List of Indicators Used to Monitor the Utilities

	Key Performance Indicators (KPI's)	Explanation	Formula	Unit
1	Microbiological water quality compliance	Percentage of the total number of microbiological tests of treated water performed that comply with the applicable standards.	=(Compliant microbiological tests/Microbiological water quality tests performed) * 100	%
2	Continuity of supply	Percentage of hours when the (intermittent supply) system is pressurized	= Number of hours per week that the system is pressurized / (7*24) * 100	% of time
3	New connection efficiency	Percentage of connections installed within the specified target time	= New water connections type 1 and type 2 within a target time / New water connections type 1 and type 2 requested * 100	% of requests
4	"No water" complaints per 1000 subscribers	Number of "no water" complaints per 1000 active subscribers during reporting period	= Complaints of "No Water Supply" / (Active subscribers*1000)	No. of complaints/1000 active subscribers
5	Water consumption per capita (residential subscribers)	Average daily water consumption per capita	quarterly = Residential billed volume*1000/90/Estimated number of residents supplied with water annually = Residential billed volume*1000/365/Estimated number of residents supplied with water	L/cap/d
6	Non-Revenue Water	Percentage of system input volume not being billed	= (Water distributed - Billed authorized consumption) / (Water distributed) * 100	% of system input
7	Collection Efficiency (Customers)	Percentage of revenues collected from residential and non-residential customers during period	= (Collected from residential & non-residential customers) / (Amount billed in period - Billing for exported water - Other Billing)*100	%
8	Operating cost coverage ratio (revenues)	Total revenues compared to total operation and maintenance costs	= Total revenues / Total operation and maintenance costs water and wastewater services * 100	%
9	Employees per 1000 subscribers	Number of full time equivalent employees per 1000 water subscribers and wastewater subscribers	= Total number of employees / ((Total water subscribers + Total sewer subscribers) /1000))	No/ 1000 subscribers
10	Training per employee	Number of training hours per employee during reporting period	= Total number of training hours in reporting period / Total number of employees	h/ employee

	Lower Level Performance Indicators (PI's)	Explanation	Formula	Unit
1	Subscribers receiving continuous supply	Percentage of subscribers receiving 24 hours supply 7 days per week except for interruptions due to major maintenance or repair interventions	= Subscribers receiving continuous supply / Total water subscribers * 100	%
2	Billing complaints	Average number of billing complaints and queries per 1.000 water subscribers during reporting period	= Billing complaints / Total water subscribers	No./1.000 subscribers
3	Percentage of inactive subscribers	Percentage of subscribers inactive at the time of reporting	= (Total water subscribers - Active subscribers) / Total water subscribers * 100	%
4	Water quality tests performed	Percentage of treated water tests required by applicable standards that are carried out.	= Water quality tests performed / Water quality tests required * 100	% of required tests
5	Physical-chemical water quality compliance	Percentage of the total number of physical-chemical tests of treated water performed that comply with the applicable standards.	= Compliant physical-chemical tests / Physical-chemical water quality tests performed * 100	%
6	Inefficiency of use of water resources	Real losses during the assessment period / System input volume during the assessment period *100	= (Water produced + Imported treated water - Exported treated water - Billed consumption) / (Water produced + Imported treated water - Exported treated water) * 100) * (Real water losses/100)	%
7	Water resources use per capita/day	Average daily volume of water supplied per capita	= (Water produced + Imported treated water - Exported treated water) / (Resident population) * 1000 / 365	L/ cap/d
8	Treated water storage capacity	Total capacity of treated water reservoirs (private storage tanks excluded) / system input volume during assessment period	= Water storage volume / ((Water produced + Imported treated water - Exported treated water) / 365)	days
9	Mains rehabilitation	Percentage of mains length rehabilitated per year	= Mains rehabilitated / Length of water network * 100	%/ year (quarter)
10	Service connection rehabilitation	Percentage of service connections replaced or renovated per year	= Service connections rehabilitated / Water service connections * 100	Nr/ 1000 connections
11	Speed of repair of failures	Percentage of network and water service connection failures repaired within target time	= (Network failures repaired in target time) + (Service connection failures repaired in target time) / (Network failures + Water service connection failures) * 100	% of bursts
12	Leakage control per year	Percentage of mains length subject to active leakage control	= Network surveyed for leakages / Length of water network * 100	%
13	Metering ratio	Percentage of subscriber connections that are metered	= Subscriber meters / Total water subscribers * 100	%
14	Subscriber meter replacement ratio	Percentage of subscriber meters replaced during reporting period	= Subscriber meters replaced during reporting period / Subscriber meters * 100	%
15	Water loss per subscriber	Total (apparent and real) losses, expressed in terms of volume of supplied water lost per subscriber	= (Water supplied -(Authorized consumption-Exported water)) / Total water subscribers) / 365	m^3/subscriber/ day
16	Water loss per connection	Total (apparent and real) losses, expressed in terms of volume of supplied water lost per connection	= (Water supplied -(Authorized consumption-Exported water)) / Water service connections) / 365	m^3/connection/ day
17	Water losses per mains length	Total (apparent and real) losses, expressed in terms of volume of distributed water lost per mains length.	= (Water distributed -Authorized consumption) / Length of water network) / 365	m^3/km/d

18	Estimated water service coverage	Estimated percentage of the population supplied with water	= Estimated number of residents supplied with water / Resident population * 100	%
19	Percentage of water treated in wastewater treatment plants	Volume of treated wastewater vs. volume of authorized consumption (excluding exported water)	= ((Wastewater treated at own plants + Waste water exported for treatment) / (Authorized consumption - Exported water) * 100	%
20	Meter reading ratio	Percentage of active customers whose meter has been read during reporting period	= Customer meters read / Active subscribers *100	%
21	Electricity costs as percentage of total O&M costs	Electricity costs as percentage of total Operation and Maintenance	= Total electricity costs / Total operation and maintenance costs water and wastewater services * 100	%
22	Average unit energy consumption	Electricity consumption per m^3 supplied	= Electricity consumption / (Water produced + Imported treated water - Exported treated water)	kWh/m^3
23	Average water and wastewater revenue for billed consumption	Water and wastewater sales revenue from residential and non-residential subscribers (exported water excluded) per m^3 of authorized consumption	= (Residential water sales (amount) + Non-residential water sales (amount) + Billing for illegal usage + Reductions in billing +Billing for tanker sales + Billing for residential wastewater + Billing for non-residential wastewater) / (Residential billed volume + Non-residential billed volume + Volume billed for illegal usage + Volume provided through tankers)	JOD/m^3
24	Unit operating cost water and wastewater services	Operating costs of water and wastewater services per m^3 authorized consumption	Total operation, maintenance and administration costs water and wastewater services / Authorized consumption	JOD/m^3
25	Unit total cost water and wastewater services	Total costs of water and wastewater services per m^3 authorized consumption	= Total costs water and wastewater services / Authorized consumption	JOD/m^3
26	Total cost coverage ratio	Total collection vs. total costs of service provision	= Total collection water and wastewater services / Total costs of water and wastewater services	-
27	Delay in accounts receivable	Accounts receivable at reporting date compared billing during reporting period	= Total accounts receivable from billing / ((Amount billed in period - Billing for exported water - Other billing) / 12)	months
28	Days absenteeism per staff per year	Number of days of absenteeism per employee per reporting period	= Staff absenteeism / Total number of employees	days/ employee
29	Percentage of staff trained	Percentage of staff trained during reporting period	= Total number of staff that participated in internal or external training / Total number of employees (full-time equivalent) * 100	%
30	Operating cost coverage ratio (collection)	Total collection compared to total operation and maintenance costs	= Total collection / Total operation and maintenance costs water and wastewater services * 100	%
31	Operating cost coverage ratio (billing)	Total billing compared to total operation and maintenance costs	= Amount billed in period / Total operation and maintenance costs water and wastewater services * 100	%
32	Collection ratio	Percentage of revenues collected from billed amounts during reporting period including exported water and other billing	= Total collection / Amount billed in period * 100	%
33	Employees per 1000 water subscribers	Number of full time equivalent employees per 1000 water subscribers	= Total number of employees/(Total water subscribers/1000)	No/1000 water subscribers

	Indicators derived from national strategies (NSPI)	Explanation	Formula	Unit
1	Subscribers surveyed	Percentage of subscribers surveyed	= (Subscribers surveyed / Total water subscribers) * 100	%
2	Renewable energy utilization	Percentage of renewable energy used	= ((Photovoltaic energy produced + Hydro power produced + Wind energy produced + Biogas energy produced) / Electricity consumption) * 100	%
3	Preventive maintenance of pumps	Percentage of pumps covered by preventive maintenance	= Production and distribution pumps preventive maintenance / Production and distribution pumps * 100	%
4	Corrective maintenance of pumps	Percentage of pumps fixed by corrective maintenance	= Production and distribution pumps corrective maintenance / Production and distribution pumps * 100	%
5	Sizing of pumps	Percentage of pumps running at the right sizing	= Production and distribution pumps sizing / Production and distribution pumps * 100	%
6	Power consumption monitoring	Percentage of pumps monitored for power consumption	= Production and distribution pumps monitored / Production and distribution pumps * 100	%
7	Operational well and reservoir meters	Percentage of wells and reservoirs with operational meters	= Number of operational reservoir meters / Number of metered reservoirs	%
8	Calibration of well and reservoir meters	Percentage of calibrated well and reservoir meters	= Number of reservoir meters calibrated / Number of reservoir meters that require calibration	%
9	Metering of import and export points	Percentage of metered import and export points	= (Number of metered import points + Number of metered export points) / (Number of import points + Number of export points) * 100	%
10	Wastewater coverage	Percentage of wastewater service coverage	= Resident population connected to the sewerage system / Resident population * 100	%
11	Effluent quality compliance	Percentage compliance of effluent quality test results with standards	= Compliant effluent quality tests / Wastewater effluent tests conducted * 100	%