

# CHINA'S ECOSYSTEM SERVICES PLANNING: WILL SHANGHAI LEAD THE WAY?

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## **Abstract**

Ecosystem Services (ES) are a fundamental component of well-being and sustainable urban development with tremendous potential to enhance urban planning. Recently, several studies have evaluated the environmental performance of urban plans using the ES approach. To strengthen this science-policy integration, it is still necessary to perform ES assessments within the urban planning practice as well as to collect empirical evidence on the impacts of envisioned planning measures on the supply of ES in urban environments across the world. In this research, we analyzed the state-of-the-art of China's new environmental governance, which aims to change China's land use policy and particularly the role of Green Infrastructure (GI) regarding urban planning and ES. We focused on the Shanghai Baoshan district Master Plan as a case study, and analyzed it under the lenses of the supply of ES using the matrix approach. We ascertained the supply of ES as delineated in the ecological network plan for 2035, and developed an evaluation framework based on CICES v5.1 and two expert workshops. Our approach used an integrated preliminary ES-assessment, and evaluated the consequences for the supply of ES in Baoshan district, which is adaptable to varying urban geographies. The results of our assessment show that, if realized as planned, the district will increase the overall supply of ES, especially regulating and cultural services, that play an important role within GI on the urban level. In general, the land use plans should include fine-grained information within building blocks to allow for even better assessing of the spatial structure of the supply of ES. © 2021, Erdkunde. All rights reserved.

## **Author keywords**

China; Ecosystem services; Environmental governance; Green infrastructure; Land use; Urban planning