



Measuring effective and adequate adaptation

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Working in collaboration with partner organisations and individuals in developing countries, the Climate Change Group has been leading the field on adaptation to climate change issues.

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Photo caption: Focus group on adaptation planning, Isiolo County.

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Measuring the effectiveness and adequacy of adaptation is a challenging but important task for government policymakers, practitioners and development partners. Adaptation activities are wide-ranging, with objectives that vary from addressing existing development gaps to explicitly considering future climate risks. There is often a lack of data and indicators to capture changes over time in the context of climatic uncertainty. This issue paper defines the components of effective and adequate adaptation and recommends a way of reviewing progress. The methods and tools to assess the effectiveness and adequacy of adaptation need to support learning and improvement of the adaptation activities rather than just reporting, and to be flexible enough to capture local contexts as well as allow aggregate assessments at different scales over time.

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Summary

Since the adoption of the Paris Agreement's global goal on adaptation in 2015, discussions in the UN climate change negotiations have shifted to defining how nations will evaluate adaptation efforts. Negotiators have begun designing the global stocktake mechanism that is tasked with reviewing progress every five years beginning in 2023.

As investment in adaptation has increased both within and outside of United Nations Framework Convention on Climate Change (UNFCCC) financing mechanisms, so has the development of evaluative frameworks at the national, programme and project level that seek to determine whether adaptation or policies have been effective and adequate as well as research on methods for this.

National governments have developed climate change plans and strategies, they have also been addressing how to assess the effectiveness of their adaptation efforts, developing results frameworks and indicators to measure progress. Countries such as Kenya, Mozambique and Cambodia have developed national systems to monitor their adaptation efforts and many countries have included national goals and targets as part of their National Adaptation Plans (NAPs) or national climate change strategies.

However, there is still very little consensus as to what constitutes effective and adequate adaptation and how to measure it.

This issue paper explores the issues behind defining effective and adequate adaptation to provide a context and way forward on these discussions. These issues are relevant to policymakers, development partners, practitioners, negotiators and researchers.

Measuring effective and adequate adaptation

It is challenging to measure and assess the effectiveness of adaptation to climate change. Adaptation activities are wide-ranging, with objectives that vary from addressing existing development gaps to explicitly considering future climate risks. There is often a lack of data and indicators to capture changes over time in the context of climatic uncertainty.

The International Institute for Environment and Development (IIED) has been working with national governments and partners for the past four years to address some of these challenges, developing frameworks and indicators to assess adaptation success. The results of this work have several important findings for how the UNFCCC can assess whether the world is doing enough to adapt to climate change¹.

Our work shows the effectiveness of adaptation can be tested in several different ways. The approaches can focus on either the *process* of adaptation such as improved planning systems for climate change, or the *outcomes* such as fewer deaths from climate-related extreme events. This leads to different ways of assessing progress:

- Progress can be measured through indicators that track institutional changes such as improved use of climate information in planning and improved budgeting for climate change. But a focus on institutional changes assumes that an improved enabling environment will lead to better outcomes – which may not always be the case.
- Another metric is measures of vulnerability and resilience. This seeks to measure the capacities that different actors have to anticipate, absorb and adapt to climate risks and offers a short-term assessment of changes that might support effective adaptation.
- Some developing countries have developed indicators to track longer term wellbeing. The metrics used to measure success in these cases are standard development indicators such as income, mortality, education and health access. Metrics such as these track the ultimate goal of adaptation efforts: that, despite climate risks, development is continuing as anticipated, so, for example, income levels keep rising or female literacy levels increase. This can be useful for understanding the impact of adaptation but is a very long-term effort and needs long timeframes to see any impact. Such long time horizons make it harder to understand the factors that have influenced development.

It is important to ensure not only that adaptation is effective but whether it is also adequate. To assess whether adaptation is adequate it is useful to identify measures of both quality and quantity. This starts with defining long-term objectives and assessing the extent to which these objectives have been reached (quality), and then adding a dimension of scope (quantity) – do the objectives cover all aspects of the goals of adaptation? The aim of a review of adequacy is to determine whether enough has been done. This is linked to three dimensions:

Finance: Access to finance is an essential component of implementing adaptation measures: not only its availability but who has access to the funds and who controls how they are spent.

Identifying and setting key thresholds: A review of adequacy should consider the thresholds at which adaptation efforts are sufficient so that the effects of climate change do not hinder the achievement of other national priorities.

Geographical coverage: Reviewing adequacy should also look into the geographical coverage of adaptation efforts to assess the spread of adaptation across a country. Identifying gaps in coverage should lead to considerations of social inclusion and environmental justice.

Finally, while gathering data on adaptation is an important task and assessing effectiveness and adequacy is a valuable ambition, it is how that information is used to improve adaptation or upscale efforts that is really important. It is therefore key to focus on information that can be used by global, national and local actors for decision-making, rather than insisting on unique formats and processes for reporting exercises that have little relevance to decisions being made.

Why now?

As investment in adaptation is increasing through bilateral and multilateral finance as well as through national budgets, it is crucial that funds are spent effectively and efficiently and that stakeholders learn from adaptation efforts to improve outcomes for vulnerable communities.

These considerations also feed directly into the current discussions under the UNFCCC. Designing a global stocktake that empowers policymakers and practitioners to accurately review the effectiveness and adequacy of adaptation will have lasting implications for future international action on climate change. As negotiators begin the task of designing the mechanisms of the global stocktake, now is the time for policymakers, development partners, practitioners and researchers to give voice to best practice and help shape the discussion.

Taking action

It is 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 reporting burdens, while at the same time giving meaningful information that allows stakeholders to judge whether they are achieving adaptation for the most vulnerable communities.

We therefore suggest an approach to measuring effective and adequate adaptation that is based on the following principles:

- Learning and use of the gathered information at the appropriate scale.
- Assessing effectiveness in terms of process or institutional capacities, and of outcomes.
- Recognition that adaptation is a moving goal in a changing climate.
- Flexibility which enables the approach to fit a wide range of contexts.

Introduction

It is challenging to measure and assess the effectiveness and adequacy of adaptation to climate change. There is often a lack of data and indicators to capture changes over time in the context of climatic uncertainty. However, measurement of adaptation has become an increasing priority for practitioners and policymakers who need to know whether their activities are having the desired effects and for global decision-makers who want to understand the rate of progress on this issue.



Developing methodologies to review the adequacy and effectiveness of climate change adaptation is an ambitious, but important task. Over the past several years, governments in the global south have worked to develop evaluative frameworks to measure progress of their national adaptation plans and strategies. The international community has recognised the importance of these efforts by enshrining a review of global progress on adaptation in the Paris Agreement, adopted under the United Nations Framework Convention on Climate Change (UNFCCC) in December 2015.

Adaptation takes a principle role in the Paris Agreement. The global goal on adaptation established in its Article 7, 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 limiting warming to below 2 degrees Celsius. The article goes on to outline the actions nations should take to meet this goal, several of which relate directly to enhancing the effectiveness and adequacy of adaptation:

1. Nations should strengthen cooperative action on adaptation by, among other things, improving the effectiveness and durability of adaptation actions.
2. Nations shall engage in adaptation planning processes and the implementation of actions, which may include monitoring and evaluation (M&E).
3. Nations should communicate and periodically update their adaptation priorities, needs and plans.
4. International support shall be enhanced and continuously provided to developing countries.

Nations will assess collective progress towards achieving the goals of the Paris Agreement by conducting a global stocktake in 2023 and every five years thereafter. In relation to adaptation, the global stocktake will review the adequacy and effectiveness of adaptation and support provided for adaptation. The framework for reviewing the adequacy and effectiveness of adaptation will also contribute to reviewing progress toward the global goal on adaptation.²

In this issue paper we examine the methods, types of information and metrics needed to measure both the efficiency and adequacy of adaptation activities. To measure the effectiveness of any adaptation activities, their long-term objectives must be defined. Later, policymakers and practitioners can assess the extent to which these objectives were reached and thus can consider the quality of the activities. To assess the adequacy of adaptation, we build on our review of effectiveness, and add another dimension of scope – quantity – to the process. This helps policymakers and practitioners determine whether adaptation has done enough.

Measuring effective and adequate adaptation

Approaches to effectiveness can focus on either the process of adaptation, or the outcomes of the activities. To assess whether adaptation is adequate it is useful to identify measures of both quality and quantity. This starts with defining long-term objectives and then assessing the extent to which these objectives have been reached (quality), and adding a dimension of scope (quantity).



Effective adaptation

To date, much adaptation monitoring and evaluation (M&E) has focused on whether activities have been completed or funds successfully dispersed.³ However, it is also important to gather evidence on whether adaptation activities have been effective in preparing households, communities and governments for an uncertain climatic future and for maintaining or sustaining development.⁴

The objectives of adaptation activities are often framed around three key areas:⁵

- *Reducing the development deficit:* In some contexts, adaptation activities aim to help communities meet their basic needs and move out of poverty. Being in a stronger position to withstand additional shocks and stresses makes them better able to respond to additional climate risks.
- *Addressing current climate variability:* In ecosystems that are in a perpetual context of climate variability, adaptation activities aim to help households, communities or governments manage and respond to their current climate risks.
- *Addressing future climate risks:* Adaptation activities can also make sure that development plans take additional, future risks into account, particularly in terms of infrastructure and sustaining livelihoods.

Types of metrics

A number of metrics for measuring adaptation progress have emerged over the past decade.⁶ They can focus on the process or the outcomes (immediate or ultimate) of adaptation. They can be specific to one dimension of adaptation, cut across several at once or focus on different dimensions at different points in time.

These metrics have emerged as a result of both donor government and climate fund demands to demonstrate the impacts of finance for adaptation and national governments' wishes to build results management into their climate change or adaptation plans and strategies.

Measuring institutional capacity for risk management

Donor programmes and multilateral climate funds assess institutions' capacity for climate risk management to measure the effectiveness of their adaptation efforts.⁷

Focusing on institutional capacity metrics places the emphasis on the formal institutions that govern adaptation and the capacities, plans and processes they

need to have in place to effectively manage their climate risks. But, although it can be fairly simple to measure and compare some processes across contexts, these metrics do not assess how effectively these processes reduce local-level risks.

The Tracking Adaptation Measuring Development (TAMD) framework is a framework for assessing the effectiveness of adaptation efforts. It uses a two-track approach supporting countries to evaluate how far, and how well, climate risks are managed at international, national and sub-national scales (track 1), and uses vulnerability and development indicators to assess whether development outcomes bring better local climate resilience (track 2), 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.

As part of the TAMD framework, Brooks et al. (2013) identified the following eight dimensions of climate risk management to help measure institutional capacity:

- 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
- Participation of relevant stakeholders in national planning, and
- Awareness among stakeholders.

Methodologies were developed to assess these eight domains and eight national country pilots were undertaken as part of the TAMD initiative.⁸

Although it is possible to combine indicators from the different climate risk management dimensions into one index, this throws up challenges of its own. These indices give an aggregated figure, but they do not always help understand the effectiveness of adaptation activities for each national context. The selection of indicators that make up the index can also be a controversial process.

Resilience, vulnerability and adaptive capacity metrics (intermediate outcomes)

Effectiveness can also be measured through the intermediate outcomes of adaptation activities. 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 is also framed as reducing vulnerability to climate shocks or increasing households' and communities' adaptive capacity.

Resilience is often the desired outcome of projects and programmes on a three-to-five-year timeframe.¹⁰ Previous studies have tried to measure resilience through household surveys and/or participatory processes that look 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

In measuring resilience, practitioners seek to assess different actors' capacities to anticipate, absorb and adapt to climate risks, but studies have collected little evidence of whether and how these capacities increase or make sustainable changes in people's wellbeing, impact longer-term poverty reduction or lead to better development over time. So, although measuring and evaluating intermediate outcomes helps to track changes in shorter timeframes, it also brings some challenges.

Resilience is also context-specific. Because it relates to particular hazards and how communities experience these over defined timescales,¹² it is not always easy to know what resilience looks like.

Development progress (ultimate outcomes)

There are many indicators to track how communities are moving out of poverty. These indicators are included in the Millennium Development Goals, national development programmes and national M&E systems. The metrics used to measure development progress are standard development indicators such as income, mortality, education and health access.

These types of metric track the ultimate outcome of adaptation efforts; that despite climate risks, development is continuing as anticipated – for example, income levels or female literacy levels have increased.

Although tracking development outcomes can be useful for understanding the ultimate impact of adaptation, it is a very long-term effort and we need long timeframes to see any impact, which introduces additional challenges including the shifting hazards of climate change.

Challenges

We have discussed some of the metric-specific challenges in the section above. There are also a number of cross-cutting challenges that national governments, climate funds or programme implementers and global stocktakes will need to take into account when considering a system to measure or track the effects of adaptation.¹³ These include:

- Long time horizons: Because adaptation activities tend to have long time frames and unclear endpoints that are liable to change over time. It can be difficult to measure them within traditional five-year government planning cycles or political mandates.
- Uncertainty of climate change trends and their local impacts: With many climate trends not yet clear, planners need to adapt for a range of possible scenarios. Although this means they will avoid being locked in to future impacts until further evidence is available, it does make assessing effectiveness to an endpoint or 'goal' challenging.
- Shifting baselines: Data may not be available on climate trends or climate risks may change over the time of the adaptation efforts. So trends in indicators need to be interpreted in the context of a shifting baseline.
- Multi-sectoral adaptation responses: Adaptation cuts across traditional sectoral boundaries; this presents challenges for collecting data, assessing effectiveness and the potential trade-offs and synergies between domains.

While these are issues that national governments, climate funds or programme implementers need to work with, they are also relevant to UNFCCC negotiators interested in issues such as the defining the global stocktake and reviewing progress toward the global goal on adaptation.

Adequate adaptation

Given the literal definition of *adequate*, we suggest that the adequacy of adaptation should combine considerations of both quality and quantity. Building on effectiveness, which defines long-term objectives and assesses to what extent these objectives have been reached (quality), adequacy adds a dimension of scope (quantity) by asking if the objectives include 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. To assess whether the adequacy of adaptation, three dimensions need to be considered: access to finance; identifying key thresholds for adaptation; and geographical coverage or spread.

Finance

Access to finance is essential for implementing adaptation measures. While developing climate finance metrics is beyond the scope of this paper, we recognise that they are crucial to any review of the adequacy of adaptation. Financial metrics should determine whether there is enough climate finance flowing internationally to enable effective adaptation and if so, whether the climate finance is reaching those who need to adapt from national governments to local actors.

Identifying and setting key thresholds

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

We do not know how the climate will change, how rapidly it will change and whether climate models

are reliable and available at appropriate scales.²

As we face this uncertain future, there is no set threshold for when adaptation is enough and therefore achieved. So adequate adaptation must account for the evolving thresholds of what is enough in the current and anticipated context. This includes avoiding maladaptation, or inadvertently increasing vulnerability by overlooking climate change risks in development activities.¹⁴

Adaptation activities and plans need to be assessed against current and future risks to ensure that they are of sufficient scale and magnitude. Policy makers and practitioners should also identify key thresholds that define acceptable levels of risk and adaptation – for example, the percentage of roads that are passable in wet season; the acceptable amount of economic damage from extreme events; the number of people living in coastal areas; or the percentage of infrastructure projects assessed for additional climate risks. These indicators should be monitored on a repeated basis to check that thresholds are being met or maintained, updating them if risks change.

Geographical coverage

Reviewing adequacy should also look into the geographical coverage of adaptation efforts to assess the spread of adaptation across a country, particularly in its vulnerable areas. Information on the geographical spread of adaptation efforts should help practitioners visualise where adaptation activities are concentrated across space. Identifying gaps in coverage, eg the balance between urban and rural projects or repeated efforts to adapt a particular section of coastline, should lead to a consideration of social inclusion and environmental justice issues given the populations living in or reliant upon the underserved areas.

Methods for measuring adaptation progress

Gathering data on adaptation is an important task, but it is how that information is used to improve adaptation or upscale efforts that is really important. It is therefore key to focus on information that can be used by global, national and local actors for decision-making, rather than insisting on unique formats and processes for reporting exercises that have little relevance to decisions being made.



Keeping these dimensions of effectiveness and adequacy in mind, in this section we consider the methods that can be used to measure the effectiveness and adequacy of adaptation efforts. The TAMD framework¹⁵ took a dual approach, building a framework that helps stakeholders evaluate how far, and how well, they are managing climate risks at international, national and sub-national scales. TAMD uses scorecards with vulnerability and development indicators to assess institutional capacity to use climate information and theories of change to explore what this means for outcomes in terms of local climate resilience and whether that aggregates at larger scales to produce climate-resilient development.

The focus of any adaptation efforts – and therefore our measurements for effective or adequate adaptation – will vary widely, depending on the socioeconomic context where they are taking place. So any approach to measure overall progress needs to be flexible and take account of these very different contexts.

Scorecards

Scorecards are simple reporting tools that offer national stakeholders a practical and light-touch approach to measure adaptation progress. They can use them to assess and compile data and/or expert opinions against a set of agreed criteria or to monitor institutional progress where key areas relevant to the intervention or desired outcomes have been identified.¹⁶ Like any assessment method, they have their pros and cons:

- They are relatively simple and inexpensive to use, as they can rely on existing data or lighter touch forms of assessment.
- They are versatile and can be filled in three ways: through national expert responses from a range of stakeholder triangulated for rigour, participatory processes or external assessments.
- They allow stakeholders to quantify qualitative information based on triangulated evidence from a wide range of stakeholders.
- National, sectoral and sub-national governments to local communities can provide a rich source of information for the scorecards.
- Managing scorecards over time gives comparable scores, allowing stakeholders to measure institutional performance and assess effectiveness and adequacy.

- Scoring through participatory processes can complement expert literature and assessment when developing and measuring indicators, and can build agreement on institutional pathways and challenges.

Although evaluating institutional capacity through scorecards can help policymakers and practitioners understand the enabling environment, on their own they only offer an assessment of what might lead to effective and adequate adaptation. So it is important to link scorecards to a broader national vision of effective and adequate adaptation – which could be done through a theory of change (see below) – and outcome indicators that will demonstrate the achievement of adaptation.

Tools that take context into account

Adaptation is a context-specific process. As such, different countries will have different objectives for adaptation. So it is key that the all assessments of effective and adequate adaptation define specific national objectives and priorities. This can be done through national planning processes or prioritisation exercises.

In some cases, it may be useful to develop a theory of change – a model or chain that links actions with results via mechanisms and pathways to explain how a desired change will come about. At the national level, a theory of change can help identify the assumed mechanisms and pathways through which specific climate-related hazards experienced within a country lead to consequences for national development and targets.

Wellbeing and development indicators

Many countries have large national data sets that they could use in their efforts to measure the effectiveness and adequacy of adaptation. These include census data, national living standards surveys, and national development plans and their indicators sets. The quality and content of available data will differ between countries, and assessment methods need to allow for this variety.

Countries are also developing increasingly specific climate-related indicator sets for results frameworks of national plans and strategies. Examples include: Ethiopia's Climate Resilience Green Economy results framework; Kenya's Monitoring Reporting and Verification plus system; and the UK's adaptation

preparedness ladders.¹⁷ Linking assessments of the effectiveness of adaptation to national assessments and priorities will be crucial in ensuring the process catalyses national-level learning and support while also providing a stimulus for achieving effective adaptation at all scales.

Any assessment of national systems is likely to focus on tracking wellbeing or development indicators over long periods to identify trends. Both these types of indicator can be measured annually or at less frequent intervals. Indicators that seek to capture a snapshot of wellbeing – for example, health, education or economic status – may take measurements from a single point in time, whereas indicators for costs in terms of assets, livelihoods and lives should be cumulative, aggregated over a year or more.¹⁸

Where possible, stakeholders should use or construct historical baselines for wellbeing indicators to place any changes in these indicators in a longer-term context. Using wellbeing indicators to determine whether adaptation has taken place over a long timeframe, and to evaluate its success, requires the use of climate information and/or data. At a minimum, stakeholders will need access to qualitative climate information so they can determine whether any changes in wellbeing indicators have occurred in the context of worsening, stable or improving climate hazards.

A cross-cutting approach

Based on the discussion above, we propose a simple scorecard – such as that shown in Figure 1 – that could help track effective and adequate adaptation in different contexts. The scorecard covers progress in key domains and seeks to capture the key information including the climate context, while retaining light touch data needs and focusing on the use of the information and how stakeholders could use this to learn from their efforts. The scorecards look at both processes put in place (climate risk management) and the potential outcomes of these processes to monitor the effectiveness of adaptation. They could be applied at different scales, such as national or local. Each marking on the scorecard should be backed up with notes to justify the scores given and data to back up assertions.

This scorecard could be used in different ways by different stakeholders. For example, stakeholders could use a set of comparable scorecards that record and measure national progress over time through a national stakeholder dialogue, with expert input as required. We suggest that indicators do not need to be the same across contexts, but to allow comparability all could have indicators in the same domains.

Filling in and monitoring efforts using the scorecard process should build on and be embedded in M&E processes at the appropriate scale such as national or sectoral climate change plans.

If this type of approach were used within the global stocktake, results from different countries could be aggregated to show global trends, progress from baselines or progress towards nationally defined goals. The stocktake could use a simple traffic light system to define progress on the effectiveness and adequacy of adaptation at a global level, while also highlighting areas for further research and support.

Figure 1: Effective and adequate scorecard assessment

	EFFECTIVE		ADEQUATE		
	INSTITUTIONAL INDICATORS RELEVANT TO NATIONAL OR LOCAL CONTEXT IN KEY DOMAINS	PROGRESS AGAINST BASELINE AND CONTEXTUALLY 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	<ul style="list-style-type: none"> 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 Participation of relevant stakeholders in national planning Awareness among stakeholders 				

EFFECTIVE				ADEQUATE
EFFECTIVE INDICATORS RELEVANT TO NATIONAL OR LOCAL CONTEXT	TRENDS OR MEETING OF NATIONAL OR LOCAL 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.)	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)	Identify 3–5 for each as linked to national adaptation or climate-sensitive development plans	Relevant context for development trends Worsening hazards, stable, declining, changing		
Costs to assets, livelihoods and lives				

Looking forward

Assessing the effectiveness and adequacy of adaptation is both complex and challenging. It demands a practical approach that provides meaningful information without increasing the reporting burden of the most vulnerable countries. Any methods to assess how effective adequate adaptation need to make good use of existing national and sub-national data and climate information to effectively measure process, institutional capacities and outcomes. Recognising that adaptation is a moving goal in a changing climate, it should also be flexible and adaptable to a wide range of contexts and be able to catalyse learning at different scales.

Measurement of adaptation has become an increasing priority for practitioners and policymakers who need to know whether their activities are having the desired effects and for global decision-makers who want to understand the rate of progress on this issue. In this paper we have proposed the use of a simple scorecard to help track effective and adequate adaptation in different contexts. This approach takes into consideration the following overarching principles for measuring effective and adequate adaptation:

- **Learning and use of the gathered information at the appropriate scale:** How the data and information collected for an assessment is used to improve adaptation or upscale efforts is the true test of importance. It is key to focus on gathering information that can be used by global, national and local actors for decision-making, rather than insisting on unique formats and processes for reporting exercises that have little relevance to decisions being made.
- **Assessing effectiveness in terms of process or institutional capacities, and of outcomes:** Focusing on institutional capacity metrics places the emphasis on the formal institutions that govern

adaptation and the capacities, plans and processes they need to have in place to effectively manage their climate risks. This needs to be combined with an assessment of the outcomes of these efforts.

- **Recognition that adaptation is a moving goal in a changing climate:** With many climate trends not yet clear, planners need to adapt for a range of possible scenarios. While setting and updating thresholds for sufficient adaptation may help mitigate the risks of climate uncertainty, recognising that adaptation is a moving goal is important in assessing results over time to avoid misinterpretation the situation.
- **Flexibility which enables the approach to fit a wide range of contexts:** The methods and tools to assess the effectiveness and adequacy of adaptation need to be flexible enough to capture widely varying local contexts as well as allow aggregate assessments at different scales, be they national or international, over time.

As investment in adaptation increases and a widening range of actors review adaptation's effectiveness and adequacy, we hope these principles serve to inform best practice from designing M&E components of local projects to shaping the UNFCCC's global stocktake.

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Measuring the effectiveness and adequacy of adaptation is a challenging but important task for government policymakers, practitioners and development partners. Adaptation activities are wide-ranging, with objectives that vary from addressing existing development gaps to explicitly considering future climate risks. There is often a lack of data and indicators to capture changes over time in the context of climatic uncertainty. This issue paper defines the components of effective and adequate adaptation and recommends a way of reviewing progress. The methods and tools to assess the effectiveness and adequacy of adaptation need to support learning and improvement of the adaptation activities rather than just reporting, and to be flexible enough to capture local contexts as well as allow aggregate assessments at different scales over time.

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