الهيئة العامة للإحصاء
General Authority for Statistics

Goal 6:
Clean Water and Sanitation

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Indicator 6.1.1 Proportion of population using safely managed drinking water services

Description of the indicator: The proportion of the population benefiting from safely managed drinking water services is measured by the proportion of the population who have access to basic and improved drinking water sources that are available in the workplace and are available when needed and free of faces (and priority chemicals), i.e. piped water to the dwelling or yard and to a plot; public taps or vertical pipes; protected tubular wells; protected springs and rainwater.

Sources of data: General Authority for Statistics

Unit of measurement: Percent %

Level of disaggregation: National

Method of calculation: Household surveys currently provide information on the types of basic drinking water sources mentioned above and indicate whether the sources are in the workplace. These sources of Data often contain information on water availability and increasingly on water quality at the household level, through direct testing of drinking water for fecal or chemical contamination. This data will be combined with data on availability and compliance with drinking water quality standards (fecal and chemical) from the reports of administrative or regulatory bodies. The Joint WHO/UNICEF Water, Sanitation and Hygiene (JMP) monitoring programme estimates access to basic services for each country, separately in urban and rural areas, by installing a regression line in a series of data points from household surveys and censuses. This approach was used to report on the use of "improved water" sources for monitoring the Millennium Development Goals.
JMP collects national data on drinking water from a wide range of sources of data. Household surveys and censuses provide information on the types of drinking water sources and indicate whether the sources are accessible in the workplace. These sources of Data often contain information about water availability and increasing water quality at the household level, through direct testing of drinking water for fecal or chemical contamination. This data is combined with data on availability and compliance with drinking water quality standards (fecal and chemical) from management reports or regulatory bodies.

$$\textit{Proportion of population using safely managed drinking water services} = \textit{population with access to water} / \textit{total population} \times 100$$

Last updated: 2023

Indicator	Year				
	2018	2019	2020	2022	2023
Proportion of population using safely managed drinking water services	-	-	-	-	99.75
Proportion of population using basic drinking water	99.70	99.70	99.16	99.91	99.92

Indicator 6.2.1 Proportion of population using (a) safely managed sanitation services and (b) a hand-washing facility with soap and water

Description of the indicator: The proportion of the population with access to safely managed sanitation, including handwashing facilities with soap and water, is currently measured by the proportion of the population using improved household sanitation facilities that are not shared with other households and where fecal waste is safely disposed of in situ or treated off-site. The source defines "improved" by the same definition used in the monitoring of the Millennium Development Goals, i.e., Water flow or discharge toilets in septic tanks or pit latrines, improved ventilated pit latrines, pit latrines with slab, compost toilets.

Sources of data: General Authority for Statistics

Unit of measurement: Percent %

Level of disaggregation: National

Method of calculation:

$$\textit{Proportion of population benefiting from proper sanitation management} = \frac{\textit{Number of population using safely managed sanitation services, including soap and water handwashing facility}}{\textit{Total population}} \times 100$$

Last updated: 2023

Item	Year				
	2018	2019	2020	2022	2023
Percentage of household members using improved sanitation facilities (basic) that are not shared with other households	-	-	-	99.03	99.7
Percentage of household members using improved (limited) sanitation facilities	100	100	100	99.35	99.82
Proportion of population benefiting from hand washing facilities with soap and water	-	-	-	98.39	98.42

Indicator 6.3.1 Proportion of domestic and industrial wastewater flows safely treated

Description of the indicator: This indicator measures the proportion of wastewater collected and safely treated out of the total wastewater generated from domestic and industrial activities in each area. It consists of two main components:

1. Wastewater Collection: The proportion of wastewater (from households and establishments) collected through sewer networks or other regulated means (such as periodic tank pumping).

2. Safely Treated Wastewater: The amount of water that undergoes treatment processes that meet national or international quality standards and is discharged or reused in an environmentally and health-safe manner.

• Importance of the indicator:

1. It is a direct indicator of the effectiveness of wastewater management, essential for protecting human health and the environment.
2. Contributing to reducing pollution of surface and groundwater

Sources of data: Ministry of Environment, Water, and Agriculture

Unit of measurement: Percent %

Level of disaggregation: National

Method of calculation: The amount of wastewater produced is calculated by summing up all volumes resulting from different economic activities and households. Wastewater flows are expressed in units of 1,000 cubic meters per day, and some sources of Data may use other units that require conversion. The amount of wastewater treated is calculated safely by summing up all wastewater flows that receive treatment that is equivalent to or better than secondary treatment. Wastewater flows are expressed in BIN units of 1,000 cubic meters per day each, and some sources of data may use other units that require conversion. The percentage of safely treated wastewater flows is calculated as a ratio of the volume of safely treated wastewater to the volume of wastewater produced.

$$\textit{Percentage of flow wastewater} = (\textit{volume of safely treated wastewater} / \textit{total volume of produced wastewater}) \times 100$$

Last updated: 2023

Note: This figure in the table below represents the stress level of freshwater intake.

Indicator	Year	
	2022	2023
Safely treated the domestic and industrial wastewater flow ratio	88.89	88.89

Indicator 6.4.1 Change in water-use efficiency over time

Description of the indicator: This indicator measures the efficiency of water use over time by all economic activities, with a focus on agriculture, manufacturing, construction, mining, energy, and services, as well as water collection, treatment, and supply. It consists of two dimensions: economic (GVAx) and hydrological (Vx). Two sets of data are required to calculate it: the economic dimension, using national economic statistics, and the hydrological dimension, using public water use efficiency.

Sources of data: Ministry of Environment, Water, and Agriculture

Unit of measurement: USD $

Level of disaggregation: National

Method of calculation:

$$WUE = A_{we} \times P_A + M_{we} \times P_M + S_{we} \times P_S$$

WUE = Water Use Efficiency
AWE = Water Use Efficiency in Irrigated Agriculture $[USD/m3]$
Mwe = Water Use Efficiency MIMEC [USD/m³]
Swe = Water Use Efficiency in Services [USD/m³]
PA = Percentage of water used by the agricultural sector of total use
PM = Ratio of water used by the MIMEC sector to total use
PS = Ratio of water used by the service sector to total use

Last updated: 2020

Change in water use efficiency over a period of time	
Sector	**Value (2020)**
Water Efficiency in Mining, Industry, Manufacturing, Electricity, and Construction	185.175 USD per cubic meter
Water Efficiency Services	97.285 USD per cubic meter
Water Efficiency	49.19 USD per cubic meter

Indicator 6.4.2 Level of water stress: freshwater withdrawal as a proportion of available freshwater resources

Description of the indicator: The purpose of this indicator is to show the degree to which water resources are exploited to meet Saudi water demand. It measures a country's pressure on its water resources and thus the challenge of sustaining its water use. It also tracks progress regarding "freshwater withdrawals and supplies to address water scarcity", i.e., the environmental component 6.4.

Four categories have been identified to indicate different levels of stress intensity, more than 25% of water stress:

- NO STRESS <25%
- LOW 25% - 50%
- MEDIUM 50% - 75%
- HIGH 75-100%
- CRITICAL >100%

Sources of data: Ministry of Environment, Water and Agriculture

Unit of measurement: Percent %

Level of disaggregation: National

Method of calculation: The indicator is calculated as the sum of freshwater withdrawn (TWW) divided by the difference between total renewable freshwater resources (TRWR) and environmental water requirements (EFR) multiplied by 100, and the Unit of Measurement for all variables is kilometer cubed per year.

Compression Ratio:

$$Stress\ (\%) = \frac{TFWW}{(TRWR - EFR)} \times 100$$

Last updated: 2021

Note: Environmental water requirements are not included in the indicator calculation

Indicator	Year
	2021
Percentage of Water pressure: Freshwater withdrawal as a proportion of available freshwater resources (water pressure)	199.88

Indicator 6.5.1 Degree of integrated water resources management

Description of the indicator: The IWRM implementation score, which is measured in percentage (%) from zero (not yet implemented) to 100 (fully implemented), is measured in terms of the different stages of IWRM development and implementation.

Sources of data: Ministry of Environment, Water and Agriculture

Unit of measurement: Degree

Level of disaggregation: National

Method of calculation:

The concept of integrated water resources management is measured by four main components:

1. Enabling environment: This includes policies, laws, plans, and strategies that create the "enabling environment" for integrated water resources management.
2. Institutions: encompass the scope and roles of political, social, economic, and administrative institutions that help support the implementation of integrated water resources management.
3. Management tools: Tools and activities that enable decision-makers and users to make rational and informed choices between alternative actions.
4. Financing: The budget and funding available and used for the development and management of water resources from different sources.

This indicator is based on a national survey centered around these four key components (UNEP, 2016). Each component is divided into two sections: questions related to "national level" and "other levels" respectively. "Other levels" include the subnational level (including provinces/regions), the basin level, and the transboundary level, as appropriate. These sections address the formulation of target 5.6: "Integrated implementation of water resources at all levels.

The survey contains 32 questions divided into the four main components mentioned above.

Each question awards a score between 0 and 100, in 10 increments, based on the following six categories:

- Very low (0)
- Low (20)
- Mid Low (40)
- Mid Height (60)
- High (80)
- Super High (100)

Last updated: 2023

item	Degree of integrated water resources management	
	2020	2023
Degree of IWRM* implementation (0-100)	57	83

ndicator 6.5.2 Proportion of transboundary basin area with an operational arrangement for water cooperation

Description of the indicator: The indicator monitors the "transboundary basin" area within a country covered by an "operational arrangement for water cooperation".

A "transboundary basin" refers to a river or lake basin, or an aquifer system that marks, crosses, or is located on boundaries between two or more states. A basin comprises the entire catchment area of a surface water body (river or lake), or for groundwater, the area of the aquifer, i.e., the entire permeable water-bearing geological formation. of calculating the value of SDG indicator 6.5.2, the transboundary basin area is the extent of the catchment area (river or lake basin); or the extent of the aquifer.

"Arrangement for water cooperation" refers to a bilateral or multilateral treaty, convention, agreement, or other formal arrangement, such as a memorandum of understanding between countries sharing transboundary basins that provides a framework for cooperation on transboundary water management. Agreements or other kinds of formal arrangements may be interstate, intergovernmental, interministerial, interagency, or between regional authorities.

"Operational" means that an agreement for cooperation between the countries sharing transboundary basins meets all the following four criteria:

- There is a joint body or mechanism (e.g., a river basin organization) for transboundary cooperation.

- There is regular, i.e., at least annual, formal communications between riparian countries in the form of meetings (either at the political and/or technical level).

- There is a joint or coordinated water management plan(s), or joint objectives have been set.

- There is a regular, i.e., at least annual, exchange of data and information.

The monitoring has as its basis the spatial coverage of transboundary basins shared by each country and focuses on monitoring whether these are covered by cooperation arrangements that are "operational". The criteria to be met for the cooperation on a specific basin to be considered "operational" seek to capture whether the arrangement(s) provide the basic elements needed to allow that arrangement to implement cooperation in water management.

Sources of data: Ministry of Environment, Water and Agriculture

Unit of measurement: Percent %

Level of disaggregation: National

Method of calculation:

Step 1: Identification of transboundary surface waters and aquifers in the territory of the State

While identifying transboundary surface waters is relatively simple, identifying transboundary aquifers often requires more careful investigations.

If there is no transboundary surface or groundwater, reporting is not applicable.

Step 2: Calculate the surface area of each transboundary basin and the grand sum

River and lake basins are usually identified at least by topographic maps, and the area of the basin is known or easily measurable.

The total transboundary surface area in the country is the sum of the surface areas in the country for both transboundary basins and aquifers (expressed in square kilometers). Transboundary areas may overlap for different types of systems (e.g., river basins, lakes, underground reservoirs) or multiple aquifers. The area of transboundary aquifers must be added, even if they lie within the basin of a transboundary river or lake, so that the progress of cooperation on transboundary aquifers can be tracked.

Calculations can be easily performed using geographic information systems (GIS). Once established, using the appropriate tools for spatial analysis, river basins, surface lakes, and aquifers can be used to report both fragmented (for a surface basin or aquifer) and aggregated (either is agreed).

Step 3: Review existing arrangements for transboundary water cooperation and verification of covered transboundary waters

Some operational arrangements for transboundary water cooperation cover both surface and groundwater (and river basins, lakes, and associated aquifers). In such cases, it should be clear that the geographic extent of both is used to calculate the value of the indicator. In other cases, the application area may be limited to a boundary section of the river basin or sub-basin, and in such cases, only the corresponding area should be considered as containing a possible operational arrangement for calculating the indicator value. At the end of this step, it should be known which transboundary basins are covered by the transboundary water cooperation arrangements (and their special areas).

Step 4: Verify existing arrangements for cooperation in transboundary waters that operate

The following checklist allows States to determine whether cooperation arrangements in a particular basin or in relation to a particular State are operating:

- Is there a joint body or mechanism for cooperation in transboundary waters?
- Is there at least an annual (average) formal contact in the form of meetings, both at the political and/or technical level?
- Have a joint or coordinated water management plan or plans been adopted, or common goals?
- Is there at least an annual exchange (on average) of information and data?

If none of the conditions are met, transboundary water cooperation arrangements cannot be considered operational. This information is currently available in countries and can also be pulled from global, regional, or basin databases.

Step 5: Calculate the value of the indicator

Calculate the value of the indicator by adding up the total area of transboundary surface water and reservoirs in the country covered by an operational cooperation agreement and dividing it by the total area collected in the country for all transboundary basins (including water reservoirs). Then the sum must be multiplied by 100 to get the percentage.

C = Calculation of the total area of transboundary aquifers/water bodies subject to a given type of regulatory/operational arrangement, in square kilometers.

D = Calculation of the total area of transboundary aquifers/water bodies, in square kilometers.

Each question awards a score between 0 and 100, in 10 increments, based on the following six categorie

Last updated: 2024

Aquifers: Percentage of surface area of transboundary aquifers & basins covered by an operational arrangement

Indicator 6.b.1 Proportion of local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management

Description of the indicator: The indicator assesses the percentage of local administrative units (as defined by the national government) that have a fixed and operational mechanism through which individuals and communities can meaningfully contribute to decisions and trends related to water and sanitation management.
The indicator of the proportion of local administrative units with well-established and operational policies and procedures for community participation in water and sanitation management is currently measured by the percentage of countries that have clearly defined procedures in the law or policy for the participation of service users/communities in the planning program in water and sanitation management and hygiene promotion and the proportion of countries with a high level of users/communities participating in planning programs in water and sanitation management and hygiene promotion.

Sources of data: Ministry of Environment, Water and Agriculture

Unit of measurement: Scores

Level of disaggregation: National

Method of calculation: UNWWA's Global Sanitation and Drinking Water Analysis and Assessment Questionnaire provides information on whether there are "clearly defined actions in laws or policies for the participation of service users (e.g. households) and communities in planning programmes." For countries with data from the local administrative unit level, they are required to provide data on the number of local administrative units in which local participation policies and procedures are in place. (i) and (ii) in operation, in addition to (iii) the number of local administrative units evaluated, and (iv) the total number of units in the country. The indicator is calculated as follows: (ii) the number of local administrative units with operating policies and procedures for local participation divided by (iv) the total number of local administrative units in the country.
Both the numerator and denominator will be obtained through the Global Sanitation Analysis and Assessment Survey for the 2016-2017 cycle

Last updated: 2024

Global analysis and assessment of sanitation and drinking water, 2024		
Item	**Yes**	**No**
Human right to water and sanitation	✓	
There are national standards for drinking water quality	✓	
There are national regulations and standards for the implementation of the provision of drinking water services, such as continuity and cost	✓	
Sewage treatment technology is available	✓	
Laws and regulations exist to ensure water safety in urban and rural policies	✓	
Include water safety plans in urban and rural policies and regulations	✓	
Implement large-scale risk management plans	✓	
Adoption of a formal national urban and rural sanitation policy and strategy	✓	
Plans and strategies are supported by adequate funding	✓	
Policies, plans, and strategies on drinking water in rural and urban areas are in place, with funding allocated	✓	
There is a clear policy in place regarding water, sanitation, and hygiene in schools	✓	
There is a clear policy in place regarding water, sanitation, and hygiene in sanitation and health care	✓	
There are sanitary handwashing facilities in public buildings	✓	
There are mechanisms led by the Saudi government to coordinate the work of ministries	✓	

National monitoring indicators for water, sanitation, and health education plans and strategies		
Item	**Yes**	**No**
Input		
Governance	✓	
Funding	✓	
Human Resources	✓	
Infrastructure	✓	
Legislation		
Service Planning	✓	
Monitoring	✓	
Community Engagement	✓	
Output		
Service Provision	✓	
Quality of Service	✓	
Affordability	✓	
Results		
Service Coverage	✓	
Equality	✓	
Impacts		
Health Impacts	✓	
Environmental Impacts	✓	
Economic Impacts	✓	

Ministries involved in WASH work
Ministry of Environment, Water, and Agriculture
Saudi Water Authority
National Water Company