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Hanzhi Dai Changan University

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# Research on Evaluation Index System of Sports Events Over Urban Development Based on Symbiosis Theory

### **Abstract**

With the development of economic globalization, sports events have become a strategic tool that is used for enhancing the competitiveness of the city and achieving the government's goal. Nowadays, a myriad of cities takes organizing sports events as the goal of urban development. However, what is the relationship between sporting events and urban development? How to build an evaluation index system to measure the relationship between urban development and sports events? How are sports events coordinated with urban development? These issues have not yet been thoroughly investigated. This study attempts to analyze the relationship and mechanism between urban development and sports events based on the perspective of Symbiosis Theory. The literature review, expert consultation, empirical analysis, and mathematical statistics were conducted in this study. At the theoretical level, this study uses Symbiosis Theory to analyze the relationship between sports events and urban development. The conclusions are as follows: sports events and urban development are two basic symbiosis units that will form a certain symbiotic paradigm through the symbiotic interface and under the role of symbiotic environment, the symbiosis relationship between urban development and sports events is mutualistic symbiosis. The research constructed the index system for the evaluation of the symbiosis relationship of sports events over urban development. The index system is divided into two subsystems, six primary indicators, and 20 secondary indicators. Among them, the confirmation of index weight of the first-level indicators used the analytic hierarchy process, and the second-level indicators used the principal component analysis. On this basis, through empirical analysis of Nanjing Youth Olympic Games as a case, the results showed the correctness of the evaluation index system, to provide references for cities that later hosted sports events.

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Hanzhi Dai

Changan University

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Keywords: sports events, economic globalization, urbanization, mutualistic symbiosis