Assessing the Impact of Virtual Water Trade on Water and Land Security

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Abstract

Despite the impressive development of water infrastructure and management in recent decades, Korea still faces a number of threats to water security owing to such factors as climate change. This puts the country at the top spot amongst the Organization for Economic Co-operation and Development (OECD) countries in terms of water stress. It is suggested that increasing food imports and decreasing domestic food production can contribute to water and land savings and in extension, to increased water and land security.

This study therefore aimed at analyzing the impact of virtual water import through food trade on the water and land savings in Korea. It was concluded that over the period 2000 – 2017, significant amounts of national water and land was saved through the importation of major upland crops. In addition, we estimated the virtual water trade (VWT) that refers to the trade of water embedded in food products. The results showed a significant increase in the amount of virtual water traded over the study period.

Keywords: Virtual water trade; Water security; Water and Land savings; Food security; South Korea

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