

Zoning and Planning Response to Low-Carbon Development Transition in the Chengdu-Chongqing City Clusters, China

Authors : Hanyu Wang, Guangdong Wang

Abstract : County-level areas serve as vital spatial units for advancing new urbanization and implementing the principles of low-carbon development, representing critical regions where conflicts between the two are pronounced. Using the 142 county-level units in the Chengdu-Chongqing city clusters as a case study, a coupled coordination model is employed to investigate the coupled coordination relationship and its spatiotemporal evolution between county-level new urbanization and low-carbon development levels. Results indicate that (1) from 2005 to 2020, the overall levels of new urbanization and low-carbon development in the Chengdu-Chongqing city clusters showed an upward trend but with significant regional disparities. The new urbanization level exhibited a spatial differentiation pattern of "high in the suburban areas, low in the distant suburbs, and some counties standing out." The temporal change in low-carbon development levels was not pronounced, yet spatial disparities were notable. (2) The overall coupling coordination degree between new urbanization and low-carbon development is transitioning from barely coordinated to moderately coordinated. The lag in new urbanization levels serves as a primary factor constraining the coordinated development of most counties. (3) Based on the temporal evolution of development states, all county units can be categorized into four types: coordinated demonstration areas, synergistic improvement areas, low-carbon transformation areas, and development lag areas. The research findings offer crucial reference points for spatial planning and the formulation of low-carbon development policies.

Keywords : county units, coupling coordination, low-carbon development, new urbanization

Conference Title : ICUSPM 2024 : International Conference on Urban Spatial Planning and Management

Conference Location : Zurich, Switzerland

Conference Dates : January 11-12, 2024