

OPS5

FIFTH OVERALL PERFORMANCE STUDY OF THE GEF

IMPACT OF THE GEF

OPS5 Technical Document #2

OPS5 Technical Document #2: **Impact of the GEF**

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This report was provided as an input to the Fifth Over-all Performance Study of the Global Environment Facility Evaluation Office. It outlines the approach used by the Office in assessing the impact of GEF support, and presents findings on the progress towards impact made by projects and targeted systems at different points in time. It also presents findings on the catalytic role that GEF seeks to fulfill through the design of its initiatives.

This technical report is organized into the following sections:

1. Approach to assessing impact
2. Progress towards impact at project completion
3. GEF's catalytic role and its implications for impact
4. Project-level progress towards impact over the long-term
5. System-scale impacts over the long-term

1. Approach to assessing impact

In the field of evaluation, the measurement of impact is typically associated with attributing outcomes to particular interventions. However, assessing the specific impacts of GEF grants is generally difficult to distinguish because GEF support is typically designed to interact with initiatives of other agents such as governments, the private sector, civil society organizations and other donors. Even where GEF has funded specific components within a project that may be distinguished from those funded by other partners, these have been funded on a premise that they will be able to draw on the synergies with components funded by the other partners, and vice versa. Similarly, GEF faces diverse situations when assessing impact. Challenges for assessing impact are different when supporting a discrete activity such as the introduction of a technology in a specific context from a situation in which GEF supports broader processes that take place at the national, regional or global level where many factors and actors have a role. Interventions also differ in terms of the time horizons within which impacts can be observed and measured.

Where determining “attribution” is not feasible, the assessment of impact instead focuses on determining the “contribution” of GEF support. While “attribution” is generally used to denote that both the cause and the effect have been measured as a one-to-one relationship, the term “contribution” is used to show that a given intervention has made some difference to an observed result within a context where multiple factors have influenced the result (Patton 2008, Stern et al. 2011, Stern et al. 2012, Mayne 2012). Both attribution- and contribution-based analyses aim to make credible causal claims, but contribution analysis is more practical in situations where the isolation of causes and factors is not feasible. According to Mayne (2011), credible claims of “contribution” can be made if 1) the intervention is logically and feasibly designed to directly or indirectly result in the desired benefits as outlined in a theory of change, 2) the intervention is implemented as designed, 3) the immediate results occur as expected in the causal chain, and 4) other rival explanations for the results have either been considered and rejected, or their relative role in making a difference to an observed result has been adequately recognized.

Mayne's conditions underscore the importance of an intervention's theory of change, evidence of implementation and actual occurrence of the chain of expected results, and adequate appreciation of the role that project-independent actors and factors have played in effecting the given result. Given that GEF-supported interventions are implemented through partnerships among several institutions, the Office typically seeks to determine the impacts that GEF-supported interventions have contributed to, without distinguishing the results of

activities supported by GEF funding alone from the activities of co-funders. Whenever possible, it attempts to determine the added value of GEF's contributions in light of the roles played by other actors at different spatial and temporal scales.

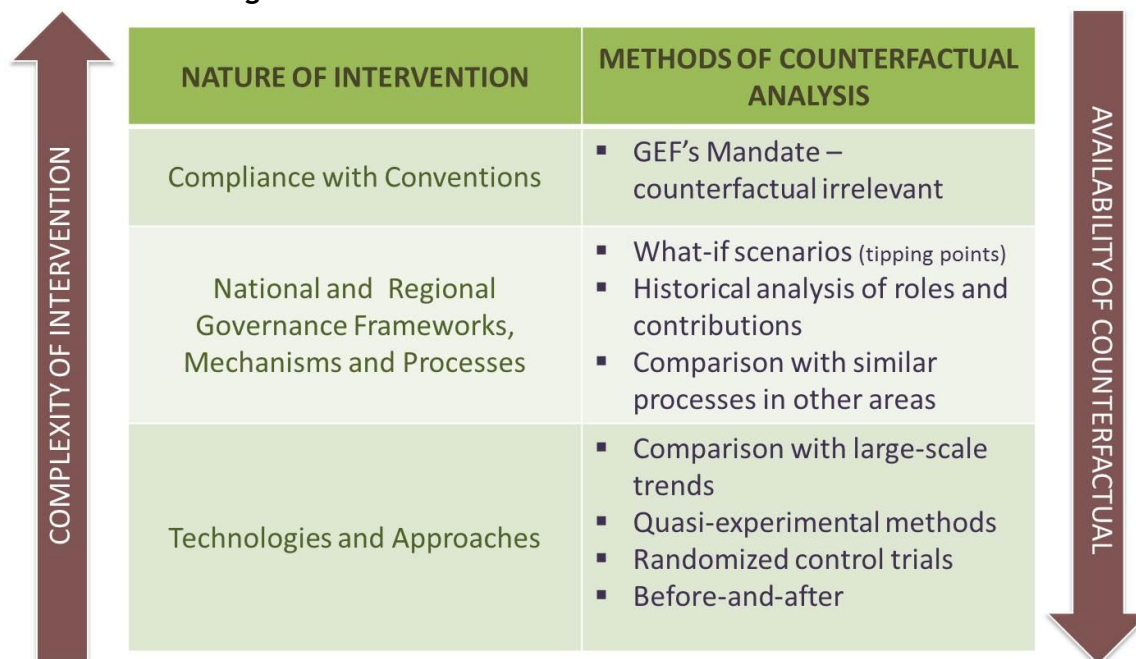
1.1. Determining the Counterfactual

The determination of a “counterfactual” - i.e., what would have happened had GEF support not taken place - is typically used in assessing the impact of an intervention. For interventions that introduce specific technologies, this is easily measured in terms of the conditions “before” and “after” the technology was introduced. For example, changes in water quality at the points of wastewater discharge after a wastewater treatment plant is put into operation is a direct measure of the effect of GEF support on reducing the amount of pollution that goes into the larger water body. This measures impact in terms of stress reduction, but not necessarily in terms of improvement in the environmental status of the water body, as other factors may be at play in the larger context.

For innovative and technology-oriented interventions targeting small geographical units, experimental design-based evaluation is used by measuring the differences in the desired results between a “treatment site” where a management approach has been introduced, for example, and a “control site” that has not received GEF support. To use such an approach, randomized control trials require the experimental design to be included in the project design. Quasi-experimental methods may be used in cases where the project has not included an experimental set-up. However, these experimental design-based approaches to assessing impact pose two challenges: 1) the risk of the “treatment site” having some influence on the “control site”, and consequently modifying the behavior or conditions among those that did not receive GEF support, and 2) the possibility that the sites being compared differ not just due to the presence of GEF support, but to other unidentified interacting factors as well that also affect the achievement of the desired results. Examples of these factors would be similar support from other donors, ecological and physical processes that may speed up or slow down improvements in environmental status, and unique political dynamics that may create either favorable or unfavorable conditions for positive change.

As interventions become more complex due to the increasing spatial and temporal scales of implementation and broader adoption of these interventions, the availability of clear-cut counterfactuals becomes more and more difficult. Along with the increase in complexity of interventions is a corresponding increase in the range of stakeholders and scales of administrative units involved, which decreases the evaluator's ability to distinguish the results of GEF support from the results of these other actors' initiatives. Also, the longer the time lag between the implementation of an intervention and the achievement of desired benefits, the greater the number of social and environmental factors that may influence the causal pathway. Even in interventions where quasi-experimental methods may be applicable, lack of monitoring data can prevent the identification of comparable sites. In these cases, other methods drawing on the concept of counterfactual analysis are used to approximate such clear-cut counterfactuals (Figure 1).

Figure 1. Methods of counterfactual analysis used according to the nature of the intervention being evaluated



One method is the comparison of similar processes in other areas in which differences with the “treatment site” (which may also be at the national or regional scale) in certain key characteristics are clearly identified and accounted for. While this may not allow the attribution of results to GEF support, it provides insight into which factors may facilitate or hinder the processes being assessed, and therefore where GEF support may have made a difference. Another method is to compare large-scale trends with trends at the scale of the intervention to see if there are differences. Again, while this does not allow attribution, it may allow the evaluator to determine if the set of conditions at the “treatment site” are conducive to producing benefits, and if or where this set of conditions may be replicated or scaled-up to increase benefits.

The historical analysis of how a specific desired result has been achieved is especially useful at higher scales where contribution analysis rather than attribution is a more useful measure of the impact of GEF support. This allows the identification of the main agents of change (whether social or environmental), and how GEF worked with these agents (e.g. complemented, collaborated, competed) towards producing the desired result. It also reveals the roles or functions necessary for achieving these results that no actor other than GEF might have taken on. Related to historical analysis is the construction of scenarios of what might have happened had GEF support not been available at certain critical events or points in time. This, however, entails the identification of these critical moments or “tipping points”, which are defined as singular events that cause a radical shift in the trajectory of events or conditions affecting the achievement of global environmental benefits.

For GEF support of the broadest nature, which relates to compliance with global conventions, the Office does not see the need to determine a counterfactual. As this is GEF’s mandate, GEF is required to provide support to certain initiatives. Therefore, it is irrelevant whether it should continue to support these initiatives or not based on the results, which in any case are unlikely to be apparent due to the delay in ecosystem response at this geographical scale.

2. Progress towards impact at project completion

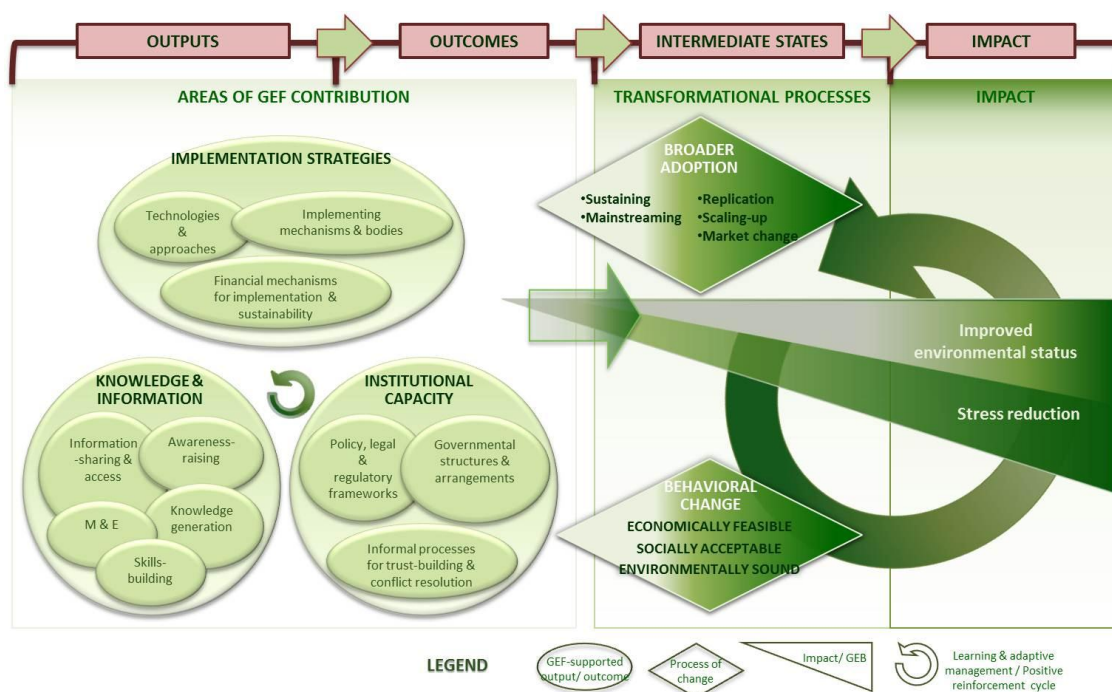
In OPS4, the Review of Outcomes to Impacts (ROtI) methodology¹ was introduced to assess completed projects on their progress towards achieving impact. This was a rating system based on two main aspects: the extent to which the project had delivered the outcomes it intended to deliver, including the existence of arrangements for follow-up action beyond project end, and the extent to which the conditions necessary for achieving intermediate states towards impact were in place and had produced “secondary outcomes” (e.g. scaling-up) or impact that were likely to progress further towards global environmental benefits. In addition, it assessed whether measurable impact—defined as threat reduction or change in environmental status—had been achieved within the project’s lifetime. Evaluators provided ratings based on their assessment, taking into consideration impact drivers and assumptions that might affect achievement of intermediate states.

While the ROtI methodology shifted the focus of evaluations towards transformational changes that have been catalyzed by GEF support, it had three limitations. First, it measured the achievement of outcomes against what the project intended to do, rather than the extent to which project outcomes contributed to progress towards environmental impact within the causal chain. This implied that projects with ambitious objectives and only partial delivery of outcomes that nonetheless made important contributions might have been given a lower rating compared to projects whose contributions were less significant but fully delivered on its less ambitious objectives. Second, it considered the inclusion of broader adoption and sustainability elements in project design as a measure of progress towards impact, instead of assessing how project design may or may not have influenced actual progress towards impact. Third, the ratings did not provide a level of detail that allowed the actual areas of GEF contribution to be compared across different types of projects, nor did they allow for a broader analysis of the types of support or specific processes that contributed the most to transformational changes.

OPS5 builds on the ROtI methodology by adopting the framework of the outcomes-to-impacts pathway. But beyond providing ratings based on a project’s specific context, it identifies the specific areas that GEF contributes to towards the achievement of impacts or of intermediate states. Thus, specific outputs and outcomes or areas of contribution may be linked with specific changes in environmental conditions or intermediate states. Following the conditions of contribution analysis, this is based on the concept that progress towards impact cannot be attributed to GEF unless GEF-supported initiatives have contributed to outputs and outcomes that are prerequisites for achieving the identified impact, according to the causal chain.

¹ The Review of Outcomes to Impacts (ROtI) methodology is available on the GEF EO Web site <http://www.thegef.org/gef/node/2096>

Figure 2. The Outcomes-to-Impacts Pathway framework of the ROTl methodology in relation to the general GEF TOC framework



In the general framework for the GEF theory of change (TOC), the “intermediate states” referred to in the ROTl methodology are assessed through the occurrence of two specific mechanisms, namely, the extent to which broader adoption of GEF-supported outcomes has taken place, and the extent to which behavioral change has occurred among the various stakeholder groups (communities, political decision-makers, private sector, etc.). This is anchored on the premise that while in specific contexts, some GEF-supported initiatives may already result in environmental stress reduction and improved environmental status by project end, in most cases, the successful, widespread implementation of similar interventions is critical to reach global environmental benefits. Broader adoption pertains to such transformational processes, and may take place in several different ways, four of which have been found to be most prominent among GEF-supported initiatives: mainstreaming, replication, scaling-up and market change².

An important aspect of this more comprehensive framework is that it takes into account how GEF support takes place and produces results at different scales. It examines the interactions among the different areas of contributions and contextual factors, and how these iterative interactions within and across multiple scales contribute towards impact through multiple causal chains, in the form of different processes of broader adoption.

To allow comparability between data sets of OPS4 and OPS5, this study also assessed projects included in OPS4 (whose TERs were submitted in the period from 2005 to 2008) using the general GEF TOC framework. The specific tool used to analyze progress towards impact in this study has used terminal evaluations, terminal evaluation reviews and verifications, and desk ROTls as information sources. This therefore limits the extent of achievements to those reported two years or less after project completion. While the tool also examines contextual

² These are further described in the General Framework for the GEF Theory of Change.

factors that affect how these achievements are likely to lead towards global environmental benefits, these will be discussed in the second OPS5 report.

This analysis has several limitations: it only reflects reported changes, and does not account for changes that were not reported, nor does it discriminate against changes that were reported in TEs or desk reviews but not verified through field visits. TEs that were rated less than satisfactory in quality were included as information sources for specific aspects in which the evidence provided was deemed reliable. This preliminary analysis does not compare the extent of contributions and achievements among projects in the assessment of progress towards impact, but is indicative of whether or not positive change has occurred as a result of GEF outputs and outcomes as of project end. While this approach allows the assessment of progress towards impact as the ROTI methodology does, it also allows a comparative assessment across the portfolio of how progress towards impact takes place. This is done by quantifying the types of GEF-supported contributions, mechanisms of broader adoption, and the extent of achievement of environmental and socioeconomic impacts that individually can be compared across projects, and together determine an initiative's or set of initiatives' progress towards impact. Nevertheless the framework used does allow the assessment of the extent of contributions. This analysis is now in progress and will be presented in the final report of OPS 5.

Of the 410 projects for which the Office has terminal evaluations available for the OPS4 and initial OPS5 cohorts, a total of 370 projects were included in this assessment of progress towards impact. Excluded from this analysis were 34 projects that were not designed to result in direct environmental impact or broader adoption processes, i.e. whose sole aim was to produce data, facilitate exchange of lessons learned, support primary research, and assist countries in fulfilling their reporting requirements to the Conventions. Also excluded were 6 projects whose contributions to impact could not be assessed due to insufficient information presented in the terminal evaluations. Table 1 shows how the portfolio of reviewed projects was established.

Table 1. Selection of projects for review in this analysis from original cohorts based on availability of TE

	OPS4 COHORT (2005-2008)	INITIAL OPS5 COHORT (2009-2011)	TOTAL
Number of completed projects	210	203	413
Number of TEs available	210	200	410
Number of TEs included in this analysis	188	182	370
Number of projects excluded from this analysis	22	18	40

2.1. Impact

More than 70 percent of completed projects show positive environmental impacts, mostly at the local scale and 60 percent have shown progress towards further impact through processes of broader adoption. Only 4% did not show either impact or broader adoption

Seventy-one percent of projects have led to some environmental impact in the form of either stress reduction or environmental status change³. Of these, the great majority (72% of projects with impact, or 51% of total projects) showed only local-scale impacts, and among these projects, only 62 showed actual improvements in environmental status as opposed to 127 that showed only local stress reduction [Table 2]. Local-scale impacts refer to those that result directly from site-level interventions, and which occur only within the geographical area/s where the project has introduced specific technologies and approaches. System-scale impacts, on the other hand, refer to those that have been observed to occur within the specific ecosystems, administrative areas, or sectors that the project is targeting. For example, this may be a certain bay or watershed (ecosystem), province or country (administrative area), or manufacturing industry (sector). This implies that local-scale impacts have led to such widespread changes that they can be observed at this higher scale.

Similarly, of the 73 projects (28% of projects with impact, or 20% of total projects) that showed impact not just at the local but also at the scale of the system, 59 showed stress reduction, but only 14 showed an actual change in environmental status.

This is partly explained by the nature of some interventions, where the appropriate methods to measure changes in environmental status that are attributable to an intervention are not yet well-developed. For example, in climate change projects, only greenhouse gas reductions are measured, and not the actual greenhouse gas concentrations in a project site. Also, in many cases, the status of the ecosystem was not being monitored, which made it difficult to assess if change had occurred. The extent to which projects had arrangements for monitoring environmental impact will be discussed in the second OPS5 report. Of the 108 projects (29%) that did not or were unable to show any impact, 86 (23% of the portfolio) saw some form of broader adoption of GEF-supported interventions occurring. Differences between OPS cohorts were not deemed significant.

Table 2. Number of projects showing environmental impact at different scales

Environmental Impact	OPS4	OPS5	Total (n=370)	% of Projects Assessed
Local Impact	94	95	189	51%
Local Stress Reduction	67	60	127	34%
Local Environmental Change	27	35	62	17%
System Impact	32	41	73	20%
System Stress Reduction	26	33	59	16%
System Environmental Status Change	6	8	14	4%
TOTAL Showing Environmental Impact	126	136	262	71%

Of the 73 projects showing system-scale environmental impact, 36 (49%) were climate change projects. All 5 projects in this portfolio approved through the ODS focal area also showed evidence of environmental impact at the system scale. At the local scale, biodiversity projects had the greatest percentage reporting environmental impact, followed by multi-focal area projects.

³ As described in the General Framework for the GEF Theory of Change, stress reduction refers to the decrease, prevention or slowdown of the degradation, destruction or contamination of the environment. Improved environmental status refers to positive changes in the state of the ecosystem or any of its components.

Of the projects assessed, 173 (47%) showed some form of socioeconomic impact, with the great majority of these only at the local scale [Table 3]. These include increases in income due to alternative livelihoods, reduction of living costs, or an increase in sources of income as a result of technologies that open up these opportunities (e.g. access to electricity) or create more free time to engage in other livelihoods. Socioeconomic impact also includes improvements in community relationships as well as health due to reduction in environmental stresses and resource use conflicts.

Of these 173 projects, 19 documented no environmental impact, and 19 did not show any form of broader adoption. Only 3 projects had neither environmental impact nor broader adoption, yet show socioeconomic change. No significant difference was seen in the number of projects showing socioeconomic impact from OPS4 to OPS5, especially at the local scale.

Table 3. Number of projects showing socioeconomic impact at different scales

Socioeconomic Impact	OPS4	OPS5	Total (n=370)	% of Projects Assessed
Local Positive Change	68	75	143	39%
System Positive Change	14	16	30	8%
Grand Total	82	91	173	47%

2.2. Broader Adoption

The most common form of broader adoption was mainstreaming. The least common were scaling-up and market change, which are broader adoption processes that take place at higher scales.

Mainstreaming was the most common form of broader adoption, documented in 76% of projects [Table 4]. This includes the adoption of laws, programs, strategic plans and administrative bodies that incorporate GEF-supported technologies and approaches. It may also involve stakeholder groups such as the private sector incorporating methods and principles promoted by GEF into their regular business practices. Among GEF implementing agencies, it may mean the integration of these approaches and principles into their projects funded by other donors. This shows that the majority of completed GEF projects have been able to influence government and other stakeholder activities in some way.

Scaling-up and market change were the least common form of broader adoption, as expected, as these require a longer time period and usually changes within a political or economic system. Sixty-eight projects (18%) did not document any form of broader adoption, but despite this, 47 of these projects still had some form of stress reduction and improved environmental status.

Table 4. Number of projects showing progress towards impact through different broader adoption processes

Broader Adoption	Total (n=370)	% of Projects Assessed
Mainstreaming	281	76%
Replication	163	44%
Scaling-up	78	21%
Market Change	77	21%

Of the 77 projects showing market change, 48 (62%) were approved through the climate change focal area. While only 5 ODS focal area projects were part of the portfolio, 4 (80%) of

these achieved market change. IW projects had the highest percentage of projects showing broader adoption in its different forms, except for market change, in which this focal area had the lowest percentage of projects. This was likely due to the nature of the IW focal area that has largely dealt with regional cooperation regarding ecosystem protection rather than changes in economic sectors such as fisheries industries.

More than half of projects assessed (61%) showed environmental impact, and have shown progress towards further impact through processes of broader adoption. Only 4% did not show either impact or broader adoption.

Looking at environmental impact and broader adoption together as indicators of progress towards impact, 61% of projects showed the occurrence of both [Table 5], which suggests that most completed projects in the portfolio have achieved the minimum conditions for further progress to take place. Actual progress would then depend on whether contextual factors are favorable towards the continuation of these project outcomes. More than half of these projects (or 37% of the whole portfolio) also showed socioeconomic impacts, which are generally viewed as resulting in more robust support for environmental initiatives among stakeholders [Table 6].

In 4% of the projects, neither impact nor broader adoption was shown to have occurred, suggesting that these projects are not likely to result in further progress. This group of projects also showed the lowest percentage showing socioeconomic impact. In the 35% of projects that showed only either environmental impact or broader adoption [Table 5], further intervention may be needed either to ensure the broader adoption of initiatives that have been proven to result in positive environmental impact, or to ensure that the technologies and approaches that have been adopted are effective in achieving positive environmental impact.

Table 5. Comparison of projects showing occurrence of impact and broader adoption

	No Broader Adoption	Broader Adoption Reported	TOTAL (n=370)
No Environmental Impact Reported	15 (4%)	93 (25%)	108 (29%)
Environmental Impact Reported	36 (10%)	226 (61%)	262 (71%)
TOTAL	51 (14%)	319 (86%)	370 (100%)

Table 6. Comparison of projects showing socioeconomic impact

<i>Socioeconomic Impact Reported</i>	No Broader Adoption	Broader Adoption Reported	TOTAL (n=370)
No Environmental Impact Reported	3 (1%)	16 (4%)	19 (5%)
Environmental Impact Reported	16 (4%)	138 (37%)	154 (42%)
TOTAL	19 (5%)	154 (42%)	173 (47%)

While market change and scaling-up were the least common forms of broader adoption, most projects that showed impact have also shown the occurrence of these processes in addition

to other forms of broader adoption, showing that such higher forms of broader adoption occur when other processes are also taking place at the same time.

Among the different forms of broader adoption, market change and scaling-up are the ones that tend to take place at the highest scales, and are therefore most likely to speed up the achievement of global environmental benefits. However, broader adoption processes often complement each other, with some taking place simultaneously, or others requiring one process to take place before another can be set in motion.

Among projects that showed environmental impact at either the local or system scale, 63% also showed more than one form of broader adoption taking place at the same time [Table 7]. Most of these projects (46%) showed market change or scaling-up already being initiated. In 2% of projects, this extent of broader adoption was shown with no other forms occurring at the same time. In these 2% of cases, only local-scale impact was shown. This suggests that higher forms of broader adoption (i.e., market change or scaling-up) more likely occur when other broader adoption processes are also initiated. It also suggests that impact at the scale of the system is more likely achieved when more than one form of broader adoption is at work.

Table 7. Extent and diversity of broader adoption processes shown in projects showing environmental impact

<i>Projects with Environmental Impact Reported</i>	<i>No. of Forms of Broader Adoption Reported</i>	
Highest Extent of Broader Adoption Reported	<i>One</i>	<i>More than one</i>
<i>Mainstreaming</i>	66 (29%)	0 (0%)
<i>Replication</i>	12 (5%)	40 (18%)
<i>Market Change/ Scaling-up</i>	5 (2%)	103 (46%)
TOTAL (n=226)	83 (37%)	143 (63%)

The great majority of projects that showed impact and have begun broader adoption at higher scales have also been rated likely to continue generating benefits on the basis of observed risk factors, suggesting that these impacts are likely to increase in extent.

Terminal evaluation reviews (TERs) assess the probability of risks materializing and of the anticipated magnitude of its effect on the continuation of project benefits by providing ratings on the likelihood of these benefits continuing beyond project end. The risks considered in the terminal evaluations include factors beyond the lifetime of the project, such as (a) financial resources, (b) level of public stakeholder awareness and support, (c) existence of systems for accountability and transparency, as well as technical know-how, and d) environmental risks that can undermine the future flow of project benefits. The risks reviewed also include those completely outside the control of the projects, such as national political stability or government commitment. Of the 370 projects in the portfolio, 353 projects had likelihood ratings in their TERs. It is this set of projects referred to below. Of the 353 projects assessed, approximately 60% were rated as likely to continue seeing the benefits of the projects, regardless of the extent of actual project results.

Of the 107 projects that showed environmental impact and begun broader adoption at a higher scale (i.e., market change or scaling-up) or 29% of the portfolio, 77% is also rated likely to continue project benefits [Table 8]. The trend was the same regardless of the scale of environmental impact shown. While many other factors determine whether or not project outcomes ultimately translate into global environmental benefits, these numbers suggest that

impacts that have been achieved are likely to increase over time and across larger ecosystem and/or administrative scales.

Table 8. Sustainability of outcomes for projects showing both impact and occurrence of broader adoption

<i>Projects with Environmental Impact Reported</i>	Likelihood Rating	
	<i>Likely</i>	<i>Unlikely</i>
Highest Extent of Broader Adoption Reported		
<i>Mainstreaming (n=61)</i>	32 (52%)	29 (48%)
<i>Replication (n=51)</i>	31 (61%)	20 (39%)
<i>Market Change/ Scaling-up (n=107)</i>	82 (77%)	25 (23%)
TOTAL (n=219)*	145 (66%)	74 (34%)

*only projects for which likelihood ratings were available are included

The amount of GEF financing was not correlated to whether impact was achieved or not. However, the size of the project seemed to be a factor determining the maximum scale of impact that could be achieved, with a much higher percentage of projects achieving system-scale impact among full-size compared to medium-size projects.

Actual amounts of GEF funding disbursed were available for 334 of the projects assessed. Of these projects, 185 were full-size projects (FSPs), 147 were medium-size projects (MSPs) and 2 were enabling activities (EAs). While all MSPs consisted of grants of US\$ 1 million or less, FSPs had grants ranging from under US\$ 250,000 to over US\$ 15 million. Most FSP grants were between US\$ 5 and 10 million. The 2 EAs received grants of between US\$ 1 and 5 million. A linear regression showed that there was no relationship between increasing grant amounts and the environmental impact achieved or the forms of broader adoption occurring.

When comparing impact with project size for the full portfolio, a slightly higher percentage of FSPs showed both environmental and socioeconomic impact compared to MSPs. The differences, however, are more marked at the scale of the system [Table 9 and Table 10]. MSPs had a slightly greater proportion of projects showing local environmental impact, especially local environmental status improvements [Table 10]. MSPs are generally shorter, more targeted projects implemented over two years and are intended to complement larger initiatives. FSPs, on the other hand, are usually implemented over 5 to 7 years, undergo a more rigorous approval process, and are designed to have more comprehensive objectives and components. This indicates that projects may be more likely to achieve greater impact if they are designed in a more comprehensive manner, and implemented over a longer period. These factors will be further examined in the second OPS5 report.

Table 9. Project size as a factor affecting environmental impact

Project Size	No Impact	Local Stress Reduction	Local Environmental Status Change	System Stress Reduction	System Environmental Status Change
EA (n=2)	1 (50%)	1 (50%)	0 (0%)	0 (0%)	0 (0%)
FSP (n=211)	51 (24%)	77 (37%)	30 (14%)	44 (21%)	9 (4%)
MSP (n=158)	57 (36%)	50 (32%)	32 (20%)	14 (9%)	5 (3%)

Table 10. Project size as a factor affecting socioeconomic impact

Project Size	Local Socioeconomic Impact	System Socioeconomic Impact	TOTAL Reporting Socioeconomic Impact
EA (n=2)	0 (0%)	0 (0%)	0 (0%)
FSP (n=211)	84 (40%)	21 (10%)	105 (50%)
MSP (n=158)	59 (37%)	9 (6%)	68 (43%)
Total (n=173)	143 (83%)	30 (17%)	173 (100%)

2.3. Contributions

More than 80% of GEF projects have contributed to knowledge & information initiatives and to technologies and approaches expected to result in positive environmental impacts. The least number of projects (almost 50%) have contributed to administrative structures and implementing bodies.

Among the three broad categories of GEF areas of contribution, the great majority of GEF projects have made contributions to knowledge & information initiatives [Table 11]. More specifically, the initiatives to which the greatest number of GEF projects has contributed are the building of technical and environmental management skills of stakeholders (95%), followed closely by awareness-raising and technologies & approaches (both 93%). This shows an emphasis on building constituencies on the ground for environmental concerns, and equipping these constituencies with the skills to implement stress-reduction technologies and management approaches.

The areas that the least number of GEF projects contributed to were implementing mechanisms & bodies (50%) and administrative structures (47%). The findings are explained by the observation that most GEF projects generally work with already-existing structures instead of creating new ones, and in many cases, these contributions documented in half of the portfolio are towards the strengthening of existing institutions. This seems to be supported by the finding that the number of projects contributing to administrative structures and implementing mechanisms/bodies decreased from OPS4 to OPS5, and some increase in those contributing to information-sharing and legal/policy/regulatory frameworks. However, in general, the number of projects contributing to the different areas was largely the same between OPS cohorts.

Despite 93% of projects having introduced technologies and approaches, only 53% also introduced financial mechanisms, many of which were funding schemes to support alternative sources of income, intended to provide stakeholder incentives to support the implementation of introduced technologies and approaches. This may indicate a gap in GEF's role of catalyzing the broader adoption of technologies and approaches. However, the over-all results show that most GEF projects contribute to all areas of knowledge & information, institutional capacity, and implementation strategies, regardless of the catalytic role they were designed to fulfill.

Table 11. Areas of contribution of GEF projects

Areas of Contribution		OPS4	OPS 5	TOTAL (n=370)	% of Projects Assessed
Knowledge & Information	Knowledge Generation	160	154	314	85%
	Information-sharing	149	156	305	82%

	Awareness-raising	173	171	344	93%
	Skills-building	176	175	351	95%
Institutional Capacity	Legal/ policy/ regulatory frameworks	133	146	279	75%
	Administrative structures	95	78	173	47%
Implementing Strategies	Technologies & approaches	172	172	344	93%
	Implementing Mechanisms/ Bodies	101	84	185	50%
	Financial Mechanisms	97	99	196	53%

3. GEF's catalytic role and its implications for impact

As pointed out in previous evaluations, GEF support is catalytic in nature—it does not achieve impact on its own but rather in collaboration with its partners, especially through follow-up actions by governments and other agents at different scales. In OPS 4, GEF's catalytic role was defined through an approach consisting of three types of activities: foundational, demonstration, and investment, or the F-D-I approach⁴. These three broad categories of GEF support were used to identify which types of interventions were most common in each GEF phase, and if there had indeed been a movement in the number of projects from foundational to more of demonstrations and investments.

Working from this initial model, OPS5 seeks to further assess GEF's catalytic role by looking not only at these three broad categories but at the specific mechanisms and interactions through which GEF fulfills this role. Evaluative evidence over several years, for example, has shown that GEF initiatives often catalyze global environmental benefits through the work of its partners by promoting champions of change, building on promising initiatives that otherwise would not be funded, raising the profile of existing initiatives to attract more support from partners, removing barriers that prevent existing initiatives from moving forward, and accelerating the adoption of innovative elements that contribute to global environmental benefits.

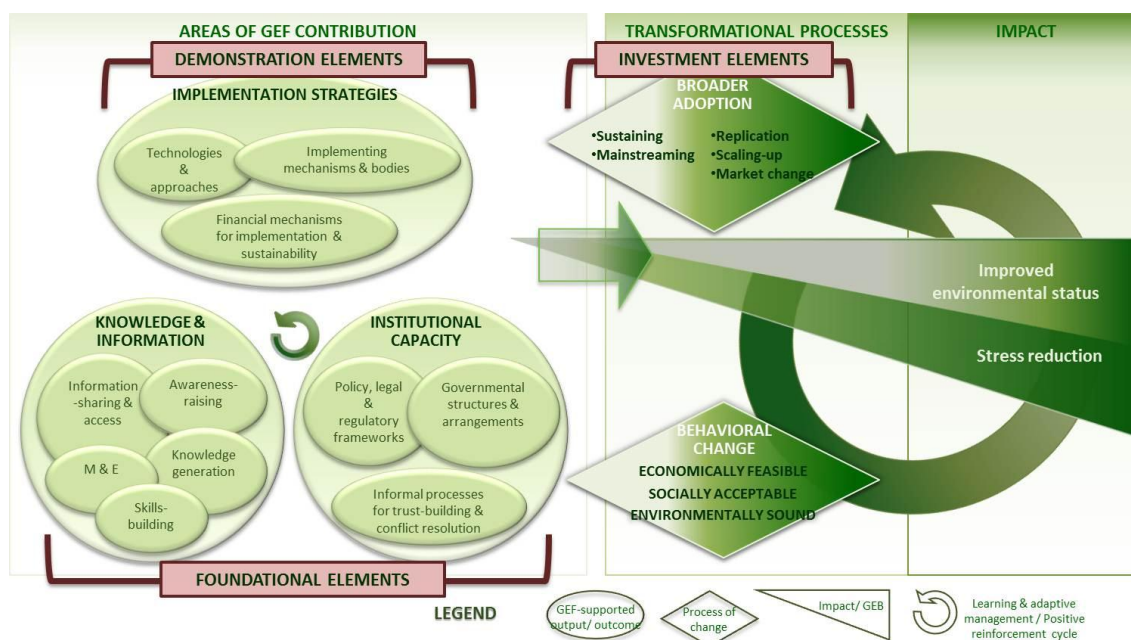
Consistent with the approach followed during OPS 4, the general GEF TOC framework used by this current study takes into account the notion that GEF support often does not take place in an F-D-I sequence, but rather in a logic that responds to the project's specific political and institutional context. This study also analyzes the ways in which different types of activities interact in synergy to contribute to progress towards impact in ways that activities of only a single type might not. Thus, the TOC framework used in OPS5 allows the analysis of the ways in which specific areas of contribution are interdependent elements and complement each other [

⁴ See Chapter 2.4 of the Fourth Overall Performance Study, Full Report.

Figure 3].

“Foundational activities” have been further disaggregated as outputs and outcomes related to knowledge & information and institutional capacity (or governance architecture). “Demonstration activities” have been expanded to include implementing strategies in general, which can be further classified as the innovative technologies and approaches that GEF supports, the mechanisms and bodies that are put into place to implement these technologies and approaches, and the financing mechanisms to ensure that these technologies may be sustained and broadly adopted. “Investment activities” have been more specifically defined to mean the mechanisms of broader adoption that lead to transformational change, i.e. mainstreaming, replication, scaling-up and market change, as well as the increasing investment of stakeholders to fully sustain GEF-supported initiatives beyond GEF funding.

Figure 3. GEF's catalytic role in achieving progress towards impact - the phased F-D-I approach further defined through the TOC Framework approach



In the process of reviewing the progress towards impact of GEF projects, an analysis of GEF's catalytic role was also done by looking at each project's intended contributions, and mapping these to the specific areas of contribution mentioned above. Thus, instead of classifying projects into three broad types (foundational, demonstration, investment), they are now classified into five (knowledge & information, institutional capacity, implementing strategies, broader adoption, or a combination of these).

A total of 410 projects for which terminal evaluations were available have been reviewed for this analysis, of which 210 were already assessed using the F-D-I approach in OPS4, and were re-assessed using the general GEF TOC framework for this report to allow comparability with projects in the OPS5 cohort. The other 200 projects were completed after OPS4, and were assessed for the first time using the general GEF TOC framework.

Given that the "n" in some categories are small, there is a possibility that the results mentioned in the following section are purely due to chance rather than to the factors examined in this analysis (e.g. project design, focal area). Due to the nature of the population analyzed, statistical analyses cannot be performed to test for significant differences between percentages. However, results from the analyses of other evaluation streams are used to triangulate these findings, leading to the reasonable conclusion that the results are indeed due to the factors identified rather than to chance.

3.1. Profile of Projects According to Design

The majority of GEF projects were designed to have a combination of different types of initiatives, with most of these related to implementing strategies and knowledge & information. The great majority of projects that had primarily foundational elements in their design also had implementation strategies as a primary type of initiative.

Seventy percent of the projects assessed had a combination of types of initiatives, of which implementation strategies in combination with other types was the most common [Table 12]. Likewise, for projects designed to have primarily one type of initiative, the great majority of

projects were also targeted towards implementation strategies. Implementation strategies consist of innovative technologies and approaches (e.g. participatory and integrated ecosystem management, low-carbon technology), and their corresponding implementing arrangements (e.g. management boards) and financial mechanisms (e.g. revolving funds, user fees, alternative sources of income).

Table 12. Primary types of initiatives included in project design

TYPE OF INITIATIVE	TOTAL (n=410)	% of Projects Assessed
Broader Adoption	11	3%
Implementation Strategies	63	15%
Institutional Capacity	7	2%
Knowledge and Information	42	10%
Combination	287	70%
Broader Adoption	92	22%
Implementation Strategies	226	55%
Institutional Capacity	114	28%
Knowledge & Information	134	33%
Total Number of Projects	410	100%

Table 13. Combinations of types of initiatives included in project design

Combinations of Types of Initiatives	Broader Adoption	Implementation Strategies	Institutional Capacity
Implementation Strategies	65 (16%)		
Institutional Capacity	17 (4%)	68 (17%)	
Knowledge & Information	10 (2%)	95 (23%)	31 (8%)

Of the projects that had a combination of types of initiatives, a combination of implementation strategies and knowledge & information was most common (23%), followed by a combination of implementation strategies and institutional capacity (17%), and then implementation strategies and broader adoption (16%) [Table 13]. This shows that while GEF is primarily taking on the role of supporting the implementation of technologies and approaches to catalyze global environmental benefits, it is also still providing critical support for developing foundational elements such as policy frameworks, baseline ecological data and awareness-raising. Also, this shows that GEF is supporting more initiatives that catalyze the broader adoption of these implementing strategies than those that catalyze primarily foundational elements (i.e., a combination of institutional capacity and knowledge & information). In 67 out of 123, or more than half of projects where GEF was intended to primarily play a role in building institutional capacity, GEF also supported implementation strategies as a primary type of initiative.

All focal areas except for Climate Change and Ozone-Depleting Substances had knowledge & information as a type of initiative in most of their projects. Most Climate Change and Ozone-Depleting Substances projects were designed with broader adoption as a primary type of initiative.

Different focal areas catalyze global environmental benefits in different ways, according to each focal area's strategies. Focal area strategies are used as a guidance for influencing project design, and therefore the dominant types of initiatives for projects across focal areas may differ because of this.

The analysis showed that the most frequent type of initiatives (33%) among Biodiversity focal area projects was a combination of implementation strategies and knowledge & information. This usually involved the establishment and strengthening of protected area systems, and of ecological baselines. The most frequent type for Climate Change projects, on the other hand, was a combination of implementation strategies and broader adoption types of initiatives, illustrating how this focal area tends to target change at the scale of socioeconomic sectors through the introduction of innovative technologies. IW projects tended to be a combination of institutional capacity and knowledge & information types of initiatives (27%), with an equal number of projects (16% each) being knowledge & information-types and a combination of knowledge & information and implementation strategies.

All other focal areas except for ODS had primarily knowledge & information as the most frequent type of initiative (33-38%). This includes primary research on ecosystem status and possible technological solutions, increased awareness of stakeholders, access to information and information exchange, and training on technical skills. All ODS projects had elements of broader adoption. The projects focused on the phase-out of ODS in the respective countries and developing markets through technology transfer or strengthened institutional capacity in country to regulate the markets.

3.2. Contributions in Relation to Design

Projects designed with types of initiatives involving broader adoption and implementation strategies were associated with higher percentages contributing to awareness-raising, skills-building and technologies & approaches. Those designed with knowledge & information or institutional capacity as types of initiatives had higher percentages contributing to knowledge generation and information-sharing.

Projects having broader adoption and implementation strategies as one of the primary types of initiatives, whether in combination with others or not, were found to have a high percentage (80 to 100%) contributing to outputs and outcomes related to awareness-raising, skills-building and technologies and approaches. On the other hand, projects designed with knowledge & information or institutional capacity as the primary or one of the primary types of initiatives (except when combined with broader adoption types) had a high percentage ($\geq 80\%$) that contributed to knowledge generation and information-sharing outputs and outcomes.

Institutional capacity-type projects had the highest proportion ($> 90\%$) contributing to policy/legal/regulatory frameworks and administrative structures when it was in combination with broader adoption types of initiatives. Although less than 70% of projects had contributions in the areas of implementing bodies and financial mechanisms, the highest percentages ($\geq 60\%$) contributing to these areas were seen in projects primarily designed with broader adoption, implementation strategies and institutional capacity or these types combined.

3.3. Impacts in Relation to Design

Most projects designed with implementation strategies as a type of initiative, regardless of whether it was in combination with other types or not, showed only local-scale environmental and socioeconomic impact. On the other hand, a greater percentage of

projects designed with broader adoption as a type of initiative showed system- rather than local-scale impacts.

Over-all, projects designed to have broader adoption or implementing strategies as types of initiatives had the highest proportion (> 75%) showing impact [Table 14]. Among all types of projects, those that had implementation strategies as a type of initiative had the highest proportion (58%) showing local environmental impact. A paired t-test showed that this was regardless of whether it was in combination with other types of initiatives or not. Projects that had broader adoption as part of their design had the highest proportion across different types of initiatives showing impact at this higher scale (30%), followed by those with institutional capacity (21%). Again, this was regardless of whether broader adoption was in combination with other types or not. Knowledge & information-type projects consistently had the least number of projects showing impact of any type or scale, but had a high proportion showing impact when combined with implementing strategies or broader adoption types of initiatives (30% to 54 %).

Table 14. Reported environmental impacts according to primary types of initiatives included in project design

Type of Initiative*	Local Environmental Impact		System Environmental Impact		Total Reporting Environmental Impact		Total Projects Per Type (n)
Broader Adoption	48	48%	30	30%	78	77%	101
Implementation Strategies	166	58%	50	18%	216	76%	285
Institutional Capacity	58	48%	26	21%	84	69%	121
Knowledge & Information	63	44%	26	18%	89	62%	144

*whether in combination with other types or not

Similarly, implementation strategies-type projects had the highest proportion of projects showing local socioeconomic impacts (38% to 49%) [Table 15]. For system-scale socioeconomic impact, the highest proportion (24%) was seen among projects that combined broader adoption and institutional capacity components.

Table 15. Proportion of projects showing socioeconomic impacts related to primary combinations of types of initiatives included in project design

TYPE OF INITIATIVE	LOCAL SOCIOECONOMIC IMPACT		SYSTEM SOCIOECONOMIC IMPACT		TOTAL PER TYPE (n)
Broader Adoption	1	10%	1	10%	10
Implementation Strategies	23	38%	1	2%	60
Institutional Capacity	1	14%	1	14%	7
Knowledge & Information	1	11%	0	0%	9
Combination	117	41%	27	10%	284
Implementation Strategies & Broader Adoption	27	42%	10	16%	64
Implementation Strategies & Institutional Capacity	33	49%	7	10%	67
Implementation Strategies & Knowledge/Information	39	41%	6	6%	95

Institutional Capacity & Broader Adoption	5	29%	4	24%	17
Institutional Capacity & Knowledge/ Information	9	29%	0	0%	31
Broader Adoption & Knowledge/ Information	4	40%	0	0%	10

3.4. Transformational Change in Relation to Design

Projects designed with broader adoption as a type of initiative had higher percentages showing transformational change, especially at higher scales, whether it was in combination with other types of initiatives or not. In contrast, a higher percentage of projects designed with implementing strategies as a type of initiative showed transformational change taking place only when other types of initiatives were combined in the design.

Projects that primarily addressed institutional capacity had the greatest proportion showing replication and mainstreaming, but relatively few contributing to market change [Table 7]. Projects designed with broader adoption as a type of initiative had the highest percentage showing market change and scaling-up ($\geq 30\%$), whether it was in combination with other types of initiatives or not. The percentage of projects showing transformational processes among those designed with implementation strategies as a type of initiative was found to be significantly higher when in combination with other types of initiatives than otherwise. Overall, projects designed with broader adoption as a type of initiative had a higher proportion of projects showing different transformational processes, regardless of what other type of initiative it was in combination with. The link between GEF's over-all catalytic effect and project design will be further discussed in the second OPS 5 report.

Table 16. Processes of transformational change occurring according to type of initiatives included in project design

	Mainstreaming		Replication		Scaling-up		Market Change		TOTAL PER TYPE (n)
Broader Adoption	6	60%	4	40%	3	30%	4	40%	10
Implementation Strategies	37	62%	22	37%	9	15%	9	15%	60
Institutional Capacity	5	71%	5	71%	3	43%	0	0%	7
Knowledge & Information	5	56%	4	44%	1	11%	1	11%	9
In Combination									
<i>Broader Adoption</i>	73	80%	45	49%	29	32%	33	36%	91
<i>Implementation Strategies</i>	178	79%	107	47%	51	23%	53	23%	226
<i>Institutional Capacity (governance)</i>	103	90%	44	38%	18	16%	21	18%	115
<i>Knowledge & Information</i>	100	87%	60	52%	26	23%	19	17%	136

While most knowledge & information-type projects were not designed to directly result in environmental impacts, a large percentage of these projects have contributed to knowledge products that have been adopted at a large scale.

Of the 406 projects assessed, 43 had only knowledge & information as the type of initiative included in their design. Nine of these had intended outcomes that aimed to feed knowledge products directly into management strategies, policy guidelines, or initiatives targeted at changing behaviors. While a low percentage of these projects showed environmental impacts, as expected, a high percentage showed contributions to knowledge generation and information exchange [see Contributions in Relation to Design]. The other 34 projects had intended outcomes related solely to producing data, facilitating the exchange of lessons learned, supporting primary research, and assisting countries in fulfilling their reporting requirements to the Conventions.

Although these projects did not aim to contribute directly to progress towards impact, more than 70% have nevertheless made important contributions by increasing the exchange of scientific data, methodologies, and lessons learned through global or regional networks [Table 17]. They have also added to the body of scientific knowledge by conducting primary research on ecosystem states or potential methodologies for measuring changes in these states. In the process, many of these projects have contributed to raising awareness about specific environmental issues as well as to training mostly scientists in these methodologies.

Table 17. Areas of contribution of knowledge & information-type projects not expected to directly contribute to progress towards impact

AREAS OF CONTRIBUTION		TOTAL (n=372)	% of Projects Assessed
Knowledge & Information	Knowledge Generation	27	79%
	Information-sharing	34	100%
	Awareness-raising	24	71%
	Skills-building	27	79%
Institutional Capacity	Legal/ policy/ regulatory frameworks	8	24%
	Administrative structures	15	44%
Implementing Strategies	Technologies & approaches	4	12%
	Implementing Mechanisms/ Bodies	0	0%
	Financial Mechanisms	3	9%

Some of the information produced in 8 (24%) of these projects has subsequently been incorporated into policy or management frameworks, while in 15 projects (44%), administrative structures were created to facilitate the dissemination, exchange or production of knowledge and information. A small percentage (12% and 9% respectively) conducted research on new technologies or methodologies, and on possible financial mechanisms [Table 17].

Mainstreaming was seen in 59% of the projects, which included inclusion of data and methodologies in management frameworks or guidelines, as mentioned above, while 38% saw replication of research methods or guidelines introduced [Table 18]. Scaling-up of these methods or guidelines was seen in 12% of projects. As expected, no market change was seen resulting from these projects.

Table 18. Broader adoption of outputs of knowledge & information-type projects not expected to directly contribute to progress towards impact

BROADER ADOPTION PROCESS	No. of Projects	% of Projects (n=34)
Mainstreaming	20	59%
Replication	13	38%
Scaling-up	4	12%

Knowledge & information-type projects typically receive lower funding, yet most of them are global in scope. Most national- and regional-scale projects are implemented in Asia and Africa.

The majority of these completed projects were global in scope (56%) and implemented by UNEP (50%). Of the 15 non-global projects, 12 (80%) were implemented in Africa and Asia, while the rest were in Latin America & the Caribbean and Europe & Central Asia. Many of the national projects were designed to assist countries in reporting to the Conventions. The great majority of these knowledge & information-type projects (71%) were medium-size—with grants of not more than US\$ 1 million—as opposed to only 29% of projects being full-size. Over-all, this type of project received lower funding amounts, even among full-size projects.

Table 19. Scope and lead implementing agency of knowledge & information-type projects not expected to directly contribute to progress towards impact

Implementing Agency	Global	National	Regional	Total Projects
UNDP	5	2	2	9 (26%)
UNEP	13	2	2	17 (50%)
World Bank	1	5	2	8 (24%)
Grand Total	19 (56%)	9 (26%)	6 (18%)	n=34

Global projects designed to have knowledge & information initiatives tend to receive smaller grants and are implemented for shorter periods.

Of the 36 global projects assessed, 17 had intended outcomes contributing directly to progress towards impact. Of these 17, 10 (59%) were medium-size projects (MSPs). All but one global-scale MSP were designed with knowledge & information as a type of initiative. Similarly, except for one project, none of the global-scale FSPs had knowledge & information as a type of initiative in their design. This indicates that global projects with knowledge & information as part of their intended outcomes have smaller grants and shorter implementation periods, even when they are expected to contribute to progress towards impact. The average actual amount of GEF funding for these projects was US\$ 3.17 million, with a range of US\$ 0.24 to 25 million.

The most common types of initiative included in the design of these completed global-scale projects were knowledge & information (59%) and implementation strategies (53%). None of the 17 projects assessed were designed to have combined initiatives of institutional capacity and broader adoption. In terms of contributions, most projects (> 80%) contributed to the areas of information-sharing, awareness-raising and skills-building, which are associated with knowledge & information-type initiatives.

Table 20. Types of initiatives in design of global-scale projects expected to contribute to progress towards impact by project size

TYPE OF INITIATIVE*	FP	MSP	Total (n=17)	% of Projects Assessed
Broader Adoption	3	2	5	29%
Implementation Strategies	6	3	9	53%
Institutional Capacity (governance)	0	1	1	6%
Knowledge & Information	1	9	10	59%

*whether in combination or not

Global-scale projects that have shown impact were designed with implementation strategies as a type of initiative. Despite low achievement of environmental impact, high percentages of projects showed mainstreaming and replication of introduced approaches.

Five out of 17 projects (29%) showed environmental impact, all of which had implementation strategies as part of their design. This was much lower compared to projects of regional or national scope. One demonstrated impact beyond the local scale, specifically through stress reduction. The project, called the “Critical Ecosystem Partnership Fund (CEPF)” aimed to support a partnership between the GEF, the World Bank, Conservation International (CI), bilateral organizations, private donors, governments and local communities. It was implemented in 15 hotspots in 15 countries with the aim of providing strategic assistance to NGOs and other private sector organizations for the protection of selected vital ecosystems in World Bank member countries that have ratified the Convention on Biological Diversity. The project contributed to all three components of implementation strategies, i.e. technologies & approaches, implementing mechanisms/bodies and financial mechanisms. The CEPF project effectively contributed to the creation or expansion of 9.4 million hectares of protected areas in 15 countries with globally significant biodiversity hotspots. The project was designed with solely implementation strategies as the primary type of initiative and received the largest grant among all global-scale projects at US\$ 25 million. In the 4 other projects where environmental impacts were seen, very local-scale stress reduction was seen at individual demonstration sites, which would require extensive broader adoption if the impacts are to be significant.

Table 21. Environmental impacts of global-scale projects expected to contribute to progress towards impact

TYPE OF INITIATIVE*	System Impact	Local Impact	Total (n=17)	% of Projects Assessed
Broader Adoption	0	1	1	6%
Implementation Strategies	1	4	5	29%
Institutional Capacity (governance)	0	0	0	0%
Knowledge & Information	0	3	0	18%

*whether in combination or not

Despite the low percentage of projects showing environmental impact, 71% of projects saw mainstreaming, and more than half saw replication of introduced management approaches. Some scaling-up was seen in 35% of projects, including those that showed local environmental impact.

Table 22. Broader adoption processes seen in global-scale projects expected to contribute to progress towards impact

BROADER ADOPTION PROCESSES	TOTAL (n=17)	% of Projects Assessed
Mainstreaming	12	71%
Replication	9	53%
Scaling - Up	6	35%
Market Change	0	0%

Of the 19 global projects that were solely knowledge & information-types and were not expected to contribute directly to progress towards impact, the project “Fostering Active and Effective Civil Society Participation in Preparations for Implementation of the Stockholm Convention”, also known as NGO-POPs Elimination Project (IPEP), showed local impact. Based on information in the TE report, the project aimed to build general capacity in some NGOs. “For some of these NGOs, it was the first time that they had the opportunity to develop a full project proposal, execute it and write a report. IPEP has definitely helped these NGOs not only to gain knowledge and experience on POPs related issues but also to enhance their capacities with regards to project management (pg. 17).” An NGO in Quezon City, Philippines that participated in the project subsequently collaborated with local authorities for the promotion of waste recycling (e.g. composting). The outcome has been a significant decrease in the volume of solid waste to be managed. This attests to the long-term outcomes that knowledge & information-type projects intend on achieving even when the projects themselves are not expected to result in these immediate outcomes.

4. Project-level progress towards impact over the long-term

The purpose of this project-level review was to provide a preliminary assessment of the extent of impact achieved beyond project completion. This review explored two main indicators of progress towards impact: the extent to which broader adoption processes have taken place following the completion of GEF projects, and the extent to which environmental threats have been removed and environmental status has improved.

Inputs to this review were two impact evaluations and 18 field ROTIs (see Table 23). The two impact evaluations are the completed Evaluation of the Impacts of GEF Biodiversity Projects in Peru and the ongoing Climate Change Mitigation (CCM) impact evaluation. As it is still in progress, the full findings of the CCM impact evaluation will be reported on in the final report of OPS5; what this present study takes into account are the TOC analyses of projects included in that evaluation.

Of the 18 field ROTIs, 2 were implemented as verifications of terminal evaluations (Hungary and Kenya) and 16 were carried out in support of Country Portfolio Evaluations in Brazil, Cuba, El Salvador, Jamaica, Moldova, the Organization for Eastern Caribbean States (OECS) countries⁵, and Turkey. The field ROTI assessments were conducted for projects that have been completed for at least two years, as per the GEF Evaluation Office’s ROTI Handbook. Beyond this, ROTI projects are selected with a view to equally represent GEF Agencies and focal areas. The GEF EO has endeavored to complete at least two ROTIs per CPE, and this has

⁵ The Cluster CPE for the OECS focused on the six GEF recipient countries of the OECS: Antigua and Barbuda, Dominica, Grenada, Saint Kitts and Nevis, Saint Lucia, and Saint Vincent and the Grenadines.

been recently increased, starting with the Brazil CPE, for which five ROTIs were completed. The list of projects included in this study is found in Annex—.

Table 23. Summary of Projects Included in Review of Long-term Progress towards Impact at Project Level

Data Source	FSPs	MSPs	Focal Area	GEF Funding (million USD)
Field ROTIs	10	8	9 BD, 6 CC, 2 IW, 1 MFA	82
Climate Change Mitigation impact evaluation	17	1	18 CC	195
Peru Biodiversity impact evaluation	3	2	5 BD	31
TOTAL	30	11	22 BD, 24 CC, 26 IW, 2 POPs, 1 MFA	308

The field ROTI assessments were conducted for projects that have been completed for at least two years, as per the GEF Evaluation Office’s ROTI Handbook. Beyond this, ROTI projects are selected with a view to equally represent GEF Agencies and focal areas. The GEF EO has endeavored to complete at least two ROTIs per CPE, and this has been recently increased, starting with the Brazil CPE, for which five ROTIs were completed.

The two impact evaluations used as inputs to this review are comprised of projects selected due to their relevance to the specific system that GEF support seeks to influence or transform, and which these evaluations have focused on. The Peru Biodiversity Impact Evaluation, dealing only with biodiversity projects in Peru further narrowed the portfolio down to five by selecting World Bank projects completed or near completion, with components on community management of protected areas and improved livelihoods of communities adjacent to or in protected areas. The Climate Change Mitigation impact evaluation, which is currently being carried out, has focused its fieldwork in four major emerging market economies—China, India, Mexico and the Russian Federation. The evaluation included 18 specific project reviews drawn from the four countries for which field visits were conducted. These four countries were selected for field visits based on criteria set out in the evaluation approach, including the representativeness of market clusters of their respective climate change mitigation portfolios.

Due to the specific objectives and criteria used by these evaluations, the projects reviewed are heavily weighted toward World Bank-implemented projects (23 of 41), climate change projects (24 of 41), and projects in Latin America & the Caribbean (23 of 41). The projects are somewhat evenly split among GEF phases in terms of approval time, with the largest number coming from GEF-2 (14 of 41). The average⁶ amount of time between the completion of these projects completion and their respective ex-post impact assessment was approximately 6 to 7 years, with 13 months as the shortest period, and 15 years and 1 month as the longest.

The projects covered by this review have been chosen by the respective evaluations to meet specific purposes of different evaluations and vary in terms of the level of information available. There are therefore limitations on the extent to which findings can be extrapolated beyond the subset of GEF investments covered by the review and the inputs do not lend themselves to statistically significant analysis. However, analyzing the results of the GEF investments vis-à-vis the general TOC framework presents an opportunity to take stock

⁶ Calculated as mean, median and mode

of the extent of impacts achieved by this particular set of projects given sufficient time after GEF support ended, as opposed to only achievements at project completion. This dataset is used for triangulation purposes and thus is interpreted in the context of the findings of the larger sets of evidence obtained through desk reviews and the more thorough analysis carried out by impact evaluations.

Eighty five percent of the projects reviewed show a moderate to high level of progress to impact. In six projects (15%), evidence was found that changes at the scale of the system had taken place with robust mechanisms for stress reduction or sustainable management present.

The 41 projects included in this review were assessed on the extent of impact they had achieved according to the rating scale indicated in Table 24. The distribution of GEF EO impact ratings is represented in Table 25.

Table 24. GEF EO Impact Rating Scale

High Progress to Impact
Either “a” or “b” (or both) are <i>being met</i> :
a: Removal of threats or/ and improvement of environmental status, at the highest level/ scale or system targeted by the project
Or b: There is evidence that all of the following three conditions <i>have been met</i> :
• Threat removal at the highest level/ scale or system targeted by the project has begun • Intermediate states (usually associated with medium term outcomes and broader adoption) in the impact chain of causality have been reached and are robust • Robust mechanisms for stress reduction or sustainable management are in place
Significant Progress to Impact
There is evidence that there has been <i>significant movement to achievement</i> of following conditions:
• Threat removal at increasingly <i>higher levels / scales or system</i> has taken place • Significant progress has been made to intermediate states (usually associated with medium term outcomes and broader adoption) in the impact chain of causality • Robust mechanisms for stress reduction or sustainable management are in place
Moderate Progress to Impact
There is evidence that:
• <i>Short term outcomes</i> of the project in the impact chain of causality have been <i>achieved fully or significantly</i> .
Low or Negligible Progress to Impact
There is evidence that achievements in terms of <i>short term outcomes are low</i> . Major expected short term outcomes have not been achieved.
Previous progress has weakened or important setbacks are manifest
Unable to assess
Available evidence is not sufficient to determine progress to impact

Table 25. Distribution of Assessed Projects by GEF EO Impact Ratings (n=41)

GEF EO Impact Rating	Total (n=41)	% of Projects Assessed*
High	6	15
Significant	13	32
Moderate	16	39
Low/Negligible	6	15

*The sum of percentages equals 101% due to rounding off of decimals

This analysis found that the majority of the projects under review (35 of 41, or 85%) have achieved impact to some extent (moderate to high impact rating). In 19 of the 41 projects (46%) change has taken place or is reaching change at the level of the system (significant to high impact rating). Of the 19, 13 (32%) showed evidence of transformational change beginning, while in 6 (15%), evidence of environmental impacts at the scale of the system had taken place with robust mechanisms for stress reduction or sustainable management present. The rest of the projects examined (54%) were found to have achieved “Moderate” (39%) or “Low” (16%) progress to impact, implying that transformational changes have not yet begun. In these cases, threat removal may have remained at similar levels as at the point of project closing, or effective and robust mechanisms for stress reduction or sustainable managements are not in place. It is important to note that based on the limited environmental monitoring data available in most GEF beneficiary countries, it is difficult to identify in reality the achievement of global environmental benefits that can be linked to the results of GEF support, as outlined in the theory of change.

Projects rated “High” differed from projects with lower ratings in that a greater percentage of them saw different processes of broader adoption (mainstreaming, replication, scaling-up and market change) occurring. Each project had at least two processes occurring at the same time, with 5 out of 6 projects (83%) seeing scaling-up or market change as one of these processes. Those rated lower had 65% or less of projects in each of these categories of broader adoption, while some saw no broader adoption at all. Only projects that saw environmental impact at the scale of the system were rated either “Significant” or “High”. Some projects that were rated “Low” or “Moderate” did not show any environmental impact. However, of the 41 projects, only 16 had information on environmental impacts achieved.

A greater number of climate change and full-size projects showed higher levels of impact achieved.

Of the six projects rated “High” progress to impact, five were climate change projects, and one was in the biodiversity focal area. This is likely due to the design of projects in the climate change focal area, which tends to target transformational changes at the scale of the system, as seen also in the analysis of progress towards impact at project completion. However, among the set of projects in this review, no apparent pattern could be seen in impact ratings in terms of focal area, as other biodiversity and climate change projects also received ratings ranging from “Low” to “High”. This suggests that while climate change projects may have a greater likelihood of achieving High” progress towards impact, this is no guarantee that they will achieve this extent of impact.

With respect to size, all projects rated “High” were full-size projects (FSPs). FSPs have a higher average impact rating at 2.7 (approximately equal to “Significant”) than medium-size projects (MSPs) at 1.8 (approximately equal to “Moderate”). The six projects rated “High” had the highest range of funding, with the largest GEF funding at US\$ 40 million, and the lowest GEF funding at US\$ 6 million. However, the limited sample does not allow any correlations to be made between funding amount and extent of impact achieved. Furthermore, an analysis of funding amounts vis-a-vis progress towards impact at project end showed that project size (FSP/MSP) rather than funding amount was a factor in the extent of progress achieved.

In at least four cases, the projects reviewed were part of a phased approach, or were implemented in a context that was also influenced by other GEF projects (as well as other non-GEF funded interventions). The cases were the China TVE project (GEF ID #622) which was rated “High”, the Cuba Sabana-Camaguey projects (GEF ID #363 and #591), which were rated “Significant,” the China Fuel Cell Bus projects which were rated “Moderate” and the OECS Ship-generated waste project, rated “Low or negligible”. This shows that there are no

clear patterns seen in impact ratings among projects in a phased approach or projects that were linked to other initiatives, based on the level of information available least for this limited set of projects.

The GEF Evaluation Office is conducting a separate assessment of progress towards impact of projects at completion. Desk-based impact ratings at project completion were available for 15 of the 41 projects in this review. When comparing ratings based on available information at project completion with the field-based ROtI assessments, no clear patterns emerge. It was found that among the 15 projects with ratings for comparison, one project had moved two rating levels upward, three projects moved up one level, eight projects received the same rating, and three projects dropped one rating level.

Table 26. Progress to Impact Rating Differential Between Completion and Ex-Post Assessments

Rating Difference:	+ Two Levels	+ One Level	Same Rating	- One Level
Number of Projects:	1	3	8	3

The project that had an increase in rating by two levels was the Mexico ILUMEX project (GEF ID #575), which was rated “Moderate” based on the information available at completion, and “High” based on the field assessment, which took place more than 15 years after project completion. This was the longest period after project completion that an ex-post field assessment was conducted for any of the projects in the review. However, over-all, no patterns were seen in the impact rating achieved and the number of years between project completion and the ex-post evaluation.

5. System-scale impacts over the long-term

The approaches supported by GEF have resulted in the reduction of environmental stress at the local scale. GEF support is also contributing to legal, regulatory and institutional changes at higher scales, but improvements in environmental status at these higher scales requires a much broader adoption of the promoted approaches and technologies.

This review reports on the findings of impact evaluations designed to assess GEF contributions in the transformation of broader systems. It uses the GEF General Theory of Change (TOC) Framework—a conceptual tool to classify and establish causality chains between the direct results of GEF support and other developments leading to transformational changes.

This section is based on three impact evaluations on GEF support that were conducted after OPS4: Biodiversity Focal Area Impact Evaluation in Peru, the GEF Impact Evaluation in the South China Sea, and Climate Change Mitigation Impact Evaluation. Each of these impact evaluations assess the impact of GEF support by measuring change at various scales of particular systems that GEF seeks to transform. The Peru biodiversity impact evaluation focus was on assessing GEF’s impact on the sustainable management of protected areas (PAs) and the improved livelihoods of indigenous people communities adjacent to or in PAs. The Impact Evaluation of the GEF in the South China Sea (SCS) and Adjacent Areas focused on assessing GEF’s impact at the scale of the water body. The evaluation included an analysis of the full GEF portfolio that had incidence in the SCS, covering 34 projects and a total grant amount of US\$ 115 million. The main objective of the Evaluation on Climate Change Mitigation (CCM) is to assess the impact of GEF support to emerging market economies. As this evaluation is still

in progress, the information reported here on broader adoption is derived from 12 of the 18 projects covered by the evaluation. Progress to impact system level in CCM be more fully analyzed and presented in the final report of OPS 5. An analysis of both contextual and implementation-related factors contributing to or hindering progress towards impact will likewise be presented in the final OPS5 report.

Although environmental pressures in the SCS continue to increase, GEF has made important contributions.

The impact evaluations on international waters support in the SCS, PAs in Peru, and CCM in China, India, Mexico and Russia concluded that system-scale environmental trends continue to decline due to a continued increase in environmental pressures. However, improvements have been seen locally, showing that given the right approaches, environmental decline can be slowed or reversed. These evaluations have been reported to Council in the Annual Report on Impact, except for the Climate Change Mitigation impact evaluation, which is on-going.

In the SCS, there were 20 sites in which the evaluation identified a total of 40 cases of stress reduction that needed to be monitored (see Table 5). Of these 40 cases, data was available in 26 cases (65%) to determine if stress reduction occurred or not. Of the 26 cases in which systematic information was available, 21 cases showed a reduction in environmental stress, with almost half of these related to habitat and biodiversity concerns. Stress reduction may also have occurred in other sites, but due to the lack of available and relevant environmental monitoring data, these changes could not be assessed by the evaluation. In cases where stress reduction was not systematically measured, anecdotal accounts of stress reduction were obtained for 4 cases of habitat and biodiversity-related initiatives, and 5 cases addressing fisheries. These anecdotal accounts generally pertained to the reduction of destructive fishing practices (e.g. blast fishing, trawling) and mangrove-cutting among local community members. More anecdotal information than actual measures of improvement was obtained for fisheries-related parameters due to the lack of monitoring systems in place for this concern.

Table 27. Number of cases of reported environmental stress reduction in visited demonstration sites

ENVIRONMENTAL CONCERN	NO. OF CASES OF SITES EXPECTED TO HAVE STRESS REDUCTION	NO. OF CASES OF SITES WITH COMPARATIVE DATA AVAILABLE (Before and After implementation)	NO. OF CASES OF SITES WITH MEASURED STRESS REDUCTION	NO. OF CASES OF SITES WITH ONLY ANECDOTAL REPORTS OF STRESS REDUCTION
Habitat and biodiversity	17	12	10	4
Fisheries	12	6	4	5
Pollution	11	8	7	0
Total cases of sites	40	26	21	9

Different methods of counterfactual analysis were used depending on the evidence available to the evaluation. In the case of pollution reduction, the successful deployment of a technology and end measurements of improvements in end-of-pipeline contamination were taken as indicators of stress reduction. Counterfactual analysis at the site level included time-series data analysis to assess conditions before and after GEF support, some of which was based on project monitoring data, and others based on remote sensing analysis. When

information was available, observed trends in GEF demonstration sites were compared with sites that did not receive treatment. In the case of coral reefs, for example, systematic information was available in a few cases, which allowed the evaluation to assess trends in reef populations inside and outside the protected area. In other cases, when such information was not available, the evaluation looked at national or regional trends. This type of counterfactual analysis was applied to ecosystems for which information on comparable sites was not available.

With regards to climate change mitigation, given the magnitude of the challenge to reduce GHG emissions in emerging countries, GEF support has helped countries accomplish this by bring about transformations in specific markets or sectors. All projects under review achieved direct reductions by project completion. All projects also contributed to the broader implementation of the targeted technologies. In addition, GEF projects led to local benefits: “green” job creation, better economic performance of existing businesses, development of new business models, and in many cases improvements in the local environmental quality. In the climate change analysis, successful deployment of energy saving technologies were also assumed to lead to GHG reductions when it was clear that new technologies replaced more polluting technologies. In the cases in which the introduction of new technologies led to additional use of energy, this is noted and indicators such as energy use per economic units of production are considered to assess the contributions of the new technology.

In Peru, GEF support helped establish the national trust fund for PAs, and demonstrated participatory approaches that are now being applied across the national protected areas system in Peru. The GEF funds provided through the trust fund translated into resources for the improvement of 22 percent of the total protected areas within the national system. GEF also supported the introduction of various alternative livelihood approaches, which had mixed results over time.

Despite successful implementation of the demonstrations, some of the targeted environmental and social concerns persist. In Peru, different perspectives on the appropriate trade-offs between conservation and livelihood needs among indigenous communities and protected areas remain unresolved. This has undermined the intention of some of the innovations introduced by the projects. Thus, while most persons living around protected areas reported that they were better off in account of the protected area, in some instances the economic activities introduced by the project have been more supplemental or additional (and not alternative) to unsustainable practices. In other cases, market chains were too weak and provided limited outlets for goods and services that had been produced through alternative economic activities promoted by the projects. Overlaps between community lands and protected areas or buffer zones have also not been fully resolved. While the GEF-supported Peruvian Trust fund for Protected Areas has grown significantly in recent years, financing for protected areas remains insufficient to pay for the management of protected areas across the system and expand participatory approaches and alternative livelihood strategies supported by the projects.

Limits to the extent of improvement in trends of local environmental status were also observed in a number of SCS demonstrations. These limits were placed by larger-scale factors that the demonstrations failed to and/or could not address. In the SCS, GEF-supported demonstrations have generally used habitat protection or pollution reduction as their main approach, which do not cover factors stemming from the broader context in which the concern being targeted exists. For example, while local fishers within a targeted municipality tended to comply with new regulations, it was more difficult to ensure compliance from large-scale commercial fishers coming from outside the area. Sites dealing with land-based pollution generally resulted in stress reduction, as these demonstrations directly introduced technologies at points where pollution was being produced. Changes in over-all pollution

levels of the water bodies being targeted, however, are often unknown. Also, water quality in the targeted water body may continue to be a concern because pollution sources are often located far beyond the coastal area.

Despite these limitations, GEF also helped countries to address some of the broad conditions across the system which are conducive to a better environmental management. GEF made important contributions in trust-building by facilitating cooperative arrangements among community members and among government agencies at the local and national scales. GEF has also supported countries in institutional, legal and regulatory reform to address barriers that prevented changes at the lower scales. In such cases, because legal and institutional reforms involved many actors, contribution analysis was carried out by examining the historical support that different actors had made in the process leading to specific legal or institutional reforms. Using the General TOC Framework, contributions of different agents were plotted over time to map out the roles of the various actors, and GEF's role and interactions with these actors in the process.

At the regional level, GEF support has facilitated the engagement of new actors from outside the region, and has helped other actors increase their reach and interactions with each other. GEF has also facilitated five important intergovernmental arrangements in the SCS: the memorandum of agreement between two provinces in Cambodia and Vietnam for seagrass management, the joint framework for oil spill response in the Gulf of Thailand among Cambodia, Thailand and Vietnam, the adoption of the Sustainable Development Strategy for the Seas of East Asia (SDS-SEA) and the Partnerships for the Environmental Management of the Seas of East Asia (PEMSEA), the SDS-SEA implementing mechanism composed of 11 countries and 19 non-country partners, and the approval of priority actions for the SCS by 7 countries through a Strategic Action Plan (SAP). Given the high complexity of the regional scenario in the SCS, the evaluation used social network analysis to construct what-if scenarios on the status of interactions with and without GEF support. Historical analysis of the role of similar actors in supporting regional processes was also addressed, confirming GEF's central supporting role with regards to regional marine and coastal issues.

Preliminary findings from the Climate Change Mitigation evaluation also indicate important GEF contributions at the system scale. All countries with emerging economies have formulated objectives on either renewables or energy efficiency or both. This is a global trend. While this trend is not attributed to GEF support, through historical analysis and the establishment of causal chains, the evaluation indicates that GEF has contributed to this trend by enabling countries to experiment and develop expertise on renewable energy and energy efficiency. All 18 projects assessed in the CCM impact evaluation show that this experimentation has enhanced the readiness of countries to adopt renewable energy and energy efficiency more quickly than would have been the case without GEF support.

Broader adoption is critical to fully addressing environmental pressures at the appropriate scales, but faces constraints to further progress.

As discussed above, demonstrations have often introduced approaches that work and in many cases have delivered environmental and socioeconomic benefits at the local scale. Nevertheless, a much broader adoption of promoted approaches and technologies is still required to effect changes at higher scales. Replication, scaling-up, mainstreaming and removal of market barriers are four processes or mechanisms that projects have used to support broader adoption. In the SCS, 20 of the 27 verified demonstration sites were at a stage in which indications of broader adoption could be identified and linked to outcomes of GEF projects. While there were big differences in extent of the progress made, 18 of these 20 sites reported some form of broader adoption. There were reported 14 cases of replication, 9 cases of scaling-up, and 13 cases of mainstreaming. At the regional and national scales,

broader adoption is more commonly seen in the mainstreaming of GEF-supported approaches (e.g. integrated coastal management, national strategic action plans) in national laws, and in mechanisms and non-binding agreements among countries to address transboundary concerns.

These three processes of broader adoption may be at work at the same time for a given demonstration, and may take place at different scales; often, one process may have to occur for another process to take place. Preliminary findings of the Impact Evaluation of GEF Climate Change Mitigation also support the findings of the SCS impact evaluation with regards to the main mechanisms at work for broader adoption. Several of the technologies or business models introduced by GEF have had trail-blazing effects and established approaches that were replicated in other locations. Preliminary findings of this evaluation also indicate that GEF Climate Change projects—in particular the demonstration projects - have frequently led to the setting of standards and the development of rulebooks and regulations. These two processes or mechanisms together with scaling-up are also frequently found to coalesce in processes that contribute to market change and barrier removal. The final OPS 5 report will report the findings of the CCM evaluation now in progress.

To better understand the extent of GEF's long-term contributions, the analysis of broader adoption shifted from examining GEF project outcomes to the analysis of ways in which contextual factors interact with outcomes of GEF projects and to the conditions under which GEF support advances transformational processes. In all impact evaluations, broader adoption was found to be more likely to take place through replication, scaling-up, mainstreaming and market change when five key contextual conditions are present: incentives to commit based on the attributes of the introduced technology or approach, attributes of the targeted adopter (e.g. institutional capacities of the adopting governments), availability of financial resources, and appropriate policy frameworks and markets. Mainstreaming and scaling-up were most successful in areas that had the same receptive capacity as those in the demonstration site, most notably economic and governance capacities.

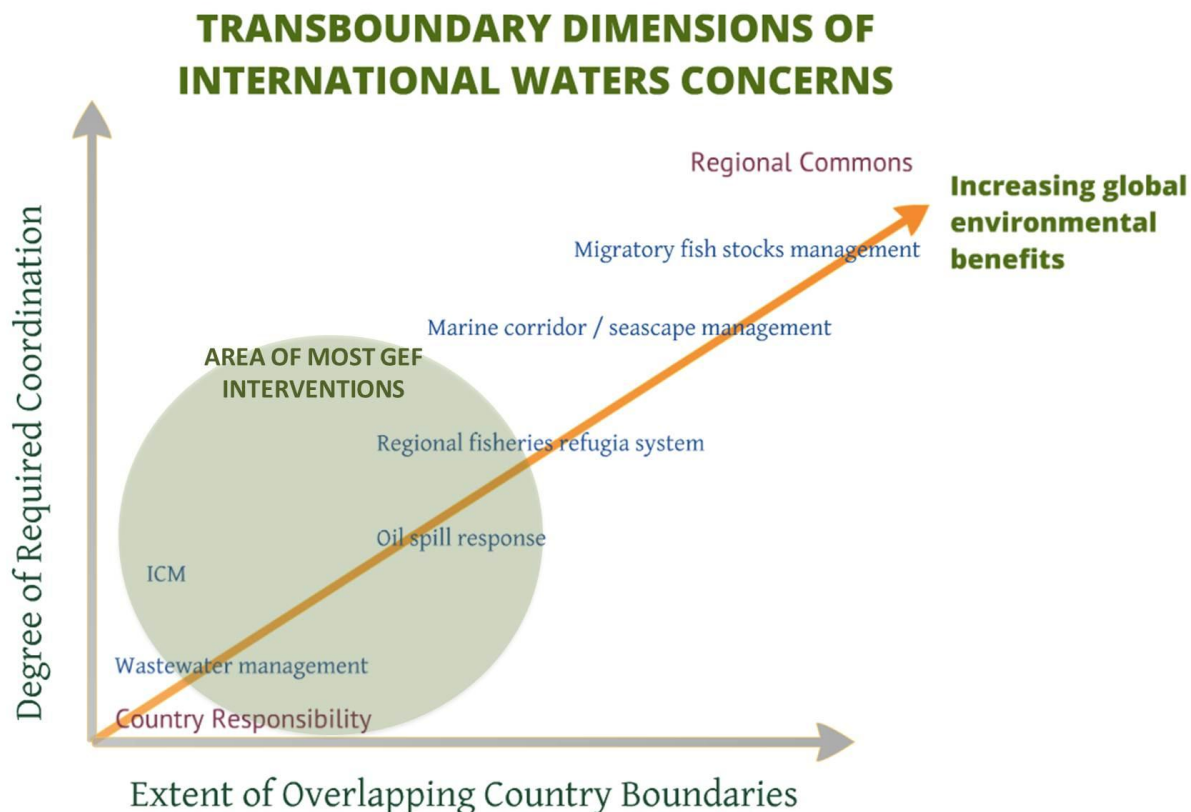
In addition, preliminary information indicates that mainstreaming works best where administrative and geographical boundaries match those of the problem being addressed. This was most apparent in the South China Sea sites demonstrating the Integrated Coast Management (ICM) approach. These demonstrations were also designed with broader adoption as a primary objective. Climate Change Mitigation approaches appeared to be particularly sensitive to market forces, which more often functioned in favor of broader adoption. This is when compared to the effect of market forces in biodiversity or international waters initiatives, where win-wins are not as frequent.

Government priorities have an important role not only in the extent of broader adoption that takes place, but also in the issues that are addressed through intergovernmental collective action. A central long-standing objective in the GEF International Waters focal area is to catalyze multi-state cooperation to balance conflicting water uses in transboundary surface or groundwater basins. However, most of the regional support provided by GEF has been in the form of building institutional capacity and a knowledge & information base (e.g. transboundary diagnosis, priority-setting, baseline research). As Figure 4 indicates, actual environmental responses that have been supported by the GEF have taken place mostly at the country level, and on issues that do not require coordinated intergovernmental responses. Much slower progress is being made on issues that address common goods or that require coordinated intergovernmental responses. One important factor underlying the extent of accomplishments is maritime border disagreements among countries.

The approach of GEF to the constraints posed by disagreements in maritime borders—as manifested in its strategic programming and in the design of its projects—has been to facilitate consensus among the participating countries, and support regional cooperation

wherever possible. Thus, GEF support has mostly been able to move the transboundary environmental agenda forward where there is alignment with country priorities, and more specifically where countries derive direct benefits.

Figure 4. Different dimensions of transboundary concerns and GEF’s current area of intervention



While contextual factors were found to be key in understanding the extent to which GEF support actually catalyzes transformational change, factors internal to GEF operations have been found to also affect likelihood of broader adoption. For example, preliminary evidence from the CCM evaluation supports the finding in the analysis of progress to impact at project completion that projects which include broader adoption in design tend to make more inroads into affecting larger systems. Other factors that are within control of the GEF partnership affecting the extent of progress towards impact and broader adoption include: the selection of approaches or technologies that are supported, the careful screening of initiatives, timing in relation to political or economic events, the choice of executing agencies (in particular, the extent to which GEF supports the right individuals or institutions that can champion and promote the new approaches after GEF assistance ends), and the extent to which GEF builds on ongoing initiatives. The final OPS 5 report will present a full analysis of contextual factors and factors that are under GEF’s control that support and hinder broader adoption, and the transformational effect of GEF projects over time.

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