

Water Footprint: An Indicator of Water Use

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In the world of today, people in Japan indirectly affect the hydrological system in the United States and people in Europe indirectly impact on the regional water systems in Brazil. When you ask somebody how this can happen, the reply will most probably be: through climate change. This answer is likely because much has been reported about the expected effects of past and ongoing local emissions of greenhouse gases on the future global temperature, evaporation and precipitation patterns. Most people are aware that local emissions of greenhouse gases contribute to global climate change and can thus indirectly affect other locations. Little is known, however, about a second mechanism through which people affect water systems in other parts of the world. This second mechanism, which is as 'invisible' as climate change but which is today already much more significant, is global trade.

The international trade of products brings along international transfer of large volumes of water in virtual form. The research analyses the consequences of international virtual water flows on the global and national water budgets. It is shown that water problems are often caused by mechanisms that can be understood only at a level that goes far above the level of the river basin. It is also shown that the local water depletion and pollution are often closely linked to the structure of the global economy. Though consensus seems to exist that the river basin is the appropriate unit for analysing freshwater availability and use, it becomes increasingly important to put freshwater issues in a global context.

The research shows that international trade has indirectly enhanced the global water use efficiency and helped to address the national water scarcity in some water-poor countries by saving national water resources. However, this was possible at the cost of increased water dependencies between nations.

The existing indicators of water use are not sufficient to address the effect of consumption on water resources. It is proposed to use the concept of water footprint to understand the real appropriation of water by a nation and also to understand the chain of impacts on global water resources as a result of local consumption. The future trade negotiations should undertake the notion that trade is not only a tool of global economic development; it can also be a means of externalising the water footprint and thus shifting environmental burdens to distant locations.