



## **Alleviating the water scarcity in the North China Plain: the role of virtual water and real water transfer**

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The North China Plain is the most water scarce region in China. Its water security is closely relevant to interregional water movement, which can be realized by real water transfers and/or virtual water transfers. This study investigates the roles of virtual water trade and real water transfer using Interregional Input-Output model. The results show that the region is receiving 19.4 billion m<sup>3</sup>/year of virtual water from the interregional trade, while exporting 16.4 billion m<sup>3</sup>/year of virtual water in the international trade. In balance, the region has a net virtual water gain of 3 billion m<sup>3</sup>/year from outside. Its virtual water inflow is dominated by agricultural products from other provinces, totalling 16.6 billion m<sup>3</sup>/year, whilst its virtual water export is dominated by manufacturing sectors to other countries, totalling 11.7 billion m<sup>3</sup>/year. Both virtual water import and real water transfer from South to North Water Diversion Project are important water supplements for the region. The results of this study provide useful scientific references for the establishment of combating strategies to deal with the water scarcity in the future.