

Indirect water management: how we all can participate

PETER BAYER, STEPHAN PFISTER & STEFANIE HELLWEG

Institute of Environmental Engineering, Ecological Systems Design, ETH Zurich, Hoenggerberg, CH-8093 Zurich, Switzerland

bayer@ifu.baug.ethz

Abstract Life Cycle Assessment (LCA) represents a methodological framework for analysing the total environmental impact of any product or service in our daily life. After tracking all associated emissions and the consumption of resources, this impact is expressed with respect to a few common impact categories. These are supposed to reflect major societal and environmental priorities. However, despite their central role in environmental processes, to date hydrological and hydrogeological aspects are only rarely considered in LCA. What are the reasons? The origin of LCA plays a major role; it has been mainly applied in the industrial sector. Here, if at all, water turnover and use is described, but less emphasis is paid to the related effects. This incompleteness can be also found in water footprint or virtual water based evaluations. Our approach, presented here, fills this gap, and reveals how a revised LCA and the related water footprinting can serve as a consistent baseline for indirect water management involving producers, consumers, and local stakeholders.

Key words IWRM; LCA; freshwater use; impact assessment; wheat; agriculture; virtual water