A CGE Analysis of Global Warming Damage: A Case of Biodiversity

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Abstract

Genetic resources have been widely used for agricultural animal breeding, drug development, or biomaterials. Coherent assessments of global warming on biodiversity based on economic models are necessary. Little research, however, has been done in the quantitative evaluation incurred across multi sectors including a primary industry sector and a nostrum sector based on genetic resources (NGR) at a global level, though both citizens and stakeholders are keenly interested in this issue. Accordingly, this study focuses on a part of biodiversity, and assesses impacts of global warming on agriculture, forestry, fisheries, and NGR industries using a CGE model, the Evaluation Model for Environmental Damage and Adaptation (EMEDA). Simulated results by EMEDA indicate that: Oceania, East Asia and Latin America experience economic growth, with other regions except North America offsetting economic damages in the primary industry sector, while there are increased damages in the NGR sector under the scenario RCP8.5 in 2055.

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