

Counting the cost of water

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Economic expansion in China is threatening the country's scarce water resources, according to a new study by the University of Leeds. Uneven development of trade across the country means that water-intensive or polluting industries are expanding in areas where water is in shortest supply.

Dr Klaus Hubacek and Mr Dabo Guan from the University's Sustainability Research Institute assessed how much water different industries consume or pollute. Using these figures, they compared the 'virtual water flow' between regions in China based on each region's imports and exports and the water consumed during their production.

Dr Hubacek said, "You would expect drier regions to depend chiefly on

industries that use less water and import goods that require a lot of water to produce. In fact our study found the opposite to be true.”

Water-scarce North China mainly exports water-intensive commodities, like irrigated agricultural products, processed foods, paper and textiles. Guangdong in South China, where water is abundant, exports comparatively water non-intensive commodities such as electrical equipment and commercial or social services.

The researchers believe this imbalance is partly due to the government’s economic policies. Dr Klaus Hubacek said, “Over the past thirty years Chinese economic policies have supported Guangdong more than other regions, leading to a boom in industries that use fewer natural resources in their production.”

Within China, water is so unevenly distributed that the North, which supports half the country’s population, holds just one fifth of its total water. In some parts, water is so limited that it is considered to be the most critical natural resource.

The problem in China’s dry North has been made worse as their water intensive industries also pollute their limited streams and rivers. The industries based in Guangdong in the South use and pollute comparatively little of its abundant water supplies. By importing products from the North, Guangdong avoids polluting its own watercourses and ensures the pollution takes place elsewhere.

Dr Hubacek said, “Environmental resources have been seen as cost-free in China and as such have not been considered an important factor in economic decision-making. However, for economic expansion to be sustainable, economic policies and development must take into account water consumption and availability. This is as true in China as it is elsewhere – including the UK.”

“Most of the goods we consume are produced in China and other developing countries and so we export a lot of our pollution problems to them – which is partly why the UK and other developed countries are so successful in improving their environmental records. Our work on virtual water flows is a first step towards making those trade links visible.”

Source: University of Leeds

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