Ecosystem Service	**Surface water for non-drinking purposes**
CICES class name	Surface water used as a material (non-drinking purposes)
CICES Section	Provisioning (Abiotic)
CICES Class code	4.2.1.2

Sample Indicators

Indicator values from			
Experiment or direct measurement		Survey	
Expert assessment		Statistical- or census data	
Model or GIS		Literature values	
Stakeholder participation		Not provided	

Table 1: Field Scale

Indicator	**Unit**	**Indicator values from**
[1] Annual total drainage	mm	

Table 2: Farm Scale

Indicator	**Unit**	**Indicator values from**
[2] Mean annual water flow	$m^3 * s^{-1} * ha^{-1}$	
[3] Streamflow calculated by SWAT model	$m^3 * time^{-1}$	
[3] Surface runoff calculated using the ECOSER protocol (www.eco-ser.com.ar)	$m^3 * ha^{-1}$	

Table 3: Regional Scale

Indicator	**Unit**	**Indicator values from**
[1] Annual total drainage	mm	
[6, 13] Precipitation – Evapotranspiration, calculated with InVEST model	$m^3 * ha^{-1} * yr^{-1}$	
[8] Surface water yield: mean annual precipitation - mean annual evapotranspiration, calculated with InVEST model	mm	
[14] Water yield: calculated as annual precipitation - evapotranspiration	$m^3 * area^{-1} * yr^{-1}$	

[12] Potential water yield, calculated as precipitation - evapotranspiration	mm	
[17] Provisioning of water: Groundwater recharge rate based calculated from water balance	mm	
[15] Annual average water yield	mm * yr^{-1}	
[15] Annual sectoral water yield (e.g., domestic, agriculture and industry	mm * yr^{-1}	
[9] Runoff: renewable water supply. Values were normalized [0-1] using benchmark values where available and observed values otherwise.	mm	
[15] Annual river runoff	m^3 * yr^{-1}	
[16] Annual water flow that is available from surface waters	mm * yr^{-1}, m^3 * yr^{-1}	
[15] Water level	m	
[15] Number of extreme (runoff) events	# * yr^{-1}	
[15] Annual average sediment in rivers	t * yr^{-1}	
[15] Total dissolved solids	mg * l^{-1}	
[15] Leakage of nutrients	kg * ha^{-1} * yr^{-1}	
[10] Surface area of water bodies	ha	
[10] Number of traditional water sources	#	
[7] Freshwater supply: values for land cover classes. The matrix by Burkhard et al., 2012 (DOI:10.1016/j.ecolind.2011.06.019) was adapted and used in this study.	Index 0 - 5	
[11] Water for drinking and non-drinking uses: expert based index for ecosystem service supply by land cover class [1-5], multiplied by the area of the land cover class	km^2	
[11] Water for drinking and non-drinking uses' value: expert based index for ecosystem service supply by land cover class [1-5] multiplied by the area of the land cover class and a literature-based monetary value of the ecosystem service	km^2, $ * ha^{-1} * yr^{-1}	
[12] Rating of current service provision per land use class by expert-stakeholders	0 - 10	
[12] Rating of increases/decreases of service supply in scenarios, relative to the status quo	%	
[18] Water purification and provision, calculated as: $$W = NPP * (1 - VCNPP) * IC_s * S_{cf} * 1.75$$ With: NPP – Net Primary Production [0-1000], VCNPP – coefficient of variation of NPP [0–1], IC_s – soil infiltration capacity [0–1], S_{cf} – "slope average" correction factor of the study area [0–1]	-	
[4] Agricultural water use for irrigation: Average irrigation water use over three years	GL * a^{-1}	
[5] Spatial mapping by stakeholders: stakeholders could place green stickers on a map to mark the supply hotspots of this ecosystem service. Red stickers were used to mark locations	Index 0 - 5	

where the supply of this service is declining. Two different sizes of stickers were used to represent a radius of 0.75 km or 1 km, respectively.		

Table 4: National Scale

Indicator	Unit	Indicator values from
[20] Surface water availability	$m^3 * person^{-1} * yr^{-1}$	⊘
[20] Water abstracted	$km^3 * yr^{-1}$	⊘
[19] Supply and demand of irrigation water, calculated by multiplying average modelled surface water runoff [not provided] by the downstream areas of irrigable agriculture [not provided] and estimated annual water demand per hectare per year [not provided]. Water demand per hectare was adjusted for the amount of annual rainfall.	$l * d^{-1}$	🖥
[19] Supply and demand of water for hydropower dams, calculated by multiplying average modelled surface water runoff [not provided] by the water demand for hydropower dams using electrical production as proxy [MWh]	$l * d^{-1}$	🖥
[20] Water use per sector	%	⊘
[20] Wetlands: the surface of flood-prone areas	ha	⊘

Table 5: Multinational Scale

Indicator	Unit	Indicator values from
[21] Freshwater supply: values for Corine land cover classes based on values published by Burkhard et al. (2009; DOI: 10.3097/LO.200915) and modified for the context of riparian zones.	Index 0 - 5	🖥

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