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STAP BRIEF ON REAL-TIME MONITORING, EVALUATION, AND LEARNING (MEL) IN THE GEF

A STAP BRIEF

Real-time monitoring, evaluation, and learning in GEF-9



Introduction

Encouraged by the Global Environmental Facility (GEF) Council to collaborate on a joint paper, the Scientific and Technical Advisory Panel (STAP) and the Independent Evaluation Office (IEO) of the GEF chose monitoring, evaluation, and learning (MEL) as a timely and relevant topic to investigate.

This brief highlights key elements of effective MEL in integrative programming, illustrated through four case studies. Three of these involve GEF programs: the Food Systems, Land Use, and Restoration Impact Program (FOLUR), the Global Wildlife Program (GWP), and the Global Snow Leopard and Ecosystem Protection Program. STAP is grateful to the Gordon and Betty Moore Foundation for providing a fourth case study: a detailed summary of the foundation's Conservation and Markets Initiative (CMI). This was presented at the GEF-9 Technical Advisory Group Meeting in

February 2025 during the session "Integrated planning, transformational change, monitoring, and reporting."

Robust theories of change (TOCs), knowledge management and learning strategies, annual reviews, and midterm reviews offer insights that can help in midcourse corrections during project implementation. Since many projects are non-linear, it is necessary to establish indicators that capture both expected and unexpected changes. Such indicators would allow effective monitoring of progress, assessment of impacts across projects and programs, and validation of the TOC. They could also support adaptive management and promote continuous learning despite challenges to achieving outcomes, thereby enabling timely mitigation measures during implementation.

For example, when a project aims to introduce a technological innovation, it is important to identify challenges that could undermine the results in the TOC and determine measures to minimize those challenges. Monitoring “residual risks” (risks remaining despite good design that may still affect achieving project outcomes) is necessary to better anticipate and manage potential issues.¹

This STAP brief summarizes the findings of the STAP & IEO information note titled [“Real-time monitoring, evaluation, and learning \(MEL\) in GEF-9”](#) and offers key insights for the GEF on enhancing adaptive management in project design and implementation.

The STAP & IEO information note provides five recommendations: (i) the Theory of Change (TOC) can serve as an important MEL tool to promote early evidence-based learning; (ii) the GEF is encouraged to develop learning questions that form the basis of a strong MEL framework; (iii) the GEF can improve regional and thematic platforms to facilitate learning and sharing best practices; (iv) adaptive planning could include flexible frameworks that enable ongoing learning and adjustments; and (v) indicators that track the progress of various scaling processes are essential. These recommendations are discussed in the following sections and illustrated with examples from the four case studies.



Photo: UNDP Zimbabwe

1 These MEL risk monitoring practices are included in the GEF risk appetite statement. STAP offers guidance on addressing risks, including innovation risk, in its note [Clarifying Risks in GEF projects, with a focus on innovation risks](#).

Steps for improving monitoring, evaluation, and learning in the GEF

1. Use TOC as a key MEL tool to emphasize early evidence-based learning

TOCs in projects and programs can support adaptive management by providing a structured framework for capturing and analyzing changes over time. As noted in the [GEF IEO Annual Performance Report 2025](#), monitoring and evaluation of project data are necessary to determine if project implementation is on track to achieve the expected results. Case study 1 illustrates how MEL is integrated into the design of FOLUR.

Recommended action:

The GEF could improve early monitoring of project and program TOCs during implementation to support adaptive management and iterative learning. Early and systematic learning from annual and midterm reviews can also facilitate intentional adjustments in a timely manner. Monitoring residual risks, even with strong TOCs, is vital for anticipating and managing challenges more effectively. By developing sound TOCs that leverage evidence and knowledge partnerships, the GEF can ensure more adaptive, efficient, and impactful programs that deliver lasting global environmental benefits.

Case study 1. Food Systems, Land Use, and Restoration Impact Program (FOLUR)

FOLUR is a seven-year, \$345 million Impact Program funded by the GEF and led by the World Bank. Its portfolio has grown to include 27 country projects spanning more than eight commodities, with learning missions across numerous projects playing a vital role in advancing the program's knowledge management. FOLUR's objective is to assist these 27 countries in integrating sustainable landscapes and food value chains (supply chains) at scale, thereby supporting sustainable food systems, deforestation-free commodity supply chains, and landscape restoration. FOLUR builds on the GEF's first food systems program, [Resilient Food Systems](#), and leverages the global platform of another predecessor program, the [Good Growth Partnership](#), providing support services to all 27 countries. Through these strong connections, FOLUR has gained insights from previous program efforts.

The [FOLUR program framework document](#) outlines a TOC built on four key pillars. Pillars A to C emphasize participatory decision-making, governance arrangements, knowledge management and learning. Pillar D systematizes MEL through the global coordination project, using adaptive management to generate evidence that supports the development of an integrated landscape management system for participatory planning, with a focus on strengthening governance and enhancing institutional capacity at the landscape level.

Photo: UN Georgina Smith



2. Establish “learning questions” to support the foundation of a robust MEL framework

Learning questions that guide MEL frameworks strategically support data collection, analysis, and the use of results in monitoring. Using these questions helps capture knowledge from shared experiences and encourages innovation through continuous testing, which can inform better practices and outcomes. During the GEF Sixth Replenishment Period (GEF-6, during 2014 to 2018), learning questions aided GEF knowledge management. For example, in the Land Degradation focal area, these questions included:

- What global environmental benefits of sustainable land management are being measured by projects at different scales (site or farm scale, landscape or watershed, regional, or national)?
- How are synergies achieved in generating global environmental benefits from implementing sustainable land management projects at multiple scales?

Additionally, STAP recommended learning questions for the GEF-6 program, which are listed in Annex 2 of [Knowledge management in the GEF: STAP Interim Report](#). These questions included:

- What approaches employed by the GEF help to account for trade-offs between the economic and non-economic values of biodiversity and ecosystem services and to inform the development of ecosystem management strategies?
- How do GEF projects address flows (supply and demand) of energy, materials, and ecosystem services between urban and rural systems? What planning processes and management practices contribute to integrated urban and rural development?
- What forms of stakeholder engagement are effective and legitimate in reducing the impacts of and increasing resilience to global environmental change?

As shown in Case Study 2 below, the CMI has used management effectiveness questions (MEQs) designed to guide monitoring plans at different program levels².

Recommended action:

Analyzing the progress of Impact Programs supported in GEF-7 and the Integrated Programs funded in GEF-8, especially concerning transformation, can strategically inform GEF-9.³ Questions that help establish and standardize learning at the project and program design stage on transformation might include: What are the characteristics of transformation? How can countries and relevant actors best be engaged in transformation? As highlighted in the [GEF-9 strategic positioning and programming directions](#), the GEF aims to expand its role as a knowledge broker, with increased involvement in learning platforms and South–South exchanges.⁴ Encouraging GEF knowledge systems to rely on learning questions can enhance adaptive management for more effective MEL, help to minimize negative spillovers across sectors, and strengthen policy coherence. Case study 2 offers examples of learning questions within the CMI.



Photo: Harvey Lisse / UNDP Suriname

² The MEQs are based on general assumptions and resemble learning questions; they are explained in more detail in the CMI TOC (see Annex 1 in [STAP's and the IEO's Joint Information Note on Real-Time Monitoring, Evaluation, and Learning in GEF9](#)).

³ [STAP's initial perspective on GEF-9](#) also offers guidance on portfolio-level learning and adaptive management.

⁴ As suggested in the 2022 STAP brief, '[Understanding South–South cooperation for knowledge exchange](#),' knowledge-sharing has been important throughout GEF replenishment cycles.

Case study 2. Conservation and Markets Initiative (CMI), Gordon and Betty Moore Foundation

The CMI, supported by the Gordon and Betty Moore Foundation, offers a thoughtful approach to defining learning objectives and questions. A key focus of the initiative is addressing overfishing and ecosystem degradation driven by global agriculture and seafood value chains. Metrics were established in the early stages of the project and are used to evaluate the project's performance through annual reviews. Learning questions (also known as MEQs) were developed:

- Does reducing market-driven pressure improve local environmental conditions in the places where CMI's target commodities are sourced or harvested (e.g. avoided land conversion, reduced overfishing)?
- Has connecting with other complementary funding strategies allowed the Gordon and Betty Moore Foundation to increase its impact?
- Have "cases for action" been identified and articulated in such a way that companies and financial institutions perceive habitat conversion and overfishing issues as material to their business interests?
- Have market actors publicly and consistently advocated for policy change related to no-conversion, no-overfishing, and no-illegality?

The MEQs were defined based on a set of assumptions that are detailed further in [STAP's and the IEO's Joint Information Note on Real-Time Monitoring, Evaluation, and Learning in GEF9](#).

3. Strengthen regional and thematic platforms for learning and sharing best practices

Strengthening platforms for learning and sharing promotes collective management and shared responsibility for the environment. Creating regional and thematic platforms that emphasize South–South learning exchanges and foster innovative solutions is key to the GEF's mission of managing knowledge and learning from the bottom up. Regional learning platforms can also provide spaces for countries to access innovations, tools, and best practices, and enhance capacity building.

Recommended action:

Connecting the platforms of the Impact and Integrated Programs, from GEF7 and GEF8, respectively, can better leverage knowledge and learning across these large-scale investments, which are characterized by innovation requiring systematic monitoring. Integrated knowledge and learning platforms promote systematic learning across GEF phases, enabling the scaling of outcomes and programmatic goals, often linked to innovation and transformation, at regional and national levels. Purposefully designing future Programs by leveraging knowledge and learning from these interconnected platforms can also strategically inform project design and implementation. Organizing knowledge coherently allows lessons from integrated programming to be harvested and applied across different contexts and scales. Additionally, developing accessible data to support virtual South–South cooperation can help codify lessons learned from projects and make them easily accessible to the GEF Partnership, empowering GEF operational focal points with skills and understanding of relevant regional and global knowledge. In recent years, the GEF partnership has supported global communities of practice to enhance engagement and strengthen connections among projects and stakeholders.

4. Encourage adaptive planning by embedding flexible frameworks that support continuous learning and adjustment

Ensuring the durability of project outcomes and global environmental benefits requires embedding flexibility into project design and implementation. The GEF IEO, in both the [Evaluation findings highlights 2022–25](#) and the 2025 report [Learning from challenges in GEF projects](#), has observed that the impact of adaptive planning and flexible frameworks on integrative programming can be significant. Among closed underperforming projects, more than a quarter of GEF projects from 2022 to 2025 improved project outcomes simply by better information exchange and adaptive planning. External reviews can also be valuable: the CMI combines a monitoring system assessment with an expert panel review to evaluate how each strategy contributes to the anticipated outcomes.

The GWP (Case Study 3) used midterm evaluations to make midcourse adjustments within the Impact Program. The Program’s TOC was also used as a monitoring tool, as described in the case study below. Additionally, the 2020 STAP report on Nature-based Solutions and the GEF⁵, showed that MEL processes are increasingly common in recent Nature-based Solution projects. This demonstrates an increased recognition that these processes play a crucial role in learning, scaling up, and adaptive management.

Recommended action:

The [GEF-8 Strategic Positioning Framework](#) emphasizes the need to “design for resilience in the face of multiple, plausible futures.” However, the drivers of environmental change (such as population growth, conflict, climate change, migration, technological advancements) and their potential future developments are often not systematically incorporated into project design. By promoting the use of “future narratives,” as STAP advised in its [“Exploratory Future Narratives Primer”](#) measures can be taken at project design, and throughout the project duration, to systematically learn and adapt to successfully address known trends and drivers. Additionally, using midterm reviews to facilitate midcourse corrections demonstrates learning and corrective opportunities in action.

These measures are particularly important in supporting the GEF build resilience throughout its programming (focal areas, integrated programs) in [GEF-9](#). Case study 3 on the GWP showcases the program’s adaptability and flexibility during midterm corrections and demonstrates its resilience during the COVID-19 pandemic. Midterm reviews also enabled the Global Snow Leopard and Ecosystem Protection Program and FOLUR to remain flexible and adaptive during the pandemic.

Case study 3. Global Wildlife Program (GWP)

The GWP, implemented by the World Bank, is one of the world’s largest partnerships addressing the alarming decline of wildlife. Active in 38 countries across Africa, Asia, Latin America, and the Caribbean, the program developed in response to 18 international declarations and pledges made between 2013 and 2014 by governments, intergovernmental bodies, and NGOs to combat illegal wildlife trade and improve wildlife management.

The IEO’s [Evaluation of the Global Wildlife Program](#) highlighted the program’s success in adapting to changing circumstances, placing a key emphasis on adaptive management as a driver of effective programming. For instance, the GWP project in Bhutan incorporated COVID-19–related assumptions into its theory of change, while Indonesia explicitly recognized the risks posed by COVID-19 and other diseases and, as a result, integrated provisions that addressed both ecological opportunities and risks through adaptive and flexible management

Ultimately, adaptive management remains essential in ensuring that a program is flexible in its ability to address barriers and overcome delays from unforeseen events, such as extreme events, conflict, and pandemics. This flexibility has been fundamental to the GWP’s resilience, especially during periods of global challenges. By engaging a TOC that is unified within a global monitoring and evaluation framework anchored in both core GEF indicators and program-specific metrics, as is the case in the GWP, an appropriate assessment can be accurately conducted to determine whether midterm corrections are needed.

5 STAP’s advice on Nature-based Solutions is highlighted in its 2025 report ‘Strengthening GEF Support for Indigenous Peoples.’

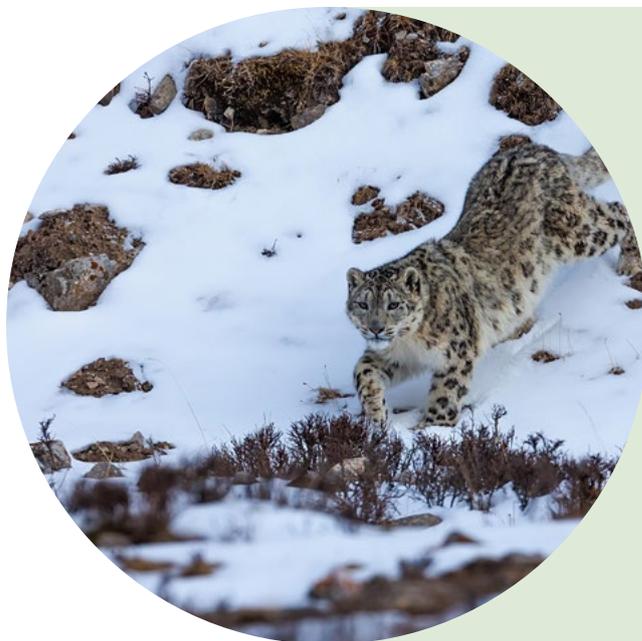
5. Identify indicators that can track the progress of various scaling processes

Indicators are important tools for tracking and monitoring progress because they provide a measurable framework to evaluate the value of interventions in achieving their intended outcomes. Indicators based on a TOC also help track progress made by activities toward the expected outcomes and impact, such as enhanced sustainable finance, better ecosystem restoration, and higher incomes. Relevant indicators enable adaptive management by providing timely evidence that guides decisions, allowing for midcourse adjustments after evaluations are completed.

As noted in the [draft GEF-9 Programming Directions](#), an “emphasis on results framework” involves strengthening measures to better capture, monitor, report, and communicate achievements and impact. Context-specific and clearly defined indicators document baseline conditions and progress, which are essential for advancing GEB outcomes. Indicators that track scaling processes do more than monitor outputs; they serve as vital learning tools to support adaptive programming, helping justify scaling decisions with data and evidence. For example, the draft [Policy Directions for GEF-9](#) (which includes a proposed GEF-9 results management framework) has 83 mentions of indicators and introduces five indicator groupings aligned with Integrated Programs, including nature, food, energy, and health. These indicators help Integrated Programs report on intermediary progress, which is necessary to measure systems change. All four case studies discussed in this brief continue to depend on knowledge (coordination) platforms that manage monitoring and evaluation both horizontally across target areas and vertically across governance levels (local to national). These platforms support a program’s goal of increasing global environmental benefits. The assumption is that scaling through learning can be boosted through engagement with partners via communities of practice, platforms, and other knowledge networks.

Recommended action:

In GEF-9, the GEF may consider developing common indicators across Integrated Programs and perhaps even across focal areas; these indicators would incorporate intermediate and long-term goals and processes of transformational change⁶ in delivering global environmental benefits. STAP’s 2022 advisory document [Achieving transformation through GEF investments](#) recommends adopting transformation metrics that closely align with system change levers, which include: (i) capacity for change; (ii) governance and policies; (iii) multi-stakeholder dialogues; (iv) innovation and learning; and (v) financial leverage. Transformation typically requires multiple interventions targeted at different parts of a system, that is, a set of well-aligned changes that can make a system more transformable.⁷ To this end, STAP has continuously advised that a well-designed and adaptive TOC helps assess whether the interventions are *sufficient and necessary* to achieve the desired change, including transformation.



6 The draft GEF-9 Results Management Framework introduces five indicator groupings aligned with the five interlinked systems targeted by Integrated Programs: nature, urban, food, energy, and health. Each of these clusters includes key indicators that enable Integrated Programs and additional GEF programming to report to tangible intermediary outcomes.

7 STAP reiterates its advice on transformation metrics in its [Initial GEF-9 Perspective](#).

Case study 4. Global Snow Leopard and Ecosystem Protection Program, Snow Leopard Trust)

The Global Snow Leopard and Ecosystem Protection Program provides a coordinated framework for action that integrates biodiversity conservation, climate change adaptation, transboundary cooperation, and respectful engagement with local communities. A central feature of the program is its shared MEL framework, which enables participating countries to track progress of their projects towards collective program objectives. This is done by identifying indicators, at the project and program levels, to measure progress towards conservation outcomes and socio-economic improvements in local communities. Adaptive management and the systematic use of its MEL framework have enabled the program to generate durable outcomes, ensuring that conservation goals are measurable, responsive, sustainable, and scalable. The indicators include:

- Snow leopard population and distribution: Including tracking the number of snow leopards and their geographical distribution using robust statistical models based on data collected using methods like camera traps, genetic analysis, and local ecological knowledge
 - Habitat quality and extent: Including factors like prey availability and habitat connectivity
 - Human–wildlife conflict: Tracking incidents of human–wildlife conflict, such as livestock depredation by snow leopards, and the effectiveness of mitigation measures
 - Community engagement and livelihoods: Assessing the level of community involvement in conservation activities and the impact of these activities on local livelihoods
 - Policy and institutional support: Evaluating the implementation and effectiveness of policies and institutional frameworks supporting snow leopard conservation
- Climate change impacts: Monitoring the impacts of climate change on snow leopard habitats and prey species

The establishment of a rigorous, collaborative, and replicable monitoring system lays the foundation for long-term, scalable program success. Developing and implementing a robust monitoring approach for the snow leopard population across a large landscape is a major undertaking that would involve rigorous sampling of a representative gradient of the snow leopard habitat. By generating reliable population baselines and tracking trends across vast and diverse snow leopard habitats, the program not only ensures accountability but also develops adaptive strategies that can be scaled. With the growing threats to snow leopards, including substantial changes arising from climate change, the need for information about snow leopard populations is becoming a necessity. These data have provided a baseline population, which can be referenced for years to come, allowing scientists to track snow leopards, monitor trends, and evaluate the impact of conservation actions in the context of growing threats.

Conclusion

The STAP and the IEO hope these five recommendations, bolstered by real-world examples from case studies, will support the GEF develop and implement a strong MEL system that effectively monitors change and learning to achieve global environmental benefits and advance transformational change in GEF-9 and beyond.

Links

1. [GEF risk appetite](#)
2. [Clarifying risks in GEF projects, with a focus on innovation risk](#)
3. [Real-time monitoring, evaluation, and learning \(MEL\) in GEF-9: A joint information note from STAP and the IEO based on four case studies](#)
4. [GEF IEO annual performance report 2025](#)
5. [FOLUR program framework document](#)
6. [Knowledge management in the GEF](#)
7. [STAP's initial perspective on GEF-9](#)
8. [Ninth GEF replenishment: Draft GEF-9 Strategic Positioning and Programming Directions](#)
9. [A workshop on knowledge management and learning in the GEF: Agency experiences with integrated programming](#)
10. [Strategy for knowledge management and learning](#)
11. [Draft GEF-9 Programming Directions](#)
12. [Understanding South–South cooperation for knowledge exchange](#)
13. [Evaluation findings highlights 2022–25](#)
14. [Learning from challenges in GEF projects](#)
15. [Nature-based solutions and the GEF](#)
16. [Strengthening GEF support for Indigenous Peoples: Issues of governance, project design, financial access, and livelihood benefits](#)
17. [Knowledge management and learning](#)
18. [Policy coherence in the GEF](#)
19. [Evaluation of the Global Wildlife Program](#)
20. [Achieving transformation through GEF investments](#)
21. [Exploratory Future Narratives](#)

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