

**Title MSc project:** Water Footprint Curriculum for Primary and/ or High-school Students

**Assignment number:** 35.18

**Internal project**

**Head graduation committee**  
Prof.dr.ir. Arjen Y. Hoekstra

**Daily supervision**  
Lara Wöhler

**Required courses:** desired is the Water Footprint Assessment course; interest and possibly training in teaching skills

**Involved organisations:**  
Water Footprint Network

**Start of the project:** flexible

**Short description project aim and motive:**

There have been over 15 years of water footprint (WF) research which gathers a large amount of scientific results around the topic. One of the key messages in the field is that our WFs are resulting from the goods and services we consume and that there is potential of reducing our WF by changing our consumption patterns. A first step to address this topic is awareness raising. However, there has been little work done to educate and raise awareness among school children. In addition to that, we recognize a great interest and demand for school materials through the Water Footprint Network.

**Research objective**

The research objective of this project is to develop a curriculum on the water footprint that can be used by teachers at primary and/or secondary schools around the world.



Participants from SM Advent Goshen in Kota Marudu, Sabah calculating the water footprint of food in the WaterQuest activity.

**Method**

Within this MSc project, educational tools for students will be developed, implemented and evaluated. The curriculum can cover a series of lectures/ games / (interactive) digital tools and materials on the topic of WF. Therefore the following steps are suggested to give an idea of the project's scope. First, an extensive review is carried out on WF literature as well as on didactical methods for a selected age group. Second, content and methods can be linked to develop a curriculum. This may include designing materials, developing a simulation game, a digital game etc. The set-up of the curriculum is very flexible, but should be backed up by comprehensive educational methods and literature. Third, once the curriculum is developed, it will be tested with students at one or more schools. This is a great opportunity to see how the developed concepts work in practice. Finally, the setup and implementation will be evaluated and revised, if necessary.

**Expected result**

The project results in a curriculum (a series of materials and tools) that can be independently used by target groups such as teachers or water experts and will be made available through the Water Footprint Network.

## **Background material**

Games 4 Sustainability (n.d.) Teaching, learning and practicing sustainability through serious games.

Online: <https://games4sustainability.org/gamepedia/>, last retrieved 27-11-2018.

Hoekstra, A.Y., Chapagain, A.K., Aldaya, M.M. & Mekonnen, M.M. (2011): The Water Footprint Assessment Manual: Setting the Global Standard, London, Earthscan.

Hoekstra, A.Y. (2012) Computer-supported games and role plays in teaching water management, *Hydrology and Earth System Sciences*, 16(8): 2985-2994.

Kemmis, S., Edwards-Groves, C. (2018) *Understanding education: History, politics and practice*. Springer.

WFN (n.d.) School resources. Online: <https://waterfootprint.org/en/resources/school-resources/>, last retrieved 27-11-2018.