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By Sector Water Consumption and Related Economy Analysis Integrated Model and Its Application in Hai River Basin, China

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ABSTRACT

This paper established a by sector water consumption and economy analysis integrated model with input–output analysis method. The model can be used to identify the relationships between economic activities and the direct water consumption, the total water consumption and the intersectoral water transaction for detailed sectors in regional economy. The method is applied to Hai River Basin in China that is characterized by water shortage. The results found that in Hai River Basin, agriculture sector is responsible for 81.2% of the direct total water consumption in the region, but industrial and service sectors account for 53.2% of the indirect total water consumption. To 24 industrial and service sectors, their ratios of indirect water consumption to total water consumption belong to [90%, 99%]. To per unit output, water consumption intensity was highest in agriculture sector 1 at 96.91 m^3 per thousand Yuan, the value of 28 industrial and service sectors were smaller than 1. Products of sector 1, sector 24, sector 3, sector 12, sector 6, sector 11 and sector 10 are the main suppliers of indirect water.

KEYWORDS

Direct Water Consumption; Total Water Consumption; Intersectoral Water Transaction; Input-Output Analysis

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