

Provincial water scarcity risk flow and footprint accounting framework

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ABSTRACT

Virtual water flow and water footprint have been proposed as leading indicators to evaluate the environmental impacts of human-related water consumption. However, the risk of economic loss caused by water scarcity can be transferred via trading activities and affect local economic network. In this study, a system-based framework was proposed to assess the water scarcity risk in a national trade system based on the multiregional input-output (MRIO) analysis and the information-based network environ analysis (NEA). The results showed that incorporating water scarcity into water consumption allows better understanding of what is causing water scarcity and which regions are suffering from it.

Keywords: Multiregional input-output analysis; Network Environ analysis; Water stress index; Risk footprint;