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REPORT OF THE CHAIR OF THE SCIENTIFIC AND TECHNICAL ADVISORY PANEL TO THE 69TH GEF, 38TH LDCF/SCCF, AND 4TH GBBF COUNCIL MEETINGS

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May 2025

STAP SCIENTIFIC AND TECHNICAL ADVISORY PANEL

An independent group of scientists that advises the Global Environment Facility

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UN environment programme

Report of the Chair of the Scientific and Technical Advisory Panel to the 69th GEF, 38th LDCF/SCCF, and 4th GBBF Council Meetings

Contents

1. Introduction

This report provides an update on the work of the Scientific and Technical Advisory Panel (STAP) to the Global Environment Facility (GEF) since the 68th GEF, 37th LDCF/SCCF, and 3rd GBFF Council meetings in December 2024. It summarizes key STAP activities within the GEF Partnership in the past six months, highlights key findings from STAP reports, and provides updates on the activities of STAP Panel Members.

2. The GEF-9 Technical Advisory Group meetings

STAP supported the GEF Secretariat in organizing the Technical Advisory Group (TAG) meetings for the GEF's Ninth Replenishment Process (GEF-9) that took place between 18 and 20 February 2025 in Washington, DC.

The TAG meetings brought together over 350 scientists, technical experts, and practitioners worldwide and from several fields to discuss the latest science related to the GEF mandate, assess current challenges, identify emerging and best practices, and provide suggestions to inform the GEF's strategic direction for the period between July 2026 and June 2030.

STAP Members and technical staff were pivotal in identifying experts and scientists for the various TAG themes and sessions and in designing the different session agendas. They were engaged throughout the event, participating as panelists, moderators, and presenters, and offering their expertise in various sessions as listed in the table below.

During the opening plenary, the STAP Chair, Dr Rosina Bierbaum, covered recent science, its relevance to the GEF, and highlighted the seven recommendations from STAP's Initial Perspective on GEF-9. These recommendations include:

1. **Build an overarching GEF-9 theory of change to drive portfolio-wide investment**, showing how the GEF can contribute to transformation in selected priority systems.
2. **Invest in innovation and manage associated risk at the portfolio and program levels** by identifying problems that could be solved through innovation, commissioning solutions from diverse sources, and embedding innovation in the design cycle.
3. **Support policy coherence at multiple levels**, including having a clear definition of policy coherence that emphasizes environmental outcomes, strengthening its application by supporting dialogue processes, and through Country Engagement Strategies, as well as interministerial and intersectoral coordination.
4. **Enable civil society** to strengthen the social foundations for transformation by enhancing the role of civil society within project design and prioritizing civil society capacity strengthening.
5. **Work to influence market transformation in targeted sectors** by strengthening the national policy and regulatory context for private sector investment, ensuring that blended finance projects emphasize environmental and finance benefits equally, and working more closely with other financing agencies with greater influence.

6. **Revisit the GEF results framework**, including (i) integrating indicators of transformational change into the framework to measure the GEF's contribution to creating enabling conditions for transformation, (ii) capturing socioeconomic and adaptation co-benefits and links with GEBs, and (iii) considering whether current core indicators are sufficiently focused on environmental outcomes.
7. **Foster early and adaptive learning, and networked knowledge management** by making more use of midterm reviews and annual performance implementation reports to generate early learning and knowledge and to support adaptive management, and by ensuring that the GEF's monitoring, evaluation, and learning system is transparent, open access, and networked with other actors to increase effectiveness and expand influence.

STAP Chair, Rosina Bierbaum during her presentation


STAP Chair, Rosina Bierbaum during the plenary panel discussion

Jonathon Barnett, STAP PM for Adaptation reporting back after the breakout session

Susanne Schmeier, STAP PM for International Waters reporting back after the breakout session

Table: STAP representatives at the various TAG sessions

Technical Advisory Group Sessions	STAP Representative(s)
Cross-cutting themes	
Integrated planning, transformational change, monitoring, and reporting	Dr Jonathon Barnett, Panel Member for Climate Change Adaptation
GEF family of funds and its evolution (including GEF, Least Developed Countries Fund/ Special Climate Change Fund (LDCF/SCCF), Global Biodiversity Framework Fund)	Dr Rosina Bierbaum, STAP Chair and Guadalupe Duron, STAP Secretariat
Innovation and Risk	Dr Blake Ratner, Advisor to the Chair
Mobilizing the Financial and Private Sectors for Environmental Goals through Blended Finance and Engagement	Dr Mark Stafford Smith, Advisor to the Chair
Whole of Society Approach: Just Transition, Community Action for Global Transformation, SGP and beyond, Inclusion, Gender, Youth, and IPLC Responsive Approaches for Greater Environmental Results and Impact	Dr Sandy Andelman, Panel Member for Biodiversity
Focal areas TAGs	
Biodiversity focal area	Dr Sandy Andelman, Panel Member for Biodiversity, and Alessandro Moscuzza, STAP Secretariat
Climate Change Mitigation Focal Area	Dr Ngonidzashe Chirinda, Panel Member for Climate Change Mitigation
Land Degradation Focal Area (including Drought)	Dr Ermias Betemariam, Panel Member for Land Degradation
International Waters Focal Area (including BBNJ and Advancing Blue Economies and Healthy Oceans through Joint Action)	Dr Susanne Schmeier, Panel Member for International Waters
Chemicals and Waste Focal Area	Dr Sunday Leonard, STAP Secretary, and Dr Aderiana Mbandi, STAP Secretariat
Climate Change Adaptation	Dr Jonathon Barnett, Panel Member for Climate Change Adaptation
Integration themes	
Food Systems and Land Use	Dr Mark Stafford Smith, Advisor to the Chair
Land Degradation, Restoration, Drought, and Sustainable Land and Forest Management in Drylands	Dr Ermias Betemariam, Panel Member for Land Degradation
Urban and Infrastructure Development	Dr Sunday Leonard, STAP Secretary
Globally Significant Forest Biomes	Dr Sandy Andelman, Panel Member for Biodiversity
Global Wildlife	Alessandro Moscuzza, STAP Secretariat
Net-Zero and Nature-Positive Pathways	Dr Ngonidzashe Chirinda, Panel Member for Climate Change Mitigation
Greening of Supply Chains that rely on Harmful Chemicals	Dr Sunday Leonard, STAP Secretary, and Dr Aderiana Mbandi, STAP Secretariat
Green and Clean Islands and Healthy Oceans	Dr Susanne Schmeier, Panel Member for International Waters

3. Consultation with Indigenous Peoples

STAP hosted two three-hour virtual consultations with Indigenous Peoples (IPs) on 28th and 29th April 2025. The consultations brought together experts from the IP community, including members of the Indigenous Peoples Advisory Group (IPAG), the Global Steering Committee of the Inclusive Conservation Initiative-1, and representatives from GEF implementing agencies.

The consultation took place in two different time zones, with interpretation services provided in English, Spanish, French, and Portuguese, to allow participation across various regions and languages. The two group consultations were supplemented with additional one-on-one consultations for those unable to attend the meetings. In total, 22 IP experts participated in the consultations.

The aim of the consultations was to gather firsthand insights and experience on principles and pathways for strengthening GEF support for Indigenous Peoples and consider the implications for GEF strategy and programming.

The consultations were structured around a set of guiding questions, designed to facilitate discussions and provide insights on principles and pathways for improved governance, project design, institutional arrangements, financial access, and livelihood benefits. These questions are:

- What are the most significant challenges you have encountered in engaging with the GEF, and what are some specific strategies and approaches you would recommend to improve GEF opportunities for Indigenous Peoples?
- What is a concrete example of a GEF project or program that has been particularly important for Indigenous Peoples, and what features have made them successful?
- Can you describe an example of Indigenous governance or Indigenous-led governance of an environmental project or program that you think has worked particularly well and explain why?

Participants shared their varied experiences of implementing and executing GEF projects. They highlighted several successful examples of good practice, as well as challenges and barriers to the effective inclusion of Indigenous Peoples.

The outputs from the consultation, together with an analysis of lessons learned from GEF and non-GEF programs and projects, provided important inputs to the STAP paper on "Strengthening GEF support for Indigenous Peoples: Issues of governance, project design, financial access, and livelihood benefits" (see Section 5.2). A full report on the consultations will be developed and shared with the participants for comment and posted on STAP's website when completed.

4. Trainings for the GEF Partnership

In collaboration with the GEF Secretariat, STAP organized two webinar/briefing sessions targeting GEF agencies and their colleagues involved in designing and implementing GEF projects on April 30 (10 p.m. EDT) and May 1 (9 a.m. EDT). The webinars allowed participation across different geographical locations. It focused on two topics essential to good project design and implementation:

a. Developing a systems-based theory of change and
b. Clarifying risks with an emphasis on innovation risks.

The session was opened by the STAP Chair, Dr. Rosina Bierbaum, and GEF's Manager of Program Division, Dr. Fred Boltz. The two STAP Advisers led the briefings: Dr. Mark Stafford Smith led the theory of change session, and Dr. Blake Ratner led the session on clarifying risks.

Over the two days, 71 participants from different GEF agencies, including IUCN, UNDP, UNEP, WWF, FAO, IADB, the World Bank, and Conservation International, attended the briefing sessions.

The first session on theory of change addressed the importance of developing a system-based theory of change, the process for doing this from the GEF context, and the need to engage diverse stakeholders. It also featured a worked example of a simple theory of change process and product, illustrating the importance of working back from goals and longer-term outcomes to identify necessary and sufficient causal pathways.

The session on clarifying risks highlighted the connection between transformation, innovation, and risks in GEF projects and the importance of taking on high-risk innovations, in the context of the new GEF risk appetite framework, when also connected to a well-thought-out theory of change. The principles for assessing mitigation options, common pitfalls, and solutions were explained. The session also featured a worked-out example of a risk table, illustrating how to describe the nature of the risk, identify mitigating measures, and assign a rating to the level of residual risk.

STAP also held a similar session on 26 February on developing systems-based theory of change and developing future narratives in GEF projects for members of the GEF Secretariat Programming Division.

The presentation and recording of the session are available on the STAP resource website.

5. Recent reports

The three reports completed by STAP in the past six months build on the recommendations in STAP's initial perspective on GEF-9 (See Section 2). The first report on monitoring, evaluation, and learning (MEL) relates to the recommendation on "fostering early and adaptive learning, and networked knowledge management to increase effectiveness and expand influence". This is the first report written by STAP with the IEO, as Council has long suggested. This proved to be a perfect topic for the two independent agencies to work together on a joint paper for the GEF family. There is both evolving science and technology in designing future MEL as STAP considers, and review of what has or has not worked is a key element of IEO's evaluations.

The second report on strengthening GEF support for Indigenous Peoples contributes to the STAP recommendation on "enable civil society by enhancing their role within project design and prioritizing their strengthening" particularly focusing on Indigenous Peoples. It synthesizes information from the literature and from consultations with Indigenous Peoples and reviews 20 relevant GEF projects, with a goal of enhancing the effectiveness of GEF support for Indigenous Peoples.

The third report focuses on advancing a source-to-sea-approach in the GEF International Waters (IW) focal area. It encourages the GEF to "enhance the implementation and scaling of the source-to-sea approach," which can help facilitate policy coherence, one of STAP GEF-9 recommendations. More details on the three reports are provided below.

5.1. Real-time Monitoring, Evaluation, and Learning (MEL) in GEF-9: A Joint Information Note from STAP and the IEO Based on Four Case Studies

The GEF has made notable progress in fostering a stronger learning culture. Its efforts are captured in the GEF Secretariat's Knowledge Management and Learning (KM&L) Strategy, published in 2024. This strategy outlines the GEF's vision for becoming "…an efficient, knowledge-driven, and learning entity for investing in the planet." Both STAP and the IEO support the GEF's vision, having addressed the importance of learning in its many papers and reports. At the IEO's 4th Conference on Evaluating Environment and Development in March 2024, STAP and IEO agreed to work on a paper on monitoring, evaluation, and learning (MEL). The result of this collaborative effort is an information note on real-time MEL in GEF-9.

The note is focused on MEL, given the evolving context in which GEF projects and programs operate, where adaptive learning and envisioning plausible futures are a priority for durable global environmental benefits and to avoid maladaptation. Highlighting four case examples[1], covering all regions of the world, the note draws from these experiences to showcase real-time learning. The case studies - the Conservation Markets Initiative, led by

[1] STAP is grateful to the Gordon and Betty Moore Foundation, to the Snow Leopard Trust, and the World Bank for providing summaries of the case examples.

the Gordon and Betty Moore Foundation; the GEF's Food Systems, Land Use and Restoration; the GEF's Global Wildlife Program; and, the Snow Leopard Recovery Program, led by the Snow Leopard Trust – include a description of practices, lessons, and insights from implementing monitoring, evaluation, and learning. The case examples tell a story of how change measurements can be identified, progressor setbacks, and how a strong theory of change can help advance learning and adaptive management in a changing world.

The paper also draws from GEF project documents and publications, STAP papers, and IEO reports that have guided the GEF's efforts on adaptive management. The list of resources is not exhaustive, nor do they capture the GEF's tremendous efforts to learn from its past and ongoing investments. Nonetheless, the review demonstrates the significant strides the GEF has made in inculcating monitoring, evaluation, and learning as a culture.

The case examples are prefaced by an executive summary that describes STAP's and the IEO's overarching takeaways from these experiences. STAP's and IEO's insights support the GEF's continued efforts to become a high-performing, knowledge-based, and continuous learning organization. The four key takeaways, along with inputs for GEF-9, that can inform the future of real-time MEL in the GEF, are:

- **Learning needs to be viewed as a strategic and necessary process to deliver global environmental benefits and local benefits**. Encouraging real-time sharing of lessons and failures through the appropriate incentives and practices can help advance learning in a more comprehensive way, rather than just a reporting requirement for projects and programs.

  Input for GEF9: The GEF's role as a catalytic organization relies on leveraging knowledge and learning, and making it a key feature of its operations. To achieve this, the GEF should continue to promote systematic, evidence-based learning, and support a culture of reflection, including through the platforms, partnerships, and communities of practice it supports.
- **The theory of change is a key tool as well as a process for monitoring, managing knowledge, and learning.** Since GEF projects and programs are often based on complex social and ecological relationships, lasting environmental outcomes may not develop in a linear fashion and some impacts may only appear after mid-term reviews or even later. The theory of change based on the actual detailed system supports better decision-making and adaptative management, especially when indicators alone may not reflect true changes.

  Input for GEF9: As the GEF enhances its role in GEF9 as a knowledge and learning entity, the GEF is encouraged to define learning questions and set up robust monitoring, evaluation, and learning systems at the design stage of projects and programs, including using a theory of change, to capture the wealth of tacit knowledge overlooked by routine indicators.
- **Assessing how platforms and partnerships work in support of policy coherence and adaptive management is necessary.** Policy changes can trigger adaptive management,

e.g. changes in international market policies. Country platforms, or communities of practice, encouraged in the GEF Impact and Integrated Programs, can reinforce positive policy changes through incentives that discourage harmful practices.

Input for GEF9: The GEF's continued efforts to align policies at the national level will continue to be an important goal in GEF9. These efforts include continuing to assist countries in dealing with changes, notably market policies with global and national impacts. Potential activities include acting on opportunities presented by policy reforms to better support countries in reaching local benefits, global environmental benefits, and sustainable development goals.

- **Scaling learning is essential for transformation.** Setting up projects and programs to learn, including defining how learning will be implemented, managed, and scaled, and what the barriers and enablers for learning are, are all essential elements of good project design. Using the theory of change to think through knowledge management and learning plans is important, including for identifying the necessary stakeholders, who may differ from those engaged in different design and implementation phases.

  Input for GEF9: Since transformational change takes time, a range of indicators is needed to monitor progress, manage innovation risk, and support rapid learning about how scaling occurs. Identifying indicators that can track how scaling efforts are progressing will continue to be a priority in GEF-9. . In its advisory note on "Clarifying risks in GEF projects, with a focus on innovation risks", STAP urges project developers "…to create a separate theory of change for scaling so that these challenges are addressed in design rather than being left as residual risks." This advice is also apt for scaling learning.

5.2. Strengthening GEF support for Indigenous Peoples: Issues of governance, project design, financial access, and livelihood benefits

The STAP consultation with Indigenous Peoples (see Section 3) culminated in the information note on "strengthening GEF support for Indigenous Peoples." The report used insights from: consultations with Indigenous Peoples, existing scientific and technical knowledge, and the review of 20 GEF projects that impact or benefit Indigenous Peoples, to synthesize knowledge and provide five recommendations on enhancing the effectiveness of GEF support for Indigenous Peoples.

Recommendation 1: Bridge scientific and technical knowledge systems: Integrating Indigenous and Western knowledge systems is essential to improve biodiversity conservation, climate adaptation, and other environmental objectives. Indigenous knowledge—rooted in generations of observation and cultural practices—offers unique insights that complement Western science, particularly in ecological monitoring and resource management. Tools like biocultural protocols[2] and mapping[3] help incorporate

[2] Biocultural community protocols document customary values, rights, and rules regarding a community's biocultural heritage and serve as a foundation for regulating access to their knowledge and resources. This helps ensure that their rights are recognized and strengthens their negotiation capacity.

[3] Biocultural mapping involves using geographic information system tools to create land suitability maps that show the interplay between the distribution of natural resources, biological and cultural uses in a specific geographic area to provide an understanding of

Indigenous perspectives into project design. Successful integration requires culturally sensitive approaches, respect for Indigenous intellectual property, and trust-building due to past exploitative research practices. Using culturally relevant indicators and platforms like the GEF's Knowledge Management Strategy can further embed Indigenous knowledge into GEF programming, leading to more inclusive, effective, and resilient environmental outcomes.

Recommendation 2: Reinforce Indigenous rights and control of Free, Prior and Informed Consent processes and protocols. Indigenous Peoples must have full authority over Free, Prior and Informed Consent (FPIC) processes as a core expression of their right to self-determination. As part of ICI-1 (Inclusive Conservation Initiative), the GEF agencies (IUCN and CI) appropriately harmonized their FPIC practices. While the GEF includes FPIC in its safeguard policies, inconsistent implementation across agencies can undermine its effectiveness. It is essential that FPIC is culturally grounded, reflecting the specific values, governance systems, and languages of the communities involved, and should be integrated into broader Indigenous frameworks such as community life plans[4] and territorial management strategies. Harmonizing FPIC protocols across the GEF partnership would improve coherence and respect for Indigenous rights.

Recommendation 3: Recognize and strengthen Indigenous Peoples' role in GEF governance: Indigenous Peoples manage over a quarter of the Earth's land, including many of the world's most ecologically valuable areas, making their role vital to achieving global environmental goals, and the objective of the multilateral environmental agreements supported by the GEF. However, their participation in GEF governance remains limited to advisory input through the Indigenous Peoples Advisory Group (IPAG). To fully realize Indigenous rights and enhance the GEF's impact, Indigenous Peoples representation within the GEF decision-making bodies needs to be strengthened and institutionalized. Doing so would align GEF international frameworks such as the UN Declaration on the Rights of Indigenous Peoples, the Convention on Biological Diversity, the Kunming-Montreal Global Biodiversity Framework, and the Paris Agreement, all of which call for full and effective Indigenous participation in environmental governance.

Recommendation 4: Co-design projects and programs with Indigenous Peoples. To achieve transformative environmental outcomes, the GEF's needs to include Indigenous Peoples as equal partners in project design. It is suggested that a working group—including Indigenous representatives—be created to develop principles for co-design of project goals, metrics, and implementation strategies. This process should respect

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the interactions between human societies, cultures, and the natural environment. It helps document and preserve local knowledge about the environment, natural resources and land management practices, and can be used to inform decisions about ecological restoration.

[4] A Life Plan or PGTA provides a collective, intergenerational vision for how an Indigenous community or collection of communities manage their land, culture and resources. See GIZ. Territorial and environmental management plans in Brazil's Indigenous Territories. Available at: https://cooperacaobrasil-alemanha.com/Indigenas/PGTAS_INDIGENOUS_PEOPLES_ENG.pdf

Indigenous knowledge systems, cultural protocols, and require Free, Prior and Informed Consent (FPIC), particularly concerning intellectual property.

Recommendation 5: Expand fit for purpose finance to enable Indigenous Peoples to move from vision to implementation. Direct, long-term, and flexible funding is essential for empowering Indigenous Peoples and enhancing their contributions to achieving global environmental goals. While initiatives like the GEF Small Grants Programme, the Inclusive Conservation Initiative, and the Fonseca Leadership Program have supported Indigenous stewardship, their scale remains limited relative to the needs. The GEF could consider some strategies to strengthen and expand financial access. These include clustering small grants thematically or geographically to build capacity (as seen in Mexico's beekeeping alliances[5]); integrating small grants with medium- and full-sized GEF projects (as demonstrated in the Philippines[6]); and investing in Indigenous-led funds through multi-donor partnerships, modeled on successful long-term financing mechanisms such as the Greater Tumucumaque Project[7] and Project Finance for Permanence[8] link to the Legacy Landscapes Fund.[9] These approaches can be scaled under GEF-9 and the Global Biodiversity Framework Fund (GBFF), with a focus on supporting Indigenous-designed financial institutions, ensuring funding mechanisms align with local governance systems, and providing technical support to build readiness and autonomy in financial management.

The information note concludes by highlighting the importance of embedding Indigenous leadership, knowledge systems, and priorities at the core of GEF project design, implementation, and governance to catalyze positive, transformative change, noting the need for genuine partnerships grounded in trust, respect, and recognition of Indigenous Peoples as critical actors in achieving global environmental goals.

5.3. Strengthening source-to-sea approaches in the GEF

The STAP information note on "strengthening source-to-sea approaches in the GEF" provides an overview of the S2S concept, highlighting the important role the GEF has played in advancing the approach, barriers to effective implementation, and presenting advice on how to enhance the adoption and scale up.

The S2S approach addresses interlinked ecosystems from river sources to oceans, integrating ecological, hydrological, and socio-economic systems across sectors and governance levels. It recognizes the flow of water, pollutants, nutrients, biota, and economic

[5] See details in the STAP information note:
[6] See details in the STAP information note
[7] See: https://imazon.org.br/en/imprensa/partner-organizations-launch-a-new-program-for-indigenous-lands-and-conservation-units-in-northern-para/"
[8] Project Finance for Permanence (PFP) is an innovative sustainable finance mechanism that brings together stewards of a place to co-create and secure long-term funding and resources for conservation projects, ensuring they are well-managed and benefit local communities and achieve tangible, measurable environmental and socioeconomic benefits. The approach brings together governments, civil society, and donors to create a durable foundation for conservation efforts.
[9] See details in the STAP information note

activities and promotes cross-boundary and cross-sectoral cooperation for sustainable outcomes.

The paper builds on STAP's 2017 publication, which provided a conceptual framework for implementing the S2S approach. The current paper emphasized that the S2S approach could help facilitate policy coherence. Hence, the increased emphasis on policy coherence in GEF-8 and continuing into GEF-9 provides an impetus for greater implementation to coherently address interconnected challenges and advance sustainability, resilience, and equity outcomes.

GEF has been at the forefront of developing and implementing S2S strategies through its International Waters (IW) focal area investments. Early and ongoing GEF support in the Southwest Atlantic and the Danube–Black Sea region highlights the benefits of integrated freshwater and marine governance. These efforts improved water quality, biodiversity, and regional cooperation—even in politically sensitive contexts.

Despite progress, there remain some challenges that hinder the widespread adoption of the S2S approach. These include:

- **Siloed knowledge and planning**: Data collection and knowledge generation that support decision making are often still siloed and treat freshwater and marine systems separately, missing opportunities for integration.
- **Continued fragmented governance**: Separate institutional and legal frameworks for land, freshwater, and marine systems reduce coherence and collective action.
- **Weak operationalization**: Projects often mention S2S concepts without a concrete Theory of Change or integrated implementation strategy.
- **Inadequate capture and communication of benefits**: Indicators rarely reflect upstream-downstream linkages or broader socioeconomic and peacebuilding co-benefits.
- **Capacity gaps**: Implementing agencies and local stakeholders often lack the training and tools for effective S2S execution.
- **Limited financing**: inadequate financial resources mean that funding tends to favor seemingly affordable, siloed interventions over comprehensive, integrated, and cost-effective S2S strategies.

The report provides advice on how to better embed S2S more effectively into GEF's operations in GEF-9 and beyond:

- **Project design**: Explicitly include S2S in the Theory of Change, indicators, and implementation strategies of all relevant projects, not just in IW but across focal areas and Integrated Programs (IPs).

- **Policy coherence and governance**: Foster inter-agency and cross-boundary cooperation through improved legal frameworks and institutional coordination.
- **Indicators, monitoring, and evaluation**: Improved GEF indicators to reflect environmental, social, and economic benefits across the S2S continuum and strengthen monitoring and reporting systems to better capture adoption and implementation.
- **Knowledge and capacity**: Invest in targeted training, stakeholder engagement, and improved data integration, for example, through IW:LEARN.
- **Financing**: Enhance funding mechanisms, promote blended finance, and ensure sustainable financial commitments to long-term S2S efforts.

6. Other STAP activities

First World Day for Glaciers and World Water Day 2025.

Dr Susanne Schmeier, STAP Panel Member for International Waters, attended the joint celebration of the first World Day for Glaciers and World Water Day 2025, which took place at the UNESCO Headquarters in Paris on 20 and 21 March 2025. The event highlighted the accelerating threat of glacier melt and its impact on water security, communities, and ecosystems. It featured the launch of the 2025 World Water Development Report, themed "High Mountains and Glaciers", which highlighted the role of glaciers in ensuring water security. Dr Schmeier participated as a panelist in a session organized by the GEF Secretariat, IW:Learn, and other partners. Her intervention emphasized the importance of shared water management from the source, including the glaciers, to the sea.

Workshop on Learning from the GEF's Sustainable Cities program.

STAP Secretary, Dr Sunday Leonard, participated virtually in the Learning from the GEF's Sustainable Cities program workshop entitled "Promoting sustainable urbanization that contributes to global environmental goals," April 8-10, 2025. The workshop discussed global urbanization trends, sustainable urban transformation challenges and opportunities, and their interlinkages to the triple planetary crisis of climate, nature loss, and pollution. It also identified key learnings from the GEF investment in sustainable cities and opportunities for the GEF to contribute to the global environment and sustainability goals. Dr. Leonard presented the critical role of the integrated approach in achieving urban systems transformation, highlighting models for implementing the approach in cities.

Conflict sensitive approaches series: Integrating conflict sensitivity into project design in Fragile and Conflict-Affected Situations.

STAP Senior Advisor, Dr Blake Ratner, participated as a panelist at the GEF and World Bank Group Webinar on "Conflict sensitive approaches for projects in Fragile and Conflict-

affected Situations (FCS): conflict and fragility analysis into project design; April 9, 2025. The webinar was organized to highlight the importance of considering FCS in project design, with the expectation that the discussion can help strengthen GEF's approach to risk management in FCS contexts. Panelists and presenters highlighted practical experiences, tools, and methodologies for designing, implementing, and monitoring projects to achieve global environmental benefits in FCS. Dr Ratner's interventions highlighted STAP papers on the topic, including Environmental security: achieving durable outcomes in Fragile and Conflict-affected Situations and Environmental security: dimensions and priorities.

GEF learning in action: Greenhouse gas emissions accounting for GEF investments.

STAP Panel Member for Climate Change Mitigation, Dr Ngonidzashe Chirinda, participated as a presenter at the GEF Internal Learning Series, "Reducing emissions: how we assess climate impacts from GEF investments: Core indicators and successful project design," April 29, 2025. The session provided an overview of GEF's greenhouse gas (GHG) accounting framework, diving into case studies based on GEF investments in the Agriculture, Forestry and Other Land Use (AFOLU), technology, and infrastructure sectors. Dr Ngoni set the scene for the webinar by presenting the basics of GHG accounting, the state of science on GHG emission avoidance, the sequestration potential of the AFOLU sector, and uncertainties in GHG accounting, and how these can be addressed.

Basel, Rotterdam, Stockholm Conventions Conference of the Parties.

STAP Panel Member for Chemicals & Waste, Dr Miriam Diamond, attended the Conference of the Parties to the Basel, Rotterdam, and Stockholm Conventions, held in Geneva, Switzerland, from April 28 to May 9. The COP agreed to add three additional Persistent Organic Pollutants to the Stockholm Convention, including the pesticide, chlorpyrifos; a group of PFAS, long-chain perfluorocarboxylic acids; and medium-chain chlorinated paraffins. Prof. Diamond participated in discussions with country delegates, the GEF Secretariat, the Stockholm and Minamata Conventions, GEF agencies, and representatives from civil societies, including Indigenous Peoples. She also participated in the GEF Chemicals and Waste Task Force meeting on May 14 and 15, which discussed strategies to improve project implementation, monitoring and evaluation, knowledge management, and planning for GEF-9.

7. Review of the GEF Trust Fund, LDCF/SCCF, and GBFF work programs

STAP reviewed the June 2025 work program of the GEF Trust Fund, the Least Developed Countries Fund (LDCF), and the Global Biodiversity Framework Fund (GBFF). The work program comprised 20 projects and programs: 13 GEF Trust Fund, 3 LDCF, 4 GBFF, and one multi-trust fund (GEF Trust Fund and LDCF). The STAP Chair will present STAP's observations on the work program during her Council presentation.

8. Future work program

STAP will continue to provide support for the GEF Partnership through the development of advisories that build on the recommendations in its initial perspective on GEF-9 and targeted activities to support the delivery of the GEF mandate. It will also continue to engage with the GEF Council, IEO, Secretariat, and Agencies to provide relevant, timely, and high-quality scientific and technical advice that meets GEF's needs. The following reports are planned to be developed by the end of the GEF-8 cycle:

- **Principles for catalyzing sustainability transformations**: a STAP advisory document that will present a r pragmatic set of principles that could help guide and catalyze sustainable transformations, as well as suggestions statements for their use in the design, implementation, and assessment of GEF interventions.
- **The foundations of resilient and capable communities**: a STAP information note that will draw on new insights from the social sciences on how community cohesion and resilience are preconditions and catalysts for locally led adaptation and environmental stewardship. It will provide information on strengthening community-based approaches, catalyze behavioral changes, and suggest new ways of working with communities to enhance their role as agents of transformational change. The report will build on STAP previous paper on community-based approaches.
- **Addressing the barriers to transformative changes in the chemicals and waste focal area**: an information note addressing why systems continue with damaging practices even with abundant evidence that the practices cause damage. The note will analyze issues relevant to the GEF's Chemicals & Waste focal area, including the rising levels of antibiotic-resistant genes in the environment and PFAS or 'forever chemicals' in waste streams, particularly in waste lithium-ion batteries. The goal of the analysis is to find pathways to transition from damaging practices.

STAP is also considering other possible future work, including:

- Continued consultation with the GEF Secretariat, Agencies, and external experts on how blended finance can play a significant role in achieving transformational change
- Working with partners on how to improve the global governance of the hydrological cycle,
- A review of the socioeconomic impacts and benefits of GEF investments and how this can be an effective communication tool for the GEF
- How the GEF can be ready to leverage emerging technologies, including artificial intelligence, in its investments
- Organizing more training for the GEF Partnership, including on behavior change and future narratives.

We will also continue to scan the horizon to identify topics that need to be brought to the GEF Partnership's attention and will incorporate any identified emerging issues into our work program priorities.

9. Panel Members updates

Dr Rosina Bierbaum, STAP Chair, co-authored "Raising Ambition through Partnership: Advancing Adaptation in NDCs 3.0." The report, along with a summary of recommendations, was released on 14 May 2025. It outlines 12 concrete recommendations for integrating adaptation in Nationally Determined Commitments (NDCs) that build on the outcomes of the Global Stocktake (GST) and the UAE Framework for Global Climate Resilience for the Global Goal on Adaptation. Governments are due to submit their third NDCs this year. The outcomes of the GST and COP29 underscore the growing urgency to elevate adaptation in the next generation of NDCs, with a need for more robust, measurable, and inclusive strategies. Each recommendation is accompanied by a case study that highlights a country that is implementing the recommendation well. Although Dr. Bierbaum worked on this in her private capacity as a professor, most of the GEF agencies participated, including GEF Secretariat, and the final report has a GEF logo on it, too, for which she is very proud. Dr. Bierbaum also chaired a three-day site visit (24-27 March) to the International Institute for Applied Systems Analysis in Laxenburg, Austria, to review its new strategic plan to provide scientific evidence and analysis to support policy decisions related to sustainability, climate change, and other global issues. Also, Dr. Bierbaum attended the symposium on the "Future of Amazonia," a gathering of leading experts to discuss the current state of the Amazon, with a focus on the region's conservation challenges and opportunities in Lima, Peru on May 17. This was hosted by the Board of Directors of the Permanent Seminar on Agrarian Research (SEPIA) and the Gordon and Betty Moore Foundation. The symposium was followed by discussions at the Tambopata Research Center on challenges, benefits, and lessons learned from Ecotourism as a conservation strategy on May 18. On May 19, she heard presentations from the "Wired Amazon Program" about how technology, citizen science, and public-private partnerships support forest conservation. May 20 and 21 were spent with indigenous leaders in Posada Amazonas to learn about their territorial governance, cultural heritage, traditional knowledge, and involvement of local communities in monitoring and ecosystem stewardship.

Dr Sandy Andelman, Panel Member for Biodiversity, participated in a Board meeting of the JRS Biodiversity Foundation and met with JRS grantees in Africa. She traveled to Murchison Falls National Park, where she met with representatives of the Uganda Wildlife Authority. She also participated in meetings of the National Agency for Research and Development (ANID) within the Ministry of Science, Technology, Knowledge and Innovation, Government of Chile, advising on the National Competition for Centers of Research and Development of Excellence of National Interest.

Dr Jonathon Barnett, Panel Member for Climate Change Adaptation, participated in the workshop on National Adaptation Plan (NAP) processes in the Maldives on April 22-24, 2025. The workshop focused on nature-based solutions and food security. Dr. Barnett also presented on enabling adaptation to the Australian National Adaptation Planning Office in March 2025. He played a key role in developing and launching the Australian Adaptation Database, which is a living stocktake of adaptation projects in Australia, which currently includes 600 examples, with more examples to come. Dr. Barnett also recently co-authored two papers: Reducing social vulnerability to climate change: the role of microfinance organisations, and Improving the effectiveness of climate change adaptation measures.

Dr Ermias Betemariam, Panel Member for Land Degradation, co-authored a paper that reviews organic inputs to inform soil health advice for smallholder farmers and an analysis of soil fertility and cropping systems on Mount Kilimanjaro, focused on the implications for sustainable soil management. He also co-authored an article on the links between weather, climate information services, and climate-smart agriculture and on the relationship between soil seed banks and the altitudinal gradient in the mountain landscape of Addis Ababa, Ethiopia.

Dr Ngonidzashe Chirinda, Panel Member for Climate Change Mitigation, was appointed a member of UNEP's International Methane Emissions Observatory: Subcommittee on Agriculture. He also received funding as the principal investigator of a project entitled: Enhancing Agricultural Sustainability by Exploiting Phosphorus-driven Mechanisms for Reducing Nitrogen Fertilizer-induced Nitrous Oxide Emissions (ASPN2O Project). He attended meetings in Uganda as part of the project: Green Carbon, Livelihoods and Resilience in Ugandan Smallholder Coffee Systems, in which he is part of the team working on the project's research component. He also led two project-designing workshops in Morocco and Zimbabwe under the Africa Carbon Flagship program that aims to leverage carbon for human development. Dr Chirinda co-authored a paper entitled: Can drone images predict within-field variability in soil fertility? - A Case Study in the Northern Region of Ghana.

Dr Miriam Diamond, Panel Member for Chemicals and Waste, published six peer-reviewed papers, including three that received extensive media coverage nationally and internationally. Two of those papers, which were about the exposure of young children to chemicals of concern while sleeping, have prompted an advisory to mattress manufacturers in the UK and consideration of regulatory changes by the Government of Canada. In addition to her research activities, Miriam also delivered two invited lectures, one at Johns Hopkins University in the US and the other at the invitation of the Chemical Institute of Canada. Miriam received the University of Toronto President's Impact Award in recognition of her research in April 2025.

Dr Blake Ratner, Advisor to the Chair, co-organized an orientation and action planning session for NGO leaders and practitioners on building and sustaining multi-actor platforms

for landscape governance. The event, supported by the Common Ground initiative, in partnership with Living Landscapes, launched a network across Jharkhand and Odisha states. Also, the nonprofit Blake leads, Collaborating for Resilience (CoRe), launched an initiative in Nepal in partnership with the Center for Indigenous People's Research and Development (CIPRED) and the Natural Resource Conflict Transformation Center-Nepal. The partnership will support mutual learning and capacity strengthening on pathways to inclusive natural resource governance and foster regional networks for policy dialogue.

Dr Susanne Schmeier, Panel Member for International Waters, co-published various academic papers and book chapters on international waters, including "The role of basin water treaties and basin organizations in managing transboundary water resources and "International water law and cooperation over shared freshwater resources: an Introduction", both in the World Scientific Handbook of Transboundary Water Management. She also co-published in more general audience outlets, including pieces in The Conversation, outlining the need to cooperate over shared waters, especially in challenging times and in the New Security Beat, emphasizing the benefits of water cooperation that are often forgotten as the world in crises seems to rely less and less on multilateral approaches to address joint problems. Dr Schmeier was promoted to a full professor at IHE Delft and Utrecht University in the Netherlands in May 2025.

Dr Mark Stafford Smith, Advisor to the Chair, recently co-authored a paper, It's time to assign non-forested, non-agricultural lands a global designation, that considers ways to include grasslands, savannas, and shrublands into a widely acceptable category, comparable to forests so that they can be included in global initiatives on the environmental. He also co-authored "Coproducing futures: A three-mode heuristic for reflexive practice toward sustainability", which looks at how three ways of thinking about the future - predictive, anticipatory, and speculative - can be linked together to improve how people work together and plan for the future.