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Reviewing the adequacy and effectiveness of adaptation and support

The International Institute for Environment and Development's submission on the Adaptation Committee and Least Developed Countries Expert Group mandates stemming from decision 1/CP.21, paragraph 45(b)

Contents

The International Institute for Environment and Development (IIED) is pleased to be able to add its views to the mandate given to the Adaptation Committee (AC) and Least Developed Countries Expert Group (LEG) in Decision 1/CP.21, paragraph 45(b).[1]

Developing methodologies to review the adequacy and effectiveness of climate adaptation and support to adaptation is an ambitious, but worthwhile task. The methodologies discussed here provide a framework for Parties to consider in their review of this task through the global stocktake, laid out in Article 14 of the Paris Agreement.

The framework for reviewing the adequacy and effectiveness of adaptation and support will also contribute to reviewing progress toward the global goal on adaptation. The global goal established in Article 7, paragraph 1 speaks 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 referred to in Article 2. IIED submits that reviewing effectiveness and adequacy is an important component of these two reviews though they account for distinct mandates of the global stocktake (Article 7, paragraph 14(c) and (d)). We look forward to further discussion on frameworks for reviewing progress toward the global goal on adaptation as the global stocktake develops in preparation for its assessment in 2023 and every five years thereafter.

Approaches to measuring climate adaptation effectiveness

IIED has been working on the development of approaches to measuring effective adaptation and climate resilience since 2010. IIED with partners led the development of the Tracking Adaptation Measuring Development (TAMD) framework from 2011 and worked with government and agency research partners in Kenya, Nepal, Ethiopia, Uganda, Mozambique, Pakistan and Cambodia to develop appropriate M&E frameworks for climate risk management. The TAMD framework took a dual approach, building a framework that supports countries evaluate how far, and how well, climate risks are managed at international, national and sub-national scales, and uses vulnerability and development indicators to assess whether development outcomes bring better local climate resilience, and whether that aggregates at larger scales to produce climate-resilient development. The work uses scorecards to assess institutional capacity for using climate information and theories of change to explore what this use means for outcomes in terms of resilience and longer term development. IIED is currently working with partners to develop adaptation effectiveness frameworks for decentralised climate funds in Kenya, Tanzania, Mali and Senegal. IIED researchers have published widely on learning from measuring and assessing approaches to adaption and resilience in peer-reviewed journals and policy publications.[2]

[1] Decision 1/CP.21, paragraph 45(b): Also requests the AC and the LEG, in collaboration with the SCF and other relevant institutions, to develop methodologies, and make recommendations for consideration and adoption by CMA 1 on reviewing the adequacy and effectiveness of adaptation and support referred to in Article 7, paragraph 14(c), of the Agreement.

[2] See: Craft and Fisher, 2015, National experiences should inform the global adaptation goal, http://pubs.iied.org/pdfs/17289IIED.pdf; Fisher et al. 2015, Using methods from international development to inform the M&E of adaptation, New Directions in Evaluation 2015, 147; Karani et al. 2015, Tracking Adaptation and Measuring Development in Isiolo County, New Directions in Evaluation 2015, 147; Brooks et al., Tracking Adaptation Measuring Development: an operational framework, IIED Working Paper 2014; Anderson, 2014, Forwards and backwards evidence based learning on adaptation, IIED briefing; Rai et al. 2015; Tracking Adaptation Measuring

In this submission, we bring evidence from our work and research at national and local levels to two of the guiding questions posed by the AC and the LEG in reference to their mandate regarding decision 1/CP.21, paragraph 45(b):

- **What information/data or metrics are needed for the review of adequacy and effectiveness of adaptation and support for adaptation?**
- **What methods can be used to review the adequacy and effectiveness of adaptation?**

To assess what information and metrics are needed to review adequacy and effectiveness we must first consider what we mean by those terms.

Effective adaptation

Deciding what is effective adaptation relies on firstly defining what the long-term objectives of adaptation activities are, and then assessing to what extent the objectives have been reached. Much of the monitoring and evaluation (M&E) of adaptation focuses on whether or not activities have been completed, or funds successfully dispersed[3]. There is very little evidence as yet on whether or not adaptation activities have been effective in preparing households, communities and governments for an uncertain climatic future and maintaining or sustaining development[4].

The objectives of adaptation activities have often been framed around three key areas[5]:

- *Reducing the development deficit:* An important objective of adaptation in some contexts is to address the development deficit, i.e. support communities to meet their basic needs and move out of poverty. This process can help communities respond to additional climate risks as they are in a stronger position to withstand additional shocks and stresses.

- *Addressing current climate variability:* Some adaptation aims at helping households, communities or governments manage their current climate risks. Some ecosystems are perpetually in a context of climate variability and an approach like this helps support communities to respond to the level of variability they currently experience.

- *Addressing future climate risks:* This last dimension is about the future uncertain impacts of climate change and making sure that the additional, future risks are taken into account in planning for the future in terms of infrastructure and sustaining livelihoods.

The focus of adaptation efforts, and what is therefore effective adaptation, will vary widely depending on the socio-economic context of the Party in question. The approach taken to measure overall progress therefore needs to be flexible enough to take account of these very different contexts.

Development in Cambodia, IIED Research Report; Brooks and Fisher, 2015. Tracking Adaptation Measuring Development: a step by step guide, IIED Toolkit..

[3] Fisher et al, 2015 op. cit.

[4] Brooks et al. 2014 op. cit. Bours et al. 2015 op.cit. Anderson 2012, TAMD : A framework for assessing climate adaptation and development effects, http://pubs.iied.org/17143IIED/.

[5] McGray et al, 2007, Weathering the storm, WRI, http://pdf.wri.org/weathering_the_storm.pdf.

Types of metrics

There are a number of different metrics that have emerged over the past decade of adaptation M&E experience[6]. These are either specific to one dimension of adaptation or cut across several.

They also can focus on either the **process of adaptation or the outcomes**, and at different points in time. These have emerged through the demand from donor governments and climate funds to be able to demonstrate the impacts of the use of finance for adaptation as well as from national governments developing climate change or adaptation plans and strategies and wanting to build results management into them.

Institutional capacity

Assessing institutional capacity for climate risk management has been one way that donor programmes and multilateral climate funds have sought to assess the effectiveness of adaptation efforts[7]. These metrics rely on identifying key institutional processes, capacities and plans that need to be in place for an institution to effectively manage their climate risks. These metrics can include indicators such as: having a climate change plan in place, using climate change information and having the capacity to consider climate uncertainties.

A focus on institutional capacity metrics places the emphasis on formal institutions that govern adaptation and the capacities and processes that need to be in place for this to happen. Some of this can be fairly simple to measure and to compare across contexts. What these metrics do not offer however is an assessment of how effective such institutional processes actually are at reducing local level risks.

The following dimensions of climate risk management were developed as part of the TAMD framework and have been widely tested and methodologies developed for assessment.[8]

Table 1: Dimensions of climate risk management

Dimensions of climate risk management
Climate Integration into planning
Institutional coordination for integration
Budgeting and finance for climate integration
Institutional knowledge and capacity

[6] See Bours, D. et al., 2014. Monitoring & Evaluation for Climate Change Adaptation and Resilience: A Synthesis of Tools, Frameworks and Approaches. SEA Change CoP and UKCIP, Phnom Penh and Oxford. Bours, D., et al. 2015. Monitoring and Evaluation of Climate Change Adaptation: A Review of the Landscape. Wiley Periodicals, Hoboken, NJ. Fisher et al. 2015 op. cit.; Stadelmann et al. 2011 Stadelmann, et al, 2014. Universal metrics to compare the effectiveness of climate change adaptation projects. In: Filho, W.L. (Ed.), Handbook of Climate Change Adaptation. Springer, Berlin, pp. 1–15.

[7] Rai and Nash, 2015, Evaluating institutional responses to climate change in different contexts, IIED Briefing, http://pubs.iied.org/17271IIED/. Roehrer, 2015, Monitoring, Reporting, and Evidence-Based Learning in the Climate Investment Funds' Pilot Program for Climate Resilience, New Directions in Evaluation 147

[8] See: TAMD Methodological note for more details: http://pubs.iied.org/pdfs/G03881.pdf

Use of climate information
Planning under uncertainty using appropriate methodologies
Participation of relevant stakeholders in national planning
Awareness amongst stakeholders

Resilience/vulnerability/adaptive capacity

Another way to measure adaptation effectiveness is to measure the intermediate outcomes that adaptation activities support. Most recently this has been conceptualised as 'resilience' – the capacity to absorb, respond and recover from shocks and stresses without depleting assets or experiencing a permanent loss in wellbeing[9]. This has also been framed with related concepts such as reducing vulnerability to climate shocks and increasing the adaptive capacity of households and communities i.e. their capacity to respond to shocks and stresses.

Measuring resilience has become a topic of interest as this is often the short-term outcomes of projects and programmes on a three-five year timeframe[10]. There have been attempts to measure resilience through household surveys and/or participatory processes looking at key dimensions such as assets, safety nets, social systems, infrastructure, natural resources and their governance, access to services, income and food security, personal circumstances and broader governance[11]. Resilience measurement seeks to measure the capacities that different actors have to anticipate, absorb and adapt to climate risks. There is little evidence however if and how these capacities lead onto increased and sustainable changes in wellbeing. I.e. longer term reductions in poverty.

Measurement and tracking of intermediate outcomes is useful to track changes in shorter timeframes but also brings some challenges. There is little evidence so far on how increased resilience for example leads to better development over time, or what resilience looks like in many different contexts. Resilience is context-specific and relates the particular hazards experienced and how they are experience by specific communities over defined timescales[12].

Development progress

Some developing countries are in the process of developing and supporting communities to move out of poverty. Many indicators have been developed to track these objectives under the Millennium Development Goals, development programmes and in national M&E systems themselves. The metrics used to measure success in these cases would be standard development indicators such as income, mortality, education and health access.

[9] Mitchell and Harris, 2012, https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/7552.pdf.
[10] Brooks, 2014, Indicators for the monitoring and evaluation of adaptation, IIED briefing, http://pubs.iied.org/17273IIED/.
[11] Brooks et al. 2014, Assessing the impact of ICF programmes on household and community resilience to climate change, http://www.evidenceondemand.info/assessing-the-impact-of-icf-programmes-on-household-and-community-resilience-to-climate-variability-and-climate-change
[12] Brooks and Fisher, 2015, op. cit.

Metrics such as these are less equivocal as they track the ultimate outcome of adaptation efforts, that despite climate risks, development is continuing as anticipate e.g. income levels kept increasing or female literacy levels increased. This can be useful for understanding the ultimate impact of adaptation but is a very long-term effort and needs long timeframes to see any impact. Such long time horizons for measurement also introduce challenges such as the shifting hazards of climate change discussed in more detail below.

Some metrics seek to combine indicators from some of the above categories into an index. These indices show an aggregated figure but may not give a contextual understanding of effectiveness and adequacy for each national context, and the selection of indicators that make up the index can be a controversial process.

Challenges to be taken into account

There are some cross-cutting challenges to measuring or tracking the effects of adaptation[13] which Parties will need to take into account when considering a system to track these efforts under the global stocktake, whilst not allowing them to prevent action or concrete steps.

These are:

- Long-time horizons – the time frames of adaptation are very long and so difficult to measure within traditional five year government planning cycles or political mandates, such as that outlined for the global stocktake. The endpoint is also unclear and may change over time.
- Uncertainty of climate change trends and their local impacts – the climate trends are not yet clear in many cases and so planners need to adapt for a range of possible scenarios, avoiding being 'locked-in' to future impacts until further evidence is available. This makes assessing effectiveness to an endpoint or 'goal' challenging.
- Shifting baselines – data may not be available on climate trends or the climate risks may change over the time of the adaptation efforts. This means trends in indicators need to be interpreted in the context of a shifting baseline.
- Multi-sectoral nature of adaptation responses – adaptation cuts across traditional sectoral boundaries which presents challenges for data collection and for assessing effectiveness across several domains and the potential trade-offs and synergies between them.

Whilst these are issues that the national governments, climate funds or programme implementers need to work with, they are also relevant to Parties. The collective design of the global stocktake should ensure that data tracked to assess overall progress is accurate and reflects real progress and accountability in the face of a changing context.

Adequate adaptation

Though the phrase "adequate adaptation" appears in the Convention, in the years since its adoption in 1994 Parties have yet to articulate a collective understanding of its meaning. The

[13] Reviewed in Fisher et al. 2015 and Bours et al. 2014.

few offered in literature start by determining what inadequate adaptation would consist of.[14] As with effectiveness, when assessing what information and metrics are needed to review adequacy we first consider what is meant by the term.

Given the literal definition of *adequate*, we assume that the adequacy of adaptation would combine considerations of both **quality and quantity**. This would build on effectiveness, which defines long-term objectives and then assesses to what extent these objectives have been reached (quality), by adding a dimension of scope (quantity) – do the objectives envelope all aspects of the goals of adaptation? The primary aim of a review of adequacy therefore would be to determine whether "enough" has been done.

Reflecting on this, we envision a review of the adequacy of adaptation would examine the following three dimensions:

1. **Finance**

   Access to finance is an essential component of implementing adaptation measures. While developing climate finance metrics is beyond the scope of our input, we recognise that they are crucial to any review of the adequacy of adaptation. The questions we would hope these metrics could determine are: Is enough climate finance flowing internationally to enable effective adaptation? Is that climate finance reaching those who need to adapt from national governments to local actors?

2. **Sufficient action to be effective**

   A review of adequacy should also consider the thresholds at which adaptation efforts are sufficient so that the effects of climate change do not hinder the achievement of national priorities in the current and anticipated climate context.

   Uncertainty remains about how the climate will change, how rapidly, and whether climate models are reliable and available at appropriate scales[15]. As we face an uncertain future, there is no set threshold for adaptation being sufficient and therefore 'achieved'. What adequate adaptation must account for are the evolving thresholds of what is sufficient in the current and anticipated context. This includes avoiding maladaptation, the inadvertent increase of vulnerability by overlooking climate change risks in development activities.[16]

   To assess this dimension, activities or plans would need to be assessed against the anticipated current and future risks to ensure that the plans are of sufficient scale and magnitude to meet the identified climate risks and hazards. Key thresholds could be identified that defined acceptable levels of risk and adaptation i.e. % roads passable in wet season, economic damage from extreme events, people living in coastal areas, % infrastructure projects assess for additional climate risks. These indicators could be monitored on a repeated basis to check that certain thresholds were being met or maintained, and then updated if risks changed.

[14] See: Verheyen, 2002, "Adaptation to the Impacts of Anthropogenic Climate Change – The International Legal Framework," RECIEL 11(2): 129-143
[15] Fisher, S et al. 2015.
[16] Brooks, N.. "Tracking adaptation and measuring development." http://pubs.iied.org/pdfs/10031IIED.pdf

3. Geographical coverage

Lastly, reviewing adequacy should also look into the geographical coverage of adaptation efforts. How much of the country and its vulnerable areas have been covered by adaptation measures? What is the spread of adaptation across space? Delving into where adaptation efforts occur should lead to considering issues of social inclusion and environmental justice, and urban and rural coverage.

Methods and data

Keeping these dimensions of effectiveness and adequacy in mind, we now turn to what methods and existing data sets could be used in an overarching review. We anticipate given resource constraints that reporting on the effectiveness and adequacy of adaptation efforts will need to be a practical, light-touch approach using data that is largely already available or can be easily compiled. This data should also be **useful and meaningful** to national stakeholders assessing their progress rather than purely a reporting exercise.

Scorecards

One reporting tool that has been fairly widely applied is a scorecard. This simple tool provides a way of assessing and compiling existing data and/or expert opinions against a set of agreed criteria. This has been used and tested for adaptation by the PPCR and through the TAMD framework. An assessment of their use of the TAMD scorecards[17] found that they offered a relatively simple way to monitor institutional progress where key areas relevant to the intervention or desired outcomes have been identified. The scorecards can be filled in either through national expert responses from a range of stakeholder triangulated for rigour, through participatory processes or through external assessments.

- They allow for the quantification of qualitative information based on triangulated evidence from a wide range of stakeholders. Managing scorecards over time gives comparable scores, allowing institutional performance to be measured and 'effectiveness' and 'adequacy' assessed.

- Stakeholders such as national, sectoral and sub-national governments as well as local communities can provide a rich source of information. Scoring through participatory processes can complement the expert literature and assessment when constructing and measuring indicators, and can build agreement on institutional pathways and challenges.

Although institutional capacity evaluations through scorecards are important to understand the enabling environment, by themselves they only offer an assessment of what 'might' lead to effective and adequate adaptation. They need to be linked to a broader national vision of what effective and adequate adaptation is (which could be done through a theory of change) and therefore what outcome indicators will demonstrate that it is being achieved.

[17] Rai and Nash, 2015, http://pubs.iied.org/pdfs/17271IIED.pdf

Stated goals for adaptation and national priorities

Adaptation is a context specific process which will have different objectives in different countries. It is therefore key that the specific national objective and priorities are defined in any assessment of effective and adequate adaptation. This can be done through national planning processes or prioritisation exercises. In some cases a theory of change may be useful which is a model or chain that links actions with results via mechanisms and pathways to try to explain how a desired change will come about. It can be used at the national level to identify the assumed mechanisms and pathways through which specific climate-related hazards experienced within a country lead to consequences for national development and targets. As well as the adaptation processes and mechanisms — such as better climate risk management and improved resilience — that are expected to result in a decrease in the consequences of hazards for national development and for the climate-vulnerable poor.

Measuring outcomes

There are large national data sets that could be used to support measuring the effectiveness and adequacy of adaptation, these include Census data, National Living Standards Surveys and national development plans and their indicators sets. There are also increasingly specific climate-related indicators sets developed for results frameworks of national plans and strategies such as Ethiopia's CRGE results framework or Kenya's MRV+ system, and the UK's adaptation preparedness ladders.[18] Linking assessment of the effectiveness of adaptation to these national assessments and priorities will be crucial to ensure the process catalyses learning and support at the national level as well as providing a stimulus for achieving effective adaptation at all scales. Parties in different national contexts will have differing access to data in terms of quality and quantity and so the method of assessment has to allow for this variety.

For a form of assessment linking to national systems, the focus is likely to be on the tracking of wellbeing/development indicators over long periods so that trends can be identified. Wellbeing or development indicators may be measured annually or at less frequent intervals. For indicators that seek to capture a snapshot of wellbeing – for example, health, education or economic status – measurements may represent a single point in time. Indicators for costs in terms of assets, livelihoods and lives should be cumulative, aggregated over periods of a year or longer.[19] Historical baselines for wellbeing indicators should be used or constructed wherever possible, so that changes in these indicators over time can be placed in a longer-term context.

Using wellbeing indicators to determine whether adaptation has taken place over a long timeframe, and to evaluate how successful it has been, requires the use of climate information and/or data. At a minimum qualitative climate information is required so that those interpreting changes in wellbeing indicators can determine whether these changes have occurred in the context of worsening, stable or improving climate hazards.

[18] OECD, 2015, National Climate Change Adaptation: Emerging Practice in Monitoring and Evaluation, OECD Publishing, Paris.
[19] Brooks and Fisher, 2015, http://pubs.iied.org/pdfs/10100IIED.pdf.

Ways forward

The Parties have set themselves an ambitious but worthwhile task to assess the effectiveness and adequacy of adaptation. These are both complex and challenging domains and the approach taken needs to be one that is simple enough to be practical and avoid increasing the reporting burden, whilst at the same time giving meaningful information that allows the Parties to the Paris Agreement to judge whether they are achieving adaptation for the most vulnerable communities.

We therefore suggest an approach that is based on the following principles:

- **National and sub-national learning and usage of the information**
- **Effectiveness in terms of process/institutional capacities, and of outcomes**
- **Recognising adaptation is a moving goal in a changing climate**
- **A flexible approach that fits a wide range of contexts**

Using these principles, we propose using a set of comparable scorecards that record and measure national progress over time through a process of national stakeholder dialogues with some expert input as required (see examples in Tables 2 and 3). The indicators would not be the same for each country, but would have indicators in the same domains. The process should build on and be embedded in the M&E processes for national or sectoral climate change plans.

Each scorecard would be backed up with notes justifying the scores given and the data backing up the assertions. The scorecards would look at both the processes put in place (climate risk management) but also the potential outcomes of the processes so that over the long term the global stocktake would monitor the effectiveness of adaptation itself in helping countries still reach their national goals.

Results could then be aggregated to show either global trends, progress from baselines or progress towards nationally defined goals. A simple traffic lighting system could be used to define progress at a global level giving a snapshot of progress on effectiveness and adequacy whilst highlighting areas for further research/support.

Table 2: An example of a national scorecard for effective and adequate climate risk management (process)

	Effective		Adequate		
	Institutional indicators relevant to national context in key domains	**Progress against baseline and nationally defined targets (could be numerical score)**	**Response meets scale of identified risks (Y/N/P)**	**Geographical coverage and links to sub-national / urban**	**Adequate finance**
Climate risk management	○ Climate Integration into planning				
	○ Institutional coordination for integration				
	○ Budgeting and finance for climate integration				
	○ Institutional knowledge and capacity				
	○ Use of climate information				

	○ Planning under uncertainty using appropriate methodologies				
	o Participation of relevant stakeholders in national planning				
	○ Awareness amongst stakeholders				

Table 3: An example of a national scorecard for effective outcomes

	Effective				Adequate
	Effective indicators relevant to national context	**Trends or meeting of national targets**	**Climate data/context**	**Level of confidence/ data**	**Adequacy of targets related to identified risks; geographical coverage and finance.**
Short-term 3-5 year objectives (resilience, activities etc.)	Identify 3-5 for each as linked to national adaptation or climate-sensitive development plans	Description of trend using data available and categorising trend: **Improvement** **Stable** **Decline**	Any particular extreme event noted	**Disaggregate results for goal by data quality and level of confidence**	
Climate-sensitive wellbeing indicators 5 - 30 years (long-term)			Relevant context for development trends **Worsening hazards, stable, declining, changing**		
Costs to assets, livelihoods and lives					