Construction of a Multi-Regional Waste Input-Output Table

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In this paper, we constructed a multi-regional waste input-output table focused on the Japanese 47 prefectures by using both the multi-regional input-output table of goods and services (Hasegawa et al., 2011) and the inter-regional waste shipments data provided by the Ministry of the Environment of Japan. Internal disparities are a crucial issue in almost all countries. These problems are related with both economic issues and environmental issues such as CO2 emissions, waste emissions, waste treatment, waste transportation, and landfill. In regional input-output (IO) analysis, the number of regions in IO tables has not been large enough to investigate such problems. For example, Tsukui et al. (2011) conducted a case study on Tokyo, Japan, and showed that consumption in a metropolitan region has a larger negative than positive effect on other regions. Although they found that Tokyo's consumption increases the burden on other regions, by using a two-area inter-regional waste IO table, evaluation of the impact on the other specified region was not possible. The purpose of this study is to clarify the interdependent relationship between domestic regions. In this study, not only the construction method is explained but the inter-regional dependency regarding commodity productions and waste treatments is empirically examined using the table. We also estimated the impacts of the changes in regional final consumptions on the waste treatment and recycling activities in other regions (prefectures).