



Summary Report: Methodology and Assessment of the Environmental Dimension of the 2030 Agenda for Sustainable Development in the Arab Region

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This summary report was prepared by Cameron Allen (consultant) for the United Nations Economic and Social Commission for Western Asia (UNESCWA), August 2017. The report provides a brief synthesis of two previous reports submitted to UNESCWA: a methodology report, and a more detailed assessment report of the environmental dimension of the SDGs for the Arab region. This summary report is prepared as a background document for the Consultation Meeting on the Implementation Framework for the Environmental Dimension of the 2030 Agenda in the Arab Region in Cairo in September 2017. Opinions and any errors or omissions are those of the author.

1. Introduction

In December 2016, the Council for Arab Ministers Responsible for the Environment (CAMRE) requested that the United Nations Economic and Social Commission for Western Asia (UNESCWA), UN Environment and the League of Arab States (LAS) develop an implementation framework for the environmental dimension of the SDGs for the Arab region. In response, UNESCWA, UN Environment and LAS prepared a Terms of Reference (ToRs) for developing the implementation framework, which were based on three deliverables: 1. A methodology report; 2. An assessment report; and 3. implementation framework.

The methodology for the assessment was completed in April 2017 and was reviewed and finalized through consultations with regional environmental experts and representatives at the *Preparatory Meeting on the Regional Environmental Issues and Priorities for the Arab Forum on Sustainable Development* held in Cairo on 23-24 April 2017. The methodology for the assessment was adapted from recent international guidelines and standards developed by international experts and practitioners to support the initial stages of implementation of the SDGs, which recommend several key steps, namely: an assessment of SDG alignment with existing strategies and plans; a stock take or baseline assessment of SDG indicators; prioritisation of SDG targets in line with national circumstances; and mainstreaming of priority targets into existing strategies (or developing a new SDG-aligned strategy) (Organisation for Economic Cooperation and Development, 2016; Sustainable Development Solutions Network, 2015; United Nations Development Group, 2017; United Nations Institute for Training and Research, 2016). The guidelines focus on national implementation, but can be equally applied at the regional level.

Given the comprehensive scope of the SDGs across 169 global targets and 230 indicators, a critical step involves the prioritisation and adaptation of targets to national circumstances. To support prioritisation, the international guidelines recommend the application of a criteria-based approach, combining evidence from baseline assessments of available data, benchmarking of progress against numerical benchmarks, and an assessment of interlinkages between targets to reveal their 'systemic impact' and 'high leverage' targets (i.e. where actions taken to achieve one target have positive impacts on other targets, also known as synergies).

In line with the ToRs and applying the agreed methodology, an Assessment Report was prepared and submitted to UNESCWA in July 2017. The Report reviewed the degree to which the environmental dimension of the SDGs has been integrated into the regional and national development frameworks in the Arab region. Using a scientifically robust multi-criteria assessment, the report also identified a set of priority environmental SDG targets and indicators for the Arab region along with baseline values, target mapping and gap analysis, and a systems analysis of interlinkages. The assessment report provided the basis for the draft *Implementation Framework for the Environmental Dimension of the SDGs in the Arab Region*, which was submitted to UNESCWA in August 2017.

This summary report provides a brief synthesis of the methodology and outcomes from the assessment process. Together with the draft Implementation Framework, it provides background to support informed discussions at the *Consultation Meeting on the Implementation Framework for the Environmental Dimension of the 2030 Agenda in the Arab Region* in Cairo in September 2017.

2. Objectives and methodology for the assessment

For the Arab region to begin implementation of the environmental dimension of the SDGs and the 2030 agenda, it is critical to build the evidence base for action, using the SDGs, targets and indicators as a framework for guiding implementation. In terms of meeting country needs, Arab governments have requested support from UNESCWA in a range of key areas, namely: adapting the SDGs and targets to focus on regional and national priorities; identifying sets of interlinked goals and targets; assisting countries to analyse interlinkages between goals and targets; and identifying a narrow set of indicators to periodically monitor progress. All of these priorities were addressed through the assessment report.

In this context, and in line with the ToRs and the request from CAMRE, the aim of the assessment was to provide evidence and analysis to assist countries and stakeholders in the Arab region with implementation of the environmental dimension of the SDGs. In line with this broad aim, the assessment had several key objectives:

- To assess and define the environmental dimension of the SDGs and identify a broad set of environmental SDG targets and indicators for the Arab region.
- To assess regional and national progress on the environmental SDG targets and indicators, and the level of integration of the environmental dimension in the region.
- To assess interlinkages between environmental SDG targets and identify high leverage targets, based on systems analysis techniques.
- To identify a smaller set of higher priority environmental SDG targets and indicators for the region, based on a robust multi-criteria analysis.
- To develop recommendations and guidance for developing the implementation framework.

Based on lessons learned from a review of international experience and leading practice, the approach and method for the assessment and the development of the implementation plan were formulated as a staged process comprising several sequential steps. The key steps are summarised in **Figure 1** below. The assessment report focused on the first five stages: scoping, baseline assessment, mapping and alignment, assessing interlinkages, and prioritisation. The outcomes from each of these stages are briefly summarised below. The key output from the final stage was the draft Implementation Framework, which draws heavily upon the outcomes from the assessment.

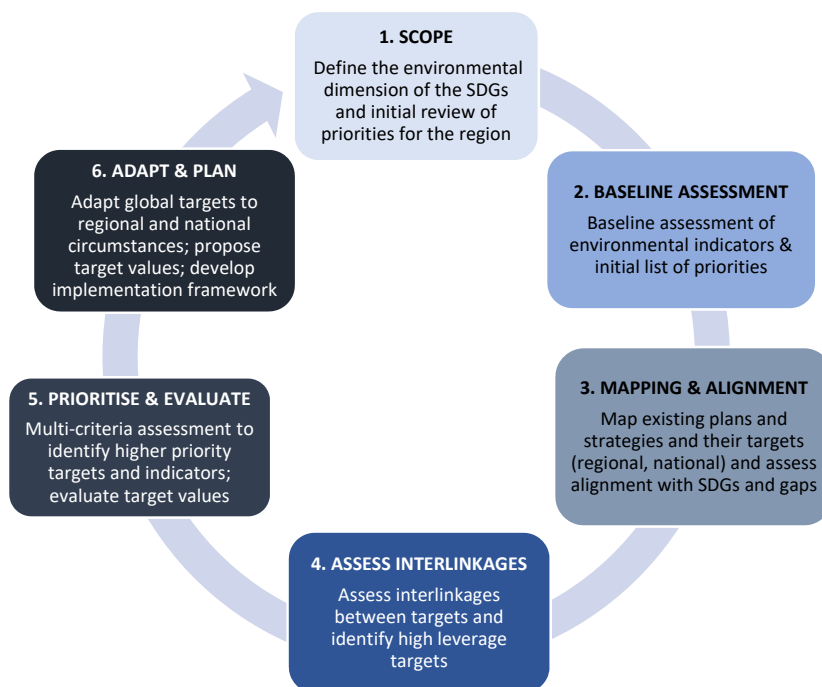


Figure 1: General approach and method for the assessment and development of the implementation framework

3. Results of assessment and discussion

3.1 Scope: Defining the environmental dimension of the SDGs in the Arab region

An important initial step in the assessment was determining the scope of the ‘environmental dimension of the SDGs’ and environmental priority goals, targets and indicators across the broad set of 17 goals. Definition of the environmental dimension also needed to consider the Arab regional context and regional and national environmental priorities.

To define the environmental dimension of the SDGs in the form of a set of goals, targets and indicators, an initial ‘screening process’ was undertaken in several steps. Firstly, a broad list of environmental goals, targets and indicators were identified based on the global literature and analysis by UN Environment, which defines a broad set of 86 environmental SDG targets and 110 corresponding indicators. Secondly, this broad list was refined based on Arab regional priorities, as identified in recent regional scientific assessments and reports¹, regional agreements and strategies², processes underway to determine a set of environmental indicators for the Arab region³, as well as consultations with regional experts⁴. Finally, consideration was also given to the

¹ For example, United Nations Environment Programme, 2016a. GEO-6 Regional Assessment for Africa, Nairobi, Kenya, United Nations Environment Programme, 2016b. GEO-6 REgional Assessment for West Asia, Nairobi, Kenya., United Nations Economic and Social Commission for Western Asia, United Nations Environment Programme, 2015. Arab Sustainable Development Report, Beirut.; and regional environmental reports published by the Arab Forum for Environment and Development (AFED): <http://www.afedonline.org/en/inner.aspx?contentID=1238>.

² This included the Arab Strategic Framework for Sustainable Development (ASFSD), the Arab Sustainable Development Indicators framework, and a range of other regional environmental strategies adopted by LAS relating to water, energy, sustainable production and consumption, agriculture, disasters, climate change, amongst others.

³ The Arab Working Group on Sustainable Development Indicators has defined a set of 30 priority environmental SDG indicators.

⁴ Including the consultative meeting on *Regional Environmental Issues and Priorities for the Arab Forum on Sustainable Development* held in Cairo on 23-24 April 2017; and the Arab Forum on Sustainable Development 2017.

availability of official, accessible, high quality data for environmental targets and indicators. Additional information on this process can be found in the methodology and assessment reports⁵.

The screening process refined the list of environmental SDG targets and indicators for the Arab region to a framework of 43 priority targets and 56 corresponding indicators⁶. It was considered important to align this set with the work being undertaken by the Arab Working Group on Sustainable Development Indicators; as such, all 30 priority indicators identified by this group were included in the framework. However, it was assessed that 18 of the 30 indicators currently lack available data, most of which fall into the 'Tier 3' category of the UN Statistics Division, meaning that a methodology is yet to be agreed upon. To address this gap, several alternative or supplementary indicators were included in the framework to undertake the assessment and measure progress on priority targets. These environmental indicators are well-developed in the region, have been widely used in previous assessments, and have relatively good data availability from official databases. They can be used to complement the SDG indicators, or on an interim basis while further methodological development of SDG indicators is undertaken at the global level. The full list of 43 environmental SDG targets and 56 indicators is included in the Implementation Framework.

3.2 Baseline assessment and benchmarking of priority environmental SDG targets and indicators

A baseline assessment was an important next step for the assessment, not only to provide baseline values to assist with target setting and development of the implementation framework, but also to help discern areas where the region is lagging behind compared with global benchmarks (where available) and to articulate higher priority areas at the regional, sub-regional and national levels. The baseline assessment focused on the framework of 43 priority environmental SDGs and 56 corresponding indicators, and included an analysis of trends as well as a comparison of current baseline values against global benchmarks.

The baseline assessment collected available data for 22 Arab countries and compiled it into a master worksheet. Due to time restrictions and resource constraints, data for indicators was collected from publicly available and official databases of the UN and international organisations, primarily the UN Statistics Division SDG Database⁷. However, it is recommended that this data could be updated through a survey of National Statistical Offices in countries in the Arab region to prepare an accurate regional database of SDG baseline values. Metadata for these indicators including the sources of data, availability, timeseries, date of collection etc. are available in the assessment report and its statistical annex⁸.

To provide an indication of regional and sub-regional priorities and progress, country-level data was aggregated for the Arab region as a whole as well as for each of the four Arab sub-regions⁹. In general, weighted averages were used. Drawing from the framework of priority environmental targets and indicators, the assessment focused on the 38 indicators¹⁰ for which data was available, which corresponded to 30 different environmental targets. A summary of the assessment is provided in **Table 1** below. The baseline assessment included the following steps:

⁵ See Allen, C (2017) The Environmental Dimension of the SDGs: Outline and methodology for an assessment and implementation framework for the Arab Region; and Allen, C (2017) Assessment Report on Implementing the Environmental Dimension of the SDGs in the Arab region.

⁶ However, 7 of these indicators are duplicates relating to more than one target. As such, there were 49 distinct indicators.

⁷ <https://unstats.un.org/sdgs/indicators/database/>

⁸ See Allen, C (2017) Assessment Report on Implementing the Environmental Dimension of the SDGs in the Arab region.

⁹ Gulf Cooperation Council (GCC): Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates; Least Developed Countries (LDCs): the Comoros, Djibouti, Mauritania, Somalia, the Sudan and Yemen; **Maghreb**: Algeria, Libya, Morocco and Tunisia; and **Mashreq**: Egypt, Iraq, Jordan, Lebanon, Palestine and the Syrian Arab Republic.

¹⁰ However, seven of these indicators were duplicates, as such the analysis considered 31 distinct indicators.

- Determining current baseline values:** the most recent values for each indicator were collected to set a recent baseline level which can be used to benchmark current status and formulate target values (most recent year for which data is available in official databases).
- Benchmarking the status of current baseline values:** the status for each of these baseline values was then benchmarked against a numerical global average to identify areas 'lagging behind'. Different benchmarks were used as follows: Arab region (benchmarked against global average); Mashreq, Maghreb and GCC (benchmarked against developing country average, or middle income or world average where not available); LDCs (benchmarked against LDC average, or developing country average where not available). The value for each indicator was categorised into one of two categories: equal to or better than the benchmark (●) or worse than the benchmark (●).
- Evaluating historical trends:** the direction of past trends was evaluated for each indicator as well as the favourability of the trend. Trends were analysed based on available time series data for each indicator. The trend for each indicator was firstly categorised as upwards (↗), downwards (↘), or no clear trend (↔). The favourability of these trends was then assessed by allocating a colour to each of the arrows – green (↗, ↘) for a favourable trend, and red (↗, ↘) for an unfavourable trend.
- Priority setting - combining status and trends:** the outcomes of the benchmarking and trend assessment were combined to provide an overall assessment of priority for each indicator, based on the following five categories:

Higher priority	Worse than benchmark <i>and</i> unfavourable trend	2
	Worse than benchmark <i>or</i> unfavourable trend	1
	Mixed assessment - favourable + unfavourable	1/1
	Better than benchmark <i>or</i> favourable trend	1
Lower priority	Better than benchmark <i>and</i> favourable trend	2

Table 1 provides a summary of the assessment for each of the indicators, and is a useful tool for highlighting SDG targets which could be considered higher or lower priority at the Arab regional and sub-regional level, based on their current status compared against a global benchmark as well as their trend. The colour allocated to cells in **Table 1** is also based on the five categories above – i.e. higher priority having a darker red colour, and lower priority having a darker green colour, with yellow representing a middle value or mixed assessment.

The assessment highlights that environmental SDG targets that could be considered of high priority at the *Arab regional level* include¹¹: 6.4 (water use and withdrawals), 11.6 (air quality), 12.3 (food waste), 13.2 (climate change plans) and 16.1 (peace and stability). Similarly, those environmental targets of least concern at the *regional level* at present could be considered¹²: 6.a (water and sanitation assistance), 7.1 (access to electricity) and 14.5 (marine protected areas).

¹¹ For ease of reference, these *regional* priorities are highlighted in dark red in the first column of **Table 1**.

¹² Highlighted in dark green in the first column of **Table 1**.

Table 1: Baseline assessment and benchmarking of environmental SDG targets and indicators for the Arab region and four sub-regions.

Indicators	UNITS	Averages				Arab Region				Mashreq				Maghreb				GCC				Arab LDCs			
		World	Developed	Developing	LDCs	Baseline	Status	Trend	Assessment	Baseline	Status	Trend	Assessment	Baseline	Status	Trend	Assessment	Baseline	Status	Trend	Assessment	Baseline	Status	Trend	Assessment
1.5.1.ALT	p.100,000	N/A				5698.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.5.2	USD	N/A				1.9m	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.5.3**	%	70.0	89.2	63.7	N/A	50	●	-	1	50	●	-	1	66.7	●	-	1	66.7	●	-	1	0	●	-	1
2.1.2	%	18.6	5.7	28.1	47.3	28.4	●	-	1	31.1	●	-	1	16.8	●	-	1	17.3	●	-	1	43.0	●	-	1
2.4.1	%	Drylands average = <1%				0.59	-	-	-	0.5	-	-	-	0.48	-	-	-	0.62	-	-	-	0.7	-	-	-
3.9.2	p.100,000	12.4	0.4	15.0	69.4	9.1	●	-	1	2.0	●	-	1	2.5	●	-	1	0.2	●	-	1	36.0	●	-	1
6.1.1	%	91.1	99.2	89.3	69.4	84.0	●	↗	1/1	94.0	●	↗	2	86.2	●	↗	1/1	97.6	●	↗	2	53.2	●	↘	2
6.4.2 [†]	%	9.3	10.1	9.7	4.3	312.3	●	↗	2	129.3	●	↗	2	142.7	●	↗	2	1311.9	●	↗	2	227.7	●	↗	2
6.a.1**	USD mil	47.8	N/A	76.3	46.7	80.6	●	↗	2	105.3	●	↗	2	120.5	●	↔	1	-	-	-	-	27.0	●	↗	1/1
7.1.1 [†]	%	85.3	99.9	88.7	38.2	88.2	●	↗	2	99.0	●	↗	2	96.8	●	↗	2	100	●	↗	2	49.9	●	↗	2
7.2.1 [†]	%	18.9	11.8	22.3	73.8	4.0	●	↗	1/1	4.2	●	↗	1/1	4.2	●	↗	1/1	0.0	●	↔	2	50.6	●	↗	1/1
7.3.1 [†]	MJ/USD	5.4	4.7	5.8	5.8	5.1	●	↗	1/1	3.8	●	↗	1/1	4.2	●	↔	1	5.8	●	↗	2	5.3	●	↘	2
7.3.1.ADD	Kgoe	1920.7	4145.4	1396.4	364.7	1813.2	●	↗	1/1	930.2	●	↗	1/1	1099.9	●	↗	1/1	7785.8	●	↗	2	353.1	●	↗	2
8.4.1	Tonne pc	10.1	20.4	7.8	1.8	6.6	●	↗	1/1	5.4	●	↗	1/1	3.7	●	↗	1/1	19.4	●	↗	2	2.2	●	↔	1
9.4.1 [^]	Kg	0.77	0.39	0.96	0.61	1.4	●	↘	1/1	1.1	●	↘	1/1	0.91	●	↗	1/1	1.6	●	↘	1/1	2.7	●	↘	1/1
11.1.1.ALT [#]	%	N/A	N/A	27.1	62.7	34.8	●	-	1	21.4	●	-	1	11.8	●	-	1	18	●	-	1	78.5	●	-	1
11.5.1 (1.5.1)	p.100,000	N/A				5698.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11.6.2.ALT	ug/m ³	44.0	15.2	52	49.0	62.3	●	↗	2	76.6	●	↗	2	35.1	●	↗	1/1	90.0	●	↗	2	48.3	●	↘	2
11.b.2 (1.5.3)	%	70.0	89.2	63.7	N/A	50	●	-	1	50	●	-	1	66.7	●	-	1	66.7	●	-	1	0	●	-	1
12.2.1 (8.4.1)	Tonne pc	10.1	20.4	7.8	1.8	6.6	●	↗	1/1	5.4	●	↗	1/1	3.7	●	↗	1/1	19.4	●	↗	2	2.2	●	↔	1
12.3.1	score	85.1	92.9	81	70.5	86.2	●	↗	2	83.0	●	↗	2	82.8	●	↗	2	88.2	●	↗	2	90.3	●	↗	2
12.c.1.ALT [^]	%	6.6	1.9	N/A	4.0	8.3	●	-	1	6.7	●	-	1	6.8	●	-	1	10.0	●	-	1	1.7	●	-	1
13.1.1 (1.5.3)	%	70.0	89.2	63.7	N/A	50	●	-	1	50	●	-	1	66.7	●	-	1	66.7	●	-	1	0	●	-	1
13.1.2 (1.5.1)	p.100,000	N/A				5698.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13.2.1.ADD-1 [†]	Kg/USD	0.34	0.25	0.39	0.13	0.31	●	↗	1/1	0.27	●	↗	1/1	0.29	●	↘	2	0.34	●	↔	1	0.24	●	↗	2
13.2.1.ADD-2 [†]	Kg pc	5.0	9.7	3.9	0.3	5.1	●	↗	2	2.9	●	↗	1/1	3.1	●	↗	1/1	19.8	●	↗	2	0.7	●	↗	2
14.4.1.ALT [#]	Ton	93.7m	24.7m	6.5m	8.7m	243.9k	-	↗	-	190.3k	-	↘	-	564.7k	-	↗	-	75.6k	-	↗	-	90.1k	-	↗	-
14.5.1	%	8.4	12.4	4.2	0.5	9.3	●	↗	2	8.3	●	↗	2	6.7	●	↗	2	9.3	●	↗	2	12.1	●	↗	2
15.1.1 [†]	%	30.8	31.3	32.1	26.8	2.8	-	↘	1	0.95	-	↗	1	1.9	-	↗	2	0.5	-	↗	1	5.8	-	↘	1
15.1.2	%	18.0	23.8	14.8	19.2	8.6	●	↗	1/1	5.0	●	↗	1/1	20.0	●	↗	2	9.3	●	↗	1/1	4.9	●	↗	1/1
15.5.1	Score	0.82	0.82	0.73	0.77	0.89	●	↘	1/1	0.89	●	↘	1/1	0.93	●	↗	2	0.87	●	↘	1/1	0.89	●	↘	1/1
15.a.1.ALT*	USD mil	N/A	N/A	45	32	9.6	●	↗	1/1	11.9	●	↗	1/1	7.4	●	↗	1/1	-	-	-	-	8.5	●	↗	1/1
15.b.1 (15.a.1)	USD mil	N/A	N/A	45	32	9.6	●	↗	1/1	11.9	●	↗	1/1	7.4	●	↗	1/1	-	-	-	-	8.5	●	↗	1/1
16.1.2.ALT	Score	Middle = 0				-1.1	●	↘	2	-1.8	●	↘	2	-1.1	●	↘	2	0.12	●	↘	1/1	-1.4	●	↘	2
17.14.1.ADD-1	Score	Middle = 5				3.8	●	↗	1/1	3.4	●	↗	1/1	4.5	●	↗	1/1	4.7	●	↗	1/1	2.5	●	↗	1/1
17.14.1.ADD-2	Score	Middle = 5				4.4	●	↗	1/1	4.4	●	↗	1/1	4.3	●	↗	1/1	6.2	●	↗	2	1.8	●	↘	2
17.18.3	%	N/A	N/A	34.6%	63.3%	22.7	●	↗	1/1	20	●	↗	1/1	20	●	↗	1/1	0	●	-	1	50	●	↘	1
17.18.3.ADD [#]	Score	N/A	N/A	71.6	60.0	56.0	●	↗	1/1	63.3	●	↗	1/1	59.7	●	↗	1/1	-	-	-	-	46.3	●	↗	1/1

Values for developing countries are based on middle income countries only

^ Values for LDCs are SSA only

* Averages calculated based on estimate for each category

** Percentages calculated based on the number of countries for which data was available.

However, it is important to note that these priorities vary somewhat between the different subregions. Based on the baseline assessment and benchmarking, **Table 2** provides a summary of higher priority targets for the Arab region and each sub-region. The final row provides a combined list which includes all targets that were assessed as priorities for the Arab region or at least one of the four sub-regions. The highest priority targets are those for which a corresponding indicator was assessed as both falling below the benchmark baseline value and having an unfavourable trend (i.e. category 2 in **Table 2**). Other priority targets were also included where their corresponding indicator fell below the benchmark or showed an unfavourable trend (i.e. categories 1 and 1/1 from **Table 2**).

Overall, based on this initial rapid assessment, a total of **11** environmental targets were considered of higher priority, and a further **13** environmental targets as additional priorities (24 targets in total). A further 16 targets may also be priorities, however there was insufficient or inadequate data for an initial assessment. Care should be taken not to exclude these targets simply due to a lack of available data. The outputs from this baseline assessment were therefore combined with other forms of assessment (as outlined below) to arrive at a list of higher priority environmental targets for the region.

Table 2: Higher priority environmental SDG targets as identified through the baseline assessment

Regional Grouping	Higher priority Category: ●	Other priorities Categories: ● ; ● / ●	No Data or Unable to Assess
Arab Region	6.4, 11.6, 12.3, 13.2, 16.1	1.5, 2.1, 6.1, 7.2, 7.3, 8.4, 9.4, 11.1, 11.b, 12.2, 12c, 13.1, 15.1, 15.5, 15.a, 15.b, 17.14, 17.18	2.4, 2.5, 6.3, 6.6, 11.3, 12.4, 12.5, 14.4
Mashreq	6.4, 11.6, 12.3, 16.1	1.5, 2.1, 7.2, 7.3, 8.4, 9.4, 11.b, 12.c, 13.1, 13.2, 15.1, 15.5, 15.a, 15.b 17.14, 17.18	As above
Maghreb	6.4, 12.3, 16.1	6.1, 7.2, 7.3, 8.4, 9.4, 11.6, 12.2, 12.c, 13.2, 15.a, 15.b, 17.14, 17.18	As above
GCC	6.4, 7.2, 7.3, 8.4, 11.6, 12.2, 12.3, 13.2	7.2, 9.4, 12.2, 12.c, 15.1, 15.5, 16.1, 17.14, 17.18	As above
LDCs	6.1, 6.4, 7.3, 12.3, 13.2, 16.1, 17.14	1.5, 6.a, 7.2, 8.4, 9.4, 11.1, 11.b, 12.2, 13.1, 15.1, 15.5, 15.a, 15.b, 17.18	As above
COMBINED LISTS	6.1, 6.4, 7.2, 7.3, 8.4, 11.6, 12.2, 12.3, 13.2, 16.1, 17.14	1.5, 2.1, 6.a, 9.4, 11.1, 11.b, 12.c, 13.1, 15.1, 15.5, 15.a, 15.b, 17.18	2.4, 2.5, 6.3, 6.6, 11.3, 12.4, 12.5, 13.2, 13.3, 14.2, 14.4, 15.2, 15.3, 15.7, 15.c, 17.7

3.3 Mapping of regional strategies and national development plans and assessment of alignment with environmental SDG targets and indicators

The framework of 43 environmental SDG targets and 56 corresponding indicators was then mapped against the main environmental strategies or plans adopted in the Arab region (and which were available in English), as well as national development strategies and visions of selected Arab countries at the national level.

3.3.1 Regional mapping and assessment of alignment

At the regional level, the framework of environmental SDG targets was mapped against nine regional environmental strategies and plans¹³. The Assessment Report reviewed the coverage of the environmental SDG targets and indicators in existing regional strategies. The degree of coverage of

¹³ Arab Strategic Framework for Sustainable Development (ASFSD); Arab Strategy for Disaster Risk Reduction (ASDRR); Arab Strategy for Housing and Sustainable Urban Development (ASHSUD), Arab Strategy for Sustainable Consumption and Production (ASSCP), Arab Strategy for Sustainable Agriculture (ASSA), Arab Strategy for Water Security (ASWS) and Action Plan (ASWS-AP), Arab Strategy for the Development of Renewable Energies (ASDRE), and the Arab Framework Action Plan on Climate Change.

each SDG target and indicator was assessed and categorised into one of three categories (good, partial, or no/limited coverage) based on an assessment of:

- Coverage of the intent and scope of the SDG target; and
- Coverage of the SDG indicator, including a baseline and clear target value (preferably aligning with the ambition and timeframe of the SDGs).

The box below shows the symbols used to assess coverage for each target. In addition, an overall assessment was given based on the coverage of both the targets and indicators, combining the two factors listed above.

Category	Symbol	Overall assessment
Good coverage	●	●●
Partial coverage	●	●●/●●/●●
Very limited coverage or not addressed	●	●●

A brief summary of the target mapping and gap analysis is provided in **Table 3** below. Based on this analysis it can be seen that 12 out of 43 of the environmental SDG targets (or 28%) are currently addressed in regional environmental strategies and plans, in terms of the scope and intent of the target and language used. This included targets relating to resilience and disasters (1.5), water-use efficiency and cooperation (6.4, 6.a), renewable energy (7.2), sustainable consumption and production (8.4, 12.2), sustainable cities and urbanization (11.1, 11.3, 11.5, 11.6), and climate change adaptation (13.1, 13.2).

However, when the assessment also includes coverage of the corresponding SDG indicators and the inclusion of clear target values, this number drops significantly to 2 out of 43 targets (or less than 5%). The SDG targets that were assessed as having good coverage of both the SDG target and indicator and target values were target 7.2 relating to renewable energy and target 11.1 relating to housing. This is possibly due to the presence of a similar previous global target for renewable energy from the SE4ALL initiative, as well as the fact that the regional housing strategy was adopted very recently and therefore was able to consider and address relevant aspects of the SDGs. In terms of the key gaps in coverage overall, 7 out of 43 of the SDG targets (16.3%) lacked any coverage in regional strategies, in terms of either a relevant target or any corresponding indicators and target values.

It is worth noting that many of these regional environmental strategies were developed long before the adoption of the SDGs to address Arab regional priorities and put in place an agreed framework. In several cases, the regional strategies make reference to relevant MDG targets, and they often correspond to different timeframes ranging from 2020 to 2030. Given the recent adoption of the SDGs, it is therefore not surprising from the analysis that most SDG targets and indicators are not yet specifically addressed in the regional framework. There is an opportunity now for the region to update its strategies and align them with the global SDG targets and indicators. This gap analysis provides a useful tool in terms of identifying existing gaps in the coverage of SDG environmental targets, and options for updating these strategies, as needed.

While many gaps are evident, the regional strategies and plans were assessed to have partial coverage across the majority of environmental SDG targets and indicators, with a total of 34 out of 43 (79.1%) targets or their corresponding indicators partially addressed in regional environmental

strategies. This is promising, as there has clearly been an effort in the region to address environmental priorities through regional planning and strategies. However, these strategies could be reviewed further in terms of updating the language to better align with the SDGs, or in terms of adopting a relevant indicator and specifying a clear target value to guide the level of ambition for the region.

The lack of specific and clear numerical target values for the majority of targets is a potential gap in regional environmental strategies at present, which may reduce their value in terms of implementation, monitoring and overall accountability. As mentioned, out of the 43 environmental SDG targets reviewed, only 2 targets included specific, clear and measurable target values for their indicators. Without a clear target value for an indicator, it is difficult to determine the level of ambition and adequately benchmark progress and performance over time. This is one key area that could be addressed through the Implementation Framework.

Table 3. Assessment of coverage of environmental SDG targets and indicators in Arab regional strategies

SDG Targets	SDG Indicators	Regional Strategies	Coverage of Target	Coverage of Indicators and Target Values	Overall Assessment
1.5	1.5.1, 1.5.2, 1.5.3	ASDRR, AFAPCC, ASFSD, ASHSUD, ASWS	●	●	●
2.1	2.1.2	ASFSD, ARSSCP	●	●	●
2.4	2.4.1 [2.4.1.ALT]	ASSA, ASFSD	●	●	●
2.5	2.5.2	ASSA, ASFSD	●	●	●
3.9	3.9.2	ASFSD, ASWS	●	●	●
6.1	6.1.1 [6.1.1.ALT]	ASWS, ASFSD	●	●	●
6.3	6.3.1, 6.3.2	ASWS, ASWS-AP, ARSSCP, ASFSD	●	●	●
6.4	6.4.2	ASWS, ASWS-AP, ASFSD, ARSSCP	●	●	●
6.6	6.6.1	ASWS-AP	●	●	●
6.a	6.a.1	ASWS, ASWS-AP, ASFSD	●	●	●
7.1	7.1.1	ASFSD, ARSSCP	●	●	●
7.2	7.2.1	ASFSD, ASDRE, ARSSCP	●	●	●
7.3	7.3.1 [7.3.1.ADD]	ASFSD, ARSSCP	●	●	●
8.4	8.4.1	ARSSCP	●	●	●
9.4	9.4.1	ASFSD	●	●	●
11.1	11.1.1 [11.1.1.ALT]	ASFSD, ASHSUD	●	●	●
11.3	11.3.1	ASFSD, ASHSUD	●	●	●
11.5	11.5.1	ASFSD, ASDRR	●	●	●
11.6	11.6.1, 11.6.2, [16.6.2.ALT]	ARSSCP, ASFSD, ASHSUD, ARSSCP	●	●	●
11.b	11.b.2	ASFSD, ASHSUD	●	●	●
12.2	12.2.1	ARSSCP	●	●	●
12.3	12.3.1	ASFSD, ARSSCP	●	●	●
12.4	12.4.1, 12.4.2	ASFSD	●	●	●
12.5	12.5.1	ARSSCP, ASFSD	●	●	●
12.c	12.c.1 [12.c.1.ALT]	-	●	●	●
13.1	13.1.1, 13.1.2	AFAPCC, ASDRR, ASFSD, ASHSUD, ASWS	●	●	●
13.2	13.2.1, [13.2.1.ADD-1, 13.2.1.ADD-2]	ASFSD, AFAPCC, ARSSCP, ASWS-AP	●	●	●
13.3	13.3.1	ARSSCP	●	●	●
14.2	14.2.1	ASFSD, ASWS-AP	●	●	●
14.4	14.4.1 [14.4.1.ALT]	ASFSD	●	●	●
14.5	14.5.1	ASFSD	●	●	●
15.1	15.1.1, 15.1.2	ASFSD	●	●	●
15.2	15.2.1	ASFSD	●	●	●
15.3	15.3.1	ASFSD	●	●	●
15.5	15.5.1	ASFSD	●	●	●
15.7	15.7.1	-	●	●	●
15.a	15.a.1 [15.a.1.ALT]	ASFSD	●	●	●
15.b	15.b.1 [15.a.1.ALT]	ASFSD	●	●	●
15.c	15.c.1	-	●	●	●
16.1	16.1.2 [16.1.2.ALT]	-	●	●	●
17.7	17.7.1	ASFSD, ASWS-AP	●	●	●
17.14	17.14.1, [17.14.1.ADD-1, 7.14.1.ADD-2]	ASFSD	●	●	●
17.18	17.18.3, [17.18.3.ADD]	ASFSD	●	●	●
TOTALS & PERCENTAGES			12 (27.9%)	2 (4.7%)	2 (4.7%)
			23 (53.5%)	25 (58.1%)	34 (79.1%)
			9 (20.9%)	16 (37.2%)	7 (16.3%)

3.3.2 National mapping and assessment of alignment

Similar to the process followed for the regional mapping, the broad set of 43 environmental SDG targets and 56 corresponding indicators were mapped against the main national development plans and strategies of selected Arab countries. A total of four countries were reviewed: Jordan, United Arab Emirates (UAE), Egypt and Somalia. These countries were selected to cover different Arab sub-regions and also due to the fact that they had recently undertaken a Voluntary National Review, or had recently adopted a national vision or development strategy that considered the SDGs or sustainable development, and which were available in English. Ideally, a similar mapping process could be undertaken for all Arab countries.

For environmental SDG targets to be implemented, it was considered critical that priority targets be included in the main national development vision or strategy. As such, the review focused primarily on mapping the SDG targets against the targets and indicators contained in the main national vision or development strategy documents. However, additional strategies were reviewed in some cases where they were cross-referenced or where they had a longer-term planning horizon that aligned with the SDGs. The review discovered a high level of consistency between the targets in the main national development visions and other sectoral strategies, so it is considered that the scope of the review was adequate to assess the degree to which SDG targets have been integrated into national development planning frameworks in the selected countries. The strategies reviewed for each of the four countries were:

Jordan	<ul style="list-style-type: none">• Jordan 2025: A National Vision and Strategy• Voluntary National Review 2017• National Plan for Green Growth (2017-25)• National Strategy and Action Plan for SCP• Intended Nationally Determined Contribution
UAE	<ul style="list-style-type: none">• UAE Vision 2021• Green Agenda and Green Economy Report• Intended Nationally Determined Contribution
Egypt	<ul style="list-style-type: none">• Egypt Vision 2030• Egypt VNR 2016
Somalia	<ul style="list-style-type: none">• National Development Plan 2017-19

The assessment used the same coloured symbols (good ●; partial ●; limited ●) to assess coverage for each target based on the same two factors listed above (i.e. coverage of the intent of the target; and coverage of the indicator and a clear target value). In addition, a simple scoring method was used to assess coverage of targets across multiple countries through cumulative scores. A brief summary of the outcomes of the assessment is in **Table 4** below, which provides a general indication of the coverage of each of the targets for each country individually and across all of the four countries reviewed. For each target, a score of 2 was given for a green dot (●), 1 for an orange dot (●) and 0 for a red dot (●). The scores in the final column are out of a maximum of 16 points, where higher scores represent better coverage of a target/indicator across all of the countries combined.

Overall Egypt had the greatest coverage across the environmental SDG targets and indicators, with around 60% of the targets having good or partial coverage in Egypt's national strategy. At least eight of the environmental SDG targets along with their specific indicators and target values were fully addressed in Egypt's Vision 2030, which related to targets on water, energy, cities, climate change and oceans. It is noted that Egypt's Vision 2030 was adopted very recently and uses 2015 baselines

for many of its indicators and targets. The timing of the strategy also enabled consideration of the SDGs, which may explain the increased coverage of environmental SDG targets.

Jordan also had relatively good coverage of environmental SDG targets and indicators, with around 42% having good or partial coverage. At least six environmental SDG targets along with their indicators were fully addressed in Jordan’s Vision 2025, which related to SDGs on water, energy, cities, SCP (waste), climate change, and terrestrial biodiversity. It is noted that Jordan’s Vision was formally adopted in 2014 while the negotiations on the SDGs were ongoing and as such they were not fully considered or integrated into their Vision.

The UAE had lesser coverage of environmental SDG targets and indicators, with around 30% having good or partial coverage. At least three environmental SDG targets along with their indicators were fully addressed in UAE’s Vision 2021, which related to SDGs on water, energy, and SCP (waste). However, it should be noted that UAE’s Vision document was adopted several years ago and therefore was developed before the discussions on the SDGs. In many cases, relevant indicators had been included in its more recent Green Growth Agenda as key performance indicators (KPIs) along with a recent 2015 assessment of baselines and trends. However, target values had not yet been set for the majority of these indicators.

Somalia did not have complete coverage of any of the environmental SDG targets and indicators in its National Development Plan 2019. However, there was partial coverage of around 35% of the environmental SDG targets. In many of these cases, a specific indicator or target value was lacking, which was an important gap in the strategy. It is noted that the strategy was adopted in 2016 and specifically addresses several of the SDGs in terms of the general intent of different targets. However, as it is a mid-term strategy with a 2019 timeframe, it was likely unfeasible to include long-term SDG targets and values.

It is also important to note that the gaps in coverage of environmental SDG targets at the national level can also be explained by a lack of relevance of a particular target to national circumstances. For example, Jordan indicated in their VNR that the goal and targets on oceans are not relevant for their country. Similarly, targets such as access to drinking water, sanitation and electricity are less relevant for the UAE given existing high levels of access. National circumstances therefore need to be taken into account when assessing and identifying gaps, and this should be done at the national level.

Table 4: Assessment of coverage of environmental SDG targets and indicators in four Arab countries

SDG Targets	SDG Indicators	Jordan	UAE	Egypt	Somalia	Score (out of 16)
1.5	1.5.1, 1.5.2, 1.5.3	●●	●●	●●	●●	4
2.1	2.1.2	●●	●●	●●	●●	8
2.4	2.4.1 [2.4.1.ALT]	●●	●●	●●	●●	4
2.5	2.5.2	●●	●●	●●	●●	0
3.9	3.9.2	●●	●●	●●	●●	5
6.1	6.1.1 [6.1.1.ALT]	●●	●●	●●	●●	10
6.3	6.3.1, 6.3.2	●●	●●	●●	●●	6
6.4	6.4.2	●●	●●	●●	●●	10
6.6	6.6.1	●●	●●	●●	●●	3
6.a	6.a.1	●●	●●	●●	●●	1
7.1	7.1.1	●●	●●	●●	●●	4
7.2	7.2.1	●●	●●	●●	●●	14
7.3	7.3.1 [7.3.1.ADD]	●●	●●	●●	●●	9
8.4	8.4.1	●●	●●	●●	●●	9
9.4	9.4.1	●●	●●	●●	●●	8
11.1	11.1.1 [11.1.1.ALT]	●●	●●	●●	●●	8
11.3	11.3.1	●●	●●	●●	●●	5
11.5	11.5.1	●●	●●	●●	●●	4
11.6	11.6.1, 11.6.2, [16.6.2.ALT]	●●	●●	●●	●●	11

11.b	11.b.2	●●	●●	●●	●●	2
12.2	12.2.1	●●	●●	●●	●●	8
12.3	12.3.1	●●	●●	●●	●●	2
12.4	12.4.1, 12.4.2	●●	●●	●●	●●	6
12.5	12.5.1	●●	●●	●●	●●	12
12.c	12.c.1 [12.c.1.ALT]	●●	●●	●●	●●	4
13.1	13.1.1, 13.1.2	●●	●●	●●	●●	3
13.2	13.2.1, [13.2.1.ADD-1, 13.2.1.ADD-2]	●●	●●	●●	●●	10
13.3	13.3.1	●●	●●	●●	●●	3
14.2	14.2.1	●●	●●	●●	●●	1
14.4	14.4.1 [14.4.1.ALT]	●●	●●	●●	●●	2
14.5	14.5.1	●●	●●	●●	●●	5
15.1	15.1.1, 15.1.2	●●	●●	●●	●●	9
15.2	15.2.1	●●	●●	●●	●●	0
15.3	15.3.1	●●	●●	●●	●●	0
15.5	15.5.1	●●	●●	●●	●●	0
15.7	15.7.1	●●	●●	●●	●●	0
15.a	15.a.1 [15.a.1.ALT]	●●	●●	●●	●●	1
15.b	15.b.1 [15.a.1.ALT]	●●	●●	●●	●●	1
15.c	15.c.1	●●	●●	●●	●●	0
16.1	16.1.2 [16.1.2.ALT]	●●	●●	●●	●●	5
17.7	17.7.1	●●	●●	●●	●●	1
17.14	17.14.1, [17.14.1.ADD-1, 7.14.1.ADD-2]	●●	●●	●●	●●	7
17.18	17.18.3, [17.18.3.ADD]	●●	●●	●●	●●	2
TOTALS & PERCENTAGES		20 (23.3%)	9 (10.4%)	27 (31.4%)	9 (10.4%)	
		16 (18.6%)	16 (18.6%)	24 (27.9%)	22 (25.6%)	
		59 (58.1%)	61 (70.1%)	35 (40.7%)	55 (64.0%)	

Across all four countries, targets with good or comparatively better (i.e. scores of 10 or more) are highlighted in green in final column in **Table 4**. These include target 6.1 (drinking water), target 6.4 (water consumption), target 7.2 (renewable energy), target 11.6 (environmental impact of cities), target 12.5 (waste and recycling), and target 13.2 (climate change mitigation). These targets could be considered areas of relatively good coverage in terms of integrating the environmental dimension of the SDGs at the national level in the Arab region. It is interesting to note good coverage of water and energy targets, as well as targets relating to climate change and waste. All of these targets were identified as priorities for the region through the initial stages of this assessment and align well with national priorities.

Targets with comparatively very poor coverage across all four countries (scores of 2 or less) are highlighted in red in the last column of **Table 4**, and include target 2.5 (agriculture genetic diversity), target 14.2 (marine and coastal ecosystems), target 14.4 (overfishing), targets 15.2, 15.3 and 15.5 (terrestrial and freshwater biodiversity and land degradation), targets 15.7 and 15.c (wildlife poaching and trafficking), target 17.7 (technology) and 17.18 (statistical capacity). These targets could be seen as gaps in terms of the integration of the environmental dimension of the SDGs at the national level in the Arab region, however would need to be reviewed further in terms of their relevance.

There were many instances where a national indicator and target value had been adopted as an alternative to the SDG indicators, yet remained relevant in terms of achieving a broader environmental SDG target. This highlights situations where a nationally-adapted indicator and target value may better support national implementation and monitoring. These national target values are considered important for the implementation framework, as they represent actual national target values adopted by Arab countries, and could therefore be used as a guide for proposing target values at the regional or national level in the Arab region.

3.4 Systems analysis of interlinkages

Implicit in the SDG design is that each of the goals and targets depend upon and influence one another, but at this point in time it remains unclear exactly how these interlinkages work. The integrated nature of the goals and targets means that progress on one goal or target is linked through feedback loops to other goals and targets. An integrated and systems approach to the SDGs is therefore recommended to ensure that these feedbacks are understood and managed. More analysis and evidence is needed regarding these interactions to demonstrate how particular policy interventions can help or hinder progress across a broader set of policy objectives. This gap has been identified by Arab countries as a priority area for support from the UN and technical partners.

Several new studies have emerged on the use of systems analysis tools to assess interlinkages and to identify 'high leverage' targets or indicators. These studies use a range of tools, including systems mapping and causal loop diagrams, cross impact analysis, network analysis, and system dynamics modelling and scenario analysis (Collste et al., 2017; Le Blanc, 2015; Nilsson et al., 2016a; Nilsson et al., 2016b; United Nations Economic and Social Commission for Asia and the Pacific, 2016). Such systems approaches can be applied at different stages in the planning process, from initial prioritisation using more qualitative and semi-quantitative scoring methods, through to more detailed investigations of policy scenarios, options and leverage points using dynamic models. For the purposes of this analysis, a semi-quantitative approach was adopted to assess interlinkages between the environmental SDG targets by applying a combination of cross-matrix analysis and network analysis.

3.3.1 Cross-matrix analysis of Interlinkages between environmental SDG targets

Based on the approach outlined by the International Council for Science (2017) and Nilsson et al. (2016a), the systems analysis initially used a semi-quantitative matrix analysis tool to explore the interactions between the environmental targets and indicators of the SDGs. The method uses a seven-point scale of SDG interactions to evaluate key target-level interactions based on expert judgement and as justified in the scientific literature. The methodology rates seven possible types of interactions, from the most positive (scoring +3) to the most negative (-3). The framework identifies causal and functional relations underlying progress or achievement of the SDGs and targets: positive interactions are assigned scores of +1 ('enabling'), +2 ('reinforcing') or +3 ('indivisible'), while interactions characterised by trade-offs are scored with -1 ('constraining'), -2 ('counteracting'), or -3 ('cancelling'); neutral interactions are assigned 0. In this context, positive scores depict synergies, while negative scores depict trade-offs.

To assign these values, the analysis drew upon several expert sources¹⁴. It was considered necessary to draw from a range of sources as there has not yet been a single, comprehensive mapping of interactions across all the goals and targets of the SDGs, and gaps still remain in such analyses. Scores from these different sources were compiled in a cross-impact matrix including all 43 priority environmental targets. Two separate matrices were used – one for positive or synergistic impacts, and another for negative impacts or trade-offs. A total of 199 interactions were identified between the different targets and included in the matrices. Of these, 176 were positive interactions and 23 were negative interactions.

¹⁴ Coopman, A., Osborn, D., Ullah, F., Auckland, E., Long, G., 2016. Seeing the Whole: Implementing the sdgs in an Integrated and Coherent Way, Research Pilot Report. Stakeholder Forum for a Sustainable Future, Cutter, A., Osborn, D., Romano, J., Ullah, F., 2015. Sustainable Development Goals and Integration: Achieving a better balance between the economic, social and environmental dimensions. Stakeholder Forum. German Council for Sustainable Development, International Council for Science, 2017. A Guide to SDG Interactions: From Science to Implementation, Le Blanc, D., 2015. Towards Integration at Last? The Sustainable Development Goals as a Network of Targets. Sustainable Development 23, 176-187.

A key objective of the analysis was to identify targets that could be considered as ‘high leverage’ targets, or those with a strong ‘systemic impact’ or ‘multiplier effect’. For the purposes of this assessment, such targets could be considered those with the largest positive influence across the other environmental targets. Because of these positive linkages to other goals and targets, it could be deduced that effective actions taken to achieve high leverage targets are also likely to result in progress towards other linked targets. Following the same logic, actions taken to achieve targets that have negative interactions with other targets will likely result in constraining or counteracting progress on these interlinked targets.

Table 5 below provides a summary of the cross-impact analysis of the systemic impact of each of the environmental targets. In the table, conditional formatting highlights cumulative positive scores in green and cumulative negative scores in red for each target. The strength of the colours reflects the comparative strength of the scores – i.e. the darker the green colour, the higher the score and the greater positive systemic impact of a target (i.e. synergy). Similarly, the darker the red, the stronger the negative systemic impact of the target (i.e. trade-off).

Table 5: Cross-impact assessment of systemic contribution of each environmental target

Targets	Synergies	Tradeoffs	Net Sum
1.5	8.5	0	8.5
▼2.1	0	-4	-4
2.4	19	0	19
2.5	2	0	2
3.9	4	0	4
▼6.1	4	-3	1
6.3	4	0	4
6.4	4	-1	3
6.6	2	0	2
6.a	8	0	8
7.1	5	0	5
7.2	24	-1	23
7.3	28	0	28
8.4	2	0	2
9.4	13	0	13
▼11.1	4	-3	1
▼11.3	2	-3	-1
11.5	6	0	6
11.6	8	0	8
11.b	5	0	5
12.2	19	0	19
12.3	5	0	5
12.4	7	0	7
12.5	5	0	5
12.c	1	0	1
▼13.1	11	-7.5	3.5
▼13.2	13	-7.5	5.5
13.3	2	0	2
▼14.2	14.5	-3	11.5
14.4	13	0	13
▼14.5	5.5	-4	1.5
15.1	8	0	8
15.2	6	0	6
15.3	4	0	4
15.5	7	0	7
15.7	4	0	4
15.a	7	0	7
15.b	7	0	7
15.c	2	0	2
16.1	0	0	0
17.7	7	0	7
17.14	2	0	2
17.18	0	0	0

Based on this analysis, the environmental targets that could be considered to have the highest leverage potential or greatest systemic contribution are listed in green text in the first column of

Table 5. These are (in descending order): 7.3 and 7.2 (energy), 2.4 (food), 12.2 (SCP), 14.2 (oceans), 9.4 (infrastructure), 13.2 (climate change), 14.4 (oceans), 13.1 (climate change), 1.5 (poverty), 6.a (water), 11.6 (cities), 15.1 (biodiversity), 12.4 (SCP), 15.5, 15.a and 15.b (biodiversity), and 17.7 (technology). In particular, the targets relating to energy efficiency (7.3) and renewable energy (7.2), sustainable agriculture (2.4), and sustainable management and efficient use of natural resources (12.2) were all assessed as having a very high positive systemic contribution to other targets. As such, these could be considered high priority environmental targets for action.

Similarly, those targets with the highest negative systemic contribution (or trade-offs) were targets 13.1 and 13.2 relating to climate change resilience and planning, 14.5 relating to marine protected areas, 2.1 relating to ending hunger, 6.1 relating to access to drinking water, 11.1 and 11.3 relating to urbanization and housing, and 14.2 relating to managing marine and coastal resources. These targets have the greatest potential for trade-offs with other environmental targets and therefore would need to be managed carefully.

3.3.2 Network analysis of Interlinkages between environmental SDG targets

In addition to the above cross-matrix analysis, a network analysis of the interactions between the environmental SDG targets was also undertaken to further analyse and explore these interlinkages in a visual way. Network mapping provides a tool for visualising and analysing interlinkages between elements in a dataset. Different network analysis metrics can be used to explore the network, and identify highly connected elements with a strong degree of influence within a given network. A range of different metrics are available, including 'closeness centrality', 'betweenness', 'degree', 'outdegree' etc. Each of these metrics are commonly applied in the expert literature and use a slightly different method to provide 'clues' in terms of which elements have greater influence within a network. For the purposes of this analysis, three analytical metrics were applied: closeness centrality¹⁵; outdegree¹⁶; and closeness centrality (weighted)¹⁷.

Figures 2 and 3 below show the outcomes from the network analysis. For **Figure 2**, the analysis applied both the closeness centrality metric (larger size of icon represents higher score) with the outdegree metric (darker green colour represents higher score). In both cases, higher scores would represent greater influence within the network. Based on this analysis, the highest five ranking targets in terms of the closeness centrality metric were: 7.3 (energy), 13.1 (climate change), 12.2 (SCP), 7.2 (energy), and 2.4 (agriculture). These were the same as the top five targets as assessed by the outdegree metric, however in a different order: 12.2 (SCP), 7.3 (energy), 13.1 (climate change), 7.2 (energy) and 2.4 (agriculture). When combining these metrics, the highest ten ranked targets in terms of both closeness centrality and outdegree were (in descending order, highest first): 7.3, 13.1, 12.2, 7.2, 2.4, 9.4, 14.2, 13.2, 1.5, 15.1.

The assessment in **Figure 2** is based solely on an analysis of the 'interconnectedness' of the different targets, with higher rankings given to those targets that have a greater number of connections and influence in the network. However, this analysis does not consider the strength of these interconnections. The second network analysis therefore used weights to include the strength of these interactions in the analysis which were drawn from the previous cross-matrix analysis. It is therefore likely to be a more accurate reflection of the degree of influence of different targets within the network. **Figure 3** provides a summary of the analysis, with larger icons and a redder colour representing higher scores. This analysis resulted in the same top five ranking targets, namely 12.2, 7.3, 7.2, 13.1, and 2.4. However, different targets scored within the top ten, including 3.9 (health)

¹⁵ Measures the distance between each target and all other targets.

¹⁶ Measures the number of outgoing connections for each target.

¹⁷ An adjusted version of the closeness centrality metric including connection 'weights', as determined through the cross-impact analysis.

and 14.4 (oceans). Further information on the outcomes of the analysis and how they were incorporated into the assessment is available in the Assessment Report.

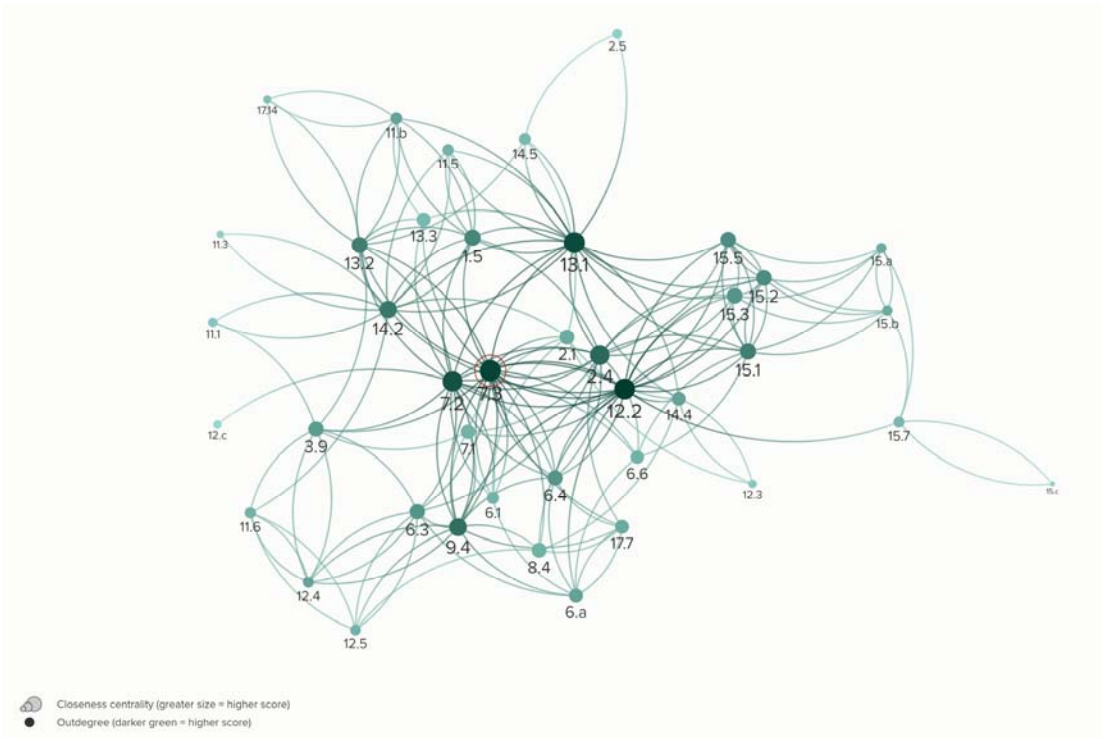


Figure 2: Network analysis of interlinked environmental targets (closeness centrality and outdegree)

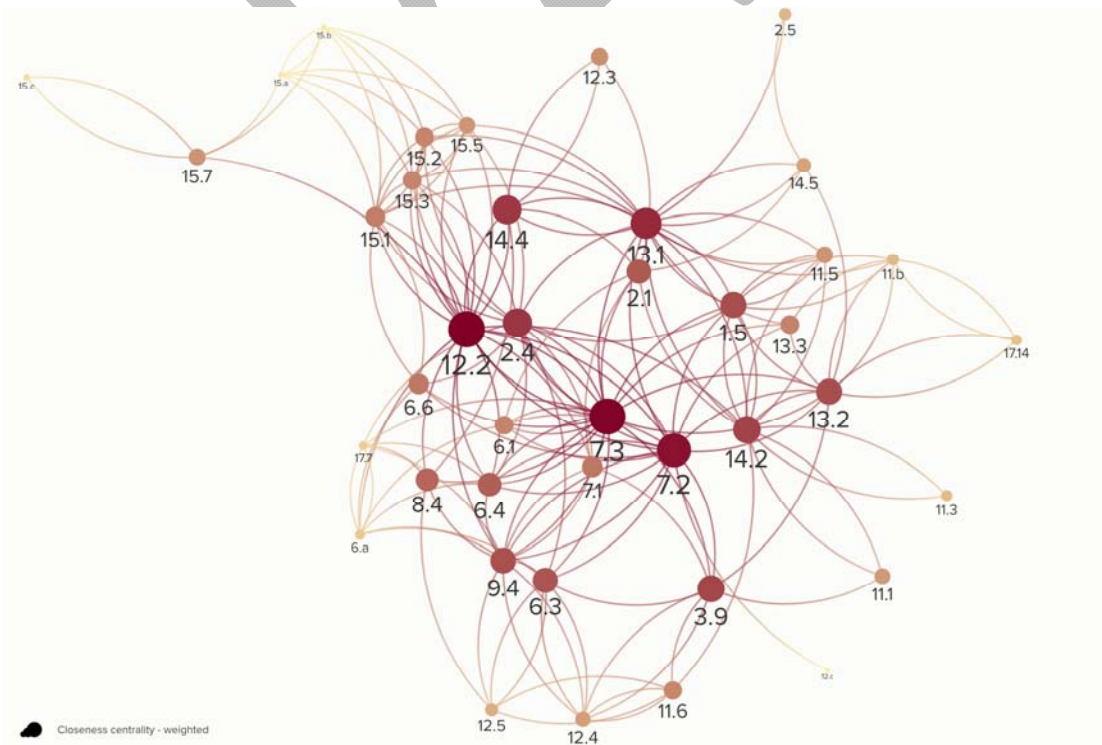


Figure 3: Network analysis of interlinked environmental targets (weighted closeness centrality)

3.5 Multi-criteria analysis of high priorities

The results of the above three analyses (baseline assessment, mapping of target coverage, and systems analysis) were then combined to identify a shortlist of higher priority environmental targets based on a set of three criteria (**Table 6**):

- **Level of urgency:** as assessed through the baseline assessment of progress and trends, identifying targets currently 'lagging behind'. In **Table 6** below, a green circle (●) denotes higher priority targets, an orange circle (●) denotes other priorities, and a black circle (●) denotes no data available for assessment.
- **Policy gap:** as assessed through the regional mapping of environmental strategies. In **Table 6** below, a green circle (●) denotes targets with no coverage in existing environmental strategies, and an orange circle (●) denotes partial coverage.
- **Systemic contribution and multiplier effect:** as assessed through the matrix analysis and network analysis metrics. In **Table 6**, a green circle (●) denotes targets that scored consistently high across the systems analysis metrics, and an orange circle (●) denotes other targets that also scored relatively high across at least two metrics.

Based on this final assessment, the top priority environmental targets were those that were assessed as high priorities across multiple criteria. In order to combine the scores from the different criteria, a score of 5 was allocated for green dots (●), while a value of 2.5 was allocated for orange dots (●). Where there was no data available (●), a score of 2.5 was theoretically added to ensure that these targets were not overly disadvantaged simply due to a lack of data. Targets with total scores of 10 or above were short-listed as higher priority environmental SDG targets for the region.

A total of 14 targets fall into this category, as highlighted in green in the first column of **Table 6**. This shortlist of 14 environmental targets represent a set of higher priority targets for integration in the Arab region. Given their high potential for level of impact, filling policy gaps, and leveraging systemic contributions, they could be prioritised for inclusion in the Implementation Framework for the environmental dimension of the SDGs in the Arab region. The Assessment Report also included a more detailed country-level baseline assessment and benchmarking of these 14 targets for all 22 Arab countries. This additional analysis was used to support development of the Implementation Framework, in particular the formulation of potential target values.

Table 6: Final multicriteria assessment of priority environmental SDG targets

<i>SDG Targets</i>	<i>Level of urgency</i>	<i>Policy Gap</i>	<i>Systemic Contribution</i>	<i>Overall Assessment Scores</i>
1.5	●	●	●	10
2.1	●	●		5
2.4	●	●	●	7.5 + ND (10)
2.5	●	●		5
3.9		●	●	5
6.1	●	●		7.5
6.3	●	●	●	5
6.4	●	●	●	10
6.6	●	●		5
6.a	●	●	●	7.5
7.1		●		2.5
7.2	●		●	10
7.3	●	●	●	12.5
8.4	●	●		7.5
9.4	●	●	●	12.5
11.1	●			2.5
11.3	●	●		2.5
11.5		●		2.5
11.6	●	●		7.5

11.b	●	●		5
12.2	●	●	●	12.5
12.3	●	●		7.5
12.4	●	●		2.5
12.5	●	●		2.5
12.c	●	●		7.5
13.1	●	●	●	10
13.2	●	●	●	12.5
13.3	●	●		2.5
14.2	●	●	●	7.5 + ND (10)
14.4	●	●	●	5
14.5		●		2.5
15.1	●	●	●	10
15.2	●	●	●	5
15.3	●	●	●	5
15.5	●	●	●	10
15.7	●	●		5
15.a	●	●		5
15.b	●	●		5
15.c	●	●		5
16.1	●	●	●	10 (12.5)
17.7	●	●		2.5
17.14	●	●		10
17.18	●	●	●	5

4. Conclusions and recommendations

The analysis undertaken in the Assessment Report and briefly summarised here provides a scientifically-sound evidence base to support implementation and integration of the environmental dimension of the SDGs in the Arab region. This includes the identification of a broad set of 43 environmental SDG targets and 56 corresponding indicators for the Arab region, a shortlist of 14 'higher priority' environmental targets and indicators, a categorisation of the different types of targets (including global/regional versus national), identification of potential target values at the regional and/or national levels, and recommendations on an approach for integrating or mainstreaming relevant targets in the Arab region. It was not possible to include all of this analysis and information in this brief summary report, and further details can be found in the more detailed Assessment Report as well as the accompanying draft Implementation Framework.

As outlined in the Assessment Report, the SDG targets are focused at different scales of implementation – i.e. at the global level, the national level, or both. For the global SDG targets, it may make more sense to set target values at a regional scale, and as such these targets could be considered further for inclusion in relevant regional strategies¹⁸. The Assessment Report also identified indicative or guideline target values drawn from a range of sources (e.g. SDG targets, international agreements, global benchmarks etc.) that could be used to help guide regional target setting processes. These are further developed in the Implementation Framework

For national-scale targets, it would make more sense for these to be specified at the national level in line with national priorities and circumstances. The Assessment Report also identified indicative or guideline target values that could be used to help guide national target setting. These are developed further in the Implementation Framework, including a range of values to represent different levels of ambition (e.g. high, medium or low). In terms of priorities, the Assessment Report also highlighted several targets for which performance was lagging behind for the majority of Arab countries,

¹⁸ Targets that refer specifically to a global achievement include 6.3, 7.2, 7.3, 8.4, 11.5, 11.b, 12.3, 15.2 and 15.3. In addition, several indicators are formulated in a way that implies global-scale target setting and monitoring: 1.5.3, 11.b.2, 12.4.1, 13.1.1, 13.2.1, 13.3.1, 14.4.1, 17.14.1, and 17.18.3.

including 6.4.2 (water consumption), 16.1 (peace and stability), 7.2 (renewable energy), 1.5.3 (disaster risk reduction), 9.4.1 (sustainable infrastructure and industry), and 17.14 (policy coherence and coordination).

Given the only recent adoption of the SDGs, it is perhaps not surprising from the analysis that most SDG targets and indicators are not yet specifically addressed in regional and national strategies and plans. There is an opportunity now for the region to update its strategies and align them with the global SDG targets and indicators, where relevant. The gap analyses undertaken in the Assessment Report provides a useful tool in terms of identifying existing gaps in the coverage of SDG environmental targets. This is important because without clear target values for environmental indicators, it is difficult to determine the level of ambition and adequately benchmark progress and performance over time.

Based on the assessment and in line with the ToRs and agreed methodology, the Assessment Report proposed that the Implementation Framework comprise the following key components:

- A broad set of priority environmental SDG targets and indicators for the Arab region, including a shortlist of 'higher priority' targets.
- Baseline values for environmental SDG targets/indicators for the most recent year available.
- Potential guideline target values for each priority environmental target and indicator (where possible), for further consideration by the region.
- Recommendations regarding the integration or mainstreaming of these targets, indicators and target values at the regional and/or national level in the Arab region.
- Additional recommendations for follow-up actions to support implementation of the environmental SDGs in the Arab region.

To succinctly and adequately address and represent these main components, it was also recommended that the implementation framework be largely based on a tabular format along with a brief introduction and background section and other recommendations.

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