

## TAMD: A framework for assessing climate adaptation and development effects

This briefing explains the concepts behind the Tracking Adaptation and Measuring Development (TAMD) framework. TAMD is a ‘twin track’ framework that evaluates adaptation success as a combination of how widely and how well countries or institutions manage climate risks (Track 1) and how successful adaptation interventions are in reducing climate vulnerability and in keeping development on course (Track 2). The aim is to generate bespoke frameworks for individual countries tailored to specific contexts. TAMD’s dual approach can track adaptation at all levels and from all sources, from initiatives involving several countries, various interventions in a single country, and right down to local projects. It can assess whether climate change adaptation leads to effective development and also how development interventions can boost communities’ capacity to adapt to climate change. It does this by evaluating an intervention within and across the two tracks.

### Policy pointers

- **The effectiveness of climate adaptation interventions** can be measured and compared in terms of how they contribute both to development and to reducing climate vulnerability.
- **Countries and global programmes** need evaluation frameworks that assess the developmental returns on their increasing portfolios of adaptation interventions.
- **The TAMD framework is** designed to enable such evaluations and can be tailored to assess interventions at any level and from any source.
- **This briefing outlines a** sequence of steps for applying TAMD.

Countries are making very large investments in climate change adaptation. To plan, implement and track the interventions they are investing in, they need robust assessments of the expected and actual returns. They need to know whether adaptation is keeping development on course and whether the adaptation costs and benefits are distributed equitably.

Developing country governments (and their ministries, departments and agencies), international institutions, donors, and multilateral development banks all need frameworks that assess whether adaptation interventions ‘work’. Climate funds such as the Adaptation Fund, the Pilot Programme on Climate Resilience, and bilateral funded programmes are beginning to develop results frameworks that focus largely on interventions’ efficiency — that is, outputs achieved from various inputs, often expressed as costs and benefits.

But policymakers also need frameworks that assess an intervention’s comparative effectiveness — how well outcomes (the effects of outputs) achieve defined objectives compared with other interventions funded from various sources, whether these address climate change adaptation directly or indirectly. Judging an intervention’s overall efficacy needs a mix of efficiency and effectiveness indicators.

Importantly, most climate adaptation evaluation frameworks assume that adaptation can and will ‘neutralise’ climate change impacts, so that development programmes meet their original targets. But this underestimates the transformative changes — beyond keeping ‘business-as-usual’ on track — that will be needed as climate change effects escalate, and it risks overlooking successes in reducing impacts that cannot be entirely neutralised.

# Frameworks are needed to assess whether adaptation interventions ‘work’

With funding from the UK’s Department for International Development, IIED is working with climate change consultancies Adaptify and Garama 3C Ltd to develop and pilot a framework that can track adaptation at all levels and from all sources, and measure its effects on development.

This briefing outlines our Tracking Adaptation and Measuring Development concepts (referred to here as TAMD),<sup>1</sup> and summarises ways to put the framework into practice.

## Concepts behind the TAMD framework

Tracking adaptation and measuring development requires far-sighted, context-specific approaches that address changing risks and allow for flexible responses, both to uncertainty over climate change effects and to unintended consequences of development interventions.

TAMD offers a very flexible framework. It can be used to assess whether climate change adaptation leads to effective development and also how development interventions can boost communities’ capacity to adapt to climate change.

TAMD is a ‘twin track’ framework that evaluates adaptation success as a combination of how well countries or institutions manage climate risks

(‘upstream’ indicators, Track 1) and how successful adaptation interventions are in reducing vulnerability and keeping development on course (‘downstream’ indicators, Track 2). The aim is to generate bespoke frameworks for individual countries that can be tailored to specific contexts, rather than a ‘toolkit’ that prescribes particular indicators of success.

TAMD assumes that effective climate risk management (Track 1 — ranging from global policies down to local practices) will help secure development outcomes (Track 2 — socioeconomic outcomes including improved wellbeing, reduced vulnerabilities, better resilience and more secure food, water and energy) in the face of increasing climate risks. To do that, climate risk management must target ‘climate vulnerable’ people as its prime beneficiaries. The two linked tracks are illustrated graphically in Figure 1.

TAMD can assess the adaptation process at multiple scales, from initiatives involving several countries right down to local projects. It does this by evaluating an intervention’s outputs, the resulting outcomes and the longer-term higher-level impacts within and across the two tracks.

One of the challenges in evaluating adaptation interventions is attributing outcomes to specific climate risk management interventions, so that successes can influence subsequent policy. TAMD can address this using a quasi-experimental approach that uses the Track 2 indicators to assess populations’ vulnerabilities and development status with and without, and before, during and after interventions.

Figure 1. The two tracks of the TAMD framework.

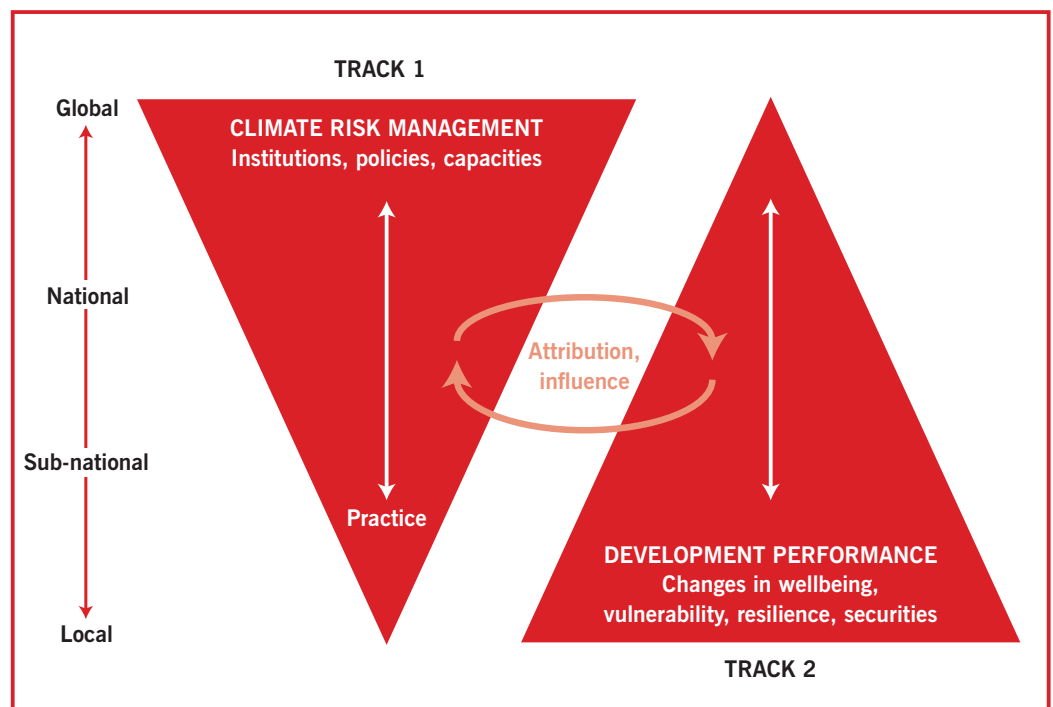


Figure 2. A step by step overview of using TAMD.

1	<b>Define the evaluation context and purpose</b>	<ul style="list-style-type: none"> <li>■ Is the purpose to evaluate the success of a particular intervention or set of interventions, or to evaluate the efficacy of a system or set of processes (e.g. a national climate risk management system)?</li> </ul>
2	<b>Develop a theory of change that specifies how climate risk management activities (Track 1) and development outcomes (Track 2) are inter-related</b>	<ul style="list-style-type: none"> <li>■ To formulate this theory of change, identify and link the relevant inputs, activities, outputs, outcomes and impacts on either Track 1 or 2.</li> </ul>
3	<b>Identify the relevant scales (global, national, regional, local)</b>	<ul style="list-style-type: none"> <li>■ At what scale does the intervention operate, and at what scale(s) are the outputs, outcomes and impacts to be evaluated?</li> </ul>
4	<b>Locate outputs, outcomes and impacts on the TAMD framework</b>	<ul style="list-style-type: none"> <li>■ On which track(s) are the outputs, outcomes and impacts located?</li> <li>■ Where on the track(s) are the outputs, outcomes and impacts located (i.e. which scales)?</li> </ul>
5	<b>Identify the type of indicators required</b>	<ul style="list-style-type: none"> <li>■ Which indicators are most appropriate given the location(s) of the outputs, outcomes and impacts on the TAMD framework?</li> <li>■ What mix of numeric and categorical indicators is required?</li> <li>■ For numeric indicators, will these measure vulnerability/adaptive capacity/resilience?</li> </ul>
6	<b>Define the indicators</b>	<ul style="list-style-type: none"> <li>■ For categorical indicators, can the 'off-the-shelf' indicators in Annex 1 of the TAMD framework<sup>3</sup> be used, or do these need to be adapted, augmented, or substituted with other indicators?</li> <li>■ For numeric development outcome indicators, which indicators are most relevant?</li> <li>■ For numeric vulnerability indicators, how can the most important (in this context) drivers of vulnerability, determinants of adaptive capacity, or elements of resilience be captured through existing indicators or new indicators?</li> <li>■ Where new indicators are proposed, how feasible will it be to construct these?</li> </ul>
7	<b>Gather data</b>	<ul style="list-style-type: none"> <li>■ Establish baseline data.</li> <li>■ Ensure that data are gathered at regular intervals.</li> <li>■ Ensure that data relating to intervention results are complemented by data on climate trends and the incidence of climate extremes and disasters, so that results can be interpreted in a climate risk context. This is especially important for data based on standard development indicators.</li> </ul>
8	<b>Analyse indicators at different levels of Tracks 1 and 2</b>	<ul style="list-style-type: none"> <li>■ Measure changes in indicators by comparing baseline levels with estimates at subsequent time periods (before, during and after).</li> <li>■ Measure differences in indicators across comparable cases (with and without interventions).</li> <li>■ Compare findings with those expected from the theory of change established at the beginning of the evaluation.</li> </ul>
9	<b>Disseminate lessons learnt from monitoring and evaluating results, so that interventions can be modified where necessary, and future interventions can be informed by this knowledge</b>	<ul style="list-style-type: none"> <li>■ How successful was the intervention?</li> <li>■ What were the key factors making it successful or unsuccessful?</li> <li>■ How valid is the theory of change and how might it be improved?</li> <li>■ What should be done to make similar interventions more effective?</li> <li>■ Where are the key learning opportunities (e.g. application to other contexts)?</li> </ul>

It is worth investing upfront to ensure an evidence base that supports meaningful evaluation — that is, the costs associated with defining baselines and indicators for each country need to be ‘front-loaded’ into adaptation investments.

TAMD uses:

- indicators to assess the extent and quality of climate risk management;
- standard development indicators that reveal whether development is on track; and
- indicators that show whether populations, and the systems they depend on, have reduced vulnerability,<sup>2</sup> improved resilience, and/or enhanced ‘adaptive capacity’.

TAMD’s twin track approach encompasses a wide variety of adaptation interventions and governance processes. It considers outputs (for example, the decisions taken to manage risk), outcomes (the changes resulting from those decisions) and impacts (the effects on people’s climate vulnerability — which may be affected by a variety of external factors). Links between outputs, outcomes and impacts may exist within and between the tracks.

For example, policymakers may want to evaluate how national climate risk management decisions (outputs, from the upper part of Track 1) affect vulnerability outcomes and impacts at the local level (lower part of Track 2). Or the relationship of interest might be how national-level climate risk management (upper part of Track 1) affects risk management practices at the regional or local level (middle and lower parts of Track 1). But since TAMD is a flexible framework, interventions — and their outputs, outcomes and impacts — can, in principle, be located anywhere on the framework, in either track.

## Notes

- <sup>1</sup> Brooks, N. *et al.* 2011. *Tracking adaptation and measuring development*. IIED Working Paper No. 1, November 2011. IIED, London. Available at: <http://pubs.iied.org/10031IIED> ■ <sup>2</sup> Whether ‘adaptive capacity’ reduces a population’s vulnerability depends on timescale, and on the hazard faced. Vulnerability to a short-lived, sudden-onset hazard depends on the immediate circumstances, not on capacity to adapt over time. But vulnerability to long-term hazards, or to recurrent hazards, is influenced by adaptive capacity. For further discussion see Brooks, N. 2003. *Vulnerability, risk and adaptation: A conceptual framework*. Tyndall Centre Working Paper No. 38. Available at: [www.tyndall.ac.uk](http://www.tyndall.ac.uk) ■ <sup>3</sup> Brooks, N. *et al.* Forthcoming. *Applying Tracking Adaptation and Measuring Development (TAMD)*. IIED Working Paper. IIED, London. ■ <sup>4</sup> Brooks, N., Rowley, J. 2012. *Rapid scoping of climate change indicator methodologies*. Unpublished report prepared for DFID, submitted to the UK Department for International Development in June 2012.

## Indicators and baselines

A list of suggested indicators for Tracks 1 and 2 of the TAMD framework have been developed.<sup>3,4</sup> In principle, indicators are defined at local, sub-national, national and global levels for each track. Track 1 indicators show the extent and efficacy of climate risk management within the system being addressed. Track 2 indicators relate to development and adaptation outcomes at all levels.

TAMD proposes assessing how interventions benefit populations using targeted household surveys. These gather information that can be used as proxies for vulnerability. The exact variables would be identified through local contextual studies/surveys, and would be specific to local development and climate risk contexts. They might include variables such as household size or income, diversity of income sources, distance to nearest market and geographical location.

Figure 2 gives a step by step outline of how to apply TAMD. It is also important to stress the need to ensure good baseline data that are often lacking from development evaluations. Baseline data will not always already exist, even for tracking development outcomes and impacts using ‘standard’ development indicators. Baseline data for tracking vulnerability and adaptive capacity are even less readily available.

It is important to learn how well climate adaptation interventions keep development on course. TAMD provides a means to do this and results of these assessments can be used to improve adaptation effectiveness.

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## Adaptify

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