

Technical Advisory Group (TAG) on Water Footprinting

Terms of reference for TAG members

Background

Water is an essential production input for feed and livestock supply chains. In several geographical areas, water is an increasingly scarce resource whose availability varies widely over temporal and spatial scales. In addition, other challenges such as climate change and increasing competition with other users (e.g. agriculture sector, household, industry, tourism, etc.) is exacerbating water scarcity. Efficient management of this resource is essential to ensure food security and viability of livestock supply chains and better future for next generations. However, poor management of nutrients flows such as nitrogen and phosphorus as well as heavy metals and antibiotics often results in poor water quality and environmental impacts such as eutrophication and biodiversity loss.

The Water Footprint Network (WFN) spearheaded the development of water footprint indicators. However, the assessment framework introduced by the WFN has often been questioned in scientific literature and alternative approaches have been proposed. Recent progress has been made for instance through the development of the ISO 14046:2014 that highlights the principles and life cycle approach for the calculation of product water footprints. In order to complement the ISO assessment framework with blue water assessment methods, the UNEP SETAC Life Cycle Initiative (WULCA project) has developed a set of blue water footprint indicator(s) and related characterization factors. At the sectoral level, the International Dairy Federation (IDF) is expected to release soon guidelines on water footprinting of dairy systems. The reduction of the amount of water use per unit of animal product can reduce the pressure of current practices on this scarce resource especially in the area where water stress indexes are higher. Therefore, the development of clear guidelines on water footprint in livestock supply chains can support water management solutions through the identification of hotspot of water use in livestock supply chains.

Aims of the activity

LEAP members called for sound recommendations on water footprinting that adequately capture the specificities of livestock production systems. Building on existing standards and methods, the activity will focus on building global consensus on water footprinting of livestock supply chains. This is deemed necessary to build confidence in the assessment results that water footprinting studies deliver and to expand the scope of existing LEAP guidelines.

Some of the questions that will be answered by the TAG include the following:

- Which water footprinting approaches and impact assessment methods are currently recommended for applications at various scales and in different application contexts (e.g. environmental benchmarking at the level of farms, regions and countries; product water footprinting; environmental assessments of technology alternatives)? What are their key features, application contexts, strengths and limitations?
- How plausible water footprints look alike when the mainstream approaches and methods are applied for assessments of livestock supply chains?
- Which accounting rules and models shall be incorporated into the LEAP guidelines in order to obtain fair results that also reflect performance in water use efficiency? What livestock water requirements can be recommended to estimate water flow volumes whenever measurements are either not taken or cannot be taken?
- How to capture soil water retention changes due to e.g. deposition of manure and soil compaction by livestock?

Accounting of nutrients and assessment of water quality is instead outside the scope of this TAG.

Guidance from the Water TAG is relevant for livestock supply chains including feed production from croplands and grasslands, production and processing of livestock products. It will address all livestock production systems and livestock species considered in existing LEAP guidelines.

Deliverables

- LEAP guidelines on water footprinting
- Peer-reviewed paper for publication in scientific journal

Timeframe

An indicative timeline for the work programme of the Water TAG is provided below:

Activities	2015												2016				
	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	
TAG formation																	
Call for nominations	■	■															
Final nominations	■	■															
Selection of TAG co-chairs and members	■	■															
TAG work timeline																	
Preparation of the 1 st face-to-face meeting		■	■														
1 st face-to-face mtg*			■	■													
Online discussion				■	■	■											
First draft of the general guidelines							■										
2 nd face-to-face mtg								■									
Development of cases studies and writing of journal paper						■	■	■	■	■							
Online discussion									■	■	■						
First draft to LEAP Steering Committee											■						
Peer-review											■	■					
Public review/revision													■	■	■		
Final publication																■	

* To be scheduled in late April-May. Exact dates will be chosen through a doodle poll.

Engagement

TAG members are warmly invited to participate in-person and actively contribute to the two face-to-face meetings on the way to be scheduled this year. Each meeting will last two-three days.

Besides participation in the two meetings¹, TAG members are requested to continue to work on TAG deliverables under the overall guidance of the TAG co-chairs in order to deliver quality technical products on schedule.

Without active participation in TAG activities, no co-authorship of the LEAP technical products is granted.

TAG members report to TAG co-chairs.

LEAP will not grant any honorarium to TAG members, who are also expected to arrange their own trips autonomously. Trips will be pre-arranged by FAO only in specific circumstances (e.g. ensuring balanced participation of regional experts from developing countries).

Qualifications

TAG members are technical experts having a strong background in one or more of the following subjects: water footprinting, water footprints of livestock supply chains, animal science, soil science, agriculture science, hydrology, and LCA.

Ideally, TAG members have a long-track record of relevant publications and/or have built technical expertise by implementing water footprinting schemes.

Minimum requirements include:

- Working knowledge of English
- Skilled in team working and hence in sharing views and knowledge in a constructive manner
- Highly-motivated and committed to develop sound tools enabling to support transparent decision making at various scales and in all regions worldwide
- Respect of cultural and scientific diversity of TAG members

Application

Candidates are kindly requested to send the LEAP Secretariat (Livestock-Partnership@fao.org) their CVs, which include an updated list of publications and work experiences **by March 16th 2016**.

All applications will be reviewed by the LEAP Secretariat and LEAP Steering Committee.

Merit, balanced regional representation of participants and gender balance are three key selection criteria.

¹ While the first face-to-face meeting will be held at the FAO HQ in Rome, Italy, the second one is likely to be arranged outside Europe.