

Rescue the 3H region from water resources crisis: the role of virtual water versus real water transfer

Topic: Input-output analysis for policy making

Author: Zhuoying Zhang

Co-Authors: Hong Yang, Minjun Shi, Na Li

The Huang-Huai-Hai (3H) region is the most water scarce region in China. Its regional water security is closely relevant to interregional water movement, which can be realized either by real water transfers through massive engineering projects or by virtual water transfers in form of commodity trade.

This study conducts an interregional input-output analysis to investigate the roles of real water and virtual water in coping with its regional water crisis based on China Interregional Input-Output model 2007. The results show that both virtual water and real water are indispensable water supplements in alleviating the water pressure in the 3H region. The 3H region no longer undertakes the role of “breadbasket” but has become a region depending on external supply of agricultural products. In the meantime, the positive role of the real water as a powerful water supplement should be fully confirmed and its function is expected to be strengthened. This study also points out the fundamental way for the 3H region in tackling with its water crisis lies in internal improvement in water use efficiency and industrial structure upgrading.

This study deepens our understanding of the water problem in the 3H region by providing a new perspective of virtual water and the results can be taken as useful scientific references for the establishment of combating strategies coping with water crisis in the future.