

Evaluation of the Application of Soil and Water Conservation Practices: A Case Study in Changting County, southeast China

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Abstract

Soil and water conservation practices, governance processes, and governance effects can be regarded as elements that constitute a unique coupling system. In order to understand the operation of this coupling system, a structural equation model was used to determine the coupling paths and intensities based on field research data collected from 193 local households in Changting County, China during 2021. The results showed that the elements within the coupling system remained unchanged and the coupling state was steady, with the same coupling path directions in 2010 and 2020. However, the intensities of the coupling paths varied with different path coefficients, where they followed the order of: governance process (0.99) > governance effect (0.57) > coupling state (-0.39) in 2010; and governance process (0.94) > coupling state (0.92) > governance effect (0.17) in 2020. We conclude that although the elements were optimized to a certain extent during the evolution of the coupling system, the lack of harmony among ecological resources and industries detrimentally affected the dynamics of the coupling system. Thus, the government should focus on the harmonious development of ecological resources and the integration of industries to facilitate the high-quality development of ecological civilization.

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