



Assessment of cultural ecosystem services in the Ruhr area for health-oriented urban green space planning

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Abstract: Eva Rademacher and Christin Busch are researchers at the ILS. Eva Rademacher's research focuses on regional planning and development as well as green infrastructure and health. Christin Busch's focus is on the development of indicators of cultural ecosystem services in the Ruhr area in the project IMECOGIP¹.

The World Health Organization (WHO) declared health to be one of the most important indicators for sustainable urban development [1]. This statement is supported by growing scientific evidence [2, 3]. However, health is not yet an integral part of spatial planning policies. Especially urban green planning plays an essential role in this matter, as the usage of urban Green Infrastructure (GI) has positive effects both on mental and physical health as well as social justice through the provision of space for sports, relaxation and enjoyment [4–7]. A promising approach to assess the health-related benefits of measures and enable planners to create synergies in different spatial scales through practical indicators are cultural ecosystem services (CES) [8, 9]. But despite all ongoing process, there are still scientific gaps in the mapping and analysis of context-based and regional CES.

Against this background, we aim at presenting our approach to assess the health-related contributions of GI in the Ruhr area and Shanghai and thus pave the way to sustainable, health-conscious urban planning. In order to do so, we carried out a social media analysis for around 650 green spaces in Bochum, Gelsenkirchen and Shanghai. Using qualitative content analysis, about 20,000 comments were analyzed with regard to the mentioning of CES and GI assets (trees, water bodies, etc.) leading to the provision of CES. In addition, through multidimensional scaling, ecosystem service bundles, which have the potential to support planning decisions, were identified in order to understand the interactions of the services.

The results present a differentiated and clear picture of the distribution of CES. Overall, it has been shown that in all three cities, the aesthetic experiences make up a large part of the mentions and play a major role in the use of GI. Active movement such as jogging as well as passive, observing interactions were also frequently mentioned. However, we also investigated differences in the use of green spaces. In addition, the retrieved information on GI assets and the flow of CES could provide relevant insights for a people and health oriented landscape management. Based on these results, we want to discuss possibilities and options to better integrate health aspects into the planning of GI.

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1 More information under <https://www.sustainable-urban-regions.org/de/project/imecogip/>
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