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POLICY BRIEF

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Adaptation monitoring and the importance of the Glasgow Sharm el Sheikh programme in building national systems

INTRODUCTION

As we strive towards keeping global average temperature change preferably to 1.5°C, climate change is already impacting economies, livelihoods, and communities' well-being. The latest IPCC report underscores that despite progress in adaptation efforts across all sectors and regions, human-induced climate change has caused widespread losses and damages to nature and people, with the most vulnerable people and systems disproportionately affected (IPCC, 2022). The report notes soft limits to some human adaptation have been reached, but can be overcome by addressing financial, governance, institutional and policy constraints. However, hard limits have been reached in some ecosystems (e.g., coral reefs, local species extinctions, permafrost thaw of arctic ecosystems). Climate change impacts and risks are becoming increasingly complex and more difficult to manage - resulting in compounding "cascades" of risks across sectors and regions.



Representatives of Small Island Developing States (SIDS) countries are convening in the Maldives on May 16-17 for a launching event on “Launching the Glasgow-Sharm el-Sheikh work programme on the Global Goal on Adaptation” (hereafter the work programme), and the shared adaptation priorities of SIDS. Adaptation is particularly critical for SIDS, where climate change is projected to “significantly affect marine and terrestrial ecosystems and ecosystem services, which will in turn have cascading impacts across both natural and human systems” (Mycoo, et al., 2022, p. 4). While SIDS are on the frontline of the climate crisis, they are also at the forefront of climate solutions.

A number of SIDS have made bold commitments to scale up their Nationally Determined Contributions (NDCs) to the UNFCCC. The Maldives, for example, has signaled high adaptation ambitions through its recently updated NDC, covering a wide range of sectors and incorporating ecosystem-based adaptation (Government of Maldives Ministry of Environment, 2020). Action on climate resilient development is needed now more than previously assessed to reduce vulnerability, a key part being by safeguarding ecosystems and biodiversity due to their role in both adaptation and mitigation (IPCC, 2022).

The global goal on adaptation, established in Article 7 of the Paris Agreement, represents an effort to define and drive collective efforts around three core components: enhancing adaptive capacity, strengthening resilience, and reducing vulnerability to climate change. Progress towards achieving this goal will be assessed in three phases between now and 2023 as part of the global stocktake, established in Article 14 of the Paris Agreement. As part of the global stocktake, a targeted contact group (comprised of the Subsidiary Body for Scientific and Technological Advice [SBSTA] and the Subsidiary Body for Implementation [SBI]) will recognize adaptation efforts of developing countries, examine enhanced implementation of adaptation action, and review the adequacy of and support for adaptation (Beauchamp, 2022). The methodology, data sources and indicators for assessment of progress towards the global goal, and exploration of whether (and in what way) the global goal on adaptation needs to be more precisely defined, remain to be determined.

Unlike mitigation where there are quantifiable and comparable metrics for greenhouse gas reductions and sinks, it is difficult to assess if and how countries and communities globally are adapting to climate change, whether adaptation efforts are effective, and where further support for adaptation is most needed. This is also pertinent in the context of NDCs and the need for systems and capacities to measure progress on the goals and targets articulated in the NDCs. Monitoring and evaluation (M&E) at global- (e.g., through the global goal on adaptation), national-, sub-national- and project-levels are all attempts to answer these challenging questions.

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Global and National Adaptation Monitoring: Key Issues

M&E^[1] (for adaptation) is the process of monitoring whether adaptation measures are being implemented as planned and evaluating if they are being successful in meeting their intended goals (e.g., reducing vulnerability, increasing resilience, increasing adaptive capacity). M&E “forms the basis for clear and accurate reporting on the results achieved by an intervention (project or programme), policy or broader planning and implementation process” (FAO and UNDP, 2019, p. 3) while also supporting informed decision-making and assessment of various actions’ impacts. M&E is highly context dependent, particularly for adaptation and resilience, without a single one-size-fits-all approach.

There are numerous challenges associated with adaptation M&E, including the high cost of comprehensive M&E processes, lack of prioritization in the face of insufficient resources, data limitations including a lack of baseline data, contradictory time frames (e.g. project duration vs. the time period needed to observe adaptation effectiveness), uncertainty associated with climate change, differing definitions of adaptation effectiveness, and its inherent cross-sectoral, multi-stakeholder nature (Spearman & McGray, 2011). Each adaptation step, including M&E, should also be informed by Traditional and Indigenous Knowledge, where applicable, though given its qualitative nature, often communicated through oral traditions, such knowledge cannot be easily aggregated with other M&E results. M&E of adaptation is complex and methodologically challenging, and even attempts to define “success” are difficult, with varying results, particularly when trying to aggregate context-specific results to the global level.

Lack of clear baselines for adaptation remains a challenge for adaptation M&E. Progress on adaptation can’t be monitored or evaluated well without a clear understanding of baseline exposure, sensitivity, and vulnerability conditions prior to adaptation. Baseline indicators need to include climate data, coping strategies, socioeconomic data, ecosystem services, and data on institutional and policy processes (FAO and UNDP, 2019). See an example of baseline data establishment in a GCF-funded project in the Maldives in Box 1.

At the same time, adaptation M&E brings numerous opportunities. M&E of adaptation actions, outputs, outcomes or inputs (context-dependent) can demonstrate positive results of adaptation to build support, justify spending of multilateral, bilateral or national government funding, contribute to building the “business case” for adaptation, and demonstrate contributions to other development goals (GIZ, 2015). Through M&E, governments and donors can scale up from lessons learned, for example, on co-benefits between adaptation and mitigation measures (Ospina, 2018). M&E can also help improve understanding of adaptation effectiveness, assessing whether measures being implemented reduce vulnerability, increase adaptive capacity or increase resilience, and for whom. For example, Antigua and Barbuda’s NDC implementation measuring, reporting and verification (MRV) system will include the collection of sex- and age-disaggregated data to have the information needed to support participation in decision-making, including on adaptation (Government of Antigua and Barbuda, 2021). The use of gender-disaggregated data can support understanding on how women’s baseline situation, climate impacts and adaptation benefits may differ from men’s. Further efforts may also be needed to go beyond gender-disaggregated indicators, to address underlying inequalities between men and women (STAP, 2017).

[1] M&E can also be referred to by different terms, such as monitoring, evaluation, and learning (MEL). Related to this, there is also measuring, reporting and verification (MRV), for transparency purposes, originally intended for assessment of mitigation commitments (McMahon & Moncel, 2009), but also used at times in adaptation contexts. This paper focuses on the systems aspect of both monitoring and evaluation. However, M&E, for impact evaluation, for example, have distinct methods with regard to adaptation which are covered in other literature available.

The context-specific nature of M&E also means there is an opportunity to design systems fit for purpose that reflect NDC and National Adaptation Plan (NAP) priorities, and that can be integrated with other development planning and reporting processes such as the Sustainable Development Goals (SDGs). Over 90% of countries that have submitted new or updated NDCs have included adaptation contributions, with wide sectoral coverage including agriculture and food, biodiversity and ecosystems, energy, forestry, health, housing/settlements/urban, infrastructure, transport and water. Many of these countries have also aligned their NDCs with NAP and related national adaptation planning processes.

With support from UNDP, Bhutan, for example, is developing a comprehensive framework to monitor, report and review the NAP implementation process, which will ensure that adaptation planning formulation, implementation and review is aligned with broader national development and investment planning, including Bhutan's five-year development plan process. This work is under development and is expected to be completed by end 2023.

BOX 1 – BASELINE ESTABLISHMENT FOR ADAPTATION IN THE MALDIVES

The Maldives GCF-financed project (2017-2023, worth US 33 million) “Supporting Vulnerable Communities in Maldives to Manage Climate Change-Induced Water Shortages” targets 49 islands across of 13 atolls that continue to experience water shortages, providing safe and reliable freshwater to 105,000 people (~ 30 percent of the population) by securing a 90-day reserve of clean water reducing its exposure to health risks from untreated water.

BASELINE ESTABLISHMENT:

The baseline assessments have been conducted for 37 islands and aimed at developing a hazards inventory and catchment characterization, with a focus on assessing the geological, hydrological and land-use information to understand the aquifer vulnerability and the range of human activities which exert pressures over water resources. Additionally, the assessments established groundwater quality monitoring mechanism and efforts towards setting up and maintaining an information inventory.

ACHIEVEMENTS AT THE NATIONAL LEVEL:

The project has leveraged its research to inform regulation on protection and management of water resources in the country to mainstream water management into national and sub-national planning and to improve health of groundwater as a water source available for communities.

LESSONS LEARNED:

- Prioritize undertaking of rigorous baseline studies early on in the project to establish realistic project targets based on recognized constraints and longer term projections. Project targets set were considered to be ambitious based on information emerging from baseline studies.
- Focus of the M&E reporting system was mostly internal, but can be used for providing essential input for external communication of lessons learned through documentation of emerging good practices and broader knowledge management to scale up systems and impacts.

(For more information, see <https://www.adaptation-undp.org/projects/supporting-vulnerable-communities-maldives-manage-climate-change-induced-water-shortages>)

Building national monitoring systems

For many countries, the foundations for M&E processes are already established through their NDCs, NAPs, Adaptation Communications, National Communications, Biennial Transparency Reports (BTRs) and/or SDG voluntary national reviews. Preliminary findings suggest that countries' updated NDCs include more references to M&E approaches than their original NDCs (Dixit, Kim, O'Connor, Dyck, & Ferrarin, 2022), indicating adaptation monitoring processes are already underway. Recognizing reporting processes are likewise already occurring through other channels, the BTR process, for instance, also includes flexibility in reporting requirements to reduce duplication of information. Grenada similarly strives to reduce duplication of efforts in its NAP M&E framework, for example, which will be guided by the following three principles:

- *“Keep it simple: cognizant of human capacity constraints, progress on NAP implementation will be measured by a set of “core indicators” rather than attempting to identify progress on each individual proposed measure and intervention.*
- *Use what already exists: where possible, the NAP M&E framework builds on Grenada’s M&E framework for Implementation Plan of the Regional Climate Change Framework (2009–2021) to avoid duplication of reporting efforts.*
- *Apply a participatory process: institutions responsible for NAP implementation and/or which can provide data of relevance for M&E will be asked to report” (Government of Grenada, 2017, p. 70).*

Similar to Grenada’s principle of ‘use what already exists,’ existing databases can support adaptation M&E. In Cambodia’s updated NDC, for example, numerous disaster risk reduction (DRR) databases (e.g., INFORM Risk Index, Global Disaster Database EM-DAT, ReliefWeb, CamID) are listed as potential resources for developing and updating multi-hazard and climate risk assessments, which can in turn serve as baseline information for M&E (Kingdom of Cambodia, 2020).

Likewise in terms of reporting platforms, there are potential opportunities for national adaptation M&E data and findings to be disseminated through existing platforms, such as Kyrgyzstan’s SDG tracker (Government of Kyrgyz Republic, 2022). In contrast, other countries such as Bosnia and Herzegovina and Cambodia plan to develop new online platforms for adaptation M&E knowledge and data exchange (Kingdom of Cambodia, 2020). Meanwhile, Bhutan, Bangladesh, Niger and Ecuador, amongst others, are developing country knowledge platforms under their NAP programmes which would support adaptation M&E efforts.

There are explicit and implicit linkages to the importance of adaptation M&E at the global level between the three global frameworks - the Paris Agreement, the 2030 Agenda for Sustainable Development, and the Sendai Framework for Disaster Risk Reduction 2015-2030 (FAO and UNDP, 2019). In operationalizing M&E, national governments must decide what to measure, identify sources of verification, and select indicators that build on national information sources, ideally with potential for cross-country comparison. There are two main types of indicators: process indicators for tracking progress in implementing adaptation measures and outcome indicators for tracking the results of the adaptation measures (GIZ, 2015)[2]. Depending on the selection of indicators, adaptation “success” will be measured very differently, in terms of the process of planning and implementation, or in terms of the long-term results for vulnerability, adaptive capacity and resilience (Spearman & McGray, 2011). In practice, selection of these different types of indicators by national governments in developing countries will be influenced by resource constraints and the need to meet varying reporting requirements.

[2] Categorization of indicators are sometimes broken down further into context, process and result indicators.

There are many further methodological considerations in the selection of appropriate indicators. In the Democratic Republic of Congo's NAP, for example, potential indicators are narrowed down using the SMART (i.e., Specific, Measurable, Achievable, Relevant and Time-bound) indicator approach, and for each potential indicator, information is included on justification, data sources, frequency and period of data collection, and potential data quality issues and solutions (NAP currently under development). For Guatemala's Monitoring, Evaluation and Reporting (MER) system for adaptation of marine coastal zones, indicators were selected and prioritized based on the following criteria: generated data needed to have the backing of an institution; data had to be easily accessible; the indicator had to have periodic measurements; the indicators had to be measurable, evaluable and comparable over time; indicators should preferably respond to benchmarks; a continuous improvement system had to be adopted to guarantee its quality; the baseline, measurement and evaluation had to reflect transparency and traceability; and supporting bibliographic information had to be available (Guatemala Ministerio de Ambiente y Recursos Naturales, 2020).

The long time frames involved in climate change and adaptation are also key considerations. Adaptation outcomes may be tracked over the long term. In the short- and medium-term, process indicators also provide intermediate measures in order to gauge the extent of climate action for adaptation planners and decision makers, in terms of implementation progress. In this regard, UNDP and the University of Maryland conducted an analysis of the adaptation components of 77 first-round NDCs to identify key characteristics that capture and provide structure to the key elements of adaptation content in NDCs. The analysis helped develop a typology and framework for characterizing the adaptation component of NDCs. By including aspects such as the context (national circumstances, development considerations and key vulnerabilities); goals (overall as well as sector-specific goals); implementation attributes (factors and enablers important for effective adaptation planning & implementation) and the actual space of policy actions; the typology also enables more systematic tracking of planning and implementation. In that sense, this work can help in assessing the state of actions, which is very helpful considering the difficulties already indicated with regard to the assessment of ultimate adaptation outcomes.

Ideally adaptation M&E (based on priorities identified in NDCs and NAPs) should be integrated with national processes like SDG monitoring, but this also depends on the degree of integration of the adaptation agenda as a whole within national development planning (STAP, 2017). Progress has been made in integration and mainstreaming, but there is still room for improvement. Mainstreaming adaptation into existing development planning, implementation, and monitoring processes represents an opportunity to take advantage of synergies and convergences with, for example, the Sendai Framework on DRR and Agenda 2030.

National-level M&E processes are inextricably linked with the global goal on adaptation and the associated work programme since they generate the information needed to assess progress towards the goal. However, given the variety of data collected and different methodologies and definitions used, aggregation to the global level is difficult. There is also a risk of "overload and misalignment of reporting requirements for different agendas (e.g., sectoral, national) and purposes (e.g., NDCs, SDGs, NAP measurement)" (Ospina, 2018, p. 3), with potential capacity constraints for developing countries.

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Glasgow–Sharm el-Sheikh Work Programme on the Global Goal on Adaptation

The Glasgow-Sharm el-Sheikh work programme was launched at COP26 in Glasgow in 2021 as a comprehensive two-year work programme to focus on further distilling and operationalizing the global goal on adaptation, given the challenges in M&E and global aggregation described above. Its stated objectives are to (UNFCCC, 2021):

(a)“Enable the full and sustained implementation of the Paris Agreement, towards achieving the global goal on adaptation, with a view to enhancing adaptation action and support;

(b)Enhance understanding of the global goal on adaptation, including of the methodologies, indicators, data and metrics, needs and support needed for assessing progress towards it;

(c)Contribute to reviewing the overall progress made in achieving the global goal on adaptation as part of the global stocktake referred to in Article 7, paragraph 14, and Article 14 of the Paris Agreement with a view to informing the first and subsequent global stocktakes;

(d)Enhance national planning and implementation of adaptation actions through the process to formulate and implement national adaptation plans and through nationally determined contributions and adaptation communications;

(e)Enable Parties to better communicate their adaptation priorities, implementation and support needs, plans and actions, including through adaptation communications and nationally determined contributions;

(f)Facilitate the establishment of robust, nationally appropriate systems for monitoring and evaluating adaptation actions;

(g)Strengthen implementation of adaptation actions in vulnerable developing countries;

(h)Enhance understanding of how communication and reporting instruments established under the Convention and the Paris Agreement related to adaptation can complement each other in order to avoid duplication of efforts”

Four workshops will be conducted per year in 2022 and 2023 under the work programme, with submissions by countries on their perspectives invited in advance.

The work programme will discuss the key challenges in operationalizing the global goal on adaptation. Adaptation is, by nature, highly context dependent, so further discussion is needed on how to meaningfully capture differing country contexts in a global goal (or goals). The Adaptation Committee of the UNFCCC has also recently published a technical paper exploring approaches and methodologies for monitoring progress towards the global goal on adaptation (UNFCCC, 2021). Among the approaches suggested by the technical paper is the potential for a voluntary questionnaire or self-scoring exercise for assessing adaptation progress, if it is not burdensome. The technical paper also notes the potential for using data from the adaptation communications and biennial transparency reports (BTRs), but notes that the first BTRs are due in December 2024, therefore are not feasible information sources for the first global stocktake (UNFCCC, 2021).

In recognition of the challenges in building national monitoring systems discussed above, one of the added values of the work programme could be to provide countries with guidance on options for strengthening national-level monitoring that supports national and local-decision-making, but also contributes to aggregating information towards the global goal on adaptation.

Conclusion

Methodologically, selecting appropriate data sources to assess the global goal on adaptation will need to explore trade-offs between how readily available desirable data sources are (e.g., submission of NAPs is a simple indicator that does not require additional reporting) and the level to which different data sources can answer questions on whether adaptation measures have enhanced adaptive capacity, strengthened resilience, or reduced vulnerability to climate change (UNFCCC, 2021).

For Least Developed Countries (LDCs) and SIDS, more data-intensive adaptation M&E processes and/or parallel monitoring efforts that could add additional burden to already constrained capacities are of particular concern.

Climate policy (e.g., NDCs, NAPs, BTR, adaptation communications) and strategic planning documents (e.g., on SDGs and DRR) provide a good potential framework for adaptation priorities that can be monitored in the global goal on adaptation, informed bottom-up by national governments' own prioritization efforts. There are also potential opportunities to mainstream NDC and NAP priorities into national development planning and budgeting, also to minimize duplication of reporting requirements. Moving towards operationalizing the global goal on adaptation through the Glasgow-Sharm el-Sheikh work programme, Grenada's NAP M&E framework principles remain pertinent: (1) keep it simple; (2) use what already exists; and (3) apply a participatory approach. There is a lack of capacity among developing countries, and especially SIDS, to supply detailed reporting and data through duplicative processes, particularly without additional financial support and capacity development. Participatory, gender-responsive approaches that are informed by Traditional and Indigenous Knowledge are also most likely to make the process meaningful for countries and import significance, while being inclusive. Many questions remain open to discussion and new perspectives through work programme workshops (and lead-up workshops such as the "Launching the Glasgow-Sharm el-Sheikh work programme on the Global Goal on Adaptation (GGA work programme)" event in the Maldives) and through countries' submissions to the work programme, including[3]:

- How can existing reporting mechanisms (e.g., NAPs, NDCs, SDGs) be leveraged to feed the GGA / global stocktake? How can we promote coherence in these reporting processes? As discussed, many climate and development planning reporting processes already exist, demanding resources from capacity-constrained and data-poor national governments. There may be opportunities for synergies and mainstreaming within these existing processes.

- What will be the elements of a data infrastructure and capacity building program to implement this work? Part of this is issues around data system architecture, including to how to build on existing central statistics and census offices and other national and local systems, and where capacity strengthening is needed, for example on adaptation-relevant M&E indicators and processes, and integration of gender considerations. Strengthening of national knowledge platforms can also be explored, along with regional and sub-regional data and knowledge sharing.
- How will bottom-up approaches based upon existing national indicators be weighed against a more top-down approach? The global need for aggregation and comparability may clash with the context-specific nature of adaptation and create a greater reporting burden from requiring new global-relevant indicators.
- How will contextual richness be preserved while producing aggregate or synthetic measures? As discussed, adaptation and therefore M&E of adaptation is highly context dependent. Adaptation "success" or effectiveness in one context will not be the same in another. Further discussion is needed to elaborate upon how contextual information may be communicated or integrated in global aggregation.
- How will Traditional and Indigenous Knowledge be meaningfully integrated? An ongoing challenge, but nonetheless important to examine further. Traditional and Indigenous Knowledge holds a vital role in informing adaptation and M&E processes yet is not easy to aggregate at the national or global level.
- How will gender considerations be incorporated? There is a lack of gender-disaggregated data linked to climate change adaptation goals and measures, but these are needed to improve understanding of women's potentially differing adaptive capacity, vulnerability and resilience to climate change.

Continued dialogue and participatory mechanisms to exchange best practices and lessons learned will be critical to identifying a set of approaches and flexible methodologies that will move us closer to better assessing and understanding adaptation progress.

[3] See also IIED's further guiding questions on the global goal on adaptation and the Glasgow-Sharm el-Sheikh work programme, divided into three categories: *Ways of working and inclusion; activities and coherence; and themes and priorities* (Beauchamp, 2022).

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