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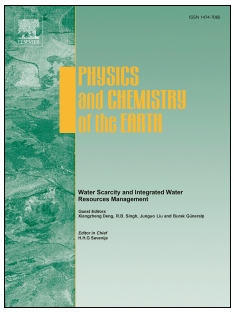

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Optimization of Land-Use Management for Ecosystem Service Improvement: A Review

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ABSTRACT

Land use is closely related to human activity, which affect ecosystem services by changing the types, patterns and ecological processes of ecosystem, and consequently impact the human well-being. Scientific simulation is needed to analyze the land use policy impacts on ecosystem services and socioeconomic development. Based on the reviews, the Computable General Equilibrium (CGE) model plays an important role in building simulation framework for land-use management optimization for ecosystem services improvement, which can be used to systematically analyze changes of ecosystem service driven by land use change as well as the consequent impacts on socioeconomic development. In addition, the similarities and differences between the CGE model and System Dynamics (SD) model are identified. CGE and SD models have their advantages and disadvantages, a suitable model can be select in the practice of policy simulation. In this sense, these simulation models are of great significance to decision-making on land-use management measures for ecosystem service conservation and socioeconomic development.

Keywords: Land-use Management, Ecosystem Service, Policy Simulation, Computable General Equilibrium, System Dynamics

1. Introduction

Land system is an important component of the Earth terrestrial ecosystem (Verburg et al., 2015). Land use activities not only provided services such as the material products, but also

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