. We first conduct a literature review on the indicators used for CES in urban contexts then the paper addresses some specific issues with reference to both operability and benefits of the use of CES indicators for urban planning and management. Our results show that existing CES indicators have limited usability for urban planning and management. Moreover a lack of appropriate data use is a significant obstacle for proper CES assessment. This impacts the potential for sustainable decision-making concerning CES in urban contexts. These issues, together with fact that most identified indicators are proxy ones, identify an urgent need to develop proper assessment indicators for CES. © 2015 Elsevier Ltd. All rights reserved.

Cultural Ecosystem Services

Indicators

Urban planning

Decision making

Ecology

Indicators (instruments)

Land use

Urban planning

Assessment indicator

Cities and towns

Ecosystem services

Limited attentions

Literature reviews

Planning process

Sustainable decision makings

Urban environments

Ecosystems

cultural influence

decision making

ecosystem service

environmental assessment

environmental indicator

food production

literature review

research work

sustainable development

urban planning