



GEF/STAP/C.48/Inf.01/Rev.01  
May 22, 2015

---

48<sup>th</sup> GEF Council Meeting  
June 02 – 04, 2015  
Washington, D.C.

**REPORT OF THE CHAIRPERSON OF THE  
SCIENTIFIC AND TECHNICAL ADVISORY PANEL**

# Scientific and Technical Advisory Panel

---



## Report of the Chairperson of the Scientific and Technical Advisory Panel (STAP) to the 48<sup>th</sup> GEF Council

### Introduction

I am pleased to provide an update on STAP's Work Program along with specific highlights and recommendations it wishes to bring to GEF Council's attention. The report covers the period since STAP's last report to the Council in October 2014 until the present.

This report includes the following:

1. STAP Contributions to the Integrated Approach Pilots (IAPs)
2. Observations on STAP's Screening of the GEF Work Program
3. Analyses to support development of GEF's Knowledge Management Strategy
4. Updates on STAP's Ongoing Work
5. STAP's Engagement with GEF-supported Conventions

### 1. STAP's Contributions to the Integrated Approach Pilots

The Integrated Approach Pilots (IAPs) reflect a significant step forward for the GEF in addressing complex, systemic challenges facing the global environment, and bring together innovative partnerships to address environmental priorities. STAP appreciates that the IAPs are built on scientifically sound conceptual frameworks that form the basis for future program design. The IAPs present an opportunity to develop or refine tools that can be applied more widely across GEF programs, such as knowledge management, resilience assessments, natural capital accounting, and strategies for indicator selection.

Since the beginning of GEF 5, there has been a growing shift towards multi-focal area initiatives in the GEF Program which has greatly accelerated and expanded the notion of co-benefits. STAP has consistently been a strong proponent of this trend, which has paved the way for the IAPs. Panel Members have participated actively in initial discussions to conceptualize the IAPs (outlined below), and look forward to working further with GEF Partners in the design and implementation of these Programs over the coming year. A key area of engagement for STAP across these Programs is working to ensure that clear learning and knowledge-sharing strategies are embedded in the design and future implementation strategies, and that these strategies also directly contribute to the emerging approach for knowledge management in the GEF.

STAP is pleased that in all three IAPs there is a strong commitment to develop learning and knowledge management systems, and welcomes synergies with the emerging GEF KM Strategy. A STAP Member has been assigned to lead Panel engagement on each of the IAPs<sup>1</sup>, and Panel Members look forward to

---

<sup>1</sup> Food Security – Annette Cowie (Land Degradation); Commodities – Anand Patwardhan (Climate Adaptation); Sustainable Cities – Ralph Sims (Climate Mitigation).

continuing to assist in future program development as well as in addressing the unique KM and monitoring systems development associated with these programs.

**a. Fostering Sustainability and Resilience for Food Security in Sub-Saharan Africa**

This IAP was conceptualized with input from the Agencies, STAP, and partners in the scientific and practitioner communities in the domain of land management, beginning with the first GEF expert consultation workshop held in October 2014. During this meeting, STAP assisted in refining the results-based framework that led to the development of the program structure, which comprises components to establish and strengthen institutional frameworks, and scale-up sustainability and resilience of integrated natural resource management. STAP also assisted in developing a matrix to review assessment and monitoring approaches between interventions in natural resource management, food security, and livelihoods. This effort contributed to the development of a third program component on strengthening institutional capacity for monitoring and assessment, and knowledge management of ecosystem services, global environmental benefits, and resilience. STAP considers that these components are well-designed to contribute to the GEF's 2020 vision and its long-term strategy on achieving global environmental benefits by addressing the underlying drivers of global environmental services that support food security. STAP believes, therefore, the results chain and impact pathway are articulated clearly in the program framework document.

At two subsequent stakeholder workshops, STAP continued to provide input on the program's design. STAP incorporated into its Work Program a key need of this initiative, namely to identify indicators for agro-ecosystem resilience. In particular, at the most recent planning workshop in February 2015, STAP presented the Resilience Adaptation Transformation Assessment and Learning Framework (RATALF) – developed by the Commonwealth Scientific and Industrial Research Organization (CSIRO) and STAP. The RATALF is an approach designed to assess the resilience of social-ecological systems - such as agro-ecosystems - to potential future stresses such as from the effects of climate change. The framework is an iterative and participatory approach that takes the user through multiple steps to define the biophysical and social boundaries of an ecosystem in order to assess how to maintain, or improve, its resilience, as well as to guide transition to a more resilient state, if necessary. The approach involves the following key processes:

- i. Initial bio-physical and socio-economic description;
- ii. Assessment of system resilience and, as necessary, whether there is a need for adaptation or transformation;
- iii. Identification of intervention and/or governance options;
- iv. Emphasis on multi-stakeholder engagement throughout.

The RATALF is a tool that countries can use to identify the key driving variables and vulnerabilities, to inform the development of interventions and to identify the most applicable indicators for monitoring and assessing resilience in landscape management. The approach can be used to compare resilience between different complex systems, and to monitor progress in enhancing resilience over time. The resilience framework is anticipated to be used during the design of projects in the IAP. Additionally, the RATALF could serve the Rio Conventions as a common approach in assessing resilience of social-ecological systems (See Section 5(b)). As a contribution to further development of the IAP, STAP and CSIRO will work to develop guidelines to assist countries and the Agencies in applying the resilience framework.

STAP also contributed to the IAP through a review it commissioned on the use of the Normalized Difference Vegetation Index (NDVI) to assess land degradation. The review examined the scientific basis for the use of remotely sensed data, particularly NDVI, for assessing land degradation at different spatial and temporal scales, and the potential for remote sensing to contribute to an assessment of resilience of

agro-ecosystems. The IAP will rely on land cover indicators (increase, percentage), and recognizes the value of NDVI as a measure of photosynthetic capacity that can be used for monitoring trends in land cover and productivity of the land. The NDVI can be a useful visual point to begin the analysis of resilience. For example, the NDVI can be used as an initial proxy for land degradation, and can potentially assist with assessing thresholds.

#### **b. Taking Deforestation out of the Commodities Supply Chain**

Similar to the Food Security IAP noted above, STAP has contributed to the early thinking on the “Commodities” IAP from the outset. Initial discussion on conceptualization of this initiative began during side meetings on the margins of the GEF Assembly in May 2014, and STAP’s engagement has continued consistently until the present through participation in both formal planning meetings for this Program as well as in numerous informal discussions and meetings with key staff involved in this process. STAP looks forward to participating in the formal design of the Program over the coming year, and future implementation particularly in the context of the components on adaptive management and learning.

A key planning meeting between key partners in the Commodities IAP took place earlier this year on January 26 and 27. STAP’s Panel Member for Climate Adaptation, Anand Patwardhan, chaired the discussion on adaptive management and learning and Rosina Bierbaum, STAP Chair, closed the public portion of the meeting on January 26 and summarized outcomes. In particular, STAP appreciates that the component on adaptive management and learning offers the opportunity to strengthen the knowledge-base in key areas. This will be of importance not only to this IAP, but to other initiatives in this area. For example, scenarios of future commodity demand will be important for scaling-up efforts for deforestation-free production. STAP looks forward to working with the Secretariat and implementing agencies to define and guide this applied research agenda.

As part of this effort, STAP agreed to undertake an assessment - in collaboration with Professor Arun Agrawal of the University of Michigan - of indicators previously used to assess overall sustainability of agricultural commodity agricultural production as well as indicators used to assess the deforestation attributed to this production in the IAP focal countries Brazil and Indonesia. In addition, the STAP Chair is working closely with the Moore Foundation to identify key research areas to pursue in the agricultural commodities domain and their effects on tropical forests.

The Commodities IAP involves working closely with commodity producers at multiple scales, as well as manufacturers, financiers, and buyers of key agricultural commodities – along with government regulators. Ultimately progress towards ensuring that commodity production takes place without driving deforestation will, of course, require data derived from multiple sources that are independently verifiable. Some of these data collection tools, such as the use of NDVI (noted above) and land cover data<sup>2</sup>, have been refined over many years of study and application – although equally important will be sources of supporting evidence and ground verification that the Program will focus on as part of the planned Adaptive Management Component. The IAP is well conceived, with a clear rationale, a logical theory of change, as well as an approach to ongoing assessment and results management which is attainable. In addition, the central challenge to be addressed, along with an expected contribution to global environmental benefits, is well defined.

---

<sup>2</sup> A significant contribution to this effort is the GEF-supported Global Forest Watch program of the World Resources Institute - <https://www.thegef.org/news/global-forest-watch-dynamic-new-platform-protect-forests-worldwide>

As with the other IAPs, a complex, multi-faceted approach to addressing the key drivers of environmental change in this domain will be applied. On the demand side in particular, interventions will range across procurement policies, government regulations, and bilateral agreements between consumer and producer countries. This will lever the unique role of industry associations in driving change, establishment of new licensing systems, introduction of new legislation controlling illegal deforestation, and due diligence requirements on industry to prove that commodities stem from legal sources. With regard to the engagement of financial institutions, STAP believes that the Program should contribute to emerging global efforts to benchmark the success of financial firms with regard to deforestation risk exposure in their portfolios.

Finally, an additional useful contribution of this initiative will be to support the ongoing development of natural capital accounting tools at national level, which is an area STAP believes it can make an important contribution. An effort in this area would also in turn contribute to assessing credit risk and asset exposure in the agri-sector and commodities markets. The WAVES program<sup>3</sup> is cutting edge in this domain, and the GEF IAP could benefit from employing methods developed in this program to expand application in the agricultural commodities sector. The use of natural capital accounting tools is underscored in the GEF 2020 Strategy and is progressively being mainstreamed in GEF project planning and strategies in natural resource management.

### **c. Sustainable Cities – Harnessing Local Action for Global Commons**

The timeframe for stakeholder engagement and contributions to the Sustainable Cities IAP was much more compressed than those described above. A particularly intensive period of engagement took place during the month of February, 2015, when STAP worked with the World Bank that was, by then, leading efforts to conceptualize this initiative and particularly the “global knowledge platform” component. Specifically, STAP provided input including, *inter alia*:

- i. Compiling and submitting detailed input on indicator development from additional partners (such as the University of Toronto and the World Council on City Data (WCCD));
- ii. Providing larger conceptual and strategic issues related to streamlining of indicator selection (to ensure alignment of the child projects and IAP objectives with the GEF 2020 strategic priorities);
- iii. Making submissions on the overall partitioning of ‘process’ versus ‘output’ indicators and minimisation of the use of subjective rating scales for the IAP Results Framework; and
- iv. Identifying potential research efforts such as from ICLEI and other practitioners to find ways to better track urban metabolism, which the STAP recognizes can also help create a link between Cities and the Food Security and Commodities IAPs.

A key objective in this IAP is the creation of a global knowledge platform to systematize the learning and south-south exchange component of the program. There is an important body of work and knowledge on urban resilience that can and should be brought into this IAP, as well as work on indicators such as consumption-based accounting tools which can be used to link final demand (often in cities) to food and commodity production – thereby directly linking the success of this IAP to the Food Security and Commodities IAPs above.

Given STAP’s work on the Resilience Adaptation Transformation Assessment and Learning Framework (outlined in 1a above) STAP is currently exploring whether this approach can be adapted to urban socio-ecological systems. STAP recommends that as child projects are developed, the accompanying monitoring approach should propose a common conceptual framework applied across all projects. This will help to ensure coherence within the IAP and the comparability of results. However, the notion of a

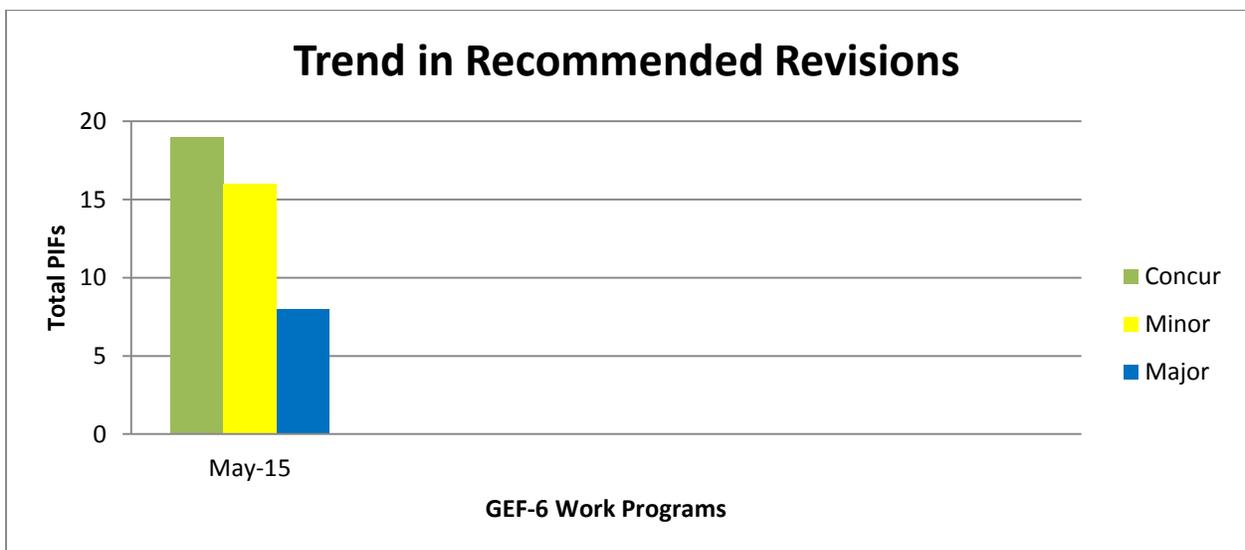
---

<sup>3</sup> <https://www.wavespartnership.org/en>

common conceptual framework for monitoring is not included in the current outline of the IAP, and it is unclear whether this approach will be adopted. STAP strongly encourages the adoption of a monitoring approach that will generate evidence contributing to our understanding of the resilience and sustainability of urban areas, and looks forward to engaging in the Advisory Group for this IAP and development of the implementation strategy going forward.

## **2. Observations on STAP’s Screening of the GEF Work Program**

STAP acknowledges that at the PIF stage it is often not possible to provide detailed information on expected project design or implementation strategies at this early phase of project development. Typically, STAP concentrates its screening efforts on assessing the project rationale against the GEF Program and 2020 Strategy, reviewing the definition of global environmental benefits (GEBs) and how the project expects to both deliver these benefits and sustain outcomes over time. An assessment of the project’s logic model or “theory of change” as it is apparent at this stage is also made, as this is essential to assessing the delivery of GEBs. The Panel has noted a variation in the quality of PIFs with regard to these elements, which can at times lead to problems in STAP’s ability to fully undertake its screening responsibilities to the GEF Council. In addition, STAP wishes to underscore that a robust scientific and technical review at PIF stage benefits greatly from the provision of well-referenced information supporting the approach proposed. An overview of screening results from the current GEF Work Program, along with observations from Panel Members, is presented below.



### **a. Observations concerning the IAPs, Programs, and Projects:**

- Coherence against GEF 2020 Strategy (primarily objective 1, “focus on drivers”)
  - In Programs reviewed, both the Food Security and Commodities IAP addressed key drivers well;
  - Coherence to the GEF 2020 and drivers less clear in the Cities, IWT, and Fisheries Programs – as well as amongst many projects in this work program.
- Overall conceptual frameworks and/or theories of change

- There was a wide range of quality of presentations of this topic across the IAPs and Programs - Commodities was quite strong in this regard;
  - Some project PIFs lacked and logic in their identification of key issues, drivers, and relevant interventions;
  - STAP proposes that the proposed conceptual frameworks in the Illegal Wildlife Trade and Coastal Fisheries programs be revisited during the design of these programs and associated child projects.
- Stakeholder engagement
    - There is a tendency reflected in a number of Programs reviewed (e.g., Sustainable Cities, IWT, and Coastal Fisheries) towards top-down planning approaches;
    - STAP proposes that balanced and iterative approaches in planning should be sought wherever possible to ensure engagement of local actors/communities in project design and implementation.
    - Past experience would suggest that addressing complex, large-scale social/environmental problems requires comprehensive stakeholder engagement strategies;
- Knowledge Management, learning, evidence-based approaches, M&E
    - STAP applauds the substantial effort invested across the IAPs to include coherent KM and learning strategies (please also refer to Sections 1 above and 3 below), and to put in place robust indicator and monitoring systems;
    - Additional effort is required in this area in the IWT and Fisheries programs;
    - STAP proposes that all GEF projects and Programs should include an outline strategy for KM at concept stage, to be further elaborated during the design and implementation stages;
    - STAP is willing to work closely with GEF Partners to further strengthen these components.

### **3. Analyses to support development of GEF’s Knowledge Management Strategy**

As the scientific advisory body of the GEF, STAP consistently supports evidence-based project design and overall programming. STAP has long championed the enhancement of knowledge uptake within the GEF, most recently in its report to the GEF-5 Assembly<sup>4</sup>. Examples of how STAP has supported better management of knowledge in the GEF include:

- i. Providing advice on improved evidence-based project and program management as a part of its regular screening process<sup>5</sup>;
- ii. Advising on mainstreaming of knowledge generation and sharing in the GEF replenishment strategies and more recently into the Integrated Approach Pilots (IAPs);
- iii. Contributing to the evidence-base of the GEF Resource Allocation Framework (RAF)<sup>6</sup>;

---

<sup>4</sup> GEF/A.5/03

<sup>5</sup> <http://www.stapgef.org/stap-screens/>

- iv. Developing portfolio-level methodologies such as greenhouse gas accounting methodologies, including for bioenergy and for the transport sector<sup>7</sup>;
- v. Providing advice to the GEF on the development of indicators and focal area tracking tools;
- vi. Proposing a revision of the Targeted Research Modality in the GEF<sup>8</sup>; and
- vii. Offering guidance on the use of experimental project design<sup>9</sup>.

Over the past 5 years there has been a consistent upward trend in the number and scope of multi-focal area projects<sup>10</sup>. STAP has actively supported this trend, particularly with respect to the learning and knowledge generation opportunities these initiatives entail<sup>11</sup>.

An important responsibility of STAP is to keep the GEF Council and the partnership informed of emerging global environmental issues. A high profile example is the issue of marine debris (see section 5a below) and associated impacts to marine biodiversity, SIDS, and human health. Others issues STAP has explored include emerging management issues for chemicals, marine spatial planning, soil carbon, and most recently approaches for measuring and assessing the resilience of socio-ecological systems. These efforts have made important contributions to improving knowledge management in the GEF, and will also contribute to implementation of a future strategy.

In its Report to the Fifth GEF Assembly, STAP strongly supported policy recommendations for the GEF-6 Replenishment<sup>12</sup> that established a more coherent, systems-based approach for managing and sharing information and knowledge within the GEF Partnership. STAP acknowledges and underscores the highly constructive collaboration with the GEF Secretariat and IEO leading to the preparation of the GEF Knowledge Management Approach Paper (GEF/C.48/07). A key STAP contribution to this paper was the definition for knowledge management adopted in the paper (Paragraph 1). Additional contributions to this paper include recommendations on customized knowledge and information delivery and country ownership, re-introducing a revised targeted research modality, emphasizing support for South-South collaboration and networking, and proposing the adoption of a GEF-wide open access policy for data, information, and knowledge products generated through GEF investments. As a contribution towards future implementation, STAP undertook three KM activities in its Work Plan for GEF-6 focusing on:

- i. A portfolio assessment of knowledge products, services and associated theories of change of GEF projects and programs;
- ii. Analysis of knowledge management systems in GEF and non-GEF institutions to identify implementation modalities and best practices; and
- iii. A review of knowledge management assessments in country portfolio evaluations conducted by the GEF IEO.

---

<sup>6</sup> RAF and STAR advice at: <http://www.stapgef.org/advice-to-the-gef/>

<sup>7</sup> [https://www.thegef.org/sites/default/files/council-meeting-documents/C.39.Inf\\_16\\_STAP\\_-\\_Manual\\_for\\_Calculating\\_Greenhouse\\_Gas\\_Benefits\\_0\\_1.pdf](https://www.thegef.org/sites/default/files/council-meeting-documents/C.39.Inf_16_STAP_-_Manual_for_Calculating_Greenhouse_Gas_Benefits_0_1.pdf)

<sup>8</sup> GEF/STAP/C.43/Inf.02

<sup>10</sup> STAP Chair reports to GEF Council at: <http://www.stapgef.org/advice-to-the-gef/>

<sup>11</sup> <https://www.thegef.org/council-meeting-documents/recommendations-improved-science-and-technology-guidance-gef>

<sup>12</sup> <https://www.thegef.org/council-meeting-documents/gef-6-policy-recommendations-0>

These efforts were undertaken in parallel and were initiated to support the GEF Secretariat in developing a future GEF knowledge management strategy.

**a. GEF Portfolio Assessment**

STAP developed an assessment template to desk-review approximately 140 completed GEF projects spanning primarily GEF-3 to GEF-4, identified and compiled by the GEF IEO. These projects contained objectives and components with explicit reference to “knowledge” and “information”. The assessment aimed to identify the breadth of project-based knowledge management products, information flows, and ownership, sustainability, and impacts. The goal was to develop specific recommendations regarding lessons, approaches, and/or issues that should be considered in building the GEF’s knowledge management strategy and system. Knowledge products and services in the assessment were categorized into several groups, such as: information sharing and access, capacity/skills building, awareness raising, generation of new knowledge, and technology transfer and innovation. The assessment applied methods developed by the GEF IEO<sup>13</sup> to assess the impact of GEF-supported knowledge efforts and provided the following evidence:

- i. Most project and program designs reviewed by the STAP did not contain adequate information about knowledge products and services to determine outcomes or impacts.<sup>14</sup>
- ii. The evidence for country ownership and use of KM products was mixed at best, and was particularly absent in many global/regional initiatives; up-take of results by the GEF partnership was often not sustained.
- iii. There are many instances when GEF support for knowledge products was not sustained in the long-term, as several pre-conditions such as access to and maintenance of websites, institutional and financial support, etc., were lacking.
- iv. Some projects, particularly in International Waters, were indeed able to demonstrate GEF KM impact using GEF’s theory of change at the regional level, highlighting one of the GEF’s important comparative advantages in KM among other related institutions – supporting regional and cross-regional knowledge sharing and learning.
- v. Broad adoption and behavioral change (two main processes leading to impact in the GEF) were not explicitly considered and discussed by all terminal evaluation reports. Many focused instead on outcomes such as information dissemination and awareness through websites, publication and databases, capacities built, and others. STAP believe there is scope in evaluation practice to consider explicitly the impact of GEF’s support for knowledge through broader adoption and behavioral change.
- vi. The meta-analysis of 24 country-level evaluations conducted by the GEF IEO<sup>15</sup> illustrated that there is interaction between the four elements of knowledge management as identified in the GEF Generic Theory of Change (i.e., knowledge generation, information sharing and access, awareness raising, skills building, and monitoring and evaluation). In particular, the findings in

---

<sup>13</sup> <https://www.youtube.com/watch?v=2SXP63nGYml>

<sup>14</sup> Five common categories of knowledge products and services in GEF projects include: knowledge generation through research, information sharing and access, awareness raising, skills building, and monitoring and evaluation.

<sup>15</sup> GEF IEO (2015). Meta-Analysis of Evaluative Evidence Contained in Country Level Evaluations on the GEF Support to Knowledge Management. Internal IEO working paper, Apr 2015.

‘knowledge generation’ highlight that GEF has played an important role in supporting countries to fulfill their obligations to a range of international environmental conventions.

## **b. Characteristics of Knowledge Systems**

A comparative assessment of KM systems was completed for a sample of GEF and non-GEF agencies having explicit KM strategies including the World Bank, FAO, IFAD, ADB, WHO, UN Economic Commission for Africa, DFID, UNDP, and the Adaptation Fund. The analysis of KM institutional strategies indicates that three major knowledge flows are typically addressed:

- i. Producing and disseminating knowledge;
- ii. Customizing or applying knowledge; and
- iii. Sharing or connecting knowledge.

Drawing on this assessment and the portfolio analysis above, STAP recommended several actions, most of which have now been included in the proposed GEF KM Approach paper (GEF/C.48/07) and we hope will be developed further in implementing KM in the GEF<sup>16</sup>:

- i. Adopt a clear definition of KM (para 1).
- ii. Institute an Open Data Policy for the GEF on information and data disclosure, following examples of UN agencies, multilateral development banks, and many countries (para 14 (c)).
- iii. Establish conditions for knowledge sharing and learning across the GEF partnership employing the Capacity Development Approach recommended by OPS5. This particularly translates into much stronger support for South-South exchanges (e.g., using positive experience of the World Bank Institute supported South-South Experience Exchange Facility<sup>17</sup> and Communities of Practice (CoP) (e.g., the GEF IW’s Learn experience and UNDP’s experience in this area) (para 13 (d)).
- iv. Mainstream KM into the GEF project cycle including strengthening design, monitoring and evaluation for knowledge management systems at the project and program levels. This could include developing guidelines and reviewing checklists for KM (para 14 (a)).
- v. Introduce robust M&E processes to assess GEF progress towards impact at the institutional level<sup>18</sup> (e.g., in overall performance evaluation and other impact studies conducted by the GEF IEO and by including KM progress indicators into the GEF RBM system) (para 14 (a)).
- vi. Provide incentives for GEF Secretariat, Agency, IEO, and STAP staff to enhance knowledge generation and sharing (para 14 (e)-(g)).
- vii. Redefine the role of STAP in KM to lead the strategic engagement of the scientific community within the GEF partnership to support implementation of the GEF’s approach to knowledge management (para 14 (f)).
- viii. Develop a “fit-for-purpose” KM IT platform for the GEF (para 14 (b)).

---

<sup>16</sup> GEF/C.48/07 - [https://www.thegef.org/sites/default/files/council-meeting-documents/EN\\_GEF.C.48.07.Rev\\_.01\\_KM\\_Approach\\_Paper\\_0\\_1.pdf](https://www.thegef.org/sites/default/files/council-meeting-documents/EN_GEF.C.48.07.Rev_.01_KM_Approach_Paper_0_1.pdf)

<sup>17</sup> <http://wbi.worldbank.org/sske/south-south-facility-funding>

<sup>18</sup> This is in accordance with the overall trend in IFIs to measure the use of knowledge for operations. In: Knowledge Management in International Finance Institutions (2014). IEO Department of ADB. EGG Paper #7, 57 pp.

STAP sees its specific role in KM implementation as follows: (i) Keeping the GEF partnership informed about emerging global environmental problems and best practices as well as identifying and addressing learning questions in the GEF Program; (ii) Conducting independent technical and scientific review of GEF projects and programs that would include KM as a screening criteria; (iii) Providing scientific and technical support to the implementation of KM, particularly in relation to South-South knowledge exchange and GEF Communities of Practice; and (iv) Identifying and addressing untested assumptions within GEF strategies and programs, and in collaboration with GEF partners undertaking targeted research<sup>19</sup> where necessary. In addition, STAP will continue working with the GEF IEO on improving knowledge management evaluative practices at the corporate, portfolio, project, and program levels.

#### **4. Updates on STAP's Ongoing Work**

##### **a. Mercury**

The work on the Mercury Platform, with regard to setting up a centralized repository of mercury data, has continued to develop. The Society of Environmental Toxicology and Chemistry (SETAC) has assisted STAP in this effort, and engaged with STAP to host a special Mercury symposium within the 35<sup>th</sup> North American SETAC Meeting (Vancouver, November 9-13, 2014), part of which was a special SETAC Global Mercury Partnership Meeting. This meeting saw UNEP Mercury Partnership members, UNEP Live/Director DEWA, the GEF Secretariat, and international researchers and data base owners agree that there is a need for a centralized platform for mercury data and communities of practice, based on the following:

- i. The Minamata Convention wishes to avoid the pitfalls of the Stockholm Convention in taking a decade to establish a centralized database of baseline global pollutant levels, which led to the necessity of several rounds of national inventory exercises, thus diverting resources and delaying implementation of mitigation measures;
- ii. The Convention establishes an implementation and compliance committee to promote implementation of, and review compliance with, the treaty (Article 15). The COPs should also, no later than six years after entry into force, begin periodic effectiveness evaluations (Article 22), which in turn will benefit Parties to help target decision-making and expand controls. A centralized platform for all mercury related information would be a key part of such a formalized monitoring and review mechanism; and
- iii. It is recognized that the collection and data protocols associated with sampling and generation of mercury pollutant levels in the biotic and abiotic contexts are not wholly standardized. Therefore, generating appropriate protocols is critical.

A work plan was developed out of this meeting, and it was agreed that STAP will contribute to the implementation of this plan.

STAP has also collaborated with the UNEP Mercury Partnership Coordinator, as well as with the Co-Chairs of the Fate and Transport Working Group, to pilot key pre-existing databases. These discussions are forming the basis of a work program activity for the coming year with the following priorities:

- i. Polling of specific scientific partners via survey (including querying within UN entities) to, *inter alia*:

---

<sup>19</sup> GEF/STAP/C.43/Inf.02

- Identify key data providers and other complementary data/assessments/publications so there are links to mercury databases through the Partner Resources capability in UNEP Live;
  - Categorize data/information types and curators of these data, including what is open source and where there may be financial/legal ramifications for data sharing; and
  - Identify those most prepared to commit to the partnership underpinning the Mercury Platform.
- ii. Working with UNEP Live and partners, where appropriate, to create the required application programming interfaces (APIs) for the various types of information to be shared within the platform. SETAC shall have STAP assistance in creating the critical IT contacts within UNEP Live and partners to facilitate the overall process;
  - iii. Generation of streamlined sample and data protocols for biotic data for review by the relevant expert community, to identify any conflicts with current monitoring/assessment guidance, so that there is early consideration of enhanced inclusion of standardized national level data (emanating from GEF funded global or national level projects) into the Platform. This shall include STAP-facilitated consultation with UNEP Chemicals, the Minamata Convention, and the GEF Secretariat.

STAP seeks to establish a Steering Committee of partners comprising relevant UNEP, Convention, and GEF partners to guide this effort particularly with regard to:

- i. Establishment of a UNEP Live-based, centralized Mercury Portal, which shall have the capacity of:
  - Interfacing with, and geospatially representing pre-existing data on mercury in the environment
  - Hosting “Community of Practice” spaces for the virtual meeting and collaboration of experts to generate products and tools that will support implementation of the Minamata Convention; and
- ii. Laying of a foundation to better track mercury movement and fate in the global environment.

#### **b. Black Carbon**

Black carbon is one of the most strongly light-absorbing components of fine particulate matter in the atmosphere, as well as being a local and regional air pollutant, and a short-lived climate pollutant that can have significant direct and indirect radiative forcing effects that contribute to anthropogenic climate change. There is strong evidence that reducing emissions of black carbon across the transport, residential, industrial, and agricultural sectors presents a practical and cost-effective strategy to help limit temperature rise in the short term. The GEF–6 Strategy discusses the need to incorporate black carbon into climate change mitigation projects. However, the Strategy is silent on how best to address this challenge in practice within the GEF portfolio.

In response, STAP has produced a draft report entitled “Black Carbon Mitigation and the Role of the Global Environment Facility: A STAP Advisory Document” which was sent out for external peer review (including to the GEF Partnership) last month. The reviews are largely favorable and constructive; the draft is currently being updated as a result of useful comments. The report provides information about black carbon, including sources and emissions by region, mitigation approaches, and options for monitoring and measuring this short-lived climate pollutant. Based on the evidence and potential climate

and other benefits resulting from black carbon mitigation, STAP recommends four specific actions to be taken by the GEF Partnership:

- i. Mainstream black carbon into the existing GEF climate change mitigation portfolio and the Integrated Approach Pilots (IAPs) where appropriate;
- ii. Measure the amount of black carbon avoided as a result of GEF-funded projects. The GEF has historically supported projects that likely have involved reducing black carbon in the residential, transport, and industrial sectors, and should make an effort to account for these changes in emission levels;
- iii. Engage with stakeholders who are working on this issue in various ways – whether to support technology development and diffusion, or to develop tools for improved measuring and monitoring of black carbon, such as in association with the Clean Air and Climate Coalition (CCAC); and
- iv. Actively encourage projects specifically designed to reduce black carbon through the following:
  - a) Support programs and stand-alone projects designed to implement measures that reduce the products of incomplete combustion that have been assessed to provide a net climate benefit in residential, industrial and transport sectors. This should be done through integrated packages consisting of monitoring and assessment, technology transfer, policy and regulatory support, capacity building and awareness raising among countries and cities that are most affected. These projects should be carefully coordinated with ongoing activities in order to optimize results and avoid duplication.
  - b) Encourage knowledge management efforts to evaluate the environmental, health and economic impacts of a select set of projects that result in reduced BC emissions such as “soot-free” alternatives to high emission diesel engines in order to better understand the full costs and benefits of supporting these types of projects.
  - c) Design control measures for BC emissions based on the multiple benefits of reduction including climate mitigation potential, assessment of the enabling environment including technologies, policies, measures, and regulations, and the financial and geographical conditions of the region and country where mitigation measures are planned.

STAP will formally present this publication to the GEF Council in October 2015, and will also seek to present this paper in conjunction with GEF and other Partners during UNFCCC CoP 21 in Paris in December, 2015, as well as in other opportunities.

### **c. Biofuels**

STAP recently completed a report entitled “Optimizing the Global Environmental Benefits of Transport Biofuels.” In this report, STAP recommends that the GEF and its Implementing Agencies support projects that sustainably produce and use first generation, and/or advanced biofuels, in place of petroleum derivatives (gasoline, diesel, kerosene). However, these biofuels must meet strict guidelines to ensure that overall benefits outweigh any economic, environmental, or social costs. It is recommended that the GEF assesses all proposals to support transport biofuel projects in order to:

- i. Ensure significant levels of GHG mitigation can be achieved, considering the full life cycle as well as emissions that result from direct and indirect land-use change;

- ii. Minimize the risk of negative environmental impacts such as biodiversity loss, reduced water quality, competition for water supplies, and worsened air quality; and
- iii. Promote positive, economic and social outcomes (including food and energy security, and local employment opportunities).

GEF support for transport biofuels could include financing for demonstration projects, as well as for the development of national policy frameworks for sustainable production of biofuels, institutional capacity development, and feasibility studies coupled with strategic environmental assessments.

#### **d. National Adaptation Plans**

National Adaptation Plans (NAPs) aim to assist countries in identifying and addressing their medium- to long-term adaptation needs by mainstreaming climate resilience into existing planning and development processes at national and sub-national levels. As highlighted in the Intergovernmental Panel on Climate Change's (IPCC's) Fifth Assessment Report (AR5), this is an emerging and important area in adaptation science and policy. In recent years, NAPs have also emerged as an important area for multilateral action under the United Nations Framework Convention on Climate Change (UNFCCC), and the GEF has been urged to support the NAP process for all developing countries. More recently, the Least Developed Countries Fund (LDCF) has started to receive project concepts (PIFs) for NAP projects to be implemented in several LDCs. Given the need to develop guidance for GEF projects in this area, STAP has been preparing a technical report that examines different institutional models and approaches for mainstreaming adaptation at the national level. The comparative analysis demonstrated that while countries have adopted different strategies based on their particular national circumstances and characteristics, a number of key elements, or "building blocks", are emerging as common themes for enabling a robust institutional arrangement for adaptation. These include:

- i. **Governance:** an overarching system of interaction and decision-making among relevant stakeholders, which includes identifying a governing body or guiding entity for climate change adaptation, mechanisms for coordination across sectors and scales, methods for resolving conflicts, and the ability to remain adaptive and flexible;
- ii. **Policies, regulations and legislation:** to facilitate the introduction of adaptation measures into new or existing institutional arrangements, and to ensure flexibility within such frameworks to respond to a dynamic and changing climate;
- iii. **Capacity development:** of government ministries at all levels, public institutions, the private sector and civil society to enhance their strengths and resources to respond to climate change. Types of capacity building activities will vary across stakeholders, but should generally: (1) start small, learn and scale up gradually; (2) target and prioritize pockets where there is a willingness to learn; (3) ensure transparency and engage a range of stakeholders to share lessons; and (4) focus on and prioritize the most urgent and important areas;
- iv. **Linkages to science and knowledge:** in order to make well-informed policy decisions for adaptation, countries will need to improve upon their knowledge base and have methods for dealing with uncertainty. Relevant types of information include historical and climate data, higher resolution and more robust climate projections, socio-economic statistics, reliable estimates of past economic impacts of climate, sectoral analysis of climate risks and opportunities, and understanding of indigenous knowledge;

- v. **Finance:** countries need to assess their financial needs, identifying funding sources (international development finance mechanisms, public domestic financing, private investment, insurance mechanisms and public-private partnerships) and ensure their ability to absorb resources and apply them effectively towards adaptation;
- vi. **Stakeholder engagement:** can be used to inform and improve upon policy responses to climate change, and can range from quite passive to more interactive and deliberate exchanges (informing, consulting, involving, collaborating, and empowering). Relevant stakeholders for climate change adaptation include government officials at the national level (policymakers, public administration and government agencies), government officials at the sub-national level (provincial, regional and local), the private sector, civil society groups and NGOs, scientists and researchers and the general public; and
- vii. **Monitoring and evaluation (M&E):** not only to monitor and track the progress of NAP implementation (the institutional readiness of the country), but also to include methods to track the underlying goals of reducing vulnerability and building adaptive capacity and resilience. This represents a shift from donor driven M&E to systems that are country owned and sustained, that emphasize learning, and can track progress over larger timescales.

STAP presented these early findings at the 7th meeting of the Adaptation Committee of UNFCCC in Bonn, Germany, in February 2015. It was proposed that the NAP process be framed in a manner that supports strengthening each of these individual key elements. In response to these findings, the joint workshop of the Adaptation Committee and the LDC Expert Group that was held in April 2015 was structured around these building blocks. In this workshop, experts and practitioners reported their experiences, best practices, and lessons learned based on each of the key elements. The STAP report, due to be completed in June 2015, will describe what each of the building blocks entail, provide examples of how countries have been addressing each of these elements, and the challenges and lessons learned in moving forward with mainstreaming and long-term adaptation.

e. **The scientific basis for measuring, monitoring and evaluating adaptation.**

Climate change adaptation is an emerging area where robust and empirically validated methodologies based on sound science are needed. Monitoring, evaluating and learning from adaptation actions is particularly important for developing countries in order to identify effective, efficient measures and allocate scarce resources to those actions that are most likely to increase resilience to climate risks, and also support short- and long-term development objectives. Evidence-based results are required to guide policy responses, design adaptation interventions, and scale up actions. Monitoring and Evaluation (M&E) methodologies also need to be cost-effective so that they are viable within budgetary constraints, and operationally implementable. After extensive consultation with the GEF Secretariat, the GEF agencies, and the UNFCCC, and in collaboration with UNEP's Programme of Research on Vulnerability, Impacts and Adaptation (PROVIA), four areas were identified as important for advancing the science for measuring, monitoring and evaluating adaptation:

- i. Monitoring and Evaluation (M&E) for "upstream", institutional and programmatic interventions – such as support for the National Adaptation Plans (NAPs);
- ii. Connecting M&E across scales to establish two-way linkages between national level actions and local impacts and benefits;
- iii. Drawing some lessons from development programs that have addressed mainstreaming issues for climate change adaptation; and

- iv. Considering data and information systems to support M&E – and in particular, how one could leverage existing systems and institutions for socio-economic data collection and analysis for this purpose.

STAP has commissioned technical papers to investigate the first three themes described above. A workshop was held in Mumbai, India in January 2015 to discuss early drafts of the papers with relevant stakeholders from the GEF family, bilateral agencies, the UNFCCC Secretariat, the Adaptation Fund, the Green Climate Fund (GCF), as well as research experts and local practitioners in the adaptation field. Some of the key messages from the workshop included: the need for M&E systems to support learning and recognize “intelligent failure” so that lessons can be used to inform future investments (while recognizing the tension with donor accountability and existing systems that are highly incentivized to demonstrate achievements), moving from project level M&E to systems of M&E that are country owned and sustained, and balancing between the need for aggregation and comparability versus the need to preserve contextual detail when selecting indicators and metrics (qualitative and quantitative indicators). The outcomes of this work will also inform STAP’s contributions to the GEF’s efforts in knowledge management as outlined above.

A smaller one-day technical meeting will be held in the coming months in Washington, D.C., to discuss the fourth theme noted above: data and information systems for adaptation M&E. With digital data being generated more than ever, there is an opportunity to know more about how people live with the impacts of, and adapt to, climate change. This is of particular importance for those who have typically been outside of formal national monitoring networks, and who are often the most vulnerable. The technical workshop will address the need to better understand different types of data availability, how informal data can be included to compliment gaps in formal systems, and how M&E - for adaptation activities - can be integrated into existing national socio-economic data collection systems. In addition, it is expected that the results of this effort will contribute to the broader efforts on knowledge management within the GEF Program (outlined above under Section 3). STAP will present the findings of the three commissioned technical papers and the summary of findings from the technical workshop at the next GEF Council meeting in November 2015.

## **5. STAP’s Engagement with GEF-related Conventions**

### **a. CBD Expert Meeting on Marine Debris – December, 2014**

During the 11th meeting of the Conference of the Parties to the Convention on Biological Diversity (CBD), decision XI/18 requested that the Executive Secretary, in collaboration with Parties, other Governments, relevant organizations, STAP, indigenous and local communities, and the private sector, organize an expert workshop to prepare practical guidance on preventing and mitigating the significant adverse impacts of marine debris on marine and coastal biodiversity and habitats. With financial support from the European Commission, the Executive Secretary convened an Expert Workshop held in Baltimore, USA in December, 2014. The workshop deliberations focused on a number of critical issues including:

- i. Major types and sources of marine debris;
- ii. impacts of marine debris on marine and coastal biodiversity and habitats; and
- iii. Monitoring, modeling and mapping to address the impacts of marine debris on marine and coastal biodiversity and habitats.

The workshop also addressed key knowledge gaps, experiences and approaches with regard to land-based sources of solid waste, novel measures related to waste prevention and potential redesign of products, as

well as other waste management measures. Private sector engagement and producer responsibility was recognized as key to the success of future initiatives. Addressing capacity gaps and enhancing synergies and promoting collaboration on the prevention and mitigation of the impacts of marine debris on marine and coastal biodiversity and habitats, including between biodiversity-related conventions and other relevant international and regional agreements and organizations, as were also recognized as critical.

These discussions were in large part informed by STAP's earlier work on marine debris in collaboration with the Secretariat on Biological Diversity<sup>20</sup>. The final report of the workshop, available on the CBD website along with STAP's contributions, lists recommendations for Practical Guidance on preventing and mitigating significant impacts of marine debris on marine and coastal biodiversity and habitats. STAP looks forward to participating in the conceptualization of any future GEF initiative to address the challenge of marine debris.

#### **b. UNCCD's Third Scientific Conference in Cancún, Mexico**

STAP organized a side event on the "Resilience Adaptation Transformation Assessment Framework" at the UNCCD's 3rd Scientific Conference (March, 2015) in Cancún, México (see Section 1a above). Monique Barbut, Executive Secretary of the United Nations Convention to Combat Desertification (UNCCD), opened the meeting. At the side event, STAP and the Commonwealth Scientific and Industrial Research Organisation (CSIRO), presented an approach that not only analyzes the current state, and future desired states, of a socio-ecological system (e.g., an agro-ecosystem), but also identifies options for that system to enhance resilience, to adapt, or to transform, as necessary. The approach could complement the UNCCD progress indicators, and be shared with the United Nations Framework Convention on Climate Change (UNFCCC) and the Convention on Biological Diversity (CBD), as a measure of land-based adaptation and ecosystem resilience, thus strengthening the linkages between the Conventions, and enhancing the recognition of the central role of land management in supporting sustainable development. The approach is to be applied within the monitoring and assessment component of the GEF's program on "Fostering Sustainability and Resilience for Food Security in Sub-Saharan Africa" outlined in Section 1 above. Annette Cowie (STAP) moderated a panel that included Tomasz Chruszczow, Chair of the Subsidiary Body for Scientific and Technological Advice (SBSTA/UNFCCC), as well as representatives from CSIRO, the GEF Secretariat, Conservation International, and the United States Department of Agriculture (USDA). (See [www.stapgef.org](http://www.stapgef.org))

STAP also organized a second side event on the "Use of satellite data to measure and monitor land degradation at multiple scales". The session sought to better understand the needs of countries and project developers that either currently use satellite-based data products or plan to in the future, to map changes in land cover, and analyze the causes and consequences of land degradation at the national and sub-national level. The panelists included representatives from the National Aeronautics and Space Administration at the Goddard Space Flight Center, (NASA), the European Commission, the Joint Research Centre (JRC), the European Space Agency (ESA), and Conservation International. The panel's presentations can be found on the STAP website: [www.stapgef.org](http://www.stapgef.org)

#### **c. Meetings of the Conferences of the Parties to the Basel, Rotterdam and Stockholm Conventions in Geneva, May 4-15, 2015 and the Basel-Rotterdam-Stockholm (BRS) Science Fair (May 7-9, 2015)**

---

<sup>20</sup> STAP 2011. Marine Debris: Defining a Global Environmental Challenge. Global Environment Facility, Washington, DC. **GEF ID: GEF/C.40/Inf.14;**

Secretariat of the Convention on Biological Diversity and STAP 2012. *Impacts of Marine Debris on Biodiversity: Current Status and Potential Solutions*. Technical Series No. 67. Montreal, Canada. **GEF ID: GEF/STAP/C.43/Inf.04.**

The Executive Secretary of the BRS officially invited the STAP to be involved in the inaugural BRS Science Fair, May 7-9, 2015, on the occasion of the Meetings of the Conferences of the Parties to the Basel, Rotterdam and Stockholm Conventions in Geneva, May 4-15, 2015.

The STAP Chair and STAP Chemicals Panel member were asked to participate in videos and interviews on such aspects as the complementarity of the work of the STAP with that of the subsidiary bodies of the Conventions, the ways in which the STAP contributes to scientific understanding for the Chemicals and waste focal area, and STAP views on embedding science in policy and decision-making. STAP was also requested to be a part of joint side events with the Stockholm POPs Review Committee, and was invited to share lessons learned from Stockholm Convention work that might be applied to supporting the Minamata Convention.

In addition, the GEF Secretariat invited the STAP to take part in a high level Panel side event at the start of the Triple COP, as well as to participate in less formal face to face exchanges with agencies and other participants during the Science Fair, to permit Ricardo Barra, STAP Chemicals Panel Member, to speak on emerging issues and highlight cross-cutting issues such as marine plastic pollution and solutions, and Soil and Chemicals, that might be further considered by Chemicals Conventions, the UNCCD, UNFCCC, CBD, and the corresponding focal areas and International Waters of the GEF, in particular.

The BRS Secretariat addressed the topic of scientific evidence as the basis for policy making, and consisted of one main presentation from the Stockholm POPs Review Committee (POP RC), followed by question answer for the broader Expert Panel, of which STAP was a part. In this event the STAP was able to highlight the GEF model and the greater potential advantages of sharing knowledge at country level between GEF projects, as opposed to the regional and global levels alone that are the purview of the Convention approach. Capturing and sharing of data and knowledge were flagged by others on the Panel as well as critical to quickly dealing with the ever evolving list of challenging POPs under the Stockholm Convention. The event was also used to launch the BRS' short film on the role of Science in Decision-Making and International Policy, which featured the STAP Chair prominently, alongside past and present international experts from the science-to-policy arena.

A particular success was the GEF Side Event, which included a High level Panel consisting of the GEF CEO, the head of the GEF Program Unit, The BRS Executive Secretary, the STAP Chemicals Panel Member; the Environmental Director of Hewlett Packard,; and a representative from the University of Dar Es Salaam, Tanzania, to address marine debris and toxic pollutions stemming from this source. The event was opened by the GEF CEO, where she highlighted the topic as an excellent area of STAP's contribution to the GEF partnership and planning, acknowledging STAP's early identification of the issues in 2011, and noted that although it took time in GEF-6 they can now make a commitment to developing interventions to address this issue. Further, the STAP's work also cuts across the work of the BRS, enabling identification of synergies and other relevant and related areas, which are harder to manifest through collaboration between the subsidiary bodies of the various Conventions.

One of the issues raised by multiple delegates and supported by the panel, was the need for anthropological and sociological research to unravel the key to changing human behavior and cultural valuation of the incorporation of plastics into their lifestyles. The STAP also sees the inclusion of social and anthropological science as a critical pursuit for the Chemicals & Waste focal area overall. Another outcome was the recognition that global plastics pollution is actually a cross cutting issue that involves not only chemicals and waste, but may fit into different programs that the GEF is developing such as the integrated approaches (cities, food security, biodiversity, climate change etc.).

**d. 7th Meeting of the UNFCCC Adaptation Committee in Bonn, Germany (February 24-27, 2015)**

The Adaptation Committee (AC) of the UNFCCC formally invited STAP to their 7th meeting in Bonn, Germany to present the preliminary results for the ongoing work on “National Adaptation Planning: Enabling Robust Institutional Arrangements for Adaptation” and on “Strengthening the Scientific Knowledge Base for Measuring, Monitoring & Evaluating Climate Change Adaptation”. Additional information may be found on the UNFCCC website:

[http://unfccc.int/adaptation/cancun\\_adaptation\\_framework/adaptation\\_committee/items/8785.php](http://unfccc.int/adaptation/cancun_adaptation_framework/adaptation_committee/items/8785.php)

Regarding the monitoring and evaluation (M&E) of adaptation, the AC welcomed the ongoing work of STAP and UNEP’s Programme of Research on Vulnerability, Impacts and Adaptation (PROVIA), and asked to be kept up to date on progress. In the context of developing their next workplan, the AC looks forward to being updated regarding the on-going work, and decided to consider how to incorporate future findings identified by the STAP/PROVIA work with their M&E activities, and wish to consider ways for further collaboration in this area.

## **Annex 1 – Bibliography of STAP Publications and Reports, GEF 5 to Present**

STAP 2010. *Programming Approach for Utilization of the Resources Set-Aside Outside the STAR*. Global Environment Facility, Washington, DC. **GEF ID: GEF/C.39/Inf.10**

STAP 2010. *The Evidence Base for Community Forest Management as a Mechanism for Supplying Global Environmental Benefits and Improving Local Welfare. A STAP advisory document*. Global Environment Facility, Washington, DC. **GEF ID: GEF/C.39/Inf.14**

STAP 2010. *Environmental Certification and the Global Environmental Facility: A STAP advisory document*. Global Environment Facility, Washington, DC. **GEF ID: GEF/C.39/Inf.15**

Institute for Transportation and Development Policy (Prepared on behalf of STAP) 2010 Manual for Calculating Greenhouse Gas Benefits of Global Environmental Facility Transportation Projects. Global Environment Facility, Washington, DC. **GEF ID: GEF/C.39/Inf.16**

STAP 2010. *Advancing Sustainable Low-Carbon Transport through the GEF. A STAP advisory document*. Global Environment Facility, Washington, DC. **GEF ID: GEF/C. 39/Inf.17**

STAP 2010. *Enhancing Resilience to Reduce Climate Risks: Scientific Rationale for the Sustained Delivery of Global Environmental Benefits in GEF Focal Areas*. Global Environment Facility, Washington, DC. **GEF ID: GEF/C.39/Inf.18**

STAP 2010. *Recommendations of the GEF-STAP Cross-Focal Area Workshop: Approaches to Address Carbon Benefits in the context of Multiple Global Environmental Benefits in Implementing the SFM/REDD+ Program in GEF-5*. Global Environment Facility, Washington, DC. **GEF ID: GEF/C.39/Inf.19**

STAP 2011. *Marine Debris: Defining a Global Environmental Challenge*. Global Environment Facility, Washington, DC. **GEF ID: GEF/C.40/Inf.14**

STAP 2011. *Hypoxia and Nutrient Reduction in the Coastal Zone*. Global Environment Facility, Washington, DC. **GEF ID: GEF/C.40/Inf.15/Rev.1**

STAP 2011. *Selection of Persistent Organic Pollutant Disposal Technology for the Global Environment Facility*. Global Environment Facility, Washington, DC. **GEF ID: GEF/C.40/Inf.16**

STAP 2011. *Review of Tools and Methods to Increase Climate Resilience of GEF Project and Programs*. Global Environment Facility, Washington, DC. **GEF ID: GEF/C.41.Inf.16**

STAP 2011. *Biodiversity and Ecosystems Policy Brief to Inform the United Nations Conference on Sustainable Development (Rio+20)*. Global Environment Facility, Washington, DC. **GEF ID: GEF.C41.Inf.17**

STAP 2011. *Environmental Project Design in the GEF :Designing Projects to Create Evidence and Catalyze Investments to Secure Global Environmental Benefits*. Global Environment Facility, Washington, DC. **GEF ID: GEF.C.41.Inf.18**

STAP 2012. *Research within the GEF: Proposals for Revising the Targeted Research Modality*. Global Environment Facility, Washington, DC. **GEF ID: GEF/STAP/C.43/Inf.02**

STAP 2012. *Climate Change: Scientific Assessment for the GEF*. Global Environment Facility, Washington, DC. **GEF ID: GEF/STAP/C.43/inf.03**

Secretariat of the Convention on Biological Diversity and STAP 2012. *Impacts of Marine Debris on Biodiversity: Current Status and Potential Solutions*. Technical Series No. 67. Montreal, Canada. **GEF ID: GEF/STAP/C.43/Inf.04**

Secretariat of the Convention of Biological Diversity and STAP 2012. *Marine Spatial Planning in the Context of the Convention of Biological Diversity*. Technical Series No. 68. Montreal, Canada. **GEF ID: GEF/STAP/C.43/Inf.05**

STAP 2012. *GEF Guidance on Emerging Chemicals Management Issues in Developing Countries and Countries with Economies in Transition. A STAP Advisory Document*. Global Environment Facility, Washington, DC. **Retrieved from: <<http://www.stapgef.org/emerging-chemicals-management-issues-in-developing-countries-and-countries-with-economies-in-transition/>>**

STAP 2012. *Revised Methodology for Calculating Greenhouse Gas Benefits of GEF Energy Efficiency Projects (Version 1.0)*. Global Environment Facility, Washington, DC. **Retrieved from: <<http://www.stapgef.org/revised-methodology-for-calculating-green-house-gas-benefits-of-gef-energy-efficiency-projects-version-1-0/>>**

Govers, G., Merckx, R., Van Oost, K. and van Wesemael, B. 2013. *Managing Soil Organic Carbon for Global Benefits: A STAP Technical Report*. Global Environment Facility, Washington, DC. **Retrieved from: <<http://www.stapgef.org/managing-soil-organic-carbon-for-global-benefits/>>**

STAP 2013. *Enhancing the GEF's contribution to Sustainable Development*. Global Environment Facility, Washington, DC. **GEF ID: GEF/R.6/Inf.03**

Yengoh, G., Dent, D., Olsson, L., Tengberg, A. and Tucker, C. 2014. *The use of the Normalized Difference Vegetation Index (NDVI) to assess land degradation at multiple scales: a review of the current status, future trends, and practical considerations*. Lund University Center for Sustainability Studies (LUCSUS), Sweden and The Scientific and Technical Advisory Panel of the Global Environment Facility (STAP/GEF), Washington, DC.

O'Connell, D., Walker, B., Abel, N., Grigg, N. 2015. *The Resilience, Adaptation and Transformation Assessment Framework: from theory to application*. CSIRO, Australia.

STAP 2014. (in press) *Optimizing the Global Environmental Benefits of Transport Biofuels*. Scientific and Technical Advisory Panel of the Global Environment Facility, Washington, DC. Authored and edited by Bierbaum R., Cowie A., Gorsevski V., Simrs R. (STAP); Rack M., Strapasson A., Woods J. (Imperial College, London) and Ravindranath N. (Indian Institute of Science, Delhi).

Sims, R., Gorsevski, V., and Anenberg, S. 2015. (in press) *Black Carbon Mitigation and the Role of the Global Environment Facility: A STAP Advisory Document*. Global Environment Facility, Washington, D.C.