

## **Analysis on virtual water cycle of economy in Zhangye City using regional input-output model**

Topic: Applications of water IO

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Virtual water is the water embedded in goods and services products and used in the whole production chain. As one of the pilot cities to establish a water-saving society, Zhangye City needs a demand oriented water management approach, especially in structural and social way. From the demand of Socio-economic system for water resources perspective, in this paper, getting rid of the effects of imported goods to account for virtual water flows within economy and outsider the area, we compile and use regional water input–output model in Zhangye. By means of local water consumption, total local water demand;calculated the virtual water transfer between industries and regional outflows and inflows. Furthermore, transfer matrix was constructed to illustrate the inter-industry virtual water flows. The results show that the cultivation and other agricultural water is the largest virtual net transfer and export sector, a lot of water actual transfer to manufacturing and livestock and export;most of virtual water livestock products received from cultivation were exported to outside. From the perspective of the input-output analysis, the author wishes to proposal a new reference for water demand management in Zhangye City.