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SUSTAINABILITY EVOLUTION AND FACTORS BASED ON ECOLOGICAL FOOTPRINT: CASE STUDY OF RIZHAO, CHINA

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Abstract

Sustainable development provides an important means of alleviating ecological pressure on cities, and ecological footprint (EF) is a useful method for measuring such ecological pressure and evaluating sustainability. The contradiction between economic development and ecological protection has hindered the sustainable development of the coastal city of Rizhao, China. Effective sustainability evaluation can therefore help identify the causes of this problem so that suitable measures can be proposed. This study aimed to evaluate Rizhao’s sustainability from 1994 to 2017 using the EF method and analyze its influencing factors using the elasticity coefficient method. The results showed that per capita EF increased from 1.65 hm²/cap in 1994 to 6.26 hm²/cap in 2017, and ecological deficit had become a prominent social problem in Rizhao. Among the several influencing factors, the proportion of secondary industry was the most significant driving factor, while the proportion of tertiary industry was the most significant inhibitive factor. Moreover, the different influencing factors determined the stages of EF. Based on the evaluation results and considering local characteristics, measures are proposed to improve the Rizhao’s sustainability.

Keywords: ecological footprint, elasticity coefficient method, influencing factor, Rizhao

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