

## **Does trade in industrial products have the potential to improve distribution of global virtual water?**

### **ABSTRACT**

Virtual water refers to the amount of water used in the production of a product (a commodity, goods or services). This study examines the extent to which trade in industrial products (i.e. mining and manufacturing) between Malaysia and other countries will affect the distribution of water in water-abundant and water-scarce countries. Analyses of virtual water for 67 industrial sectors are conducted using the input-output model. This model has the ability to decompose virtual water content in the domestic demand and exports as well as virtual water import. This model also distinguishes virtual water flows (export and import) by trade destinations. Results show that resource based products are water intensive whereas electronics and electrical, machinery and equipment, and transport equipment are water non-intensive. Exports explain more than two-thirds of water consumption. Malaysia exports water non-intensive products and import water intensive products. The potential role of trade in industrial products as a policy instrument for global water distribution is limited. First, since the production of industrial products is essentially water non-intensive, thus exports of these products are not associated with large amount of water outflows. Second, trade in industrial products involves water flows among the water-abundant countries but not in water scarce countries.

**Keyword:** Virtual water; International trade; Input-output model; Industrial products; Water flows