

Physical water scarcity metrics for monitoring progress towards SDG target 6.4: An evaluation of indicator 6.4.2 “Level of water stress”

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Target 6.4 of the recently adopted Sustainable Development Goals (SDGs) deals with the reduction of water scarcity. To monitor progress towards this target, two indicators are used: Indicator 6.4.1 measuring water use efficiency and 6.4.2 measuring the level of water stress (WS). This paper aims to identify whether the currently proposed indicator 6.4.2 considers the different elements that need to be accounted for in a WS indicator. WS indicators compare water use with water availability. We identify seven essential elements: 1) both gross and net water abstraction (or withdrawal) provide important information to understand WS; 2) WS indicators need to incorporate environmental flow requirements (EFR); 3) temporal and 4) spatial disaggregation is required in a WS assessment; 5) both renewable surface water and groundwater resources, including their interaction, need to be accounted for as renewable water availability; 6) alternative available water resources need to be accounted for as well, like fossil groundwater and desalinated water; 7) WS indicators need to account for water storage in reservoirs, water recycling and managed aquifer recharge. Indicator 6.4.2 considers many of these elements, but there is need for improvement. It is recommended that WS is measured based on net abstraction as well, in addition to currently only measuring WS based on gross abstraction. It does incorporate EFR. Temporal and spatial disaggregation is indeed defined as a goal in more advanced monitoring levels, in which it is also called for a differentiation between surface and groundwater resources. However, regarding element 6 and 7 there are some shortcomings for which we provide recommendations. In addition, indicator 6.4.2 is only one indicator, which monitors blue WS, but does not give information on green or green-blue water scarcity or on water quality. Within the SDG indicator framework, some of these topics are covered with other indicators.

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