Data collection frequency	Annually
Level of expertise required	Moderate – for data acquisition and processing
Synergies with other indicators	Related to *Depth to groundwater* and *Qunatitative status of groundwater* indicators
Connection with SDGs	SDG 6 Clean water and sanitation, SDG 11 Sustainable cities and communities, SDG 13 Climate action
Opportunities for participatory data collection	No opportunities identified
Additional information	
References	European Environment Agency (EEA). (2018). *Use of freshwater resources*. Copenhagen: European Environment Agency. Retrieved from https://www.eea.europa.eu/data-and-maps/indicators/use-of-freshwater-resources-2/assessment-3

4.33 Water dependency for food production

Project Name: proGIreg (Grant Agreement no. 776528)

Author/s and affiliations: Gabriele Guidolotti[1], Chiara Baldacchini[1,2], Carlo Calfapietra[1]

[1]*Consiglio Nazionale delle Ricerche, Italy*

[2]*Università degli Studi della Tuscia, Viterbo, Italy*

Water dependency for food production	**Water Management**
Description and justification	Water is a primarily resource, and the water dependencies of food production is a key indicator of efficiency in the use of water and thus environmental footprint. The implementation nature based solution rested on aquaponics systems in urban areas is hypothesized to produce vegetables with a lower water consumption compared with soil based agriculture. The loss of water in these systems is only due to evapotranspiration, without percolation and runoff.
Definition	Amount of water used to produce food in aquaponics systems (m^3)
Strengths and weaknesses	+ Simple calculation - The results will be dependent to which soil based agricultural system is compared

Measurement procedure and tool	The indicator is obtained by a ratio between the food production and the water consumption within the aquaponics systems. The indicator will be calculated at the end of the implementation
Scale of measurement	NBS level
Data source	
Required data	Amount of water used and food produced by the system
Data input type	Continuous variables
Data collection frequency	Continuously collected
Level of expertise required	Low
Synergies with other indicators	This indicator is related to other indicators of environmental footprint
Connection with SDGs	Sustainable consumption and production: The implementation of nature-based solutions contributes to “doing more and better with less,” net welfare gains from economic activities can increase by reducing resource use, degradation and pollution along the whole life cycle.
Opportunities for participatory data collection	
Additional information	
References	Somerville C., Cohen M., Pantanella E., Stankus A., Lovatelli A. (2014). *Small scale aquaponics food production. Integrated fish and plant farming*. FAO fisheries and aquaculture technical paper.