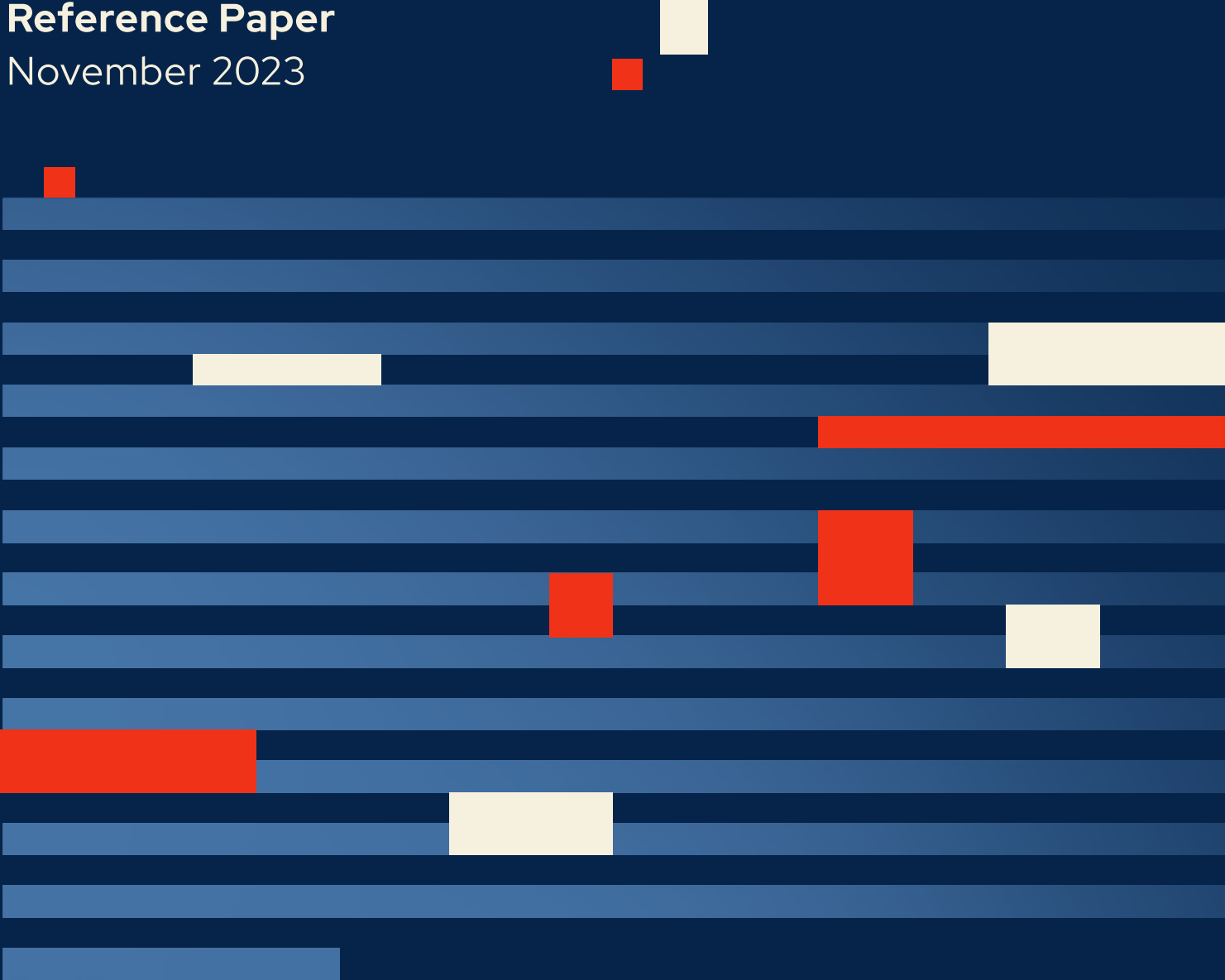


# Methodologies for reviewing the adequacy and effectiveness of adaptation and support

Reference Paper  
November 2023



United Nations  
Climate Change

Adaptation Committee  
Least Developed Countries Expert Group

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# ABBREVIATIONS AND ACRONYMS

<b>AC</b>	Adaptation Committee
<b>AdCom</b>	Adaptation communication
<b>AF</b>	Adaptation Fund
<b>BUR</b>	Biennial Update Report
<b>CB framework</b>	Capacity-building framework
<b>C40</b>	C40 Cities Climate Leadership Group
<b>CGIAR</b>	Consultative Group on International Agricultural Research
<b>CIF</b>	Climate Investment Fund
<b>CMA</b>	Conference of the Parties serving as the meeting of the Parties to the Paris Agreement
<b>COP</b>	Conference of the Parties
<b>CTCN</b>	Climate Technology Centre and Network
<b>EbA</b>	Ecosystem-based adaptation
<b>EU</b>	European Union
<b>FAO</b>	Food and Agriculture Organization
<b>FM</b>	Financial Mechanism (of the UNFCCC)
<b>GAMI</b>	Global Adaptation Mapping Initiative
<b>GCF</b>	Green Climate Fund
<b>GEF</b>	Global Environment Facility
<b>GGA</b>	Global goal on adaptation
<b>GST</b>	Global stocktake
<b>IDFC</b>	International Development Finance Club
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>LDCF</b>	Least Developed Countries Fund
<b>LEDS</b>	Low-emission development strategies
<b>LEG</b>	Least Developed Countries Expert Group
<b>MDB</b>	Multilateral Development Bank
<b>M&amp;E</b>	Monitoring and evaluation
<b>MEL</b>	Monitoring, evaluation and learning

<b>NAP</b>	National adaptation plan
<b>NAPA</b>	National adaptation program of action
<b>NC</b>	National communication
<b>NDC</b>	Nationally Determined Contribution
<b>OECD</b>	Organization for Economic Cooperation and Development
<b>PPCR</b>	Pilot Programme for Climate Resilience
<b>RBM</b>	Results-based management
<b>SCCF</b>	Special Climate Change Fund
<b>SCF</b>	Standing Committee on Finance
<b>SDGs</b>	Sustainable Development Goals
<b>TAP</b>	Technology Action Plan
<b>TEC</b>	Technology Executive Committee
<b>TM</b>	Technology Mechanism
<b>TNA</b>	Technology Needs Assessment
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change

# EXECUTIVE SUMMARY

## Background

The Conference of the Parties (COP) at its twenty-first session requested the Adaptation Committee (AC) and the Least Developed Countries Expert Group (LEG) to, jointly with the Standing Committee on Finance (SCF) and other relevant institutions, develop methodologies and make recommendations on reviewing the adequacy and effectiveness of adaptation and support as part of the global stocktake (GST) as referred to in Article 7, paragraph 14 (c), of the Paris Agreement. The CMA, at its first session, considered the recommendations that the AC and the LEG provided based on the work undertaken in response to the mandate, and noted that the current state of knowledge was insufficient to address the mandate. It invited Parties, academia and other stakeholders to undertake further technical work and invited the AC and the LEG, in collaboration with the SCF and relevant experts, to contribute to the technical work by continuing to compile existing methodologies.

In response, the AC and the LEG, from 2020 to 2023 and in collaboration with the SCF, compiled existing methodologies, based on desktop studies and on the submissions received in response to decision 11/CMA.1, para. 36, and established a joint working group to advise the three bodies on the further work required to fulfil their mandate.

This paper includes the compilation of methodologies as of July 2023 alongside lessons learned and gaps and challenges identified through their application at different levels. It reflects the con-

siderations by the AC, the LEG and the SCF, along with their joint working group, on the purpose, principles and scope of the review and on its overall context and potential sources of information. It presents additional considerations and proposals for conducting the global review as expressed by Parties and other stakeholders under the technical dialogues of the global stocktake and the work programme on the global goal on adaptation and in other recent discussions. Finally, it outlines opportunities to inform and shape the global review over time by drawing on and refining the existing methodologies and conducting additional work.

The AC, the LEG and the SCF presented a summary of the findings of this work at the third meeting of the technical dialogue under the global stocktake convened in June 2023.

## Purpose and principles

Reviewing the adequacy and effectiveness of adaptation and support should contribute to the purpose of the GST, which is to assess the collective progress towards achieving the purpose of the Paris Agreement and its long-term goals and to inform Parties in updating and enhancing their actions and support as well as in enhancing international cooperation for climate action.<sup>1</sup>

The overall principles of the GST as outlined in Article 14 of the Paris Agreement and decision 19/CMA.1 shall also apply to the review of the adequacy and effectiveness of adaptation and support. In addition, and in accordance with the deliber-

<sup>1</sup> Article 14 of the Paris Agreement, further elaborated in decision 19/CMA.1.

ations held by the AC, the LEG and the SCF, the review shall, among others, (i) apply to all Parties; (ii) enable separate assessments of adequacy and effectiveness as well as the consideration of their relationship; (iii) evolve over time and (iv) build on existing processes and frameworks.

## Scope, context and definitions

Given the absence of standardised reference metrics through which adaptation assessments around the world could be added up to or compared against any global measures of adequacy and effectiveness, the global review of adequacy and effectiveness must rely on a representative number of context-specific assessments at different geographical scales. Regarding the scope of these assessments, the AC and the LEG, in collaboration with the SCF, suggest focusing on assessing adaptation actions and support that align with the existing COP and CMA guidance and mandates. This approach will enable necessary updates or additions by the COP and CMA as needed.

The three bodies also emphasize the importance of considering goals and their associated implementation processes as established under the UN-FCCC as well as within the context of other global agendas, particularly the 1.5 warming limit (i.e., the “temperature goal”), the global goal on adaptation, the Sustainable Development Goals (SDGs) and the global goal defined in the Sendai Framework for Disaster Risk Reduction (2015 – 2030). These goals, and the degree to which they will be achieved, will shape adaptation objectives and consequently the operationalization and evaluation of its adequacy and effectiveness. Therefore, close monitoring of these goals and processes is essential in further defining the approach to the

review of the adequacy and effectiveness of adaptation and support under the GST.

According to the IPCC, the anticipated or actual adequacy of adaptation is a “set of solutions that together are, or are anticipated to be, sufficient to avoid dangerous, intolerable, or severe climate and risk impacts and minimize or avoid residual risk at a given level of warming.”<sup>2</sup>The potential or actual effectiveness of adaptation refers to “the anticipated or actual extent to which an action reduces climate risk and impacts, through decreases in vulnerability, hazards or exposure.”<sup>3</sup>While the review of effectiveness assesses the success of an individual adaptation action or process vis-à-vis its objective, the review of adequacy asks whether the collective success of responses is sufficient to meet the societal goals identified by a population at the given level of warming. Thereby, sufficiency can also be assessed in terms of whether collective responses happen at the required speed vis-à-vis the rate of warming and resulting impacts.<sup>4</sup>

Reviewing the adequacy and effectiveness of adaptation support requires not only the assessment of the supported adaptation activities, but also of the way in which the support was provided. In the case of effectiveness, this may include, for example, the assessment of an intervention’s ability to reach the most vulnerable, to leverage finance, or to be scaled-up or sustained over time. In the case of the adequacy of support, it may include the assessment of its scope and accessibility, e.g., vis-à-vis country needs.

Adequacy and effectiveness are interconnected, as adaptation and its support must be both adequate and effective to attain the desired adaptation outcomes. Ultimately, the way adequacy and effectiveness are operationalized is subject to the scope and purpose of the specific review, as well as

2 Ara Begum, R., et al. (2022): Chapter 1: Point of Departure and Key Concepts. In: Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Available at [https://report.ipcc.ch/ar6/wq2/IPCC\\_AR6\\_WGII\\_FullReport.pdf](https://report.ipcc.ch/ar6/wq2/IPCC_AR6_WGII_FullReport.pdf).

3 Pörtner, H.-O. et al. 2022. Climate Change 2022. Impacts, Adaptation and Vulnerability. Working Group II contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Summary for Policymakers. Available at [https://www.ipcc.ch/report/ar6/wq2/downloads/report/IPCC\\_AR6\\_WGII\\_SummaryForPolicymakers.pdf](https://www.ipcc.ch/report/ar6/wq2/downloads/report/IPCC_AR6_WGII_SummaryForPolicymakers.pdf).

4 Ara Begum, R., et al. (2022): Chapter 1: Point of Departure and Key Concepts. In: Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Available at [https://report.ipcc.ch/ar6/wq2/IPCC\\_AR6\\_WGII\\_FullReport.pdf](https://report.ipcc.ch/ar6/wq2/IPCC_AR6_WGII_FullReport.pdf).

the perspective and objectives of the stakeholders involved. Shifting baselines, evolving contexts and changing priorities all contribute to the definition of adaptation objectives, which, in turn, influence the evaluation of adequacy and effectiveness of adaptation action and support.

## Compilation of existing methodologies

Methodologies for reviewing the adequacy and effectiveness of adaptation and support are already in use at different levels. This paper presents the main quantitative and qualitative methods used across different levels to assess either effectiveness or adequacy, or a combination of both. It describes their application at various tiers including the project and sub-national level, the national level, the regional and portfolio level (as applied by the global adaptation funds), and the global level (as applied in the review of financial, technological or capacity-building support provided under the respective mechanisms of the UNFCCC). Additionally, the paper also describes sector-specific approaches to implementing these methods. The paper provides details on the respective focus areas of many of these methodologies, as well as their responsible stakeholders, review metrics and sources of information, and how these factors have changed over time.

The level of complexity of the applied methodology usually grows with the level of complexity of the assessed adaptation and support activities. At the project level, the most common methodology is the use of indicators that track progress towards outputs and outcomes previously defined in a logical framework, sometimes combined with surveys, focus group discussions or other means of direct consultation with beneficiaries to assess the level of change. In contrast, methodologies used to assess entire adaptation portfolios or the adaptation support provided through the mechanisms of the UNFCCC consist of mixed-method approaches that triangulate data and information from various sources and sub-assessments at different scales and involve a range of different stakeholders.

## Lessons learned

Lessons learned from the application of existing methodologies include the following:

- a) Adequacy and effectiveness of adaptation and support are context-specific. They can therefore not be measured by a generic set of indicators; instead, they require assessment methods that are carefully aligned with the specific assessment purpose;
- b) The review of adequacy and effectiveness of adaptation and support at national and higher levels requires:
  - i. A mixed method approach and the triangulation of data, including both quantitative and qualitative, from diverse sources to adequately understand, evaluate and explain outcomes and to bridge potential data gaps in standard sources such as national statistics;
  - ii. Evaluations conducted at different geographical and temporal scales to capture outcomes that have cross-boundary or maladaptive effects and/or evolve over time;
  - iii. Well-functioning monitoring and reporting systems at different levels which supply required data and information, building on and using synergies with existing M&E systems, and evolve from assessing adaptation planning and outputs to assessing implementation and outcomes;
  - iv. The participation of all relevant stakeholders such as multiple ministries and sectors, beneficiaries, support providers, and independent reviewers in order to capture the range of perspectives;
  - v. A balance of both continuity and flexibility in successive reviews with continuity referring to a repetitive assessment of the same aspects to capture developments over time and flexibility referring to the need to take into account new developments, trends and values when establishing assessment criteria.

ria, since these influence the way adequacy and effectiveness are evaluated;

c) Indicators can be useful, but must be accompanied by explanations of why and how change has occurred to enable learning, with quantitative and qualitative data and information complementing each other;

d) Despite the context-specific nature of adaptation, common review criteria for adaptation effectiveness relate mainly to aspects of enabling environments such as governance, stakeholder involvement/participation, degree of mainstreaming, availability of data and information, linkages with other frameworks such as the SDGs, availability of resources, application of M&E and learning systems and – less commonly – transformative potential;

e) The review of the effectiveness of adaptation support should take into account how support was provided, including factors such as responsiveness, efficiency, access, transparency, predictability and timeliness of disbursements, leverage capacity, country ownership, sustainability and complementarity between funds (= organizational or management effectiveness). This is in addition to considerations on how the support has contributed to advancing adaptation objectives;

f) Assessments of adequacy often involve comparing needs with actual action or support, including their timeliness. Generally, assessing adequacy of adaptation and support remains challenging due to the early stages of adaptation implementation;

g) Adequacy and effectiveness are closely linked and sometimes seen as components of each other and as such need to be considered jointly – where relevant, in conjunction with other aspects such as relevance, coherence, efficiency, impact and sustainability.

## Gaps and challenges

Conceptual challenges in reviewing the adequacy and effectiveness of adaptation and support relate to: the context-specificity of adaptation; different stakeholder perspectives and risk preferences; different judgements about societal goals, including climate justice; interlinkages with sustainable development; long time scales involved in adaptation outcomes unfolding; evolving baselines; levels of risk and socio-economic developments; and uncertainties about climate and socio-economic scenarios.

Practical challenges include the insufficient quality and coverage of existing M&E systems, limited capacities to set up and maintain them, the lack of (high-resolution) socio-economic and climate data availability, the lack of capacity and/or knowledge to use or willingness to share these, the lack of an agreed assessment approach to the financing needs of developing countries at the level of the Convention, including the estimation of costs and differentiation between development and adaptation support.

An additional concern arises from the growing number of disciplines and practices involved in adaptation research, which complicates the establishment of a shared understanding of what qualifies as “adaptation” and how to define “adaptation success”. This issue is further compounded by the continuous evolution of the criteria deemed relevant in assessing the effectiveness of adaptation and support, driven by emerging socioeconomic developments, trends and values, which makes the assessments increasingly complex.

## Additional considerations and proposals for the global review

Several additional considerations and proposals have recently been brought forward on ways to



conduct the global review of the adequacy and effectiveness of adaptation and support, or aspects thereof. These have been shared in different discussion forums such as the technical dialogues under the first global stocktake and the Glasgow – Sharm el-Sheikh work programme on the global goal on adaptation, or in recent publications, such as those for the OECD Climate Change Expert Group (CCXG) or by the Adaptation Working Group of the independent Global Stocktake (iGST). This paper compiles extracts from these discussions and incorporates them into potential areas of focus for future work.

## Opportunities and way forward

The iterative application of the methodologies described in this paper provides important long-term opportunities such as learning at all levels, the creation of a shared understanding of the “state of play” of adaptation and the provision of its support and the definition – over time – of consistent types of information relevant for the global review. Lessons from the application of the methodologies cast a spotlight on the importance of well-functioning monitoring, evaluation and learning and reporting systems which require support from the international community, as well as efforts and innovation to improve their efficiency and effectiveness. Outcomes of the first global stocktake and the Glasgow – Sharm el-Sheikh work programme on the global goal on adaptation provide the opportunity to refine these methodologies, the types of information relevant for future global reviews and the respective reporting requirements.

Based on these opportunities, the following actions could contribute to a more systematic global review under the consecutive UNFCCC global stocktakes. Some of them could be spurred by the AC and the LEG, in collaboration with the SCF, such as actions a), d), e), f) and g), while all the actions will benefit from the contributions of a wide range of stakeholders.

a) Conducting a mapping of the existing approaches and methodologies including an assessment of their respective strengths and limitations in order to identify how synergies

between them can be used to review global adaptation progress (see IPCC, AR 6, chapter 17);

b) Collecting empirical evidence from the application of these approaches and methodologies at various levels, contributing to the creation of a comprehensive global empirical inventory of climate change adaptation as advocated by the IPCC;

c) Based on the empirical evidence, collecting attributes of adaptation and/or support which commonly contribute to adequate and effective adaptation and which could (i) inform Parties in updating and enhancing their adaptation actions and support as well as in enhancing international cooperation for adaptation action; and (ii) be used to assess the adequacy and effectiveness of adaptation and support at the various levels to subsequently inform the global review, in addition to assessments based on national-level/context-specific review criteria;

d) Monitoring and leveraging developments and synergies with the goals and processes established under the UNFCCC, such as the 1.5 warming limit and the global goal on adaptation, while taking into account established processes and the degree of progress made under other global agendas such as the SDGs and the Sendai Framework;

e) Incorporating considerations and outcomes from other review processes under the UNFCCC, including the reviews of the Financial Mechanism, technology mechanism and capacity-building framework, as well as progress reviews of the formulation and implementation of NAPs;

f) Strengthening M&E and reporting systems, including through the provision of support to developing country Parties, with a focus on expanding the typical scope of assessing input, outputs and process to include impacts and outcomes;

g) Continuously developing and refining the applied methodologies and approaches over time, taking into account previous experience as well as new developments and values.



# BACKGROUND AND INTRODUCTION

The COP at its twenty-first session requested the AC and the LEG, jointly with the SCF and other relevant institutions, to develop methodologies and make recommendations on reviewing the adequacy and effectiveness of adaptation and support as part of the global stocktake as referred to in Article 7, paragraph 14 (c), of the Paris Agreement.<sup>1</sup>

In the first phase of addressing this mandate, between COP 21 (2015) and CMA 1 (2018), the AC and the LEG collected information through a desk review, submissions from Parties and other stakeholders, including from the SCF, and events organized on the margins of United Nations climate change conferences.<sup>2</sup> Based on the information, the AC and the LEG provided recommendations to the CMA through their respective reports.<sup>3</sup>

The CMA, at its first session, considered the recommendations, noted that the current state of knowledge was not sufficient to address the mandate and invited Parties, academia and other stakeholders to undertake further technical work, building on the existing work of the AC, LEG and SCF. It further invited the AC and the LEG, in collaboration with the SCF, and relevant experts to contribute to the technical work by continuing to compile existing methodologies. It also invited Parties, United Nations entities and other rele-

vant organizations, as well as bilateral and multi-lateral agencies, to submit information on gaps, challenges, opportunities and options associated with methodologies for reviewing the adequacy and effectiveness of adaptation and support, including in the areas of adaptation needs, plans and strategies; enabling environments and policy frameworks; frameworks used for assessing the effectiveness of adaptation efforts; efforts and systems to monitor and evaluate the effectiveness of adaptation efforts; support through all instruments and channels, including domestic, international, public and private sources and progress towards the implementation and achievement of adaptation goals, plans and strategies.<sup>4</sup>

In response to the CMA mandate, the AC and the LEG, from 2020 to 2023 and in collaboration with the SCF, compiled existing methodologies, based on desk reviews and the submissions received in response to decision 11/CMA.1, para. 36<sup>5</sup> and established a joint working group to advise the three bodies on the further work regarding their mandate. The joint working group considered a framing of adaptation and its support under the Convention and the Paris Agreement to facilitate defining the scope of the global review. It also discussed the overall context and potential sources of information for conducting the review and initiated the

1 Decision 1/CP.21, paragraph 45 (b).

2 Further information on this work is available at <https://unfccc.int/topics/adaptation-and-resilience/groups-committees/adaptation-committee/joint-ac-and-leg-mandates-in-support-of-the-paris-agreement>.

3 FCCC/SB/2017/2, FCCC/SBI/2017/14 and FCCC/SB/2017/2/Add.1–FCCC/SBI/2017/14/Add.1.

4 Decision 11/CMA.1, paragraphs 34 – 36.

5 As of 20 October 2020, submissions were received from: Parties: European Union, Indonesia; other organization: Local Climate Adaptive Living (LoCAL) facility of the UN Capital Development Fund; and bilateral agency: Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH; in response to the call for submissions referred to in paragraph 3 of this paper. The paper also takes into account information from Parties and other stakeholders submitted in 2017 in response to an earlier call for submissions in the context of this mandate.

consideration of potential review criteria and related indicators.<sup>6</sup>

This paper includes the compilation of methodologies as of July 2023 alongside lessons learned and gaps and challenges identified through their application at different levels. It reflects the considerations by the AC, the LEG and the SCF, along with their joint working group, on the purpose, principles and scope of the review and on its overall context and potential sources of information. It presents additional considerations and proposals for conducting the global review as expressed by Parties and other stakeholders under the technical dialogues of the GST and the work programme on the global goal on adaptation and in other recent discussions.

Finally, it outlines opportunities in drawing on and refining the existing methodologies and in conducting additional work with a view to informing and shaping the global review over time.

Findings of their work to date in response to the open mandate have been presented by the AC, the LEG and the SCF as input to the third meeting of the technical dialogue under the GST convened in June 2023. The work under this mandate is closely related to other mandates of the AC and the LEG to assist with the implementation of the adaptation-related provisions of the Paris Agreement.<sup>7</sup> Outputs under these mandates should therefore be considered in a holistic manner.<sup>8</sup>

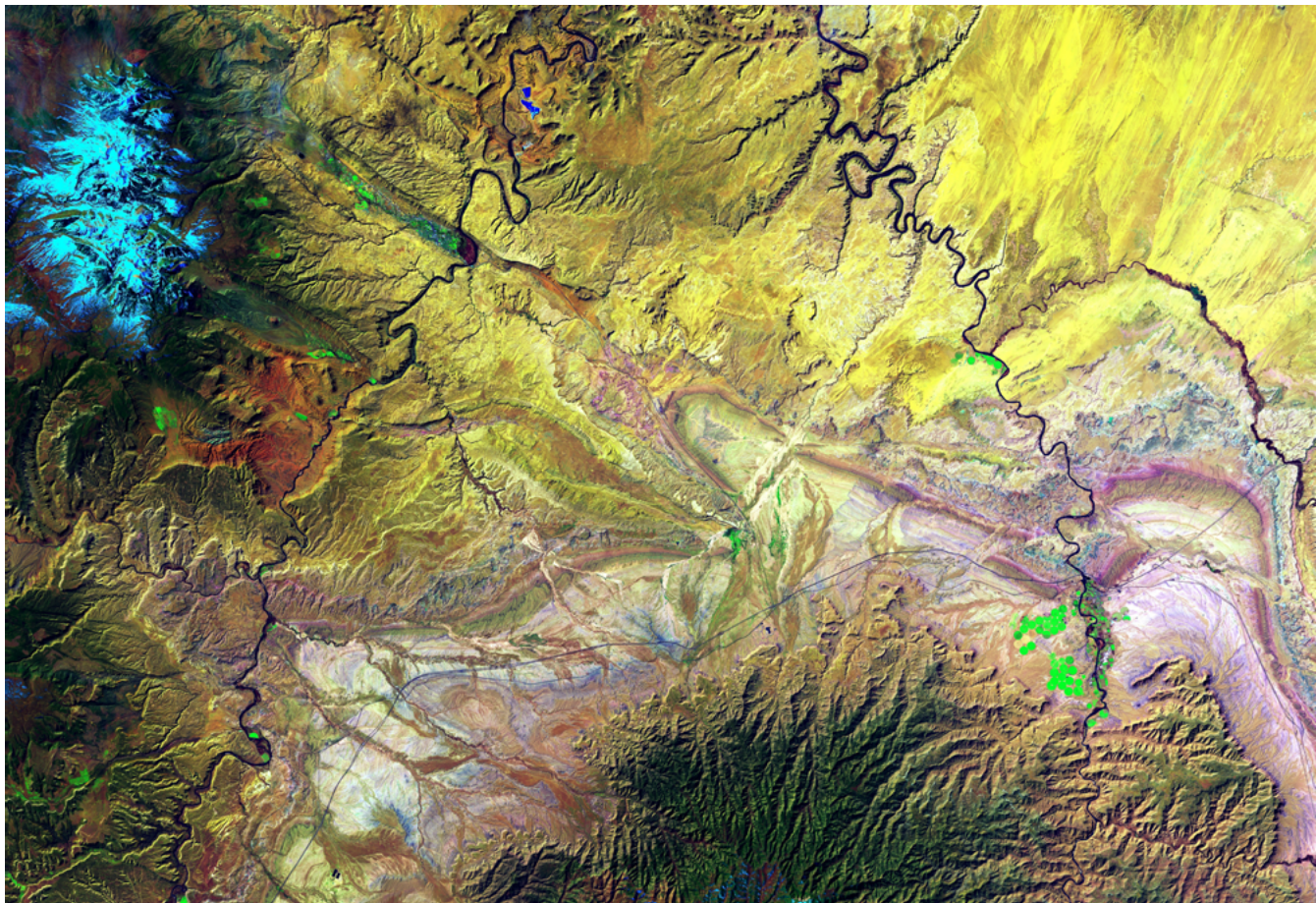


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6 <https://unfccc.int/process-and-meetings/bodies/constituted-bodies/methodologies-for-reviewing-the-adequacy-and-effectiveness-of-adaptation-and-support#eq-1>.

7 These mandates are contained in decision 1/CP.21, paragraphs 41, 42 and 45 and further defined in subsequent decisions by the CMA.

8 More information on the mandates and related outputs are available at <https://unfccc.int/process-and-meetings/bodies/constituted-bodies/adaptation-committee-ac/mandates-cma#Draft-supplementary-guidance-for-adaptation-communications>.





# GENERAL CONSIDERATIONS REGARDING THE REVIEW

Reviewing the adequacy and effectiveness of adaptation and support, including finance, technology and capacity-building, under the global stocktake requires several upfront considerations. It must take into account the envisioned purpose and principles of the review, its intended scope and the context in which it will take place as well as existing definitions of adequacy and effectiveness of adaptation and its support.

## 2.1 Purpose and principles

The review of the adequacy and effectiveness of adaptation and support provided for adaptation constitutes a part of the global stocktake as stipulated in Article 7, paragraph 14 (c) of the Paris Agreement. It must therefore contribute to the purpose of the GST, which is to:

- a) Assess the collective progress towards achieving the purpose of the Paris Agreement and its long-term goals; and
- b) Inform Parties in updating and enhancing, in a nationally determined manner, their actions and support in accordance with the relevant provisions of the Agreement, as well as in enhancing international cooperation for climate action.<sup>9</sup>

Article 14 of the Paris Agreement and decision 19/CMA.1 lay out some further principles for the GST,

which may also guide the review of the adequacy and effectiveness of adaptation and support. According to these principles the review should:

- c) Be comprehensive and facilitative;
- d) Avoid the duplication of efforts and take into account the results of relevant work conducted under the Paris Agreement, the Convention and the Kyoto Protocol; and
- e) Facilitate a summary of the opportunities and challenges for enhancing action and support in light of equity and the best available science, as well as lessons learned and good practices.<sup>10</sup>

Based on the deliberations held by the AC, the LEG and relevant stakeholders in addressing this mandate,<sup>11</sup> the review should further:

- f) Apply to all Parties;
- g) Enable separate assessments of adequacy and effectiveness as well as the consideration of their relationship;
- h) Evolve over time;
- i) Use quantitative and qualitative information/data/metrics;
- j) Give a voice to intended beneficiaries;

<sup>9</sup> Article 14 of the Paris Agreement, further elaborated in decision 19/CMA.1.

<sup>10</sup> Decision 19/CMA.1, paragraph 13.

<sup>11</sup> See <https://unfccc.int/topics/adaptation-and-resilience/groups-committees/adaptation-committee/joint-ac-and-leg-mandates-in-support-of-the-paris-agreement>.

k) Inform and enhance the understanding of progress and facilitate learning and knowledge-sharing; and

l) Build on existing processes and frameworks such as the enhanced transparency framework of the Paris Agreement, the review of the Financial Mechanism under the Convention, the Sustainable Development Goals, the Sendai Framework, and the aid effectiveness agenda, to the extent possible.

Taking due account of the purpose and principles of the review in the context of the different modalities and components of the GST will ensure that information is provided and considered in a meaningful way.

## 2.2 Scope and context

Given the absence of standardised reference metrics through which adaptation assessments around the world could be added up to or compared against any global measures of adequacy and effectiveness, the global review of adequacy and effectiveness must rely on a representative number of context-specific assessments at different geographical scales. Regarding the scope of these assessments, the AC and the LEG, in collaboration with the SCF, suggest focusing on assessing adaptation actions and support that align with the existing COP and CMA guidance and mandates, acknowledging that a distinction between COP/CMA-mandated and other actions and support will sometimes be challenging in practice. This approach will enable updates or additions by the COP and CMA as needed.

Regarding the context in which the review will take place, the AC and the LEG, in collaboration with the

SCF, underline the significance of goals and their associated implementation processes as established under the UNFCCC as well as within the context of other global agendas. Progress made under these will shape adaptation objectives and consequently the operationalization and evaluation of its adequacy and effectiveness under the GST.

Four sets of global goals have been identified as being particularly relevant. These are the 1.5 warming limit and the global goal on adaptation as agreed under the UNFCCC, the Sustainable Development Goals and the global goal defined in the Sendai Framework for Disaster Risk Reduction (2015 – 2030). While other global agendas and related goals and targets are also relevant for adaptation and its support, these four enjoy a particularly intrinsic relationship as progress under one, or the lack thereof, directly influences the possible or required progress towards the others.<sup>12</sup> Efforts to meet these individual goals as well as approaches to assessing their adequacy and effectiveness therefore require the highest levels of synergy and coherence.

## 2.3 Definitions of adequacy and effectiveness

According to the IPCC, anticipated or actual adequacy of adaptation is a “set of solutions that together are, or are anticipated to be, sufficient to avoid dangerous, intolerable, or severe climate and risk impacts and minimize or avoid residual risk at a given level of warming.”<sup>13</sup> The potential or actual effectiveness of adaptation refers to “the anticipated or actual extent to which an action reduces climate risk and impacts, through decreases in vulnerability, hazards or exposure.”<sup>14</sup> Thus, while the review of effectiveness assesses the success of an individual

<sup>12</sup> Ara Begum, R., et al. (2022): Chapter 1: Point of Departure and Key Concepts. Section 1.1.3. In: Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Available at [https://report.ipcc.ch/ar6/wq2/IPCC\\_AR6\\_WGII\\_FullReport.pdf](https://report.ipcc.ch/ar6/wq2/IPCC_AR6_WGII_FullReport.pdf).

<sup>13</sup> Ara Begum, R., et al. (2022): Chapter 1: Point of Departure and Key Concepts. In: Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Available at [https://report.ipcc.ch/ar6/wq2/IPCC\\_AR6\\_WGII\\_FullReport.pdf](https://report.ipcc.ch/ar6/wq2/IPCC_AR6_WGII_FullReport.pdf).

<sup>14</sup> Pörtner, H.-O. et al. 2022. Climate Change 2022. Impacts, Adaptation and Vulnerability. Working Group II contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Summary for Policymakers. Available at [https://www.ipcc.ch/report/ar6/wq2/downloads/report/IPCC\\_AR6\\_WGII\\_SummaryForPolicymakers.pdf](https://www.ipcc.ch/report/ar6/wq2/downloads/report/IPCC_AR6_WGII_SummaryForPolicymakers.pdf).

adaptation action or process vis-à-vis its objective, the review of adequacy asks whether the collective success of responses is sufficient to meet the societal goals identified by a population at the given level of warming. Adequacy depends on how much residual risk a population is willing to accept and can also be assessed in terms of whether the collective responses happen at the required speed vis-à-vis the rate of warming and resulting impacts.<sup>15</sup>

The IPCC states that there is no single global reference metric to measure the effectiveness of adaptation but that its determination is context-specific and subject to the identified adaptation objectives and needs in each individual adaptation situation. It associates the success of adaptation with an “equitable balancing of synergies and trade-offs across diverse objectives, perspectives, expectations, and values”.<sup>16</sup> While ultimately interested in actual outcomes in terms of risk reduction or the maintenance of societal wellbeing despite the effects of climate change, the review of the effectiveness of an adaptation action may also assess its more intermediary outputs and effects, such as the number of beneficiaries reached or the increase in institutional capacity, which may be important steps towards the desired outcome. Additionally, it can focus either on the adaptation process (policies, institutions, capacities, plans) or its ultimate outcomes in terms of development or on both.<sup>17</sup>

Reviewing the adequacy and effectiveness of adaptation support requires not only the assessment of the supported adaptation activities, but also of the way the support was provided. In the case of effectiveness this may include, for exam-

ple, the assessment of an intervention’s ability to reach the most vulnerable, to leverage finance, or to be scaled-up or sustained over time. In the case of the adequacy of support, it may include the assessment of its scope and accessibility, e.g., vis-à-vis country needs.

Adequacy and effectiveness are interconnected as adaptation and its support must be both adequate and effective to attain the desired adaptation outcomes. In some cases, adequacy is even considered a criterion of effectiveness, as adaptation measures cannot effectively lead to intended outcomes if they or their support are not sufficient or timely. Their relationship becomes even more apparent when asking whether more support could lead to better adaptation results since this raises the question of whether available support is being used effectively in the first place.

Ultimately, the way adequacy and effectiveness are operationalized, including the criteria used, are subject to the scope and purpose of the respective review as well as the perspective and objectives of the stakeholders involved. In the case of collective adaptation and its support, a clearer understanding of the global goal on adaptation, including the possible definition of more specific targets, and the degree to which countries will be able to meet the agreed 1.5 warming limit, will influence how adequacy and effectiveness are operationalized in a given situation. Shifting baselines, evolving contexts and changing priorities all contribute to the definition of adaptation objectives, which, in turn, influence the evaluation of its adequacy and effectiveness.

<sup>15</sup> Ara Begum, R., et al. (2022): Chapter 1: Point of Departure and Key Concepts. In: Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Available at [https://report.ipcc.ch/ar6/wq2/IPCC\\_AR6\\_WGII\\_FullReport.pdf](https://report.ipcc.ch/ar6/wq2/IPCC_AR6_WGII_FullReport.pdf).

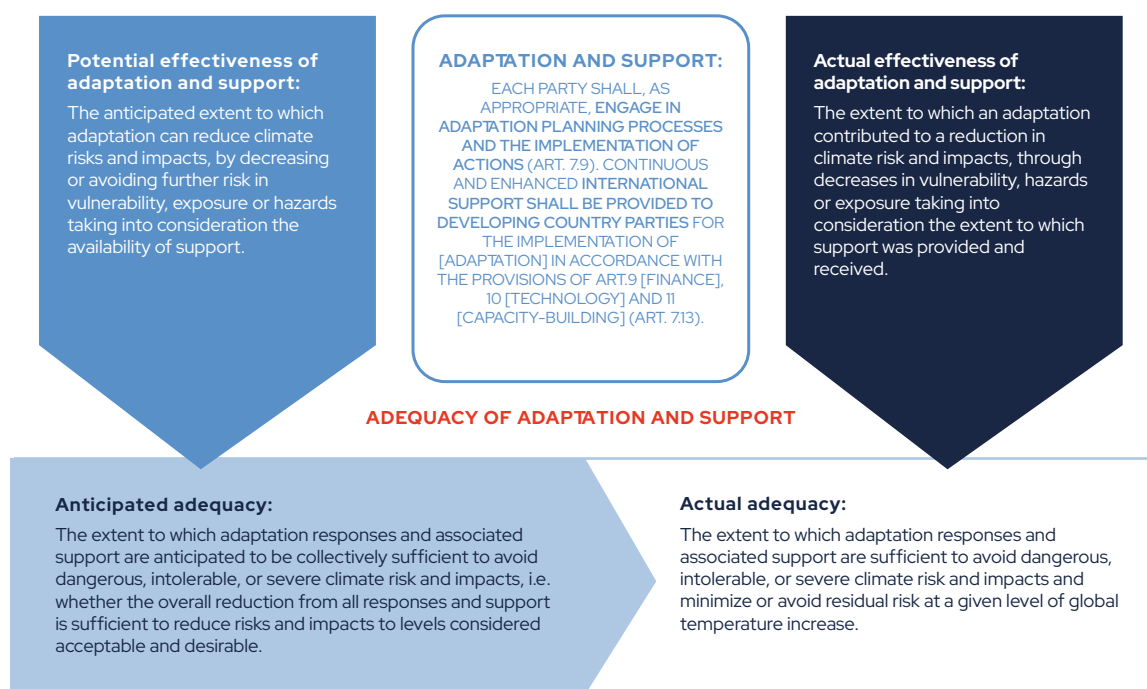
<sup>16</sup> New, M., et al. (2022): Decision-Making Options for Managing Risk. In: Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Available at: [https://report.ipcc.ch/ar6/wq2/IPCC\\_AR6\\_WGII\\_FullReport.pdf](https://report.ipcc.ch/ar6/wq2/IPCC_AR6_WGII_FullReport.pdf).

<sup>17</sup> Craft, B and Fisher, S. 2016. Measuring effective and adequate adaptation. IIED, London. Available at <https://pubs.iied.org/pdfs/10171IIED.pdf>.

An overview of how the review of the adequacy and effectiveness of adaptation and support provided for adaptation could be framed in the context of the global stocktake is provided in figure 1.

**FIGURE 1 | REVIEWING ADEQUACY AND EFFECTIVENESS OF ADAPTATION AND SUPPORT PROVIDED FOR ADAPTATION IN THE CONTEXT OF THE PARIS AGREEMENT’S GLOBAL STOCKTAKE.**

The Paris Agreement’s global goal on adaptation of enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change, with a view to contributing to sustainable development and ensuring an adequate adaptation response in the context of the temperature goal (Holding the increase in the global average temperature to well below 2 degrees Celsius above pre-industrial levels and pursuing efforts to limit the temperature increase to 1 degree Celsius above pre-industrial levels) (Art. 71)



Source: modified from: Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Available at [https://report.ipcc.ch/ar6/wq2/IPCC\\_AR6\\_WGII\\_FullReport.pdf](https://report.ipcc.ch/ar6/wq2/IPCC_AR6_WGII_FullReport.pdf).

## 3

# COMPILATION OF EXISTING METHODOLOGIES FOR REVIEWING THE ADEQUACY AND EFFECTIVENESS OF ADAPTATION AND SUPPORT

A variety of methodologies for reviewing the adequacy and effectiveness of adaptation and support is already in use at different levels, ranging from the sub-national to the global level. In most cases, these methodologies are applied as part of broader monitoring, evaluation and learning systems which adapt and combine different methods subject to the specific adaptation context and research interest. The assessment of effectiveness is usually a central research interest of these systems while the adequacy of adaptation has so far received less attention. In some cases, adequacy is even considered part of effectiveness. Many of the systems and methodologies do not exclusively assess the adequacy and effectiveness of adaptation and support, but examine additional aspects such as relevance, coherence, efficiency or sustainability in order to obtain a comprehensive understanding of adaptation progress and success.

The following sections describe the main types of existing methods and methodologies,<sup>18</sup> examples of their application, and related lessons learned, gaps and challenges.

## 3.1 Overview of the main types of existing methods and methodologies

### 3.1.1 Monitoring climate risk/vulnerability over time

Monitoring the level of climate risks/vulnerabilities over time through repeated assessments and analysing whether any changes can be linked to the adaptation measure is one way of assessing adequacy and effectiveness of adaptation. This approach can be applied under the following conditions: (i) the method used for the initial climate risk/vulnerability assessment is exactly replicated over time using the same data and assessment procedures; (ii) the climate risk/vulnerability assessment includes variables that are relevant and directly related to the adaptation measure(s) and can be sufficiently isolated from other related variables; and (iii) a sufficient period of time lies between the assessments as some adaptation measures require time for their benefits to unfold. When applying this methodology, particular attention may be paid to the poorest and most vulnerable communities of a country or region as a litmus test for the overall adequacy and effectiveness of the adaptation measure.

<sup>18</sup> In scientific research, methodology refers to the overarching strategy and rationale of a research project, including the choice of methods and theories or principles behind them. Methods are the specific tools and procedures that are used to collect and analyze data, for example, experiments, surveys, etc. Strictly distinguishing between the two throughout this paper was found challenging as the submissions and other sources of information neither do. The term "method" is used in this paper to describe the tools or procedures for collecting data whereas "methodology" is used to describe the approaches used at different levels to assess adequacy and effectiveness of adaptation and support, which may include applying a mix of different methods.



The described risk/vulnerability assessments need to be accompanied by an analysis of the way the adaptation measures have caused or contributed to the reduction or stabilization of climate risk/vulnerability, which can be achieved using a theory of change.

### 3.1.2 Applying a theory of change

A theory of change is a critical thinking approach to program design, monitoring, and evaluation and explains how adaptation is assumed to take place. It clearly articulates a vision of meaningful social change or a long-term goal and then systematically maps out specific steps towards achieving it.<sup>19</sup> While logical models or frameworks, which are commonly applied in international development, align the component parts of a project or programme (goals, inputs, outputs, outcomes) into a hierarchy and then, usually, define a set of indicators to monitor progress, the application of a theory of change is broader in nature and looks at the preconditions, milestones and assumptions related to achieving a longer-term, sometimes transformational, goal or vision and the interventions that might be required to achieve it.

There is no standard way of applying a theory of change to date, but there are common elements that represent the core approach. The result of defining a theory of change is often a diagram that visualizes the expected change, accompanied by a narrative. Sub-theories of change or logical frameworks can be prepared for different elements of the “bigger picture” or long-term goal. Comparing the theory of change and its underlying assumptions to the actual situation can then provide a sense of the adequacy and effectiveness of adaptation. Assessments based on a theory of change typically require a participatory approach that involves the intended

beneficiaries to ensure that social risk factors are taken into account and the assumptions about people’s behaviour are correct.

Theories of change are well suited to complex and dynamic change processes and to enhance learning. They can be adjusted over time if participatory monitoring indicates that assumptions have been incorrect. They contribute to a shared understanding of adaptation actions and their intended benefits among stakeholders<sup>20</sup> and lend themselves to assessing outcomes of adaptation efforts ranging from improved institutional capacity to increased societal wellbeing.

### 3.1.3 Using indicators

An indicator provides evidence that a certain condition exists or that certain results have or have not been achieved. They can be either quantitative or qualitative.<sup>21</sup>

The development of indicators provides the opportunity to track and assess the processes, outputs and outcomes of adaptation and thus to inform progress and results in e.g., policy implementation or in terms of changing climate risk, vulnerability and resilience.

Indicators need to serve a clear purpose and should be relevant to the objectives of the adaptation strategy/plan. The development of indicators requires some upfront considerations, e.g., whether there are opportunities to build on and adjust existing M&E systems to meet the adaptation purposes, how an appropriate balance between process and outcome indicators can be achieved, and whether data can be collected effectively and efficiently, among others.<sup>22</sup>

19 Bours, D., McGinn, C., and Pringle, P. (2014). Guidance Note 3: Theory of Change approach to climate change adaptation programming. SEA Change CoP and UKCIP. Available at <https://www.ukcip.org.uk/wp-content/PDFs/MandE-Guidance-Note3.pdf>.

20 Further information and guidance on the design and application of theories of change can be found in GIZ’s guidebook “Adaptation made to measure” for the development of project-specific adaptation M&E systems (GIZ (2013b). Adaptation made to measure: a guidebook to the design and results-based monitoring of climate change adaptation projects (second edition). Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH. <https://www.adaptationcommunity.net/monitoring-evaluation/project-level-adaptation-me>).

21 European Environment Agency. 2014. National adaptation policy processes in European countries – 2014. EEA Report No 4/2014. Available at <https://www.eea.europa.eu/publications/national-adaptation-policy-processes>.

22 European Commission. Urban Adaptation Support Tool for the Covenant of Mayors for Climate and Energy Europe. Step 6.2 Defining monitoring indicators. Available at <https://climate-adapt.eea.europa.eu/en/knowledge/tools/urban-ast/step-0-1>.

Given the multifaceted nature of adaptation and the lack of a universally applicable indicator, most adaptation processes need to be monitored and evaluated via a combination of multiple indicators that together provide a coherent and robust picture of adaptation progress. Indicators can allow for comparison at sub-national level, across sectors or in relation to a range of climate-related risks to assist in prioritizing adaptation investments.<sup>23</sup> Particularly when used for the evaluation of adaptation progress and outcomes, indicators need to be accompanied by a narrative of why and how change has occurred. They are frequently applied as part of some of the other methodologies described in this section (e.g., monitoring climate risk/vulnerability over time or applying a theory of change).

### 3.1.4 Asking beneficiaries

Given the local contextualization of climate impacts, local stakeholder consultation and other participatory processes are well suited for the assessment of adequacy and effectiveness of adaptation. Asking beneficiaries whether implemented actions have enabled them to better deal with climate impacts provides reliable information about adaptation effectiveness, and at the same time can enhance ownership of the actions. Furthermore, these subjective measurements reveal insights beyond what traditional indicator-based approaches can deliver.<sup>24</sup> For example, they allow for a direct understanding of the wider adaptation environment, including barriers and enablers, from the perspective of the beneficiaries, which includes factors and relationships that are not foreseeable by outsiders.<sup>25</sup> They also reduce the burden of choosing various proxy indicators. In order to overcome their limitations regarding comparability across groups, personality traits and cognitive biases, they need to be carefully designed.

Conducting surveys via mobile phones provides the opportunity to generate real-time and high-frequency monitoring results. This stands in contrast to information obtained through traditional household surveys, which are time-consuming and expensive and therefore tend to be conducted much less frequently. As mobile phones are widespread in most countries, this method can reach a large number of beneficiaries.

### 3.1.5 Expert judgement/reviews

Complementary to the approach of asking beneficiaries, expert judgement is a means of obtaining informed opinions from individuals with particular expertise. It is most effective when used in a panel format, bringing together experts with a range of experience and/or opinions.<sup>26</sup> Expert judgement is often used to validate findings or indicators and to overcome uncertainty. It is a means of rapid assessment where there may be insufficient time to undertake a full research study. Expert judgements can also be formalized into a quantitative assessment method, by classifying and then aggregating the responses of different experts to a range of questions.<sup>27</sup>

Expert judgement is sometimes confronted with some degree of scepticism since it naturally brings with it some degree of subjectivity.

### 3.1.6 Using progress metrics/scorecards

Progress metrics and scorecards or scoreboards are typically used where progress or outcomes of adaptation are assessed across different scales (either horizontally, e.g., across sectors or vertically, e.g., from local to national or regional levels)

23 European Environment Agency. 2015. National monitoring, reporting and evaluation of climate change adaptation in Europe. EEA Technical Report. Available at <https://www.ukcip.org.uk/wp-content/PDFs/National-MRE-adaptation-in-Europe.pdf>.

24 Jones, L. Urban Adaptation Support Tool Resilience isn't the same for all: Comparing subjective and objective approaches to resilience measurement. *Wiley Interdisciplinary Reviews Climate Change*, 10(1), 1-19. Open access: <https://www.onlinelibrary.wiley.com/doi/10.1002/wcc.552>; Clare, A., Graber, R., Conway, D., & Jones, L. (2017). Subjective measures of climate resilience: What is the added value for policy and programming? *Global Environmental Change*, 46, 17-22.

25 Jones, L., Samman, E., Vinck, P. (2018). Subjective measures of household resilience to climate variability and change: insights from a nationally representative survey of Tanzania. *Ecology and Society*, 23(1). Open access: <https://ecologyandsociety.org/vol23/iss1/>.

26 PROVIA/MEDIATION toolbox. Expert judgement. Available at [https://www.pik-potsdam.de/~wrobel/mediation-platform/tbox/expert\\_judgement.html](https://www.pik-potsdam.de/~wrobel/mediation-platform/tbox/expert_judgement.html).

27 IPCC. 1994. IPCC technical guidelines for assessing climate change impacts and adaptations. Available at [ipcc-technical-guidelines-1994n.pdf](http://www.ipcc.org/publications_and_products/technical_guidelines/1994n.pdf).

and hence require a certain degree of aggregation. Metrics can either be standardized (i.e., the same) for each scale to feed into the overall M&E system (e.g., see the PPCR approach in section 3.2.3.3 below) or they can be defined flexibly at each scale but tailored to certain common themes.<sup>28</sup> The former facilitates aggregation whereas the latter allows adjusting the metrics to the scale-specific needs and contexts.

Often, metrics or indicators take the form of a scorecard or scoreboard. In this case they consist of a set of questions that ask whether a particular criterion has been met, to which the answer can be either 'yes' or 'no', or, sometimes, 'partially' (in this case scored as 0, 1 or 2 respectively), or be along a scoring range (e.g., 1–5 or 1–10). The answers to the questions can either be provided in the form of self-assessments, e.g., by the respective institution or government in charge, or gleaned through surveys, interviews or focus group discussions by experts or the beneficiaries, which can be repeated at regular intervals starting

from a baseline. The use of scorecards requires the recording of narratives from stakeholders and experts to support their interpretation.

The LEG's PEG M&E tool for monitoring and assessing progress, effectiveness and gaps under the process to formulate and implement National Adaptation Plans (2015)<sup>29</sup> provides a set of generic metrics to monitor and assess progress on the 10 essential functions which the LEG has defined for the NAP process. They can be applied flexibly to assess the effectiveness of activities and to identify gaps and needs to further improve the NAP process. The current version of the tool focuses on process metrics, but future volumes are planned to guide the assessment of adaptation outcomes.

### 3.1.7 Conducting realist/ systematic reviews

Both realist and systematic reviews are focused reviews of existing literature that seek to answer a specific research question. Realist reviews are a form of systematic literature review which is par-



PHOTO CREDIT: PATRICK PERKINS | UNSPLASH

28 Leiter, T. (2015). Linking Monitoring and Evaluation of Adaptation to Climate Change across Scales: Avenues and Practical Approaches. In: D. Bours, P. Pringle & C. McGinn (Eds), *Monitoring and Evaluation of Climate Change Adaptation: A review of the landscape*. New Directions for Evaluation, 147. Available at [https://www.researchgate.net/publication/281897203\\_Linking\\_Monitoring\\_and\\_Evaluation\\_of\\_Adaptation\\_to\\_Climate\\_Change\\_Across\\_Scales\\_Avenues\\_and\\_Practical\\_Approaches](https://www.researchgate.net/publication/281897203_Linking_Monitoring_and_Evaluation_of_Adaptation_to_Climate_Change_Across_Scales_Avenues_and_Practical_Approaches).

29 LEG (2015). *Monitoring and assessing progress, effectiveness and gaps under the process to formulate and implement National Adaptation Plans: The PEG M&E tool*. Available at [https://unfccc.int/files/adaptation/application/pdf/50301\\_04\\_unfccc\\_monitoring\\_tool.pdf](https://unfccc.int/files/adaptation/application/pdf/50301_04_unfccc_monitoring_tool.pdf).

ticularly well suited for addressing more complex and interdisciplinary research questions such as those relevant for adaptation.<sup>30</sup> While in the case of systematic reviews, particularly those applied to literature containing mostly quantitative information, pre-defined eligibility criteria (inclusion or exclusion) are used for document selection, realist reviews apply a more complex literature search, including iterative search methodologies. For the analysis part, systematic reviews apply strict and reproducible synthesis methods, including aggregative analyses, while realist reviews focus on a more inductive and explanatory synthesis, being open to slight adjustments to the original methodological approach.<sup>31</sup>

As realist reviews are often less systematized and prescriptive, while still being theory-driven and explicit about the applied methods, they are sometimes called “meta-synthesis” approaches.

Realist evaluations help to explain what works, for whom, why, and in what circumstances<sup>32</sup> and are therefore relevant and applicable to synthesizing research on adaptation policy and practice, and can help to evaluate adaptation progress. As questions around adaptation effectiveness require in-depth contextual analysis, analytical reproducibility may be less relevant.<sup>33</sup>

### 3.1.8 Applying multi-objective/ multi-criteria approaches

Recognizing the transboundary nature of climate risks and vulnerabilities, adaptation has evolved from being initially framed as a local issue to now being recognized as a global public good. Considering this evolution, the IPCC suggests the incorpo-

ration of multi-scalar research designs and methods in empirical research on adaptation, including on its effectiveness.<sup>34</sup>

As one such approach, the IPCC recommends multi-objective/multi-criteria analyses. While single criteria frameworks aggregate many attributes into one number or ranking, often quantified using benefit-cost analysis or measures of social welfare, multi-criteria frameworks simultaneously report on several different biophysical and socioeconomic attributes such as social welfare, equity, efficiency, cost-benefit ratios, co-benefits with other sustainable development objectives, and distributional factors. This is useful since many adaptation measures involve complicated trade-offs or synergies among multi-dimensional benefits and costs. As these are valued differently by different people or segments of society, applying multi-objective/multi-criteria measures can enhance transparency, fairness, legitimacy and participation. It can also help avoid maladaptation. The multi-criteria concept of well-being is one type of structured framework increasingly being applied to measuring social progress by parts of the adaptation and the disaster risk management communities.<sup>35</sup>

### 3.1.9 Applying a mixed methods approach

Applying a mixed-methods approach means making use of multiple sources of information and combining different methods, including both quantitative and qualitative, when assessing adaptation. This could mean, for example, using quantitative indicators alongside qualitative methods such as asking beneficiaries and experts via interviews, surveys or group discussions.

The combination of different methods and the tri-

30 Berrang-Ford, L., Pearce, T. and J. D. Ford (2014). Systematic review approaches for climate change adaptation research. In: *Regional Environmental Change* (2015) 15:755–769. Available at <https://link.springer.com/article/10.1007/s10113-014-0708-7>.

31 Ibid.

32 Pawson R. et al. (2005). Realist review—a new method of systematic review designed for complex policy interventions. *J Health Serv Res Policy* 10(Suppl 1):21–34. doi:10.1258/1355819054308530.

33 Berrang-Ford, L., Pearce, T. and J. D. Ford (2014). Systematic review approaches for climate change adaptation research. In: *Regional Environmental Change* (2015) 15:755–769. Available at <https://link.springer.com/article/10.1007/s10113-014-0708-7>.

34 Ara Begum, R., et al. (2022): Chapter 1: Point of Departure and Key Concepts. In: *Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. Available at [https://report.ipcc.ch/ar6/wg2/IPCC\\_AR6\\_WGII\\_FullReport.pdf](https://report.ipcc.ch/ar6/wg2/IPCC_AR6_WGII_FullReport.pdf).

35 Ibid.

angulation of information allows for a cross-check of different data sources and thus for a narrative of adaptation progress that is more robust, consistent and contextualised as would be possible by using a single method.<sup>36</sup>

### 3.2 Application of the methodologies at different levels

The previously described methods and methodologies are applied at levels ranging from the sub-national to the global level and are adapted and combined subject to the specific adaptation context and research interest. The level of complexity of the applied methodology therefore grows with the level of complexity of the assessed adaptation and support activities.

The following sections present examples of the applied methodologies at each level, including, where possible, the responsible stakeholders, the focus areas and review criteria and the sources used to inform the assessments.

#### 3.2.1 Project and sub-national level

Assessments of the adequacy and effectiveness of adaptation interventions and their support at the project or sub-national level are undertaken for evidence-based decision-making, learning and accountability purposes.

In 2012, the OECD conducted the first empirical assessment of M&E frameworks used by development cooperation agencies for individual projects and programmes with adaptation-specific or adaptation-related components.<sup>37</sup> It found that result-based management, the logical framework approach and the accompanying log frame were the most common approaches used by the agencies to define activities, outputs and outcomes. In

addition, most used quantitative, qualitative and binary indicators to assess results, sometimes combined with surveys, focus group discussions or other means of direct consultation with beneficiaries in order to assess the level of change.

The level of detail included in the M&E frameworks depended on the type and scale of the activities conducted. Some agencies included detailed indicators corresponding to every component of an intervention, e.g., in cases where they assessed the outcomes of specific training activities, while others focused on an aggregate assessment of change in climate vulnerability, e.g., in cases where the focus lay on overall climate risk reduction.

At the city level, C40 and Ramboll Fonden have developed the **“Measuring progress in urban climate change adaptation”** framework, which is in use by different C40 and non-C40 cities.<sup>38</sup> The framework provides an indicator matrix of key adaptation actions undertaken by cities across the globe, based on experience to date, and sample indicators for outputs, outcomes and impacts that can be used to track the success of these actions. The adaptation actions address either specific hazards or multiple hazards, such as in the case of awareness raising, capacity building or emergency management plans. The selected actions and indicators acknowledge the high level of diversity in cities, potentially allowing a wide variety of cities to apply and adapt them to their individual circumstances, taking into account available technical skills, data, information and resources. Cities themselves need to define the indicators based on the specific hazard or hazards they are targeting with their adaptation actions as well as the area of the city covered by the action and the time frame for which the indicators are used. Evaluations of the outcomes and impacts are undertaken through surveys, interviews or focus group discussions involving all key stakeholders involved or impacted by the actions, particularly the most vulnerable.

36 European Environment Agency. 2015. National monitoring, reporting and evaluation of climate change adaptation in Europe. EEA Technical Report. Available at <https://www.ukcip.org.uk/wp-content/PDFs/National-MRE-adaptation-in-Europe.pdf>.

37 Lamhauge, N., Lanzi, E. and S. Agrawala. 2012. Monitoring and Evaluation for Adaptation: Lessons from Development Cooperation Agencies. OECD. Available at <https://dx.doi.org/10.1787/5kq20mj6c2bw-en>.

38 C40 Cities and Ramboll Fonden. 2019. Measuring progress in urban climate change adaptation. Monitoring - Evaluating - Reporting Framework. Available at [https://www.c40knowledgehub.org/s/article/Measuring-Progress-in-Urban-Climate-Change-Adaptation-A-monitoring-evaluating-and-reporting-framework?language=en\\_US](https://www.c40knowledgehub.org/s/article/Measuring-Progress-in-Urban-Climate-Change-Adaptation-A-monitoring-evaluating-and-reporting-framework?language=en_US).



When evaluating the effectiveness of the actions, the framework recommends asking “To what extent were actions implemented as planned?”, “To what extent were the objectives achieved / are the objectives likely to be achieved?” and “What were the major factors influencing the achievement or non-achievement of the objectives?”. Besides effectiveness, evaluations also assess the relevance, efficiency, impact and sustainability of the actions.

Other methodologies applied at the sub-national level include those designed for specific sectors. **The framework for defining qualification criteria and quality standards for making ecosystem-based adaptation (EbA) effective**, developed by Friends of EbA (FEBA), is one such example.<sup>39</sup> The framework proposes a set of three elements, five qualification criteria and 20 quality standards and example indicators for designing, implementing and monitoring EbA measures. The three elements and five qualification criteria assist in determining whether a proposed activity is actually EbA and in avoiding maladaptation. The quality standards are linked to the five qualification criteria and help in assessing the quality of EbA initiatives – ranging from very weak to very strong EbA. The framework also proposes sample indicators (quantitative and qualitative) by which the quality of an EbA initiative can be measured.

Another example of a sector-based methodology is the **climate-smart agriculture (CSA) programming and indicator tool** designed by CGIAR in collaboration with USAID Feed the Future to increase programming effectiveness and outcome tracking of CSA interventions.<sup>40</sup> Supported by a database of over 378 indicators gathered from several international development agencies/ institutions, the tool facilitates the assessment of productivity outcomes as well as adaptation and mitigation impacts as the three pillars of CSA-related interventions. A set of questions and a related traffic light system help to specify the degree of intentionality of desired outcomes (red: not at all, amber: indirectly, and green:

directly). Subsequently, indicators are selected based on the intended scale of action (e.g., sub-national, national) and indicator type (readiness; process/output; outcome/impact) which is subject to the current stage of intervention. Evaluations of interventions are then undertaken by assessing the interventions’ degree of intentionality towards the three CSA pillars.

Results of individual assessments at the project, sub-national or sectoral level should be considered in the context of a country’s overall strategy to reduce climate vulnerability. Only a combination of national-level and sub-national monitoring and evaluation can indicate whether the overall level of action is sufficient, how the distribution of vulnerability is changing and whether the composition of interventions is coherent.<sup>41</sup>

### 3.2.2 National level

Monitoring and evaluating adaptation and support at the national level helps countries in their domestic planning and decision-making and in responding to reporting provisions such as those under the UNFCCC and the Paris Agreement. Their reports therefore provide an important information basis for reviewing the adequacy and effectiveness of adaptation and support under the GST. It fulfils learning, decision-making and accountability purposes.

Methodologies applied as part of national adaptation MEL systems are more diverse and complex than those for project and most sub-national M&E since their purposes range from monitoring vulnerability of multiple communities and sectors over time to tracking the collective performance of a portfolio of adaptation projects implemented across the country. In addition, national-level adaptation may fulfil various functions and objectives at the same time.

The **LEG’s PEG M&E tool**, described in section 3.1.5, suggests a series of progress metrics to mon-

39 FEBA. 2017. Making Ecosystem-based Adaptation Effective. A Framework for Defining Qualification Criteria and Quality Standards. FEBA Technical Paper for UNFCCC SBSTA 46. Available at <https://www.iied.org/sites/default/files/pdfs/migrate/G04167.pdf>.

40 The tool is available at <https://ccafs.cgiar.org/resources/tools/csa-programming-and-indicator-tool/#WUFTbOuGNyw>.

41 Lamhauge, N., Lanzi, E. and S. Agrawala. 2012. Monitoring and Evaluation for Adaptation: Lessons from Development Cooperation Agencies. OECD. Available at <https://dx.doi.org/10.1787/5kq20mj6c2bw-en>.



PHOTO CREDIT: STARTAE TEAM | UNSPLASH

itor and evaluate national-level adaptation processes along some common essential functions. The essential functions range from the provision of national leadership and coordination of adaptation to reporting and outreach to all relevant stakeholders. Progress metrics to assess performance along these essential functions include those for assessing inputs, outputs, outcomes and impacts.

Many countries include sector-specific indicators in their overall methodology to assess national-level adaptation. However, in some cases these have been found to be too general or lacking an adequate amount of baseline data. Therefore, sector-specific methodologies have been developed for assessing the performance of entire sectors within a country. For example, FAO has developed the **Tracking Adaptation in Agricultural Sectors (TAAS)**<sup>42</sup> methodology, which recognizes the complex nature of adaptation processes across agricultural subsectors. It provides a clear understanding of the interrelationships between natural resources and ecosystems, agricultural production systems, socioeconomic

systems and institutional and policy systems that drive adaptation processes and outcomes, and a consistent and flexible list of quantitative and qualitative indicators to track them. It includes a scoring procedure, whereby indicators are given scores from 0 to 10, converted from raw quantitative and qualitative data. The scoring system matches the five levels of adaptation progress: very low, low, moderate, high and very high. The methodology is targeted at the national level but can also be adapted to lower levels of implementation, subject to the availability of data. It builds on existing tracking and reporting systems.

Of the countries systematically assessing the implementation of their national adaptation plans, most employ different sorts of indicators, often in the context of a results framework that includes defined outputs and outcomes. Germany, for example, has developed an indicator system of more than a hundred indicators to monitor and evaluate progress within the 15 sectors addressed in its national adaptation strategy.<sup>43</sup> It conducts document analyses and several interview series in addition

42 FAO. 2017. Tracking adaptation in agricultural sectors - Climate change adaptation indicators. Rome. Available at <https://www.fao.org/policy-support/tools-and-publications/resources-details/en/c/1193260/>.

43 Report 'Establishment of an Indicator Concept for the German Strategy on Adaptation to Climate Change' (in English): <http://www.umweltbundesamt.de/publikationen/establishment-of-an-indicator-concept-for-german>.

to the analysis of its indicators.<sup>44</sup> The Philippines applies a results framework defining outcomes, outputs, activities and indicators for their National Climate Change Action Plan 2011 – 2028.<sup>45</sup> The majority of countries that are advanced in measuring adaptation progress apply a mixed-method approach. Finland, for example, combines reports on adaptation actions, self-assessments, workshops gathering expert views, and surveys of regional adaptation. The United Kingdom combines indicators and self-reports by those responsible for managing key risks with expert judgement.<sup>46</sup> Burkina Faso established a Technical Working Group composed of stakeholders from relevant sectors and ministerial departments, the private sector and civil society actors in the evaluation of the first phase of its NAP, combining qualitative and quantitative approaches.<sup>47</sup>

The evaluations mostly focus on the progress made towards set adaptation objectives, including an assessment of what worked and what did not work, and on how to adjust the respective strategy or plan accordingly. Thus, most national evaluations to date focus on reviewing effectiveness, both in terms of process and outcomes/results. In cases where there was the intention of assessing adequacy of measures, e.g., via expert interviews as in the case of Germany, it was confessed either that it was not possible (yet) to judge whether a measure, though effective, would ultimately contribute to enhanced adaptive capacity or resilience, or that all measures would need to be implemented effectively before an evaluation of their adequacy was possible.

In terms of institutional responsibility, national M&E systems should at best enjoy ownership among many different stakeholders, including

line ministries, technical agencies and subnational authorities. In several countries, the process of conducting evaluations is organized separately to progress monitoring. In the United Kingdom and Ireland, for example, evaluations are performed by independent expert bodies. In Germany and Mexico, third Parties are commissioned for this task by government agencies.<sup>48</sup>

### 3.2.3 Regional or portfolio level

Assessing the adequacy and effectiveness of adaptation and support at the regional level or as part of an adaptation portfolio of an organization or fund adds a level of complexity, as the assessment needs to take into account the contexts and specific situations in different countries and various stakeholder perspectives and information sources. This section describes how one regional integration organization, namely the European Union, and several international providers of adaptation support are addressing this complexity. The adaptation support in these examples is mainly provided in the form of finance and often includes segments targeted at capacity-building or the development and transfer of adaptation technologies.

#### 3.2.3.1. Evaluation of the European Union's Strategy on adaptation to climate change

The first adaptation strategy of the EU was adopted in 2013 and contained eight concrete actions, of which the first was to encourage all Member States to adopt comprehensive adaptation strategies.<sup>49</sup> The European Commission provided guidelines to help Member States formulate such strategies. It subsequently developed an "adaptation preparedness scoreboard", in collaboration with the Member States, through which it identified eight

44 <https://www.umweltbundesamt.de/publikationen/methodology-for-the-evaluation-of-the-german>.

45 <https://niccdies.climate.gov.ph/action-plans/nccap-monitoring-and-evaluation>.

46 European Environment Agency. 2015. National monitoring, reporting and evaluation of climate change adaptation in Europe. EEA Technical Report. Available at <https://www.ukcip.org.uk/wp-content/PDFs/National-MRE-adaptation-in-Europe.pdf>.

47 Government of Burkina Faso. 2021. Evaluation of Burkina Faso's National Climate Change Adaptation Plan (NAP 2015–2020). Final report. NAP Global Network. Available at <https://napglobalnetwork.org/wp-content/uploads/2021/10/napqn-en-2021-evaluation-burkina-faso-nap-2015-2020.pdf>.

48 Leiter, T. (2021). Do governments track the implementation of national climate change adaptation plans? An evidence-based global stocktake of monitoring and evaluation systems. In: *Environmental Science and Policy* 125 (2021) 179–188. Available at <https://www.sciencedirect.com/science/article/pii/S1462901121002379?via%3Dihub>.

49 European Commission. 2013. The EU Strategy on adaptation to climate change. Strengthening Europe's resilience to the impacts of climate change. Available at [https://climate.ec.europa.eu/system/files/2016-11/eu\\_strategy\\_en.pdf](https://climate.ec.europa.eu/system/files/2016-11/eu_strategy_en.pdf).



key aspects and related indicators for measuring Member States' level of readiness, ranging from institutional structure and quality of national vulnerability assessments and adaptation to mainstreaming into sectoral policies and transboundary cooperation. Each indicator of the scoreboard was to be assessed with a "yes", "no" or "in progress" and accompanied by a narrative.

For the first evaluation of the EU's adaptation strategy in 2017/2018, the Commission used the scoreboard to prepare country fiches on each Member State in an iterative consultation process and with the assistance from an external contractor.<sup>50</sup> For the evaluation of the overall EU adaptation strategy, particularly its action 1, the Commission undertook a horizontal assessment of the 28 country fiches. This assessment contributed to the overall evaluation of the Strategy's effectiveness, alongside the evaluation of its relevance, efficiency, coherence and EU added value. The overall evaluation was based on operational questions which were assessed on the basis of the country fiches, additional literature reviews and an extensive consultation process involving a wide range of stakeholders. The consultation process consisted of targeted surveys, open public consultations, interviews, workshops and case studies which were also used to mutually cross-check the gathered information.

The evaluation of the Strategy did not include performance indicators to measure its effectiveness in terms of societal and economic impacts, e.g., on the different stakeholders, nor specific measures of its overall adequacy. However, the assessment of effectiveness was able to answer questions about the extent to which the objectives of the Strategy had been achieved; the extent to which each of the eight actions had contributed to these

achievements; what drivers and barriers had contributed to or hampered its implementation; and the effects that the Strategy had produced for different stakeholders so far.<sup>51</sup>

### 3.2.3.2. UNDP realist review of climate change adaptation programme evaluations

In 2015, UNDP commissioned a realist review of the final evaluation reports of a set of climate change adaptation programmes which had been implemented by UNDP and other UN organizations in nine different countries. These were the first evaluation reports of completed adaptation programmes within the UNDP system. As part of the review, a meta-analysis of the evaluation reports was conducted with the aim of providing applicable explanations, rather than generalizations or judgements, of what types of projects/activities worked and for whom, in what circumstances, and how, to inform future adaptation interventions in developing countries.<sup>52</sup>

The analysis considered the four evaluation criteria (1) relevance; (2) efficiency; (3) effectiveness; and (4) sustainability with "effectiveness" being defined as "the extent to which the development intervention's objectives were achieved, or are expected to be achieved, taking into account their relative importance."<sup>53</sup> For all four criteria, the review assessed how interventions achieved their outcomes by examining both the underlying mechanisms and the context. It thus asked:

- a) What are the important 'regularities' (outcomes) recognized by the evaluators of the adaptation programmes for each evaluation criterion? What are the key components that together contribute to high/low levels of relevance, efficiency, effectiveness or sustainability?

50 European Commission. 2018. Adaptation preparedness scoreboard country fiches. Accompanying the document Report from the Commission to the European Parliament and the Council on the implementation of the EU Strategy on adaptation to climate change. SWD (2018) 460. Available at <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52018SC0460>.

51 European Commission. 2018. Evaluation of the EU Strategy on adaptation to climate change. Accompanying the document Report from the Commission to the European Parliament and the Council on the implementation of the EU Strategy on adaptation to climate change. Commission staff working document. SWD(2018)461. Available at [eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52018SC0461](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52018SC0461).

52 56 UNDP. 2015. A Realist Review of Climate Change Adaptation Programme Evaluations – Methodological Implications and Programmatic Findings. Independent Evaluation Office - occasional paper series. Available at [http://web.undp.org/evaluation/documents/articles-papers/occasional\\_papers/Occasional\\_Paper\\_Climate\\_Change\\_Uitto\\_Miyaguchi.pdf](http://web.undp.org/evaluation/documents/articles-papers/occasional_papers/Occasional_Paper_Climate_Change_Uitto_Miyaguchi.pdf).

53 Ibid.

b) What are the underlying mechanisms that increase or decrease those regularities/outcomes?

c) What are the contextual conditions that enable or foster the mechanisms to generate desired outcomes, e.g., target populations, stakeholders, government implementing partners, funding schemes, macroeconomic and socioeconomic situations?

By paying attention to the way different contexts and mechanisms lead to differing outcomes, a realist review is well placed to review complex adaptation interventions that are applied in diverse contexts and to derive important insights for further policy making.

### 3.2.3.3. Mixed methods and multidimensional approaches applied by global adaptation funds and programmes

#### Global Environment Facility

The GEF is one of the operating entities of the Financial Mechanism of the Convention and also serves the Paris Agreement. It operates, among others, two funds that have been established particularly to support adaptation. The LDCF has the mandate to provide support to Least Developed Countries' climate change adaptation efforts, including the preparation and implementation of NAPAs, and the preparation of the NAP process. The SCCF's objective is to finance climate change activities that are complementary to other existing funds in the areas of adaptation and transfer of technologies, among others. This fund is particularly directed at developing countries that are not least developed countries, and, in the 8th replenishment period of the GEF (2022-2026), particularly at SIDS. Both funds are managed according to their joint programming strategy and the related results framework.<sup>54</sup>

In order to evaluate the effectiveness of the activities supported by the LDCF and the SCCF,

the GEF applies a mixed methods and multidimensional approach consisting of evaluations at various levels and time intervals (see figure 2). For all these evaluations, it defines effectiveness as "the extent to which the intervention achieved, or expects to achieve, results (outputs, outcomes and impacts, including global environmental benefits) taking into account the key factors influencing the results."<sup>55</sup>

At the project or programme level, full-sized projects and programmes are expected to deliver **midterm reviews and terminal evaluations** based on the LDCF/SCCF RBM framework. Through these evaluations, GEF agencies are required to report on pre-defined indicators relating to outputs and outcomes of the activities. These include core indicators, which have been reported on over a long period of time to the LDCF/SCCF Council and thus enable continuity in reporting and important insights into the delivery of the adaptation programme as a whole. In addition, they include outcome indicators that reflect the latest LDCF/SCCF adaptation programming strategy (for a list of these indicators refer to annex I). Apart from reporting on the indicators, these reviews are expected to deliver qualitative information, such as on the impact of climate risk mainstreaming into policies and plans and on the catalytic impact of LDCF/SCCF support in leveraging finance for scale-up and replication.<sup>56</sup> This information is expected to be meaningful in providing lessons learned.

At the portfolio level, the GEF secretariat prepares and submits to the LDCF/SCCF Council the **Annual Monitoring Review**<sup>57</sup> of the LDCF and the SCCF. This is the principal tool for capturing, analysing and reporting on portfolio-level performance, actual results and lessons learned and is based on the information received from the GEF agencies on individual projects and programmes. It describes in quantitative and qualitative terms (i) the performance and results of, as well as lessons learned from, the portfolio of projects and pro-

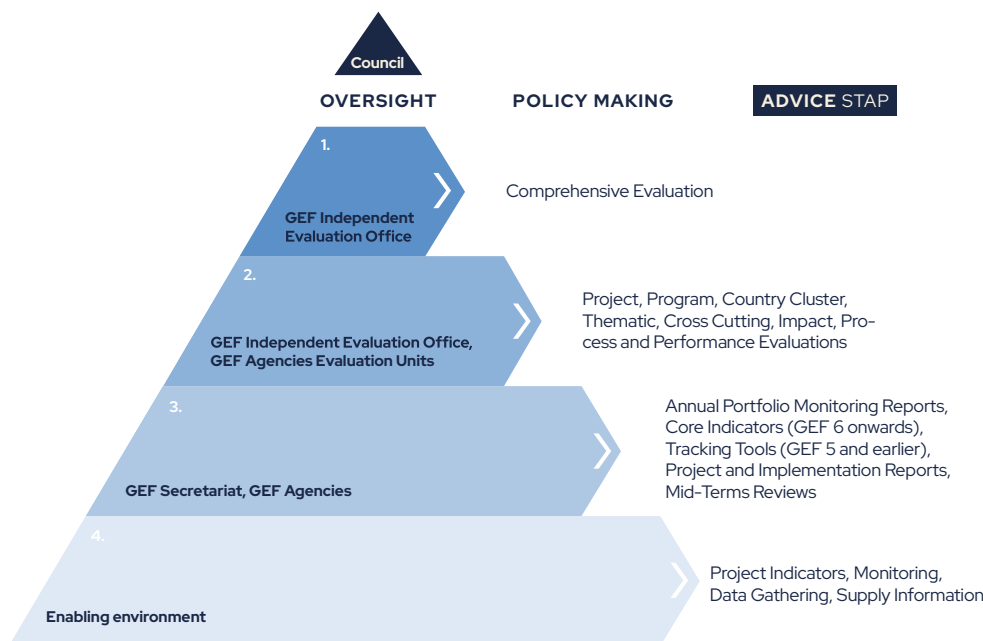
54 Available at [https://www.thegef.org/sites/default/files/2022-01/GEF\\_LDCFSCCF\\_SM.02\\_01.Programming\\_Strategy.pdf](https://www.thegef.org/sites/default/files/2022-01/GEF_LDCFSCCF_SM.02_01.Programming_Strategy.pdf)

55 GEF Independent Evaluation Office. 2019. The GEF Evaluation Policy. Available at <https://www.gefio.org/evaluations/gef-evaluation-policy-2019>.

56 For further details refer to GEF/LDCF:SCCF25/Inf.05.

57 GEF/LDCF:SCCF26/04.

**FIGURE 2 | MONITORING AND EVALUATION LEVELS AND RESPONSIBLE AGENCIES IN THE GEF**



Source: GEF Independent Evaluation Office. 2019. The GEF Evaluation Policy. Available at <https://www.gefio.org/evaluations/gef-evaluation-policy-2019>.

grammes financed under the LDCF and the SCCF for the respective fiscal year, and (ii) information on management effectiveness and efficiency as it relates to the two funds.

In addition to these regular reviews, the Independent Evaluation Office (IEO) of the GEF<sup>58</sup> undertakes periodic (every few years) **Program Evaluations** of both the LDCF and the SCCF with the objective of providing evaluative evidence on the progress towards their objectives (including GEF Strategic Objectives and Pillars), major achievements (e.g., in reducing vulnerability and integrating adaptation into policies and processes) and lessons learned since the Funds' establishment. In undertaking the evaluations, the IEO develops a theory of change for the respective fund based on which it develops evaluative questions, methods and portfolio analysis protocols.

It considers both quantitative and qualitative information from relevant project and portfolio documents as well as information from field visits and interviews with key stakeholders. Besides the effectiveness of the funds, the evaluation also includes a review of the relevance, efficiency and sustainability of the funded activities.<sup>59</sup>

Apart from these direct evaluations of individual adaptation projects and the LDCF/SCCF programmes, conclusions and evaluative evidence on adaptation is also generated through other evaluation streams conducted by the IEO or other GEF stakeholders, each with their specific perspective and focus. These include **country level evaluations, performance evaluations, thematic evaluations or Overall Performance Studies of the GEF**.<sup>60</sup>

58 The IEO is directly accountable to the GEF Council and has the mandate to report on the performance and effectiveness of GEF projects and programmes.

59 See, for example, GEF/LDCF/SCCF/22/ME/02; GEF Independent Evaluation Office. 2016. Program Evaluation of the Least Developed Countries Fund. Available at <https://www.gefio.org/evaluations/lDCF-2016> and GEF Independent Evaluation Office. Least Developed Countries Fund. 2020 Program Evaluation. Available at <https://www.gefio.org/evaluations/lDCF-2020>.

60 <https://www.gefio.org/evaluations/gef-evaluation-policy-2019>.

Together, these various forms of evaluations examine the effectiveness of adaptation support provided by the GEF from different angles, including not only the actual adaptation outcomes and impacts of the funded projects and programmes, but also the performance of the GEF's adaptation strategies, programming principles and procedures as steered by COP guidance. The latter may include the enhancement of country ownership, specific country and/or thematic allocations, gender equality or the complementarity of SCCF/LDCF funds with other funds inside and outside the GEF, among others.

### Green Climate Fund

The GCF, just like the GEF, is an operating entity of the Financial Mechanism of the UNFCCC and the main global fund for climate finance. Its overall objective is to promote a paradigm shift towards low-emission and climate-resilient development pathways in the context of sustainable development and to support developing countries in the implementation of the Paris Agreement and the provisions under the UNFCCC. It is committed to maintaining a 50:50 balance between adaptation and mitigation portfolios. The GCF supports preparatory activities for adaptation, including the formulation of NAPs, through its readiness and preparatory support programme and the implementation of adaptation projects and programmes through its adaptation funding window. It also aims to engage both the local and global private sector in adaptation projects through its Private Sector Facility<sup>61</sup>. Its adaptation programming is guided by the GCF strategic plans<sup>62</sup>, its investment framework (IF)<sup>63</sup>, the policy "Guidance on the approach and scope for providing support to

adaptation activities" (2022)<sup>64</sup> and the integrated results management framework (IRMF).<sup>65</sup>

In order to evaluate the performance, results, effectiveness and efficiency in delivering its mandate, the GCF applies a multidimensional/mixed-method approach just like the GEF. It reviews results according to four adaptation-related result areas, namely (i) Most vulnerable people and communities; (ii) Health and well-being, and food and water security; (iii) Infrastructure and built environment; (iv) Ecosystems and ecosystem services, recognizing that some projects/programmes may cut across these areas, and at three result levels: the GCF impact level, the GCF outcome level and the project/programme level (see figure 3).<sup>66</sup>

At the **GCF impact level**, the GCF assesses how and to what extent it has promoted a **paradigm shift** towards climate-resilient development pathways in the context of sustainable development and made a significant and ambitious contribution to the global efforts to attain the goals set by the international community to combat climate change. To this end, it assesses the degree to which its supported projects/programmes catalyse impact beyond a one-off project or programme investment by, e.g., enhancing knowledge and learning, establishing regulatory frameworks and policies or generally contributing to climate-resilient development pathways consistent with a country's adaptation strategies and plans. Accredited entities (AEs) are required to submit an **interim evaluation report** and a **final evaluation report** in order to assess their project/programme's contribution towards the paradigm shift in terms of scale, replicability and sustainability, and the

61 <https://www.greenclimate.fund/document/green-climate-fund-private-sector-facility#:~:text=The%20Green%20Climate%20Fund%E2%80%99s%20Private%20Sector%20Facility%20GCF,This%20brochure%20provides%20an%20overview%20of%20the%20PSF>

62 The most recent strategic plan covers the period 2024 – 2027 and is available at <https://www.greenclimate.fund/about/strategic-plan#strategic-plan-2024-2027>.

63 The current version is the updated initial investment framework available at <https://www.greenclimate.fund/document/initial-investment-framework-updated>.

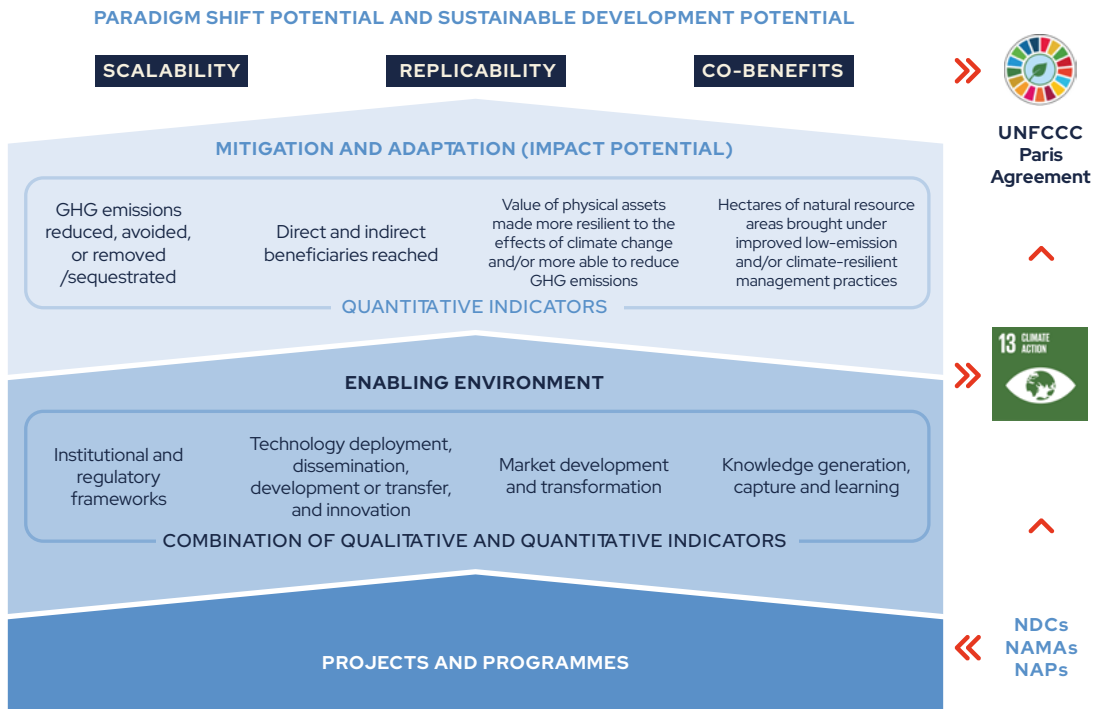
64 <https://www.greenclimate.fund/document/guidance-gcf-s-vision-approach-and-scope-providing-support-enhance-climate-adaptation>.

65 The integrated results management framework supersedes both the initial RMF (decision B.07/04) and the mitigation and adaptation performance measurement frameworks (PMFs) (decision B.08/07) since the 32nd meeting of the Board. It is available at: <https://www.greenclimate.fund/document/integrated-results-management-framework>.

66 <https://www.greenclimate.fund/document/integrated-results-management-framework>.

**FIGURE 3 | INTEGRATED RESULTS MANAGEMENT FRAMEWORK RESULTS ARCHITECTURE**

The Paris Agreement's global goal on adaptation of enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change, with a view to contributing to sustainable development and ensuring an adequate adaptation response in the context of the temperature goal (Holding the increase in the global average temperature to well below 2 degrees Celsius above pre-industrial levels and pursuing efforts to limit the temperature increase to 1 degree Celsius above pre-industrial levels) (Art. 71)



Note: NDCs: nationally determined contributions; NAMAs: nationally appropriate mitigation actions; and NAPs: national adaptation plans.

Source: GCF. 2021. Integrated results management framework. GCF/B.29/14. Available at <https://www.greenclimate.fund/document/integrated-results-management-framework>.

extent to which it is in line with the activity-specific sub-criteria of paradigm shift potential of the initial IF. For these reports agencies are expected to use a three-point scale scorecard template with a relative (not absolute) scorecard approach. Results from projects/programmes are subsequently aggregated at the impact results level of the IRMF architecture according to the three assessment dimensions (scale, replicability and sustainability). Lessons learned and trends relevant to a paradigm shift by region or type of intervention are extracted. As results at this level are typically delivered beyond the lifetime of a project/programme, the GCF may also commission **post-implementation evaluations** on specific aspects that have promoted and/or contributed to paradigm shift potential.<sup>67</sup>

At the **GCF outcome level**, the GCF measures observable results of the funded projects/programmes across two interdependent layers: increased resilience and enabling environment, which underpin pathways to paradigm shift. To assess increased resilience, AEs are required to apply the outcome indicators that are relevant to the result areas of their proposed intervention, including core indicators and supplementary indicators. Core indicators quantitatively track major, climate-focused outcomes and are aligned with those of other climate finance mechanisms, national statistical authorities and the SDGs, such as, for example, the number of beneficiaries. Supplementary indicators accompany each core indicator and help in increasing understanding of the results achieved (see annex 1 for an overview of core and supple-

<sup>67</sup> <https://www.greenclimate.fund/document/integrated-results-management-framework>.

mentary indicators). AEs report their progress annually through the **Annual Performance Reports**, including their quantitative results against the indicators and qualitative descriptions of the progress achieved. Reported results are then aggregated at the result area and portfolio levels and analysed by the GCF secretariat. In addition to indicators that assess increased resilience, AEs are obliged to report on at least two core indicators that assess enabling environments (see annex 1). The assessment is based on a simple three-point scale score-card consisting of low, medium and high ratings, accompanied by narratives, and reported in the **interim and final project/programme evaluations**. They are often undertaken by external evaluators, commissioned by the AEs. Enabling environments are also assessed and reported at the portfolio level through the results tracking tool and by applying comparative analyses to derive learning.

At the **project/programme-level**, and in addition to the core and supplementary indicators, AEs are encouraged to report on indicators, outcomes and outputs which are specific to the respective project/programme context. This could include co-benefit indicators or narratives related to issues such as biodiversity, social and gender inclusion and/or poverty alleviation.

Beyond the regular reporting and evaluations by the AEs and their aggregation at the portfolio level, other types of evaluations are undertaken or commissioned by the GCF secretariat and the IEU, sometimes in collaboration with the AEs. These can include **ex-post evaluations, impact evaluations of specific projects/programmes, learning-oriented real-time impact assessments (LORTA), thematic portfolio reviews or evaluations, or independent assessments of the overall performance of the Fund**. For example, in 2020/2021 the IEU conducted the first independent evaluation of the adaptation portfolio and approach of the GCF, answering questions not only on the effectiveness of the GCF in meeting its objectives regarding adaptation finance and support, but also on whether it was respond-

ing to global and national adaptation needs, among others.<sup>68</sup> In total, the various evaluations at different levels complement each other, providing a detailed sense of the performance and effectiveness of the Fund and its supported activities, while also fostering the corporate learning culture that is enshrined in the GCF's governing instrument.<sup>69</sup>

For all types of evaluations, other criteria beyond the effectiveness of activities also play a key role in evaluating the performance of the Fund. These include, among others, (i) relevance, efficiency, impact and sustainability; (ii) coherence in climate finance delivery with other multilateral entities; (iii) gender equity; (iv) country ownership; (v) innovativeness; (vi) replication and scalability. In order to ensure the incorporation of multiple stakeholder perspectives into the evaluation processes, AEs are requested to include participatory monitoring, involving communities and local stakeholders, including civil society organizations, at all stages of the project/programme cycle. For participatory monitoring of the overall portfolio of GCF-funded projects and programmes in each country, the national designated authority or focal point is encouraged to organize an annual participatory review for local stakeholders, notably project-affected people and communities, including women and civil society organizations.<sup>70</sup> The mixed method approach to all evaluations may include document and literature review, portfolio analysis of data collected by the IEU DataLab and others, key informant interviews, (online) surveys, country missions, case studies and project deep dives, among others.

### Adaptation Fund

The AF was established to finance concrete adaptation projects and programmes in developing country Parties to the Kyoto Protocol that are particularly vulnerable to the adverse effects of climate change. The AF also serves the Paris Agreement.

The evaluation of effectiveness of projects funded by the AF refers to the question of whether

68 <https://ieugreenclimatefund/evaluation/adapt2021>.

69 GCF.2021. Evaluation Policy for the GCF. GCF policy document. Available at <https://www.greenclimatefund/document/evaluation-policy-gcf>.

70 GCF. 2015. Monitoring and accountability framework for accredited entities. GCF policy document. Available at <https://www.greenclimatefund/document/monitoring-and-accountability-framework-accredited-entities>.



actual project outcomes are commensurate with the project's original or modified objectives and whether this is a result of adaptive management. The process to review the effectiveness of support provided through the AF is similar to that of the GEF LDCF/SCCF.

At the project/programme level, implementing entities (IEs) of the AF are required to submit to the Adaptation Fund Board an **annual project/programme performance report** and a **final project completion report**. As part of these reports, they submit quantitative as well as qualitative information on outputs and outcomes which are aligned with the Fund's Strategic Results Framework.<sup>71</sup> Similar to the approach of the GEF LDCF/SCCF they are required to report on core indicators, outcome indicators and qualitative information, for example, with regard to the effects of taking into account gender issues or the way effective resilience measures could be scaled up (see annex 1 for a full list).

In addition to these progress reports, IEs are required to submit a **mid-term evaluation** (for projects with more than four years of implementation) and a **final evaluation**, both conducted by an independent team of consultants that the IE selects. The final evaluations provide a comprehensive and systematic description of the performance of a completed project or programme by examining, among others, the achievement of its intended outcomes and objectives according to the criteria "relevance", "effectiveness" and "efficiency" and providing respective ratings. The methodology applied should involve the generation of qualitative information obtained through field visits and interviews, with particular emphasis on assessing the perspectives of the relevant stakeholders and beneficiaries.

Based on the information provided by IEs on individual projects/programmes, the AF secretariat

publishes an **Annual Performance Report**. This report presents the Fund's core indicators aggregated for its portfolio and by region. It also illustrates advances in the four areas of the Adaptation Fund Level Effectiveness and Efficiency Results Framework which relate to the management of the Fund.<sup>72</sup> In addition, it reports both quantitative and qualitative information on activities and achievements under the crosscutting themes of the respective medium-term strategy. Advances under these themes also shed light on the effectiveness of the Fund in reaching its objectives.

Since 2012, the AF has applied an additional approach to collecting insights and lessons learned from the activities it funds in various countries. This approach is called **Portfolio Monitoring Missions** and consists of learning missions to various project sites in different countries with the aim of collecting tangible results and experience. Their results serve as valuable lessons for the Fund's Knowledge Management Strategy, partners and beneficiaries and as practical guidance for implementing entities to enhance their project effectiveness. Collecting such lessons and best practices forms part of the "Learning and Sharing" pillar, one of the strategic priorities of the AF's Mid Term Strategy.

Since its inception, one **overall evaluation** has been conducted by an independent group of consultants in order to evaluate the overall Adaptation Fund's performance. The evaluation was split into two phases to accommodate the immaturity of the Fund at the beginning of the evaluation. The first phase in 2014/2015 focused on the AF's operational performance against the Fund's design and implicit logic (institutional design and processes)<sup>73</sup> and the second, conducted in 2017/2018, on the long-term outcomes and impacts of the AF's interventions (see figure 2).<sup>74</sup> Both applied the OECD-DAC evaluation criteria<sup>75</sup> of relevance,

71 Review of the Strategic Results Framework and the Adaptation Fund Level Effectiveness and Efficiency Results Framework. AFB/EFC.24/4/Rev.1.

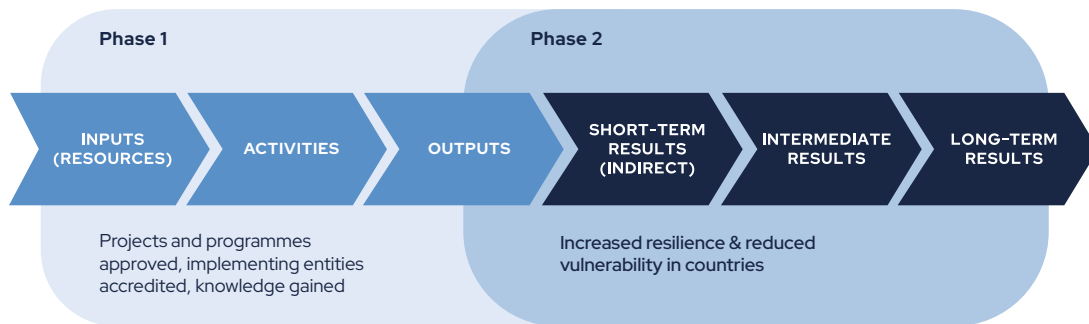
72 Available at [https://www.adaptation-fund.org/wp-content/uploads/2015/09/AFB.EFC\\_173-Evaluation-of-the-Fund-stage-II.pdf](https://www.adaptation-fund.org/wp-content/uploads/2015/09/AFB.EFC_173-Evaluation-of-the-Fund-stage-II.pdf)

73 Available at [https://www.adaptation-fund.org/wp-content/uploads/2015/09/AFB.EFC\\_173-Evaluation-of-the-Fund-stage-II.pdf](https://www.adaptation-fund.org/wp-content/uploads/2015/09/AFB.EFC_173-Evaluation-of-the-Fund-stage-II.pdf).

74 Available at [https://www.adaptation-fund.org/wp-content/uploads/2018/03/AFB.EFC\\_22.9\\_Evaluation-of-the-Fund-Phase-II.pdf](https://www.adaptation-fund.org/wp-content/uploads/2018/03/AFB.EFC_22.9_Evaluation-of-the-Fund-Phase-II.pdf).

75 OECD. 2002. Glossary of Key Terms in Evaluation and Results Based Management, Paris: OECD Publishing. Available at <http://www.oecd.org/dac/evaluation/2754804.pdf>.

**FIGURE 4 | PHASE I AND PHASE II OF THE OVERALL EVALUATION OF THE ADAPTATION FUND**



Source: Adaptation Fund. 2015. Evaluation of the Fund (Stage I). AFB/EFC.17/3. Available at [https://www.adaptation-fund.org/wp-content/uploads/2015/09/AFB.EFC.\\_173-Evaluation-of-the-Fundstage-II.pdf](https://www.adaptation-fund.org/wp-content/uploads/2015/09/AFB.EFC._173-Evaluation-of-the-Fundstage-II.pdf).

efficiency, effectiveness and sustainability and developed a theory of change to arrive at their evaluation matrix. Areas of focus and respective criteria to evaluate effectiveness are provided in annex 1.

Both evaluations applied a mixed-method approach to collecting data for their assessments, including a structured literature review of internal and external documents (e.g., project performance reports, evaluation reports), stakeholder interviews and focus group discussions, as well as evaluation missions or field studies. The first phase also included a survey.

With the understanding that evaluations need to become more agile in informing climate change adaptation, given the increasing pace and effects of climate change, the Adaptation Fund Board adopted a new evaluation policy in 2022, which became effective as of October 2023 and supersedes the Fund's 2012 Evaluation Framework.<sup>76</sup> The rationale for this evolution, in addition to enhancing the systematization of evaluation across the Fund and its learning function, is to increase the engagement and collaboration with the global community contributing to the Paris Agreement by providing

valuable adaptation lessons and insights.<sup>77</sup> The AF Technical Evaluation Reference Group has been developing evaluation guidance documents for the implementation of the new policy, including for the different categories of evaluations that are planned to be undertaken at different levels and by different stakeholders.

#### Pilot Programme for Climate Resilience<sup>78</sup>

The PPCR is one of the programmes of the Climate Investment Fund. It supports developing countries and regions in building resilience to the impacts of climate change through the development and implementation of a country-wide Strategic Programme for Climate Resilience (SPCR) composed of several individual projects or programmes.<sup>79</sup> The CIF tracks the performance of the PPCR with as much of a focus on learning as on tracking programme results. It also uses a multi-level and mixed-method approach.

Based on the PPCR results framework, every PPCR country that implements a SPCR is required to report annually on five core indicators which are meant to reflect the expected transformation

<sup>76</sup> Decision B.38/48.

<sup>77</sup> Adaptation Fund and Technical Evaluation Reference Group of the Adaptation Fund. 2022. Evaluation Policy of the Adaptation Fund. AFB/EFC.29/6/Rev.1. Available at <https://www.adaptation-fund.org/wp-content/uploads/2022/07/Evaluation-Policy-of-the-Adaptation-Fund.pdf>.

<sup>78</sup> Information in this section is based on the following sources: CIF. 2018. PPCR Monitoring and Reporting Toolkit. Available at: [https://www.climateinvestmentfunds.org/cif\\_enc/sites/cif\\_enc/files/knowledge-documents/ppcr\\_en\\_monitoringreporting\\_toolkit.pdf](https://www.climateinvestmentfunds.org/cif_enc/sites/cif_enc/files/knowledge-documents/ppcr_en_monitoringreporting_toolkit.pdf) and the website of the CIF's Evaluation & Learning Initiative ([https://www.climateinvestmentfunds.org/cif\\_enc/evaluation-and-learning](https://www.climateinvestmentfunds.org/cif_enc/evaluation-and-learning)).

<sup>79</sup> <https://www.climateinvestmentfunds.org/topics/climate-resilience>.



process taking place in PPCR countries. The core indicators reflect national-level results, but may be aggregated from project-level results for some indicators. They range from the number of beneficiaries and the degree of mainstreaming and use of PPCR-supported tools to evidence of strengthened government capacity (for a detailed list of the indicators, refer to annex 1).

Depending on whether the indicator is qualitative or quantitative in nature, data is collected by using either scorecards or tables, respectively. Annual scoring workshops are conducted by the PPCR country to assess SPCR progress against the five core indicators with the participation of representatives from all levels of government, the private sector and civil society. These stakeholders assist in establishing country-specific scoring criteria and subsequently in evaluating SPCR performance based on information and data provided by the PPCR country focal point and individual project managers. As each country agrees on its own individual scoring criteria, the monitoring and reporting system respects differences in the way countries aim to reach their target outcomes. Results of the scoring workshop on all five indicators, complemented by narrative descriptions, are then submitted as an annual country results report to the CIF Administrative Unit.

This stream of annual data collection and reporting is complemented by another which is undertaken by the MDB that supports the respective PPCR process. MDBs are required to provide annual, more granular project-level results and data collected and reported using its own implementation status reports or the equivalent. This complementary reporting is intended to provide a more comprehensive picture of PPCR performance throughout the programme cycle.<sup>80</sup>

Country reporting from all PPCR countries is aggregated by the CIF Administrative Unit and, together with the MDB reporting, included in the synthesis **PPCR annual operation and results report** submitted to the PPCR Sub-Committee. Be-

sides the cumulative achievements of the PPCR portfolio, including how it addressed the most vulnerable and the poor, these reports include information on PPCR management effectiveness.

Through the scoring workshops, this monitoring and reporting process ensures country ownership and promotes participation, capacity-building and information sharing. It further encourages the use of mixed methods by combining quantitative and qualitative methods to collect and analyse data.

Results and lessons from the PPCR programme regularly feed into or are included in activities and studies under the CIF's Evaluation & Learning Initiative which is aimed at providing strategic and demand-driven information for the CIF and the wider climate finance sector. These evaluations are conducted by independent reviewers and include document analysis, interviews, surveys and field visits. The priority learning themes, and the way PPCR outcomes have been considered under each of them, are included in annex 1.

### 3.2.4 Global or Convention level

Reviews of the adequacy and effectiveness of adaptation and support at the global or Convention level reach the highest level of complexity since they not only need to incorporate information from different countries but also from different providers of support, each with different individual missions, objectives and assessment strategies.

Reviews under the Convention regularly assess the overall performance of the mechanisms and arrangements that have been set up to assist Parties in the implementation of the provisions of the Convention and the Paris Agreement, including those that relate to adaptation. These provide support in the form of the three means of implementation – finance, technology development and transfer and capacity-building. The methodologies applied to their review can therefore provide pertinent information on the adequacy and effectiveness of support provided for adaptation.

80 Apart from the required annual country and MDB reports, countries and MDBs develop their own results frameworks for each individual project and/or the PPCR process as a whole using their pre-existing M&E systems.

Given that the three types of support are often interlinked, their reviews cannot be strictly separated, but often indirectly cover aspects of more than one type of support.

The reviews usually include the assessment of, among other performance criteria, the effectiveness of the respective mechanism or arrangement, and in some cases explicitly include the assessment of the adequacy of their support vis-à-vis Party needs.

Besides the regular reviews under the Convention, other processes and initiatives that can contribute to the global review of the adequacy and effectiveness of adaptation and support include the regular assessments of the IPCC, the Global Adaptation Mapping Initiative and the UNEP Adaptation Gap Reports. The methodologies applied by them are also briefly described in this section.

### 3.2.4.1. Reviews of the adequacy and effectiveness of financial support for adaptation as provided through the Financial Mechanism

The Financial Mechanism was established under the Convention to “provide financial resources on a grant or concessional basis, including for the transfer of technology [...]”<sup>81</sup> to developing country Parties. The Financial Mechanism also serves the Kyoto Protocol and the Paris Agreement.

The FM is subject to a review every four years. The review is undertaken according to agreed guidelines which have been amended over the years to take into account new developments, such as the establishment of the GCF as an additional operating entity or the adoption of the Paris Agreement, as well as new focus areas and criteria.

The review of the FM draws on a variety of different sources. These include primarily the reports from Parties, including national communications, technology needs assessments, NAPAs and NAPs, and biennial reports, as well as reports and documents from the operating entities and other relevant organizations, and from the constituted bodies under the Convention.

While the Subsidiary Body for Implementation assisted the COP in undertaking the first four reviews, subsequent and future reviews were and will be undertaken based on expert input provided by the Standing Committee on Finance. In addition, the secretariat can be requested to prepare technical papers and reports on particular areas of interest. The SCF, in providing its expert input, submits quantitative as well as qualitative data, drawing on information from the following additional sources: (i) information from the secretariats of the operating entities of the FM; (ii) information from other constituted bodies of the

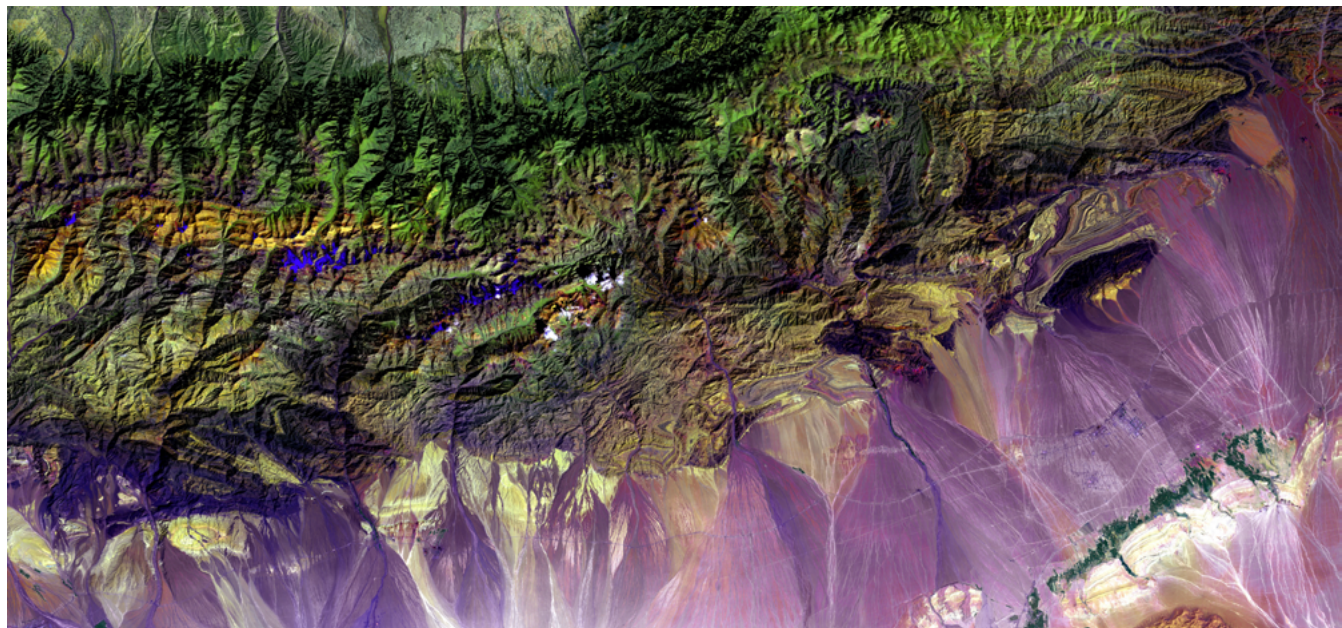


PHOTO CREDIT: USGS | UNSPLASH

81 Article 11, paragraph 1 of the Convention.

Convention, including their submissions; and (iii) information from a representative sample of recipient countries to complement aspects where information is not fully available through sources and literature listed in the guidelines.<sup>82</sup>

As such, the SCF, while undertaking research to prepare its expert input to the review of the FM, assesses the entire spectrum of sources and channels of climate finance including evaluations that these sources and channels conduct themselves or mandate independent reviewers to conduct, as described in previous sections of this paper.

#### Criteria for reviewing the adequacy of funding provided through the Financial Mechanism

In the early days of the FM, the COP determined the adequacy of funding provided to developing countries by comparing funding needs (based on information from national communications and country programming on mitigation and adaptation) with the funding available via the operating entities. Over the years, the approach of comparing financing needs with the available funding has remained, but the methodologies to determine them have continuously been refined.

In terms of determining **climate finance needs**, for example, the secretariat, upon request by the COP and the SBI, has over the years prepared various projects, papers and reports on the financing needs of developing countries in key sectors for mitigation and adaptation. It took into account information from and experiences of international funds, multilateral financial institutions, UN agencies and bilateral, regional and other multilateral channels.<sup>83</sup> Increasing emphasis was placed on promoting country ownership, which led to the applied methodologies including not only the reviews of official national reports and other relevant

documents (e.g., BURs, NAPs, NAPAs, NCs, NDCs, TNAs, country programmes of climate funds and MDBs, climate strategies), but also the engagement with representatives from national climate/environment and finance ministries and extensive consultations with other national, regional and sector-level stakeholders and experts.

In 2018, the COP requested that the SCF prepare, every four years, a report on the determination of the needs, including but not limited to financial needs, of developing country Parties related to implementing the Convention and the Paris Agreement, for consideration by the COP and the CMA, starting in 2020, and in collaboration, as appropriate, with the operating entities of the FM, the subsidiary and constituted bodies, multilateral and bilateral channels, and observer organizations.<sup>84</sup> The SCF published the first such report in 2022 containing quantitative information (costed needs) and qualitative information (needs) on the needs of developing country Parties. Quantitative information was compiled from costed needs at the project level and those derived from economic modelling in reports at the national, regional and global level and other available sources. Qualitative information was derived from descriptions of planned activities, strategic directions, national priorities and action plans in the same sources. Overall, the sources of the report included national reports from developing country Parties (e.g., Ad-Coms, BURs, LEDS, NAPs, NAPAs, NCs, NDCs, TAPs and TNAs), reports developed by regional and global institutions, and submissions from Parties and non-Party stakeholders in response to a call for evidence issued by the SCF.<sup>85</sup> Furthermore, the report not only benefited from desk reviews, but also from the involvement of a wide range of stakeholders that provided data, information and experience and input from specific outreach events such as webinars and technical expert

82 SCF/TP/2017/1.

83 FCCC/SBI/2005/INF.7 and FCCC/TP/2007/4 and the National Economic, Environment and Development Study (NEEDS) for Climate Change Project <https://unfccc.int/topics/climate-finance/workstreams/determination-of-the-needs-of-developing-country-parties-related-to-implementing-the-convention-and-national-economic-environment-and-development-study-needs-for-climate-change-project>; Decision 6/CP.23, paragraph 10 and the Needs-based Finance (NBF) project [https://unfccc.int/NBF\\_Project](https://unfccc.int/NBF_Project).

84 Decision 4/CP.24, paragraph 13 and 14.

85 <https://unfccc.int/topics/climate-finance/workstreams/needs-report/repository-of-information-on-the-needs-of-developing-country-parties>.



meetings in addition to the call for evidence.<sup>86</sup> The needs are presented by time frame, geographical region, thematic area, means of implementation, and sector and subsector, to the extent possible.

In 2018, the AC, in collaboration with the LEG, partner organizations of the Nairobi work programme, users and developers of relevant methodologies, including academia and the private sector, was requested by the CMA to develop by June 2020 and to regularly update an inventory of relevant methodologies for assessing adaptation needs, including needs related to action, finance, capacity-building and technological support in the context of national adaptation planning and implementation, and to make the information available on the adaptation knowledge portal.<sup>87</sup> The inventory is available on the Adaptation Knowledge Portal<sup>88</sup> and the AC published a technical paper on the methodologies in 2022 which involved a review by IPCC working group II representatives.<sup>89</sup> Although not directly mandated in the context of the review of the FM, the work under this mandate can contribute to the identification of adaptation finance needs of developing countries and may therefore assist in reviewing the adequacy of adaptation support.

In terms of determining the **availability of climate finance**, the Biennial Assessment and Overview of Climate Finance Flows (BA), which has been prepared every two years by the SCF since 2014, now represents the most comprehensive assessment under the Convention. The COP had initially requested the SCF to prepare the report based on available sources of information, and to include

information on the geographical and thematic balance of flows.<sup>90</sup> Subsequently, the mandate was expanded to also consider relevant work by other bodies and entities on the measurement, reporting and verification (MRV) of support and the tracking of climate finance,<sup>91</sup> ways of strengthening the methodologies for reporting,<sup>92</sup> and ongoing technical work on operational definitions of climate finance, including private finance mobilized by public interventions, to assess how adaptation and mitigation needs can most effectively be met by climate finance.<sup>93</sup> In response, the SCF now does not only base the preparation of the BA report on an extensive review of climate finance data sources, but also organizes technical meetings and other forms of consultation with experts in the field in order to assess and support the constant efforts of improving reporting and tracking methods as well as approaches to identify the full scope of finance that supports mitigation and adaptation efforts and to harmonize existing data sets.<sup>94</sup>

The Biennial Assessment report includes information on global total climate finance flows, including private and public, international and domestic, and South-South cooperation on climate finance as well as flows from developed to developing countries, including multilateral and bilateral. For the former, sources include, among others, the Global Landscape of Climate Finance by the Climate Policy Initiative, and for the latter, sources include primarily the reports from the operating entities of the FM, the common tabular format tables of the biennial reports, and Annex I NCs, complemented by reports from MDBs and other multilateral climate funds attributable to Annex II Parties, such

86 [https://unfccc.int/topics/climate-finance/workstreams/needs-report?qclid=CjwKCAjwtuOIBhBREiwA7aqfiscGOYjpdJL6lqVP6N5Jy6NLpPfmw7iAwOkpeQTHkKRfuxH6SaBoCimMQAvD\\_BwE](https://unfccc.int/topics/climate-finance/workstreams/needs-report?qclid=CjwKCAjwtuOIBhBREiwA7aqfiscGOYjpdJL6lqVP6N5Jy6NLpPfmw7iAwOkpeQTHkKRfuxH6SaBoCimMQAvD_BwE).

87 Decision 1/CMA.1, paragraph 15.

88 <https://www4.unfccc.int/sites/NWPStaging/Pages/SearchAsses.aspx>.

89 <https://unfccc.int/process-and-meetings/bodies/constituted-bodies/publications-bulletin/methodologies-for-assessing-adaptation-needs-and-their-application-technical-paper>.

90 Decision 2/CP.17, paragraph 121 (f).

91 Decision 1/CP.18, paragraph 71.

92 Decision 5/CP.18, paragraph 11.

93 Decision 3/CP.19, paragraph 11.

94 UNFCCC Standing Committee on Finance. 2018. Biennial Assessment and Overview of Climate Finance Flows. Technical Report. Available at <https://unfccc.int/sites/default/files/resource/2018%20BA%20Technical%20Report%20Final%20Feb%202019.pdf>. Information on the work of the SCF on MRV of support beyond the BAs is available at <https://unfccc.int/process/bodies/constituted-bodies/standing-committee-on-finance-scf/activities-of-the-scf/work-by-the-standing-committee-on-finance-on-measurement-reporting-and-verification-of-support>.

as the Adaptation Fund, data from the OECD-DAC Creditor Reporting System, and the International Development Finance Club as well as information on mobilized private finance flows in developing countries from MDBs, IDFC and OECD.<sup>95</sup>

#### Criteria for reviewing the effectiveness of the Financial Mechanism<sup>96</sup>

According to the guidelines for the review of the FM, its effectiveness is assessed along the following areas: (i) the conformity of the activities funded under the FM with Article 11 of the Convention and relevant policies, programme priorities and eligibility criteria established by the COP;<sup>97</sup> (ii) the provision of resources to developing country Parties under Article 4.3 of the Convention;<sup>98</sup> (iii) the consistency in financing activities and the complementarity of the FM with other sources of investment and financial flows<sup>99</sup> as well as complementarity between the operating entities<sup>100</sup> and (iv) access modalities for developing countries to the FM.<sup>101</sup>

Based on these areas, the guidelines contain certain criteria to review the effectiveness of the FM which relate to the way financing is provided (e.g., the organizational effectiveness of the operating entities and their responsiveness to COP guidance) as well as to actual outcomes of the supported activities in terms of their contribution to the objectives of the Convention. It is interesting to note that the adequacy, predictability and timely disbursement of funds for activities in developing country Parties is regarded as a component of the FM's effectiveness.

#### 3.2.4.2. Reviews of the adequacy and effectiveness of adaptation support provided in the form of technology development and transfer

Adaptation technologies are defined by the UNFCCC as “the application of technology in order to reduce the vulnerability, or enhance the resilience, of a natural or human system to the impacts of climate change.”<sup>102</sup> Further to this overall definition, it has become common to classify adaptation technologies into the following three categories: (i) hardware (capital goods and equipment), (ii) software (capacity and processes involved in the use of technology such as knowledge, training and awareness-raising) and (iii) orgware (ownership and institutional arrangements).<sup>103</sup>

Given this broad definition, it is apparent that the review of adequacy and effectiveness of adaptation support provided in the form of technology development and transfer cannot be strictly separated from the reviews of the other two means of implementation and is often covered by them. However, there is one type of review under the Convention that focuses specifically on the performance of technology support for mitigation and adaptation.

In 2010/2011 the Technology Mechanism was established, composed of the Technology Executive Committee and the Climate Technology Centre and Network. It succeeded previous institutional arrangements related to the implementation of Article 4, paragraph 5<sup>104</sup> and the technology transfer framework under the Convention.

95 An overview of relevant sources is available at <https://unfccc.int/topics/climate-finance/resources/biennial-assessment-of-climate-finance>.

96 A detailed listing of the focus areas, criteria/indicators and sources used under the review is contained in annex 2.

97 Article 11, paragraph 3 (a) of the Convention.

98 Guidelines for the review of the Financial Mechanism contained in the annex of decision 3/CP.4.

99 Decision 6/CP.13, annex.

100 Decision 12/CP.22, annex.

101 Ibid.

102 UNFCCC (2010). Report of the Conference of the Parties on its Sixteenth Session, held at Cancun from 29 November to 10 December 2010, Addendum, Part Two: Action taken by the Conference of the Parties.

103 UNEP. 2014. The Adaptation Gap Report. A Preliminary Assessment Report. Available at <https://www.unenvironment.org/resources/adaptation-gap-report>.

104 Article 4, paragraph 5, of the Convention calls on developed country Parties and other developed Parties included in Annex II to “take all practical steps to promote, facilitate and finance, as appropriate, the transfer of, or access to, environmentally sound technologies and know-how to other Parties, particularly developing country Parties, to enable them to implement the provisions of the Convention. [...]”

The establishment of the TM followed an extensive review of the **adequacy and effectiveness of technology support** provided prior to its establishment. Under that review, adequacy of technology support was assessed via the review of existing and potential new financing resources in supporting the development, deployment, diffusion and transfer of environmentally sound technologies in developing countries. As part of that review, the financial resources and relevant vehicles as well as related gaps and barriers to the use of and access to these resources were analyzed.<sup>105</sup> **The effectiveness of the support** was assessed, among other methods, via a set of 40 primarily quantitative performance indicators, which covered both the component themes of the technology transfer framework as well as the financial flows provided for technology transfer.<sup>106</sup> The review resulted in a range of important lessons learned and recommendations which formed the basis for the creation of the TM.

With the establishment of the TM, new forms of reporting and review have been instituted. For example, both the TEC and the CTCN are requested to submit a joint annual report to the COP, based on which the COP, through the SBI, regularly assesses progress made towards their set targets.<sup>107</sup>

In addition, the terms of reference for the CTCN include a request to the secretariat, to periodically commission an independent review of the effective implementation of the CTCN.<sup>108</sup> The first independent review of the CTCN was undertaken in 2017 and included a quantitative and qualitative assessment of the effectiveness of the implementation of its core services relating to knowledge management, peer learning, capacity-building, technical assistance and networking. The review of effectiveness was based on a series of sub-ques-

tions and on a literature review as well as stakeholder interviews and surveys with national designated entities, network members and beneficiaries. However, given the recent establishment of the CTCN, the review focused on outputs (e.g., the extent to which requests for technical assistance related to both mitigation and adaptation technologies were responded to in due time) and not yet on outcomes or impacts of its work.<sup>109</sup>

By decision 1/CP.21, paragraph 69, the COP decided **“to undertake a periodic assessment of the effectiveness and adequacy of the support provided to the Technology Mechanism** in supporting the implementation of the Paris Agreement on matters relating to technology development and transfer”. The SBI, in elaborating the scope of and modalities for the assessment, took into account the review of the CTCN, the modalities for the global stocktake, the work on the transparency of action and support as referred to in Article 13 and the elaboration of the technology framework established under Article 10, paragraph 4, of the Paris Agreement. The CMA adopted the scope and modalities for the periodic assessment at its first session<sup>110</sup> and decided that its outcomes should serve as an input to the global stocktake.<sup>111</sup>

According to this decision, the scope of the first periodic assessment, which was finalized in 2022, covered the effectiveness of the TM and the adequacy of support provided to it as two separate elements. For both elements, an evaluation grid was developed, setting out the questions, indicators and data sources to be considered.<sup>112</sup> The assessment of the effectiveness covered the impact, outputs and outcomes of the TM. The adequacy of the support provided to the TM was reviewed based on the assessment of (i) the recipients of the provided support (TEC and CTCN, including

105 Decision 3/CP.13, annex II, paragraphs (f) (i) and (ii).

106 The set of indicators is contained in annex 2 and the full report is available in FCCC/SB/2009/4. The report on the indicators also included an overview on the selection and testing process, a description of the data required for each indicator and valuable lessons learned and recommendations.

107 Decision 1/CP.16, paragraph 117.

108 Decision 2/CP.17, annex VII, paragraph 20.

109 The sub-questions as well as indicators and data sources for the review of effectiveness are contained in annex IV of document FCCC/CP/2017/3.

110 Decision 16/CMA.1, annex.

111 Decision 16/CMA.1, paragraph 4.

112 See document FCCC/SBI/2022/13, annex I.



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the national designated entities) (ii) the sources of support provided; (iii) the types of support provided; (iv) how the support provided was used, taking into account actions at the different stages of the technology cycle (for mitigation actions; adaptation actions; cross-cutting actions) (v) the level of support provided and whether it had changed over time; (vi) the extent to which the support met the budgets and plans of the TM.<sup>113</sup> In addition to extensive document reviews, the assessment made use of interviews and surveys with TM stakeholders, case studies of three countries and surveys with national designated entities conducted in 2020 and 2022.

The outcomes of the data collection and analysis phase were considered by CTCN Advisory Board members, TEC members, and observers through a survey, after which the conclusions from the assessment were summarized into the final report. The report also contained recommendations for improving the effectiveness and enhancing support to the TM in supporting the implementation of the Paris Agreement.

#### 3.2.4.3. Reviews of the adequacy and effectiveness of adaptation support provided in the form of capacity-building

As with technology development and transfer, capacity-building support is frequently provided and thus reviewed in conjunction with the two other means of implementation. However, the Convention has established one specific review mechanism that focuses on the effectiveness and adequacy of capacity-building support. This is applied in the context of monitoring and reviewing progress made in the implementation of the capacity-building framework.<sup>114</sup>

The framework for capacity-building in developing countries (CB framework) has been established by Parties to the UNFCCC to guide capacity-building activities related to the implementation of the Convention and effective participation in the Kyoto Protocol process.<sup>115</sup> The scope of capacity-building needs and areas that are to be addressed under the framework includes several that relate to the implementation of adaptation activities, ranging from institutional

<sup>113</sup> Decision 16/CMA.1, annex.

<sup>114</sup> Detailed information on the focus areas, criteria and sources applied in the context of the review is provided in annex 4.

<sup>115</sup> Decision 2/CP.7. Note that decision 3/CP.7 established a capacity-building framework particularly for countries with economies in transition. However, this framework will not be addressed in this paper as the aspects focusing on adaptation are similar.



capacity-building and reporting to building more concrete capacities involved in vulnerability and adaptation assessments and adaptation implementation. In addition, it includes specific areas for capacity-building in least developed countries, of which several also relate to adaptation.

The implementation of the framework is to be driven by contributions of both developing and developed country Parties. Developing country Parties are asked to identify and clearly communicate their needs, promote South-South cooperation and stakeholder participation, including from the private sector, and promote the sustainability of the activities undertaken. Developed country Parties are requested to provide additional financial and technical resources and to respond to the communicated needs, with particular attention to least developed countries and small island developing States. The operating entities of the Financial Mechanism as well as other organizations and the private sector are requested to support the implementation of the framework, including through the provision of financial resources.

The COP, through the SBI, reviews the progress in the implementation of the framework and **the effectiveness of the capacity-building activities** every 5 years.<sup>116</sup>

Based on successive decisions regarding the monitoring and evaluation of the CB framework and lessons from previous reviews, the scope of sources that it takes into account has continuously been expanded. These sources include national communications and NAPs, synthesis reports on the implementation of the framework prepared by the secretariat, reports from the operating entities of the FM and other organizations, reports from CB meetings and workshops and findings of previous reviews. It also takes into account information generated through interviews, surveys and focused discussions with relevant national focal points.

Based on these sources the secretariat prepares comprehensive reports as input to the reviews, providing primarily qualitative information. This includes lessons learned, successes and challenges, on, for instance, factors that generally influence the effectiveness of CB activities as well as on capacity-building activities that specifically target adaptation.

Over time, the COP/SBI, in undertaking the reviews, enhanced its understanding of the key factors that contribute to effective CB and subsequently used these factors as indicators for effective CB in subsequent reviews (the list of key factors is contained in annex 5). In addition, after the first comprehensive review, it initiated a process to develop a monitoring and evaluation framework for capacity-building. The process was based on CB indicators developed by UNDP/GEF<sup>117</sup> and subsequently involved a series of papers, submissions, workshops and expert meetings to discuss the use of and experience with performance indicators for the M&E of capacity-building at various levels, including capacity-building for adaptation.<sup>118</sup> However, so far, the SBI/COP has not been in a position to agree on general performance indicators but rather noted that the M&E needs to be context-specific.

Similar to the review of the **adequacy of technology support**, a quantification of the adequacy of capacity-building support is not possible due to its multidimensional definition and overlaps with other adaptation activities and their support. However, the assessment of possible gaps between the provisions regarding the scope and areas of the capacity-building framework (see decision 2/CP.7) and the implementation of capacity-building activities is an explicit objective of the comprehensive reviews of the CB framework and is undertaken in qualitative terms by considering, for example, the following aspects:

- a) Degree to which the areas of the CB framework align with current CB needs identified by developing countries in their national communications, NAPAs, national capacity self as-

<sup>116</sup> Decision 2/CP.7.

<sup>117</sup> United Nations Development Programme/Global Environment Facility. Capacity Development Indicators. UNDP/GEF Resource Kit (No. 4). November 2003 and summarized in document FCCC/SBI/2009/5.

<sup>118</sup> A synthesis of the information generated through these events is contained in document FCCC/SBI/2009/5.



assessment reports, national poverty reduction strategy papers and national sustainable development strategies;

b) Degree to which Annex II Parties and other providers of support have covered the priority issues identified in the CB framework and by individual countries;

c) Distribution of support provided for the three levels of CB – systemic (enabling environments such as economic and regulatory policies), institutional, and individual;

d) Key remaining needs under different areas of the CB framework.

In 2011, the Durban Forum was established to provide additional input to the reviews of the implementation of the CB framework.<sup>119</sup> It is an annual in-session event aimed at further enhancing the monitoring and review of the effectiveness of capacity-building and bringing together a large spectrum of stakeholders that discusses and shares experiences. So far, several of the Durban Forum’s themes have implicitly or explicitly covered capacity-building for adaptation, including, for example, “Building capacity to mitigate and adapt to climate change – success stories and innovative approaches” and “Enhancing capacities for adaptation in the context of NAPs and NDCs”.

In 2015, the COP established the Paris Committee on Capacity-building, the aim of which is to address gaps and needs, both current and emerging, in implementing capacity-building in developing country Parties and to further enhance capacity-building efforts, including with regard to coherence and coordination in capacity-building activi-

ties under the Convention.<sup>120</sup> The Committee also serves the Paris Agreement.<sup>121</sup> The COP requested the Committee to focus each year on an area or theme related to enhanced technical exchange on capacity-building, with the purpose of maintaining up-to-date knowledge on the successes and challenges in building capacity effectively in a particular area.<sup>122</sup> Outcomes of the comprehensive reviews of the implementation of the capacity-building framework will, among others, provide input to the work of the Committee, which will prepare annual technical progress reports on its work, including on its annual focus area.<sup>123</sup>

#### 3.2.4.4. The IPCC approach

The primary information basis for assessing **effectiveness and success of adaptation** in the recent Sixth Assessment Report of the IPCC have been case studies on individual local to national level adaptation measures and comparative studies across countries over multiple years. In addition, Working Group II has synthesized recent inventories of adaptation projects and local adaptation policies, including those that have focused on assessing the quality of local and national adaptation planning to better characterise its potential merits, shortcomings and effects.<sup>124</sup> At the same time it has recognized the fact that while these studies provide context-specific insights, the tracking of global adaptation progress requires comprehensive global, empirical inventories of climate change adaptation efforts. Such inventories, however, remain in an early phase (see, for example, the Global Adaptation Mapping Initiative described in section 3.2.4.5 below).<sup>125</sup>

In terms of assessing the **adequacy of current adaptation efforts** in meeting societal goals, the IPCC uses two concepts—adaptation gaps and limits

119 Decision 2/CP.17, paragraph 144.

120 Decision 1/CP.21, paragraph 71.

121 Decision 3/CMA.2, paragraph 3.

122 Decision 1/CP.21, paragraph 74.

123 Decision 1/CP.21, paragraph 79.

124 Ara Begum, R., et al. (2022): Chapter 1: Point of Departure and Key Concepts. In: Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Available at [https://report.ipcc.ch/ar6/wg2/IPCC\\_AR6\\_WGII\\_FullReport.pdf](https://report.ipcc.ch/ar6/wg2/IPCC_AR6_WGII_FullReport.pdf).

125 Ibid.

to adaptation. Adaptation gaps are defined as ‘the difference between actually implemented adaptation and a societally set goal, determined largely by preferences related to tolerated climate change impacts and reflecting resource limitations and competing priorities’ (see also the approach applied for the UNEP Adaptation Gap reports as described in section 3.2.4.6 below).<sup>126</sup> Adaptation limits refer to the point at which adaptation actions can no longer secure an actor’s objectives (or system needs) against intolerable risks. According to the IPCC, adaptation limits can be soft or hard. Soft adaptation limits occur when adaptation options may exist but are currently not available to avoid intolerable risks and hard adaptation limits occur when no adaptive actions are possible to avoid intolerable risks. Intolerable risks are those which fundamentally threaten a private or social norm, e.g., public safety and the continuity of traditions, which in turn threaten core social objectives associated with health, welfare, security or sustainability.

Within the limits, adaptation gaps can be closed by increased and more successful adaptation actions (incremental or transformational) while only mitigation can prevent intolerable risks once adaptation limits have been reached. Thus, from a global perspective, understanding adaptation and its limits can inform judgements about the best balance among levels of mitigation and adaptation.<sup>127</sup>

#### 3.2.4.5. A systematic review by the Global Adaptation Mapping Initiative

In an attempt to address the lack of systematic syntheses of global adaptation research and evidence, which was identified in the context of the IPCC sixth assessment cycle, and to inform the upcoming Sixth Assessment Report, a global, informal network of 126 researchers established the Global Adaptation Mapping Initiative.

The purpose of the GAMI was to systematically map and review human adaptation responses to

climate-related changes that have been documented globally since 2013 in the scientific literature. Under the research question, “What is the evidence relating to human adaptation-relevant responses that can (or are) directly reduce risk, exposure, and/or vulnerability to climate change?”, the researchers systematically screened more than 48,000 articles using machine learning methods and identified those that empirically reported on adaptation-related responses to climate change in human systems. Non-empirical research and research on autonomous/ evolutionary adaptation in natural systems or on aspects of adaptation that do not directly lead to risk/exposure/vulnerability reduction, such as planning, policies or risk assessments, were excluded.

The resulting approximately 3,000 documents were synthesized with the help of coding methods and complemented with an expert elicitation exercise, the aim of which was to distill the derived knowledge for global regions and sectors, with associated synthesis statements and confidence assessments. The primary output is a series of scientific publications summarizing trends in adaptation implementation and suggesting further priorities for global adaptation research.<sup>128</sup>

#### 3.2.4.6. UNEP Adaptation Gap Reports

The UNEP Adaptation Gap Reports have been developed since 2014 with the aim of providing an annual science-based assessment of the global progress on adaptation planning, financing, and implementation. A conceptual framework was developed for the first Adaptation Gap Report in 2014,<sup>129</sup> which assumes that an adaptation goal can be established for each area of interest (finance, technology, knowledge) and any gaps identified between the adaptation levels that would be consistent with the goal at a given point in time and the actual levels achieved through the implementation of adaptation measures. This framework has been applied to

<sup>126</sup> Ibid.

<sup>127</sup> Ibid.

<sup>128</sup> More information on the Global Adaptation Mapping Initiative is available at <https://globaladaptation.github.io/index.html>.

<sup>129</sup> UNEP 2014. The Adaptation Gap Report 2014. United Nations Environment Programme (UNEP), Nairobi. Available at <https://www.unenvironment.org/resources/adaptation-gap-report-2014>.



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identify gaps in the provision of finance vis-à-vis the costs of identified needs as well as gaps in the development and transfer of technologies vis-à-vis societally set targets.<sup>130</sup>

#### Application of the conceptual framework for identifying gaps in adaptation finance<sup>131</sup>

For the identification of gaps in adaptation finance the conceptual framework sets out to explore the costs of meeting adaptation needs in developing countries and assesses the funding that is available for doing so in order to identify a potential gap between the two and thus the adequacy or inadequacy of financial support. In more concrete terms, the framework suggests assessing the costs of reaching a societally set adaptation target or goal and the amount of finance available. Thereby, the target or goal would reflect nationally determined needs as they relate to climate

change impacts, as well as resource limitations and competing priorities.<sup>132</sup>

With regard to estimating the costs to meet adaptation needs in developing countries, the 2016 Adaptation Finance Gap Report bases its findings on existing literature. It reviews global-level model estimates (top-down estimates), which calculate costs by relating total impacts with impact damages, at the global level and on the basis of a sectoral breakdown of cost elements,<sup>133</sup> and national-level estimates (bottom-up studies) which calculate costs by adding up the costs of each of the measures in a specific, pre-determined portfolio of adaptation actions. Particular attention is paid to the bottom-up estimates, since the global, top-down studies arrive at very different estimates due to a lack of empirical evidence on the relationship between greenhouse-gas emissions, impacts and the effectiveness of adaptation as well as a lack of

130 A similar assessment was done in the interest area of knowledge which is, however, not described in this paper.

131 UNEP 2016. The Adaptation Finance Gap Report 2016. United Nations Environment Programme (UNEP), Nairobi, Kenya. Available at <https://unepdtu.org/publications/the-adaptation-finance-gap-report/>.

132 UNEP (2015). The adaptation finance gap update: with insights from the INDCs. United Nations Environment Programme (UNEP). Nairobi, Kenya. Available at [http://web.unep.org/sites/default/files/gapreport/UNEP\\_Adaptation\\_Finance\\_Gap\\_Update.pdf](http://web.unep.org/sites/default/files/gapreport/UNEP_Adaptation_Finance_Gap_Update.pdf).

133 An example for this approach is the global scenario-based aggregated sectoral impact assessment approach applied by the World Bank in the following study: World Bank. 2010. The economics of adaptation to climate change: A Synthesis Report. The World Bank Group. Washington, DC., United States.

experience in determining the values of the model parameters. The bottom-up estimates are based on several multi-country initiatives on adaptation needs and related costs<sup>134</sup> and a growing number of individual country or sector studies, including information from several NDCs.

The determination of available adaptation finance focuses on public financial flows, primarily from developed to developing countries, committed through development finance institutions, governments (as recorded in OECD DAC) and dedicated climate change funds.<sup>135</sup> The report draws on the estimates presented in the Climate Policy Initiative's Global Landscape of Climate Finance<sup>136</sup> and on OECD databases. Neither public sector budgets for domestic adaptation action nor domestic or international private sector financing are included in the global quantitative estimates in this report since no systematic tracking on such flows has been available. However, the report states that private adaptation finance, particularly, will be and potentially already is essential to meeting the costs of adaptation needs, and describes some evidence about private sector financing for adaptation in developing countries as well as financial and non-financial tools that can be used to mobilize private sector financing for adaptation in such countries.

Based on the estimation of adaptation costs and the determination of available international public adaptation finance, the report estimates the adaptation finance gap for three different points in time: now, 2030 and 2050. For now, the report assesses how the estimated adaptation costs compare to the actual levels of international

public adaptation finance. For 2030 and 2050, it assesses how the estimated adaptation costs compare to the commitment by developed country Parties of mobilizing US\$100 billion per year for mitigation and adaptation from 2020, assuming the intended equal split between the two and an increase in this commitment from 2025 onwards.<sup>137</sup>

#### Application of the conceptual framework for identifying gaps in the development and transfer of technologies

In the case of technology development and transfer, the conceptual framework assumes that the adaptation goal would be a societally set target for implementation of technologies for adaptation which would be assessed against the adaptation technologies actually implemented. However, from the outset, the 2014 Adaptation Gap Report admits that a clear definition of technology targets, based on needs, and technologies implemented, which would allow for a measurement or quantification of the technology gap, is not possible due to the multidimensional definition of technologies for adaptation and their frequent overlaps with overall adaptation activities.<sup>138</sup> Measuring the transfer, diffusion and deployment of technologies via financial flows would only be one (limited) proxy for comparison over time, but other measurements or quantifications at an aggregate level are impossible.

Instead, the report proposes that the gap could be described as perceived by the countries based on an analysis of their technology needs assessments, and requests to technology support mechanisms

134 These include, for example, the NEEDS project mentioned in section 5.2.1.1, the "Economics of adaptation to climate change – country studies" (see footnote 83) and the 2011 "Assessment of investment and financial flows to address climate change – country summaries" by UNDP (Available at: <http://www.undpcc.org/en/financial-analysis/results>).

135 These include the Pilot Programme for Climate Resilience (PPCR), the Least Developed Countries Fund (LDCF), the Adaptation Fund (AF), the Adaptation for Smallholder Agriculture Programme (ASAP), the Special Climate Change Fund (SCCF) and the MDG Achievement Fund.

136 Buchner B. et al. 2015. Global Landscape of Climate Finance 2015: A CPI Report. Climate Policy Initiative. Venice, Italy. Available at: <http://climatepolicyinitiative.org/publication/global-landscape-of-climate-finance-2015/>. The methodology used in this report relies on the tracking standards and reporting approaches used by the members of the OECD's DAC, the group of multi-lateral banks that report jointly on climate change finance volumes, the members of the International Development Finance Club, and the various funds dedicated to climate change.

137 Through decision 1/CP.21, paragraph 53 Parties have decided that, in accordance with Article 9, paragraph 3, of the Agreement, developed countries intend to continue their existing collective mobilization goal through 2025 [...]; and that prior to 2025 the CMA shall set a new collective quantified goal from a floor of USD 100 billion per year [...].

138 UNEP. 2014. The Adaptation Gap Report. A Preliminary Assessment Report. Available at <https://www.unenvironment.org/resources/adaptation-gap-report>.



such as the CTCN. For that, it uses analyses of TNAs, NAPAs and various support requests in order to derive the following aspects of perceived gaps:

- a) The distribution of priority technology components (hardware, software or orgware) in different sectors (e.g., agriculture, water, coastal zones, disaster risk management);
- b) The type of gaps in terms of transfer, diffusion or innovation implicitly derived from the nature of the identified technology needs (e.g., whether a country as a whole needs a specific type of technology (=transfer) or only a certain region which has not yet had access (=diffusion);
- c) Level of maturity (traditional, modern, high, or future) of prioritized technologies by sector and a comparison of the size of the

gaps identified under each level of maturity over time (e.g., there seems to be a shift in demand from traditional towards more modern technologies); and

- d) Categories of different barriers to technology development and transfer and their respective weight (e.g., challenges often relate to the local adoption and diffusion of technologies rather than to their availability).

Based on this rather qualitative description of gaps in or inadequacy of technology development and transfer, the report describes how targets in this regard could be defined, for instance, by identifying cases in which international transfer of technologies is critical and those where the focus should lie on accelerating the diffusion and uptake of existing technologies instead of their transfer.



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## 4

## LESSONS LEARNED, GAPS AND CHALLENGES IN RELATION TO EXISTING METHODOLOGIES

## 4.1 Lessons learned

The documentation of existing methodologies and their application at various levels reveals the following lessons learned:

- a) Adequacy and effectiveness of adaptation and support are context-specific. They can therefore not be measured by a generic set of indicators; instead, they require assessment methods that are carefully aligned with the specific assessment purpose;
- b) The review of adequacy and effectiveness of adaptation and support at national and higher levels requires:
  - i. A mixed method approach and the triangulation of data, including both quantitative and qualitative, from diverse sources to adequately understand, evaluate and explain outcomes and to bridge potential data gaps in standard sources such as national statistics;
  - ii. Evaluations conducted at different geographical and temporal scales to capture outcomes that have cross-boundary or maladaptive effects and/or evolve over time;
  - iii. Well-functioning monitoring and reporting systems at different levels which supply required data and information, building on and using synergies with existing M&E systems, and evolve from assessing adaptation planning and outputs to assessing implementation and outcomes;
- iv. The participation of all relevant stakeholders such as multiple ministries and sectors, beneficiaries, support providers, and independent reviewers in order to capture the range of perspectives;
- v. A balance of both continuity and flexibility in successive reviews, with continuity referring to a repetitive assessment of the same aspects to capture developments over time and flexibility referring to the need to take into account new developments, trends and values when establishing assessment criteria, as these influence the way adequacy and effectiveness are evaluated;
- c) Although assessments of adequacy and effectiveness require different methodologies, both concepts are closely linked, sometimes seen as components of each other and as such need to be considered jointly, and, where relevant, in conjunction with other aspects such as relevance, coherence, efficiency, impact and sustainability, in order to ultimately evaluate outcomes of adaptation and its support;
- d) In general, the adequacy of adaptation and support is still more challenging to assess due to the early stages of adaptation implementation. In cases where it is too early to make definitive statements on the adequacy of adaptation measures or support, a step-wise approach seems reasonable, in which it is first ensured that consecutive plans, measures and support are implemented effectively, while overall adequacy is monitored and assessed over time;
- e) Assessments of effectiveness require a plausible cause-and-effect relationship between an adaptation action and its measured results which

can be established by e.g., a theory of change approach;

f) Specific lessons with regard to using indicators include:

i. A comprehensive understanding of adequacy and effectiveness of adaptation cannot be based on indicators alone since they do not explain why and how change has occurred which are essential aspects of learning from specific measures – interpretations and respective narratives are required, preferably through a participatory approach like the exchange with beneficiaries;

ii. Indicators need to be tailored to the specific M&E purpose and context and they must be scrutinized for their ability to demonstrate the adequacy and effectiveness of the specific adaptation measure instead of demonstrating that adaptation has occurred;

iii. Indicators must be designed so as to inform on outcomes (= what has changed) instead of on outputs (= what has been done);

g) Specific lessons with regard to the methodologies for assessing the adequacy and effectiveness of adaptation support include:

i. The review of the effectiveness of adaptation support requires both the assessment of the final outcome of the supported adaptation activity as well as the assessment of the way the support was provided (e.g., organizational or management effectiveness);

ii. Periodic and standard performance evaluations can be complemented by thematic evaluations in order to review effectiveness, such as in the case of the CIF's Evaluation & Learning Initiative that focuses on learning about effectiveness through thematic

studies instead of annual programme performance evaluations;

iii. In order to avoid double counting of the three types of support, needs assessments and reports on support should include a sufficient amount of qualitative information.

## 4.2 Gaps and challenges

Although adaptation research, including on experiences of adaptation at different scales, has grown over the years, the IPCC, in its most recent assessment report, concludes that “critical conceptual and empirical gaps remain in defining effectiveness in adaptation and measuring adaptation progress.”<sup>139</sup> It ascribes this in part to the growing number of disciplines and practices through which research on adaptation, or aspects of it, is being undertaken, sometimes without being labelled as such. These different perspectives continue to fuel debates about what actually counts as ‘adaptation’, what to define as “adaptation success” and consequently how to establish a “conventional evidence base for decision and policymaking”.<sup>140</sup> Adaptation researchers are increasingly expected to offer clear and confident advice on adaptation success, yet are also increasingly aware of how context-specific and contested success is,<sup>141</sup> pointing to the fact that there is no single “best available science” which could provide clear guidance on adaptation action as implied by the formulation of Art. 7.5 of the Paris Agreement.

Adding to this challenge is the fact that the set of criteria considered relevant in assessing the effectiveness of adaptation and support continues to evolve. As stated in section 4.1 above, the assessment of adaptation needs to be both continuous and flexible over time with the latter referring to the need to take into account new developments, trends and values when establishing assessment criteria. But the changing nature of what counts as effective adaptation, e.g., the IPCC now con-

139 Ibid.

140 Ibid, Cross-Chapter Box ADAPT | Adaptation science.

141 Ibid.



sidering issues of justice and transformational potential as being important determinants of this, also makes it more difficult to assess effectiveness over time, particularly in cases where the determinants themselves are not yet clearly defined or interpreted differently by different stakeholders. This overall uncertainty affects judgements about the comparative effectiveness and justice of alternative adaptation options.<sup>142</sup>

Apart from these more general findings by the IPCC, several conceptual and practical gaps and challenges have been identified in relation to the existing methodologies and their application. Conceptual challenges include:

- a) Diverse risk preferences of societies or social groups lead to different definitions and evaluations of adaptation effectiveness;
- b) The interlinkages and overlaps between adaptation and development make it difficult to define precisely the contribution of an adaptation measure to an effective outcome;
- c) Different assumptions regarding the counterfactual (hypothetical scenario on what would have happened without the adaptive measure) lead to different evaluations of effectiveness;
- d) Evaluating adequacy and effectiveness of a measure requires their calibration against the actual level of climate risk, which might change during the lifetime of the measure or after its completion due to unpredictable socio-economic developments and uncertain future hazards;

e) Effectiveness of a measure in one location (e.g., extracting more water from a river upstream) might mean adverse impacts in another (e.g., communities downstream or even in locations across national borders) either in the short-term or even after years (maladaptation);

f) The time taken for the full benefits of some adaptation measures to unfold.<sup>143</sup>

g) Lack of empirical evidence on the relationship between greenhouse-gas emissions, climate change impacts and the effectiveness of adaptation, hampering the review of the overall adequacy of adaptation.

Practical gaps and challenges include:

- a) A general lack of M&E systems and systematic assessments of adequacy and effectiveness of adaptation and support, despite progress in recent years;
- b) Low rate of publication of the existing lessons learned in academic or grey literature, hampering their systematic analysis;<sup>144</sup>
- c) Lack of efforts to compile a comprehensive global, empirical inventory of climate change adaptation, which would be required to obtain a more comprehensive understanding of adaptation effectiveness than is currently available through individual case studies that apply different, often non-comparable assessment criteria;<sup>145</sup>
- d) Limited support for and ownership of monitoring and evaluation after an intervention's

<sup>142</sup> Ibid.

<sup>143</sup> A more detailed discussion of the methodological challenges of assessing the adequacy and effectiveness of adaptation is available in GIZ & WRI (2011). Making Adaptation Count. Concepts and Options for Monitoring and Evaluation of Climate Change Adaptation. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH. Available at: <https://star-www.giz.de/dokumente/bib-2011/qiz2011-0219en-monitoring-evaluation-climate-change.pdf>; Bours, D., McGinn, C., and Pringle, P. (2014a). Guidance note 1: twelve reasons why climate change adaptation M&E is challenging. SEA Change CoP and UKCIP, available at: <https://www.ukcip.org.uk/wp-content/PDFs/MandE-Guidance-Note1.pdf>; Dinshaw, A., Fisher, S., McGray, H., Rai, N., & Schaar, J. (2014). Monitoring and Evaluation of Climate Change Adaptation: Methodological Approaches. OECD Environment Working Papers, No. 74, OECD. Available at: [https://www.oecd-ilibrary.org/environment/monitoring-and-evaluation-of-climate-change-adaptation\\_5jxrdr0ntjd-en](https://www.oecd-ilibrary.org/environment/monitoring-and-evaluation-of-climate-change-adaptation_5jxrdr0ntjd-en); Ford, J., & Berrang-Ford, L. (2016). The 4Cs of adaptation tracking: consistency, comparability, comprehensiveness, coherency. Mitigation and Adaptation Strategies for Global Change, 21, 839–859. Open access: <https://link.springer.com/content/pdf/10.1007%2F978-0-14-9627-7.pdf>.

<sup>144</sup> Ibid. Cross-Chapter Box ADAPT | Adaptation science.

<sup>145</sup> Ara Begum, R., et al. (2022): Chapter 1: Point of Departure and Key Concepts. In: Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Available at [https://report.ipcc.ch/ar6/wq2/IPCC\\_AR6\\_WGII\\_FullReport.pdf](https://report.ipcc.ch/ar6/wq2/IPCC_AR6_WGII_FullReport.pdf).

lifetime leaving the long-term adaptation outcomes unassessed;

e) Lack of capacity (skills, expertise and experience, time) and coordination (e.g., among participating ministries and institutions) to undertake proper M&E, leading to unreliable findings and missed chances to learn;

f) Decreasing scope for capacity-building for monitoring and reporting and inefficient reporting processes in developing countries leading to a gap in the continuous and consistent collection and reporting of data and information;

g) Lack of disclosure of M&E findings to the public and cessation of project websites, impeding learning.

The following gaps and challenges have been identified specifically in relation to methodologies for reviewing the adequacy and effectiveness of adaptation support:

a) Gaps in the definitions of adaptation finance, technology and capacity-building as well as the close interlinkages between the three types of support, impeding a clear distinction of their respective contributions to resilience building;

b) Challenges in attributing low rates of adaptation success to insufficient support versus other influencing factors, such as enabling environments.

The following specific challenges hamper the assessment of the adequacy of financial support since they stand in the way of obtaining a full picture of adaptation finance needs and flows:

a) Lack of agreed methods to assess the financing needs of developing countries at the level of the Convention, although improvements have been made through the efforts described in section 3.2.4.1;

b) Under- or overestimations of support needed and provided due to gaps in data coverage and reporting and large differences in adaptation costing methodologies;

c) A widespread approach of basing the estimation of adaptation costs on planned public adaptation and the estimation of available finance on public international finance, omitting autonomous and private adaptation costs as well as public domestic and private finance, which are more difficult to track but could increase estimates of costs and available finance significantly;

d) Challenges in identifying and classifying investments due to the close interlinkages between adaptation and development finance;

e) A likely underestimation of international public finance flows for adaptation due to a lack of methodologies that capture financing for activities that do not have adaptation as their primary goal.

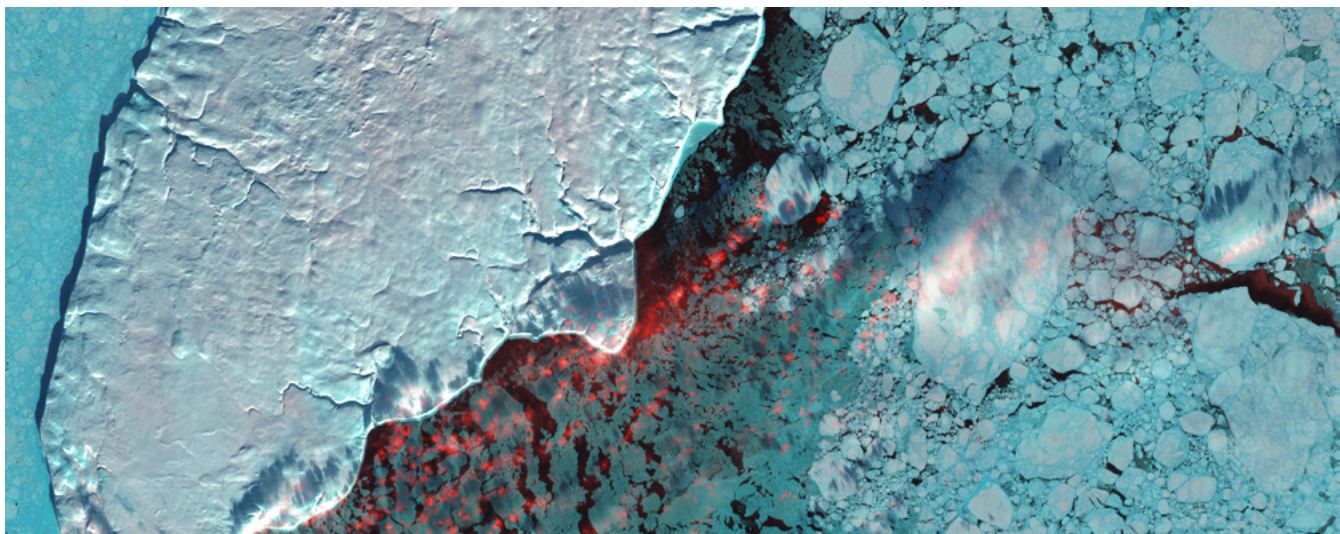


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## 5

# ADDITIONAL CONSIDERATIONS AND PROPOSALS FOR THE GLOBAL REVIEW

Several additional considerations and proposals have recently been brought forward on ways to conduct the global review of the adequacy and effectiveness of adaptation and support, or aspects thereof. These have been shared in different discussion forums such as the technical dialogues under the first global stocktake and the work programme on the global goal on adaptation, or in recent publications such as under the OECD Climate Change Expert Group (CCXG) or by the Adaptation Working Group of the independent Global Stocktake (iGST).

## 5.1 Considerations and proposals raised in discussions under the technical dialogues of the first global stocktake and the work programme on the global goal on adaptation

The discussions in the meetings of the technical dialogue under the first global stocktake<sup>146</sup> touched on various sub-elements or aspects of the review of the adequacy and effectiveness of adaptation and support rather than on its overall approach or methodology.

In general, there was acknowledgement of the fact that assessing adaptation requires an understanding of global collective progress across contexts and spatial scales, including progress made towards the global goal on adaptation.

A framing presentation<sup>147</sup> held at the first meeting of the technical dialogue highlighted that to assess progress on adaptation, including its adequacy and effectiveness, the global stocktake would need to answer the following questions:

- a) Where do we need to be? – What are we adapting to (climate scenarios) and how will we know if we are adapted (definition of the GGA)?;
- b) Where are we? – How can we figure out where we are through waypoints along the route (definition of process outcomes)?;
- c) What do we need in order to get where we need to be? – Commitments, actions and means of implementation;
- d) What do we need to do now? – Are we on the right track, do we need to speed up (effectiveness & adequacy)?

The presentation further suggested that the parameters that need to be assessed include needs, inputs, actions, outputs, and outcomes. It also emphasized that various actors and actions would need to be involved while balancing contextual richness and aggregation.

In subsequent discussions, Parties touched upon the following in relation to possible approaches to the review of the adequacy and effectiveness of adaptation and support:<sup>148</sup>

146 The first two meetings have taken place in June and November 2022, respectively. More information about the meetings and their outcomes is available at <https://unfccc.int/topics/global-stocktake/components-of-the-gst/technical-dialogue-of-the-first-global-stocktake#Relevant-documents>.

147 [https://unfccc.int/sites/default/files/resource/patwardhan\\_GST\\_TD\\_Bonn\\_June\\_2022.pdf](https://unfccc.int/sites/default/files/resource/patwardhan_GST_TD_Bonn_June_2022.pdf).

148 For further information see the summary reports of the technical dialogue sessions available at <https://unfccc.int/topics/global-stocktake/components-of-the-gst/technical-dialogue-of-the-first-global-stocktake#Relevant-documents>.

a) The links between the GST and the global goal on adaptation, including the importance of ensuring coherence among the two. Some of the Parties underlined the importance of further operationalizing the global goal in guiding the review of the adequacy and effectiveness of adaptation and support and some advocated for an operationalization in both qualitative and quantitative terms;

b) Parties' experiences in what constitutes effective or ineffective adaptation, relating, for example, to enabling conditions such as governance (vertical and horizontal integration and alignment of adaptation and its institutional arrangements), data and information, understanding of past, current, and future climate risks, stakeholder involvement, linkages with other frameworks such as the SDGs, and the availability of resources;

c) Further proposals on how to assess the effectiveness of adaptation action, including by assessing the extent to which adaptation and climate information are integrated into all relevant decision-making processes at all relevant levels and by the public and private sectors – for example, into prioritization of activities, budget and investment planning – as an indication of the systemic/transformational change that is required; by applying the conservation of nature as an indicator; or by taking into account transboundary and compound risks, cross-sectoral and inter-generational aspects and lessons from successful local adaptation strategies;

d) Innovative ideas on how to assess effectiveness of adaptation support, including by assessing whether and how much of the support is actually reaching the local level and the most vulnerable (youth, women, indigenous people); by assessing the effectiveness of the international financial institutions as a whole including the way they generate and deliver finance; and by assessing enabling conditions for support, including capacity, data and availability and access to technology;

e) Suggestions on how to assess adequacy, including by assessing needs and gaps along the adaptation policy cycle, including cross-cutting issues such as gender and youth;

f) The availability of financial support in relation to needs in terms of quantity, accessibility, distribution, type of finance and sustainability of flows, particularly for moving from planning to implementation;

g) The importance of monitoring and evaluation systems in further identifying adequate and effective adaptation and support and their intention of setting up and improving such systems, including through the identification of appropriate targets and indicators;

h) The value of effective reporting systems and ideas for developing innovative ways of reporting e.g., through technology, regional cooperation, improvement and harmonization of data-collecting systems and creation of synergies, in order to contain reporting burden.

In the discussions, it was acknowledged that while quantified information on adaptation progress is increasingly becoming available, qualitative assessments continue to play an equally important role. To that end, it was suggested to consider the development of indicators for adequacy and effectiveness at different scales (from local to global), e.g., global coverage of NAPs as one indicator of adequacy at the global level. At the same time, it was suggested to develop a mapping process to capture the state of adaptation in countries with the aim of sharing experiences and tracking progress, particularly in relation to NAPs.

Finally, the specific characteristics of adaptation were widely recognized, including its dynamic and context-specific nature, its relationship with the 1.5 warming limit and the complexities it involves, such as various stakeholders and different geographical and time scales. In this context, it was suggested to consider the GST and the global review of adequacy and effectiveness as a continuous process of translating and linking different views and understandings and of facilitating mutual learning.



## 5.2 Proposals made in the context of other recent initiatives

Two other initiatives have recently undertaken work on methodologies for the review of the adequacy and effectiveness of adaptation and support under the global stocktake. These are the OECD Climate Change Expert Group (CCXG) and the Adaptation Working Group of the independent Global Stocktake (iGST).

The **Global Forum on the Environment and Climate Change**, convened by the OECD CCXG and the International Energy Agency (IEA) in September 2022, focused, among other topics, on adaptation in the global stocktake, including on furthering the understanding of the adequacy and effectiveness of adaptation action.<sup>149</sup> In a paper prepared for that meeting, the authors suggest that countries could undertake self-assessments of their own adaptation efforts and submit the outcomes to the UNFCCC for compilation under the GST. The outcomes would subsequently be analyzed with a view to identifying global trends, progress and gaps. For this, they suggest that a traffic light system could be applied to specific types of adaptation action (e.g., coastal protection), to areas of the GGA (e.g., increased adaptive capacity) or to different global and regional climate risks.

The **iGST Adaptation Working Group** is a consortium of civil society actors that explores the intersection of adaptation and the global stocktake. Its research focuses on identifying new data and assessment frameworks that are needed to take stock of, and ultimately take action on, climate change adaptation.<sup>150</sup> In a paper published in

the context of its work in 2023, internationally renowned authors propose the following broad approaches to the global review of the adequacy and effectiveness of adaptation:<sup>151</sup>

- a) Stepping back from the development of detailed methodologies and asking the following broader questions (with more detailed sub-questions): (i) Who is adaptation adequate and effective for, over what timeframe, and for what hazards? (ii) How can the design of the stocktake process shape action? (iii) How can the outputs take adaptation action further? (iv) How do different groups imagine an adapted future?;
- b) Making use of the key role that national MEL systems can play in implementing contextualized and meaningful assessments of adequacy and effectiveness which can subsequently improve the understanding of the two concepts globally;
- c) Applying the Global Adaptation Progress Tracker (GAP-Track) to adaptation efforts based on an expert judgement method at various scales. The expert judgement method is supported by a scoring system and is framed by six overarching questions, and related sub-questions, reflecting core components of adaptation: knowledge, planning, actions, capacities, evidence and forecasting. With the help of expert judgements and the scoring system, assessment is made of the extent to which the elements addressed in each sub-question contribute to progress in adaptation in the system under study.

149 <https://www.oecd.org/environment/cc/ccxg/globalforumontheenvironmentandclimatechange-september2022.htm>.

150 <https://www.climateworks.org/programs/governance-diplomacy/independent-global-stocktake/igst-adaptation-working-group/>.

151 <https://unepccc.org/publications/perspectives-adequacy-and-effectiveness-of-adaptation-in-the-global-stocktake/>.



# OPPORTUNITIES AND WAY FORWARD

The global review of the adequacy and effectiveness of adaptation and support under the UNFCCC global stocktakes will need to derive information from various individual assessments at different scales around the globe. The methodologies described in this paper, and the information that is being produced through their application, provide an important basis for that. Iteratively applying and refining them provides the following long-term opportunities:

- a) First, it enhances **learning** at all levels. The information that Parties and other stakeholders make available on the outcomes of implemented adaptation actions and support, alongside lessons learned, good practices, gaps and needs facilitate mutual learning on what works, what does not work and what could constitute innovative approaches for the future.
- b) Second, the provision of such information can lead to a **shared understanding** of the “state of play” of adaptation planning, actions and support at the global level. If viewed in conjunction with IPCC reports and the state of the climate system, the information shared by Parties through their country reporting and by constituted bodies, operating entities of the Financial Mechanism, UN and other international organizations and other stakeholders, provides opportunities to inform the global stocktake. Outcomes of the GST could subsequently guide Parties in increasing adaptation

actions and support in geographical and thematic areas in which gaps have been identified.

- c) Third, it could assist in **defining, over time, consistent types of information** relevant for the review, which could subsequently guide reporting requirements at all levels. Countries and other stakeholders could be requested to report on these types of information in addition to individual, context-specific information. The outcomes of both the first global stocktake and the Glasgow – Sharm el-Sheikh work programme on the global goal on adaptation will provide important motivation and momentum for these processes. In addition, other global reporting processes, such as those related to the SDGs and the Sendai Framework,<sup>152</sup> the proposals outlined in chapter 5, as well as initiatives that work towards more consistent ways of assessing and reporting on adaptation and its outcomes,<sup>153</sup> can provide valuable ideas.

Apart from the streamlining of reporting requirements, **raising awareness** of the value of M&E and reporting and the provision of **financial and technical support** to developing countries are essential for increasing the level of monitoring, evaluation and reporting at all levels. Additionally, more **innovative reporting systems** could reduce the reporting burden. The enhanced transparency framework, established by the Paris Agreement, provides an important opportunity in this regard as it could assist in further shaping ad-

152 For an overview of methodologies and indicators used by these frameworks, see the AC technical paper on Approaches to reviewing the overall progress made in achieving the global goal on adaptation (AC19/SUM-INFO/6A).

153 Examples of these initiatives include, among others, the LEG’s work on tracking progress annually on national adaptation plans through the application of generic process metrics of the PEG M&E tool, the Inter-Sectoral Impact Model Intercomparison Project, the Multilateral Development Banks’ Framework and Principles for Climate Resilience Metrics in Financing Operations, the ISO 14090 standard “Adaptation to climate change” developed by the International Organization for Standardization, efforts by the Task Force on Climate-related Financial Disclosures.



adaptation reporting in the future.<sup>154</sup>

In terms of data and information collection and sharing for the various assessments, **innovative sources and collection systems**, such as big data, satellite observation, mobile technology, and artificial intelligence can help in improving speed and coverage.

Overall, the GST should be seen as an important **venue for learning** from experiences in applying the existing methodologies, for identifying gaps and for sharing new and innovative approaches for reviewing the adequacy and effectiveness of adaptation and support.

Based on these opportunities, the following actions could contribute to a more systematic global review under the consecutive UNFCCC global stocktakes. Some of them could be spurred by the AC and the LEG, in collaboration with the SCF, such as actions a), d), e), f) and g), while all the actions will benefit from the contributions of a wide range of stakeholders.

a) Conducting a **mapping** of the existing approaches and methodologies including an assessment of their respective strengths and limitations in order to identify how synergies between them can be used to review global adaptation progress (see IPCC, AR 6, chapter 17);

b) Collecting **empirical evidence** from the application of these approaches and methodologies at various levels, contributing to the creation of a comprehensive global empirical inventory of climate change adaptation as advocated by the IPCC;

c) Based on the empirical evidence, collecting **attributes of adaptation** and/or support which commonly contribute to adequate and effective adaptation and which could (i) inform Parties in updating and enhancing their adaptation actions and support as well as in enhancing international cooperation for adaptation action; and (ii) be used to assess the adequacy and effectiveness of adaptation and support at the various levels to subsequently inform the global review, in addition to assessments based on national-level/context-specific review criteria;

d) **Monitoring and leveraging** developments and synergies with the goals and processes established under the UNFCCC, such as the 1.5 warming limit and the global goal on adaptation, while taking into account established processes and the degree of progress made under other global agendas such as the SDGs and the Sendai Framework;

e) Incorporating considerations and outcomes from **other review processes** under the UNFCCC, including the reviews of the Financial Mechanism, technology mechanism and capacity-building framework, as well as progress reviews of the formulation and implementation of NAPs;

f) **Strengthening M&E and reporting systems**, including through the provision of support to developing country Parties, with a focus on expanding the typical scope of assessing input, outputs and process to include impacts and outcomes;

g) **Continuously developing and refining** the applied methodologies and approaches over time, taking into account previous experience as well as new developments and values.

154 For further information see <https://unfccc.int/process-and-meetings/transparency-and-reporting/preparing-for-the-ETF>.

## ANNEX 1: REVIEW OF THE EFFECTIVENESS OF FINANCIAL SUPPORT FOR ADAPTATION UNDER INTERNATIONAL FUNDS AND FINANCIAL SUPPORT PROGRAMMES – FOCUS AREAS, CRITERIA AND SOURCES

GEF LDCF/SCCF (based on LDCF/SCCF RBM framework<sup>1</sup>, GEF Programming Strategy on Adaptation for the LDCF/SCCF for GEF-8 (2022–2026)<sup>2</sup>, Annual Monitoring Review of the LDCF/SCCF<sup>3</sup>, Programme Evaluation of the LDCF<sup>4</sup>, Comprehensive Evaluation of the GEF<sup>5</sup>)

FOCUS AREAS	ASPECTS/CRITERIA/INDICATORS	SOURCES
<p>Portfolio level:</p> <ol style="list-style-type: none"> <li>The performance and results of, as well as lessons learned from, the portfolio of projects and programmes financed under the LDCF and the SCCF for the respective fiscal year;</li> <li>Information on management effectiveness and efficiency as it relates to the two funds.</li> </ol> <p>Programme level:</p> <ol style="list-style-type: none"> <li>Progress towards their objectives (including GEF Strategic Objectives and Pillars);</li> <li>Major achievements;</li> <li>Lessons learned.</li> </ol>	<p>Project/programme level:</p> <ol style="list-style-type: none"> <li>Core indicators (number of direct beneficiaries disaggregated by gender; area of land managed for climate resilience (ha); coastal or marine area managed for climate resilience (ha); total number of policies, plans and frameworks that will mainstream climate resilience; number of people trained or with awareness raised (with enhanced capacity to identify climate risk and/or engage in adaptation measures), disaggregated by gender); number of private sector enterprises engaged in climate change adaptation and resilience action;</li> <li>Outcome indicators (e.g., Innovative financial instruments and investment models enabled or introduced to enhance climate resilience; Strengthened cross-sectoral mechanisms to mainstream climate adaptation and resilience);</li> <li>Qualitative information (e.g., on the impact of climate risk mainstreaming in policies and plans and on the catalytic impact of LDCF/SCCF support in leveraging finance for scale-up and replication).</li> </ol>	<p>Project/programme level:</p> <ol style="list-style-type: none"> <li>Monitoring data collected, among others, through “Revised tracking tool for climate change adaptation”.<sup>6</sup></li> </ol> <p>Portfolio level:</p> <ol style="list-style-type: none"> <li>Midterm and terminal evaluation reports from projects/programmes;</li> <li>Management documents from LDCF/SCCF and implementing agencies.</li> </ol> <p>Programme level:</p> <ol style="list-style-type: none"> <li>Meta-analysis of diverse documents and project reviews from inside and outside of the GEF;</li> <li>Outcomes of its portfolio analysis;</li> <li>Country field visits;</li> <li>Interviews with key stakeholders.</li> </ol>

1 GEF/LDCF/SCCF.25/Inf.05.

2 GEF/LDCF/SCCF.32/04/Rev.01.

3 GEF/LDCF/SCCF.26/04.

4 GEF/LDCF/SCCF.22/ME/02; GEF Independent Evaluation Office. 2016. Program Evaluation of the Least Developed Countries Fund. Available at <https://www.gefio.org/evaluations/lDCF-2016> and GEF Independent Evaluation Office. Least Developed Countries Fund. 2020 Program Evaluation. Available at <https://www.gefio.org/evaluations/lDCF-2020>.

5 GEF/E/C.58/02.

6 Replacing the previously applied Adaptation Monitoring and Assessment Tool (AMAT).

FOCUS AREAS	ASPECTS/CRITERIA/INDICATORS	SOURCES
	<p>Portfolio level:</p> <ul style="list-style-type: none"> <li><b>a.</b> Focus area 1: in quantitative terms: regional and sectoral distribution of LDCF and SCCF projects under implementation, the performance ratings of LDCF and SCCF projects regarding their progress towards implementation and development outcomes.<sup>1</sup> In qualitative terms: key success factors, challenges and lessons learned from the active portfolio regarding project performance, private sector engagement, gender mainstreaming and overall stakeholder engagement;</li> <li><b>b.</b> Focus area 2: project cycle performance (e.g., time between project approval and endorsement) and the management efficiency and effectiveness in terms of, e.g., increase and diversity of contributions made to the funds, cost structure, and visibility of the funds.</li> </ul> <p>Programme level: (Example of 2007 review of the SCCF)</p> <ul style="list-style-type: none"> <li><b>a.</b> Degree to which the SCCF supported projects have helped reduce vulnerability, built adaptive capacity, integrated adaptation into policies and processes;</li> <li><b>b.</b> Project alignment with GEF adaptation strategic objectives;</li> <li><b>c.</b> Degree of projects reaching anticipated adaptation benefits.</li> </ul> <p>Fund level:</p> <ul style="list-style-type: none"> <li><b>a.</b> Country ownership</li> <li><b>b.</b> Specific country and/or thematic allocations,</li> <li><b>c.</b> Gender equality;</li> <li><b>d.</b> Complementarity of SCCF/LDCF funds with other funds inside and outside the GEF</li> </ul>	

1. Performance ratings related to implementation progress (IP) are based on progress made during a given reporting period, whereas those related to development objectives (DO) are based on the likelihood that a project will achieve its stated objectives by the end of implementation. Depending on the progress made both ratings are classified into Highly Satisfactory (HS), Satisfactory (S), Moderately Satisfactory (MS), Moderately Unsatisfactory (MU), Unsatisfactory (U), Highly Unsatisfactory (HU).

GCF (based on the Integrated Results Management Framework<sup>1</sup> and the Evaluation policy for the GCF<sup>2</sup>)

FOCUS AREAS	ASPECTS/CRITERIA/INDICATORS	SOURCES
<p>GCF impact level – paradigm shift potential (“degree to which the proposed activity can catalyse impact beyond a one-off project or programme investment”)</p> <ol style="list-style-type: none"> <li>Potential for scaling up and replication, and its overall contribution to global low-carbon development pathways being consistent with a temperature increase of less than 2 degrees Celsius;</li> <li>Potential for knowledge and learning;</li> <li>Contribution to the creation of an enabling environment;</li> <li>Contribution to regulatory frameworks and policies; and</li> <li>Overall contribution to climate-resilient development pathways consistent with a country’s climate change adaptation strategies and plans.</li> </ol> <p>GCF outcome level</p> <ol style="list-style-type: none"> <li>Increased resilience (impact potential)</li> <li>Enabling environment</li> </ol> <p>Project/programme levels</p> <p>Additional areas relevant for the specific project/programme context (e.g., biodiversity, gender, etc)</p>	<p>GCF impact level – paradigm shift potential:</p> <ol style="list-style-type: none"> <li>Scale</li> <li>Replicability;</li> <li>Sustainability</li> </ol> <p>GCF outcome level</p> <p>Core and supplementary indicators for assessing increased resilience:</p> <ol style="list-style-type: none"> <li>Direct and indirect beneficiaries reached; <ol style="list-style-type: none"> <li>Beneficiaries (female/male) adopting improved and/or new climate-resilient livelihood options;</li> <li>Beneficiaries (female/male) with improved food security;</li> <li>Beneficiaries (female/male) with more climate-resilient water security;</li> <li>Beneficiaries (female/male) covered by new or improved early warning systems;</li> <li>Beneficiaries (female/male) adopting innovations that strengthen climate change resilience;</li> <li>Beneficiaries (female/male) living in buildings that have increased resilience against climate hazards;</li> <li>Change in expected losses of lives due to the impact of extreme climate-related disasters in the geographic area of the GCF intervention.</li> </ol> </li> </ol>	<p>GCF impact level – paradigm shift potential</p> <ol style="list-style-type: none"> <li>Interim and final evaluation reports of projects/programmes using the three-point scale scorecard template;</li> <li>Independent post-implementation evaluations</li> </ol> <p>GCF outcome level</p> <p>For increased resilience indicators:</p> <ol style="list-style-type: none"> <li>Annual Performance Reports including quantitative and qualitative information from AEs;</li> <li>Result area and portfolio level reports by the secretariat.</li> </ol> <p>For enabling environment indicators:</p> <ol style="list-style-type: none"> <li>Interim/final evaluations using three-point scale scorecards and narratives from AEs;</li> <li>Portfolio level reports by the secretariat using the results tracking tool;</li> </ol> <p>Project/programme level:</p> <ol style="list-style-type: none"> <li>Annual Performance Reports</li> </ol>

<sup>1</sup> <https://www.greenclimate.fund/document/integrated-results-management-framework>.

<sup>2</sup> <https://www.greenclimate.fund/document/evaluation-policy-gcf>.

FOCUS AREAS	ASPECTS/CRITERIA/INDICATORS	SOURCES
	<ul style="list-style-type: none"> <li data-bbox="678 432 1053 481"><b>b.</b> Value of physical assets made more resilient to the effects of climate change;                             <ul style="list-style-type: none"> <li data-bbox="721 510 1053 611">a) Change in expected losses of economic assets due to the impact of extreme climate-related disasters in the geographic area of the GCF intervention.</li> </ul> </li> <li data-bbox="678 645 1053 719"><b>c.</b> Hectares of natural resource areas brought under improved climate-resilient management practices                             <ul style="list-style-type: none"> <li data-bbox="721 748 1053 851">a) Hectares of terrestrial forest, terrestrial non-forest, freshwater and coastal marine areas brought under restoration and/or improved ecosystems;</li> <li data-bbox="721 884 1053 934">b) Number of livestock brought under sustainable management practices;</li> <li data-bbox="721 967 1053 1016">c) Tonnes of fish stock brought under sustainable management practices.</li> </ul> </li> </ul> <p data-bbox="678 1046 1053 1095">Core indicators for assessing enabling environments:</p> <ul style="list-style-type: none"> <li data-bbox="678 1124 1053 1249"><b>a.</b> Degree to which GCF investments contribute to strengthening institutional and regulatory frameworks for climate-resilient development pathways in a country-driven manner;</li> <li data-bbox="678 1283 1053 1386"><b>b.</b> Degree to which GCF investments contribute to technology deployment, dissemination, development or transfer and innovation;</li> <li data-bbox="678 1420 1053 1523"><b>c.</b> Degree to which GCF investments contribute to market development/transformation at the sectoral, local or national level;</li> <li data-bbox="678 1556 1053 1682"><b>d.</b> Degree to which GCF investments contribute to effective knowledge generation and learning processes, and use of good practices, methodologies and standards.</li> </ul>	



FOCUS AREAS	ASPECTS/CRITERIA/INDICATORS	SOURCES
	<p>Project/programme level:</p> <p>Indicators or narratives as relevant for the respective focus area</p> <p>Fund level (applicable to all evaluations):</p> <ul style="list-style-type: none"> <li><b>a.</b> Relevance, effectiveness, efficiency, impact and sustainability of projects and programmes;</li> <li><b>b.</b> Coherence in climate finance delivery with other multilateral entities;</li> <li><b>c.</b> Gender equity;</li> <li><b>d.</b> Country ownership of projects and programmes;</li> <li><b>e.</b> Innovativeness in result areas – the extent to which interventions may lead to paradigm shift towards low-emission and climate-resilient development pathways;</li> <li><b>f.</b> Replication and scalability – the extent to which the activities can be scaled up in other locations within the country or replicated in other countries;</li> <li><b>g.</b> Unexpected results, both positive and negative.</li> </ul>	

Adaptation Fund (based on Results tracker guidance document and Project Performance Report Template<sup>1</sup>, Annual Performance Reports<sup>2</sup>, Portfolio Monitoring Missions<sup>3</sup>, Overall Evaluation<sup>4</sup>)

FOCUS AREAS	ASPECTS/CRITERIA/INDICATORS	SOURCES
<p>Project/programme level:</p> <p>Two impact-level result areas:</p> <ol style="list-style-type: none"> <li>Increased adaptive capacity of communities to respond to the impacts of climate change;</li> <li>Increased ecosystem resilience in response to climate change-induced stresses</li> </ol> <p>Portfolio level:</p> <ol style="list-style-type: none"> <li>Areas under the Adaptation Fund Level Effectiveness and Efficiency Results Framework ((i) secure financing, financing mechanisms, and efficiency of use; (ii) project cycle efficiency; (iii) results driven performance; and (iv) accreditation processes)</li> <li>Cross-cutting themes of the medium-term strategy (for the MTS 2018-2022: i) Engaging and empowering the most vulnerable communities and social groups; ii) Advancing gender equality and the empowerment of women and girls; iii) Strengthening long-term institutional and technical capacity for effective adaptation; and iv) Building complementarity and coherence with other climate finance delivery channels.</li> </ol> <p>Fund level:</p> <ol style="list-style-type: none"> <li>Institutional design and processes (resource mobilization, decision-making, resource allocation, access to funding, including access modalities, the project/program cycle, knowledge management)</li> <li>Long-term outcomes and impacts of the AF's interventions (technical, institutional and financial results)</li> </ol>	<p>Project/programme level:</p> <p>Annual project/programme performance reports:</p> <ol style="list-style-type: none"> <li>Core indicators ((i) number of beneficiaries (direct and indirect), (ii) number of early warning systems, (iii) assets produced, developed, improved, or strengthened, (iv) increased income, or avoided decrease in income, and (v) natural habitats protected or rehabilitated);</li> <li>Outcome indicators ("Relevant threat and hazard information generated and disseminated to stakeholders on a timely basis"; "Capacity of staff to respond to, and mitigate impacts of, climate-related events from targeted institutions increased"; "Percentage of households and communities having more secure access to livelihood assets", among others,);</li> <li>Qualitative information and lessons learned on implementation and adaptive management issues (e.g., on the effectiveness of taking into consideration gender issues), on climate resilience measures (e.g., how could effective resilience measures be replicated or scaled-up), on experience with the readiness grants, on knowledge management, on community/national impact of the intervention, on innovative practices or technologies and on complementarity/coherence with other climate finance sources.</li> </ol> <p>Mid-term and final evaluations:</p> <ol style="list-style-type: none"> <li>Risk to sustainability of the outcomes;</li> <li>Progress towards impacts;</li> <li>Processes influencing the achievement of project/programme results (including e.g., preparation and readiness, country ownership, stakeholder involvement);</li> <li>Contribution of project/programme achievements to the AF targets, objectives, impact and goal, including report on AF core indicators.</li> </ol>	<p>Project/programme level:</p> <p>Annual project/programme performance reports:</p> <ol style="list-style-type: none"> <li>Monitoring data collected, among others, through the "Adaptation Fund Results tracker"<sup>5</sup></li> </ol> <p>Mid-term and final evaluations:</p> <ol style="list-style-type: none"> <li>Qualitative information obtained through field visits and interviews putting particular emphasis on assessing the perspectives of the various relevant stakeholders and beneficiaries</li> </ol> <p>Portfolio level:</p> <ol style="list-style-type: none"> <li>Annual performance and mid-term and final evaluation reports from projects/programmes</li> <li>Portfolio Monitoring Missions</li> </ol> <p>Fund level:</p> <ol style="list-style-type: none"> <li>Project performance reports</li> <li>Evaluation reports</li> <li>Stakeholder interviews</li> <li>Focus group discussions</li> <li>Evaluation missions</li> <li>Field studies</li> </ol>

1 <https://www.adaptation-fund.org/projects-programmes/project-performance/>.

2 <https://www.adaptation-fund.org/?s=annual+performance+report>.

3 <https://www.adaptation-fund.org/document/lessons-learned-successful-approaches-captured-portfolio-monitoring-missions/>.

4 [https://www.adaptation-fund.org/wp-content/uploads/2015/09/AFB.EFC\\_173-Evaluation-of-the-Fund-stage-II.pdf](https://www.adaptation-fund.org/wp-content/uploads/2015/09/AFB.EFC_173-Evaluation-of-the-Fund-stage-II.pdf) and [https://www.adaptation-fund.org/wp-content/uploads/2018/03/AFB.EFC\\_22.9\\_Evaluation-of-the-Fund-Phase-II.pdf](https://www.adaptation-fund.org/wp-content/uploads/2018/03/AFB.EFC_22.9_Evaluation-of-the-Fund-Phase-II.pdf).

5 Available at <https://www.adaptation-fund.org/projects-programmes/project-performance/>.

FOCUS AREAS	ASPECTS/CRITERIA/INDICATORS	SOURCES
	<p>Portfolio level:</p> <ul style="list-style-type: none"> <li>a. Aggregated core indicators</li> <li>b. Qualitative information regarding MTS cross-cutting themes</li> <li>c. Functioning and interaction among various stakeholders;</li> <li>d. Project scalability,</li> <li>e. Practices to empower vulnerable groups;</li> <li>f. Gender responsive interventions;</li> <li>g. Innovative adaptation approaches.</li> </ul> <p>Fund level: Focus area 1: Degree to which</p> <ul style="list-style-type: none"> <li>a. Actual outputs meet expectations;</li> <li>b. Institutions and committees have fulfilled their specific roles in support of the Fund processes;</li> <li>c. Fund guidelines, standards and safeguards have achieved or are likely to achieve their objectives (e.g., gender, reaching especially vulnerable social groups).</li> </ul> <p>Focus area 2:</p> <ul style="list-style-type: none"> <li>a. Progress towards AF core indicators and project indicators as well as factors contributing to progress/results;</li> <li>b. Different indicators on the effectiveness of the direct access modality;</li> <li>c. Environment and social safeguards standards and application processes;</li> <li>d. Different indicators on the extent to which the AF's projects and programmes supported beneficiary countries in reaching their national adaptation plans (NAPs) or NDCs;</li> <li>e. Different indicators on the added value the AF has had on implementing concrete adaptation projects/programmes in the beneficiary countries (e.g., options for scaling up, capacity development, policy reform, partnerships);</li> </ul>	

FOCUS AREAS	ASPECTS/CRITERIA/INDICATORS	SOURCES
	<ul style="list-style-type: none"> <li data-bbox="678 436 1050 548"><b>f.</b> Different indicators on the effectiveness of the readiness programme in delivering concrete adaptation activities,</li> <li data-bbox="678 577 1050 689"><b>g.</b> Different indicators regarding knowledge management of the Fund, including on gathering and disseminating lessons learned and monitoring and evaluation;</li> <li data-bbox="678 719 1050 808"><b>h.</b> Types of transformational changes (e.g., national policies, laws, reforms, scaling up of adaptation);</li> <li data-bbox="678 837 1050 927"><b>i.</b> The way lessons on the effectiveness of the Fund's processes can be used to inform future readiness programmes.</li> </ul>	

Pilot Programme for Climate Resilience (based on PPCR Monitoring and Reporting Toolkit<sup>1</sup>, CIF's Evaluation & Learning Initiative<sup>2</sup>)

FOCUS AREAS	ASPECTS/CRITERIA/INDICATORS	SOURCES
<p>National (SPCR) level:</p> <p>1. SPCR performance and impact</p> <p>Programme/portfolio level:</p> <p>1. Cumulative achievements of the PPCR portfolio;</p> <p>2. PPCR management effectiveness</p> <p>Fund (CIF) level:</p> <p>1. Transformational change</p> <p>2. Development impacts of climate finance and just transitions</p> <p>3. Mobilizing private sector through concessional finance</p> <p>4. Local stakeholder engagement and benefit</p> <p>5. Programmatic and sectoral studies</p>	<p>National (SPCR) level:</p> <p>Core indicators:</p> <p>a. Degree of integration of climate change in national, including sector, planning (national level);</p> <p>b. Evidence of strengthened government capacity and coordination mechanism to mainstream climate resilience (national level);</p> <p>c. Quality and extent to which climate responsive instruments/investment models are developed and tested (optional, if information is sufficiently captured under indicator d. (project level, aggregated at national level);</p> <p>d. Extent to which vulnerable households, communities, businesses, and public-sector services use improved PPCR-supported tools, instruments, strategies, and activities to respond to climate variability or climate change (project-level, aggregated at national level);</p> <p>e. Number of people supported by PPCR to cope with the effects of climate change (project-level, aggregated at national level).</p> <p>Programme/portfolio level:</p> <p>a. Resource availability;</p> <p>b. Pipeline management and disbursements;</p> <p>c. Activities regarding knowledge management, including the sharing of lessons and outcomes through e.g., the CIF's Evaluation and Learning (E&amp;L) Initiative;</p> <p>d. Gender issues.</p>	<p>National (SPCR) level:</p> <p>i. Data and information from PPCR national focal point</p> <p>ii. Data and information from individual project managers</p> <p>iii. Data from MDB monitoring</p> <p>Programme/portfolio level:</p> <p>i. Country reporting from all PPCR countries</p> <p>ii. MDB reporting</p> <p>iii. PPCR management documents</p> <p>Fund (CIF) level:</p> <p>i. PPCR programme documents</p> <p>ii. Interviews</p> <p>iii. Surveys</p> <p>iv. Field visits</p>

1 CIF. 2018. PPCR Monitoring and Reporting Toolkit. Available at: [https://www.cif.org/sites/cif\\_enc/files/knowledge-documents/ppcr\\_mr\\_toolkit\\_july\\_2018.pdf](https://www.cif.org/sites/cif_enc/files/knowledge-documents/ppcr_mr_toolkit_july_2018.pdf) and the website of the CIF's Evaluation & Learning Initiative ([https://www.climateinvestmentfunds.org/cif\\_enc/evaluation-and-learning](https://www.climateinvestmentfunds.org/cif_enc/evaluation-and-learning)).

2 <https://www.climateinvestmentfunds.org/evaluation-and-learning>.



FOCUS AREAS	ASPECTS/CRITERIA/INDICATORS	SOURCES
	<p>Programme/portfolio level:</p> <ul style="list-style-type: none"> <li><b>a.</b> Resource availability;</li> <li><b>b.</b> Pipeline management and disbursements;</li> <li><b>c.</b> Activities regarding knowledge management, including the sharing of lessons and outcomes through e.g., the CIF's Evaluation and Learning (E&amp;L) Initiative;</li> <li><b>d.</b> Gender issues.</li> </ul> <p>Fund (CIF) level:</p> <ul style="list-style-type: none"> <li><b>a.</b> Focus area 1: how PPCR activities have yielded systemic and thus transformational changes in the pilot countries, including through scaling-up and ensuring the sustainability of PPCR outcomes;</li> <li><b>b.</b> Focus area 2: how PPCR activities contribute to household climate resilience in vulnerable countries;</li> <li><b>c.</b> Focus area 3: how microfinance has enabled resilience-building under the PPCR;</li> <li><b>d.</b> Focus area 4: how local stakeholders had been directly and meaningfully engaged in resource planning as well as in reviewing data on project implementation and reporting;</li> <li><b>e.</b> Focus area 5: the way the CIF's programmatic approach has contributed to resilience-building in PPCR countries.</li> </ul>	

## ANNEX 2: REVIEW OF THE EFFECTIVENESS OF FINANCIAL SUPPORT FOR ADAPTATION UNDER THE CONVENTION – FOCUS AREAS, CRITERIA AND SOURCES

Financial Mechanism of the Convention (based on guidelines for the review)<sup>1</sup>

FOCUS AREAS	ASPECTS/CRITERIA/INDICATORS	SOURCES
<p>1. The conformity of the activities funded under the FM with Article 11 of the Convention and relevant policies, programme priorities and eligibility criteria established by the COP<sup>2</sup></p> <p>2. The provision of resources to developing country Parties under Article 4.3 of the Convention;</p> <p>3. The consistency in financing activities and the complementarity of the FM with other sources of investment and financial flows as well as between the operating entities and</p> <p>4. Access modalities for developing countries to the FM.</p>	<p>a. The transparency of decision-making processes;</p> <p>b. The adequacy, predictability and timely disbursement of funds for activities in developing country Parties;</p> <p>c. The responsiveness and efficiency of the GEF (and later the GCF) project cycle and expedited procedures, including its operational strategy, as they relate to climate change;</p> <p>d. The amount of resources provided to developing country Parties, including financing for technical assistance and investment projects;</p> <p>e. The amount of finance leveraged;</p> <p>f. The sustainability of funded projects;</p> <p>g. The role of the FM in scaling up the level of resources;</p> <p>h. The contribution of enabling environments for catalysing investment in, and the transfer of, sustainable technologies that mitigate greenhouse gas emissions, and for enhancing resilience to climate change;</p> <p>i. The level of stakeholder involvement;</p> <p>j. The extent to which the FM is contributing to gender-sensitive approaches;</p> <p>k. The accessibility and rate of disbursement of funds for activities in developing country Parties, including projects in the pipeline;</p>	<p>i. Information provided by Parties on their experiences regarding financial support provided and received in accordance with COP decisions (particularly national communications, technology needs assessments and national adaptation programmes of action);</p> <p>ii. Annual guidance provided by the COP to the operating entities of the FM with regard to the conformity of their activities with the guidance provided by the COP;</p> <p>iii. The annual reports of the Standing Committee on Finance (SCF) to the COP on its activities and relevant technical information produced by the committee such as the biennial assessments and overview of climate finance flows and outcomes of the SCF forums;</p> <p>iv. Annual reports of the Global Environment Facility (GEF) to the COP, including the information on the Least Developed Countries Fund (LDCF) and the Special Climate Change Fund (SCCF);</p> <p>v. The reports from the GEF Independent Evaluation Office;</p> <p>vi. The annual reports of the Board of the GCF to the COP on its activities as an operating entity of the FM and other relevant GCF policy and information documents;</p> <p>vii. The reports of the Adaptation Fund Board to the COP serving as the meeting of the Parties to the Kyoto Protocol and the outcomes of the reviews of the AF</p>

<sup>1</sup> Decision 3/CP.4, annex; Decision 6/CP.13, annex; Decision 12/CP.22, annex.

<sup>2</sup> Article 11, paragraph 3 (a) of the Convention.

FOCUS AREAS	ASPECTS/CRITERIA/INDICATORS	SOURCES
	<ul style="list-style-type: none"> <li data-bbox="676 405 1054 517"><b>i.</b> The responsiveness, efficiency and performance of the cycle for project/ programme approval procedures of the operating entities of the FM;</li> <li data-bbox="676 551 1054 629"><b>m.</b> The mechanisms for country allocation, as well as the results and impacts achieved by the resources provided;</li> <li data-bbox="676 663 1054 741"><b>n.</b> The modalities and ratios of co-financing and the use of financial instruments where applicable;</li> <li data-bbox="676 775 1054 853"><b>o.</b> The extent to which the resources provided are contributing to achieving the objective of the Convention;</li> <li data-bbox="676 887 1054 965"><b>p.</b> The extent to which the FM is contributing to the country ownership of programmes and projects.</li> </ul>	<ul style="list-style-type: none"> <li data-bbox="1090 405 1418 461"><b>viii.</b> The reports of the in-session workshops on long-term finance;</li> <li data-bbox="1090 495 1418 685"><b>ix.</b> The biennial submissions from developed country Parties on their updated strategies and approaches for scaling up climate finance from 2014 to 2020, including any available information on quantitative and qualitative elements of a pathway;</li> <li data-bbox="1090 719 1418 887"><b>x.</b> The reports of the Least Developed Countries Expert Group (LEG) and the Consultative Group of Experts on National Communications from Parties not included in Annex I to the Convention (CGE);</li> <li data-bbox="1090 920 1418 1178"><b>xi.</b> Reports and information from relevant bilateral and multilateral funding institutions as well as other intergovernmental and non-governmental organizations, e.g., regarding information on enabling environments for catalysing investment in, and the transfer of, sustainable technologies that enhance resilience to climate change;</li> <li data-bbox="1090 1211 1418 1379"><b>xii.</b> Technical papers and reports prepared by the secretariat upon the request of the COP, which are relevant to the financial needs of developing countries under the Convention; and</li> <li data-bbox="1090 1413 1418 1514"><b>xiii.</b> Relevant information available on private-sector financing and investment for climate change activities.</li> </ul>

## ANNEX 3: SET OF PERFORMANCE INDICATORS FOR THE TECHNOLOGY TRANSFER FRAMEWORK<sup>1</sup>

The Expert Group on Technology Transfer (EGTT) initially identified the following set of 40 indicators to assess the effectiveness of the implementation of the technology transfer framework. The indicators have been grouped under the five key themes of the framework; the sixth group was created to assess trends in financial flows for technology transfer.

### *Technology needs and needs assessments*

- a) Amount of financial resources provided for the TNA process
- b) Number of programmes/projects for capacity-building on TNAs in non-Annex I Parties (including percentage of least developed countries)
- c) Number of targeted non-Annex I Parties to build capacity on TNAs (including percentage of least developed countries)
- d) Number of published TNAs completed or updated by non-Annex I Parties
- e) Synthesis report on technology needs made available by the secretariat and considered by the subsidiary bodies
- f) Number of technology programmes/projects from TNAs implemented by non-Annex I Parties

### *Technology information*

- a) Number of training programmes and workshops for building capacity in technology information

- b) Number of national communications with information on technology transfer activities
- c) Synthesis report with information on maintaining, updating and developing TT:CLEAR, addressing gaps and user needs made available by the secretariat and considered by the subsidiary bodies
- d) Number of technology information centres and networks connected to TT:CLEAR
- e) Number of users of TT:CLEAR from developing countries

### *Enabling environments*

- a) Performance against each of the six World Bank governance indicators
- b) Total volume of joint R&D opportunities for ESTs provided by (primarily developed country) governments
- c) Presence of clear policy guidelines for the recipients of public funding on how to move from the research stage to the commercialization stage of the technology transfer process
- d) Number of bilateral and multilateral programmes that have helped developing countries in developing and implementing regulations that promote the use and transfer of and access to ESTs
- e) Presence of tax preferences and incentives for imports/exports of ESTs

<sup>1</sup> FCCC/SB/2009/4.

- f) Volume of export credits to encourage the transfer of ESTs
- g) Whether mention of transfer of ESTs is made in national sustainable development strategies
- h) Rating of investment climate according to World Bank business indicators
- i) Proportion of budget for public procurement of ESTs
- j) Degree of disclosure and transparency regarding the approval processes of technology transfer projects
- k) Number of technical studies that explore barriers, good practices and recommendations for enhancing enabling environments
- l) Percentage of partnerships with thematic foci on climate change and sustainable development with meaningful participation by developing country Parties

#### *Capacity-building*

- a) Amount of financial resources provided for capacity-building in the development and transfer of technology
- b) Synthesis report on national capacity needs and priorities for capacity-building for development and transfer of technologies in line with the technology transfer framework
- c) Number of participants/experts in training programmes on the development and transfer of technologies, in particular on EST-related activities
- d) Number of new and existing national and regional institutions operating as centres of excellence in the development and transfer of technology

#### *Mechanisms for technology transfer*

- a) Number and volume of reported innovative public–private financing mechanisms and instruments

- b) Report on possible ways to enhance cooperation between the Convention and other multilateral environmental agreements
- c) Report on references made in national communications to objectives of other multilateral environmental agreements
- d) Number of reported barriers to, and good experiences in, the development of endogenous technologies
- e) Report with guidance for reporting on joint R&D needs

#### *Indicators for financial flows*

- a) Total annual global investment and financial flows in climate change mitigation technologies
- b) Total annual global investment and financial flows in climate change adaptation technologies
- c) Total annual investment and financial flows in climate change technologies – Convention Financial Mechanism
- d) Total annual investment and financial flows in climate change technologies – Kyoto Protocol flexibility mechanisms
- e) Total annual investment and financial flows in climate change technologies – bilateral sources
- f) Total annual investment and financial flows in climate change technologies – national sources
- g) Total annual investment and financial flows in climate change technologies – multilateral sources
- h) Total annual investment and financial flows in climate change technologies – private sources



## ANNEX 4: REVIEW OF THE EFFECTIVENESS OF CAPACITY-BUILDING SUPPORT FOR ADAPTATION UNDER THE CONVENTION– FOCUS AREAS, CRITERIA AND SOURCES

Framework for capacity-building in developing countries (based on decision 2/CP.7 and the terms of reference for the four comprehensive reviews of the framework undertaken thus far (FCCC/SBI/2003/8, annex III, FCCC/SBI/2009/4, annex I, decision 14/CP.21, annex, FCCC/SBI/2019/9, annex III)

FOCUS AREAS (AS THEY RELATE TO ADAPTATION)	ASPECTS/CRITERIA/INDICATORS	SOURCES
<p>1. Institutional capacity building, including the strengthening or establishment, as appropriate, of national climate change secretariats or national focal points;</p> <p>2. Enhancement and/or creation of an enabling environment;</p> <p>3. National communications;</p> <p>4. National climate change programmes;</p> <p>5. Vulnerability and adaptation assessment;</p> <p>6. Capacity building for implementation of adaptation measures;</p> <p>7. Research and systematic observation, including meteorological, hydrological and climatological services;</p> <p>8. Development and transfer of technology;</p> <p>9. Improved decision-making, including assistance for participation in international negotiations;</p> <p>10. Needs arising out of the implementation of Article 4, paragraphs 8 and 9, of the Convention;</p> <p>11. Education, training and public awareness;</p> <p>12. Information and networking, including the establishment of databases.</p>	<p>a. Descriptions of capacity-building programmes and activities;</p> <p>b. Distribution of support provided for the three levels of CB – systemic (enabling environments such as economic and regulatory policies), institutional, and individual;</p> <p>c. Identification of needs, including emerging needs (those that had not been included in the list of priority areas and needs contained in the original CB framework), and gaps and an assessment of factors that influence the effectiveness of capacity-building activities in developing countries;</p> <p>d. Degree to which the areas of the CB framework align with current CB needs identified by developing countries;</p> <p>e. Degree to which Annex II Parties and other providers of support have covered the priority issues identified in the CB framework and by individual countries;</p> <p>f. Level of satisfaction with the usefulness of support provided by donors for the CB activities;</p> <p>g. CB provided in relation to technology development and transfer;</p> <p>h. CB provided regarding specific adaptation activities;</p> <p>i. Qualitative description and examples of the immediate, measurable and direct consequences of CB activities and projects at the three CB levels and remaining needs;</p>	<p>i. Submissions from Parties;</p> <p>ii. Findings of previous comprehensive reviews of the framework;</p> <p>iii. Annual synthesis reports on the implementation of framework prepared by the secretariat in accordance with the steps for the regular monitoring and evaluation of capacity-building work as contained in decisions 4/CP.12 and 6/CMP.2;</p> <p>iv. Relevant national reports (national communications, biennial reports, biennial update reports, NAPAs, NAPs, and national capacity self-assessments, TNAs);</p> <p>v. Reports and submissions from the GEF and its implementing agencies, UN entities, bilateral and multilateral development agencies and other relevant organizations;</p> <p>vi. Information contained in the capacity-building portal;</p> <p>vii. Summary reports on the meetings of the Durban Forum or on other relevant meetings and workshops organized in support of the review processes;</p> <p>viii. Reports of relevant bodies established under the Convention and its Kyoto Protocol;</p> <p>ix. Interviews, surveys and focused discussions with national focal points for Article 6 of the</p>

FOCUS AREAS	ASPECTS/CRITERIA/INDICATORS	SOURCES
	<ul style="list-style-type: none"> <li data-bbox="676 405 1054 456"><b>l.</b> Impacts (long-term effects) of the activities;</li> <li data-bbox="676 495 1054 837"><b>m.</b> Sustainability of climate change CB results, taking into account the three building blocks “enabling environment”, “institutional arrangements” and “human resources” as well as stakeholder involvement (information on the extent and variety of stakeholders within developing countries (governmental and non-governmental organizations, the private sector, community organizations, etc.) involved in, and benefiting from, capacity-building activities);</li> <li data-bbox="676 875 1054 1010"><b>n.</b> The availability of and access to financial resources and the effectiveness and efficiency of their deployment (e.g., donor coordination, dissemination of lessons and information);</li> <li data-bbox="676 1048 1054 1122"><b>o.</b> Recommendations for the further implementation of the capacity-building framework;</li> <li data-bbox="676 1160 1054 1234"><b>p.</b> Assessment of the different baselines and performance indicators for capacity-building</li> </ul>	<ul style="list-style-type: none"> <li data-bbox="1142 405 1418 456">Convention and other relevant national focal points;</li> <li data-bbox="1091 495 1418 546"><b>x.</b> Other relevant existing documents prepared by the secretariat.</li> </ul>

## ANNEX 5: KEY FACTORS THAT CONTRIBUTE TO EFFECTIVE CLIMATE CHANGE CAPACITY-BUILDING WHICH SHOULD BE TAKEN INTO ACCOUNT IN THE FURTHER IMPLEMENTATION OF DECISION 2/CP.7 (DECISION 2/CP.10)

The following are key factors that should be taken into account and could assist in the further implementation of decision 2/CP.7:

- a) To make institutional capacity-building a priority for the creation and strengthening of basic institutional infrastructure;
- b) To raise awareness at various levels on climate change issues and increase the involvement of national governmental organizations in capacity-building activities;
- c) To develop and, where appropriate, promote exchange of best practices, experiences and information on capacity-building activities undertaken by various Parties, including financial resources, case studies and tools for capacity-building;
- d) To ensure effectiveness of capacity-building activities so that:
  - i. They enhance the ability of developing country Parties to implement the Convention and to participate effectively in the Kyoto Protocol process;
  - ii. Initial and subsequent national communications and national adaptation programmes of action provide a good measure of successful capacity-building as it relates to the implementation of the Convention;
  - iii. Capacity-building is integrated as a priority by policymakers and decision makers;
- iv. Long-term sustainability of capacity-building activities is achieved through integration in planning processes;
- e) To make financial and technical resources available, through an operating entity of the Financial Mechanism and, as appropriate, through multilateral and bilateral agencies and the private sector, to assist developing countries, in particular the least developed countries and small island developing States among them, in the implementation of this framework;
- f) To further apply learning-by-doing approaches for capacity-building by supporting various types of capacity-building activities, projects and programmes at the national and local levels;
- g) To continue to improve international donor coordination in the provision of financial resources and to harmonize donor support in alignment with national priorities, plans and strategies;
- h) To ensure that resources are made available for the implementation of capacity-building activities;
- i) To strengthen institutional arrangements at the national level to coordinate implementation consistent with decision 2/CP.7 as a way of promoting integration of climate change issues into the national planning processes so as to increase the effectiveness and sustainability of outcomes.