



ALLIANCE OF SMALL ISLAND STATES

SUBMISSION

AOSIS submission on the UAE-Belem Work Programme to develop indicators for the UAE Framework for Global Climate Resilience

Mandate(s)

Decision 2/CMA.5:

39. Decides to launch a two-year work programme on indicators for measuring progress achieved towards the targets referred to in paragraphs 9–10 above with a view to identifying and, as needed, developing indicators and potential quantified elements for those targets;

40. Also decides that the work programme referred to in paragraph 39 above will be carried out jointly by the Subsidiary Body for Scientific and Technological Advice and the Subsidiary Body for Implementation, starting after the fifth session of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement;

41. Invites Parties and observers to submit via the submission portal by March 2024:

(a) Views on the matters referred to in paragraph 39 above;

(b) Modalities of the work programme outlined in paragraph 39 above, including organization of work, timelines, inputs, outputs and the involvement of stakeholders;

Modalities of the UAE-Belem work programme: process and organisation

Minimum expected outcomes of May 2024 technical workshop and SB60

A technical workshop of the UAE-Belem work programme on the UAE Framework for Global Climate Resilience has been scheduled for 15-17 May 2024 in Bhutan, and with hybrid virtual participation. AOSIS considers it important for the Bhutan workshop to discuss options for the work programme that can subsequently be negotiated and agreed by Parties at SB60 in Bonn. The options to be devised at the Bhutan workshop should cover, at minimum, the following modality areas for the work programme:

- How to involve appropriate experts in the process of developing indicators, especially with respect to the seven thematic targets described in paragraph 9 of decision 2/CMA.5 (such as, e.g. public health, water management, food security, ecosystem conservation and restoration, cultural heritage, etc) including: whether and if so, how, an expert group should be constituted.
- What the interface between the experts/expert group and the UAE-Belem Work Programme should be, over the timeframe of CMA meetings between June 2024 and November 2025 and, potentially, beyond.
- How many workshops/meetings/sessions will make up the work programme.

- What can be achieved by SB60 and COP 29, and which milestones should be achieved by then.
- What can be achieved COP30 and whether/which elements of implementing the indicator work will fall afterwards.

The Parties, at SB60 in Bonn, should at minimum:

- Negotiate and decide a menu of SMART measures (Specific, Measurable, Assignable, Realistic, and Time-bound) on the above areas, which can be actioned immediately following the Bonn meeting.
- Specifically, they should reach agreement on the terms of Reference, timeframe and deliverables of the Ad Hoc Expert Working Group(s) and on the selection and appointment criteria for the members of the Working Group. We elaborate this proposal by AOSIS further in the phased approach to the work programme, below.

Proposed phases of the UAE-Belem work programme with associated milestones

I. The first phase of the work programme should be to map and understand:

- i) which indicators and reporting from the UNFCCC and other multilateral agreements are relevant to the UAE framework,
- ii) which other indicators are demonstrated as relevant and useful in practice (i.e., technically proven, but not in a multilateral agreement), and/or
- iii) which indicators that already exist in categories (i) and (ii) which have the potential to be modified to be more climate specific. These could be based on datasets that exist and indicators that are 'mostly' aligned with the UAE framework, but the climate hazard or risk element has not yet been disaggregated, for example. The Annex to this submission has examples.

Mapping what exists and where gaps lie is important because:

- Some already-agreed indicators or 'indicator areas' are relevant to the framework.
- It would save time and propel the UAE-Belem process forward to a substantive outcome where we agree which existing or easily-modifiable indicators are relevant.

As part of the process of mapping relevant indicators, this first phase should also comprise a compilation of 'Indicator areas' for each of the high-level targets agreed in the UAE decision. 'Indicator areas' are more specific than the language of the high-level targets: they are a way of unpacking and understanding the component, measurable parts of each UAE Framework target. That said, 'indicator areas' are still quite general topic areas, under which existing or new indicators can be grouped.

For example, the UAE framework contains a high-level target on food and agriculture that is wide ranging, but contains several component concepts or 'indicator areas', such as: climate-resilient measures of agricultural production; regenerative methods; distribution of food; access to food; nutritional value of food. It would be beneficial to break each of the high-level targets into key components, such as these (illustrative) ones, as the basis for guiding the later determination of specific indicators.

At the SB60 meetings, the Parties should provide the mandate for the Secretariat to undertake this mapping immediately.

The milestone at the beginning of the first phase should be a mandate from the Parties to the Secretariat to compile a mapping of existing indicators, upon which the UAE Framework may draw; as well as a mapping of the 'indicator areas' (component parts) contained within

each of the UAE Framework targets, which will help advance understanding of where indicators exist and where there are gaps for the things that the Framework is meant to measure.

The milestone at the end of the first phase should be production of:

- A mapping document that compiles existing indicators for the UAE Framework to draw upon.
- A suggested breakdown of the UAE Framework targets into component concepts or 'indicator areas' under which existing indicators could be grouped, where appropriate, or flagged for the development of new indicators in the following phases of the work programme.

II. **The second phase of the work programme** should be the establishment of Parties', international agencies' and non-governmental organizations' 'data readiness' to gather and compile data and report (voluntarily and where appropriate) against existing and potential indicators/indicator areas. The idea for a data readiness assessment builds on lessons learned from the UNDRR-led process for developing the Sendai Framework's monitoring system: "UNISDR conducted the Sendai Framework Data Readiness Review to which 87 Member States responded between February and April in 2017." [footnote: [Metadata-11-0b-02.pdf \(un.org\)](#)]

Establishing data readiness is important because this can help inform both the expert-led indicator development process of the UAE Framework, and subsequent political negotiation of the final indicator package.

The milestone at the beginning of the second phase should be the SBs' invitation to Parties, international agencies and non-governmental organizations to respond to a request (e.g., in the form of a survey) for information on data readiness against indicators and indicators areas - perhaps inspired and informed by the UNDRR-Sendai Framework process.

The milestone at the end of the second phase should be production of an analysis, to accompany the indicator mapping, which elaborates:

- the current status of data availability and voluntary reporting, where appropriate, against the indicators and indicator areas identified.
- a qualitative synthesis of known barriers to data availability and reporting.
- identification of capacity building needs to fill data gaps, highlighting the express needs of groups of countries, regions and sectors, to assist in targeting capacity development and ensure that they are not left behind.

Note: the 'data readiness' assessment will require some time to undertake well and may run concurrently with other phases described here. For example, it may continue while the experts begin their work (third phase); but it should be completed before the experts present their recommendations to the Subsidiary Bodies, so that it may inform negotiations.

III. **The third phase** should involve development of the terms of reference, timeframe and deliverables for an Ad Hoc Expert Working Group [or more than one Group, according to the targets in paragraph 9 of decision 2/CMA.5] to undertake the technical development of the indicators.

AOSIS considers it important that:

- It is necessary for all Parties to be involved in the development of indicators under the UAE-Belem Work Programme. A series of regular mandated workshops involving all Parties, with clear objectives and deliverables for each workshop, should be established.
- To augment this process, experts with deep subject knowledge should be appointed to the open-ended Ad Hoc Expert Working Group(s) to undertake the technical work in developing indicators corresponding with the seven thematic targets in paragraph 9 of decision 2/CMA.5 and the four dimensional targets in paragraph 10 of decision 2/CMA.5.
- These Ad Hoc Expert Working Group(s) will hold regular meetings prior to and back-to-back with the mandated workshops involving all Parties. This would allow all Parties to expediently deliberate on the recommendations and proposals arising from each Ad Hoc Expert Working Group(s) meeting.
- The SB Chairs should be mandated to prepare reports summarising Parties' discussions on the Working Group(s) proposals and the way forward, (as well as all other relevant discussions carried out during the UAE-Belem work programme).
- There must be adequate, fully funded representation of SIDS experts to participate in the UAE-Belem Work Programme, including the Ad Hoc Expert Working Group(s), so that they are able to effectively contribute to the important work of developing indicators for each of these target areas. The special circumstances of SIDS require this SIDS expertise and that a SIDS lens is applied to each target area.

The modalities for the Ad Hoc Expert Working Group(s) will require political agreement - we suggest that this decision should be made by the Parties at SB60 in June 2024.

The milestone for the third phase, at SB60, should be:

- Agreement by Parties of the terms of reference, timeframe and deliverables of the Ad Hoc Expert Working Group(s).

IV. The fourth phase comprises the nomination of the experts to the Ad Hoc Expert Working Group(s). This should be achieved by September 2024 so that indicator development can be undertaken in a timely manner.

The milestone for the fourth phase, suggested for completion in September 2024, would be the constitution of the full membership of the Working Group(s).

V. The fifth phase comprises the implementation of the work of the Ad hoc Expert Working Group(s). It is AOSIS' expectation that the Working Group(s) would gather for formal meetings, held back-to-back with the mandated workshops involving all Parties under the UAE-Belem Work Programme, as well as engage in ongoing interim work between the meetings to develop the draft indicators.

The milestone of the fifth phase comprises reporting of the Working Group(s) on its / their draft indicator package to the Parties at the UAE-Belem Work Programme. At this stage, the 'data readiness' phase (third phase) should be complete and should be presented to Parties alongside the Working Group's draft indicator package. The Working Group(s) should also recommend for each proposed indicator: i. the potential sources of data; and ii. who should undertake the global aggregation and analysis of indicator data (both quantitatively and qualitatively). I.e. It should be proposed at this stage which indicators can be reported by Parties (voluntarily and where appropriate) or authoritative national and international bodies or both; and who will later lead on synthesising and reporting such data and how frequently.

VI. The sixth phase, proposed for SB62 in mid-2025, is the discussion by Parties on the Working Group(s) proposals.

The milestone of the sixth phase is the recommendation by the UAE-Belem Work Programme on indicator package for presentation to SB63 / CMA7. These instructions should be summarised in a paper by the SB Chairs.

This should be followed by the negotiation and adoption by Parties of the indicator package.

The milestone of the sixth phase is of two parts, in sequence:

- The recommended indicators package agreed by the experts of the UAE-Belem Work Programme.
- The final negotiated package of voluntary indicators is agreed and adopted by the Parties to the Paris Agreement at COP30 in Belem, with the understanding that the indicators shall give Parties the option of selecting what fits their national circumstances, while also designating certain areas of reporting to technical national and international bodies as relevant.

VIII. The seventh phase is the finalisation of the technical methodological guidelines, which shall define:

- Minimum standards for data consistency in gathering and compiling data to populate certain indicators (noting that these standards may be adopted from other existing multilateral agreements rather than constituting 'new' requirements and that reporting is in all cases voluntary).
- Further recommendations and guidance for Parties, non-party stakeholders and international bodies to elaborate the quantitative and qualitative reporting against indicators, to enrich the understanding of achieving the GGA in ways that support countries' adaptation efforts, including national monitoring, evaluation and learning efforts, as well as collective contributions to the second and subsequent Global Stocktakes.

The milestone of the seventh phase is the publication of the methodological guidelines on the UNFCCC's website to assist Parties, international agencies and non-state actors, and for the voluntary use of such guidelines in the collection, analysis of information and reporting to the UNFCCC.

The eighth phase (which is not sequential and can happen in parallel with earlier phases) is capacity development for Parties to assist them in monitoring their adaptation efforts and reporting on these efforts, including in their BTRs, adaptation communications, national communications, etc., using the newly-agreed package of indicators, where applicable and appropriate. Capacity building endeavours regarding reporting and statistical methodologies need to be enhanced in developing countries, particularly for SIDS and LDCs.

The milestone of the eighth phase is the delivery of training to Parties, in conjunction with other and existing training programmes associated with the UNFCCC reporting processes, including those organised at the regional level.

As mentioned above, AOSIS envisions that a number of these proposed phases of the UAE-Belem work programme can be implemented concurrently and believes that implementation

of the work programme must be done in the context of the broader ongoing work under the UAE GGA framework.

Principles of the UAE-Belem work programme

AOSIS proposes that several important principles should apply in the mapping of indicator areas and indicators, the highlighting of gaps, and the ensuing development of indicators:

SIDS have special circumstances: This means, in the context of this work programme, recognizing the significant capacity constraints of SIDS.

Although reporting on indicators at the national level should be voluntary, AOSIS nonetheless aspires for its members and other Parties to work in a meaningful, iterative way towards gathering robust data and reporting on the agreed indicators, so as to measure outcomes of adaptation efforts over time, and to drive action and support.

Indicators should not only be quantitative; qualitative reporting shall reveal important dimensions of adaptation progress: for instance, indicating certain trends. The UAE GGA framework should accommodate not only the generation of ‘statistics’ but also common questions for qualitative reporting (like example given directly above) that can be meaningfully synthesised at global level.

Gender, age, indigeneity (Indigenous People’s status) and disability disaggregation will be fundamental to deriving meaningful tracking of adaptation progress in accordance with Article 7.5 of the Paris Agreement.

Avoid reporting burdens: AOSIS believes that some of the appropriate and relevant indicators to be examined under the work programme likely will be drawn from authoritative international bodies (example: IUCN, UNEP). An important principle running through the mapping of existing indicator areas, indicators, gaps and potentials is that the respective roles of populating and reporting against the indicators shall also be open to discussion and agreement. In light of the special circumstances of SIDS and, in particular, their capacity constraints

Alignment of terminology with other multilateral processes. It will be important to consider how to align terminology across multilateral agreements to ensure that indicators introduced into the UNFCCC process from other processes remain relevant and that, to the extent possible, comparisons can be made across these processes going forward. For example: how might we align the UAE framework’s ecosystem target with the Convention on Biological Diversity concept of ‘ecosystem integrity’.

Alignment of timeframes with other UNFCCC processes.

The outcomes of the work programme on indicators should be available in a timely manner in order to feed into other relevant processes under the UNFCCC, especially the second and subsequent GSTs.

ANNEX: Mapping of targets and indicators that already exist in UNFCCC and other multilateral frameworks and instruments, and in technical application and practice.

This annex comprises:

- A. Acronym guide.
- B. How the UNFCCC and other multilateral agreements have developed relevant targets, indicators, monitoring processes and reporting frameworks, which are relevant to the UAE Framework for Global Climate Resilience.
- C. Mapping of existing indicators, by indicator area, under the component targets of the UAE Framework for Global Climate Resilience. This mapping is **purely provided for information** and does not imply that AOSIS necessarily endorses the inclusion of these indicators in the subsequent indicator package. In the main submission above, AOSIS has laid out the process that will be necessary for the full indicator package to be developed and agreed.

A. Guide to acronyms and multilateral agreements referenced in this annex

AGR	Adaptation Gap Report , an annual product of United Nations Environment
CBD	Convention on Biological Diversity
CMS	Convention on Migratory Species
GBF	Kunming-Montreal Global Biodiversity Framework (of the Convention on Biological Diversity)
IPCC AR6 WG2	Intergovernmental Panel on Climate Change, Sixth Assessment Report, Working Group 2 on Impacts, Adaptation and Vulnerability to Climate Change
MEA/MA	Multilateral Environmental Agreement/Multilateral Agreement
NUA	New Urban Agenda
PA	The Paris Agreement

B. How the UNFCCC and other multilateral agreements have developed relevant indicators, monitoring processes and reporting frameworks, which are relevant to the UAE Framework for Global Climate Resilience:

Paris Agreement

Parties to the Paris Agreement will report on the impact, vulnerability and risk assessments of climate hazards and climate change in their territories, and progress in the adaptation components of their Nationally Determined Contributions under the [Enhanced Transparency Framework of the UNFCCC](#). This reporting will take the form of **Biennial Transparency Reports** that is submitted to the UNFCCC; reporting is voluntary for SIDS and LDCs.

- **The modalities, procedures and guidelines for the Enhanced Transparency Framework are contained in [decision 18/CMA.1](#)**
- **The guidance for operationalising the modalities, procedures and guidelines is contained in [decision 5/CMA.3](#)**

The deadline for submission of the first BTRs is 31 December 2024. The BTRs will be published transparently on the UNFCCC website, by Party and year of submission.

In addition to the reporting on climate impact, vulnerability and risk assessment, and adaptation progress, contained in the Parties' BTRs, there are several other forms of relevant Party communication invited by the UNFCCC and published transparently:

The **Nationally Determined Contributions (NDCs)**, which are not mandated to include situation analyses and plans for adaptation and resilience-building; however, the vast majority of developing countries choose to incorporate these impact, vulnerability and adaptation and resilience aspects.

National Communications (NCs), which must be submitted every four years as a means of reporting regularly and comprehensively on all aspects of their climate efforts, enhancing transparency, consistency and comparability of information, and enabling review and assessment of their efforts under the Paris Agreement.

The **Adaptation Communications (adcoms)**, the purpose of which is to increase visibility and profile of adaptation, its balance with mitigation, and to enhance action, support, learning and understanding. In the context of the global stocktake, adcoms are intended to provide information on the state of adaptation, experience, and priorities; and contribute to review of progress and enhanced implementation. Their guiding principles are that they should be country-driven, flexible, and voluntary. Adcoms may be submitted as a component of another vehicle document (NDC, BTR, NC), in conjunction with another of these documents, or as a standalone document. (As explained in the guidance on adcoms, [FCCC/SB/2022/5/Add.1.](#))

Furthermore, the **National Adaptation Plans (NAP)** are published transparently on the NAP Central database as a source of information on countries' adaptation ambitions and progress.

These are not reporting instruments but rather, national plans of action to focus domestic efforts and for use in mobilising means of implementation, where necessary.

Decision [FCCC/SB/2022/5/Add.1](#) contains the following timeline (Figure 3), showing how the reporting requirements of the different documents are interspersed; the Adaptation Communications are encouraged to be submitted in time for the Global Stocktakes:

Guidelines and submission timelines for the main vehicle documents for adaptation are summarised as follows:

[This is reproduced from Table 3, [FCCC/SB/2022/5/Add.1](#)]

Vehicle	Guidelines	Submission timeline
National Adaptation Plan - NAP	NAP Decision 5/CP.17	Not fixed
Nationally Determined Contribution - NDC	NDC Decision 4/CMA.1, paragraphs 8, 10 and 16, and annex 1, paragraphs 3(d) and 4(d)	Every five years (2015, 2020, 2025, etc.)
National Communication - NC	Decision 9/CMA.1 NC Decision 6/CP.25, annex, paras. 46–47 (for developed country Parties)	Every four years (2014, 2018, 2022, etc.)
	Decision 17/CP.8, annex, paras. 3, 4, 26 and 28–36 (for developing country Parties)	NC1 within three years of becoming a Party to the Convention and subsequent NCs every four years thereafter
Biennial Transparency Report - BTR	BRT Decision 18/CMA.1, annex, paragraphs 10(c), 13, 14 and 104–117	Every two years (2024, 2026, 2028, etc)

The first global stocktake of progress against the goals of the Paris Agreement was published in two parts in 2023:

- The [technical synthesis report of the first global stocktake](#). This was based on submissions received from 24 Parties on behalf of Party groups or individual Parties, representing 180 Parties and from 44 non-Party stakeholders.

· The [political statement on the first global stocktake](#). This was a negotiated text by the Parties to the Paris Agreement at UNFCCC COP28 in the United Arab Emirates, November 2023.

The technical phase of the second [global stocktake](#) will begin in 2026 and conclude in 2028. The political statement of the second global stocktake will conclude in late 2028.

Sendai Framework

There are [seven targets of the Sendai Framework for Disaster Risk Reduction](#), each one with 2 to 8 indicators. Of these, a sub-set of targets and indicators are directly relevant to the UAE Framework, and/or, the data compiled to track them could be queried and disaggregated to directly monitor and evaluate climate resilience and adaptation progress.

The [Mid-Term Review of the Sendai framework](#) was published by UNDRR in 2023, and it lays out clearly the mixed-methods approach to review taken by the UNDRR Secretariat based upon Parties' reporting and other authoritative data sources ([pp 13-14 of the Mid-Term Review](#)). These included 49 Parties' Voluntary National Reviews, contributions from 28 United Nations entities, plus consultations with experts and major groups across world regions.

Sustainable Development Goals

There are 17 Sustainable Development Goals, with 169 corresponding targets, and each target has 1-4 indicators, totalling [231 unique indicators](#). The comprehensive landing page describing the process of updating of the SDG indicators [is published here](#); linked to the [comprehensive indicators list here](#). Of this comprehensive list of SDG indicators, a small sub-set of targets and indicators are directly relevant to the UAE Framework, and/or, the data compiled to track them could be queried and disaggregated to directly monitor and evaluate climate resilience and adaptation progress.

It should be noted that there is some commonality of targets and indicators between the Sendai Framework and the SDGs, and this intersection has direct relevance to the UAE Framework. The SDGs which duplicate targets and indicators from the Sendai Framework and are relevant to the UAE Framework are as follows, these are discussed at greater length further below: SDG 1 (end poverty), Target 1.5; SDG 11 (resilient cities) Target 11.5 and Target 11.b; SDG 13 (climate action) Target 13.1.

As presented in the [Global Indicator Framework of the Sustainable Development Goals](#):

“The global indicator framework for Sustainable Development Goals was developed by the Inter-Agency and Expert Group on SDG Indicators (IAEG-SDGs) and agreed upon at the 48th session of the United Nations Statistical Commission held in March 2017.

The global indicator framework was later adopted by the General Assembly on 6 July 2017 and is contained in the Resolution adopted by the General Assembly on Work of the Statistical Commission pertaining to the 2030 Agenda for Sustainable Development ([A/RES/71/313](#)), Annex. According to the Resolution, the indicator framework will be refined annually and reviewed comprehensively by the Statistical Commission at its fifty-first session in March 2020 and its fifty-sixth session, to be held in 2025. The global indicator framework will be complemented by indicators at the regional and national levels, which will be developed by Member States.

Annual refinements of indicators are included in the indicator framework as they occur. In line with the mandate of the group, the IAEG-SDGs proposed 36 major changes to the framework

in the form of replacements, revisions, additions and deletions as part of the 2020 Comprehensive Review, which were approved by the 51st Statistical Commission in March 2020.”

Progress against the SDGs by country and country grouping is presented via: the [UN SDGs data portal, which also provides background on indicator reporting methodologies.](#)

Kunming-Montreal Global Biodiversity Framework

The Kunming-Montreal Global Biodiversity Framework (GBF) has [four global goals for 2050](#). It further contains [23 targets for 2030](#).

Of these, a sub-set of 2050 outcome goals and 2030 targets and indicators are directly relevant to the UAE Framework, and/or, the data compiled to track them could be queried and disaggregated to directly monitor and evaluate climate resilience and adaptation progress.

An Ad Hoc Technical Expert Group has been appointed to undertake the detailed two-year work programme of indicator development and methodological guidance for the GBF.

The GBF indicator development work programme lasts two years, from [CBD COP15](#) (Montreal, Canada; 2022) until [CBD COP16](#) (Cali, Colombia; 2024). Experts have worked mostly virtually, with occasional in-person meetings (with the sixth expert meeting taking place in [March 2024](#)). Thus, indicator development is still ongoing at the time of writing.

The GBF indicators comprise several categories, as agreed in [decision 15/5 \(Annex I\)](#):

- (a) “Headline indicators...: a minimum set of high-level indicators, which capture the overall scope of the goals and targets of the Kunming-Montreal Global Biodiversity Framework to be used for planning and tracking progress as set out in [decision 15/6](#). They are nationally, regionally and globally relevant indicators validated by Parties. These indicators can also be used for communication purposes;
- (b) Global level indicators collated from binary yes/no responses in national reports. They are global indicators based on responses to yes/no questions to be included in the national reporting template. They will provide a count of the number of countries having undertaken specified activities;
- (c) Component indicators...: a list of optional indicators that, together with the headline indicators, cover components of the goals and targets of the Kunming-Montreal Global Biodiversity Framework which may apply at the global, regional, national and subnational levels;
- (d) Complementary indicators...: a list of optional indicators for thematic or in-depth analysis of each goal and target which may be applicable at global, regional, national, and subnational levels;
- (e) The monitoring framework may be supplemented by additional national and subnational indicators.”

C. Mapping of existing indicators, by indicator area, under the component targets of the UAE Framework for Global Climate Resilience

Target 9 chapeau

9. Urges Parties and invites non-Party stakeholders to pursue the objectives outlined in paragraph 8 above and to increase ambition and enhance adaptation action and support, in order to accelerate swift action at scale and at all levels, from local to global, in alignment with other global frameworks, towards the achievement of, inter alia, the following targets by 2030, and progressively beyond:

Target 9a, water

(a) Significantly reducing climate-induced water scarcity and enhancing climate resilience to water-related hazards towards a climate-resilient water supply, climate-resilient sanitation and towards access to safe and affordable potable water for all;

Existing multilateral agreement targets and indicators that are highly adaptation-relevant

Indicator area: Water efficiency (as an adaptation response to climate-induced water scarcity)

SDGs

SDG 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.

New Urban Agenda (NUA)

NUA target 73: We commit ourselves to promoting the conservation and sustainable use of water by rehabilitating water resources within the urban, peri-urban and rural areas, reducing and treating wastewater, minimizing water losses, promoting water reuse and increasing water storage, retention and recharge, taking into consideration the water cycle.

Existing technical assessment methods, targets and indicators that are highly adaptation-relevant

Indicator area: Water efficiency (as an adaptation response to climate-induced water scarcity)

IPCC AR6: Water efficiency is discussed in IPCC AR6 WG2 Chapter 18 in the context of strong evidence that water efficiency measures support systems transitions to more sustainable development.

Indicator area: Integrated Water Resources Management (as an adaptation response to climate-induced shocks and variability in rainfall)

UNEP: Water is discussed extensively in the Adaptation Gap Report and a key message is: "The sectors prioritized across countries' most recent Nationally Determined Contributions

closely match the primary sectors being addressed by projects supported with bilateral and multilateral adaptation funding, with agriculture, water, ecosystems and infrastructure featuring in the top five sectors in each list.”

IPCC AR6: Integrated water management can be a good adaptation strategy and can be well aligned with SDGs if the trade-offs among water-energy-food sectors are well governed/managed (Box 18.4, IPCC AR6 WG2, Chapter 18).

Existing multilateral agreement and technical targets and indicators with the potential to be modified to track climate risk and adaptation progress

Indicator area: Integrated Water Resources Management (as an adaptation response to climate-induced shocks and variability in rainfall)

Global Biodiversity Framework

GBF Target 2: Ensure that by 2030 at least 30 per cent of areas of degraded inland water are under effective restoration, in order to enhance biodiversity and ecosystem functions and services, ecological integrity and connectivity.

SDGs

SDG 6: Ensure availability and sustainable management of water and sanitation for all. And Target 6.5: By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate; and associated.

The associated indicator is: Indicator 6.5.1, Degree of integrated water resources management.

Target 6.6: By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.

The associated indicator is: Indicator 6.6.1, Change in the extent of water-related ecosystems over time.

Target 9b, food

(b) Attaining climate-resilient food and agricultural production and supply and distribution of food, as well as increasing sustainable and regenerative production and equitable access to adequate food and nutrition for all;

Existing multilateral agreement targets and indicators that are highly adaptation-relevant

Indicator area: food security*

*The concept of 'food security' is prevalent in other multilateral goals and targets and is materially similar to the wording of the UAE Framework target 'Attaining climate-resilient food and agricultural production and supply and distribution of food, as well as increasing sustainable and regenerative production and equitable access to food and nutrition for all'. Two additional elements within the UAE Framework target (additional to the notion of food security) are the concepts of:

- 'increasingly sustainable and regenerative production' (which focuses on the production element, in addition to food security) and
- 'agricultural production' (which is broad enough to encompass non-food agriculture systems).

The IPCC's definition of 'food security' is: "A situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life. The four pillars of food security are availability, access, utilization and stability. The nutritional dimension is integral to the concept of food security." ([IPCC Sixth Assessment Report Glossary](#).)

The Paris Agreement and New Urban Agenda both stress the importance of food security in the context of climate change impacts and resilience, but do not include targets and indicators:

Paris Agreement: Securing food for the world is one of the foremost concerns of Parties to the PA: food security features twice as an imperative in the Preamble of the PA and again as an overarching priority in Article 2.

New Urban Agenda

A commitment to ensuring food security for urban residents is made strongly throughout various parts of the New Urban Agenda document, from its guiding principles through to specific commitments at city planning and management level.

The SDGs contain specific food security indicators but as they stand, these would need to be extended or modified (through quantitative and/ or qualitative approaches) to capture the climate resilience elements, and are referenced in the next section, below.

Indicator area: increasingly sustainable and regenerative

The definition of 'increasingly sustainable and regenerative' production (not only from agriculture but from across agriculture, aquaculture, forestry/agroforestry and coastal-marine productive systems) requires a specific focus under the UAE Framework target. This element may partly be able to be addressed via a modified SDG indicator as discussed below, as relates to agriculture alone; however, other land, coastal and marine-based productive systems related to food security will require dedicated, focused attention for the avoidance of gaps.

Existing multilateral agreement and technical targets and indicators with the potential to be modified to track climate risk and adaptation progress

Sustainable Development Goals

SDG 2 states: “End hunger, achieve food security and improved nutrition and promote sustainable agriculture.”

The targets and indicators under SDG 2 are related to the UAE Framework target on food security but would need to be modified to achieve a specific climate focus and to measure the contribution of adaptation efforts to outcomes (most targets and indicators under SDG 2 fall in this basket; a selection are discussed here).

SDG Target 2.1: By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round [could potentially be modified to track the attribution to climate shocks and stresses]

And related SDG Indicator 2.1.1 Prevalence of undernourishment and Indicator 2.1.2 Prevalence of moderate or severe food insecurity in the population, based on the Food Insecurity Experience Scale (FIES).

SDG Target 2.2: By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons [could potentially be modified to track the attribution to climate shocks and stresses]

And related SDG Indicator 2.2.1: Prevalence of stunting (height for age <-2 standard deviation from the median of the World Health Organization (WHO) Child Growth Standards) among children under 5 years of age; Indicator 2.2.2 Prevalence of malnutrition (weight for height $>+2$ or <-2 standard deviation from the median of the WHO Child Growth Standards) among children under 5 years of age, by type (wasting and overweight); Indicator 2.2.3 Prevalence of anaemia in women aged 15 to 49 years, by pregnancy status (percentage)

SDG Target 2.3 By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment [could potentially be modified to track the uptake of climate-resilient, adaptive forms of production, market access and distribution]

And related SDG Indicator 2.3.1 Volume of production per labour unit by classes of farming/pastoral/forestry enterprise size; Indicator 2.3.2 Average income of small-scale food producers, by sex and indigenous status

2.4 By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality [could potentially be modified to track the uptake of climate-resilient, adaptive forms of production, market access and distribution]

And related SDG Indicator 2.4.1 Proportion of agricultural area under productive and sustainable agriculture.

Target 9c, health

(c) Attaining resilience against climate change related health impacts, promoting climate-resilient health services, and significantly reducing climate-related morbidity and mortality, particularly in the most vulnerable communities;

Existing technical assessment methods, targets and indicators that are highly adaptation-related

Reductions in climate-related morbidity and mortality

Lancet Countdown

The Lancet Countdown measures annual exposure to disease in relation to climate change; for instance, its indicator 1.3 measures the climate suitability for infectious disease transmission. This generates findings on, for example, the climatic suitability for the transmission of dengue fever and changes in the length of the transmission season for malaria. These, however, are measures of exposure to the hazard, not measures of adaptation progress.

The Lancet Countdown has indicators pertaining to health outcomes that are related to climate change and which can be analysed to assess the extent of adaptation effectiveness. For example:

Indicator 2.3.1. Vulnerability to mosquito-borne disease shows that low human development index (HDI) countries experienced a 37% decrease in vulnerability to Aedes mosquito-borne disease between 1990-2021, partly due to improvements in access to healthcare. (Lancet Countdown 2023 report).

As concerns the adaptation benefits of mitigation action, the Lancet Countdown has several indicators which align with similar SDG targets on reduction of ambient air pollution. Lancet Countdown indicator 3.2.1. tracks mortality from ambient air pollution by sector. The headline findings (2022-23) are that “exposure to ambient anthropogenic PM_{2.5} contributed to 3.3 million deaths in 2020, of which 1.2 million were directly related to the combustion of fossil fuels” while, the latter figure is a decrease from 1.4 million in 2005. Indicator 3.2.2. tracks mortality from indoor air pollution including the proportion arising from solid fuel use. The Lancet Countdown is tracking how shifts into cleaner and non-fossil fuels are associated with improved public health outcomes.

World Meteorological Organization (WMO) and World Health Organization (WHO)

The most recent WMO report on the state of climate services focuses on health: [‘State of Climate Services for Health’](#) and this provides highly relevant guidance on what aspects of the climate resilience of health systems may be monitored and how.

The World Meteorological Congress in 2023 furthermore approved a 10-year strategy on Advancing Integrated Climate, Environment, and Health Science and Services (2023–2033) in collaboration with the World Health Organization (WHO) and other health partners to address integrated climate-health challenges. [The implementation plan of the 10-year strategy](#) highlights the role of adaptation and mitigation in reducing ill health and mortality due to:

- extreme heat
- poor ambient air quality (exacerbated by climate change)
- malnutrition (exacerbated by climate change)

- climate-sensitive diseases
- cascading risk pathways arising from climate hazards such as storm, drought and flooding.

[The WMO- and WHO-supported climahealth website](#) also brings together policy and academic frameworks for conceptualising and managing climate-health linkages, including a number of reviews of indicators.

Existing multilateral agreement and technical targets and indicators with the potential to be modified to track climate risk and adaptation progress

Investments in public health care services

SDGs

SDG target 3.d is: Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks.

This has the potential to be highly aligned with adaptation action, where health systems' capacity is developed expressly to address early warning of health impacts and response measures related to climate-related phenomena, and risk reduction and management pertains to climate-related health risks. These outcomes could be advanced, for instance, by integrating climate information systems with the health sector (linking to the UAE Framework targets for the iterative adaptation cycle).

Reductions in climate-related morbidity and mortality

SDGs

SDG3 is: Ensure health lives and improve wellbeing for all at all ages. The associated targets that are most closely linked to climate change impacts and the measurement of adaptation progress are:

Target 3.3 By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases.

Indicator 3.3.3 Malaria incidence per 1,000 population [because weather and climate affect the spread of vector-borne disease] and

Target 3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination

Indicator 3.9.1 Mortality rate attributed to household and ambient air pollution

Indicator 3.9.2 Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services)

These are relevant because effective adaptation action (and co-benefits with mitigation action) can advance achievement against target 3.9; and conversely, achievement of these targets will enhance people's adaptive capacity and resilience to climate hazards and climate change.

Target 9d, ecosystems

(d) Reducing climate impacts on ecosystems and biodiversity, and accelerating the use of ecosystem-based adaptation and nature-based solutions, including through their management, enhancement, restoration and conservation and the protection of terrestrial, inland water, mountain, marine and coastal ecosystems;

Existing multilateral agreement targets and indicators that are highly adaptation-relevant

Indicator area: reducing climate impacts on ecosystems and biodiversity and accelerating the use of ecosystem-based adaptation and nature-based solutions (general)

Kunming-Montreal Global Biodiversity Framework

The Kunming-Montreal Global Biodiversity Framework (GBF) has [four global goals for 2050](#). It further contains [23 targets for 2030](#). The indicators for the goals and targets are currently being developed by the Ad Hoc Technical Expert Group on Indicators for the Kunming-Montreal Global Biodiversity Framework, whose work programme runs to late 2024.

Two 2050 goals align closely to the language and objectives of the UAE framework target on ecosystems. They are:

Goal A: “The integrity, connectivity and resilience of all ecosystems are maintained, enhanced, or restored, substantially increasing the area of natural ecosystems by 2050...”

Goal D: “Adequate means of implementation, including financial resources, capacity-building, technical and scientific cooperation, and access to and transfer of technology to fully implement the Kunming-Montreal Global Biodiversity Framework are secured and equitably accessible to all Parties, especially developing country Parties, in particular the least developed countries and small island developing States, as well as countries with economies in transition, progressively closing the biodiversity finance gap of \$700 billion per year, and aligning financial flows with the Kunming-Montreal Global Biodiversity Framework and the 2050 Vision for biodiversity.”

The indicators for measuring and monitoring the GBF are spread over two websites at the time of writing; these are referenced below: i) the CBD Secretariat-run website (www.cbd.int) includes a range of technical guidance for measuring and monitoring the targets (only the 2030 targets, not the long-term goals), suggested by the Secretariat.[1] This Secretariat guidance carries the caveat that it can be used by Parties but is not meant to replace decisions by the full Conference of Parties.

ii) the <https://post-2020indicators.org> website compiled by UNEP “provides information in the form of metadata about the adopted indicators of the monitoring framework and will be updated as the monitoring framework continues to be refined.”

Goal A: CBD Secretariat guidance on cbd.int	Goal A: Indicators agreed through the current expert working group process, as published on post-2020indicators.org
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No specific guidance notes provided	<p>Headline indicators:</p> <p>A.1. Red List of Ecosystems,</p> <p>A.3. Red List of Species</p> <p>A.4. The proportion of populations within species with an effective population size > 500</p> <p>The above are already well established and regular assessments are undertaken by the custodian technical agencies. A further headline indicator, A.2. Extent of natural ecosystems, is in development.</p>
Goal D: CBD Secretariat guidance on cbd.int	Goal D: Indicators agreed through the current expert working group process, as published on post-2020indicators.org
No specific guidance notes provided	Under Goal D, headline indicators are under development to track the provision of international public funding, domestic public funding, and private funding (international and domestic).

The 2030 targets in the GBF which are clearly aligned with the UAE Framework insofar as they explicitly link ecosystems and climate are:

Target 8: Minimize the Impacts of Climate Change on Biodiversity and Build Resilience
Minimize the impact of climate change and ocean acidification on biodiversity and increase its resilience through mitigation, adaptation, and disaster risk reduction actions, including through nature-based solution and/or ecosystem-based approaches, while minimizing negative and fostering positive impacts of climate action on biodiversity.

Target 11: Restore, Maintain and Enhance Nature’s Contributions to People Restore, maintain and enhance nature’s contributions to people, including ecosystem functions and services, such as regulation of air, water, and climate, soil health, pollination and reduction of disease risk, as well as protection from natural hazards and disasters, through nature-based solutions and/or ecosystem-based approaches for the benefit of all people and nature.

Target 8: CBD Secretariat guidance on cbd.int	Target 8: Indicators agreed through the current expert group process, as published on post-2020indicators.org
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<p>Component indicators for Target 8 (accessed March 2024) are currently provided by the CBD Secretariat for guidance in monitoring and reporting. They include the Bioclimatic Resilience Index, 'A globally applicable indicator of the capacity of terrestrial ecosystems to retain biological diversity under climate change'. The Bioclimatic Resilience Index has been calculated periodically by Australian research organisation CSIRO since 2015 for all countries, and the mapped geospatial bioclimatic resilience for each country is searchable on the Biodiversity Indicators Partnership website and specifically via the dashboard for each country. The trend is calculated for each country: whether its bioclimatic resilience is increasing or decreasing.</p>	<p>No published indicators yet</p>
<p>Target 11: CBD Secretariat guidance on cbd.int</p>	<p>Target 11: Indicators agreed through the current expert working group process, as published on post-2020indicators.org</p>
<p>Target 11 component indicators suggested via the CBD Secretariats' guidance include 'Proportion of bodies of water with good ambient water quality'. (The subject of water monitoring is covered separately under the water-focused UAE Framework target above.)</p>	<p>The headline indicator agreed for Target 11 is 'Services provided by ecosystems'. It addresses the ability of ecosystems to provide a wide range of services to people, including augmenting and underpinning people's resilience to climate change impacts (as well as ecosystems' contribution to the mitigation of climate change).</p> <p>The headline indicator and an overarching technical methodology/metadata fact sheet is published here: B.1. Services Provided by Ecosystems.</p>

[CBD Technical Series #98: Handbook on the Singapore Index on Cities' Biodiversity](#). While the indicators in the publication are designed for use at the city/subnational level, these may be scaled up for application at the national level, in particular the following indicators:

Indicator 20: Biodiversity-related responses to climate change – this indicator charts the status of biodiversity-related responses to address climate change in the areas of adaptation, mitigation or ecological resilience

Indicator 21: Policy and/or incentives for green infrastructure as nature-based solutions – this indicator tracks the provision of policies and regulations on green infrastructure as nature-based solutions to support either local industry competency or building owners/developers

[1] This guidance material provides an overview of the target by briefly introducing key terms, highlighting some of the implications for national target setting, and providing key points and guiding questions for consideration as part of national target-setting exercises. It also identifies the adopted indicators to monitor progress and resources that could assist with national target setting and implementation. This material should be considered a work in progress, and it will be periodically updated with inputs from Parties and partner organizations in the light of experiences with its use. This information is meant to serve as a resource that Parties and others may wish to consider as they implement the Global Biodiversity Framework. It does not replace or qualify decision 15/4 or 15/5.

Convention on Migrating Species

The Convention on Migrating Species [Resolution 12.21 \(2017\)](#) on climate change contains multiple provisions that are highly relevant to the ecosystems target of the UAE Framework. This includes a Programme of Work on Climate Change and Migratory Species (annex) with highly relevant, specific and measurable activities, which could be adopted as indicators (and for which specific technical measurement guidance could be developed). The CMS Resolution 12.21 and Programme of Work cover the following clusters of activity. Each of these has component activities which could be readily modified to become indicators – only the cluster topic headings are listed here for brevity's sake:

- Measures to facilitate species' adaptation in response to climate change
- Vulnerability assessment (for species)
- Monitoring and research (of species)
- Climate change mitigation, human adaptation, and land use planning
- Knowledge exchange and capacity-building
- Cooperation and implementation.

Indicator area: marine and coastal ecosystems (specific)

SDGs

SDG Target 14.2: By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans.

And SDG Indicator: 14.2.1 Number of countries using ecosystem-based approaches to managing marine areas.

SDG Target 14.5: By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information.

And SDG Indicator: 14.5.1 Coverage of protected areas in relation to marine area.

Existing multilateral agreement and technical targets and indicators with the potential to be modified to track climate risk and adaptation progress

The following SDG target and related indicator could be modified so that 'sustainability' is defined by integrating climate change adaptation and climate risk management, as well as other facets of sustainability:

SDG Target 14.7 By 2030, increase the economic benefits to small island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism. And the associated SDG Indicator 14.7.1 Sustainable fisheries as a proportion of GDP in small island developing States, least developed countries and all countries.

Target 9e, infrastructure

(e) Increasing the resilience of infrastructure and human settlements to climate change impacts to ensure basic and continuous essential services for all, and minimizing climate-related impacts on infrastructure and human settlements;

Existing multilateral agreement targets and indicators that are highly adaptation-relevant

Indicator area: increasing the resilience of infrastructure and human settlements

Sendai Framework

The Sendai Framework's global target D maps almost directly to the UAE Framework language. It is: Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030.

SDGs

SDG 11 is: Make cities and human settlements inclusive, safe, resilient and sustainable.

The target around slum upgrading speaks directly to conditions that make people more vulnerable to climate hazards:

SDG Target 11.1: By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums. The associated indicator is 11.1.1 Proportion of urban population living in slums, informal settlements or inadequate housing.

The target on solid waste management speaks to harmful wastes that amplify the impacts of climate hazards, especially in urban environments:

SDG Target 11.6: By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management. The associated indicator is 11.6.1: Proportion of municipal solid waste collected and managed in controlled facilities out of total municipal waste generated, by cities.

NUA

NUA indicator 39: Proportion of cities with slum upgrading programmes.

NUA indicator 40: Number of cities having annual budget allocations addressing any of the five slum deprivations and inclusive public spaces in known slum areas.

NUA indicator 18: Proportion of municipal solid waste collected and managed in controlled facilities.

<Suggested insertion>

NOTE: AOSIS notes that current indicators in existing frameworks may not adequately cover SIDS-specific infrastructural adaptation priorities, including the protection of coastlines from sea-level rise. This is an area for development under the UAE-Belem Work Programme.

Target 9f, poverty eradication

(f) Substantially reducing the adverse effects of climate change on poverty eradication and livelihoods, in particular by promoting the use of adaptive social protection measures for all;

Existing multilateral agreement and technical targets and indicators with the potential to be modified to track climate risk and adaptation progress

The target language raises some issues around definition around the target's scope, which will need to be deliberated before indicator development can get underway.

It will be up to the stakeholders in the UNFCCC process to define the meaning of 'poverty eradication' in the context of this target: meaning whether the focus should be on economic poverty as measured by income and assets (wealth); or whether poverty is conceptualised in a broader frame (as in the [Human Development Index](#)'s coverage of economic, health and knowledge/education aspects of human development, or alternative indices which conceptualise human wellbeing and antithesis of poverty even more broadly again). It is also highly relevant, in this context, to consider the role of people-centred (subjective) measures of wellbeing and development as well as purely economic measurement that can be surveyed according to objective external criteria. Subjective measures of multidimensional wellbeing are able to be quantified, and aggregated at country or global level, although there is not an 'off the shelf' index or composite indicator that does this with reference to people's experience of climate shocks and stresses. There are also considerable pitfalls and challenges in trying to attribute poverty or reduction in poverty with adaptation progress due to 'attribution' issues and the cascading impacts of climate hazards.

The potential for tracking climate change impacts and adaptation progress on 'livelihoods' falls broadly into the domain of 'work'.

The International Labor Organization (ILO) has a [Green Jobs Assessment methodology](#), which may be relevant here and may act as a jumping-off point for further deliberations. For example, it may be pertinent to ascertain whether the Green Jobs Assessment methodology is broadly applicable to countries with diverse circumstances. If it is deemed to be so, then

further deliberation could focus on whether or not the processes of undertaking and applying such assessments, and their outcomes (number of green jobs created, filled, according to decent work criteria) should be measured and monitored in the context of the UAE Framework.

The CBD Technical Series #98: Handbook on the Singapore Index on Cities' Biodiversity has several indicators that are relevant to this issue, most notably the following:

- Indicator 1: Proportion of natural areas in the city
- Indicator 2: Connectivity measures or ecological networks to counter fragmentation
- Indicator 7: Habitat Restoration
- Indicator 10: Regulation of quantity of water
- Indicator 11: Climate regulation – benefits of trees and greenery
- Indicator 13: Health and wellbeing – proximity/accessibility to parks

Target 9g, cultural heritage

(g) Protecting cultural heritage from the impacts of climate-related risks by developing adaptive strategies for preserving cultural practices and heritage sites and by designing climate-resilient infrastructure, guided by traditional knowledge, Indigenous Peoples' knowledge and local knowledge systems;

Existing multilateral agreement targets and indicators that are highly adaptation-relevant

SDGs

SDG 11 is: "Make cities and human settlements inclusive, safe, resilient and sustainable". Target 11.4 states: "Strengthen efforts to protect and safeguard the world's cultural and natural heritage." The associated Indicator 11.4.1 measures: "Total per capita expenditure on the preservation, protection and conservation of all cultural and natural heritage, by source of funding (public, private), type of heritage (cultural, natural) and level of government (national, regional, and local/municipal)."

The custodian agency for Indicator 11.4.1. is the UNESCO Institute for Statistics (UIS) . The UIS most recent findings were incorporated in a [synthesis report 2023](#) on SDG 11 monitoring. Data collection trends: [According to its website](#), "The UIS collects heritage data via an [annual survey](#) of expenditure on cultural and natural heritage first administered in June 2020. While data coverage doubled from the first survey in 2020 to the third in 2022, the number of countries reporting data for Indicator 11.4.1 remains insufficient to report global or regional figures. This indicator looks at investment at all levels of government. An increasing number of countries can report data by level of government."

Existing multilateral agreement and technical targets and indicators with the potential to be modified to track climate risk and adaptation progress

World Heritage Convention

There may be an opportunity to assess climate threats to World Heritage Sites and the effectiveness of management of climate risk in the sites, under the World Heritage Convention and its related processes.

Parties to the [World Heritage Convention](#) undertake (per [Article 6](#)) “to give their help in the identification, protection, conservation and presentation of the cultural and natural heritage referred to in paragraphs 2 and 4 of [Article 11](#) if the States on whose territory it is situated so request.”

The Convention ensures the establishment of the [World Heritage Committee](#) and the [World Heritage Fund](#). Three formal advisory bodies participate in the implementation of the Convention, [IUCN](#) (the International Union for the Conservation of Nature; Gland, Switzerland), [ICCROM](#) (the International Centre for the Study of the Preservation and Restoration of Cultural Property – Rome, Italy) and [ICOMOS](#) (the International Council on Monuments and Sites – Paris, France). The Committee comprises Party members along with IUCN, ICCROM and ICOMOS.

The Committee decides which Party-nominated sites shall be on the World Heritage List and on the World Heritage in Danger List.

Climate hazards are implicated in certain World Heritage sites being on the ‘Danger’ list, such as the climate threat to [East Rennell, Solomon Islands](#), which forms part of the world’s largest coral reef system.

A site’s inclusion on the [World Heritage in Danger List](#) reflects the magnitude of the hazard (climate hazards continue to grow in frequency and intensity), the exposure of the heritage site to the hazard, and the vulnerability of the site (vulnerability is highly affected by management practices and human interactions: vulnerability can be reduced by adaptation and climate risk management actions).

As well as the World Heritage in Danger List produced by the Committee approx. every two years, IUCN also produces a [World Heritage Outlook](#) (volume 3 was published 2020; the next volume is under preparation). The purposes of this is: “The IUCN World Heritage Outlook assesses the conservation prospects of all natural World Heritage sites, based on a site’s World Heritage values, threats to these values, and how good protection and management is.” The *World Heritage Outlook* categorises all World Heritage Sites on a scale from ‘Good’ to ‘Critical’ concern. [World Heritage Outlook 3 summarises:](#)

“Climate change continues to affect more and more natural World Heritage sites. In 2014, climate change was identified as the most significant potential threat, and in 2017, it became the fastest growing threat. In 2020, climate change has become the most prevalent current threat, and still remains by far the largest potential threat.”

The Outlook reports on the extent of the climate change threat to each site: “Climate change is assessed as a ‘high’ or ‘very high’ threat in 33% of sites – up from 26% in 2017 and 15% in 2014 – and it is set to affect more and more sites in the foreseeable future.”

A question for the technical advisory bodies to the World Heritage Convention (especially IUCN, as the custodian of the World Heritage Outlook) is: could future reporting generate an indicator/classification to show whether adaptation actions have reduced the climate change threat to sites?

This type of assessment already exists within the current methodology, which appraises threats to sites and management effectiveness. For example, in the [Alejandro de Humboldt National Park](#) in Cuba, astonishingly unique flora are present. The threat to the ecosystem is

high, due to fires and other extreme events (driven by climate change). This is an example of the type of World Heritage Site where climate risk management and adaptation actions could materially reduce the threat level to a site and the effectiveness of climate risk management could be rated by IUCN's assessment process. Here and in other World Heritage Sites, however, some climate change-related threats are beyond 'adaptation limits' and it is not easy to see how adaptation actions could reduce the threat. [Methodologies for the World Heritage Outlook are reviewed in three year cycles](#). The question is whether the assessment information and expert judgment that is already compiled for sites could be used to flag adaptation progress or lack thereof.

Target 10 chapeau

10. Decides that the framework for the global goal on adaptation includes the following targets in relation to the dimensions of the iterative adaptation cycle,5 recognizing the need to enhance adaptation action and support

Target 10a, climate risk assessment

(a) Impact, vulnerability and risk assessment: by 2030 all Parties have conducted up-to-date assessments of climate hazards, climate change impacts and exposure to risks and vulnerabilities and have used the outcomes of these assessments to inform their formulation of national adaptation plans, policy instruments, and planning processes and/or strategies, and by 2027 all Parties have established multi-hazard early warning systems, climate information services for risk reduction and systematic observation to support improved climate-related data, information and services;

Existing multilateral agreement targets and indicators that are highly adaptation-relevant

Indicator area: whether Parties have conducted assessments of climate hazards, climate change impacts and exposure, and how recent the assessments are

Paris Agreement

Paris Agreement Articles 7 (adaptation) and 8 (loss and damage) call for research, support and action on early warning systems.

Formal Party communications to the UNFCCC, including via the Enhanced Transparency Framework, will indicate whether Parties have included up-to-date hazard, impact, exposure and vulnerability assessment in national reporting. UNEP analyses (see below, under 'technical assessment methods'), which are based on expert judgement, describe whether countries' national adaptation planning instruments include climate risk assessment comprehensively or not.

Sendai

Sendai Framework Target G is “Substantially increase the availability of and access to multihazard early warning systems and disaster risk information and assessments to the people by 2030.

Indicator G-3: Number of people per 100,000 that are covered by early warning information through local governments or through national dissemination mechanisms.

Indicator G-6: Percentage of population exposed to or at risk from disasters protected through pre-emptive evacuation following early warning.

SDGs

SDG target 3.d: Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks.

NUA

Indicator 52: Does the country have a multi-hazard monitoring and forecasting system?

Indicator 53: The number of cities that have / percentage of urban population that is covered by multi-hazard early warning systems.

NOTE: The UAE Framework target does not define that multihazard warning systems should have comprehensive coverage of all populations (the words ‘for all’ are not present). However, the notion of ‘warning systems for all’ is present in other international instruments described above.

Indicator area: whether Parties have established climate information systems

The WMO monitors the status of climate services provision globally and issues an annual State of Climate Services report.

WMO monitoring also incorporates National Framework on Climate Services Implementation annually. See for example: [Status of National Framework for Climate Services \(NFCS\) Implementation](#) (October 2023).

This monitoring effort classifies countries according to the following phases of readiness and implementation of climate services; this information prepared by countries in association with the WMO thus already exists as a form of indicator:

Step 6: Countries with NFCS providing advanced services

Step 5: Launch the NFCS, implement the national action plan and conduct rigorous M&E

Step 4: Endorse the strategic plan and a costed action plan with timelines for NFCS implementation

Step 3: Develop a national strategic plan and costed action plan

Step 2: Organize a national consultation workshop

Step 1: Assess the baseline on climate services capacities

Step 0: Planned phase

Existing technical assessment methods, targets and indicators that are highly adaptation-relevant (applied in practice)

Indicator area: whether Parties have conducted assessments of climate hazards, climate change impacts and exposure, and how recent the assessments are and whether Parties have included up-to-date hazard, impact, exposure and vulnerability assessment in national plans

IPCC (2022) Sixth Assessment Report, [Climate Change 2022: Impacts, Vulnerability and Adaptation](#) provides a global overview of impact, vulnerability and risk assessment including by region and disaggregated for SIDS as a group globally (but with SIDS lacking in data). IPCC (2022) was extensively cited in the [First Global Stocktake of the Paris Agreement](#) (2023).

UNEP (annual) Adaptation Gap Report aggregates, synthesises and analyses the communications of Parties of the Paris Agreement to the UNFCCC on their adaptation progress.

The UNEP Adaptation Gap Report has a category of 'comprehensiveness'. This looks at whether countries' adaptation plans have incorporated assessments of climate risk in priority sectors and is based on expert judgement and a defined [methodology](#). See [Adaptation Gap Report 2023, Section 2.3.1. Comprehensiveness](#).

Target 10 b, planning

(b) Planning: by 2030 all Parties have in place country-driven, gender-responsive, participatory and fully transparent national adaptation plans, policy instruments, and planning processes and/or strategies, covering, as appropriate, ecosystems, sectors, people and vulnerable communities, and have mainstreamed adaptation in all relevant strategies and plans;

Existing multilateral agreement targets and indicators that are highly adaptation-relevant

Indicator area: existence of country-driven NAPs, policy instruments and planning processes

Paris Agreement

Party reporting to the UNFCCC under the Enhanced Transparency Framework, together with Nationally Determined Contributions, National Adaptation Plans and Adaptation Communications uploaded to the [UNFCCC website](#) and NAP [Central portal](#).

These Party communications indicate the existence of and extent of progress by countries in developing adaptation plans and policy instruments. Other national adaptation policies, strategies and planning processes may further exist domestically which are not communicated to the UNFCCC in this form.

A global synthesis of aggregated progress on adaptation planning is already produced annually by UNEP in its [Adaptation Gap Report](#). A major section of the report assesses how many countries have national planning instruments for adaptation. The AGR [methodology paper](#) explains that the progress report relies on composite sources, namely: Party submissions to the UNFCCC and the Grantham Institute's Climate Change Laws of the World database.

Target 10 c, implementation

(c) Implementation: by 2030 all Parties have progressed in implementing their national adaptation plans, policies and strategies and, as a result, have reduced the social and economic impacts of the key climate hazards identified in the assessments referred to in paragraph 10(a) above;

Existing technical assessment methods, targets and indicators that are highly adaptation-relevant

The UNEP Adaptation Gap Report uses 'numbers of adaptation projects' and 'aggregated value of adaptation projects' as a proxies for implementation progress.

The UNFCCC's Standing Committee on Finance also publishes its Biennial Assessment of climate finance flows, which provides an indication of funded adaptation action underway.

It has been difficult and controversial to find a commonly-accepted international methodology for measuring adaptation finance flows and spending (including adequate valuation of domestic spending underway).

Target 10 d, MEL

(d) Monitoring, evaluation and learning: by 2030 all Parties have designed, established and operationalized a system for monitoring, evaluation and learning for their national adaptation efforts and have built the required institutional capacity to fully implement the system;

Cross cutting considerations in indicator development

13. Encourages Parties, when implementing the framework for the global goal on adaptation and their adaptation efforts, when integrating adaptation into relevant socioeconomic and environmental policies and actions and in pursuing the targets referred to in paragraph 9–10 above, to take into account, where possible, country-driven, gender-responsive, participatory and fully transparent approaches, as well as human rights approaches, and to ensure intergenerational equity and social justice,

taking into consideration vulnerable ecosystems, groups and communities and including children, youth and persons with disabilities;

14. Emphasizes that adaptation action should be continuous, iterative and progressive and be based on and guided by the best available science, including through use of science-based indicators, metrics and targets, as appropriate, traditional knowledge, Indigenous Peoples' knowledge, local knowledge systems, ecosystem-based adaptation, nature-based solutions, locally led and community-based adaptation, disaster risk reduction, intersectional approaches, private sector engagement, maladaptation avoidance, recognition of adaptation co-benefits and sustainable development;

Existing multilateral agreement targets and indicators that are highly adaptation-related

Indicator area: gender responsiveness

Paris Agreement

The [Enhanced Lima Work Programme on Gender and its Gender Action Plan](#) (2019-24) have monitoring and review associated with them.

The adapted version of the Gender Action Plan, with amendments incorporated as of 2023, is [available on the UNFCCC website](#). Each action area is expected to be pursued, measured and monitored on a voluntary basis by Party and non-Party stakeholders.

Although reporting is generally on a qualitative basis (then synthesised by the Secretariat) and there are not indicators per se, the final review of the Enhanced Lima Work Plan on Gender and its Gender Action Plan in 2024, and the existing action areas, will provide helpful guidance to the UAE-Belem process of indicator development under the GGA.

Technical targets and indicators that are highly adaptation-related

Indicator area: gender-responsive

The existing annual UNEP *Adaptation Gap Report* has a category of 'inclusiveness'. This looks at whether countries' adaptation plans have incorporated gender considerations in their adaptation planning efforts and is based on expert judgement and a defined [methodology](#). See [Adaptation Gap Report 2023, Section 2.3.2. Inclusiveness](#).

Existing multilateral agreement and technical targets and indicators with the potential to be modified to track climate risk and adaptation progress

Indicator area: gender responsiveness

Sendai Framework

The [Sendai Gender Action Plan \(GAP\)](#) (2024) has a comprehensive range of gender indicators pertaining to the process and outcome of disaster risk reduction, with the potential to be applied to adaptation and the reduction of climate / hydrometeorological risks specifically:

Sendai Framework Priority 1: Understanding disaster risk

Key Objective 1: Increase the availability of sex, age, income and disability disaggregated data and qualitative information on gender and disaster risk

Key Objective 2: Use gender analysis to generate and apply disaster risk knowledge in decision-making

Sendai Framework Priority 2: Strengthening disaster risk governance to manage disaster risk

Key Objective 3: Mainstream gender equality across laws, policies, strategies, plans and institutions for disaster risk reduction, informed by relevant international treaties and agreements

Key Objective 4: Increase meaningful participation and empowerment of women and gender stakeholders in disaster risk governance.

Sendai Framework Priority 3: Investing in disaster risk reduction for resilience

Key Objective 5: Mainstream gender equality criteria into risk-informed development and disaster risk reduction investments

Key Objective 6: Increase funding allocations and improve access to financing for disaster risk reduction initiatives that advance gender equality

Sendai Framework Priority 4: Enhancing disaster preparedness for effective response and to 'Build Back Better' in recovery, rehabilitation and reconstruction

Key Objective 7: Plan for and invest in gender-responsive disaster recovery, rehabilitation and reconstruction

Key Objective 8: Implement gender-responsive and inclusive end-to-end multi-hazard early warning systems and anticipatory action

Key Objective 9: Ensure access to sexual and reproductive health and reproductive rights and prevention and response to gender-based violence in the context of disasters.