Consolidated technical input from UN agencies on water and sanitation related indicators

List of proposed indicators and metadata for proposed indicators, prepared for the Inter-agency and Expert Group on Sustainable Development Goal Indicators (IAEG-SDGs)

2015-07-28

This document has been prepared by the relevant UN agencies and compiled by UN-Water to give a consolidated technical input on water and sanitation related indicators, to inform the Inter-agency and Expert Group on Sustainable Development Goal Indicators (IAEG-SDGs) in the process of developing an SDG indicator framework. The document, focusing on SDG 6, includes a list of proposed indicators and metadata for the proposed indicators. The proposal can be seen as the core set of global indicators needed for tracking progress towards the targets under Goal 6. This note is being supported by a refined statistical note for targets 6.1, 6,2 and 6.3.1, which is being submitted in parallel by the WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (JMP).

List of proposed indicators for SDG 6 and SDG target 11.5

UN-Water, as the United Nations inter-agency coordination mechanism on freshwater and sanitation matters, serves as an Observer to the IAEG-SDGs to provide consolidated technical input on SDG 6 together with the WHO/UNICEF JMP. This list of proposed indicators for monitoring water and sanitation related targets in the SDGs results from an extensive consultative process within and outside of the UN-Water family, including all UN agencies involved in global monitoring of water and sanitation, international partners in the sector from academia, civil society and business, and the Member States. Individual organizations(s) which can take responsibility for each target are listed in the table. Acknowledging the strong interlinkages between SDG 6 and target 11.5 on water-related disasters, UN-Water is also offering to list a focal point for 11.5 in order to ensure coordination and a coherent effort on these targets.

For SDG 6, we have proposed ten core indicators that we believe are needed for monitoring the six technical targets, plus one additional indicator for each of the two means of implementation targets for a total of 12. In addition we are also proposing indicators for target 11.5 on water-related disasters.

Under the UN-Water umbrella, an integrated monitoring framework has been set up, building on decades of monitoring experience among UN Members, that is well advanced and poised to assist Member States for global monitoring of SDG 6. It is the new global expanded monitoring initiative, **GEMI – Integrated Monitoring of Water and Sanitation Related SDG Targets –** which is looking to monitor targets 6.3 to 6.6. GEMI is a partnership of UNEP, UN-Habitat, UNICEF, FAO, UNESCO, WHO, and WMO under the UN-Water umbrella. It complements the **WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (JMP)** which aims to monitor targets 6.1 and 6.2 and part of 6.3, and the **UN-Water Global Analysis and Assessment of Sanitation and Drinking-Water (GLAAS)** to monitor target 6.a and 6.b.

For more information please refer to http://www.unwater.org/sdgs/en/, http://www.wssinfo.org/, http://www.unwater.org/publications/glaas/en/ and http://www.unwater.org/gemi/en/

Label	Description	Specification	Data source	Entity responsible for global monitoring	Priority	Interlinkages
Goal 6	**Ensure availability and sustainable management of water and sanitation for all**					
Target 6.1	**By 2030, achieve universal and equitable access to safe and affordable drinking water**					
Indicator 6.1.1	Percentage of population using safely managed drinking water services	Definition: Population using a basic drinking water source (current JMP categories for improved drinking water) which is located on premises and available when needed; free of faecal and priority chemical contamination. For further details see the statistical note prepared by WHO/UNICEF JMP.	Data on use of basic drinking water sources are already available from national household surveys and censuses for all developing countries and from administrative sources for all developed countries Data on safety and continuity of supplies are currently available from household surveys and administrative sources including regulators for ca. 100 countries	WHO/UNICEF JMP already maintains a global database and regularly reports on progress in access to basic drinking water for all countries WHO/UNICEF JMP is currently developing estimates for the safety and continuity of drinking water services based on available data.	1	Use of safely managed drinking water services is relevant to the achievement of targets 1.1, 1.2, 1.4, 1.5, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.9, 4.1, 4.2, 4a, 5.2, 5.4, 6.4, 6.5, 6.6, 10.3, 11.1, 11.3, 11.5, 13.1
Target 6.2	**By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations.**					
Indicator 6.2.1	Percentage of population using safely managed sanitation services	Definition: Population using a basic sanitation facility (current JMP categories for improved sanitation) which is not shared with other households and where excreta is safely disposed in situ or treated off-site. For further details see the statistical note prepared by WHO/UNICEF JMP	Data on use of basic sanitation facilities are already available from national household surveys and censuses for all developing countries and from administrative sources for all developed countries New data on disposal and treatment of excreta will come from a variety of sources combining utility and regulator data for off-site systems and potentially household surveys and measured data for onsite systems. Statistical methods for measurement of sewage treatment will align with the SEEA definitions, statistical standards and treatment categories. Where reliable national data do not yet exist, modeled estimates can be generated using JMP data combined with	WHO/UNICEF JMP already maintains a global database and regularly reports on progress in access to basic sanitation for all countries WHO/UNICEF JMP is working with the GEMI initiative to develop global baseline estimates for safe management of faecal wastes.	1	This is a multi-purpose indicator addressing the domestic side of wastewater treatment (6.3.1). Use of safely managed sanitation services is relevant to the achievement of targets 1.1, 1.2, 1.4, 1.5, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.9, 4.1, 4.2, 4a, 5.2, 5.4, 6.3, 6.4, 6.5, 6.6, 8.9, 10.3, 11.1, 11.3, 11.5, 13.1

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			estimates of treatment performance in different population density and income settings.			
Indicator 6.2.2	Percentage of population with a hand washing facility with soap and water in the household	Definition: Population with a handwashing facility with soap and water in the household. For further details see the statistical note prepared by WHO/UNICEF JMP	Data on use of hand washing facilities is available from national household surveys and censuses. Data are currently available for 50-100 developing countries.	WHO/UNICEF JMP already maintains a global database on the use of handwashing facilities with soap and water in the household	1	Use of handwashing facilities with soap and water is relevant to the achievement of targets 1.1, 1.2, 1.4, 1.5, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.9, 4.1, 4.2, 4a, 6.3, 6.4, 6.5, 11.1, 11.3, 11.5, 13.1.
Target 6.3	**By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and at least doubling recycling and safe reuse globally.**					
Indicator 6.3.1	Percentage of wastewater safely treated	Definition: Proportion of wastewater generated both through domestic and industrial sources safely treated compared to total wastewater generated both through domestic and industrial sources. A ladder will define progressive improvement of "safely treated wastewater" from no treatment to the highest level of service. For further details see statistical note prepared by WHO/UNICEF JMP	Existing data are available from WHO/UNICEF JMP, FAO-AQUASTAT, IBNET and UN-Water GLAAS, as well as population density data, and land-use/land-cover data from earth observations. Data on treatment of domestic wastewater will come from the multi-purpose indicator 6.2. Data on volumes of industrial wastewater can be estimated from inventories of industries, which will be available in the majority of Member States disaggregated by ISIC classifications. The breakdown of treated wastewater can be calculated based on compliance records, related to national standards. Unless verified otherwise, through audited compliance records, the waste generated will be considered untreated.	WHO and UN-Habitat, as part of an inter-agency monitoring initiative known as **GEMI** (Integrated Monitoring of Water and Sanitation Related Targets). GEMI is a new coherent monitoring framework, working closely with JMP. Through combined data sources, data are available for at least 85 countries. Less data are available for onsite and industrial treatment.	1	Safe treatment of wastewater is relevant to the achievement of targets 1.4, 1.5, 2.3, 3.2, 3.3, 3.9, 6.4, 8.9, 9.4, 10.3, 11.1, 11.3, 11.5, 1.6, 12.4, 13.1, 14.1.
Indicator 6.3.2	Percentage of water bodies with ambient water quality not presenting risk to the environment or human health	For further details see metadata note. Definition: Proportion of water bodies with ambient water quality not presenting risk to the environment or human health compared to all water bodies. Water quality is estimated through a step wise water quality indicator approach (WQI), compiling a core set of parameters: total dissolved solids (TDS); percentage dissolved oxygen (%DO); dissolved inorganic nitrogen (DIN); dissolved inorganic phosphorus (DIP); and Escherichia coli (E. coli). The GEMStat-based indicator approach is used to calculate the status of water bodies by	Existing data are available from UNEP's GEMS/Water, GEMStat and OECD. Additional information on optical water properties from remote sensing can be used as integrating proxies for sediments and eutrophication/nutrient loading in larger water bodies. Most data is locally measured in most countries. The challenge is that this data often is held by local authorities and/or water supply companies and other private or semi-private stakeholders. Measurements will be completed at local laboratories and/or achieved using field measurements on appropriate protocols for sample collection and analysis. GEMS/Water regional hubs help in accessing local data for regional and global monitoring.	UNEP (through GEMS/Water), on behalf of UN-Water Under the UN-Water umbrella, a partial monitoring framework is already in place, currently being finalized under the inter-agency monitoring initiative known as **GEMI** (Integrated Monitoring of Water and Sanitation Related Targets). GEMI is a new coherent monitoring framework, working closely with JMP, an autonomous programme affiliated with UN-Water, to ensure	1 (indicators 6.3.1 and 6.3.2 are equally important to report on target 6.3)	This indicator can inform on the following targets: 3.3: water-borne diseases (E. coli). 8.4: decoupling progress and resource efficiency and effects on ambient WQ. 9.4: progress in technology and process transitions towards sustainability and innovation.

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		means of parameter values, which are compared to guideline values (proximity to target approach).The actual parameters as well as guideline values should be adapted to local conditions. The WQI scale (0-100) can be divided into different water quality categories, ranging from very bad to excellent. The thresholds for these categories are country specific and should be reported in the monitoring system by the individual countries. Thus differences in the national environment or national water management objectives are taken into account. The water quality indicator is the only indicator in the proposed framework that allows for evaluating the response of ecosystems to human development based on input/outcome relationships.	For data-poor areas estimates can be generated using existing – in situ data combined with modelled data and remote sensing information. Data is collected at the basin scale and can be aggregated to the country and regional scale.	long-term monitoring for the entire SDG 6. Related to indicator 6.3.1, GEMI will draw upon metadata standards which are already in place, among other sources on pre-existing datasets such as GEMStat and FAO-AQUASTAT. GEMStat (UNEP) contains 4 million records from over 3000 stations in 100 countries, although the sets of parameters, the choice of monitoring station and the collection frequency varies by large between countries.		11.5: risk for people to be prone to water related disasters (linked to poor WQ). 12.4: outcome of the management of chemicals and wastes (water quality). 14.1 & 14.2: progress in receiving coastal waters and estuaries pollution, management and restoration efficiency. 15.1: the status of freshwater ecosystems.
Target 6.4	**By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.**					
Indicator 6.4.1	Level of water stress: freshwater withdrawal in percentage of available freshwater resources	To provide better understanding by the statistical community, a suggestion was made to change the wording from “Water stress” to “**Level of water stress: freshwater withdrawal in percentage of available freshwater resources”.** For further details see metadata note. Definition: the ratio between total freshwater withdrawn by all sectors (agriculture, industry, cities) and total renewable freshwater resources, after having taken into account environmental water requirements. This indicator is also known as water withdrawal intensity. The indicator builds on MDG indicator 7.5 and also accounts for EWR and includes both groundwater and surface water withdrawals. The indicator definitions and computational method are broadly consistent with those of SEEA. It is proposed to classify the level of water stress in three main categories: low, high and very high. The thresholds for the indicator could be country specific, to reflect differences in climate and national water management objectives.	Existing data are available from FAO-AQUASTAT. Data on environmental water requirements are presently not collected by AQUASTAT, but many feasible methods are available for countries that do not already have good institutional arrangements in place to collect this data on their own. Modelled data could be used to fill in gaps while capacity is being developed. Water statistics from National Statistical Offices, Eurostat and UNSD also provides an important source of data. The SEEA approach will provide robust withdrawal and consumption-based statistics in the medium-term, as country level capacity in collecting the data improves. Data are collected at the scale of the river basin/aquifer and can be aggregated to the sub-national, national and regional scales.	FAO, on behalf of UN-Water A partial monitoring framework is already in place, currently being finalized under the GEMI monitoring initiative under the UN-Water umbrella (see description under 6.3.2). As one of the sources for GEMI, FAO-AQUASTAT data are available for all countries, with a track record (incomplete) starting in 1960.	1	This indicator can inform on the following target: 15.1: the level of pressure on freshwater ecosystems

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		Alternatively, uniform thresholds could be proposed using existing literature on water stress and water scarcity (e.g. high stress is when more than 40 % of total available water resources is used, very high stress when more than 80 % of total available water is used). The indicator is essential to track progress in regard to "withdrawals and supply of freshwater to address water scarcity", i.e. the environmental component of target 6.4.				
Indicator 6.4.2	"Percentage of change in water use efficiency over time"	To provide better understanding by the statistical community and express this indicator in terms of a numerical value, a suggestion was made to change the wording from "Water Productivity" to "**Percentage of change in water use efficiency over time".** For further details see metadata note. Definition: this indicator tracks change in water use efficiency over time for major sectors, including energy, industry, agriculture, and drinking water supply. The use of percentage *change* instead of *actual* efficiency allows for the use of different units for value generation in the different sectors, e.g. revenue in dollars for industry and agriculture, and energy production in kWh for the energy sector. Sectoral efficiencies are aggregated in a single indicator through the use of weighting coefficients proportional to each sector's share of total water withdrawal/ consumption.	The indicator can be calculated using existing datasets from FAO-AQUASTAT on water withdrawals in different sectors, together with datasets on value generation from National Accounts Main Aggregates (UNSD), World Energy Outlook (International Energy Agency), World Bank demographic datasets, WaterStat Database (Water Footprint Network) and IBNET (the International Benchmarking Network for Water and Sanitation Utilities). Water statistics from National Statistical Offices, Eurostat and UNSD also provides an important source of data. The SEEA approach will provide robust withdrawal and consumption-based statistics in the medium-term, as country level capacity in collecting the data improves. Modelled data could be used to fill in gaps while capacity is being developed, so that the indicator could be calculated for all countries immediately. The indicator provides an aggregated measure of overall change in productivity across sectors, but it is built on sectoral data and is therefore relevant to each of the sectors.	FAO, on behalf of UN-Water A partial monitoring framework is already in place, currently being finalized under the GEMI monitoring initiative under the UN-Water umbrella (see description under 6.3.2). Data on efficiency are available for all countries. Data for baseline year will be used to track progress in successive years.	2	This indicator informs on the following targets: 2.4: the water aspect of resources use efficiency in agriculture. 8.4: water use efficiency in different sectors. 9.4: water use efficiency in the different sectors (municipal water efficiency – status of water supply infrastructure, industrial efficiency – use of clean and environmentally sound processes). 12.2: water use efficiency in the different sectors 12.3: This indicator (disaggregated) informs on water use efficiency in drinking water supply (net losses). 15.1: the use of inland freshwater ecosystems and their services.
Target 6.5	**By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate**					
Indicator 6.5.1	Degree of integrated water resources management	To provide better understanding by the statistical community and express this indicator in terms of a numerical value, a suggestion was made to change the wording from "Status of IWRM	Data for 134 countries are available from UNEP-DHI (e.g. http://www.unepdhi.org/rioplus20 (see data file zip link) – full data available on request).	UNEP, on behalf of UN-Water Under the UN-Water umbrella, the GEMI monitoring initiative (see	1	This indicator directly underpins all the other water and sanitation related goals and targets, as it informs

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	(IWRM) implementation (0-100)	implementation" to "**Degree of integrated water resources management (IWRM) implementation (0-100)".** For further details see metadata note. Definition: this indicator reflects the extent to which integrated water resources management (IWRM) is implemented, by measuring (1) the extent to which an enabling environment for IWRM (policy, strategic planning, legal framework and financing) has been established, (2) the structure and performance of an institutional framework to support IWRM processes, and (3) the degree to which management instruments/tools are applied. This indicator is expressed as a percentage, where 100 % correspond to fully implemented. Calculations are based on a statistical analysis of national questionnaires (one per country). Issues relating to gender, governance, ecosystems, capacity, and transboundary aspects of water management are included.	Data are collected through the use of national IWRM questionnaires (one per country), measuring both qualitative and quantitative aspects of IWRM. This approach has been successfully applied to measure the status of IWRM for the Commission on Sustainable Development in both 2008 and 2012 (Rio+20). Results can easily be disaggregated to give a more nuanced picture of status both at national and regional (transboundary) levels.	further information and description under 6.3.2), will draw on UNEP-DHI data, which are available for 134 countries. This can be used to provide a baseline for measurements. The UN World Water Assessment Programme (WWAP) initiated a project in 2014 to develop a methodology for gender-disaggregated data collection and produce gender-sensitive indicators. In November 2014, the Gender-Disaggregated Indicators presented by WWAP were officially endorsed by the African Ministers' Council on Water (AMCOW). AMCOW officially committed to "establish national targets and a monitoring and evaluation framework for each of the seven pillars of the AMCOW gender policy and strategy, including sex-disaggregated indicators in the African context following guidelines developed by WWAP, by 2016."		about the Means of Implementation for SDG 6 technical targets. The indicator can thus be employed to support reporting on targets 6.a and 6.b, and be further complemented by the UN-Water Global Analysis and Assessment of Sanitation and Drinking-Water (GLAAS) for WASH-related issues. Target 1.b: This indicator informs on the existence of sound policy frameworks at national, regional and international levels, based on pro-poor and gender-sensitive development strategies to support accelerated investments in poverty eradication actions. Target 11.b: This indicator informs on the existence of integrated policies and plans for water management.
Indicator 6.5.2	Percentage of transboundary basin area with an operational arrangement for water cooperation	To provide better understanding by the statistical community and express this indicator in terms of a numerical value, a suggestion is to change the wording from "Availability of operational arrangements for transboundary basin management" to "**Percentage of transboundary basin area with an operational arrangement for water cooperation".** For further details see metadata note. Definition: proportion of surface area of transboundary basins (both surface and groundwater) that have an operational agreement/arrangement or institution for transboundary water cooperation in management, compared to total surface area of transboundary basins. For the cooperation framework to be considered	A global database exists of freshwater treaties and international river basin organizations, as well as several regional ones, e.g., for the Pan-European region the second Assessment under the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention). A global baseline comparative assessment of transboundary waters, including river basins (286) and 166 aquifers in 90 countries, has been undertaken by the Transboundary Waters Assessment Project (TWAP, completed in 2014), involving generation of geo-referenced datasets. Basin level data can be disaggregated to country level (for national reporting) and aggregated to regional and global level.	UNECE (as Secretariat for the Water Convention) and UNEP, on behalf of UN-Water Under the UN-Water umbrella, the GEMI monitoring initiative will provide a basis for monitoring proposed indicator 6.5.2 under the leadership of UNEP, UNECE and UNESCO-IGRAC (Integrated Groundwater Resources Assessment Centre) for this indicator (see 6.3.2 for further description on GEMI). UNECE acts as Secretariat for the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (the "Water Convention"). Amendments opening the Water Convention to all UN	2	This indicator informs on the following targets: 1.b: the existence of sound policy frameworks at regional and international levels, based on pro-poor and gender-sensitive development strategies to support accelerated investments in poverty eradication actions. 11.b: the existence of integrated policies and plans for transboundary water management.

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		as “operational”, it requires that there are regular meetings of the riparian countries to discuss the integrated management of the water resource and to exchange information.		Member States entered into force in February 2013. Reporting on transboundary water cooperation is currently being developed under the Water Convention. Spatial data (delineating transboundary basins) are available for all known (286) transboundary basins. Data available at global level on the 120 international river basin organisations. Each country has information about which basins are covered by operational arrangements for transboundary water cooperation, and what is the corresponding area share. Proposed methodology on global-scale assessment and improved knowledge on transboundary waters is being provided by TWAP, which has been implemented by UNEP for the Global Environment Facility (GEF).		
Target 6.6	**By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.**					
Indicator 6.6.1	Percentage of change in wetlands extent over time	To provide better understanding by the statistical community and express this indicator in terms of a numerical value, a suggestion is to change the wording of this indicator from “Change in wetlands extent over time / % change over time” to “**Percentage of change in wetlands extent over time”.** For further details see metadata note. Definition: Change in total wetland area over time (% change/year). The Ramsar broad definition of “wetland” is used, which includes rivers and lakes, enabling three of the biome types mentioned in the target to be assessed - wetlands, rivers, lakes - plus other wetland types.	The indicator uses the existing Living Planet Index methodology for data collection and analysis. Data are compiled and disseminated through the Ramsar Convention’s “State of the World’s Wetlands and their Services” (SoWWS) reports which are overseen by its Scientific and Technical Review Panel. A summary of the first assessment exercise is being provided to Ramsar COP-12 in June 2015 providing baseline analysis (http://www.ramsar.org/sites/default/files/documents/library/cop12_doc23_bn7_soww s_e_0.pdf). The indicator is also a sub-indicator for Aichi Biodiversity Target 5 (with reporting mechanism in place for that). The data originates from multiple sources including national reports submitted to the Ramsar Convention, published	CBD and UNEP, on behalf of UN-Water. Assessments are undertaken by the Ramsar Convention on Wetlands, in collaboration with CBD (including the biodiversity indicators partnership) and UNEP, through the GEMI monitoring initiative. Under the UN-Water umbrella, the GEMI monitoring initiative will integrate the monitoring framework in place under the SoWWS (see description of GEMI under 6.3.2). Baseline data are available at the global level. Historical records are available for some regions and wetlands types from the 1700’s. The baseline assessment will be 2015	1	This indicator can inform on the following targets: 9.1 and 9.2: the status of green infrastructure. 11.5: the resilience to water-related disasters. 11.6: the environmental impact of cities. 11.7: the existence of green spaces. 12.2: the sustainable management of natural resources.

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			scientific papers and, increasingly, through analysis of remote sensing data. Wetland area is most accurately estimated through manual digitalization of aerial or satellite images, a methodology that in the coming years will be advanced by remote sensing. Supplementary information comes through scientific papers and national reports. Heterogeneous datasets are considered to be acceptable, if not desirable: change in extent will still be captured and heterogeneous datasets allow for more discrete analysis by wetland type, location and region. The data can be disaggregated by wetland type: for example, for lakes, floodplains, coastal wetlands or artificial/constructed wetlands. This enables more refined assessment of progress towards target 6.6 since wetland type and location are relevant variables when assessing progress towards target 6.6.	(first SoWWS report) with remote sensing data using 1970 as the baseline year. Currently, 169 Parties regularly report on trends in wetlands to the Ramsar Convention. Other data sources enable fully global coverage.		12.4: the reduction of waste release to water, and the minimization of adverse impacts on the environment. 13.1: the resilience and adaptive capacity to climate related hazards and natural disasters. 14.1: the prevention and reduction of marine pollution. 14.2 and 14.5: the status of marine and costal ecosystems. 15.1, 15.2 and 15.3: the status of terrestrial and inland freshwater ecosystems.
Target 6.a	**By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies**					
Indicator 6.a.1	Amount of water and sanitation related Official Development Assistance that is part of a government coordinated spending plan	The monitoring of the Means of Implementation of SDG 6 builds directly on the UN-Water Global Analysis and Assessment of Sanitation and Drinking-Water (GLAAS) (for drinking water, sanitation and hygiene matters) and the Integrated Water Resources Management (IWRM) reporting in SDG target 6.5 (for wastewater and water quality, water efficiency, water resource management, and the status of water-related ecosystems). Target 6.a includes many elements. The amount of water and sanitation-related Official Development Assistance (ODA) is the easier measurement as a proxy for "international cooperation and capacity development support", because this is captured by the Creditor Reporting System (CRS) of the Organisation for Economic Co-operation and Development (OECD). By disaggregating ODA according to the CRS Purpose Codes (www.oecd.org/dac/stats/49819385.pdf), specific information can be obtained on the level of international cooperation in water and sanitation related activities, including infrastructure	The main data source is the Creditor Reporting System of the Organisation for Economic Co-operation and Development (OECD-CRS), in particular the reporting on "Water Supply and Sanitation". OECD-DAC has suggested as an indicator for 6.a: "ODA for water and sanitation related activities and programmes", acknowledging that work is underway to explore whether and how to limit coverage to assistance that is part of developing country governments' co-ordinated spending plans. UN-Water GLAAS and OECD colleagues are in touch to further discuss alignment on this indicator. The analysis of these data is currently done on a biennial basis by the UN-Water GLAAS, led by WHO, for drinking water, sanitation and hygiene matters, including the specific initiative "Tracking financing to sanitation, hygiene and drinking-water" (TrackFin). The analysis of the data on water resources management was done by UN-Water in 2008 (led by UN-DESA) and in 2012 (led by UNEP, UNDP, GWP and SIWI) as requested by the UN Commission for Sustainable Development.	WHO, through the UN-Water GLAAS and with the support of UNEP through the reporting in SDG target 6.5, on behalf of UN-Water.	1	**6.5** (suggested indicator 6.5.2, "Percentage of transboundary basin area with an operational arrangement for water cooperation"). **7.a** (suggested indicator 7.a.2, "amount of foreign direct investment and financial transfer" (clean energy relates strongly to low water-intensive energy sources, especially as regards some of the technologies noted in target 6.a)). **17.2** (suggested indicator 17.2.2, "Proportion of total bilateral, sector-allocable ODA of OECD/DAC donors to basic social services (basic education, primary health care, nutrition, safe water

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		development, policies, and capacity development. The “Water Supply and Sanitation” CRS Purpose Codes are: 14010 Water sector policy and administrative management 14015 Water resources conservation (including data collection) 14020 Water supply and sanitation - large systems 14021 Water supply - large systems 14022 Sanitation - large systems 14030 Basic drinking water supply and basic sanitation 14031 Basic drinking water supply 14032 Basic sanitation 14040 River basins’ development 14050 Waste management / disposal 14081 Education and training in water supply and sanitation Realising that the role of ODA in international cooperation is evolving and that a broad range of stakeholders is involved in “international cooperation and capacity development support”, it is envisaged that this indicator will evolve and will be further qualified during the SDG period.				and sanitation”).
Target 6.b	**Support and strengthen the participation of local communities in improving water and sanitation management.**					
Indicator 6.b.1	Percentage of local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management	This indicator builds on data that are already regularly collected by UN-Water GLAAS on the presence, at the national level, of clearly defined procedures in laws or policies for participation by service users. These data are currently disaggregated by: i) urban sanitation, ii) rural sanitation, iii) urban drinking-water, iv) rural drinking-water and v) hygiene promotion. This indicator will also build on the data collected for the Status of Integrated Water Resources Management (IWRM) reporting in SDG target 6.5, in particular on the presence of formal stakeholder structures established at sub-catchment level. Because of the above, it is envisaged that this	The main data sources are the UN-Water GLAAS surveys and the IWRM surveys for SDG target 6.5, with ground truthing thanks to the data collected for SDG target 6.1 which also provides information on regulated water supplies, and from household surveys.	WHO, through the UN-Water GLAAS and with the support of UNEP through the reporting in SDG target 6.5, on behalf of UN-Water.	1	**4.a** (Suggested indicator 4.a.1, “Percentage of schools with access to (i) electricity; (ii) drinking water; and (iii) single-sex sanitation facilities (as per the WASH indicator definitions“). **7.b** (Suggested indicator 7.b.2 “Percentage of international cooperation projects being implemented to facilitate access to clean energy“). **15.9** (“integrate ecosystem values into national and local planning” can related to water-related ecosystems).

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		indicator will evolve and will be further qualified during the SDG period, focussing on sanitation, drinking water and hygiene first and then expanding on water resources management.				**13.b** ("climate change-related planning and management in LDCs" includes local communities - much of the extent of climate change is felt in the area of water).
Target 11.5	**By 2030, significantly reduce the number of deaths and the number of people affected and decrease by [x] per cent the economic losses relative to gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations**					
Indicator 11.5.1	Number of people killed, injured, displaced, evacuated, relocated or otherwise affected by disasters	This indicator comprises 6 separate categories where each requires monitoring. The trends in numbers mentioned other than number of people killed or injured are reflective of government DRR strategies and are not absolute indications of their effectiveness. A zero evacuation rate might imply a high level of protective structural measures or a high number of people killed due to inaction. Impact of each category is different, that is one death is not equivalent to one person evacuated, making a composite metric for the indicator 11.5.1 difficult to attain. To make this easier to measure and monitor, it could be reduced to the indicator: "Number of deaths per year resulting from each disaster type." At the global level, the core indicator should be able to be disaggregated by disaster type (floods, droughts, tsunamis, earthquakes, landslides etc.) and could be disaggregated by income, gender, and age of victims; further disaggregation at national level to include frequency of event and its magnitude would be insightful.	A new monitoring framework is needed drawing upon existing monitoring programmes/databases such as EM-DAT (CRED) and DesInventor.	WMO, on behalf of UN-Water.	Revised indicator is priority 1.	This indicator can inform on the following targets: 1.5: the resilience, exposure and vulnerability of the poor and those in vulnerable situations to climate-related extreme events and other economic, social and environmental shocks and disasters. 13.1: the resilience and adaptive capacity to climate related hazards and natural disasters in all countries.
Indicator 11.5.2	Number of housing units damaged and destroyed	Indicator will be highly variable depending on variability of family income in the local society; and it is difficult to measure most vulnerable sectors of communities living in informal settlements. Many of the most vulnerable do not live in formal "housing units". It would be more advantageous to focus on major permanent structures of critical importance such as hospitals, schools, and water treatment plants. The preferred indicator would be: "Damages by disaster type per year to critical infrastructure such as health (hospitals), educational (schools), and water treatment plants.	A new monitoring framework is needed drawing upon existing monitoring programmes/databases such as EM-DAT (CRED) and DesInventor.	WMO, on behalf of UN-Water.	2	

Metadata for proposed indicators

The following chapters provide metadata for each of the indicators proposed for global monitoring of SDG targets 6.1 to 6.6. The metadata is prepared by the **WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (JMP)** and **GEMI – Integrated Monitoring of Water and Sanitation Related SDG Targets**[1], under the umbrella of **UN-Water**.

For more in-depth information about the indicators and their underlying methodologies, please refer to the following statistical notes, also submitted to the IAEG-SDGs:

- Statistical note for proposed indicators 6.1.1-6.3.1 on drinking water and sanitation, including wastewater
- Statistical note for proposed indicator 6.3.2 on ambient water quality
- Statistical note for proposed indicator 6.4.1-6.4.2 on water use [forthcoming]
- Statistical note for proposed indicator 6. 5.1-6.5.2 on integrated water resources management [forthcoming]
- Statistical note for proposed indicator 6.6.1 on wetland extent

Target 6.1 indicator 6.1.1

Goal and target to be addressed	**Goal 6**: Ensure availability and sustainable management of water and sanitation for all **Target 6.1**: By 2030, achieve universal and equitable access to safe and affordable drinking water for all **Indicator 6.1.1**: Percentage of population using safely managed drinking-water services
Definition and method of computation	**Definition**: Population using a basic drinking-water source ('improved' sources of drinking water used for MDG monitoring i.e. piped water into dwelling, yard or plot; public taps or standpipes; boreholes or tubewells; protected dug wells; protected springs and rainwater) which is located on premises and available when needed; free of faecal (and priority chemical) contamination. **Method of computation**: Household surveys and censuses currently provide information on types of basic drinking-water sources listed above, and also indicate if sources are on premises. These data sources often have information on the availability of water and increasingly on the quality of water at the household level, through direct testing of drinking-water for faecal or chemical contamination. These data will be combined with data on availability and compliance with drinking-water quality standards (faecal and chemical) from administrative reporting or regulatory bodies. The WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (JMP) estimates access to basic services for each country, separately in urban and rural areas, by fitting a regression line to a series of data points from household surveys and censuses. This approach was used to report on use of 'improved water' sources for MDG monitoring. The JMP is evaluating the use of alternative statistical estimation methods as more data become available. The accompanying Statistical Note describes in more detail how data on availability and quality from different sources, can be combined with data on use of different types of

[11] Monitoring partnership of UNEP, UN-Habitat, UNICEF, FAO, UNESCO, WMO, and WHO that resides under the UN-Water umbrella

	supplies, as recorded in the current JMP database to compute the proposed indicator. **Predominant type of statistics**: national estimates adjusted for global comparison.
Rationale and interpretation	MDG target 7C which called for 'sustainable access' to 'safe drinking-water'. At the start of the MDG period, there was a complete lack of nationally representative data about drinking-water safety in developing countries, and such data were not collected through household surveys or censuses. The JMP developed the indicator use of 'improved' water sources, which was used as a proxy for 'safe water', as such sources are likely to be protected against faecal contamination, and this metric has been used since 2000 to track progress towards the MDG target. International consultations since 2011 have established consensus on the need to build on and address the shortcomings of this indicator; specifically, to address normative criteria of the human right to water including accessibility, availability, and quality. The above consultation concluded that JMP should go beyond the basic level of access and address safe management of drinking-water services, including dimensions of accessibility, availability and quality. The proposed indicator of 'safely managed drinking-water services' is designed to address this.
Sources and data collection	Access to water and sanitation are considered core socio-economic and health indicators, and key determinants of child survival, maternal, and children's health, family wellbeing, and economic productivity. Drinking-water and sanitation facilities are also used in constructing wealth quintiles used by many household surveys to analyse inequalities between rich and poor. Access to drinking water and sanitation is therefore a core indicator for most household surveys. Currently JMP database holds around 1600 such surveys and for over 140 countries, at least five data points are available which include information about basic water and sanitation for the period 1990-2015. In high countries where household surveys or censuses do not usually collect information on basic access, estimates are drawn from administrative records. Data on availability and faecal and chemical quality of drinking-water, and regulation by appropriate authorities will be collected by JMP through consultation with the government departments responsible for drinking-water supply and regulation. JMP routinely conducts country consultations with national authorities before publishing country estimates. Data on availability and quality of water supplies are currently available from household surveys or administrative sources including regulators for over 70 high-income countries, and at least 30-40 low- and middle-income countries. Thus, data are currently available from ca. 100 countries, covering majority of the global population. This number will rise as regulation becomes more widespread in low- and middle-income countries. The population data used by JMP, including the proportion of the population living in urban and rural areas, are those routinely updated by the UN Population Division.
Disaggregation/ additional dimension	Place of residence (urban/rural) and socioeconomic status (wealth, affordability) is possible for all countries. Disaggregation by other stratifiers of inequality will be made where data permit.
Comments and limitations	Data on availability and safety of drinking-water is increasingly available through a combination of household surveys and administrative sources including regulators, but definitions have yet to be standardized. Data on faecal and chemical contamination, drawn from household surveys and regulatory databases, will not cover all countries immediately. However, sufficient data exist to make global and regional estimates of safely managed drinking-water services by the time the global community adopts the SDG indicators in 2016/17.
Gender equality	In household surveys access to drinking-water is measured at the household level and in

issues	most cases it is not possible to disaggregate to accurately measure intra-household inequalities such as sex, age, or disability. Gender-specific data are available for household management of drinking-water, including collection from communal sources.
Data for global and regional monitoring	JMP will draw upon the national data described above, and regional and global aggregations will be made in a similar fashion as has been done for MDG reporting. Estimates of faecal and chemical contamination, and regulation by appropriate authorities, will be collected from countries and used to adjust the data on use of basic drinking-water sources as needed.
Supplementary information	JMP is developing a detailed statistical note outlining and illustrating proposals for measuring safely managed drinking-water services, building on the statistical note shared at the Expert Group Meeting in February 2015. JMP will continue to measure and report on use of 'basic' and unimproved drinking-water sources as part of its drinking water ladder to ensure continuity with MDG monitoring.
References	The most recent JMP report: Progress on drinking-water and sanitation – 2014 update. Geneva: WHO/UNICEF; 2014. http://www.wssinfo.org/fileadmin/user_upload/resources/JMP_report_2014_webEng.pdf http://www.wssinfo.org/definitions-methods/data-sources/ WASH targets and indicators post-2015: recommendations from international consultations. Geneva: Water Supply and Sanitation Collaborative Council; 2014 http://www.wssinfo.org/fileadmin/user_upload/resources/post-2015-WASH-targets-factsheet-12pp.pdf Guidelines for drinking-water quality, fourth edition. Geneva: WHO; 2011. http://www.who.int/water_sanitation_health/publications/2011/dwq_guidelines/en/ JMP Task Force on Methods Final Report. New York: WHO/UNICEF, December 2014. http://www.wssinfo.org/task-forces/

Target 6.2 indicator 6.2.1

Goal and target to be addressed	**Goal 6**: Ensure availability and sustainable management of water and sanitation for all **Target 6.2**: By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations. **Indicator 6.2.1**: Percentage of population using safely managed sanitation services
Definition and method of computation	**Definition**: Population using a basic sanitation facility ('improved' sanitation facilities used for MDG monitoring i.e. flush or pour flush toilets to sewer systems, septic tanks or pit latrines, ventilated improved pit latrines, pit latrines with a slab, and composting toilets, the same categories as improved sources of drinking water used for MDG monitoring) which is not shared with other households and where excreta is safely disposed in situ or treated off-site. This is therefore a multipurpose indicator also serving the domestic part of the wastewater treatment (6.3.1) **Method of computation:** Household surveys and censuses provide data on use of types of basic sanitation facilities listed above. The percentage of the population using safely managed sanitation services is calculated by combining data on the proportion of the population using different types of basic sanitation facilities with estimates of the proportion of faecal waste which is safely disposed in situ or treated off-site. The JMP estimates access to basic sanitation facilities for each country, separately in urban

	and rural areas, by fitting a regression line to a series of data points from household surveys and censuses. This approach was used to report on use of 'improved water' sources for MDG monitoring. The JMP is evaluating the use of alternative statistical estimation methods as more data become available. The Statistical Note describes in more detail how 'safety factors', or the proportion of wastes that are safely disposed of in situ or transported to a designated place, will be generated through a national assessment process, and combined with data on use of different types of supplies, as recorded in the current JMP database. Calculation of safety factors for safe management of sanitation are the same used for safety factors for waste treatment required for domestic part of the indicator 6.3.1. **Predominant type of statistics**: national estimates adjusted for global comparison.
Rationale and interpretation	MDG target 7C called for 'sustainable access' to –'basic sanitation'. JMP developed the metric of use of 'improved' sanitation facilities, which are likely to hygienically separate human excreta from human contact, and has used this indicator to track progress towards the MDG target since 2000. International consultations since 2011 have established consensus on the need to build on and address the shortcomings of this indicator; specifically, to address normative criteria of the human right to water including accessibility, acceptability, and safety. Furthermore, the safe management of faecal wastes should be considered, as unsafe discharges into the environment create public health hazards. The above consultation concluded that post-2015 targets, which apply to all countries, should go beyond the basic level of access and address indicators of safe management of sanitation services, including dimensions of accessibility, acceptability and safety. The Expert Working Group called for analysis of faecal waste management along the sanitation chain, including containment, emptying of latrines and septic tanks, and safe on-site disposal or transport of wastes to designated treatment sites.
Sources and data collection	Access to water and sanitation are considered core socio-economic and health indicators, and key determinants of child survival, maternal, and children's health, family wellbeing, and economic productivity. Drinking-water and sanitation facilities are also used in constructing wealth quintiles used by many household surveys to analyse inequalities between rich and poor. Access to drinking water and sanitation is therefore a core indicator for most household surveys. Currently JMP database holds around 1600 such surveys and for over 140 countries, at least five data points are available which include information about basic water and sanitation for the period 1990-2015. In high income countries where household surveys or censuses do not usually collect information on basic access, estimates are drawn from administrative records. Estimates of excreta management will be collected from countries and used to adjust the data on use of basic sanitation facilities as needed. Administrative, population and environmental data can also be combined to estimate safe disposal or transport of excreta, when no country data are available. Data on disposal or treatment of excreta are limited but estimates for safe management of faecal wastes can be calculated based on faecal waste flows associated with the use of different types of basic sanitation facility. The population data used by JMP, including the proportion of the population living in urban and rural areas, are those established by the UN Population Division.
Disaggregation/ additional dimension	Place of residence (urban/rural) and socioeconomic status (wealth, affordability) is possible for all countries. Disaggregation by other stratifiers of inequality will be made where data permit.
Comments and limitations	A framework for measuring faecal waste flows and safety factors has been developed and piloted in 12 countries (World Bank Water and Sanitation Program, 2014), and is being

	scaled up post-2015. This framework has served as the basis for monitoring plans for indicators 6.2.1 and 6.3.1. Data on safe disposal and treatment is not be available for all countries immediately. However, sufficient data exist to make global and regional estimates of safely managed sanitation services by the time the global community adopts the SDG indicators in 2016/17.
Gender equality issues	In household surveys access to sanitation facilities is measured at the household level and in most cases in not possible to disaggregate to accurately measure intra-household inequalities such as sex, age, or disability. Novel data sources, like rapid assessment methods, or crowd sourced data could be utilized to see intra-household disparity in access or gender discrimination on the use of safe management of sanitation services.
Data for global and regional monitoring	JMP will draw upon the national data described above, and regional and global aggregations will be made in a similar fashion as has been done for MDG reporting.
Supplementary information	JMP has developed a detailed statistical note outlining and illustrating proposals for measuring safely managed sanitation services. JMP will continue to measure and report on use of 'basic' sanitation facilities as a subset of safely managed sanitation services.
References	The most recent JMP report: Progress on drinking-water and sanitation – 2014 update. Geneva: WHO/UNICEF; 2014 http://www.wssinfo.org/fileadmin/user_upload/resources/JMP_report_2014_webEng.pdf, WASH targets and indicators post-2015: recommendations from international consultations. Geneva: Water Supply and Sanitation Collaborative Council; 2014 http://www.wssinfo.org/fileadmin/user_upload/resources/post-2015-WASH-targets-factsheet-12pp.pdf The Missing Link in Sanitation Service Delivery: A Review of Fecal Sludge Management in 12 Cities. World Bank Water and Sanitation Program, 2014. http://documents.worldbank.org/curated/en/2014/04/19549016/targeting-urban-poor-improving-services-small-towns-missing-link-sanitation-service-delivery-review-fecal-sludge-management-12-cities

Target 6.2 indicator 6.2.2

Goal and target to be addressed	**Goal 6**: Ensure availability and sustainable management of water and sanitation for all **Target 6.2**: By 2030, achieve access to adequate and equitable sanitation and **hygiene** for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations. **Indicator 6.2.2**: Percentage of population with handwashing facilities with soap and water at home
Definition and method of computation	**Definition**: Population with a handwashing facility (a device to contain, transport or regulate the flow of water to facilitate handwashing) with soap and water in the household. **Method of computation**: The indicator is computed as the proportion of the population who live in households with a handwashing facility with soap and water available. Household surveys increasingly include a section on hygiene practices. In this section, enumerators visit the handwashing station reportedly used by the household, and observe if water and soap are present.

	Predominant type of statistics: national estimates adjusted for global comparison.
Rationale and interpretation	Handwashing with soap is widely agreed to be the top hygiene priority for improving health outcomes. In 2008 and 2009, the JMP supported a review of indicators of handwashing practice, and determined that the most practical approach leading to reliable measurement of handwashing in national household surveys was observation of the place where household members wash their hands and noting the presence of water and soap (or local alternative) at that location. This provides a measure of whether households have the necessary tools for handwashing and is a proxy for their behaviour. Observation by survey enumerators represents a more reliable, valid and efficient indicator for measuring handwashing behaviour than asking individuals to report their own behaviour.
Sources and data collection	Since the handwashing with soap survey questions were standardized in 2009, over 50 DHS and MICS surveys have included the module. JMP published handwashing data from 12 countries in its 2014 update report, and will show data for over 50 countries in the 2015 report.
Disaggregation/ additional dimension	Place of residence (urban/rural) and socioeconomic status (wealth) is possible for all countries. Disaggregation by other stratifiers of inequality will be made where data permit.
Comments and limitations	Presence of a handwashing station with soap and water does not guarantee that household members consistently wash hands at key times, but has been accepted as the most suitable proxy.
Gender equality issues	In household surveys access to sanitation facilities is measured at the household level and in most cases it is not possible to disaggregate to accurately measure intra-household inequalities such as sex, age, or disability.
Data for global and regional monitoring	JMP estimates are based on fitting a regression line to a series of data points from household surveys and censuses when sufficient data are available. As the handwashing indicator has only been collected since 2009, very few countries have multiple data points and trend analysis is not currently possible. Regional and global aggregations will be made in a similar fashion as has been done for MDG reporting of improved water and sanitation.
Supplementary information	JMP has developed a detailed statistical note which describes the questions used for making observations of handwashing facilities in household surveys.
References	WHO/UNICEF. Progress on drinking-water and sanitation – 2014 update. Geneva: World Health Organization; 2014 http://www.wssinfo.org/fileadmin/user_upload/resources/JMP_report_2014_webEng.pdf WASH targets and indicators post-2015: recommendations from international consultations. Geneva: Water Supply and Sanitation Collaborative Council; 2014 http://www.wssinfo.org/fileadmin/user_upload/resources/post-2015-WASH-targets-factsheet-12pp.pdf Ram, P., Practical Guidance for Measuring Handwashing Behaviour: 2013 update, World Bank Water Supply and Sanitation Programme, 2013. http://www.wsp.org/sites/wsp.org/files/publications/WSP-Practical-Guidance-Measuring-Handwashing-Behavior-2013-Update.pdf

Target 6.3 indicator 6.3.1

Goal and target to be addressed	**Goal 6**: Ensure availability and sustainable management of water and sanitation for all **Target 6.3:** By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, **halving the proportion of untreated wastewater** and **at least doubling** recycling and safe reuse globally **Indicator 6.3.1**: Percentage of wastewater safely treated
Definition and method of computation	**Definition**: Proportion of wastewater generated both through domestic (sewage and faecal sludge), as well as industrial sources safely treated compared to total wastewater generated both through domestic and industrial sources. **Method of computation**: The wastewater safely treated is calculated by combining percentage of domestic (sewage and faecal sludge) wastewater and percentage industrial wastewater treated. Household surveys and censuses provide information on use of types of basic sanitation facilities. These estimates are combined with safety factors for on-site disposal and for transportation to designated places for safe disposal or treatment, as described in indicator 6.2.1. The information generated for indicator 6.2.1 will be combined with safety factors describing the proportion of waste which is safely treated before disposal or reuse to produce indicator 6.3.1. Calculation of safety factors for waste treatment will be coordinated with estimation of similar safety factors for safe management of sanitation required for indicator 6.2.1. The accompanying Statistical Note describes in more detail how 'safety factors' for wastewater treatment, disposal and reuse will be generated through a national assessment process, and combined with data on use of different types of supplies, as recorded in the current JMP database. Statistical methods for measurement of the sewage treatment (called "wastewater to sewerage" by SEEA-Water) will align with the SEEA definitions and treatment categories (primary, secondary, tertiary). Statistical methods for the treatment of industrial wastewater will align with the SEEA definitions and treatment categories using ISIC classifications and treated volumes from permits data.
Rationale and interpretation	SDG proposed target calls for reducing water pollution, minimizing release of hazardous chemical and increasing treatment and reuse. Domestic wastewater includes faecal sludge from onsite facilities as well as wastewater treatment plants. Inclusion of onsite facilities is critical from a public health, environment and equity perspective since approximately two thirds people globally use on-site facilities. Industrial wastewater (which includes point source agricultural discharges) responds to minimizing release of hazardous chemicals. Diffuse agricultural pollution is a major source of water pollution but cannot be monitored at source and therefore its impact on ambient water quality will be monitored under 6.3.2.
Sources and data collection	The calculation of the indicator value as derived from the framework is the amount treated (off-site and on-site) divided by the total amount of waste produced. The indicator for domestic wastewater could be expressed in population as expressed in indicator 6.2.1. Data will come from a variety of sources combining utility and regulator data for off-site and potentially household survey questions and measurements relating to onsite treatment supplemented by modelled estimates where no reliable national data exist. The total volume of industrial wastewater (the denominator) can be reliably estimated from an inventory of industries, maintained by vast majority of member states through International Standard Industrial Classification from all economic activities, revision 4, ISIC

	Rev42). This can be populated from databases and records held by Ministries of Industry, Tax offices, local authority registries etc. For each industry, records will be available on the amount of water they abstract from municipal supplies or from boreholes or other sources. Given the knowledge of the type of industry, from and a mass balance of products in and out, the proportion of wastewater flow generated as waste water can be estimated.
Disaggregation/ additional dimension	Domestic (on and off-site) and industrial wastewater. The domestic part of this indicator is also addressed by safely managed sanitation services (indicator 6.2.1)
Comments and limitations	A framework for measuring faecal waste flows and safety factors have been developed and piloted in 12 countries (World Bank Water and Sanitation Program, 2014), and is being scaled up post-2015. This framework has served as the basis for monitoring plans for indicators 6.2.1 and 6.3.1. Data on safe disposal and treatment remain scarce, and will not be available all countries immediately. However, sufficient data exist to make global and regional estimates of safely treated wastewater by 2018.
Gender equality issues	Gender disaggregation for wastewater will not be possible since data on use of sanitation facilities is derived from household surveys. Measurement of treatment of wastewater from on-site sanitation (faecal sludge) is specifically included to respond to equity issues as approximately two thirds of all sanitation is on-site and predominantly used by poorest wealth quintiles who are seldom served by a sewer connection. Unsafe disposal of wastewater in disproportionately affects the poorest who are more likely to reside in affected areas.
Data for global and regional monitoring	Wastewater generated from types of sanitation facilities or types of industries will be aggregated to get national and regional estimates.
Supplementary information	Please refer to the accompanying statistical note for detailed methodology.
References	JMP latest report: *Progress on drinking-water and sanitation – 2014 update. Geneva: WHO/UNICEF; 2014.* http://www.wssinfo.org/fileadmin/user_upload/resources/JMP_report_2014_webEng.pdf The Missing Link in Sanitation Service Delivery: A Review of Fecal Sludge Management in 12 Cities. World Bank Water and Sanitation Program, 2014. http://documents.worldbank.org/curated/en/2014/04/19549016/targeting-urban-poor-improving-services-small-towns-missing-link-sanitation-service-delivery-review-fecal-sludge-management-12-cities SEEA-Water System of Environmental-Economic Accounting for Water, United Nations Department of Economic and Social Affairs, 2012 *Report of the First Stakeholders Consultation on Post-2015 monitoring: Indicators and Monitoring Mechanisms:* http://www.unwater.org/fileadmin/user_upload/unwater_new/docs/Topics/SDG/GEMI_Report_First_Stakeholders_Consultation_Post-2015_Monitoring_FINAL2015-04-27.pdf

Target 6.3 indicator 6.3.2

Goal and target addressed	**Goal 6:** Ensure availability and sustainable management of water and sanitation for all

[2] ISIC revision 4 from UN Statistical Division: http://unstats.un.org/unsd/cr/registry/isic-4.asp

	Target 6.3: By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater, and at least doubling recycling and safe reuse globally **Proposed indicator 6.3.2:** Percentage of receiving water bodies with ambient water quality not presenting risk to the environment or human health
Definition and method of computation	**Definition:** Proportion of receiving water bodies with ambient water quality not presenting risk to the environment or human health compared to all receiving water bodies. **Concept:** Water quality is estimated through a water quality indicator (WQI), compiling a core set of parameters in a step-wise approach: total dissolved solids (TDS); percentage dissolved oxygen (% DO); dissolved inorganic nitrogen (DIN); dissolved inorganic phosphorus (DIP); and Escherichia coli (E. coli). The GEMS/Water[1] water quality index approach[2] is used as a general model to calculate the index, in which measured parameter values are compared to guideline values (proximity to target approach). The actual parameters as well as guideline values should be adapted to local conditions on the national/river basin level. The WQI scale (0-100) can be divided into different water quality categories, ranging from very bad to excellent. The thresholds for these categories are country specific, to reflect differences in the national environment or national water management objectives..
Rationale and interpretation	The proposed indicator informs on the quality of water bodies. The indicator allows for evaluating the impact of human development on ambient water quality and thus enables countries to assess the future services they can obtain from aquatic ecosystems (clean water for drinking, biodiversity, water for food production etc.). Water quality represents the actual outcome of all pollution and pollution reduction activities, and is thus essential to fully describe the environmental status of freshwater systems, as well as to fully report on target 6.3. Water quality also feeds into all other water-related targets, and the proposed indicator can be used to directly report on many other targets or parts of targets (refer to supplementary information).
Sources of and data collection	Existing data (in situ and modelled values) are available from UNEP's GEMS/Water (GEMStat[3]) and OECD. Additional information on optical water properties from remote sensing can be used as proxies for sediments and eutrophication/nutrient loading. Measurements would be completed at local laboratories and/or achieved using

	field measurements on appropriate protocols for sample collection and analysis. For data-poor areas estimates can be generated using existing in situ data combined with modelled data and remote sensing information. GEMStat (UNEP) contains 4 million records from over 3000 stations in 100 countries, although the sets of parameters, the choice of monitoring station and the collection frequency varies by large between countries.
Disaggregation	Data is collected at the scale of river basins and can be aggregated to the country and regional scale.
Comments and limitations	Both indicators proposed for 6.3 are considered necessary to deduct comprehensive adaptation strategies and management options with regard to improving water quality and reporting on the target. 6.3.1provides information on local point source pollution, whereas 6.3.2 enables to evaluate integral impacts of human development on ambient water quality.
Gender equality issues	The indicator is a measure of ambient water quality and therefore is "gender neutral". However, ambient water quality can impact women, men and socio-economic groups in different ways. These dimensions are therefore relevant to the interpretation of the indicator.
Data for global and regional monitoring	**Entity responsible for global monitoring:** UNEP (through GEMS/Water), on behalf of UN-Water. Under the UN-Water umbrella, a partial monitoring framework is already in place, currently being finalized under the inter-agency monitoring initiative known as GEMI (Integrated Monitoring of Water and Sanitation Related Targets). GEMI is a new coherent monitoring framework, working closely with JMP, to ensure long-term monitoring for the entire SDG 6. Related to indicator 6.3.2, GEMI will draw upon metadata standards which are already in place, among other sources on pre-existing datasets such as GEMStat and FAO-AQUASTAT.
Supplementary information	This indicator can inform on the following targets: 3.3: water-borne diseases (E. coli). 8.4: decoupling progress and resource efficiency and effects on ambient WQ. 9.4: progress in technology and process transitions towards sustainability and innovation. 11.5: risk for people to be prone to water related disasters (linked to poor WQ). 12.4: outcome of the management of chemicals and wastes (water quality). 14.1 & 14.2: progress in receiving coastal waters and estuaries pollution, management and restoration efficiency.

	15.1: the status of freshwater ecosystems.
References	[1]GEMS/Water website: www.unep.org/gemswater [2]GEMS/Water WQI: Water Quality Index for Biodiversity, Technical Report, GEMS/Water, 2008, available at http://www.unep.org/gemswater/Portals/24154/pdfs/new/2008%20Water%20Quality%20Index%20for%20Biodiversity%20TechDoc%20July%2028%202008.pdf [3]GEMStat: www.gemstat.org

Target 6.4 indicator 6.4.1

Goal and target addressed	**Goal 6:** Ensure availability and sustainable management of water and sanitation for all **Target 6.4:** By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity. **Proposed indicator 6.4.1:** Level of water stress: freshwater withdrawal in percentage of available freshwater resources
Definition and method of computation	**Definition:** the ratio between total freshwater withdrawn by all sectors (agriculture, industry, cities) and total renewable freshwater resources, after having taken into account environmental water requirements. This indicator is also known as water withdrawal intensity. The indicator builds on MDG indicator 7.5 and also accounts for environmental water requirements. **Concepts:** This indicator provides an estimate of pressure by all sectors on the country's renewable freshwater resources. A low level of water stress indicates a situation where the combined withdrawal by all sectors is marginal in relation to the resources, and has therefore little potential impact on the sustainability of the resources or on the potential competition between users. A high level of water stress indicates a situation where the combined withdrawal by all sectors represents a substantial share of the total renewable freshwater resources, with potentially larger impacts on the sustainability of the resources and potential situations of conflicts and competition between users. *Total renewable freshwater resources* (TRWR) are expressed as the sum of internal and external renewable water resources. The terms "water resources" and "water withdrawal" are understood here as freshwater resources and freshwater withdrawal. This broadly corresponds to the SEEA-defined denominator *"Total Actual Renewable Water Resources"*. *Internal renewable water resources* are defined as the long-term average annual flow of rivers and recharge of groundwater for a given country generated from

	endogenous precipitation. This broadly corresponds to the SEEA-defined denominator "*Internal Renewable Water Resources*". *External renewable water resources* refer to the flows of water entering the country, taking into consideration the quantity of flows reserved to upstream and downstream countries through agreements or treaties (and, where available, the reduction of flow due to upstream withdrawal). This broadly corresponds to the SEEA-defined denominator "*External Renewable Water Resources*". *Total freshwater withdrawal* (TWW) is the volume of freshwater extracted from its source (rivers, lakes, aquifers) for agriculture, industries and municipalities. It is estimated at the country level for the following three main sectors: agriculture, municipalities (including domestic water withdrawal) and industries. Freshwater withdrawal includes primary freshwater (not withdrawn before), secondary freshwater (previously withdrawn and returned to rivers and groundwater) and fossil groundwater. It does not include non-conventional water, i.e. direct use of treated wastewater, direct use of agricultural drainage water and desalinated water. TWW is in general calculated as being the sum of total water withdrawal by sector minus direct use of wastewater, direct use of agricultural drainage water and use of desalinated water. This broadly corresponds to the SEEA-defined numerator "*Abstraction of Water*". *Environmental water requirements* (Env.) are established in order to protect the basic environmental services of freshwater ecosystems. Methods of computation of Env. are extremely variable. For the purpose of the SDG indicator, Env. are expressed as a percentage of the available water resources. More details on method of calculation of the above variables can be found at http://www.fao.org/nr/water/aquastat/water_res/index.stm or http://www.fao.org/nr/water/aquastat/data/wrs/readPdf.html?f=AFG-WRS_eng.pdf. **Method of computation:** The indicator is computed as the total freshwater withdrawn (TWW) divided by the difference between the total renewable freshwater resources (TRWR) and the environmental water requirements (Env.), multiplied by 100. All variables are expressed in km3/year (10^9 m3/year). $$Stress\ (\%) = \frac{TWW}{TRWR - Env.} * 100$$ It is proposed to classify the level of water stress in three main categories (levels): low, high and very high. The thresholds for the indicator could be country specific, to reflect differences in climate and national water management objectives. Alternatively, uniform thresholds could be proposed using existing literature and taking into account environmental water requirements.
Rationale and interpretation	The purpose of this indicator is to show the degree to which water resources are being exploited to meet the country's water demand. It measures a country's pressure on its water resources and therefore the challenge on the sustainability of its water use. The indicator is essential to track progress in regard to "withdrawals and supply of freshwater to address water scarcity", i.e. the

	environmental component of target 6.4. The indicator shows to what extent water resources are already used, and signals the importance of effective supply and demand management policies. It can also indicate the likelihood of increasing competition and conflict between different water uses and users in a situation of increasing water scarcity. Increased water stress, shown by an increase in the value of the indicator, has potentially negative effects on the sustainability of the natural resources and on economic development. On the other hand, low values of the indicator indicate that water does not represent a particular challenge for economic development and sustainability.
Sources and data collection	Data for this indicator are usually collected by national ministries and institutions having water-related issues in their mandate, such as ministries of water resources, agriculture, or environment. Data are mainly published within national water resources and irrigation master plans, national statistical yearbooks and other reports (such as those from projects, international surveys or results and publications from national and international research centres).
Disaggregation	To compute this indicator, several sectoral data are needed. The indicator can be disaggregated to show the respective contribution of different sectors to the country's water stress, and therefore the relative importance of actions needed to contain water demand in the different sectors (agriculture, municipalities and industry). At national level, water resources and withdrawal are estimated or measured at the level of appropriate hydrological units (river basins, aquifers). It is therefore possible to obtain a geographical distribution of water stress by hydrological unit, thus allowing for more targeted response in terms of water demand management.
Comments and limitations	Water withdrawal as a percentage of water resources is a good indicator of pressure on limited water resources, one of the most important natural resources. However, it only partially addresses the issues related to sustainable water management. Supplementary indicators that capture the multiple dimensions of water management would combine data on water demand management, behavioural changes with regard to water use and the availability of appropriate infrastructure, and measure progress in increasing the efficiency and sustainability of water use, in particular in relation to population and economic growth. They would also recognize the different climatic environments that affect water use in countries, in particular in agriculture, which is the main user of water. Sustainability assessment is also linked to the critical thresholds fixed for this indicator and there is no universal consensus on such threshold. Trends in water withdrawal show relatively slow patterns of change. Usually, three-five years are a minimum frequency to be able to detect significant changes, as it is unlikely that the indicator would show meaningful variations from one year to the other. Estimation of water withdrawal by sector is the main limitation to the

	computation of the indicator. Few countries actually publish water use data on a regular basis by sector. Water withdrawals also include non-consumptive water, i.e. water that is directly returned to the immediate environment, such as run-through cooling etc. which only have a small impact on the overall water balance. Renewable water resources include all surface water and groundwater resources that are available on a yearly basis without consideration of the capacity to harvest and use this resource. Exploitable water resources, which refer to the volume of surface water or groundwater that is available with an occurrence of 90% of the time, are considerably less than renewable water resources, but no universal method exists to assess such exploitable water resources. There is no universally agreed method for the computation of incoming freshwater flows originating outside of a country's borders. Nor is there any standard method to account for return flows, the part of the water withdrawn from its source and which flows back to the river system after use. In countries where return flow represents a substantial part of water withdrawal, the indicator tends to underestimate available water and therefore overestimate the level of water stress. Other limitations that affect the interpretation of the water stress indicator include: • difficulty to obtain accurate, complete and up-to-date data; • potentially large variation of sub-national data; • lack of account of seasonal variations in water resources; • lack of consideration to the distribution among water uses; • lack of consideration of water quality and its suitability for use; and • the indicator can be higher than 100 percent when water withdrawal includes secondary freshwater (water withdrawn previously and returned to the system), non-renewable water (fossil groundwater), when annual groundwater withdrawal is higher than annual replenishment (over-abstraction) or when water withdrawal includes part or all of the water set aside for environmental water requirements. Some of these issues can be solved through disaggregation of the index at the level of hydrological units and by distinguishing between different use sectors.
Gender equality issues	Women and men tend to have different water-related uses, priorities and responsibilities. There are also trends along gender lines in terms of access and control over water and water rights. Gender differences and inequalities mean that women and men experience and respond to changes in water availability, services or water policies differently. Thus the impact of water stress on women and men should be studied in order to better capture the gender dimension of water use.
Data for global and regional monitoring	**Entity responsible for global monitoring:** FAO (through AQUASTAT), on behalf of UN-Water. Under the UN-Water umbrella, a partial monitoring framework is already in place, currently being finalized under the inter-agency monitoring initiative known as GEMI (Integrated Monitoring of Water and Sanitation Related

	Targets). GEMI is a new coherent monitoring framework, working closely with JMP, to ensure long-term monitoring for the entire SDG 6. The Food and Agriculture Organization of the United Nations (FAO) is the agency responsible for compiling data and calculating this indicator at the international level. This is done through its Global Information System on Water and Agriculture (AQUASTAT) country surveys since 1993. These surveys are carried out every ten years, on average. Data are obtained through detailed questionnaires filled in by national experts and consultants who collect information from the different institutions and ministries having water-related issues in their mandate. Literature and information at the country and sub-country level are reviewed including national policies and strategies; water resources and irrigation master plans; national reports, yearbooks and statistics; reports from projects; international surveys; results and publications from national and international research centres; and the Internet. Env. data are presently not systematically collected by AQUASTAT, but several methods are available and could be used to compute Env. for countries that do not have the institutional arrangements and standards in place to assess or collect these data. Data obtained from national sources are systematically reviewed to ensure consistency in definitions and consistency in data from countries located in the same river basin. A methodology has been developed and rules established to compute the different elements of national water balances. Estimates are based on country information, complemented, when necessary, with expert calculations based on unit water use figures by sector, and with available global datasets. In the case of conflicting sources of information, the difficulty lies in selecting the most reliable one. In some cases, water resources figures vary considerably from one source to another. There are various reasons for such differences, including differing computation methods, definitions or reference periods, double counting of surface water and groundwater or of transboundary river flows. Moreover, estimates of long-term average annual values can change due to the availability of better data from improvements in knowledge, methods or measurement networks. Where several sources result in divergent or contradictory information, preference is given to information collected at the national or sub-national level rather than at regional or world levels. Moreover, except in the case of evident errors, official sources are privileged. As regards shared water resources, the comparison of information between countries makes it possible to verify and complete data concerning the flows of transboundary rivers and to ensure data coherence at the river basin level. In spite of these precautions, the accuracy, reliability and frequency with which information is collected vary considerably by region, country and category of information. Information is completed using models when necessary. Regional and global level aggregations are obtained by applying the same

	procedure as for country level computation. AQUASTAT data on water resources and use are published when new information becomes available on the FAO-AQUASTAT website at http://www.fao.org/nr/aquastat. Modeled data are used with caution to fill gaps while capacity is being developed. Data on water resources can be modeled by using GIS-based hydrological models. Data on water withdrawal are estimated by sector on the basis of standard unit values of water withdrawal. The System of Environmental-Economic Accounting (SEEA, 2012) proposes a systematic approach the assessment of withdrawal and consumption based statistics. The indicator definitions and computational method are broadly consistent with those of SEEA. The SEEA approach will provide robust withdrawal and consumption-based statistics in the medium-term, as country level capacity in measuring and collecting the data improves.
Supplementary information	(blank)
References	Food And Agricultural Organization Of The United Nations. AQUASTAT. FAO's Global Information System on Water and Agriculture. Rome. Website http://www.fao.org/nr/aquastat. The following resources of specific interest to this indicator are available on this site: • AQUASTAT glossary (http://www.fao.org/nr/water/aquastat/data/glossary/search.html). • AQUASTAT Main country database (http://www.fao.org/nr/water/aquastat/data/query/index.html?lang=en) • AQUASTAT Water use (http://www.fao.org/nr/water/aquastat/water_use/index.stm). • AQUASTAT Water resources (http://www.fao.org/nr/water/aquastat/water_res/index.stm). • AQUASTAT publications dealing with concepts, methodologies, definitions, terminologies, metadata, etc. (http://www.fao.org/nr/water/aquastat/catalogues/index.stm) • For surface water, environmental water requirement databases include: http://waterdata.iwmi.org/apps/flow_management_classes/, • http://www.iwmi.cgiar.org/resources/models-and-software/environmental-flow-calculators/. Environmental water requirement data for groundwater bodies will be available at IWMI by the end of 2015.

Target 6.4 indicator 6.4.2

Goal and target addressed	**Goal 6:** Ensure availability and sustainable management of water and sanitation for all

	Target 6.4: By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity **Proposed indicator 6.4.2:** Percentage of change in water use efficiency over time
Definition and method of computation	**Definition:** This indicator tracks change in water-use efficiency over time for major sectors, including energy, industry, agriculture, and drinking water supply (municipal). **Method of computation:** Sectoral efficiencies are aggregated in a single indicator through the use of weighting coefficients proportional to each sector's share of total water withdrawal/ consumption: • Step 1. Water use efficiency for each sector is computed through a sector-specific method. Change in water use efficiency is calculated over a 3 or 5 year period. • Step 2. Each sector change in water use efficiency over the agreed period is multiplied by the proportion of withdrawal tied to that sector. • Step 3. All sectoral results from Step 2 are added together to account for 100% of withdrawals/consumption. *Water Efficiency in Agriculture* is calculated as the agricultural value added per agricultural water consumed, expressed in USD/m3. Agricultural water consumed is computed modifications to AQUASTAT water withdrawal data (in m3/year). Agriculture value added is obtained from Gross Value Added by Kind of Economic Activity at constant (2005) prices - US dollars, Agricultural sector (UNSD). Change in water efficiency over the selected period is obtained by the following: • Step 1. Calculate the average of the last 3 years for agricultural water consumed for each reference year (e.g. 2008-2010, for reference year 2010). • Step 2. Calculate the average of the last 3 years for agricultural value added for each reference year (e.g. 2008-2010, for reference year 2010). • Step 3. Divide value added by water consumed to obtain water efficiency for each reference year. • Step 4. Subtract water efficiencies obtained between the two reference years. • Step 5. Divide result by water efficiency for first reference year to calculate percentage change. *Water efficiency of industries* is calculated as the industrial value added per industrial water withdrawals, and expressed in USD/m3. Industrial water withdrawal is obtained from AQUASTAT and expressed in m3/year. Industrial value added is obtained from Gross Value Added (GVA) by Kind of Economic Activity at constant (2005) prices – US dollars. Change in water efficiency over the selected period is obtained by the following: • Step 1. Calculate the average of the last 3 years for industrial water withdrawal for each reference year (e.g. 2008-2010, for reference year 2010). • Step 2. Calculate the average of the last 3 years for industrial value added for each reference year (e.g. 2008-2010, for reference year 2010).

	• Step 3. Divide value added by water withdrawal to obtain water efficiency for each reference year. • Step 4. Subtract water efficiencies obtained between the two reference years. • Step 5. Divide result by water efficiency for first reference year to calculate percentage change. *Energy (Power) Water Efficiency* is calculated as the power production per unit of water consumed for energy production, and expressed in MWh/m3. Energy water withdrawals are obtained from the 2012 World Energy Outlook (International Energy Agency). Electricity production (International Energy Agency), primary energy and primary electricity production (World Bank based on IEA data) or the UNSD energy statistics questionnaire. Change in water efficiency over the selected period is obtained through the following computation: • Step 1. Calculate the average of the last 3 years for water withdrawal for energy production for each reference year (e.g. 2008-2010, for reference year 2010). convert to water consumed using evapotranspiration assumptions modelled per electricity source • Step 2. Calculate the average of the last 3 years for megawatt hours for each reference year (e.g. 2008-2010, for reference year 2010). • Step 3. Divide the average megawatt hours produced by water consumed for each reference year. • Step 4. Subtract change between the two reference years. • Step 5. Divide result by water efficiency for first reference year to calculate percentage change. *Municipal water supply efficiency* is the ratio between water effectively distributed to households/ consumers and the water produced for domestic consumption by water supply utilities. It uses the statistics on unaccounted for water available from the IBNET and other databases. Change in water efficiency over the selected period is obtained through the following computation: • Step 1. Calculate the average of the last 3 years for water production by water distribution facilities for each reference year (e.g. 2008-2010, for reference year 2010). • Step 2. Calculate the average of the last 3 years for billed water volumes by water supply utilities for each reference year (e.g. 2008-2010, for reference year 2010) (the difference represents unaccounted for water). • Step 3. Divide the billed water volumes by water production for each reference year. • Step 4. Subtract change between the two reference years. • Step 5. Divide result by municipal water efficiency for first reference year to calculate percentage change.
Rationale and interpretation	The indicator provides an aggregated measure of overall change in efficiency across sectors, but it is built on sectoral data and is therefore relevant to each of the sectors. The indicator provides incentives for countries to improve water efficiency through all sectors, while weighting the focus to those sectors within each country that represent the largest withdrawals. The indicator is most relevant when combined with sector-specific efficiency indicators.

Sources and data collection	The indicator can be calculated using existing datasets from FAO-AQUASTAT (FAO) on water withdrawals in different sectors, together with datasets on value generation from National Accounts Main Aggregates (UNSD), World Energy Outlook (International Energy Agency), World Bank demographic datasets, WaterStat Database (Water Footprint Network) and IBNET (the International Benchmarking Network for Water and Sanitation Utilities). The SEEA approach will provide robust withdrawal and consumption-based statistics in the medium-term, as country level capacity in measuring and collecting the data improves. Modelled data could be used to fill in gaps while capacity is being developed, so that the indicator could be calculated for all countries immediately.
Disaggregation	The indicator covers the agricultural, municipal, industrial, and energy sectors. Although it would be difficult to disaggregate the indicator to catchment or subnational scales, the calculations and methods provided as part of indicator development could be replicated by countries or water management organizations to provide similar data at a smaller scale.
Comments and limitations	Because it is a composite indicator, some changes in its value may be due not to changes in sectoral efficiencies but in changes in the overall share of water use by different sectors. The use of percentage change instead of actual efficiency allows for the use of different units for value generation in the different sectors for efficiency can vary between the sectors. However, it will also give much better values for countries with poor water use efficiencies as there is high potential for improvement. For countries who have already achieved a high degree of water use efficiency the change over time will be much smaller than for countries having still high potential for improvement. In this regard, actual efficiency complements the picture. Also regional differences, in particular in relation to agriculture and different climatic conditions, are to be considered.
Gender equality issues	Water scarcity disproportionately affects women, particularly in developing countries, and jeopardizes the achievement of their human rights. For example, when water supplies are not readily accessible, water must often be carried from its source and it is women and girls who continue to bear the primary responsibility for water collection in many parts of the world. The 2012 MDG Report highlighted that, in Sub-Saharan Africa, 71 per cent of the water collection burden falls on women and girls. Globally, it is estimated that women spend more than 200 million hours per day collecting water. Increasing water efficiency can serve to play a role in reducing water scarcity, thereby reducing the burden on women and girls.
Data for global and regional monitoring	**Entity responsible for global monitoring:** FAO (through AQUASTAT), on behalf of UN-Water. Under the UN-Water umbrella, a partial monitoring framework is already in place, currently being finalized under the inter-agency monitoring initiative known as GEMI (Integrated Monitoring of Water and Sanitation Related Targets). GEMI is a new coherent monitoring framework, working closely with JMP, to ensure long-term monitoring for the entire SDG 6.

	Data on efficiency are available at the country level other than water withdrawal. FAO-AQUASTAT can provide withdrawal data for all countries across sectors (other than energy). Setting the energy withdrawal baseline for the year 2015 would be possible making several assumptions. The System of Environmental-Economic Accounting (SEEA, 2012) will provide robust withdrawal and consumption-based statistics in the medium-term, as country level capacity in measuring and collecting the data improves.
Supplementary information	(blank)
References	Food And Agricultural Organization Of The United Nations. AQUASTAT. FAO's Global Information System on Water and Agriculture. Rome. Website http://www.fao.org/nr/aquastat. The following resources of specific interest to this indicator are available on this site: • AQUASTAT glossary (http://www.fao.org/nr/water/aquastat/data/glossary/search.html). • AQUASTAT Main database (http://www.fao.org/nr/water/aquastat/data/query/index.html?lang=en). • AQUASTAT Water use (http://www.fao.org/nr/water/aquastat/water_use/index.stm). • AQUASTAT Water resources (http://www.fao.org/nr/water/aquastat/water_res/index.stm). • AQUASTAT (2012) "Disambiguation of water statistics", available at http://www.fao.org/nr/water/aquastat/catalogues/Water_Terminology_20120523.pdf. System of Environmental Economic Accounting (SEEA) (2012). Department of Economic and Social Affairs, Statistics Division. System of Environmental Economic Accounting for Water (SEEA-Water) (2007). Department of Economic and Social Affairs, Statistics Division.

Target 6.5 indicator 6.5.1

Goal and target addressed	**Goal 6:** Ensure availability and sustainable management of water and sanitation for all **Target 6.5:** By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate **Indicator 6.5.1:** Degree of integrated water resources management (IWRM) implementation (0-100)
Definition and method of	**Definition:** This indicator reflects the extent to which integrated water resources management (IWRM) is implemented.

computation	This indicator is expressed as a percentage, where 100 % correspond to fully implemented. **Concepts:** Integrated Water Resources Management (IWRM) is an approach to managing water in a coordinated way. It takes into account the various users and uses in a given situation, with the aim of maximizing positive social, economic and environmental impacts. It uses water bodies, such as catchments and aquifers, as the principle unit of water management, and stresses decentralization of governance structures and active stakeholder participation in decision making. IWRM describes: (1) The extent to which an enabling environment for IWRM (policy, strategic planning, legal framework and financing) has been established; (2) The structure and performance of an institutional framework to support IWRM processes, and; (3) The degree to which management instruments/tools are applied. **Method of computation:** The indicator is calculated on the basis of a statistical analysis of scored responses to national surveys (one per country) measuring both qualitative and quantitative aspects. It is computed by combining scored responses to 1) the enabling environment with 2) institutional frameworks and 3) management tools/instruments, diving by 3 and then multiplying by 100.
Rationale and interpretation	The IWRM target supports the equitable and efficient use of water resources, as well as the identification of barriers to progress. It also facilitates coherence between the various targets within the water and sanitation goal. The target directly links to all other targets as it supports the monitoring, planning and evaluation, as well as associated capacity building within each target and thus the achievement of the overall water goal.
Sources and data collection	IWRM implementation has been periodically monitored by UN-Water since 2007, with surveys and reports being prepared for the meetings of the Commission on Sustainable Development in both 2008 (CSD16) and 2012 (CSD20 (Rio+20)). Data currently available for a total of 134 countries is available from UNEP-DHI (e.g. http://www.unepdhi.org/rioplus20 (see data file zip link) – full data available on request).
Disaggregation	Data is collected at the national level. The surveys will specifically address issues relating to gender, governance, ecosystems, expenditures, and human capacity, as well as transboundary interests.
Comments and limitations	While this is a process indicator, it is important for measuring the means of implementation, by helping to ensure that one water-related target is not achieved to the detriment of others. UN-Water is exploring ways by which this indicator can be more closely linked to the outcome-oriented targets within the

	water goal.
Gender equality issues	Gender equity and women's empowerment in water resources management is one of the cornerstones of the Dublin-Rio principles upon which IWRM is founded. Gender plays an intricate role in IWRM, not just in the planning process but also through the stakeholder consultations and in helping to secure and enforce rights and responsibilities relating to many different aspects of use. These aspects are captured in the survey questions.
Data for global and regional monitoring	**Entity responsible for global monitoring:** UNEP, on behalf of UN-Water. Under the UN-Water umbrella, a partial monitoring framework is already in place, currently being finalized under the inter-agency monitoring initiative known as GEMI (Integrated Monitoring of Water and Sanitation Related Targets). GEMI is a new coherent monitoring framework, working closely with JMP, to ensure long-term monitoring for the entire SDG 6. UN Environment Programme (UNEP), in direct support of UN-Water, conducts periodic monitoring of the status of IWRM implementation. This is carried out in direct collaboration with a range of UN-Water members and partners, covering a wide range of water-related areas and interests. The primary data sources for international monitoring are national surveys for all UN member states (one per country) in the form of a score-based questionnaire completed by the government ministry with overall responsibility for water resources management, who are encouraged to confer with counterparts in other water-interested ministries (e.g. agriculture, energy, and environment) in order to provide the most representative response possible. UN-Water supports individual countries by helping to assess its validity based on objective criteria including, but not limited to, national representativeness; quality of the consultation process; and additional quality assurance procedures. In some cases survey questions are adjusted to improve comparability over time or when definitions and practices evolve. Regional and global estimates are aggregated from national data.
Supplementary information	(blank)
References	UN-Water. Status Reports on IWRM. Internet site. http://www.unwater.org/publications/status-report-on-integrated-water-resources-management/en/ UNEP-DHI. Data from the 2012 Survey on the Application of Integrated Approaches to Water Resources Management. Internet site. http://www.unepdhi.org/rioplus20 GEMI – Integrated Monitoring of Water and Sanitation-related SDG Targets. Internet site.

	http://www.unwater.org/gemi/en/

Target 6.5 indicator 6.5.2

Goal and target addressed	**Goal 6:** Ensure availability and sustainable management of water and sanitation for all **Target 6.5:** By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate **Indicator 6.5.2:** Percentage of transboundary basin area with an operational arrangement for water cooperation
Definition and method of computation	**Definition:** Proportion of surface area of transboundary basins (both surface and groundwater) that have an operational agreement/arrangement and/or institution for transboundary water cooperation, compared to total surface area of transboundary basins. This indicator is expressed as a percentage share of the transboundary surface area. **Concepts: Integrated Water Resources Management** (IWRM) is an approach to managing water in a coordinated way. It takes into account the different water sources as well as various users and uses in a given situation, with the aim of maximizing positive social, economic and environmental impacts. It uses catchments and aquifers, as the principle unit of water management, and stresses decentralization of governance structures and active stakeholder participation in decision making. **Transboundary basins** are surface or groundwater basins which mark, cross or are located on boundaries between two or more States. **An agreement/arrangement and/or institution** (/mechanism) provides a framework for cooperation on transboundary water management. Such a framework is commonly based on an agreement covering different aspects of transboundary water management. Agreements may be interstate, intergovernmental, interministerial or interagency. In addition to an agreement (or a treaty, convention, Memorandum of Understanding), or instead of one, such framework can be provided by a bilateral or multilateral commission or other appropriate institutional arrangement for cooperation. Also multi-sectoral cooperation institutions can cover water issues. For a **cooperation framework** to be considered as "**operational**", it requires that there are regular meetings of the riparian countries to discuss the integrated management of the water resource and to exchange information. **Method of computation:** Calculated – for any spatial unit (country, region) – as the percentage that the total surface area (in square kilometres, km^2) of

	transboundary basins that have an operational arrangement for water cooperation make up of the total surface area of transboundary basins (km^2). GIS data on the extent and location of transboundary basins facilitates the spatial analysis (datasets available globally).
Rationale and interpretation	Target 6.5 stresses the importance of transboundary cooperation to implement integrated water resources management of shared basins, to ensure availability and sustainable management of water resources. Most of the world's water resources are shared: transboundary lake and river basins cover nearly one half of the Earth's land surface and account for an estimated 60% of global freshwater. Approximately 40% of the world's population lives in river and lake basins shared by two or more countries and over 90% lives in countries that share basins. However, cooperation on such waters is in most cases not advanced. The single most important factor enabling or providing for transboundary water cooperation is the existence of a cooperation framework (agreement, institution or other adequate arrangement) and it being operational, i.e. ensuring regular dialogue and exchange between riparian countries.
Sources and data collection	Existing data and sources for this indicator include: Spatial data (delineating transboundary basins) are available for all known (286) transboundary basins. Data available at global level on the 120 international river basin organisations. A global database exists of freshwater treaties and international river basin organizations, as well as several regional ones, e.g., for the Pan-European region the second Assessment under the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention) and for the Americas, compilations by UNESCO and the Organization for American States. A global baseline comparative assessment of transboundary waters, including river basins (286) and aquifers, has been undertaken by the Transboundary Waters Assessment Project (TWAP, completed in 2014), involving generation of geo-referenced datasets. Relying to a large extent on a database which includes in total 686 international freshwater treaties (see TFDD in the reference list below), the TWAP project recorded, by (river) basin country unit, the presence of a treaty and of a basin organisation. "Treaties of limited technical scope" were excluded. The data also included coverage of selected principles of international law by the agreements as well as inclusion of selected management mechanisms. Operationally of the treaties was not considered, and neither were all types of agreements considered relevant to this indicator. Consideration of presence of institutional arrangements was limited to river basin organisations.
Disaggregation	Data would be most reliably collected at the national level. Basin level data can also be disaggregated to country level (for national reporting) and aggregated to

	regional and global level.
Comments and limitations	In line with the target, the indicator measures (and provides an incentive for) extending cooperation in transboundary basins. Without an adequate coordination at the basin level water resources management cannot be truly integrating the different water uses and ensure sustainability. Transboundary cooperation frameworks are highly diverse, differing in quality and effectiveness. At the same time, depending on the level of economic activities and the degree of development, and hence the coordination need, also vary. The monitoring can be based on general principles of cooperation. Eventually, if needed, the extent of application of operational arrangements for transboundary cooperation could be reviewed and measuring related progress developed.
Gender equality issues	Gender equity and women's empowerment in water resources management is one of the cornerstones of the Dublin-Rio principles. Gender plays an intricate role in IWRM, not just in the planning process but also through the stakeholder consultations and in helping to secure and enforce rights and responsibilities relating to many different aspects of use. Adequate institutional frameworks help to ensure participation of relevant interest groups, social groups and genders.
Data for global and regional monitoring	**Entity responsible for global monitoring:** UNECE (as Secretariat for the Water Convention) and UNEP, on behalf of UN-Water. Under the UN-Water umbrella, a partial monitoring framework is already in place, currently being finalized under the inter-agency monitoring initiative known as GEMI (Integrated Monitoring of Water and Sanitation Related Targets). GEMI is a new coherent monitoring framework, working closely with JMP, to ensure long-term monitoring for the entire SDG 6. In this context, the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (the "Water Convention") is a unique legal and intergovernmental framework for transboundary water cooperation. Originally designed as an agreement for the pan-European region, the Convention was amended to open it for accession to all UN Member States. The amendments entered into force in February 2013. As of 2015, more than 100 countries participate in the Convention's activities. Reporting on transboundary water cooperation is currently being developed under the Convention. UNECE acts as secretariat for the Convention. Spatial data (delineating transboundary basins) are available for all known (286) transboundary basins. Data available at global level on the 120 international river basin organisations. Each country has information about which basins are covered by operational arrangements for transboundary water cooperation, and what is the corresponding area share.
Supplementary	(Blank)

information	
References	Convention on the Protection and Use of Transboundary Watercourses and International Lakes: a globalizing framework http://www.unece.org/env/water.html GEMI – Integrated Monitoring of Water and Sanitation-related SDG Targets. Internet site. http://www.unwater.org/gemi/en/ Global Environment Facility's Transboundary Waters Assessment Project http://www.geftwap.org/ Treaties on transboundary waters : Transboundary Freshwater Dispute Database (TFDD) at Oregon State University http://www.transboundarywaters.orst.edu/publications/atlas/index.html River Basin Organisations http://www.transboundarywaters.orst.edu/research/RBO/index.html A regional example: Status of transboundary water cooperation in the pan-European region: http://www.unece.org/env/water/publications/pub/second_assessment.html Internationally Shared Aquifer Resources Management (UNESCO's International Hydrological Programme): Regional inventories of transboundary groundwaters http://www.isarm.org/

Target 6.6 indicator 6.6.1

Goal and target addressed	**Goal 6:** Ensure availability and sustainable management of water and sanitation for all **Target 6.6:** By 2030 water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes have been fully protected and restored. **Indicator 6.6.1:** Percentage of change in wetlands extent over time
Definition and method of computation	**Definition:** Change in total wetland area over time (% change/year). The Ramsar Convention broad definition of "wetland" is used, which includes rivers and lakes, enabling three of the biome types mentioned in the target to be assessed - wetlands, rivers, lakes - plus other wetland types. The indicator tracks trends in the change in area of these wetland types over time. **Concepts:** Wetlands influence hydrology, including regulating water flows, disaster risk reduction (scarcity and over-abundance) and water quality, and their ability to continue to support the sustainable management of water can be indicated through trends in their extent. **Method of computation:**

	The core indicator uses the existing Living Planet Index methodology for data collection and analysis (http://www.bipindicators.net/lpi). It consists of a number of stages including harvesting of time series data, codification and database entry, aggregation into sub-indices to reduce sampling bias, and further aggregation to create sub-global (ecologically and regionally specific) and global indices. The methodology is flexible to incorporating improving sources of information and data, for a more comprehensive assessment of trends. Wetland extent change time-series data are entered into the database along with the following metadata: Ramsar region (e.g. Europe): country allocations followed those of the Ramsar Convention (2012b); subregion (e.g. Western Mediterranean); country (e.g. France); locality for the wetland (e.g. Camargue); Ramsar wetland type, either marine/coastal, inland or human-made; wetland class (e.g. intertidal wetland); and source reference. Annual values for individual wetland change are interpolated where necessary and annual rates of change between one year and the preceding year are calculated. Individual time series are successively aggregated using geometric means to provide sub-regional, regional and global trend lines, with geographic weightings applied to the regional trends to create the global trend. Indicators for major wetland types can also be derived. Wetland area is most accurately estimated through manual digitalization of aerial or satellite images, a methodology that in the coming years will be advanced by remote sensing and in particular the increasing open access to historical data. Supplementary information comes through national reports and scientific papers. Heterogeneous datasets allow for more discrete analysis by wetland type, location and region.
Rationale and interpretation	Wetlands are the most prominent ecosystem type influencing the water cycle and therefore of direct importance to the achievement of Goal 6. Wetlands loss leads to increasing water insecurity and wetlands restoration (increasing wetland area) is now a widespread response to achieving sustainable water security. Examples include how wetlands contribute to flood regulation, regulation of surface water flows (flow regulation), and nutrient cycling (pollution regulation/water quality). The purpose of this indicator is to show overall trends in wetlands extent as a gross indicator of trends in the ability of wetlands to support the achievement of Goal 6. Refinements in interpretation will be required in order to link trends in specific wetlands types by region and or country to the achievement of Goal 6 (the indicator can be disaggregated to achieve this).
Sources and data collection	Multiple data sources include national reports submitted to the Ramsar Convention, published scientific papers and, increasingly, through analysis of remote sensing data. Data relevant to the indicator are not usually collected, or monitored, by traditional national statistics agencies; although such data are becoming increasingly incorporated into some national natural capital accounts. National

	statistics agencies are therefore not necessarily a reliable source of information on either data or the efficacy of the indicator. However, national level environment related agencies (in particular national Ramsar Convention Authorities) do generate or have access to relevant data. In the short term, remote sensing techniques provide additional data and information, which is incorporated by the methodology for calculating the indicator. In the longer term, new global baselines and time series of change are anticipated to be calculated based on high resolution remote sensing data improving the spatial and temporal resolution and therefore also the quality and detail of developed global products. Planned activities will lead to enhanced transdisciplinary cooperation and coordination and improved remote sensing methods for covering wetlands in their broad definition, as applied by the Ramsar Convention. This means that inland wetlands (including lakes, rivers, peatlands, etc.), coastal and marine wetlands (including mangrove forests, coral reefs, salt marshes, etc.) as well as artificial wetlands (e.g. rice paddies, wastewater treatment lagoons and reedbeds) will in the future be addressed by remote sensing applications. Global assessments are compiled and disseminated through the Ramsar Convention's "State of the World's Wetlands and their Services" (SoWWS). Baseline data are available at the global level. Historical records are available for some regions and wetlands types from the 1700's (http://www.publish.csiro.au/paper/MF14173.htm). The baseline assessment will be 2015 (first SoWWS report, http://www.ramsar.org/sites/default/files/documents/library/cop12_doc23_bn7_soww s_e_0.pdf) with remote sensing data using 1970 as the baseline year. Currently, 169 Parties regularly report on trends in wetlands to the Ramsar Convention. Other data sources enable fully global coverage. Data collection and analysis is overseen by the Scientific and Technical Review Panel of the Ramsar Convention. The indicator is also a sub-indicator for Aichi Biodiversity Target 5 which has a data collection, analysis and reporting framework already in place through the Biodiversity Indicators Partnership, a science based partnership to generate robust assessments to underpin monitoring for the Strategic Plan for Biodiversity 2011-2020 and all the Aichi Biodiversity Targets (http://www.bipindicators.net/). The partnership also includes provision of capacity building support to developing countries regarding monitoring. Assessments are undertaken by the Ramsar Convention on Wetlands, in collaboration with CBD (including the biodiversity indicators partnership) and UNEP, through the GEMI monitoring initiative. Under the UN-Water umbrella, the GEMI monitoring initiative will integrate the monitoring framework for this indicator (in place under the SoWWS).
Disaggregation	The data can be disaggregated by wetland type: for example, for lakes, floodplains, coastal wetlands or artificial/constructed wetlands and by region and country. This enables more refined assessment of progress towards target 6.6 since wetland type and location are relevant variables when assessing progress

	towards target 6.6.
Comments and limitations	The indicator covers wetlands only. Other ecosystem types are also relevant to target 6.6 (including mountains, forests and aquifers – as mentioned explicitly in the target, among others). However, it is not feasible to have an indicator that captures all relevant ecosystem types, but relevant data, monitoring and reporting mechanisms are in place for these. These broader aspects of target 6.6 (other ecosystem types) can be captured through supplementary indicators. The percentage change in wetlands extent indicator is recommended for simplicity and ease of understanding regarding relevance to the target. It is the "core" indicator for target 6.6 but it is understood that assessments of progress towards target 6.6 would necessarily include these additional supplementary indicators to capture the full scope of target 6.6. "Wetland area" is a particularly relevant parameter for those wetlands where hydrological functions (e.g. storage capacity) relates to surface area; but not all wetlands (or their functions) are best measured by "area". For example, area is less relevant for rivers. But this can be catered for since the indicator can be disaggregated by wetland type.
Gender equality issues	The indicator is a measure of ecosystem extent and therefore is "gender neutral". However, through their local impacts on water quality and quantity, wetlands can impact women, men and socio-economic groups in different ways. These dimensions are therefore relevant to the interpretation of the indicator.
Data for global and regional monitoring	**Entity responsible for global monitoring:** CBD and UNEP, on behalf of UN-Water. Assessments are undertaken by the Ramsar Convention on Wetlands, in collaboration with CBD (including the biodiversity indicators partnership) and UNEP, through the GEMI monitoring initiative. Under the UN-Water umbrella, a partial monitoring framework is already in place, currently being finalized under the inter-agency monitoring initiative known as GEMI (Integrated Monitoring of Water and Sanitation Related Targets). GEMI is a new coherent monitoring framework, working closely with JMP, to ensure long-term monitoring for the entire SDG 6. The data are available at global, regional or national levels depending on the scope of reporting undertaken.
Supplementary information	(blank)
References	Included above

Target 6.a indicator 6.a.1

Goal and target addressed	**Goal 6:** Ensure availability and sustainable management of water and sanitation for all

	Target 6.a: By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies **Indicator 6.a.1:** Amount of water and sanitation related Official Development Assistance that is part of a government coordinated spending plan
Definition and method of computation	"International cooperation and capacity-building support" implies aid (most of it quantifiable) in the form of grants or loans by external support agencies. The amount of water and sanitation-related Official Development Assistance (ODA) can be used as a proxy for this, captured by the Creditor Reporting System (CRS) of the Organisation for Economic Co-operation and Development (OECD). Realising that the role of ODA in international cooperation is evolving and that a broad range of stakeholders is involved in "international cooperation and capacity development support", it is envisaged that this indicator will evolve and will be further qualified during the SDG period. UN-Water is working together with OECD to align the proposed indicator and methodology with OECD work. Official Development Assistance (ODA) is defined as flows of official financing administered with the promotion of the economic development and welfare of developing countries as the main objective, and which are concessional in character with a grant element of at least 25 per cent (using a fixed 10 per cent rate of discount). By convention, ODA flows comprise contributions of donor government agencies, at all levels, to developing countries ("bilateral ODA") and to multilateral institutions. ODA receipts comprise disbursements by bilateral donors and multilateral institutions. Lending by export credit agencies—with the pure purpose of export promotion—is excluded (OECD source IMF 2003). A government coordinated spending plan is defined as a financing plan/budget for the WASH sector, clearly assessing the available sources of finance and strategies for financing future needs The indicator is computed as the proportion between the amount of water and sanitation related Official Development Assistance a government receives, and the total amount budgeted for WASH in a government coordinated spending plan.
Rationale and interpretation	Target 6.a includes many elements. The amount of water and sanitation-related Official Development Assistance (ODA) is a quantifiable measurement as a proxy for "international cooperation and capacity development support" in financial terms, because this data are readily available from the Creditor Reporting System (CRS) of the Organisation for Economic Co-operation and Development (OECD). It is essential to be able to assess ODA in proportion with information about the government coordinated spending plan in proportion of ODA to gain a better understanding of how much countries depend/rely on ODA and highlighting

	countries total WASH budgets over time.
Sources and data collection	The monitoring of the Means of Implementation of SDG 6 builds directly on the UN-Water Global Analysis and Assessment of Sanitation and Drinking-Water (GLAAS) (for drinking water, sanitation and hygiene issues) financial information, complemented by the TrackFin initative that aims to track financial information in the WASH sector and the Integrated Water Resources Management (IWRM) reporting in SDG target 6.5 (for wastewater and water quality, water efficiency, water resource management, and the status of water-related ecosystems). The main data source is the Creditor Reporting System of the Organisation for Economic Co-operation and Development, in particular the reporting on "Water Supply and Sanitation". UN-Water is working together with OECD to align the proposed indicator and methodology with OECD work. The analysis of these data is currently done on a biennial basis by the UN-Water GLAAS, led by WHO, for drinking water, sanitation and hygiene matters collected biennially (in 94 countries in 2013/2014) that collects financial information, including the specific initiative "Tracking financing to sanitation, hygiene and drinking-water" (TrackFin). The analysis of the data on water resources management was done by UN-Water in 2008 (led by UN-DESA) and in 2012 (led by UNEP, UNDP, GWP and SIWI) as requested by the UN Commission for Sustainable Development
Disaggregation	By disaggregating ODA according to the CRS Purpose Codes (www.oecd.org/dac/stats/49819385.pdf), specific information can be obtained on the level of international cooperation in water and sanitation related activities, including infrastructure development, policies, and capacity development. The "Water Supply and Sanitation" CRS Purpose Codes are: 14010 Water sector policy and administrative management 14015 Water resources conservation (including data collection) 14020 Water supply and sanitation - large systems 14021 Water supply - large systems 14022 Sanitation - large systems 14030 Basic drinking water supply and basic sanitation 14031 Basic drinking water supply 14032 Basic sanitation 14040 River basins' development 14050 Waste management / disposal 14081 Education and training in water supply and sanitation
Comments and limitations	"International cooperation and capacity-building support" implies aid (most of it quantifiable) in the form of grants or loans by external support agencies, for which ODA can be considered a best available proxy. ODA does however not capture all types of support in this regard. The UN-Water Global Analysis and Assessment of Sanitation and Drinking-Water

	(GLAAS) results indicate that here are substantial gaps in our understanding and tracking of financing to the WASH sector. Financial reporting is often insufficient to make sound and evidence-based planning and budgeting decisions. To help address the issue, WHO lead the "*TrackFin*" initiative under the UN-Water GLAAS project, that complements financial information collected in more than 90 countries in 2013/2014 through its GLAAS survey. Although many gaps still remain, the evidence base is growing incrementally and reporting such information will help improve understanding of how financial resources for WASH are allocated both at national and at global levels. GLAAS information aims to assess whether there is a financing plan or budget for WASH, the extent of its implementation and whether it includes all main areas (water/sanitation/hygiene, urban/rural). In some countries there may be several plans each covering a specific area e.g. separate plans for drinking-water, sanitation and hygiene, separate plans for urban and rural areas, even sometimes different plans for urban differentiating according to utility boundaries and urban areas not covered by the national utility for example. Although plans and budgets may both exist in countries and present different figures/estimates, the aim of this information is to identify if there is an agreed allocation for WASH.
Gender equality issues	Both UN-Water GLAAS and IWRM work includes information about inequality issues, which can be directly used to support indicator analysis in this regard.
Data for global and regional monitoring	WHO, through the UN-Water GLAAS and with the support of UNEP through the reporting in SDG target 6.5, on behalf of UN-Water.
Supplementary information	
References	See above

Target 6.b indicator 6.b.1

Goal and target addressed	**Goal 6:** Ensure availability and sustainable management of water and sanitation for all **Target 6.b:** Support and strengthen the participation of local communities in improving water and sanitation management. **Indicator 6.b.1:** Percentage of local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management
Definition and method of computation	This indicator builds on data that are already regularly collected by UN-Water GLAAS on the presence, at the national level, of clearly defined procedures in laws or policies for participation by service users. This indicator will also build on the data collected for the Status of Integrated Water Resources Management (IWRM) reporting in SDG target 6.5, in particular

	on the presence of formal stakeholder structures established at sub-catchment level. Because of the above, it is envisaged that this indicator will evolve and will be further qualified during the SDG period, focussing on sanitation, drinking water and hygiene first and then expanding on water resources management.
Rationale and interpretation	Defining the procedures in policy or law for the participation of local communities is vital to ensure needs of all the community is met, including the most vulnerable and also encourages ownership of schemes which in turn contributes to their sustainability.
Sources and data collection	The main data sources are the UN-Water GLAAS surveys and the IWRM surveys for SDG target 6.5, with ground truthing thanks to the data collected for SDG target 6.1 which also provides information on regulated water supplies, and from household surveys.
Disaggregation	This indicator builds on data that are already regularly collected by UN-Water GLAAS on the presence, at the national level, and data can currently be disaggregated by: i) urban sanitation, ii) rural sanitation, iii) urban drinking-water, iv) rural drinking-water and v) hygiene promotion.
Comments and limitations	Information gathered through the GLAAS survey aims to assess whether there are formal mechanisms in place to ensure participation of users in planning WASH activities and whether these are used. Participation of users helps ensure that solutions will be relevant and also encourages ownership in the programmes which in turn aids in the sustainability of the services. For instance, planning a national hygiene campaign would need input from representatives of some local communities to understand the main issues to address around hygiene promotion and resources needed to carry out the campaign, thus ensuring ownership and sustainability of the campaign.
Gender equality issues	Both UN-Water GLAAS and IWRM work includes information about inequality issues, which can be directly used to support indicator analysis in this regard.
Data for global and regional monitoring	WHO, through the UN-Water GLAAS and with the support of UNEP through the reporting in SDG target 6.5, on behalf of UN-Water.
Supplementary information	
References	See above