



## Water footprint of Ghana

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Water is used in almost all human endeavour. Unlike oil, water does not have a substitute. There are many factors that affect the water consumption pattern of people. These include climatic condition, income level and agricultural practices among others.

The water footprint concept has been developed in order to have an indicator of water use in relation to its consumption by people. The water footprint of a country is defined as the volume of water needed for the production of the goods and services consumed by the inhabitants of the country (Chapagain and Hoekstra, 2008). Due to the bulky nature of water, it is not in its raw state a tradable commodity though it could be traded through the exchange of goods and services from one point to the other. Closely linked to the water footprint concept is the virtual water concept. Virtual water can be defined as the volume of water required to produce a commodity or service (Chapagain and Hoekstra, 2008 and Allan, 1999). The international trade of these commodities implies flows of virtual water over large distances. The water footprint of a nation can therefore be assessed by quantifying the use of domestic water resources, taking out the virtual water flow that leaves the country and adding the virtual water flow that enters the country to it.

This research focuses on the assessment and analysis of the water footprints of Ghana considering only the consumptive component of the water footprint. In addition to livestock, 13 crops were considered, 4 of which were cash crops. Data was analysed for the year 2001 to 2005

The most recent framework for the analysis of water footprint is offered by Chapagain and Hoekstra. This was adopted for the study. The water footprint calculations show that the water footprint of Ghana is about 20011 Gm<sup>3</sup>/yr. Based on this the average water footprint of a Ghanaian is 823 m<sup>3</sup>/cap/yr.

Not only agricultural crops but also other products require water for their manufacture, aluminium being a case in point. The water required for energy production through hydropower is important to account for, as well as the question to what extent this may or may not be considered non-consumptive water use. Further research is needed to correctly estimate the water footprint of energy-intensive products.

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