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Land Use Conflict Detection and Multi-Objective Optimization Based on the Productivity, Sustainability, and Livability Perspective

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Land use affects many aspects of regional sustainable development, so insight into its influence is of great importance for the optimization of national space. The book mainly focuses on functional classification, spatial conflict detection, and spatial development pattern optimization based on productivity, sustainability, and livability perspectives, presenting a relevant opportunity for all scholars to share their knowledge from the multidisciplinary community across the world that includes landscape ecologists, social scientists, and geographers. The book is systematically organized into the optimization theory, methods, and practices for PLES (production–living–ecological space) around territorial spatial planning, with the overall planning of PLES as the goal and the promotion of ecological civilization construction as the starting point. Through this, the competition and synergistic interactions and positive feedback mechanisms between population, resources, ecology, environment, and economic and social development in the PLES system were revealed, and the nonlinear dynamic effects among subsystems and elements in the system identified. In addition, a series of optimization approaches for PLES is proposed.

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