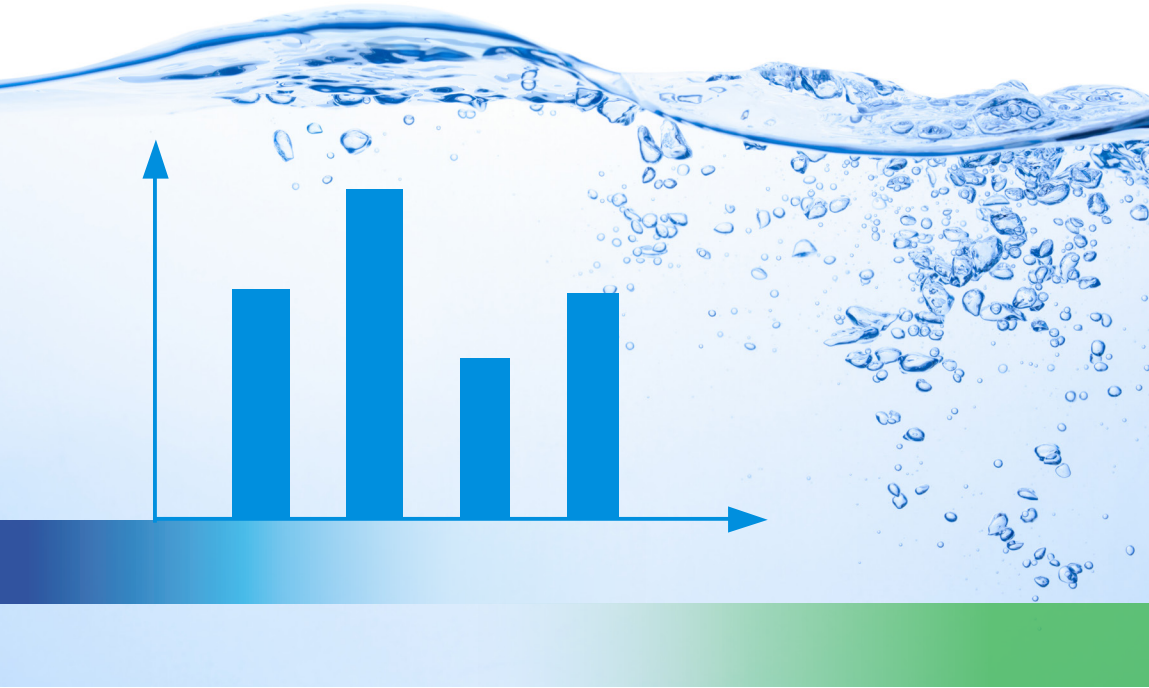


Regional Initiative for Establishing a Regional Mechanism for Improved Monitoring and Reporting on Access to Water Supply and Sanitation Services in the Arab Region (MDG+ Initiative)

Moving towards the SDGs in the Arab Region:
Key Findings from the 2016 MDG+ Initiative Report



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**Moving towards the SDGs in the
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2016 MDG+ Initiative Report**



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MDG+ Initiative

The MDG+ Initiative is the outcome of a series of resolutions adopted by the Arab Ministerial Water Council (AMWC) since its first ministerial session in 2009, which aim to establish a regional mechanism for improved monitoring and reporting on water supply and sanitation indicators in the Arab region. The purpose of the initiative is to monitor access to these basic water services based on a set of region-specific indicators that reflect some of the key challenges that constrain the ability to provide reliable, affordable and sustainable water services in water scarce environments.

The MDG+ Initiative builds upon the original Millennium Development Goal (MDG) target 7 that sought to *“halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation.”* It does so based on a regional indicator framework and monitoring mechanism that considers water resource challenges associated with the delivery of drinking water, sanitation and wastewater treatment in the Arab region. Water ministries, service providers and water users were engaged in the collection of information on the MDG+ indicators and data points, which are relevant for improving access to these basic services and in supporting the human right to water and sanitation in Arab States.

This collaborative regional initiative positions Arab States to pursue the effective monitoring, reporting and follow-up on the water-related Sustainable Development Goals (SDGs), which were adopted in the 2030 Agenda for Sustainable Development in 2015, and particularly SDG6, which aims to *“ensure availability and sustainable management of water and sanitation for all.”*

The AMWC requested ESCWA to coordinate this initiative in partnership with ACWUA and regional counterparts who serve on the MDG+ Initiative Advisory Board. Funding for the initiative is provided by the Swedish International Development Cooperation Agency (Sida).



All the MDG+ indicators are relevant for the monitoring and achievement of SDG6.

MDG+ Indicators & Data Points

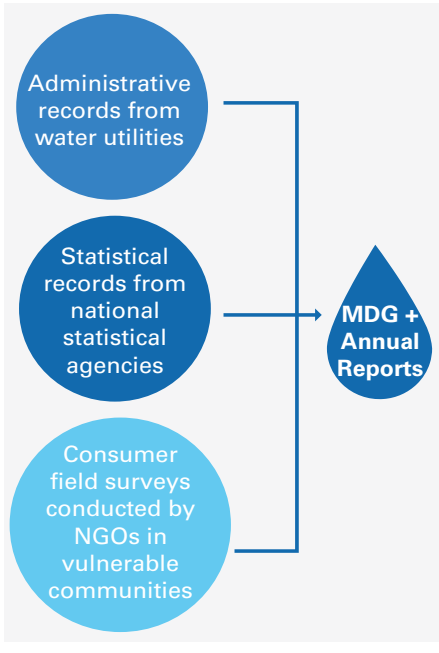
Water Supply	Sanitation & Wastewater
Quantity Supplied	Quantity Collected
Consumption Rate	Treated Quantity
Continuity of Supply	Treatment Type
Water Quality	Reuse Utilization & Type
Tariff Structure	Tariff Structure
Affordability	Affordability

SDG6 Targets and Indicators

6.1 Universal, equitable, safe, affordable Drinking Water for all	<ul style="list-style-type: none"> 6.1.1 Population using safely managed drinking water services
6.2 Adequate, equitable Sanitation & Hygiene for all	<ul style="list-style-type: none"> 6.2.1 Population using safely managed sanitation services with soap & water
6.3 Improve water quality, wastewater treatment, recycling & safe reuse	<ul style="list-style-type: none"> 6.3.1 Proportion of wastewater safely treated 6.3.2 Proportion of water bodies with good ambient water quality
6.4 Increase water-use efficiency; address water scarcity; reduce number of people suffering from water scarcity	<ul style="list-style-type: none"> 6.4.1 Change water-use efficiency 6.4.2 Level of water stress
6.5 IWRM, including transboundary water cooperation	<ul style="list-style-type: none"> 6.5.1 IWRM implementation level 6.5.2 Portion of basin area with operational arrangement for water cooperation
6.6 Protect & restore water-related ecosystems	<ul style="list-style-type: none"> 6.6.1 change in the extent of water-related ecosystems over time

SDG6.a and SDG6.b identify means of implementation for meeting these targets

MDG+ Main Data Sources



Innovation: Engaging water supply and sanitation stakeholders

The MDG+ Initiative has successfully engaged water utilities as the suppliers of data on access to water supply, sanitation and wastewater treatment services in Arab States based on an MDG+ manual, e-tool and database for supporting data collection and reporting.

Water utilities regularly monitor their operations through key performance indicators, which were drawn upon when formulating the MDG+ indicators. Data and information regularly gathered from water utilities support water-related decision-making and the targeting of investments in water infrastructure aimed at achieving the water-related SDGs, so that the actors monitoring the SDGs are also those engaged in their implementation.

MDG + Initiative Software for the Computation of Drinking Water Supply and Sanitation Indicators



MDG+ Institutional Framework

Regional level	ESCWA: coordinates Initiative and indicators	Arab Ministerial Water Council (AMWC) Advisory Board	ACWUA/MDG+ Unit: Coordinates with NMTs
National level		National Monitoring Team <ul style="list-style-type: none"> Chair: National Focal Point Vice Chair: ACWUA BoD member Statistical Focal Point 	
Local level		NGOs: Consumer field surveys (RAED)	

Institutionalized Engagement

The MDG+ Initiative operates at the national and regional levels, engaging a range of stakeholder groups.

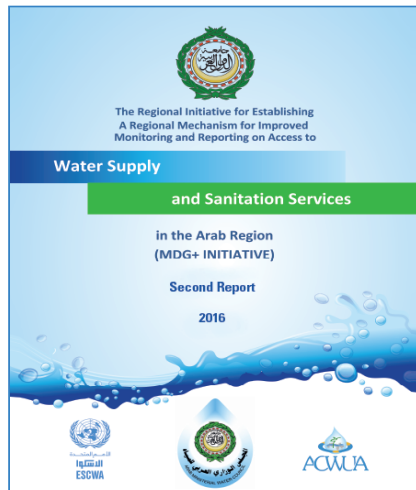
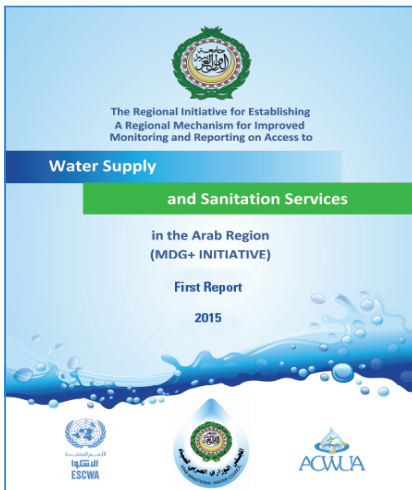
- **At the regional-level**, the AMWC approves a common set of indicators and methodologies, and approves the annual MDG+ reports.
- **At the country-level**, the National Monitoring Team (NMT) is chaired by the MDG+ National Focal Points designated by ministry responsible for water resources that serves on the AMWC. The Vice-Chair is designated by the water utility that serves on the ACWUA Board of Directors (BoD). A statistical focal point provides population and associated data to inform the calculation of the MDG+ indicators. The team is responsible for data collection and validating the MDG+ country data sheets.
- **At the local-level**, non-governmental organizations from RAED's membership network conduct consumer field surveys in rural areas and areas facing pressures due to regional conflict to gather perspectives on access to water and sanitation in these vulnerable areas.

The **MDG+ Initiative Advisory Board** is comprised of regional organizations supporting the initiative, namely the LAS, ESCWA, ACWUA, RAED, AWC and CEDARE.

Community-Level Engagement

Consumer field surveys were conducted to complement data collected from administrative sources. Four countries were surveyed during each reporting phase, and resulted in approximately 800 responses per country. The results shed the light on the disparities in water supply and sanitation indicators among rural areas and their corresponding national averages in the region's least developed countries and countries affected by conflict. The surveys were conducted by national NGOs who are members of RAED, and involved door-to-door interviews based on a common questionnaire.

MDG+ Initiative Reports



Two reports were issued by the MDG+ Initiative in 2015 and 2016, which contain data on water supply and sanitation indicators for 18 Arab States: Algeria, Bahrain, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, the State of Palestine, Qatar, Saudi Arabia, the Sudan, Tunisia, United Arab Emirates and Yemen.

Data summaries from four consumer field surveys conducted in Arab States are reported upon in each report. The 2015 report focuses on Mauritania, the State of Palestine, the Sudan and Yemen. The 2016 report focuses on Iraq, Jordan, Lebanon and the Syrian Arab Republic.



Lebanon

Innovation: Data Units

The MDG+ Initiative indicators are calculated on a per capita basis and by volume. Using both indicators allows for greater incorporation of the MDG+ Initiative indicator findings into water-related SDG indicators related to water scarcity, water quality, water efficiency and wastewater treatment, which in turn can help to provide data on pollution loads and effects on water-related ecosystems.

MDG+ Indicator on Water Supply

Water Consumption

Definition:

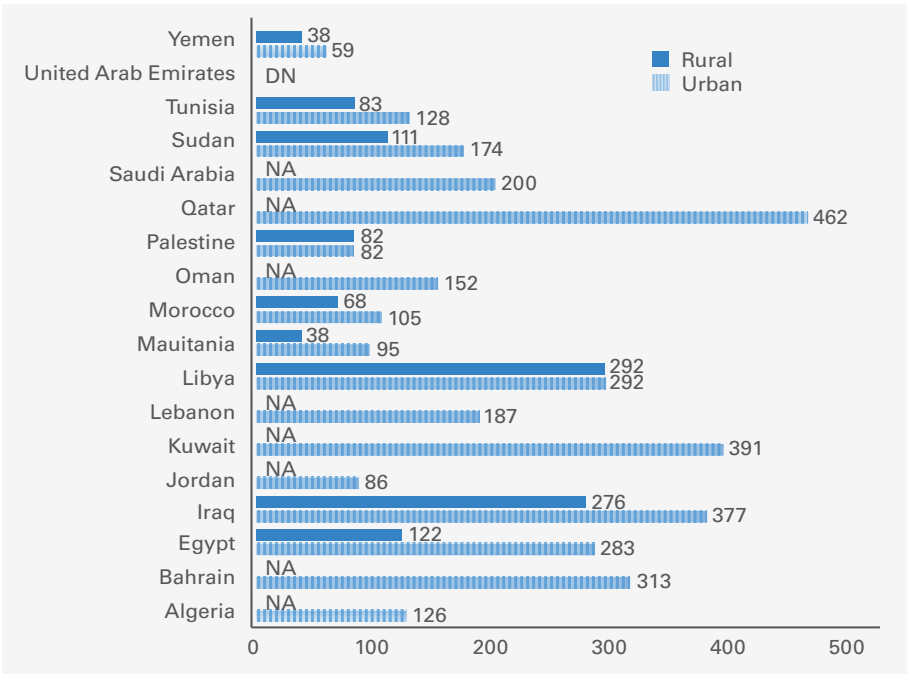
The total amount of water consumed daily by an average person (liters/capita/day).

Supports SDG 6.1, 6.4

This indicator can inform water supply and demand management policies related to water consumption levels, rates and behaviors.

It can also be used to inform discussion on water scarcity in the Arab region, as differentiated from freshwater resource scarcity.

Figure 1. Water consumption (liters/capita/day)



Over the Arab region, water consumed from piped water networks:

- Greatly varies from one country to the other another;
- Greatly varies between rural and urban areas within the same country;
- Some Arab countries do not report on water consumption in rural areas as served populations are nearly fully accounted for in urban figures.

MDG+ Indicator on Water Supply

Continuity of Water Supply

Definition:

The proportion of the population using water from a house connection or stand pipe who receive their water either daily, 3-4 days weekly, once a week, biweekly, or less than biweekly.

Supports SDG 6.1, 6.4

The reliability and regularity of water services is a necessary component of understanding access to water services in water scarce regions.

Data on water supply intermittency can support integrated decision-making on water resources management and service provision. It can also inform policy formulation and regulations on water storage and water quality testing at the household level.

Figure 2. Proportion of population connected to piped water network receiving their water daily (per cent)

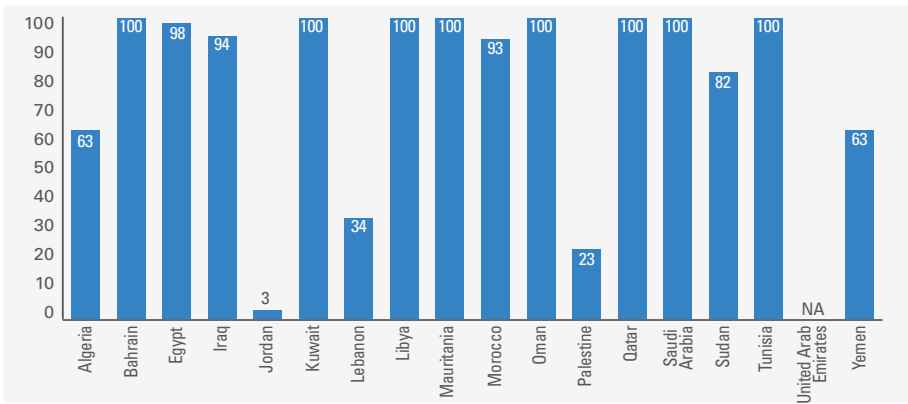
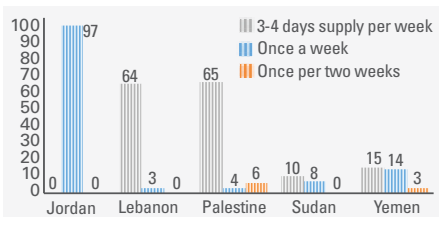


Figure 3. The proportion of the population receiving intermittent water supply (per cent)



Continuity of water supply in piped networks is a significant problem in some Arab States, and is largely due to water scarcity, water-energy production costs or on-going conflicts.

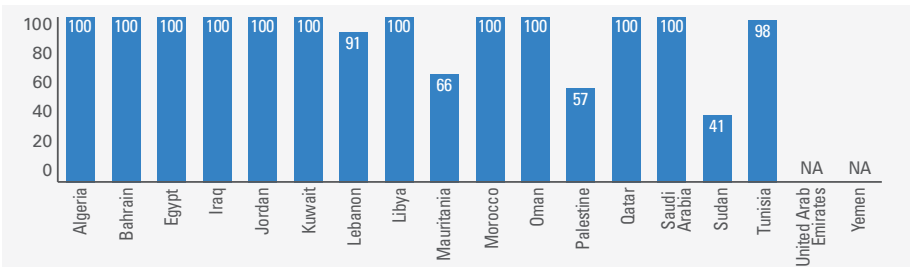
In such Arab States, populations facing severe water scarcity receive piped water once a week.

MDG+ Indicator on Water Supply

Water Quality

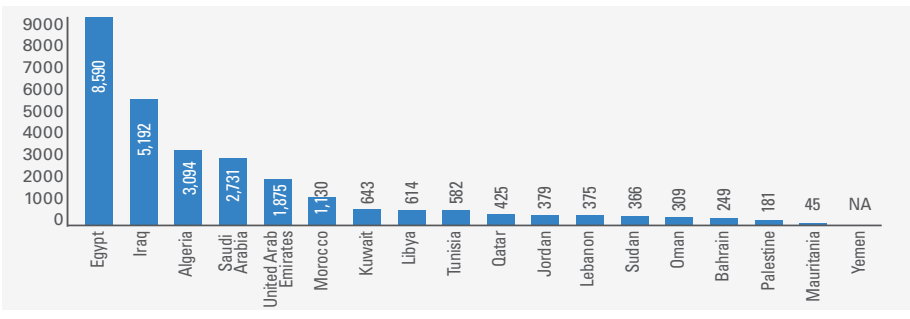
<p>Definition:</p> <p>The proportion of the population using water from a house connection or stand pipe that has been disinfected at the source.</p>	<p>Supports SDG 6.1, 6.4, 6.6</p> <p>Monitoring disinfection at the source remains necessary, particularly in countries challenged by conflict and in least developed countries. Data comparing disinfection rates with water quality testing at the point of consumption can help to track contamination and improve network performance and water-use efficiency. Data on water volumes that are transferred, but chlorinated can also support analysis on the contamination of water-related ecosystems, particularly those dependent on groundwater.</p>
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Figure 4. Proportion of population connected to piped water network receiving water that has been disinfected at the source (per cent)



The majority of people who are connected to a piped water network in the Arab region are supplied with water that has been disinfected at the source.

Figure 5. Water that has been disinfected at the source (million cubic meters/year)



MDG+ Indicator on Water Supply

Tariff Structure

Definition:

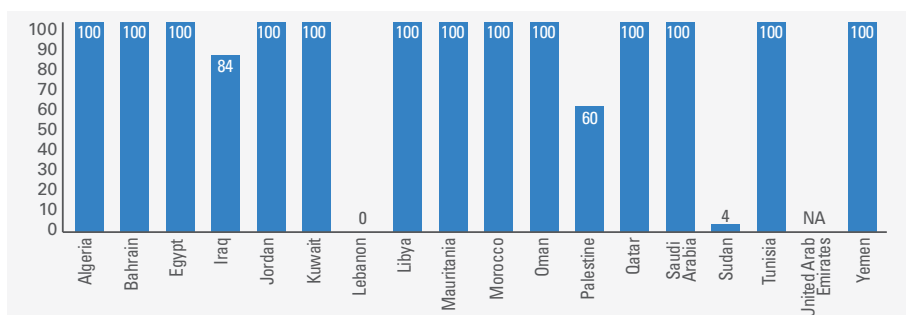
The proportion of the population connected to a household water network that is billed for the provision of service based on a volumetric or flat tariff schedule.

Supports SDG 6.1

Data on this indicator can help to clarify the:

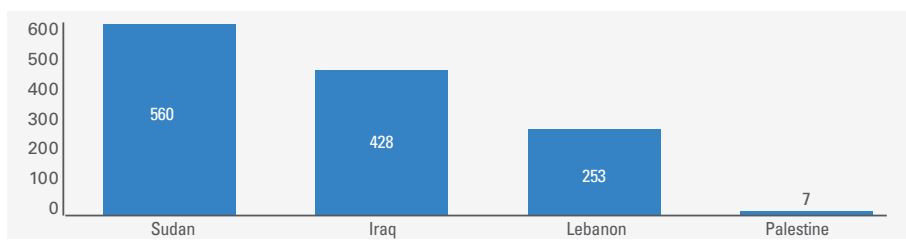
- Affordability of water services for consumers;
- Potential for adopting and applying demand-side water management measures
- Financial sustainability of water operators
- Potential for cost-recovery of water investment or need for external financing schemes.

Figure 6. Proportion of population connected to piped water network billed a volumetric tariff (per cent)



Despite conventional wisdom to the contrary, most people who are connected to piped water network in the Arab region pay for water services based on a volumetric tariff rate.

Figure 7. Volume of water billed based on flat tariff in selected Arab countries (million cubic meters/year)



Consumer Field Surveys: Water Supply Stories from Vulnerable Communities in the Arab Region

Selected Findings

Drinking water sources in rural communities in the surveyed households vary greatly, with provision provided by:

- Water supply networks
- Tanker trucks
- Stand pipes
- Rainwater collection
- Artesian wells.
- A large number of surveyed households were not able to answer with accuracy the questions related to the quantity of water they consume or water quality.
- In the case of tanker trucks, most of the people surveyed did not know from where the water was supplied.



The Sudan

- In Shaq Elhaik village in the Sudan, the average per capita daily water consumption from artesian wells is 45 liters per day, which is significantly below the national average.
- The average cost of one cubic meter of water obtained from this source is US\$ 1.7.
- Men, women, as well as boys and girls under 15 years age, are responsible for collecting water from the source and bringing it to the house one or more times each day.

Mauritania

- The average per capita daily water consumption in the villages of Wad Amoura, Jounaba, Lkraa', Adi Azilim, Ein Al Khasba and Khoukata in Mauritania was 40 liters/person/day.
- Men and women share the responsibility for water collection.
- Water is collected from the water source for household use one or more times each day.

MDG+ Indicator on Sanitation

Collected and Treated Wastewater

Definition:

The proportion of the population connected to sewer networks, with collected wastewater receiving treatment prior to discharge.

Supports SDG 6.2, 6.3, 6.6

These indicators provide valuable information on the quantity of wastewater collected and treated, which in turn can be used to assess the quantity that is safely used for other purposes in water scarce regions, or released to water-related ecosystems as treated or untreated wastewater.

Figure 8. Proportion of the annual collected wastewater volume by piped sewer networks receiving treatment prior to discharge (per cent)

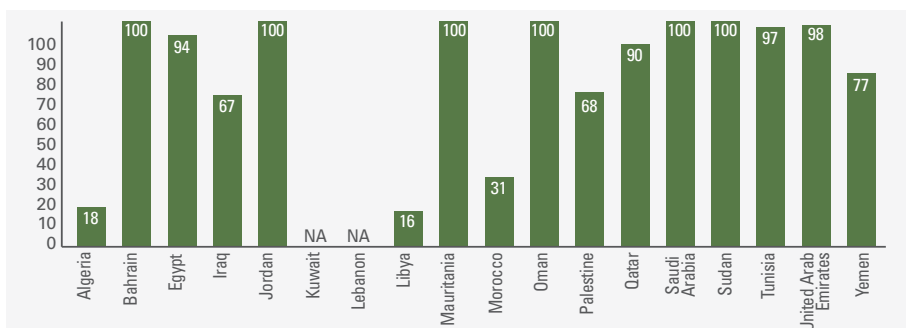
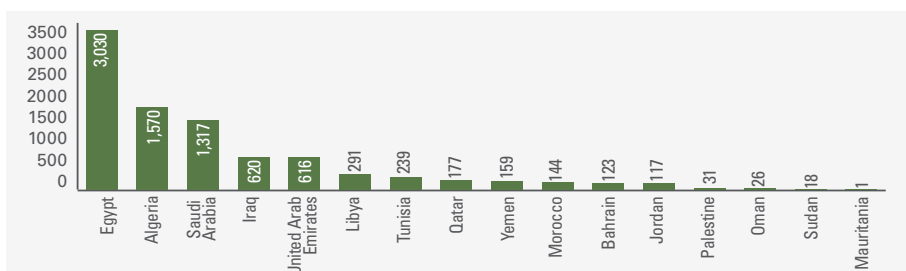


Figure 9. The collected wastewater volume by piped sewer networks (million cubic meter/year)



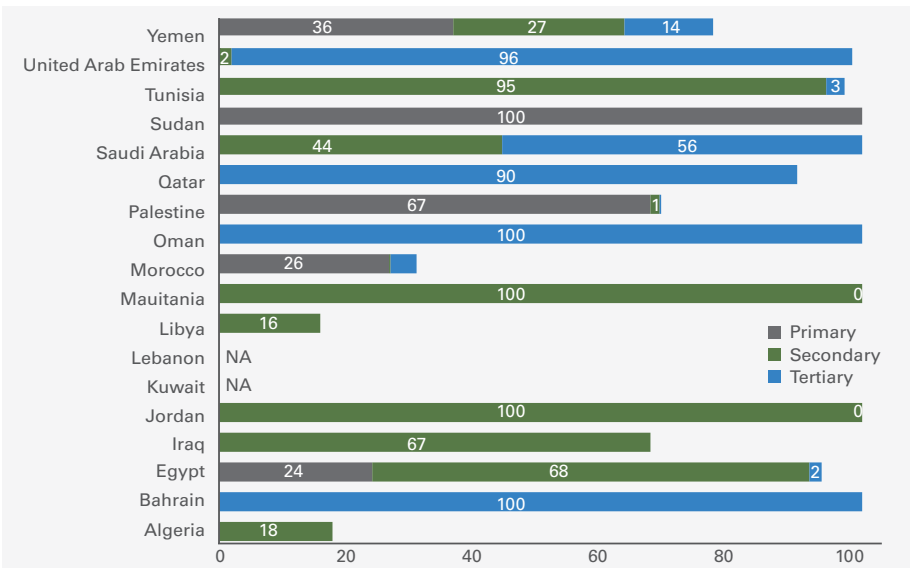
Presenting data in different units and formats can inform a range of policy options.

MDG+ Indicator on Sanitation

Wastewater Treatment by Type

<p>Definition:</p> <p>The proportion of collected wastewater that receives primary, secondary or tertiary treatment before reuse or direct discharge.</p>	<p>Supports SDG 6.2, 6.3, 6.4, 6.6</p> <p>This indicator supports analysis on the level of wastewater treatment provided by Arab States. This can support monitoring and reporting on the proportion of untreated wastewater in the region, and particularly what share is treated at the primary level, which remains harmful for the environment, or treated at the secondary or tertiary level, and can thus be safely used for other purposes to reduce water scarcity.</p>
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Figure 10. Proportion of the annually collected wastewater volume by piped sewer networks that are receiving primary, secondary and tertiary treatment (per cent)



Wastewater treatment and the level of treatment vary widely throughout the Arab region. There is no tertiary treatment available in Algeria, Iraq, Jordan, Libya, Mauritania, Palestine and the Sudan. In the Sudan, collected wastewater is only primary treated. No data is officially provided on wastewater treatment levels in Kuwait and Lebanon.

MDG+ Indicator on Sanitation

Treated Wastewater Reuse

Definition:

The proportion of the population connected to a sewer network with collected wastewater reused, with or without treatment, for agricultural, municipal or groundwater recharge purposes.

Supports SDG 6.3, 6.4, 6.5

This indicator informs analysis on the use of safely treated wastewater, and the volume that is being used for subsequent purposes. This indicator is particularly useful in water scarce environments, and can also be used to inform SDG 6.a, which aims to support increased capacity building in this area.

Figure 11. Proportion of the annually treated wastewater volume that is being used (per cent)

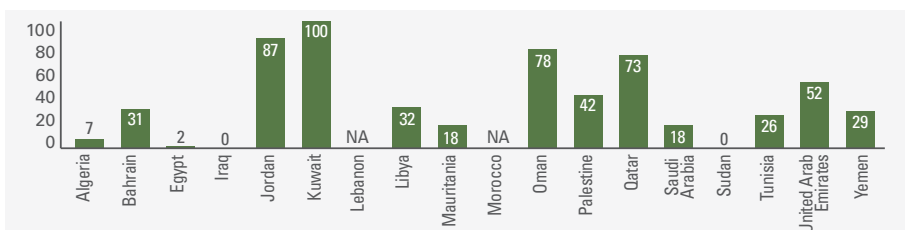
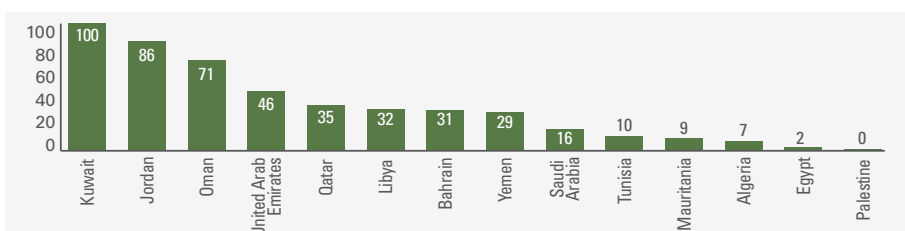


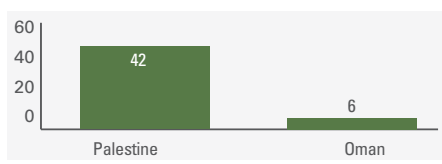
Figure 12. Proportion of the annually treated wastewater volume that is being used in irrigation (per cent)



Only Palestine and Oman report using treated wastewater for groundwater recharge in 2013, although other Arab countries have considered doing so.

Most treated wastewater in the region is used for irrigation, and primarily for agriculture or landscaping.

Figure 13. Proportion of the annually treated wastewater volume used for groundwater recharge (per cent)



MDG+ Indicator on Sanitation

Tariff Structure

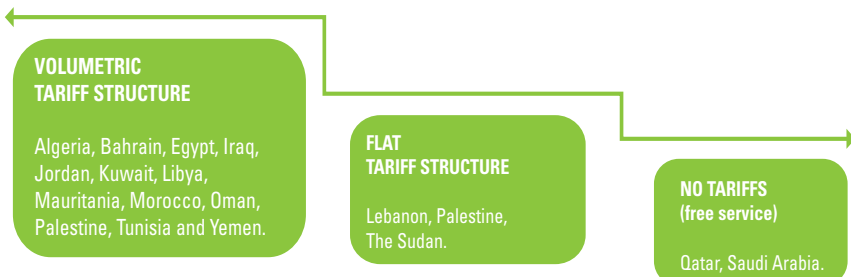
Definition:

The proportion of the population that is directly or indirectly connected to a sewage network that is billed for the provision of this service based on a volumetric or flat tariff schedule.

Supports SDG 6.2, 6.3

The tariff structure impacts the financial sustainability of sanitation services.

Knowledge of tariffs and the tariff structure informs the identification of policy options available for improving access to sanitation and wastewater treatment services, which can in turn support safe wastewater reuse, recycling and efforts to reduce water scarcity



field hosepipe sprinkler grass © sevenke - Shutterstock_58310269

Consumer Field Surveys: Sanitation Stories from Vulnerable Communities in the Arab Region

Selected Findings

- The sanitation facilities used in the surveyed villages vary between toilets connected to piped sewer or open ditches, pit latrines with or without slabs. The majority of the surveyed households in the surveyed villages use pit latrines with slabs.
- Most of the surveyed households do not reuse wastewater.

The Sudan

Most of the surveyed households in Ardiebah Altijani village in Sudan do not use latrines, they practice open defecation.

Iraq

Wastewater are discharged into open ditches in some localities in Iraq.



MDG+: A Way Forward for Informing the SDGs

The indicators, innovations, tools and lessons learned from the MDG+ Initiative can inform the formulation of indicators and methodologies related to the water-related SDGs. This can support follow-up by Arab States as well as countries in other water-scarce regions to monitor progress in achieving the 2030 Agenda for Sustainable Development.

The following table illustrates how the MDG+ Initiative indicators can inform monitoring and reporting on the SDG6 targets, either explicitly through the existing indicators vetted by the United Nations Statistical Commission, and implicitly by capturing information that is relevant to the SDG6 target, but not yet formalized in the global indicator framework.

The second table demonstrates how the MDG+ indicators can also inform monitoring and implementation of other water-related SDG goals and targets.

MDG+ Initiative indicators that contribute to SDG6 explicitly or implicitly

MDG+ Indicator/Data Point	Explicitly linked						Implicitly linked					
	6.1	6.2	6.3	6.4	6.5	6.6	6.1	6.2	6.3	6.4	6.5	6.6
MDG+ Water Supply Indicators	Water consumption	CD		PC								
	Quantity Supplied	CD			PC							
	Continuity of Supply	CD			PC							
	Water Quality	CD			PC							PC
	Tariff Structure	CD										
	Affordability	CD										
MDG+ Sanitation Indicators	Treated Wastewater		CD	CD								PC
	Treatment type		CD	CD	PC							PC
	Reuse Utilization			CD	PC			PC		PC		PC
	Reuse Type			CD				PC		PC		PC
	Tariff Structure		CD									
	Affordability		CD									

CD: Contributes Directly to the evaluation of the SDG6 target; PC: Potential to Contribute to the evaluation of the SDG6 targets

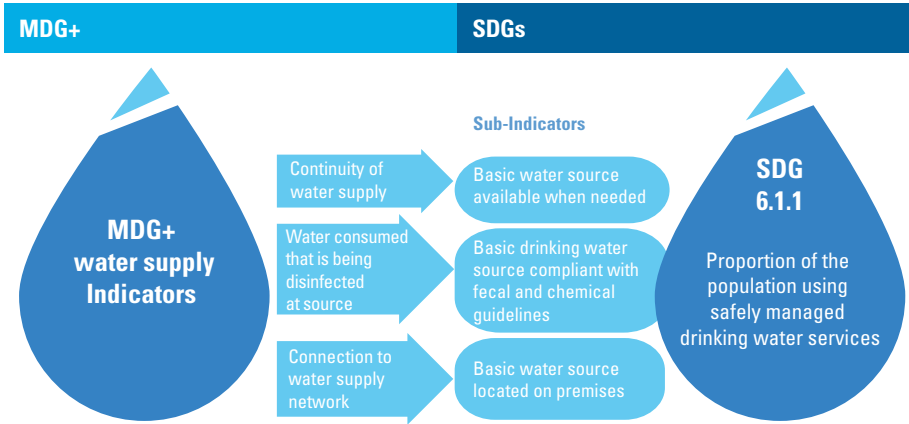
MDG+ Initiative indicators that can contribute to other water-related SDGs

MDG+ Indicator/Data Point	SDG Targets						SDG Goals									
	Explicitly dependent on water						Implicitly dependent on water									
	1.4	3.3	3.9	4.a	11.1	11.6	12.4	14.1	15.1	2	5	8	9	10	13	
MDG+ Water Supply Indicators	Water consumption								PC				PC		PC	
	Quantity Supplied								PC				PC		PC	
	Continuity of Supply				CD						PC			PC	PC	
	Water Quality	CD	PC	PC	CD	CD					PC			PC	PC	
	Tariff Structure															
	Affordability	CD				CD					PC				PC	
MDG+ Sanitation Indicators	Treated Wastewater	CD		PC	CD	CD	PC	PC				PC		PC	PC	
	Treatment type			PC			PC	PC				PC				
	Reuse Utilization														PC	
	Reuse Type									PC					PC	
	Tariff Structure						PC	PC							PC	
	Affordability	CD				CD									PC	

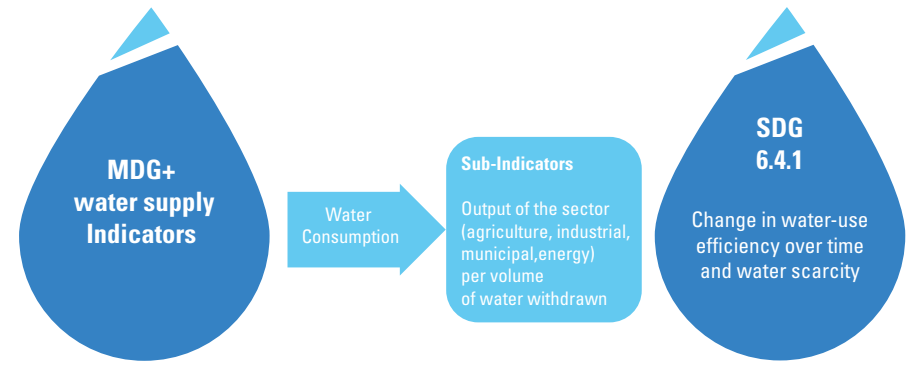
CD: Contribute Directly to the evaluation of the SDG targets; PC: Potential to Contribute to the evaluation of the SDG targets

Informing the SDGs with the MDG+ Indicators

SDG 6, target 6.1: “By 2030, Achieve universal and equitable access to safe and affordable drinking water for all.”

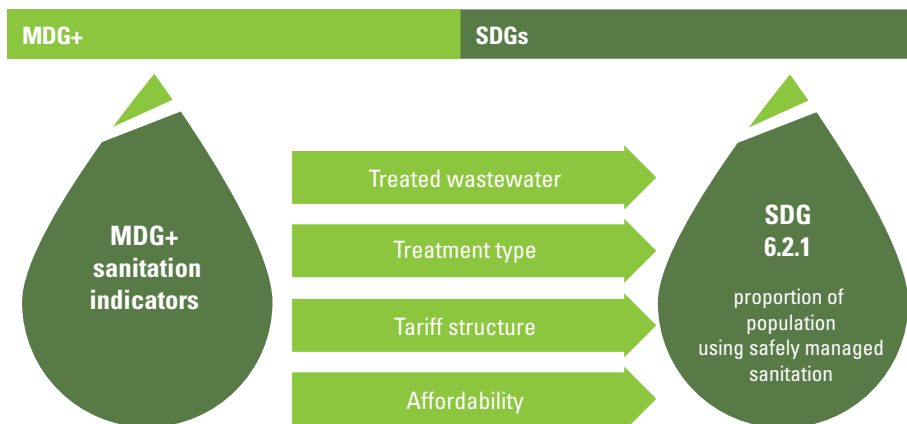


SDG 6, target 6.4: “By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.”

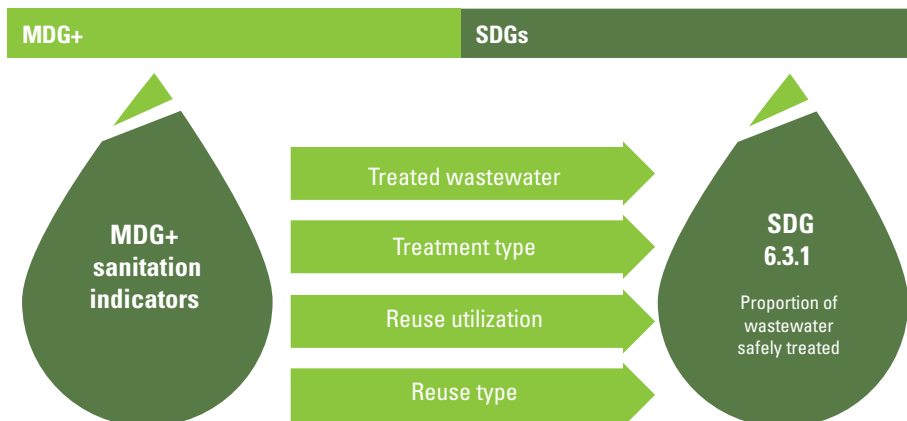


Informing the SDGs with the MDG+ Indicators

SDG 6, 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.”*



SDG 6, 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 substantially increasing recycling and safe reuse globally.”*



Annex

MDG+ Indicators on Water Supply

Water Consumption	The total amount of water consumed daily by an average member of the population (liters/capita/day) for domestic use. The amount of water consumed varies widely from one Arab country to another, and also varies between rural and urban areas within the same country. It reflects the extent of water availability used to cover domestic water demand, and can help define the need to adjusted supply and demand management policies.
Continuity of supply	The proportion of the population using water from a household connection or stand pipe who receive their water either daily, 3-4 days weekly, once weekly, biweekly, or less than biweekly. This indicator highlights the need for supplemental water supply to households, or the need for household water storage. Increases in demand due to growing urban populations, limited water resources, and aging infrastructure are some of the factors contributing to discontinuity of supply. Tracking frequency of water delivery to consumers could prompt utilities to investigate reasons for low service levels.
Water Quality	The proportion of the population using water from a house connection or stand pipe that has been disinfected at the source. Although this indicator does not measure water quality at the consumer end, it is a major improvement compared to current practice where water quality simply is not monitored or reported.
Distance to source	The proportion of the population obtaining their water from a water source located within a 1,000 m round trip distance from the source in rural areas, or who spend 30 minutes or less collecting water in urban areas. This could be useful information in highlighting the need for additional water sources in rural areas, and additional water distribution networks in urban areas.
Tarrif Structure	The proportion of population connected to a house network and billed either a flat tariff, or an increasing tariff. This indicator can help clarify the affordability of water services for consumers, and the financial sustainability of water supply utilities.
Affordability	The financial burden associated with the cost of water in proportion to income. Since access to water is a human right, and water and sanitation must be affordable for society's poor, an indicator to measure the affordability of water is necessary.

MDG+ Indicators on Sanitation

Treated Quantity	The proportion of the population connected to sewer networks, with collected wastewater receiving treatment prior to discharge. This indicator indirectly provides valuable information on the pollution load on the environment from wastewater disposal.
Treated Type	The proportion of the population connected to a sewer network that receives primary, secondary, and tertiary treatment before reuse or direct discharge. Wastewater treatment and the level of treatment vary widely throughout the Arab region due to factors such as the associated expense and rapid population growth.
Reuse Utilization	The proportion of the population connected to a sewer network with collected wastewater reused without treatment or with primary, secondary or tertiary treatment. With the aim of quantifying the amount of treated wastewater being reused, this indicator highlights the role treated wastewater can play as a reliable water resource in the region.
Reuse Type	The proportion of the population connected to sewer network with collected wastewater reused, with or without treatment, for agricultural, municipal or groundwater recharge purposes. Information on the type of reuse for collected wastewater is an extremely valuable resource for planners and decision makers when thinking of environmental policies and strategies for integrated water resource management.
Tariff Structure	The proportion of the population connected to a sewer network and billed either a flat tariff or an increasing tariff. The type of tariff structure impacts the quantity of wastewater produced, and the overall sustainability of sanitation services.
Affordability	The financial burden associated with the cost of connection to a sewerage network in proportion to income. This indicator can show to what extent the sanitation services are affordable, particularly for the poorest segment of society, while attempting to maintain adequate cost recovery for the sanitation sector.

MDG+ Initiative Partners



UNITED NATIONS

الاستشهاد
ESGWA



League of Arab States



Arab Ministerial Water Council



ACWUA

Arab Countries Water Utilities Association



CEDARE

Centre for Environment and Development of the Arab Region and Europe

المجلس العربي للمياه



Arab Water Council

Arab Water Council



RAED

Arab Network for Environment and Development



World Health Organization

Donor



SWEDEN

Swedish International Development Cooperation Agency (Sida)

For more information, visit the MDG+ Initiative website: <http://www.acwua.org/mdg+>

