

Repercussion of Effects of Final Consumption on Production and Environmental Loads: Detailed Multi-regional Waste Input–Output Approach in the 47 Prefectures of Japan(for a Special Session)

Topic: Waste Input-Output Analysis

Author: Makiko Tsukui

Co-Authors: Ryoji Hasegawa, Shigemi Kagawa, Yasushi Kondo

Multi-regional input–output approaches (MR-IOA) have developed in response to the increasing need for analytical methods to empirically evaluate the economic benefits (production, employment, etc.) and environmental loads (CO₂ emissions, waste generation, etc.) that have accompanied globalization. Many of the MR-IOA studies that have been conducted to date have examined trade-induced emissions (e.g., Peters and Hertwich, 2008). The next step is to investigate the interregional relationships that exist between regions or cities in different countries within the context of globalization and localization. However, despite the need for such detailed regional analyses, the lack of basic input-output databases has meant that the extent to which the amounts of wastes generated and greenhouse gasses produced are embodied in interregional trade are not well understood. The 2005 multi-regional waste input–output for the 47 prefectures of Japan has been used to perform detailed interregional analyses. The prefectures, which are the highest official administrative subdivisions in Japan, have populations that range from about 600,000 to 13 million people. In this study, we will clarify the effects of the final consumption in all 47 prefectures and discuss their interdependence in terms of production, waste generation, and landfill usage. These findings will enable us to develop policies that consider both the environmental burden within each prefecture and the waste-treatment efficiency of the entire country.