

*3rd workshop on the Global Goal on Adaptation,
Cairo, Egypt - 17 October 2022*

Adaptation indicators – Lessons on usefulness

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How can adaptation indicators be effectively used?

- Measurement standards
 - Interpretation
- Link to decision making

Indicators need clear measurement standards

Indicator examples:

- Number of beneficiaries
- Number of disruptions to basic services attributed to disasters (indicator “D5” in UNDRR)



A review of the use of the indicator “number of beneficiaries” by GCF projects found:

- “the **heterogeneity of the assumptions and calculation methods** makes a **comparison** of expected number of beneficiaries **difficult**, if not impossible.” (Pauw et al., 2020)

Interpreting indicators

Indicator examples:

- Water use per capita (UNSD #155)
- Water availability
- Municipal waste collected per capita (UNSD #156)

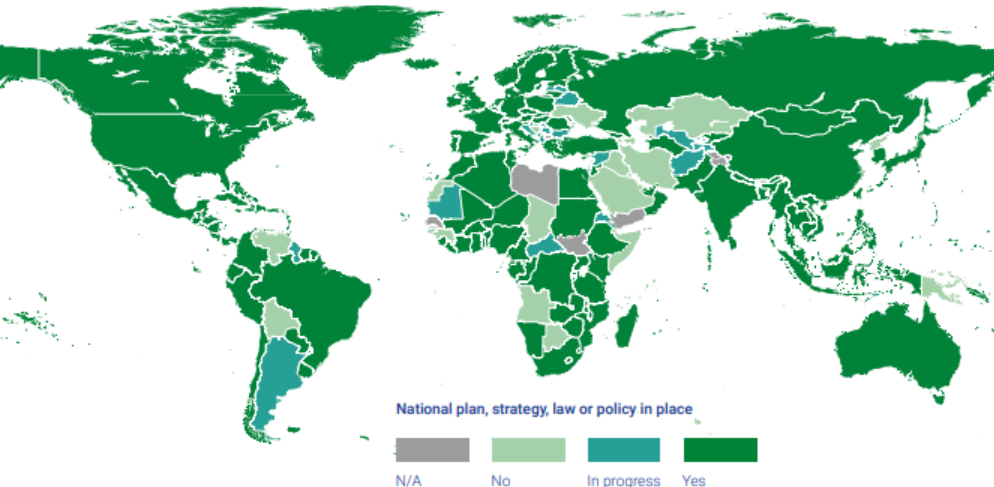
Not all indicators are unidirectional

Increases do not necessarily indicate good adaptation.

- In situations of water stress, water efficiency is important, which would be indicated by lower water use per capita.
- Increases in water availability can be unsustainable, e.g., if taken from aquifers that don't replenish

Simplistic indicators – important shortfalls

“Number of countries with a **national adaptation policy instrument**”



Criteria for adequate and effective adaptation planning

Number of countries



Global stocktake of national adaptation M&E systems

How many countries are tracking progress?

Two approaches:

Intention-based

Statements of intent about M&E, e.g. in NAPs, NDCs or National Communications

Evidence-based

Evidence that NAP M&E is under development or in operation



Chapter 3 in the [Adaptation Gap Report 2020](#)

Examples of **evidence** are:

- Progress or evaluation reports
- Documents outlining the development of NAP M&E systems
- Information from people involved in the development process of the M&E system



Open access:

<https://www.sciencedirect.com/science/article/pii/S1462901121002379?via%3Dihub>

Progress since 2017

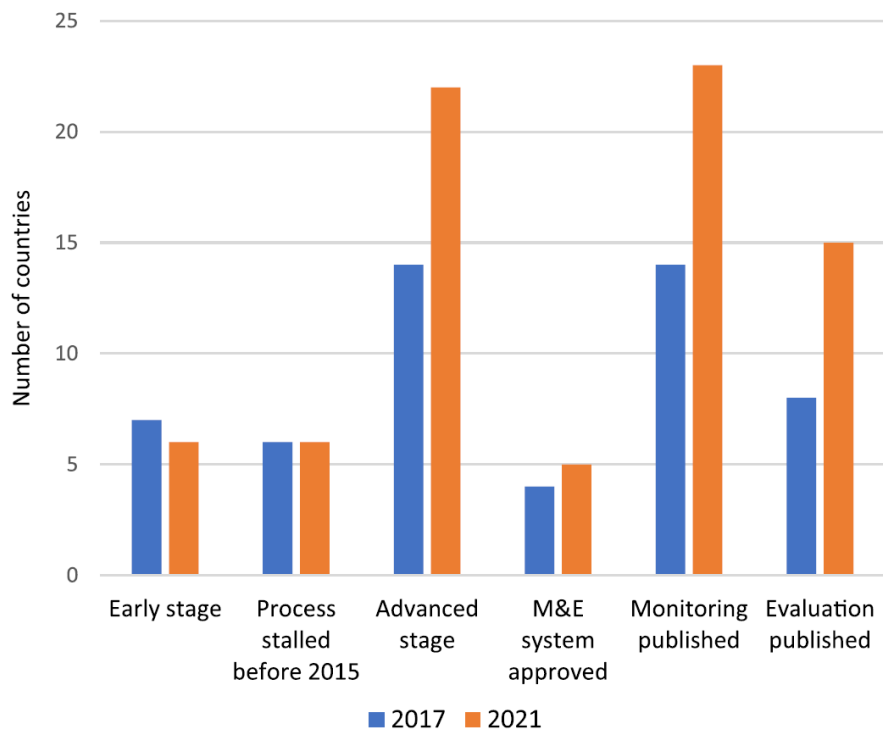


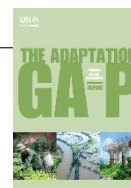
Fig. 2. Number of countries per NAP M&E stage in 2017 and 2021.

Significant progress since 2017

- The number of countries engaged in developing or applying mechanisms that track NAP implementation has **increased by 40%** since 2017.
- The number of engaged **developing countries doubled**

But gaps remain

- **60%** of countries that adopted a NAP **are not tracking its implementation (!)**
- Many still remain in the development process of adaptation M&E systems
- **Only three LDCs** reporting so far



Role of indicators

- Used by most countries, but:
 - Indicators are only one part of M&E
 - Evaluations typically place more importance on experiences of what works which cannot be fully captured through indicators (example: Germany's NAP evaluation)
- Indicators good for some type of information, but not others
 - Indicators have limitations, e.g. not good at answering **HOW** or **WHY** change happened (Leiter & Pringle, 2018)
 - Indicators can also direct attention away from important factors that might be more difficult to measure
- Do indicators provide the type of information that is needed?

Seek indicators that are **“fit for purpose”**

Supplement with information needed for proper interpretation



Pitfalls and potential of measuring climate change adaptation through adaptation metrics

Abstract

The use of adaptation metrics to gauge climate adaptation is increasing. However, the design, use and interpretation of metrics, including in the context of the Paris Agreement, indicates metrics are commonly viewed as being critical to this process. This is critical as metrics exist not only to evaluate climate change adaptation and mitigation and the contribution to monitoring progress in the non-annexed policy domain. The initial purposes of adaptation metrics were the provision of real time, periodic, identifying, diagnostic metrics, allowing monitoring and detection of the potential for a better understanding of adaptation. However, the use of metrics has evolved to include more complex metrics, such as composite metrics, which allow for a more holistic view of adaptation metrics and their contribution to the overall assessment of adaptation metrics in policy and practice.

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Introduction to adaptation indicators

Background paper for the Global Commission on Adaptation



ADAPTATION METRICS

CURRENT LANDSCAPE AND EVOLVING PRACTICES

Lead Authors (listed alphabetically):

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Dennis Bours, Independent Evaluation Office of the Global Environment Facility (IEO), and Technical Evaluation Reference Group of the Adaptation Fund (AF-TERG)
Viviane Wei Chen Clement, World Bank
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Heather Jacobs, Food and Agriculture Organization of the United Nations

Executive Summary

Effective adaptation assessment frameworks and metrics are essential for tracking and assessing climate change adaptation actions and progress. If used properly, adaptation metrics can enhance our understanding of what works and what does not work, why, and under which circumstances. Adaptation metrics are central to the learning process, as well as in guiding future adaptation efforts.

Although frameworks and metrics to track adaptation are still at the early stages of development and application, there is already sufficient knowledge to help guide future efforts. This paper highlights the following emerging lessons:

Start with the purpose, not the metrics. There is a tendency for the international debate to address adaptation metrics generically. However, the choice of metrics depends on the purpose and requires careful consideration of what one intends to measure or achieve, the types of decisions the metric will be used for (e.g., allocation of funding

About this paper

This paper is part of a series of background papers commissioned by the Global Commission on Adaptation to inform its 2019 flagship report. This paper reflects the views of the authors, and not necessarily those of the Global Commission on Adaptation.

Suggested Citation: Leiter, T., Othoff, A., Al Azar, R., Barnby, V., Bours, D., Clement, V.W.C., Dale, T.W., Davies, C., and Jacobs, H. 2019. "Adaptation metrics: current landscape and evolving practices". Rotterdam and Washington, DC. Available online at www.gca.org



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Background paper on adaptation metrics to the Global Commission on Adaptation (2019)

UNEP publication on adaptation metrics (2018) – Chapter 2



Pitfalls and potential of measuring climate change adaptation through adaptation metrics



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Abstract

The need to understand progress in climate change adaptation is increasingly being recognized at the global, national and subnational levels, including in the context of the Paris Agreement. Indicators or metrics are commonly viewed as being critical to this process. The article first examines distinct characteristics of climate change adaptation and mitigation and the implications for measuring progress in these two interrelated policy domains. The multiple purposes of adaptation metrics are then presented and analysed, including identifying adaptation needs, allocating resources, tracking implementation, assessing results and aggregation across scales. Reflecting upon recent practice, the article outlines some of the pitfalls of applying adaptation metrics

and identifies the potential for a better adaptation. By acknowledging and learning from adaptation metrics, practitioners, policymakers and stakeholders can avoid mismatches between what is expected to do and what they can actually do. Reviewing the pitfalls and potential of adaptation metrics will help inform the international debate to improve applications of adaptation metrics in practice.

¹ The views expressed in this article are those of the authors and do not reflect the views of the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH or the contributing Parties, in particular the German Development Cooperation (GIZ) and the International Centre for Environmental Conservation, Building and Resilience



Publications



ResearchGate: Timo Leiter

Background paper for the Global Commission on Adaptation



ADAPTATION METRICS CURRENT LANDSCAPE AND EVOLVING PRACTICES

Lead Authors: (2019) VYKHANOV, A.; ... **Coauthors:** ... **Abstract:** ...



Developing national adaptation monitoring and evaluation process: a guidebook.



Timo Leiter, Lead Author, Adaptation Metrics



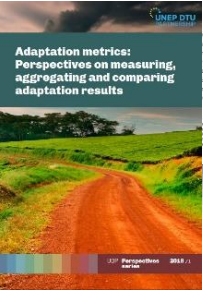
Patricia Pringle, Lead Author, Adaptation Metrics

Leiter, T. (2019). Linking monitoring and evaluation of adaptation to climate change across scales: Avenues and practical approaches. In D. Bours, C. McGinnis, & P. Pringle (Eds.), *Monitoring and evaluation of climate change adaptation: A review of the landscape*. New Directions for Evaluation, 142, 117-127.

Pitfalls and potential of measuring climate change adaptation through adaptation metrics

Abstract

The need to understand progress in measuring climate change adaptation metrics, beyond Agreement. Indicators or as being critical to the process of change, adaptation metrics are used to monitor and evaluate progress. However, these two essential aspects of adaptation metrics, including identifying impact tracking implementation, across scales. Including in outline some of the pitfalls.

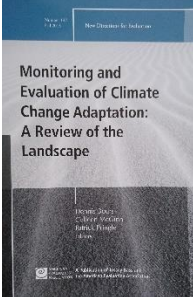


Adaptation metrics: Perspectives on measuring, aggregating and comparing adaptation results

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Linking Monitoring and Evaluation of Adaptation to Climate Change Across Scales: Avenues and Practical Approaches

Timo Leiter



Monitoring and Evaluation of Climate Change Adaptation: A Review of the Landscape

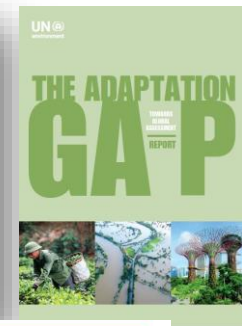
... for adapted to, and reduce adaptation—can help to avoid better account for progress specifically gathered through climate change adaptation M&E measures, given that adaptation of the adaptation progress can and national levels is compared by examples from practice and evaluation results can be evidence base for adaptation Periodicals, Inc., and the



Adaptation made to measure

A guidebook to help for climate adaptation planning.

nature climate change



THE ADAPTATION REPORT

A systematic global stocktake of evidence on human adaptation to climate change

Assessing global progress on human adaptation to climate change is an urgent priority. Although the literature on adaptation to climate change is rapidly expanding, little is known about the actual extent of implementation. We systematically screened >48,000 articles using machine learning methods and a global network of 128 researchers. Our synthesis of the resulting 5,642 articles presents a systematic and comprehensive global overview of human adaptation to climate change. Documented adaptations were largely fragmented, local and incremental, with limited evidence of transformational adaptation and negligible evidence of risk reduction outcomes. We identify key implications for global adaptation to climate change: the effectiveness of adaptation responses, enhance the understanding of limits to adaptation, enable individuals and civil society to adapt, include training policies, scholars and scholarly, understand private sector adaptation, better methods for synthesizing different forms of evidence, assess the adaptation at different temperature thresholds, and improve the inclusion of timescale and the dynamics of responses.

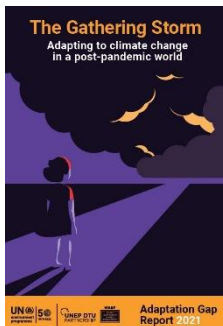
The Paris Agreement commits parties to track climate adaptation progress¹. In response, there have been consistent and increasingly explicit calls to robust, systematic and transparent assessments of adaptation progress, which include the regular stocktake of insights from empirical research². Understanding if and how adaptation is taking place is critical for decision making. Assessment of adaptation progress can include the sharing of best practices, identify gaps, support the prioritization of adaptation finance and help reduce access barriers and sectoral barriers³. In the absence of systematic global data on adaptation practices, adaptation actions documented in the academic literature provide a valuable complement to efforts to track adaptation on the ground (see Supplementary File 1 for a background on adaptation tracking and global adaptation mapping). Other studies assessed adaptation planning and policy at the regional⁴, national⁵ and subnational^{6,7} levels, using information from national communications reports⁸, local climate change action plans⁹, adaptation project proposals¹⁰ and peer-reviewed literature¹¹. Systematic evidence is synthesizing these and other types of adaptation evidence are emerging and are crucial for learning about adaptation measures taken, under what conditions, and when why¹². However, to date, few evaluations of adaptation action documented in the academic literature¹³. The literature on climate change adaptation is vast and fast growing, and spread a disparate academic, communication¹⁴. Reviewed list of papers document adaptation actions that have actually taken 1 but separating the studies that report on adaptation to report the barriers that prevent adaptation) to a monumental. Moreover, it is impossible to document and capture all or even a fraction of adaptation-related activities occurring on the ground, and there are theoretical or methodological concerns about proposed adaptation actions as documented or reflected in the academic literature (Supplementary File 1). As a result, this knowledge has remained under-utilized, despite the opportunities it presents to better understand the adaptation activities in the past and to future responses and research.

human adaptation actions in response to climate change. We focus on empirical studies that report observed adaptation-related responses (hereafter referred to as 'responses'), which reflect our aim to capture adaptations with the potential to directly reduce climate risks, and acknowledge that responses do not necessarily lead to reduced risk. In doing so, we focus on a specific subset of adaptation literature that reflects observed and implemented responses rather than processes of decision making, adaptation governance and planning. As the volume of literature makes reliable synthesis via conventional networks or methods impossible, we draw on two recent approaches in information science: machine learning¹⁵ and collaborative networks¹⁶. Machine learning techniques allow us to rapidly sift thousands of documents and capture the breadth of adaptation literature and policy at the regional⁴, national⁵ and subnational^{6,7} levels, using information from national communications reports⁸, local climate change action plans⁹, adaptation project proposals¹⁰ and peer-reviewed literature¹¹. Systematic evidence is synthesizing these and other types of adaptation evidence are emerging and are crucial for learning about adaptation measures taken, under what conditions, and when why¹². However, to date, few evaluations of adaptation action documented in the academic literature¹³. The literature on climate change adaptation is vast and fast growing, and spread a disparate academic, communication¹⁴. Reviewed list of papers document adaptation actions that have actually taken 1 but separating the studies that report on adaptation to report the barriers that prevent adaptation) to a monumental. Moreover, it is impossible to document and capture all or even a fraction of adaptation-related activities occurring on the ground, and there are theoretical or methodological concerns about proposed adaptation actions as documented or reflected in the academic literature (Supplementary File 1). As a result, this knowledge has remained under-utilized, despite the opportunities it presents to better understand the adaptation activities in the past and to future responses and research.

This article represents a comprehensive, systematic and a review of the academic literature that documents implements



Adaptation Gap Report 2020



The Gathering Storm

Adapting to climate change in a post-pandemic world

Evaluating Climate Change Action for Sustainable Development

Journal of Environment & Development

ENHANCING ADAPTATION TO CLIMATE CHANGE IN DEVELOPING COUNTRIES THROUGH COOPERATION: A BASIS ADAPTATION

Environmental Science and Policy 125 (2021) 179–180

Contents lists available at ScienceDirect

Environmental Science and Policy

journal homepage: www.elsevier.com/locate/escp

Do governments track the implementation of national climate change adaptation plans? An evidence-based global stocktake of monitoring and evaluation systems

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ARTICLE INFO

Keywords: Monitoring & evaluation

ABSTRACT

Although over 70 countries adopted a national climate action plan, to which these plans are implemented. NAI

Earth System Governance 10 (2021) 100121

Contents lists available at ScienceDirect

Earth System Governance

Journal homepage: www.sciencedirect.com/journal/earth-system-governance

Global environmental agreement-making: Upping the methodological and ethical stakes of studying negotiations

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Platform: Taking a position, making a case

What should evaluation learn from COP 26? Views of evaluation practitioners

Rob van den Berg, Dennis Bours, Astrid Brousselle, Jindra Gokan, Secret Chaplowe, Eleanor Chelmsley, Ian Davis, Weronika Felcs, Timo Leiter, Debbie Menzies, Robert Picotini, Patricia Rogers, Andy Rowe and Julia Uzzello¹

Abstract

Leading evaluation practitioners were asked about lessons from the recent 26th Conference of the Parties (COP26) for evaluation practice. Contributors emphasize the importance of evaluating equity between rich and poor countries and other forms of climate injustice. The role of the evaluation is questioned: what evaluation is expected to do on its own and what requires collaboration across disciplines, professions and civil society – and across generations? Contributors discuss the implications of the post-Glasgow climate pact for the continued relevance of evaluation. Should evaluators advocate for the marginalized and become activists on behalf of sustainability and climate justice – as well as advocates of evidence? Accountability-driven and evidence-based evaluation is needed to assess the effectiveness of investments in adaptation and mitigation. Causal pathways in different settings and theories of change are needed to understand gaps between stakeholder promises and delivery. Evaluators should measure unanticipated consequences and what is often left unmeasured, and be sensitive to failure and unanticipated effects of funded actions. Evaluation theoreticians and units of analysis beyond particular programmes are needed to evaluate the complexity of climate change, sustainability and to take account of natural systems. The implications for evaluation commissioning and funding are discussed as well as the role of evaluators in programme-design and implementation.

Keywords

adaptation and mitigation effectiveness, building evaluation alliances, climate justice, holistic and natural systems, integrative and sustainability, transforming evaluation practice



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