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Biodiversity Focal Area Strategy for GEF-5

BACKGROUND

A) The Status of Biodiversity

1. Biodiversity is defined as “the variability among living organisms from all sources including, *inter alia*, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species, and of ecosystems¹.” As such, biodiversity is life itself, but it also supports all life on the planet, and its functions are responsible for maintaining the ecosystem processes that provide food, water, and materials to human societies.

2. Biodiversity is under heavy threat and its loss is considered one of the most critical challenges to humankind. Current rates of extinction exceed those in the fossil record by a factor of up to 1000 times. The interim report of the global study, “The Economics of Ecosystems & Biodiversity (TEEB)” reinforces the conclusion of the Millennium Ecosystem Assessment that ecosystem services are being degraded or used unsustainably with severe socio-economic consequences for human societies and for the future of all life on the planet².

B) Evolution of the Biodiversity Focal Area at the GEF

3. During GEF-1 and GEF-2, strategic direction for the biodiversity focal area was provided by the GEF operational strategy, the GEF operational programs and guidance provided to the GEF from the Conference of the Parties (COP) of the Convention on Biological Diversity (CBD).

4. The GEF developed its first targeted biodiversity strategy in GEF-3 to complement and further focus its operational programs and to respond to evaluation findings³. The GEF-3 strategy incorporated principles to achieve lasting biodiversity conservation and sustainable use and thereby: a) placed greater emphasis on sustainability of results and the potential for replication; b) moved beyond a projects-based emphasis to strategic approaches that strengthened country enabling environments (policy and regulatory frameworks, institutional capacity building, science and information, awareness); c) mainstreamed biodiversity conservation and sustainable use in the wider economic development context; and (d) increased support for sustainable use and benefit sharing. The changes implemented in the GEF-3 strategy formed the foundation upon which subsequent GEF strategies have been built. The strategy for each new phase has maintained continuity with these basic tenets of sustainability while

¹ Convention on Biological Diversity.

² Millennium Ecosystem Assessment 2005, Ecosystems and Human Well-being: Synthesis, Island Press, Washington DC.

³ Biodiversity Program Study, 2004.

incorporating new findings on good practice in biodiversity conservation and sustainable use.

BIODIVERSITY STRATEGY GOALS AND OBJECTIVES

5. The Millennium Ecosystem Assessment identified the most important direct drivers of biodiversity loss and degradation of ecosystem goods and services as habitat change, climate change, invasive alien species, overexploitation, and pollution. These drivers are influenced by a series of indirect drivers of change including demographics, global economic trends, governance, institutions and legal frameworks, science and technology, and cultural and religious values. The biodiversity strategy in GEF-4 addressed a subset of the direct and indirect drivers of biodiversity loss and focused on the highest leverage opportunities for the GEF to contribute to sustainable biodiversity conservation.⁴

6. The GEF-5 strategy will maintain coherence with the GEF-4 strategy while proposing refinements to the strategy's objectives based on COP-9 guidance, advances in conservation practice, and advice from the Scientific and Technical Advisory Panel on particular types of project interventions. The ninth meeting of the Conference of the Parties acknowledged that the GEF-4 strategy served as a useful starting point for the GEF-5 strategy and requested GEF to build on it for the fifth replenishment based on the four year framework of program priorities developed by COP-9.5 Annex One shows the relationship between the COP guidance and the GEF strategy.

7. The goal of the biodiversity focal area is the conservation and sustainable use of biodiversity and the maintenance of ecosystem goods and services. To achieve this goal, the strategy encompasses four objectives:

- a) improve the sustainability of protected area systems;
- b) mainstream biodiversity conservation and sustainable use into production landscapes/seascapes and sectors;
- c) build capacity to implement the Cartagena Protocol on Biosafety; and
- d) build capacity on access to genetic resources and benefit-sharing.

A) Objective One: Improve Sustainability of Protected Area Systems⁶

Rationale

8. The GEF defines a sustainable protected area system as one that: a) has sufficient and predictable financial resources available, including external funding, to support protected area management costs; b) effectively protects ecologically viable

⁴ http://gefweb.org/uploadedFiles/Focal_Areas/Biodiversity/GEF-4%20strategy%20BD%20Oct%202007.pdf

⁵ Decision CBD COP IX/31.

⁶ A protected area system could include a national system, a sub-system of a national system, a municipal-level system, or a local level system or a combination of these.

representative samples of the country's ecosystems and species at a sufficient scale to ensure their long term persistence; and c) retains adequate individual and institutional capacity to manage protected areas such that they achieve their conservation objectives. GEF support will strengthen these fundamental aspects of protected area systems to accelerate their current trajectory towards long-term sustainability.

9. Capacity building at the national and local levels to support effective management of individual protected areas and protected area systems will remain an ongoing priority and an integral part of project interventions. GEF will continue to promote the participation and capacity building of indigenous and local communities in the design, implementation, and management of protected area projects through established frameworks such as indigenous and community conserved areas (ICCAs).⁷ GEF will also promote protected area co-management between government and indigenous and local communities where such management models are appropriate.

10. Developing climate-resilient protected area systems remains a challenge for most protected area managers because the scientific understanding and technical basis for informed decision-making on adaptation or resiliency measures is in its nascent stages. To help overcome these technical challenges, GEF will support the development and integration of adaptation and resilience management measures as part of protected area management projects. This support is important to ensure that GEF's investments will continue to contribute to the sustainability of national protected area systems.

Increase Financing of Protected Area Systems

11. Restricted government budgets in many countries have reduced the financial support for protected area management. Thus new financing strategies for protected area systems are critical to reduce existing funding gaps. Furthermore, protected area agencies and administrations are often ill-equipped to respond to the commercial opportunities that protected areas provide through the sustainable use of biodiversity. Hence targeted capacity building is also required. GEF-supported interventions will use tools and revenue mechanisms that are responsive to specific country situations (e.g., conservation trust funds, systems of payments for environmental services, debt-for-nature swaps) and draw on accepted good practices developed by GEF and others.⁸ GEF will also encourage national policy reform and incentives to engage the private sector and other stakeholders to improve protected area financial sustainability.

Expand Ecosystem and Threatened Species Representation within Protected Area Systems

12. GEF has been recognized for its substantive contribution to the global achievement of the 10-percent target of the world's land area under protection.⁹ However, the marine area under protection remains low. In GEF-4, the GEF sought to redress this

⁷ Indigenous and Community Conserved Areas (ICCAs) are natural sites, resources and species' habitats conserved in voluntary and self-directed ways by indigenous peoples and local communities.

⁸ GEF Experience with Conservation Trust Funds (GEF Evaluation Report # 1-99).

⁹ OPS3: Progressing Toward Environmental Results, Third Overall Performance Study of the GEF.

disparity through investments to increase the representation of marine ecosystems in protected area systems. The GEF will continue this focus in GEF-5.

13. While not all countries have marine ecosystems under their national jurisdiction, many countries have identified gaps at the national level in the coverage of terrestrial ecosystems and threatened species, which coincide with existing global level representation gaps. Both of these gaps will be addressed in GEF-5.

Improve Management Effectiveness of Existing Protected Areas¹⁰

14. The sustainability of a protected area system requires that each protected area site is effectively managed according to its specific demands.¹¹ Some areas will require a low level of management activity while others may require a greater management effort to achieve their conservation objectives. In some instances the most efficient way to improve the system's sustainability will be to focus on improved site level management for each protected area within the system.

Project Support

15. **Improve Sustainable Financing of Protected Area Systems:** GEF will support the development and implementation of comprehensive, system-level financing solutions and help build the capacity required to achieve financial sustainability.

16. **Expand Marine and Terrestrial Ecosystem Representation:** GEF will support efforts to address the marine ecosystem coverage gap within national level systems through the creation and effective management of coastal and near shore protected area networks, including no-take zones, to conserve and sustainably use marine biodiversity. GEF will also support the creation and effective management of new protected areas to expand terrestrial and inland water ecosystem representation within protected area systems. Conserving habitat for landraces and wild crop relatives of species of economic importance may also be included as part of this effort to reduce representation gaps.

17. **Expand Threatened Species Representation:** GEF will support the creation and effective management of new protected areas that extends the coverage of threatened species in protected area systems and improves the coverage of their spatial range.

18. **Improve Management Effectiveness of Existing Protected Areas:** GEF will support projects that aim to improve the management effectiveness of existing protected areas. This could include support to transboundary protected areas.

B) Objective Two: Mainstream Biodiversity Conservation and Sustainable Use into Production Landscapes/Seascapes and Sectors

Rationale

¹⁰ The GEF has been tracking protected area management effectiveness since GEF-3 and has applied the Management Effectiveness Tracking Tool (METT) to qualitatively assess how well a protected area is being managed to achieve its conservation objectives.

¹¹ This would include actions to manage threats to biodiversity including invasive alien species, but given the high cost of eradication and the low success rates, projects will prioritize prevention approaches.

19. The persistence of biodiversity requires the sustainable management of landscape and seascape mosaics that include protected areas and a variety of other land and resource uses outside of these protected areas. Thus, in order to complement its investments to strengthen the sustainability of protected area systems, GEF will promote sustainability measures to help reduce the negative impacts that productive sectors exert on biodiversity, particularly outside of protected areas, and highlight the contribution of biodiversity to economic development and human well being, – a set of actions often referred to as “mainstreaming”. Biodiversity-dependent production sectors, with large ecological footprints will be targeted: agriculture, fisheries, forestry, tourism, and the major extractive industries of oil and gas, and mining.

20. GEF’s strategy to support biodiversity mainstreaming focuses on the role and potential contributions of both the public and private sector. The strategy aims to strengthen the capacity of the public sector to manage and regulate the use of biological diversity in the productive landscape and seascape while also exploiting opportunities to support the production of biodiversity-friendly goods and services by resource managers and users including the private sector.

Strengthen the Policy and Regulatory Framework for Mainstreaming Biodiversity

21. The incorporation of biodiversity conservation, sustainable use, and benefit-sharing into broader policy, legal, and regulatory frameworks is not taking place in many GEF-eligible countries because of a number of factors. These factors include poor governance, weak capacity, conflicting policies (e.g., tenure regimes biased against “idle” lands), and the lack of scientific knowledge and incentives.

22. Mainstreaming may yield substantial social and economic benefits to public or private actors. However, these actors may be unaware of these benefits. In these circumstances, providing information on the economic valuation of biodiversity and its contribution to national development and corporate interests is a key task. The Millennium Ecosystem Assessment advanced valuable information on biodiversity and ecosystem services on a global scale, but similar efforts are required at the national and local scales where most policy and production decisions regarding land- and ocean-use are made . This could also involve more effective use of national biodiversity strategies and action plans (NBSAPs) to foster mainstreaming of biodiversity into national development strategies and programs.

23. Even when public and private actors are aware of the benefits from effecting policy and resource management changes, they may not have the capacity to act. In these cases, capacity building becomes paramount.

24. In some cases, public and private actors may not have the incentive to act even if they have the capacity to do so. Incentives can often be created by changing policies and programs that encourage economically inefficient uses of ecosystems and species (e.g., strengthening property rights systems; removing “perverse” subsidies). In other cases,

incentives can be created through the evolving mainstreaming tool of Payment for Ecosystem Services (PES).¹²

25. In recognition of the importance that the COP places on the threat that invasive alien species pose to biodiversity, particularly in islands and island states, and most often in productive lands and oceans, GEF will continue to support the development of regulatory and management frameworks to prevent, control and manage these species.

Strengthen Capacities to Produce Biodiversity-friendly Goods and Services

26. Environmental certification systems exploit the willingness of the market to pay a premium for goods and services whose production, distribution and consumption meets an environmental standard. This willingness creates market incentives for producers to improve their environmental and/or social practices to receive the price premium. GEF will help remove the barriers to enhancing, scaling up, replicating, and extending environmental certification systems in productive landscapes and seascapes.

Project Support

27. **Strengthen Policy and Regulatory Frameworks:** GEF will support the development and implementation of policy and regulatory frameworks that provide incentives for private actors to align their practices and behavior with the principles of sustainable use and management. To this end, GEF interventions will remove critical knowledge barriers and develop requisite institutional capacities. This will include support for sub-national and local-level applications--where implementation can be more effective--of spatial land-use planning that incorporates biodiversity and ecosystem service valuation.

28. In addition, GEF will support the further development of national biodiversity strategy and action plans (NBSAPs) and national reports that incorporate biodiversity and ecosystem service valuation to increase their potential as effective vehicles for mainstreaming biodiversity in sustainable development policy and planning.

29. GEF will continue to support national, sub-national and local PES schemes. Recent STAP guidance will be applied, as appropriate, in the review of PES projects.¹³

30. **Implement Invasive Alien Species Management Frameworks:** GEF will support interventions that address the issue of invasive alien species systemically through developing the sectoral policy, regulations, and institutional arrangements for the prevention and management of invasions emphasizing a risk management approach by focusing on the highest risk invasion pathways. Priority will be given to establishing policy measures that reduce the impact of invasive species on the environment, including through prevention of new incursions, early detection and institutional frameworks to respond rapidly to new incursions.

¹² Also called Payments for Environmental Services.

¹³ Payment for Environmental Services and the Global Environment Facility: A STAP Guideline Document, 2008.

31. **Produce Biodiversity-friendly Goods and Services:** To increase production of biodiversity-friendly goods, GEF will focus its support on: a) improving product certification standards to capture global biodiversity benefits; b) establishing training systems for farmers and resource managers on how to improve management practices to meet certification standards; and c) facilitating access to financing for producers, cooperatives, and companies working towards producing certified goods and services.

C) **Objective Three: Build Capacity for the Implementation of the Cartagena Protocol on Biosafety (CPB)**¹⁴

Rationale

32. The Cartagena Protocol on Biosafety seeks to protect biological diversity from the potential risks posed by living modified organisms resulting from modern biotechnology. GEF's strategy to build capacity to implement the CPB prioritizes the implementation of activities that are identified in country stock-taking analyses and in the COP guidance to the GEF, in particular the key elements in the *Updated Action Plan for Building Capacities for the Effective Implementation of the CPB*, agreed to at the third COP serving as the Meeting of the Parties to the CPB (COP-MOP-3).

Project Support

33. **Single-country projects:** These projects will be implemented when the characteristics of the eligible country, as assessed in the stock-taking analysis – and the design of existing or planned future regional or sub-regional efforts in the area – recommend a national approach for the implementation of the CPB in that country.¹⁵

34. **Regional or sub-regional projects:** Providing support to eligible countries through regional or sub-regional projects will be pursued when there are opportunities for cost-effective sharing of limited resources and for coordination between biosafety frameworks. Regional and sub-regional approaches will be pursued where stock-taking assessments support the potential for: coordinating biosafety frameworks, interchange of regional expertise, and capacity building of common priority areas.

35. **Thematic projects:** A thematic approach can be an effective way to develop the capacities of groups of countries lacking competences in relevant fields. This multi-country approach will be pursued where stock-taking assessments support the needs of eligible countries and where this approach would foster the pooling of resources, economies of scale and international coordination.

¹⁴ A *Strategy for Financing Biosafety* (Doc GEF/C.30/8/Rev.1) was approved by the GEF Council at its December 2006 meeting. The full list of activities to be supported under this objective can be found in the full strategy document at: http://gefweb.org/Documents/Council_Documents/GEF_30/documents/C.30.8.Rev.1StrategyforFinancingBiosafety.pdf

¹⁵ By the end of GEF-4, as many as 50 countries will have received support for implementation of their National Biosafety Frameworks. If that target is achieved, 75 eligible countries are remaining to implement their NBFs leaving significant opportunities to provide ongoing support for single country projects to accelerate implementation of the protocol.

D) Objective Four: Build Capacity on Access to Genetic Resources and Benefit Sharing (ABS)

Rationale

36. Implementation of the CBD's third objective on access to genetic resources and benefit sharing has been slowed by the lack of capacity of most key stakeholder groups. Of particular note is the difficulty in most countries to establish a common understanding between providers and users of genetic resources and the associated traditional knowledge of indigenous and local communities.

Project Support

37. Prior to completion of negotiations of an international regime on ABS before the COP's tenth meeting in Nagoya, Japan, GEF will support capacity building of governments for meeting their obligations under Article 15 of the CBD, as well as building capacity within key stakeholder groups, including indigenous and local communities, and the scientific community. This would include support for the establishment of measures that promote concrete access and benefit-sharing agreements that recognize the core ABS principles of Prior Informed Consent (PIC) and Mutually Agreed Terms (MAT) including the fair and equitable sharing of benefits. Projects submitted prior to completion of the negotiations of the international regime should be consistent with the Bonn Guidelines on ABS and the related action plan on capacity building for ABS adopted under the Convention (Decision VII/19F).

38. After completion of the negotiations of the international regime, the GEF will fully elucidate project support provided under this objective in consultation with the CBD Secretariat and COP Bureau for approval by GEF council.

III) Non-RAF Funds

39. Regional (supra-national), transboundary, and multi-country projects often entail additional administrative and implementation costs and these funds will be used to help cover these costs to complement national contributions to these projects.

40. The GEF recognizes that some projects offer opportunities to contribute to focal area learning objectives. In particular, some projects will be amenable to formal experimental or quasi-experimental designs, which can make measuring and understanding project impact easier. Central to such designs is the identification of valid control groups and the monitoring of indicators on these control groups. Although the GEF encourages project proponents to use RAF funds to develop and implement such designs, the GEF recognizes that many of the knowledge benefits from such designs accrue to the broader GEF network and conservation community (i.e., a global public good). Thus, for cases that are deemed to contribute to the focal area learning objectives and are good candidates for an experimental or quasi-experimental design, GRE funds will be available for the monitoring of indicators on control groups and for technical assistance in the project design and analysis of results.

41. A number of other specific initiatives are currently under consideration for support with these funds and they will be presented once further deliberations are undertaken to prioritize and refine them. Individual programs and projects being considered will meet the following criteria: a) relevant to the objectives of GEF's biodiversity strategy; b) support thematic priorities identified by the COP of the CBD; c) high likelihood that the project will have a broad and positive impact in biodiversity; d) potential for replication; and e) global demonstration value.

Annex One. Coherence Between the 2010-2014 Four-Year Framework of Program Priorities Agreed at COP-9, the GEF-4, and the GEF-5 Biodiversity Strategy

COP 2010-2014 Program Priorities	Strategic Programs for GEF-4	GEF-5 Strategy Objectives
<p>Program priority area 1: Promote conservation of biological diversity, including through catalyzing sustainability of protected area systems</p> <p>Program priority area 2: Promote sustainable use of biodiversity</p>	<p>1. Sustainable financing of protected area (PA) systems at the national level</p> <p>2. Increasing representation of effectively managed marine PA areas in PA systems</p> <p>3. Strengthening terrestrial PA networks</p>	<p>Objective One: Improve Sustainability of Protected Area Systems:</p> <p>a) Increase financing of PA systems; b) Expand ecosystem and threatened species representation within protected area systems; and c) Improve management effectiveness of existing protected areas.</p>
<p>Program priority area 2: Promote sustainable use of biodiversity</p> <p>Program priority area 3: Mainstream biological diversity into various national and sectoral policies and development strategies and programs</p>	<p>4. Strengthening the policy and regulatory framework for mainstreaming biodiversity</p> <p>5. Fostering markets for biodiversity goods and services</p>	<p>Objective Two: Mainstream Biodiversity Conservation and Sustainable Use into Production Landscapes/Seascapes and Sectors:</p> <p>a) Strengthen Policy and Regulatory Frameworks; b) Implement Invasive Alien Species Management Frameworks; and c) Strengthen Capacities to Produce Biodiversity-friendly Goods and Services.</p>
<p>Program priority area 4: Improve national capacity to implement the Convention and the Cartagena Protocol on Biosafety</p>	<p>6. Building capacity for the implementation of the Cartagena Protocol on Biosafety</p>	<p>Objective Three: Build Capacity for the Implementation of the Cartagena Protocol on Biosafety</p> <p>Objective Two: Mainstream Biodiversity Conservation and Sustainable Use into Production Landscapes/Seascapes and Sectors:</p> <p>a) Strengthen Policy and Regulatory Frameworks</p>
<p>Program priority area 5: Promote the implementation of the Convention's third objective and support the implementation of the international regime on access to genetic resources and benefit-sharing</p>	<p>8. Building capacity in access and benefit sharing</p>	<p>Objective Four: Build Capacity on Access to Genetic Resources and Benefit Sharing</p>
<p>Program priority area 6: Safeguard biodiversity</p>	<p>7. Prevention, control, and management of invasive alien species (IAS)</p>	<p>Objective Two: Mainstream Biodiversity and Sustainable Use into Production Landscapes and Seascapes and Sectors</p> <p>Objective One: Improve Sustainability of Protected Area Systems: c) Improve management effectiveness of existing protected areas</p>

Annex Two. Biodiversity Strategy Learning Objectives

Three learning objectives are proposed for the biodiversity focal area. All three share in common a dual-fold purpose, in that the results will contribute to strengthening GEF's capacity to deliver on its own mandate *and* the broader global public good of enhanced knowledge to catalyze change in biodiversity conservation practice.

Learning Objective One: Enhancing Impact and Results through Improved Understanding of Protected Area Management Effectiveness

1. Since 2002, all GEF projects supporting management of protected areas are required to apply the Management Effectiveness Tracking Tool (METT) that was developed by the World Bank and the World Wildlife Fund to assess progress made in improving protected area management effectiveness at the site level. The METT was built on the management framework developed by the IUCN World Commission on Protected Areas and is based on the idea that good protected area management follows a process that has six distinct stages, or elements: it begins with understanding the context of existing values and threats, progresses through planning, and allocation of resources (inputs), and as a result of management actions (processes), eventually produces products and services (outputs), that result in impacts or outcomes, the primary outcome being the conservation of biodiversity. The Tracking Tool is comprised of 30 questions that address key aspects of these six elements and that are scored on a subjective basis. The total score from the tracking tool then provides a qualitative proxy of a protected area's ability to meet its basic conservation function, the assumption being that a protected area that scores well on the METT is being effectively managed and is successfully conserving biodiversity.

2. The Management Effectiveness Tracking Tool (METT) has greatly helped the GEF, project managers in all GEF agencies, and country protected area staff to qualitatively assess progress in improving protected area management over the lifetime of a project. While the METT has positive attributes as a monitoring tool in terms of its ease of application, and the calculation and aggregation of scores, the tool is largely made up of inputs that are *supposed* to matter for biodiversity conservation in protected areas, but for which there has been little empirical evaluation of the hypothesized links. In addition, the scores are aggregated in a way that may not actually correlate with effectiveness (i.e., we hope that the score is an indicator for a continuous latent underlying variable of effectiveness that we cannot observe). However, the METT can only be considered an effective performance metric, and thus a tool to assist learning and the delivery of project results, if a correlation between the METT scores and successful conservation exists.

3. The learning objective is to establish a solid evidence base that is able to better correlate the METT score of a protected area (including each of its six elements of protected area management) to the successful conservation and sustainable use of biodiversity within a protected area. This learning objective will be accomplished through a series of country case studies and field visits to select countries that have been

applying the METT over an extended period of time in their protected area system and that are also collecting quantitative data on the status of biodiversity and protection within the system. The case study results will also help inform a broader quantitative analysis to further elucidate the causal relationships between the METT scores, the six elements of protected area management, and successful conservation within protected areas.

Learning Objective Two: Enhancing Social Impacts through Improved Understanding of the Causal Relationships between Protected Area Management and Local Community Welfare.

1. Although the GEF focuses its efforts on the generation of global environmental benefits, the impacts of its investments on human welfare are also important. Decision VI/26 of the sixth COP of the CBD (the “2010 target”) emphasizes that significant reductions in the rate of biodiversity loss should be accomplished “as a contribution to poverty alleviation and to the benefit of all life on earth.” Given that global efforts to reduce the rate of biodiversity loss rely heavily on protected areas, the CBD’s Programme of Work on Protected Areas adopted a resolution in 2002 to document the impacts arising from protected areas, particularly for local communities, in order to avoid and mitigate negative impacts. The 2003 World Congress on Protected Areas proclaimed that “that protected area management strives to reduce, and in no way exacerbates, poverty.”

2. Despite the widespread interest in understanding the effects of protected areas on human welfare, the effects continue to be the subject of debate because of a dearth of empirical evidence. A forthcoming article (Sutherland et al., 2009, *Cons. Biol.*) identified as two of the most important questions that need to be answered to improve the practice of conservation the following: “What are the human well-being costs and benefits of protected areas, how are these distributed, and how do they vary with governance, resource tenure arrangements, and site characteristics?” and “What are the social impacts of conservation interventions, and how and why do these impacts vary among social groups (e.g., elites, poor, women, men, and indigenous and local communities)?¹⁶

3. Given that the GEF is a global leader in supporting protected areas, an improved understanding of the impacts of protected areas on human welfare is an important area for increasing understanding. This learning objective will contribute to the evidence base about these impacts by supporting work to answer the following question, “What has been the impact of protected areas in GEF-recipient countries on human welfare in neighboring communities, and under what circumstances has the impact been positive?” This learning objective will be accomplished through a series of country-level, quantitative retrospective studies, as well as complementary case studies when these are designed to focus on elucidating potential causal relationships. In a few cases in which new protected areas are being established, the GEF may support prospective studies that

¹⁶ Sutherland, WJ, WM Adams, RB Aronson, R Aveling, TM Blackburn, S. Broad, G. Ceballos, IM Côté, RM Cowling, GAB da Fonseca, E Dinerstein, PJ Ferraro, E Fleishman, C Gascon, M Hunter Jr, J Hutton, P Kareiva, P, A Kuria, DW Macdonald, MacKinnon, K, Madgwick, FJ, Mascia, MB, McNeely, J, Milner-Gulland, EJ, Moon, S, Morley, CG, Nelson, S, Osborn, D, Pai, M, Parsons, ECM, Peck, LS, Possingham, H, Prior, SV, Pullin, AS, Rands, MRW, Ranganathan, J, Redford, KH, Rodriguez, JP, Seymour, F, Sobel, F, Sodhi, NS, Stott, A, Vance-Borland, K & Watkinson, AR. In Press. One Hundred Questions of Importance to the Conservation of Global Biological Diversity. *Conservation Biology*.

track health and livelihood outcomes on a sample of households close to the protected area and a sample of households that live outside the influence of the same parks (for an example, see Wilkie et al. 2006, *Cons. Biol.*)¹⁷.

Learning Objective Three: Enhancing Impacts through Improved Understanding of the Causal Relationships between Popular Mainstreaming Approaches and Conservation Outcomes.

1. The GEF has supported innovative approaches to mainstreaming biodiversity in the productive landscape in GEF-4 and will continue to do so in GEF-5. Three approaches that are becoming increasingly popular globally and in the GEF pipeline are: (1) certification; (2) payments for environmental services; and (3) information transfer on the spatial distribution of species and ecosystem service and the valuation of these species and services. The first two approaches focus on increasing the incentives among resource users to mainstream biodiversity values into their decision making. The third approach focuses on increasing information among policy decision makers (and sometimes resource users) about the economic value of mainstreaming and allocating resources to conservation. We focus on these three approaches not only because of their increasing popularity in the GEF pipeline and in global conservation efforts, but also because the effectiveness of the three approaches is threatened by the same issues: the public good nature of the outcomes, potential adverse selection and moral hazard in project and program implementation, and the difficulties associated with trying to induce action based on economic arguments in situations where economic agents have heretofore perceived no economic benefit from action.
2. Despite the increasing popularity of these approaches (sometimes in combination), the evidence base for their effectiveness and the understanding of the conditions under which they have the greatest potential to be effective is largely undeveloped. A recent article (Sutherland et al., 2009, *Cons. Biol.*) identified two questions related to incentives and information as two of the most important questions that need to be answered to improve the practice of conservation: “What are the impacts of different conservation incentive programs on biodiversity and human wellbeing?” and “How do different values (e.g., use vs. preservation) and the framing of these values (e.g., ecosystem services vs. species) motivate policy makers to public resources to assign conservation programs and policies?”
3. As a leader in supporting innovative incentive-based and information-based mainstreaming approaches, the GEF has observed an increase in the number of funded projects using certification, PES and ecosystem service valuation. Thus, the GEF has an opportunity to contribute the evidence base of these approaches by supporting work to answer the following question, “How do certification, PES and transfers of information about the distribution and values of ecosystem services affect conservation and sustainable use outcomes, and in what circumstances are they likely to be most effective?” This learning objective will be accomplished primarily through support of

¹⁷ Wilkie D, Morelli G, Demmer J, Starkey M, Telfer P, and Steil M. 2006. Parks and people: assessing the human welfare effects of establishing protected areas for biodiversity conservation. *Conservation Biology* 20(1): 247-249.

prospective experimental and quasi-experimental project designs. When feasible, quantitative retrospective studies in programs that have received GEF funding will also be supported. (Case study approaches are not encouraged as a means to achieve this learning objective, particularly for certification and PES programs. Such approaches cannot effectively address the substantial self-selection bias that arises in voluntary conservation programs.)

Annex Three. Biodiversity Strategy Results Based Framework¹⁸

Long-term goal	Impacts	Indicators
Conservation and sustainable use of biodiversity and the maintenance of ecosystem goods and services.	<ul style="list-style-type: none"> Biodiversity conserved and habitat maintained in national protected area systems Conservation and sustainable use of biodiversity integrated into the production landscapes and seascapes 	<ul style="list-style-type: none"> Intact vegetative cover and degree of fragmentation in national protected area systems measured in hectares as recorded by remote sensing Intact vegetative cover and degree of fragmentation in production landscapes measured in hectares as recorded by remote sensing Coastal zone habitat (coral reef, mangroves, etc) intact in marine protected areas and productive seascapes measured in hectares as recorded by remote sensing and, where possible, supported by visual or other verification methods
Objectives	Outcomes	Indicators
Objective 1: Improve sustainability of protected area systems	<ul style="list-style-type: none"> Sufficient revenue for protected area systems to meet total expenditures required for management Increased representation of ecosystems effectively conserved within protected areas Increased representation of threatened species effectively conserved within protected areas Improved management effectiveness of existing protected areas 	<ul style="list-style-type: none"> Funding gap for management of protected area systems <i>as recorded by protected area financing scorecards</i> Ecosystems represented in new or extended protected areas <i>as recorded by the GEF tracking tool</i> Threatened species represented in new or extended protected areas <i>as recorded by the GEF tracking tool</i> Protected area management effectiveness score <i>as recorded by Management Effectiveness Tracking Tool (METT) at the site level—required for system</i> <p>Outputs</p> <p>Output 1. Sustainable financing plans (number). Output 2. New protected areas (number) and coverage (hectares) of unprotected ecosystems. Output 3. New protected areas (number) and coverage (hectares) of unprotected threatened species (number).</p>
Objectives	Outcomes	Indicators

¹⁸ Biodiversity tracking tools have been developed and are now in use for GEF projects in protected areas (objective one), biodiversity mainstreaming including invasive alien species management frameworks (objective two), and biosafety (objective three) and can be found at: <http://gefweb.org/interior.aspx?id=230>. A tracking tool for objective four on Access to Genetic Resources and Benefit Sharing will be developed as the activities of the objective are finalized in response to the outcome of the current negotiations of the international regime on ABS.

<p>Objective 2: Mainstream biodiversity conservation and sustainable use into production landscapes/ seascapes and sectors</p>	<ul style="list-style-type: none"> • Measures to conserve and sustainably use biodiversity incorporated in policy and regulatory frameworks • Improved management frameworks to prevent, control and manage invasive alien species • Increase in sustainably managed landscapes and seascapes that integrate biodiversity conservation 	<ul style="list-style-type: none"> • Policies and regulations governing sectoral activities that integrate biodiversity conservation <i>as recorded by the GEF tracking tool as a score</i> • IAS management framework operationalization score <i>as recorded by the GEF tracking tool</i> • Internationally recognized environmental certification standards that incorporate biodiversity considerations (e.g. FSC, MSC) measured in hectares <i>by GEF tracking tool</i> <p>Outputs</p> <p>Output 1. Policy and regulatory frameworks (number).</p> <p>Output 2. IAS management frameworks (number).</p> <p>Output 3a. Hectares of certified production landscapes/seascapes</p> <p>Output 3b. National and sub-national land-use plans that incorporate biodiversity and ecosystem valuation (number and hectares)</p> <p>Output 4. Certified products (number and market share)</p> <p>Output 5. Payment for ecosystem services schemes in biodiversity-rich habitat. (number and hectares)</p>
<p>Objective 3: Build capacity to implement the Cartagena Protocol on Biosafety.</p>	<ul style="list-style-type: none"> • Potential risks posed to biodiversity from living modified organisms are avoided or mitigated 	<ul style="list-style-type: none"> • National biosafety decision-making systems operability score <i>as recorded by the GEF tracking tool</i> <p>Outputs</p> <p>Output 1. National biosafety decision-making systems in place (number).</p>
<p>Objective 4: Build Capacity on Access to Genetic Resources and Benefit Sharing</p>	<ul style="list-style-type: none"> • Legal and regulatory frameworks, and administrative procedures established that enable access to genetic resources and benefit sharing in accordance with the CBD provisions. 	<ul style="list-style-type: none"> • National ABS frameworks operability score <i>as recorded by the GEF tracking tool (to be developed)</i> <p>Outputs</p> <p>Output 1. Access and benefit-sharing agreements that recognize the core ABS principles of Prior Informed Consent (PIC) and Mutually Agreed Terms (MAT) including the fair and equitable sharing of benefits</p>

**Biodiversity
Focal Area Strategy GEF-5**

Goal: Contribute to the conservation and sustainable use of biodiversity and the maintenance of ecosystem goods and services.

Impacts:

1. Biodiversity conserved and habitat maintained in national protected area systems
2. Conservation and sustainable use of biodiversity integrated into the production landscape and seascape

Objective 1: Improve Sustainability of Protected Area Systems	
Expected Outcomes	Core Outputs
<ul style="list-style-type: none"> • Sufficient revenue for protected area systems to meet total expenditures required for management • Increased representation of ecosystems effectively conserved within protected areas • Increased representation of threatened species effectively conserved within protected areas • Improved management effectiveness of existing protected areas 	<ul style="list-style-type: none"> • Sustainable financing plans • New protected areas and coverage of unprotected ecosystems. • New protected areas and coverage of threatened species
Objective 2: Mainstream Biodiversity Conservation and Sustainable Use into Production Landscapes/Seascapes and Sectors	
Expected Outcomes	Core Outputs
<ul style="list-style-type: none"> • Measures to conserve and sustainably use biodiversity incorporated in policy and regulatory frameworks • Improved management frameworks to prevent, control and manage invasive alien species • Increase in sustainably managed landscapes and seascapes that integrate biodiversity conservation 	<ul style="list-style-type: none"> • Policies and regulatory frameworks for production sectors • National and sub-national land-use plans that incorporate biodiversity and ecosystem services valuation • Certified production landscapes and seascapes
Objective 3: Build Capacity for the Implementation of the Cartagena Protocol on Biosafety (CPB)	
Expected Outcomes	Core Outputs
<ul style="list-style-type: none"> • Potential risks posed to biodiversity from living modified organisms are avoided or mitigated 	<ul style="list-style-type: none"> • National biosafety decision-making systems in place
Objective 4: Build Capacity on Access to Genetic Resources and Benefit Sharing	
Expected Outcomes	Core Outputs

<ul style="list-style-type: none">• Legal and regulatory frameworks, and administrative procedures established that enable access to genetic resources and benefit sharing in accordance with the CBD provisions	<ul style="list-style-type: none">• Access and benefit-sharing agreements that recognize the core ABS principles of Prior Informed Consent (PIC) and Mutually Agreed Terms (MAT) including the fair and equitable sharing of benefits.
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Land Degradation (Desertification and Deforestation) Strategy for GEF-5

BACKGROUND

1. The Land Degradation Focal Area (LD FA) directly supports the implementation of the UNCCD, as an operating entity of the Financial Mechanism of the Convention, as well as indirectly the Non-Legally Binding Instrument (NLBI) on all types of forests of UNFF. At the same time, the LD FA fosters synergetic benefits with the UNFCCC, UNCBD and relevant international agreements on the protection of waters.
2. The GEF-4 LD FA strategy was founded on the basis of the Millennium Ecosystem Assessment's recommendation for investments in the prevention and control of land degradation in areas with medium to high production potential that are essential for peoples' livelihoods¹⁹, and in affected areas where the social a consequences of continuing land degradation can trigger serious environmental and developmental problems. [please introduce a couple of statements on the state of the problem the focal area is addressing – extent, magnitude, etc].
3. For GEF-5, more focus and incentives are needed to enhance the LD FA portfolio with solutions to the emerging challenges, and with the opportunities to act in rural production landscapes, such as through efforts directed at addressing management of competing land uses and resulting changes in land cover and ecosystem dynamics, the potential of sustainable land management supporting climate change mitigation, and at options to the exploitation of natural resources for short-term economic gain at the cost of ecological and social sustainability.
4. These emerging issues coincide also with the three major direct drivers for terrestrial ecosystem degradation identified by the Millennium Ecosystem Assessment: land use change, natural resources consumption and climate change. These direct drivers are also emphasized in the 10-year (2008-2018) strategy of the UNCCD.
5. The LD FA embraces the landscape approach by adopting agreed ecosystem principles, such as maintaining and enhancing the connectivity between ecosystems. By adopting an integrated approach to natural resources management (NRM), the LD FA drives an agenda for multiple global environmental benefits, including those related to the protection and sustainable use of biodiversity, climate change mitigation and adaptation and the protection and sustainable use of international waters. Hence, it is suggested that the strategic objectives for the LD FA for the next replenishment period are made fully consistent with the overall approach to NRM across the GEF FAs of

¹⁹ See 'Ecosystems and Human Well-being: Synthesis', Millennium Ecosystem Assessment, 2005 - <http://www.millenniumassessment.org/documents/document.356.aspx.pdf>

Biodiversity, Climate Change and International Waters, together with the SFM strategy, and that it is designed to foster synergies across these FA portfolios.

LAND DEGRADATION (DESERTIFICATION AND DEFORESTATION) STRATEGY GOALS AND OBJECTIVES

6. The goal of the land degradation focal area is to contribute to arresting and reversing current global trends in land degradation, specifically desertification and deforestation. This will be accomplished by promoting and supporting effective policies, legal and regulatory frameworks, capable institutions, knowledge sharing and monitoring mechanisms, together with good practices conducive to sustainable land management (SLM)²⁰ and that are able to generate global environmental benefits while supporting local and national, social and economic development. Therefore, the LD strategy will promote system-wide change necessary to control the increasing severity and extent of land degradation.. Investing in sustainable land management (SLM) to control and prevent land degradation in the wider landscape is an essential and cost-effective way to deliver multiple global environmental benefits related to ecosystem health.

7. The portfolio of projects and programs implemented under the LD FA strategy is expected to contribute to the following agreed global environmental benefits and expected national socio-economic benefits: (with indicators and measures in presented in Annex 1):

a) Agreed global environmental benefits:

- Improved provision of agro-ecosystem and forest ecosystem services.
- Reduced GHG emissions from agriculture, deforestation and forest degradation and increased carbon sinks.
- Reduced vulnerability of agro-ecosystem and forest ecosystems to climate change and other human-induced impacts.

b) Expected national socio-economic benefits:

- Sustained livelihoods for people dependent on the use and management of natural resources.
- Reduced vulnerability to impacts of CC of people dependent on the use and management of natural resources.

8. These benefits are consistent with the GEF Instrument²¹ and contribute to the achievement of Millennium Development Goals 1 *Eradicate extreme poverty and hunger*, and 7 *Ensure environmental sustainability*, specifically target 7a: *Integrate the principles of sustainable development into country policies and programs; reverse loss of environmental resources* and target 7b: *Reduce biodiversity loss, achieving, by 2010, a significant reduction in the rate of loss.*

²¹ See: *Instrument for the Establishment of the Restructured Global Environment Facility* (2008)

²¹ See: *Instrument for the Establishment of the Restructured Global Environment Facility* (2008)

9. Four objectives will contribute to the focal area goal and drive the development of the GEF-5 portfolio:

- a) Maintain or improve flows of agro-ecosystem²² services to sustain the livelihoods of local communities;
- b) Generate sustainable flows of forest ecosystem services in arid, semi-arid and sub-humid zones, including sustaining livelihoods of forest-dependent people;
- c) Reduce pressures on natural resources from competing land uses in the wider landscape; and
- d) Increased capacity to apply adaptive management tools in SLM.

Objective One: Maintain or improve a sustainable flow of agro-ecosystem services to sustaining the livelihoods of local communities.

Rationale

10. Credible estimates of land affected by human-induced soil degradation, such as unsustainable agriculture practices range from 196 million km² to 200 million km². Unsustainable agricultural activities cause many types of land degradation with a wide variety of underlying drivers. This objective addresses the main barriers to sustainable agriculture which can be linked to the policy, legal and regulatory environment, human and institutional capacities and access and transfer of knowledge and technology relevant to the management of agricultural lands. Outputs of projects supported under this objective will include reduced soil erosion rates, reduced GHG emissions from agricultural (crop and livestock) activities and maintained habitats in the agricultural landscape.

11. The following key outcomes will be achieved under this objective:
- a) The enabling environment within the agricultural sector will be enhanced through targeting three core areas: policy, legal and regulatory framework, capable institutions, and knowledge transfer,
 - b) Improved management of agricultural systems will be achieved through the availability of technologies and good practices for crop and livestock production. There is need for the sustainable provision of diverse sources for investments to farmers for maintaining or up-scaling the application of these technologies and practices on their lands; and
 - c) The functionality and cover of agro-ecosystems are maintained.

Project Support

12. Projects addressing this strategic objective may for example focus on the following actions.

- **Capacity development** to improve decision-making in management of production landscapes to ensure maintenance of ecosystem services important for the global environment and for peoples' livelihoods, and establish mechanism to

²² Agriculture refers to crop and livestock production

scale up good agricultural practices.

- **Community-based agricultural management** including participatory decision-making and gender-related issues.
- **Building of technical and institutional capacities** to monitor and reduce GHG emissions from agricultural activities (including estimating and monitoring associated emissions and changes in carbon stocks).
- **Integrated approaches to soil fertility, pest, and water management; agro-forestry** as an option for integrated natural resource management in crop-livestock systems, especially for smallholder farmers with limited options for improving farm inputs (e.g. fertilizers, seeds, tools).
- **Management of impacts of climate change** on agricultural lands (including water availability), diversification of crops and animal species in order to enhance agro-ecosystem resilience and manage risks; drought mitigation strategies.
- **Valuation of environmental services and introduction of PES and other market-based mechanisms** for creating a sustainable finance flow to be reinvested in sustainable agriculture.
- **Rangeland management**, including regulating livestock grazing pressure to carrying capacity (adaptation to climate change), rotational grazing systems, diversity in animal and grass species; managing fire disturbance.

Objective Two: Generate sustainable flows of forest ecosystem services in arid, semi-arid and sub-humid zones, including sustaining livelihoods of forest-dependent people

Rationale

13. Forest ecosystems in arid, semi-arid and sub-humid zones are still degrading or disappearing at an alarming rate, with consequences for the quantity and quality of linked ecosystem services that underpin land productivity and human well-being. In addition, forest-dependent people struggle sustaining their livelihoods with an increased trend to migrate towards larger cities once the forest-based livelihood opportunities have been exhausted. This objective will remove barriers to sustainable forest management (SFM) by promoting the enabling environment, access to technology, and best practices combined with large-scale applications on the ground. Results will include a net gain in forest area and the improvement of selected forest ecosystem services such as habitat services (biodiversity), regulating services (carbon) and productive services (soil and livelihoods).

14. The following key outcomes will be achieved under this objective:

- a) An enhanced enabling environment within by targeting three core components: policy, legal and regulatory framework in the forest sector, capable forest-relevant institutions, and knowledge transfer;
- b) Improved management of forests through availability of technologies and good practices and the sustainable provision of diverse investment resources to forest-dependant people for maintaining or up-scaling the application of these technologies and practices on their lands.
- c) Functionality and cover of forest ecosystems in arid, semi-arid and sub-humid zones maintained.

Project Support

15. Projects addressing this strategic objective may for example focus on the following actions.

- **Capacity development:** Forest policy and related legal and regulatory frameworks reformulation and improved decision-making.
- **Sustainable management** for timber and non-timber products.
- **Reforestation** and use of local species; incl. agro-forestry, successions to move from deforested areas to closed forest (if feasible).
- **Valuation of environmental services** from forest ecosystems and introduction of PES and other market-based/innovative financing mechanisms in demonstration projects for creating a sustainable finance flow to be reinvested in SFM.
- **Management of impacts of climate change** on forest lands, practices and choice of species used for reforestation.
- **Mechanisms to scale up and out good practices** through e.g. private sector, community-based organizations and extension services.

Objective Three: Reduce pressures on natural resources from competing land uses in the wider landscape

Rationale

16. Over the past decades, the pace, magnitude and spatial reach of human-induced changes in the wider landscape are unprecedented. Land degradation severely affects the stability of the habitats of plant and animal species and contributes to climate. This objective will address the pressures on natural resources from competing land uses in the wider landscape (e.g. extending the agricultural frontier into forest lands, extractive industry destroying forests, urbanization of rural areas). Outcomes focus on harmonized sector policies and coordinated institutions constituting an enabling environment between relevant sectors and the large-scale application of good management practices based on

integrated land use planning. At the same time, financing instruments and mechanisms that provide incentives for reducing the pressures between land use systems will be explored and experimented with improving the livelihood basis of people dependant on the use of natural resources.

17. The following key outcomes will be achieved under this objective:

a.) Enhanced enabling environments between sectors in support of SLM will be achieved by coordinating policy, legal and regulatory frameworks between sectors competing for land area and natural resources; capable institutions that will collaborate and coordinate actions related to land use to avoid negative trade-offs; and knowledge transfer for decision-support.

b.) Good SLM practices in the wider landscape demonstrated and adopted by relevant economic sectors. The provision of financial resources to rural land users will enable them to sustain and upscale good practices.

Project Support

18. Projects addressing this strategic objective may for example focus on the following actions.

- **Capacity development** to improve decision-making in management of production landscapes to ensure maintenance of ecosystem services important for the global environment and for peoples' livelihoods.
- **Avoiding deforestation and forest degradation** (Land use changes affecting forest lands driven by expanding sectors (incl. large-scale agriculture and mining)).
- **Building of technical and institutional capacities** to monitor and reduce GHG emissions from agricultural activities and deforestation (incl. estimating and monitoring associated emissions and changes in carbon stocks).
- Management of agricultural activities within the vicinity of protected areas.
- **Integrated** (transboundary) watershed management.

Objective Four: Increased capacity to apply adaptive management tools in SLM.

Rationale

19. The GEF as an operating entity of the financial mechanism of the UNCCD supports enabling activities related to the obligations of the Parties to the Convention in the context of wider capacity development for SLM. This objective will support adaptive

management by aiding countries in national monitoring and reporting to UNCCD in the context of supporting the national and regional SLM agenda and the development of new tools and methods for better addressing the root causes and impacts of land degradation.

20. The following key outcomes will be achieved under this objective:

a) Increased capacities of Countries to fulfill their obligations in accordance with the provisions provided in the UNCCD. As countries develop and update their national action plans (NAPs) to combat desertification and report back to the COP in form of National Reports (NR), one of the major barriers to the successful implementation of the NAPs remains institutional and human capacity at the country and regional levels.

b) Improved project performance using new and adapting existing tools and methodologies. The development of new and adaptation of existing tools for and methodologies important to combating land degradation is of high importance for knowledge transfer and large-scale uptake in countries and across regions. This outcome will be mainly informed through Targeted Research projects or applied research components in regular projects addressing SO 1- SO-3.

Project Support

21. Projects addressing this strategic objective may for example focus on the following actions.

- **Results-monitoring of UNCCD action programs;**
- **Alignment of national reporting with revised UNCCD action programs in the context of the UNCCD 10-year strategy;**
- **Mainstreaming synergies and best practices for NRM through regional networks of excellence;**
- Improved methods for **impact monitoring** of GEF investment in SLM;
- Management of **organic residues** to optimize GEB in SLM (crop, livestock, wood residues);
- **Lifecycle analysis for organic agriculture**, incl. potential GEB

Annex 1 – LD FA Results-Based Management Framework

Long-term Goal and Impacts	Indicators	Measures
<p>The goal is to contribute to arresting and reversing current global trends in land degradation, specifically desertification and deforestation.</p> <p>Impact:</p> <ul style="list-style-type: none"> ▪ Improved provision of agro-ecosystem and forest ecosystem services. ▪ Reduced GHG emissions from agriculture, deforestation and forest degradation and increased carbon sinks. ▪ Reduced vulnerability of agro-ecosystem and forest ecosystems and people to climate change and other human-induced impacts. ▪ Sustained livelihoods for people dependent on the use and management of natural resources. 	Land Productivity (greenness measure) (land degradation proxy)	NPP, NDVI – corrected by RUE
	Water availability	Drought-related indicator or index
	GHG balance (CO ₂ , NH ₄ , N ₂ O) (MDG 7)	Total emission reductions (t of CO ₂ e)
	Maintained/increased Forest Cover (MDG 7)	Proportion of land area covered by forest
	Rural Poverty (MDG 1)	Prevalence of underweight children under five years of age
Objectives	Outcomes/Indicators	Measures
<p>Objective 1 – Maintain or improve a sustainable flow of agro-ecosystem services to sustaining the livelihoods of local communities</p>	Outcome 1.1: An enhanced enabling environment within the agricultural sector.	
	Agricultural policy, legal and regulatory frameworks that integrate SLM principles	Number of revised frameworks
	Agricultural extension services reach targeted population with targeted messages	Number of institutions
	Information on agricultural technology and good practices disseminated and used	Number of knowledge platforms

	Outcome 1.2: Improved agricultural management.	
	Diversity of sustainable crop and livestock management technologies and good practices (by stakeholder group)	Number of crop and livestock management technologies and good practices (by stakeholder group)
	Land area where improved agricultural, land and water management practices are adopted	Hectares of land where improved agricultural, land and water management practices are applied
	Diversity of investment sources in sustainable agriculture (e.g. PES, small credit schemes, voluntary carbon market)	Number of sources % investment increase by source
	Outcome 1.3: Functionality and cover of agro-ecosystems maintained	
	Maintained land cover area used for agriculture	Hectares of land under agricultural (crop and livestock) use
	Reduced GHG emissions from agriculture (CO ₂ , NH ₄ , N ₂ O)	Tons CO ₂ eq per hectare of land under agricultural use
	Increased soil fertility	Agricultural production measured in yield per hectare
	Maintained inventory of key endemic/flagship species in agricultural landscape	Number of endemic/flagship species within the landscape
Objective 2 - Generate sustainable flows of forest ecosystem services in arid, semi-arid and sub-humid zones, including sustaining livelihoods of forest-dependant people	Outcome 2.1: An enhanced enabling environment within the forest sector.	
	Forest policy, legal and regulatory frameworks that integrate SFM principles	Number of revised frameworks
	Forest-relevant extension services and institutions reach targeted population with targeted messages	Number of institutions
	Information on SFM technology and good practices disseminated and used	Number of knowledge platforms
	Outcome 2.2: Improved forest management.	
	Diversity of sustainable forest management technologies and good practices (by stakeholder group)	Number of SFM technologies and good practices (by stakeholder group)
	Land area where improved forest management practices are adopted	Hectares of land where improved SFM practices are adopted
	Diversity of investment sources in sustainable forest management (e.g. PES, small credit schemes, voluntary carbon market)	Number of sources % increase in investment by source

	Outcome 2.3: Functionality and cover of forest ecosystems in arid, semi-arid and sub-humid zones maintained.	
	Maintained forest and tree cover	Hectares of land covered by forest and trees
	Reduced GHG emissions from deforestation	Tons CO _{2eq} per hectare of forest land
	Maintained inventory of key endemic/flagship species in forest ecosystems	Number of endemic/flagship species within the forest landscape
Objective 3 - Reduce pressures on natural resources from competing land uses in the wider landscape.	Outcome 3.1: Enhanced enabling environments between sectors in support of SLM.	
	Coordinated and harmonized policies among relevant sectors in place	Number of coordinated and harmonized frameworks
	Increased coordination among sector extension services or related institutions	Number of coordinated extension services or related institutions
	Information on SLM (wider landscape) technology and good practices disseminated and used	Number of knowledge platforms
	Outcome 3.2: Good management practices in the wider landscape demonstrated and adopted by relevant economic sectors.	
	Increased number of agreements between ministries formally collaborating to support SLM	Number of agreements (by country)
	Increased land area with demonstration activities implemented by sector, incl. agriculture, forestry, planning	Hectares of land with SLM demonstration activities
	Diversity of investment sources in SLM from successfully tested sustainable finance reflow schemes for SLM through innovative financing mechanisms (e.g. avoided deforestation or other PES)	Number of sources % increase of investment
	Maintained land cover	Hectares of land with unchanged cover by economic sector (status quo)
	Avoided GHG emissions from land cover changes	Tons CO _{2eq} per hectare of land
Objective 4 – Increased capacity to apply adaptive management tools in SLM	Outcome 4.1: Increased capacities of Countries to fulfill their obligations in accordance with the provisions provided in the UNCCD	
	Updated and mainstreamed results-oriented UNCCD action programs.	Number
	National reports (NR) with verifiable information on UNCCD action program implementation process and suggestions for adaptive measures for enhanced implementation.	Number
	GEF projects financed under SO-1 to SO-3 address priorities identified in UNCCD action programs and NR process.	% of projects addressing UNCCD objectives in GEF LD FA portfolio

	Outcome 4.2: Improved project performance using new and adapting existing tools and methodologies	
	GEF-6 LD focal area strategy reflects lessons learned and results of targeted research portfolio and implementation results from earlier replenishment periods	To be discussed how to reflect
	GEF projects financed through the LD FA that take up emerging knowledge from targeted research projects or projects with targeted research component	% of LD FA portfolio

Land Degradation Focal Area Strategy GEF-5

Goal: To contribute to arresting and reversing current global trends in land degradation, specifically desertification and deforestation.

Impacts:

- Improved provision of agro-ecosystem and forest ecosystem services.
- Reduced GHG emissions from agriculture, deforestation and forest degradation and increased carbon sinks.
- Sustained livelihoods for people dependent on the use and management of natural resources.

Objective 1: Maintain or improve a sustainable flow of agro-ecosystem services¹ to sustaining the livelihoods of local communities	
Expected Outcomes	Core Outputs
<ul style="list-style-type: none"> • An enhanced enabling environment within the agricultural sector. • Improved agricultural (crop and livestock) management. • Functionality and cover of agro-ecosystems maintained • GHG emissions (CO₂, NH₄, N₂O) from agriculture reduced • Carbon stocks in agro-ecosystems increased 	<p>Agricultural policy, legal and regulatory frameworks that integrate SLM principles</p> <p>Land where improved agricultural, land and water management practices are applied</p> <p>GHG balance in agricultural systems</p>
Objective 2: Generate sustainable flows of forest ecosystem services in arid, semi-arid and sub-humid zones, including sustaining livelihoods of forest-dependant people	
Expected Outcomes	Core Outputs
<ul style="list-style-type: none"> • An enhanced enabling environment within the forest sector. • Improved forest management. • Functionality and cover of existing forest ecosystems in arid, semi-arid and sub-humid zones maintained. 	<p>Forest policy, legal and regulatory frameworks that integrate SFM principles</p> <p>Land where improved SFM practices are adopted</p> <p>Land covered by forest and trees</p> <p>CO₂ emissions avoided</p>

<ul style="list-style-type: none"> • GHG emissions from deforestation reduced 	
Objective 3: Reduce pressures on natural resources from competing land uses in the wider landscape.	
Expected Outcomes	Core Outputs
<ul style="list-style-type: none"> • Enhanced enabling environments across sectors in support of SLM. • Good management practices in the wider landscape demonstrated and adopted by relevant economic sectors. 	<p>Coordinated and harmonized policies among relevant sectors in place</p> <p>Land with unchanged cover by economic sector (status quo)</p>
Objective 4: Increase capacity to apply adaptive management tools in SLM	
Expected Outcomes	Expected Outputs
<ul style="list-style-type: none"> • Improved project performance using new and adapting existing tools and methodologies • Increased capacities of Countries to fulfill their obligations in accordance with the provisions provided in the UNCCD 	<p>Updated and mainstreamed results-oriented UNCCD action programs.</p>

Sustainable Forest Management (SFM) and LULUCF for GEF-5

BACKGROUND

1. Forest ecosystems provide a multitude of benefits which are realized at several scales, ranging from the global, sub-regional, national to the local. The benefits are environmental, economic and socio-cultural and they are valued at various degrees depending on their location, size, state and other variables. At national and local scales, the international community and individual states have increasingly taken cognizance of the needs and aspirations of forest dependant people. Threats to forest ecosystems are multiple – ranging from the impacts of climate change to all aspects of competing land which often lead to forest degradation and deforestation. These threats pose complex challenges to not only manage remaining forest ecosystems in a sustainable way but also protect them from being substituted by other land uses such as agriculture which ultimately result in complete land cover changes.
2. Today, forests have again become the center of the international debate related to its contribution to reducing GHG emissions from forest degradation and deforestation. The Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) states that deforestation contributes about 20 % of global greenhouse gas (GHG) emissions, which is more than the entire transport sector. Of particular concern is the conversion and degradation of tropical forests, which accounts for approximately 90 % of the total GHG emissions from deforestation. According to the FAO, the main threat to tropical forests is rapid population growth and the associated need for farming and grazing land. Other potential reasons for the destruction and degradation of forests include the overexploitation of timber, mining, cattle ranching and the production of biomass for biofuels. Degraded forest ecosystems have also been identified as at risk to effectively cope with the impacts of climate change. Healthy and un-fragmented forest ecosystems in turn are much more resilient to the impacts of climate change and are able to absorb better shocks induced by human activities or natural disasters.
3. With its SFM strategy, the GEF advocates the landscape approach, which embraces ecosystem principles as well as the connectivity between ecosystems. Hence, GEF investments would build on the widely accepted ‘forest landscape restoration’ approach, which is fully compatible with the advocated wider landscape approach. This includes the integration of people’s livelihood objectives in the management of forest ecosystems. Supporting an integrated approach to managing forest ecosystems, the GEF strives for achieving multiple global environmental benefits, including those related to the protection and sustainable use of biodiversity, climate change mitigation and adaptation and combating land degradation. Therefore, the proposed objectives for the SFM strategy are consistent with the overall approach to natural resources management across the GEF FAs Biodiversity, Climate Change and Land Degradation.

CONVENTION GUIDANCE

4. The proposed SFM strategy for SFM is fully responsive to the guidance provided by the UNFCCC and UNCBD to the GEF. It is also in line with the UNCCD 10-year strategy, which focuses on efforts to prevent, control and reverse desertification/land degradation while contributing to the reduction of poverty in the context of sustainable development. The strategy also addresses the focus of the NLBI for all types of forests of the UNFF which supports international cooperation and national action to reduce deforestation, prevent forest degradation, promote sustainable livelihoods and reduce poverty for all forest-dependent peoples.

LESSONS LEARNED FROM GEF-4 AND EMERGING ISSUES FOR GEF-5

5. Over the past years, the GEF has provided #million in incremental finance to initiatives dealing with forest protection, the sustainable management of production forests and the management of forests and trees in the wider landscape emphasizing the multiple benefit character of forest ecosystems to the global environment in the context of sustainable development. While in the earlier years, GEFs approach to SFM was rather fragmented, GEF-4 introduced a more strategic and focused approach to SFM. The GEF-4 SFM strategy has encompassed a mix of traditional forest management approaches such as protected areas and integrated watershed management but also piloted new and emerging aspects to forests such as biomass production for biofuels (potentially, but not necessarily linked to deforestation by extending the agricultural frontier for large-scale soy and oil seed production) and last but not least the role of forests in climate change mitigation (LULUCF).

6. LULUCF has been one of the Strategic Programs in the GEF-4 CC focal area strategy that specifically aims at protecting carbon stocks and reducing GHG emissions through management of land use, land-use change, and forestry. Over the past few months, a variety of GEF proposals have come forward seeking direct collaboration with existing funding mechanism addressing LULUCF such as the WB FCPF and UNREDD. GEF resources have been used on a pilot basis not only for engaging proactively in the debate but also engaging in shaping the institutional dynamics when it comes to the role of forests in climate change mitigation.

7. The GEF-4 strategy was operationalized through a SFM program which now reflects a diverse portfolio of projects that either address individual GEF focal area aspects of forests or emphasize the multiple benefit character of forest ecosystems. All types of forests have been addressed ranging from tropical and sub-tropical forests to woodlands and trees in the wider landscape. The portfolio also presents a wide spectrum of SFM management tools that are promoted through GEF projects such as protected area management, integrated watershed management, certification of timber and non-timber forest products or PES. Apart from the LULUCF program, the CC focal area also promoted tools and technologies indirectly addressing some main drivers of deforestation

and forest degradation through interventions such as energy efficient stoves, energy efficiency in small and medium industries, off-grid small hydro energy installations and installation of solar panels for small scale energy production.

8. The investment strategy for GEF-5 in sustainable forest management will build on the experience in portfolio development gained in GEF-4, include new information on forest ecosystems and management (CBD “Status and Trend of Forest Biodiversity”), fully reflect and include the latest developments in new and innovative financing opportunities for reducing deforestation and forest degradation (LULUCF) and emphasize even more the wider and integrated concept to sustainable forest management. Because of the increased attention given to LULUCF in the context of mitigation of climate change, the GEF-5 strategy will pay particular attention to this aspect of SFM. The GHG mitigation benefits expected from agricultural land use under LULUCF will be addressed in the strategy for the GEF Land Degradation focal area.

9. It is of central importance to the GEF that the GEF-5 strategy for SFM will support investments to control and prevent deforestation and forest degradation as an essential and cost-effective way to deliver multiple global environmental benefits, such as the protection of habitats and other forest ecosystem services, mitigation of climate change and protection of international waters.

GEF-5 SFM STRATEGY

10. The **goal** for GEF-5 investment in SFM is to achieve multiple global environmental benefits from the management of all types of forests and strengthen sustainable livelihoods for people dependent on forest resources.

11. The portfolio of projects and programs implemented under the SFM strategy is expected to contribute to the following:

Agreed global environmental benefits:

- Enhanced resilience of forest ecosystem services to human-induced and climate change impacts.
- Improved provision of forest ecosystem services.
- Reduced GHG emissions from deforestation and forest degradation and increased carbon sinks.
- Improved status of threatened forest and forest-dependant species.

These benefits are consistent with the GEF Instrument²³ and contribute to the achievement of Millennium Development Goal 7 *Ensure environmental sustainability*, specifically target 7a: *Integrate the principles of sustainable development into country policies and programs; reverse loss of environmental resources* and target 7b: *Reduce biodiversity loss, achieving, by 2010, a significant reduction in the rate of loss.*

²³ See: *Instrument for the Establishment of the Restructured Global Environment Facility* (2008)

12. Two **objectives** will drive the SFM portfolio and contribute to that goal:
 1. Reduce pressures on forest resources and generate sustainable flows of forest ecosystem services.
 2. Reduce GHG emissions from deforestation and forest degradation and enhance carbon sinks from LULUCF activities

Objective One: Reduce pressures on forest resources and generate sustainable flows of forest ecosystem services.

Rationale

13. Forest ecosystems are still degrading or disappearing at an alarming rate. The loss of quantity and quality of linked ecosystem services reaches from disappearing plant and animal species to the diminished ability to sequester carbon above and below ground, and reduced production capacity because of lost top soil and water retention capacity. In addition, forest-dependant people struggle sustaining their livelihoods with an increased trend to migrate towards larger cities once the forest-based livelihood opportunities have been exhausted. Barriers to the sustainable management of forest ecosystems have been linked to the enabling environment (policy, legal and regulatory frameworks for SFM, human and institutional capacity and the access to technology and good practices for SFM). Often, decision-makers at the national and local level chose short-term economic gains (e.g. from large scale logging for timber extraction or the conversion of forests, including peat swamp forests into oil palm plantations or farm land or other more profitable land uses like mining) over long-term sustainability of multiple benefits forests provide. This often happens due to the lack of a long-term and more integrated vision for a country's natural assets including knowledge of the impacts of these decisions on socio-economic and ecological stability.

14. This objective will remove barriers to SFM by promoting the enabling environment for SFM, access to technology and good SFM practices combined with large-scale applications on the ground to reduce and avoid forest degradation. Results will include a net gain in forest area managed in a sustainable way and the improvement of selected forest ecosystem services such as habitat services (biodiversity), regulating services (carbon) and productive services (soil and livelihoods).

15. The following key outcomes will be achieved under this objective:
- a) Enhanced enabling environment within the forest sector and across sectors
 - b) Good management practices developed and applied in existing forests
 - c) Functionality of forest ecosystems and forest cover maintained or restored
 - d) Good management practices in the wider forest landscape demonstrated and adopted by relevant economic sectors

Projects addressing this strategic objective may for example focus on:

- **Forest policy and related legal and regulatory frameworks** reformulation;
- **Decision-making** (e.g. reforestation potential/suitability analysis and related planning and implementation activities; trade-off analysis incl. mid-and long term analysis);
- Sustainable **harvesting technologies** for timber and non-timber products, forest function and management planning;
- Forest **certification and verification** of timber supply chains;
- Integrated forest **fire management**;
- **Conflict resolution** approaches (in case of disputed forest tenure and use).
- Building of capacity to **value environmental services** from forest ecosystems and introduction of PES and other market-based mechanisms in demonstration/model projects for creating a sustainable finance flow to be reinvested in SFM
- Industrial, agricultural and domestic **technologies** reducing the pressure on forest (energy efficiency, fuel substitution)
- **Increasing ecological connectivity and improving forest biodiversity values at landscape level**, including for agricultural activities (e.g. through buffer zone management, corridors between PAs, and inclusion of forest biodiversity aspects into production forest);

Objective Two: Reduce GHG emissions from deforestation and forest degradation and enhance carbon sinks from LULUCF activities

Rationale

16. Forests, through growth of trees and an increase in soil carbon, contain a large part of the carbon stored on land. Forests present a significant global carbon stock. Global forest vegetation stores 283 Gt of carbon in its biomass, 38 Gt in dead wood and 317 Gt in soils (top 30 cm) and litter. The total carbon content of forest ecosystems has been estimated at 638 Gt for 2005, which is more than the amount of carbon in the entire atmosphere. This standing carbon is combined with a gross terrestrial uptake of carbon, which was estimated at 2.4 Gt a year, a good deal of which is sequestration by forests. Approximately half of the total carbon in forest ecosystems is found in forest biomass and dead wood (UNFCCC).

17. Global deforestation has accelerated dramatically in recent decades with competing land uses identified as one of the biggest threats to forest ecosystems. There is data which indicates that half of the forests existing in the 1950's have since been destroyed. The Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) states that deforestation contributes about 20 % of global greenhouse gas (GHG) emissions, which is more than the entire transport sector. Of particular concern is the conversion and degradation of tropical forests, which accounts for approximately 90 % of the total GHG emissions from deforestation. The new focus on the role of forests in climate change mitigation has raised sustainable forest management in the political agenda, especially in the context of the ongoing negotiations for a post 2012 arrangement under the UNFCCC which will fully include LULUCF.

18. This objective will enable countries to take stock of their forest resources and understand as well as address the current dynamics and drivers for deforestation and forest degradation. Countries will be enabled to integrate LULUCF activities in the wider agenda of sustainable forest management which strives for conserving multiple environmental and livelihood benefits forest ecosystems provide.

19. The following key outcomes will be achieved under this objective:

- a) Enhanced institutional capacity to account for GHG emission reduction and increase in carbon stocks
- b) Good management practices in existing forests demonstrated and adopted (addressing forest degradation).
- c) Good management practices in the wider forest landscape demonstrated and adopted (addressing deforestation).
- d) New revenue for SFM created through engaging in the carbon market.

Projects addressing this strategic objective may for example focus on:

- **Competition for land use and land use changes** driven by e.g. food and bio-energy crop production (e.g. land use potential/suitability analysis and related planning activities; trade-off analysis incl. mid-and long term analysis)
- **Building of technical and institutional capacities** to monitor and reduce GHG emissions from deforestation and forest degradation (incl. estimating and monitoring associated emissions and changes in forest carbon stocks, national forest inventories; improved access to country-based data for monitoring and modeling of forest production potential and carbon stock trends);

Annex 1 – SFM Results-Based Management Framework

Long-term Goal and Impacts	Indicators	Measures
<p>The goal is to achieve multiple global environmental benefits from the management of all types of forests and strengthen sustainable livelihoods for people dependent on forest resources.</p> <p>Impact:</p> <ul style="list-style-type: none"> ▪ Improved provision of forest ecosystem services ▪ Reduced GHG emissions from deforestation and forest degradation ▪ Improved status of threatened forest and forest-dependant species ▪ Sustained livelihoods for people dependant on the use and management of forest resources 	Forest biodiversity	
	GHG balance (CO ₂) (MDG 7)	Total emission reductions (t of CO ₂ e)
	Maintained/increased Forest Cover (MDG 7)	Proportion of land area covered by forest
Objectives	Outcomes/Indicators	Measures (aggregated from project tracking too – to be developed)
<p>Objective 1 – Reduce pressures of forest resources and generate sustainable flows of forest ecosystem services</p>	Outcome 1.1: Enhanced enabling environment within the forest sector and across sectors.	
	Forest policy, legal and regulatory frameworks that integrate SFM principles	
	Coordinated and harmonized policies among relevant sectors in place	
	Outcome 1.2: Good management practices developed and applied in existing forests.	
	Land where SFM practices are applied	
	Outcome 1.3: Functionality of forest ecosystems and forest cover maintained or restored.	
	Habitats for forest biodiversity conserved	

	Land covered by forest and trees	
	Outcome 1.4: Good management practices in the wider forest landscape demonstrated and adopted by relevant economic sectors	
	Maintained land cover area used for agriculture	
	Reduced GHG emissions from avoided deforestation	
	Habitats for (forest) biodiversity conserved	
Objective 2 - Reduce GHG emissions from deforestation and forest degradation and enhance carbon sinks from LULUCF activities	Outcome 2.1: Enhanced institutional capacity to account for GHG emission reduction and increase in carbon stocks.	
	National forest carbon monitoring system	Number of systems
	National institutions certifying carbon credits	Number of national institutions by country
	Outcome 2.2: Good management practices in existing forests and the wider landscape demonstrated and adopted (addressing forest degradation and deforestation).	
	CO ₂ emissions avoided	Tons CO ₂ eq per hectare of forest land
	Habitats for forest biodiversity conserved	Hectares of land where improved SFM practices are adopted
	Carbon stored in forests and peatlands	Carbon stocks
	Maintained forest and tree cover	Hectares of land covered by forest and trees
	Outcome 2.4: New revenue for SFM created through engaging in the carbon market.	
	Innovative financing mechanisms	Number of mechanisms and % increase in revenue for SFM

International Waters Focal Area Strategy for GEF-5

BACKGROUND

a. International Waters (IW)

1. Slowly, the world community is recognizing the severity of the global water crisis. Not only are Millennium Development Goals (MDGs) and Johannesburg World Summit (WSSD) targets being missed, but economic opportunities and community security are now diminished because of little priority on water. Once thought to be simply related to mismanagement and policy failure, degradation and depletion of our planet's surface, ground water, and oceans are also caused by complex global pressures of population growth and displacement, changing climate, global financial and trade distortions, policy failures in urbanization, and changing diets.
2. Freshwater, saltwater, and their living resources know no borders. With 70 percent of the Earth being ocean and 60 percent of the land mass lying in cross-border surface and groundwater basins, transboundary water systems dominate. These systems produce food for global trade and domestic use, power industry and economies, quench thirst, and nourish ecosystems that support life. Globally, these systems are overused, over-polluted, and suffer from serious transboundary and national governance failures. Conflicting uses among states create tensions as degradation and depletion expand and increased climatic variability just makes matters worse.

b. Evolution of the IW Strategy at the GEF

3. The GEF International Waters (IW) focal area addresses these very complex sustainable development challenges faced by States sharing transboundary surface, groundwater, and marine systems. Challenges range from pollution, loss of habitat, and ship waste, to overuse and conflicting uses of surface and groundwater, over-harvesting of fisheries, and adaptation to climatic fluctuations. The GEF IW focal area serves a unique role in building trust and confidence among states for catalyzing collective management of these large water systems while providing benefits for water, environment, health, community security and regional stability.
4. The third independent Overall Performance Study of the GEF (OPS3) in 2005 documented GEF success in catalyzing multi-country cooperation for shared waters. Outcomes have been robust, targets exceeded, and IW has proven to be an effective agent for policy, legal and institutional reforms and for enabling on-the-ground demo action. OPS 3 concluded that the IW Focal Area was ready to move from a demonstration mode to scaling-up of full operations in support of reforms, investments, and collective management. This scaling up of on-the-ground actions was not possible during GEF 4 because funding was reduced from previous years.
5. While coping with small funding, GEF IW programming has focused on: (a) creating an enabling foundation in trust, confidence and capacity among states desiring to collaborate on sustainable use of their transboundary waters, (b) demonstrating simple GEF strategic approaches for scaling up impacts when larger funding becomes available, and (c) developing

measures for groundwater protection and management to cope with increased droughts. To avoid irreversible economic and social damage while cost-effective measures can still work, the time for scaling up the IW area is now. A backlog of requests for action exists with GEF having built the capacity of 149 recipient countries to work together with 23 non-recipient countries on regional collective management for the particular transboundary water systems they share—22 river basins, 8 lake basins, 5 groundwater systems, and 19 Large Marine Ecosystems.

6. While recent requests have gone unfunded, capacity has been built through previous GEF interventions with many states ready to move forward in scaling up on-the-ground impacts contributing to MDGs and WSSD targets while also incorporating climatic variability and change as a new transboundary concern for action. Integration across focal areas will be pursued to help states make the transition toward sustainable use of land and water resources, for example focusing on water resources through joint BD-LD-Adaptation-IW approaches for sustainable use of specific landscapes, catchments, seascapes or wetland basins within transboundary systems.

INTERNATIONAL WATERS STRATEGY GOALS AND OBJECTIVES

7. Two long-term goals for the GEF International Waters focal area were included by the GEF Council in its 1995 Operational Strategy and remain relevant today. With only slight updating for GEF-5, the goals serve as politically pragmatic and cost-effective guidance for GEF to tackle the highly complex concerns of transboundary freshwater and marine ecosystems.

The goal of the International Waters focal area is the promotion of collective management of transboundary water systems and implementation of the full range of policy, legal, and institutional reforms and investments contributing to sustainable use and maintenance of ecosystem services.

8. Since 1995, GEF has placed human needs at the center of transboundary water systems and based interventions on modifying human activities and institutions toward sustaining multiple uses of and human well-being for these sensitive waters. The GEF approach has provided opportunities for states wishing to address transboundary water-related conflicts and development concerns in a collective manner while respecting the political interests of hesitant states.

9. The GEF Council-approved Operational Strategy in 1995 recognized the sensitive international political dimensions of assisting states in collective management of transboundary water systems. The Council noted that global environmental benefits would accrue if countries worked together on priority concerns of these transboundary systems, which are the dominant waters on Earth, and that global environmental benefits relate to the interconnectedness of the global hydrologic cycle that dynamically links many watersheds, aquifers, and coastal and marine ecosystems and their transboundary movement of water, pollutants, ships, and living resources.

10. Consistent with this approach, the goal for the IW focal area and GEF-5 objectives contribute to the GEF institutional goal of delivering agreed global environmental benefits. In

particular, IW programming for 2010-2014 supports the following GEF-5 corporate goals: #1 on global natural resources, #2 on assisting countries to adapt to climatic variability and change, and #4 on building national and regional capacities and enabling conditions for addressing conflicting uses in transboundary systems. Through its previously stated support of Agenda 21 Chapters 17 and 18 as well as the MDGs and WSSD targets, the IW focal area also contributes to human well being and poverty eradication by sustaining water-related and dependent livelihoods, securing food sources, promoting equitable access to water, and reducing water-related health risks in addition to resolving and preventing water-related use conflicts in these large bodies of water. Level of ambition in producing outcomes will be commensurate with level of Replenishment.

11. Expected impacts associated with programming in GEF-5 are twofold. As a result of programming to build foundational capacity for states to work collectively on their particular transboundary water systems, the expected impact relates to new political commitments for improved multi-country cooperation leading to conservation and sustainable use of transboundary surface water, groundwater, and coastal/marine ecosystems. As a result of implementing regional institutional reforms, national reforms and investments, the expected impact relates to states demonstrating the ability to reduce over-exploitation of fish stocks, reduce land-based pollution of coastal waters, conserve and restore wetland habitat, protect quality of groundwater, and balance competing uses of water resources in surface and groundwater basins and coastal waters.

12. Adding climatic variability and change as a key transboundary concern in GEF-5 dictates that multiple priority stresses for individual waterbodies be addressed together and collectively by states rather than by single themes or single states if the benefits of contributing to MDGs and WSSD targets are to be realized.

13. The GEF IW strategy will achieve the goal through the following five objectives that focus programming of resources so that on-the-ground action can be scaled up per OPS-3 recommendations while addressing climatic variability and change (objectives 1-3). The strategy also includes two additional objectives (four and five) related to pilot initiatives. Objectives are:

- a. Build foundational capacity for collective, multi-state management of transboundary surface, groundwater and marine water systems;
- b. Catalyze state cooperation in balancing competing uses of transboundary surface and groundwater basins and SIDS while taking account of climatic variability and change;
- c. Catalyze integrated, ecosystem-based approaches to improved management of Large Marine Ecosystems (LMEs) and their coasts while taking account of climatic variability and change;
- d. Support improved management of marine Areas Beyond National Jurisdiction;

- e. Demonstrate reduced pollution from Persistent Toxic Substances (PTS), particularly endocrine disruptors.

a. Objective One: Build foundational capacity for collective, multi-state management of transboundary surface, groundwater and marine water systems

Rationale

14. A decade of GEF experience shows that interventions in multiple countries with regional projects are more cost-effective than individual country IW projects in catalyzing commitments to collective action. GEF processes build trust and confidence for states working together on shared water-related concerns in order to avoid political conflicts among neighboring states and pursue joint development benefits. This strategy of using foundational processes to leverage political commitment to collective action and then scaling up with innovative policy, legal and institutional reforms and pilot demonstrations may take 10 years and successive projects to achieve. During GEF-5, climatic variability and change will be integrated into these processes.

15. Where capacity and agreement among states is not yet built for collectively addressing concerns of transboundary freshwater and marine ecosystems or climatic variability and change are not yet incorporated into adaptive management frameworks, an enabling environment for action will be created through GEF supported foundational processes in states desiring to collaborate on their particular transboundary water systems.. These processes of establishing national inter-ministry committees for project participation, development of Transboundary Diagnostic Analyses, third-party facilitation, stakeholder participation, and formulation of Strategic Action Programs will now incorporate climatic variability and change.

Project Support

16. For transboundary surface and groundwater systems, groundwater concerns and opportunities would be systematically integrated into management of surface water systems and surface water concerns into transboundary groundwater systems so that entire basins or aquifers serve as management units. National inter-ministry committees would contribute to development of Strategic Action Programmes for the water system, which would include commitments to establish or strengthen institutions for multi-state, collective management and subsequent action. An enabling environment for adopting Integrated Water Resources Management (IWRM) plans and policies per WSSD targets will be pursued in states sharing transboundary surface and groundwater systems, and climatic variability and change will be integrated into the GEF supported processes to address droughts and floods and integrate the concerns into IWRM policies. For coastal and marine ecosystems, GEF will utilize similar foundational capacity building processes to help states adopt ecosystem-based approaches at the Large Marine Ecosystem and local ICM scales. Shifting currents and changes in distribution, abundance, and life cycles of marine resources as well as coastal storm vulnerability and sea-level rise may be included in the GEF-supported foundational processes. MARPOL compliance, ports, and coastal/port state responsibility for maritime transport may need to be part of ICM planning.

17. For both freshwater and marine transboundary systems, local pilot demonstrations associated with priority transboundary concerns would also be incorporated into foundational

projects. GEF IW experiences and evaluations show these local demonstrations help provide pilot scale benefits toward MDGs and WSSD targets while also engaging local stakeholders in needed actions and helping states better understand potential benefits of collective action.

Objective 1: Build foundational capacity for collective, multi-state management of transboundary surface, groundwater and marine water systems	
Expected Outcomes	Core Outputs
<ul style="list-style-type: none"> • Enhanced understanding/consensus on priority transboundary water concerns, including climatic variability and change, by regional, national, and local stakeholders • Increased political commitment and institutional capacity for collective action on transboundary water concerns • Transboundary water management priorities incorporated into national planning frameworks • Benefits demonstrated from water/fisheries pilots 	<ul style="list-style-type: none"> • National inter-ministry committees established • Strategic Action Programme (SAP) based on Transboundary Diagnostic Analyses and successful local pilots agreed by ministers.

a. Objective Two: Catalyze state cooperation in balancing competing uses of transboundary surface and groundwater basins and SIDS while taking account of climatic variability and change

Rationale

18. Overuse and conflicting uses of water resources in transboundary surface and groundwater basins result in significant ecological and economic damage, reduced livelihoods for the poor, and increased political tensions among downstream states. With more frequent droughts and floods, the conflicts and water scarcity increase dramatically, and food security is being diminished for the poor with global collapses in freshwater fisheries. Recent increases in irrigation for food security and bio-fuels make the situation worse as does the crisis in water quality with increased pollution discharges. Shallow groundwater over-extraction, saline intrusion, and pollution of groundwater supplies of many SIDS are becoming major threats to their viability. Use of IWRM plans and policies consistent with WSSD targets has been identified as an answer to balancing competing and conflicting uses of water resources in basins to inform tradeoffs being made.

19. Multiple drivers of transboundary water degradation and depletion will be addressed together in the implementation of Strategic Action Programs for waterbodies where states desire to adopt collective management to achieve cost effective use of resources. IW projects in GEF-5 should incorporate adaptive management measures for addressing climatic variability and change. This need to build capacity and provide technical assistance on drought and floods to states working on transboundary freshwater systems represents an important new line of work. In particular, 97% of all freshwater is located in aquifers, so groundwater protection and

management will provide an important element for drought management planning. Likewise, the scaling up of on-the-ground measures for surface and groundwater systems will also add an additional increment over the limited resources provided in GEF-4.

20. The benefits of collaboration on shared waters and states adoption of reforms in IWRM policies will contribute to improved community livelihoods, increased crop yields, sustainable irrigation practices, improved environmental flows, and reduced health risks where pollutants create risks. These interventions contribute to regional integration, reduction of tensions among states, and increased stability. In particular, the Africa region will demand significant resources to move to on-the-ground implementation of measures in the face of climatic variability, change and food security now that capacity for collective management has been built by GEF.

Project Support

21. Where capacity is built to work jointly in transboundary surface and groundwater basins, GEF will support: the balancing of conflicting/competing water uses through application of IWRM, enhanced functioning of joint management institutions; integrated natural resources management across focal areas; groundwater being systematically incorporated into surface water management and vice versa; improved flow regimes from infrastructure; protected water supplies; enhanced groundwater recharge; and increased resilience to fluctuating climate.

22. GEF will support further development and implementation of regional policies and measures identified in adopted SAPs, which should be carried out in collaborative manner and would promote sustainable functioning of already established regional legal and institutional frameworks. GEF assistance to states helps in development of national policy, legislative and institutional reforms as well as demonstrating innovative measures/approaches that address key transboundary concerns with high potential for scaling up at national level. Integrated approaches across GEF focal areas will be pursued for a thematic priority related to water where multiple benefits may be generated because of inter-linkages such as with sustainable forest or land management and sustainable use of biological diversity such as in floodplain wetlands. This may protect groundwater recharge areas or to control erosion and soil loss in the upper reaches of watersheds with benefits in flow regulation and the hydrological balance. The approach will assist states in balancing the competing uses of surface and ground water for energy, irrigation-food security, drinking water, and support of fisheries for protein in the face of multiple stresses, including climatic fluctuations in transboundary basin and aquifers.

b. Objective Three: Catalyze integrated, ecosystem-based approaches to improved management of Large Marine Ecosystems (LMEs) and their coasts while taking account of climatic variability and change

Rationale

23. Depletion and degradation of coasts and oceans is accelerating along with reduction of access to protein in fisheries. When coupled with the expansion of “Dead Zones” from nutrient pollution and the multiple risks from sea-level rise, coastal storm vulnerability and a warming ocean, further degradation must be prevented now.

24. Progress has been made by GEF in foundational capacity building for states choosing to address over-fishing and use of damaging gear in Large Marine Ecosystems (LMEs) and to tackle coastal concerns through Integrated Coastal Management (ICM). In order to minimize impacts from sea-level rise and reduce coastal storm vulnerability that will diminish livelihoods, health, food security, and community security even more, GEF support for ICM and LMEs will incorporate risks related to climatic variability and change as future Action Programs are implemented. Programmatic approaches to better secure community benefits from Large Marine Ecosystems and their coasts will be up-scaled through collective management institutions.

25. Reduction of land-based sources of marine pollution continues to demand GEF attention, particularly nutrients from sewage and agriculture that contribute to coastal “Dead Zones”. Support to the GPA (Global Programme of Action for the Protection of the Marine Environment from Land-based Activities) will be mainstreamed in LME projects to improve coastal quality. Where transboundary priorities warrant, MARPOL/port considerations will be included in ICM.

Project Support

26. Where capacity is built and action programs agreed, GEF will support policy, legal, and institutional reforms and multi-agency partnerships that contribute to WSSD targets for recovering and sustaining fish stocks, including regional and national-level reforms in governance, access rights, and enforcement in LMEs. Also supported: investments in sustainable alternative livelihoods (such as aquaculture), habitat restoration and limited use designations (including MPAs in joint projects with the BD focal area and fisheries refugia), technical assistance, less destructive gear to reduce stress on wild fish stocks and biological diversity, and provisions of the 1995 International Code of Conduct for Responsible Fisheries.

27. GEF pilot successes in support for the GPA and nitrogen pollution reduction will be scaled up to reduce nutrient land-based pollution of oceans to reverse expansion of their “dead zones” that interfere with food security and community livelihoods with national/local policy, legal, institutional reforms to reduce land-based inputs of nitrogen and other pollutants consistent with agreed transboundary action programs and the GPA. This includes incorporation of nutrient reduction and coastal climate variability and vulnerability considerations into ICM policies and plans. Innovative partnerships, investments and financing will be pursued addressing agriculture, municipal, and industry sector pollution and for wetland restoration/enhancement (including use of locally acceptable ecological sanitation and simple constructed wetlands treatment).

Objective 3: Catalyze integrated, ecosystem-based approaches to improved management of Large Marine Ecosystems (LMEs) and their coasts while taking account of climatic variability and change	
Expected Outcomes	Core Outputs

<ul style="list-style-type: none"> • ICM incorporated into political and legal commitments to new or updated LME adaptive management SAP or ICM plan that takes into account climatic variability & change • Sustainable institutions and management frameworks for transboundary LMEs and coasts • SAP implementation supported by monitoring networks and research capacity • Innovative solutions demonstrated, with private sector and community involvement for reduced pollution, sustainable fisheries, habitat conservation/ restoration, ICM application • Countries replicate successful, demonstration projects and donors support scaling-up, emphasizing livelihood benefits (disaggregated by gender) 	<ul style="list-style-type: none"> • Updated Strategic Action Programmes (SAP) and ICM plans reflect adaptive management • Financially sustainable coastal and marine policy and legislative frameworks • Completed demonstration projects
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c. Objective Four: Support improved management of Marine Areas Beyond National Jurisdiction (ABNJ)—a Pilot Initiative

Rationale

28. Since 1982 when the UN Convention on the Law of the Sea defined national maritime jurisdictions, areas beyond national jurisdiction (ABNJ) have remained a sustainable management challenge, lacking comprehensive legal instruments and normal management options despite being 40% of the planet. ABNJ marine ecosystems are threatened by increasing use by pelagic fishing for highly migratory species and bottom trawling on seamounts (fish catch has doubled the last decade), maritime navigation, extraction of hydrocarbons and mineral exploration, and other emerging activities such as ocean fertilization, which might affect the marine environment. Solutions to the legal and management challenges are emerging, however, through a number of conventions and international legal instruments such as CCAMLR, the IMO environment conventions and the Barcelona Convention for the Mediterranean. Recent developments at the international level (UN, CBD, FAO) demonstrate the growing interest for these high seas issues which justify GEF involvement and support.

Project Support:

29. Fisheries, especially those taking highly migratory species such as tuna, and bottom trawling on seamounts are likely to remain the main and most widespread threat to ecosystems in ABNJ and would be subject of GEF projects. Tuna fishing by purse seines and longlines kill non-target biodiversity such as sea birds, marine mammals and sea turtles. Solutions have been

found to prevent and reduce by-catch and would be supported. For example: in the eastern Pacific marine mammal by-catch has been reduced by changed fishing practices; in the Southern Ocean; bird mortality on long lines has been reduced by gear alterations; and turtle catch can be reduced by use of circle hooks on long lines. The RFMOs responsible for managing migratory species are increasingly collaborating, e.g., through the Kobe meeting process, and the fisheries and conservation sectors are collaborating more closely with the RFMOS, offering platforms to leverage private-public partnerships and international legal innovations.

30. Protection of seamounts and biodiversity can be greatly improved through more developed regional fisheries management capacity and application of protected area tools such as MPAs. A pilot initiative with resources and expertise from both the Biodiversity and IW areas has the potential to conserve this last haven with Marine Protected Areas (MPAs), Benthic Protected Areas (BPAs), cooperative frameworks, and improved flag-state fisheries compliance. Projects that develop and test technology and management arrangements for MPAs and reducing tuna by-catch would be supported (including use of criteria issued in CBD/COP9 Decision IX/20) and guidance issued from by FAO in August, 2008 on ABNJ (including deep sea and tuna fisheries on the high seas consistent with implementing UNGA Resolution 61/105 and the International Guidelines). Use of existing legal instruments such as Regional Seas Agreements, FAO Regional Fisheries Management Organizations, and other arrangements such as IMO Special Areas Designation may be tested along with markets and industry approaches. NGOs with interest in certain areas of ocean or seamounts may be supported to test measures and determine baselines for following progress over time in conservation and management.

31. Project support to be provided under this objective is still under discussion with the biodiversity focal area as a joint initiative.

Objective 4: Support improved management of Marine Areas Beyond National Jurisdiction (ABNJ)—A Pilot Initiative	
Expected Outcomes	Core Outputs
<ul style="list-style-type: none"> • Political commitments made to conserve targeted ABNJ • Targeted ABNJ, especially seamounts under effective management as MPAs, MMAs • Improved flag-state monitoring and control of fishing practices • Results of GEF pilot testing influence adoption of ABNJ regimes 	<ul style="list-style-type: none"> • Pilot institutions and demos for ABNJ • MPAs and MMAs in open ocean, including seamounts • Partnerships with business and industry

d. Objective Five: Demonstrate reduced pollution from Persistent Toxic Substances (PTS), particularly endocrine disruptors (cooperative pilot with the Chemicals FA)


Rationale

32. While Persistent Toxic Substances have been eligible for financing in IW since 1995 through the GEF Operational Strategy, other priorities from states have taken precedence. New information shows the danger to ecosystem and human health from persistent toxic substances that are not classified as POPS but are released as air and water pollution or leak from waste sites. Without a separate initiative being developed with dedicated IW resources and help from the Chemicals focal area, the persistent toxic substances termed “endocrine disruptors” will continue to bio-accumulate in fish and pose serious human and ecosystem health problems.

Project Support

33. A pilot initiative joint with the Chemicals focal area would be pursued to demonstrate that clean technology provides alternatives to releasing PTS, particularly endocrine disruptors that accumulate in fish and impair human health, neurological development of children, and populations of fisheries, wildlife, and birds. With thousands of pollutants this characteristic, future programs may be costly and a pilot initiative shared among two focal areas provides a pragmatic approach to pursue in addressing this recently identified gap in global action.

34. With regard to PTS, a demonstration program will be supported to test effectiveness of policies, innovative instruments, and technologies for reducing releases of PTS, particularly those that exhibit endocrine disruption, and to engage the business community in developing solutions to demonstrate cost-effectiveness and pollution prevention pays strategies.

Objective 5: Demonstrate reduced pollution from Persistent Toxic Substances (PTS), particularly endocrine disruptors (cooperative pilot with the Chemicals FA)	
Expected Outcomes	Core Outputs
<ul style="list-style-type: none">• Reduced human and ecosystem health risks from PTS• Pollution prevention for PTS adopted in private sector operations• Experience base established for prioritizing endocrine disruptors in GEF-6 programming.	<ul style="list-style-type: none">•  Avoided releases of PTS in local demonstrations• Policies tested and adopted• Partnerships with business and industry

Annex 1. International Waters Strategy Learning Objectives

At the corporate level, development of the IW focal area would benefit from further investigation of alternative resource allocation frameworks (RAF) able to capture focal area complexities and the development of methodologies for addressing climatic variability and change for large water systems. Grave risks to coral reefs also demand more attention from a science standpoint. A series of monitoring activities, targeted research, evaluation activities and consultancies will be pursued to inform future corporate programming and KM. The 4 learning objectives are:

Learning Objective One: Developing an alternative RAF for the IW focal area

Learning Objective Two: Testing forecasting methodologies and systems analyses for incorporating climatic variability and change into large freshwater and coastal/ marine systems, especially reefs

Learning Objective Three: Refining Utilization of IWRM and ICM in GEF IW interventions

Learning Objective Four: Improving Science Role in GEF-IW Interventions

Additionally, GEF foundational capacity building has an embedded learning objective for projects and outcomes in terms of adaptive management institutions based on learning-by-doing. In GEF-5, an increased emphasis is planned on experience sharing and learning programs among new and existing GEF IW portfolio projects to improve capacity of projects to achieve their objectives within project timeframes and to identify and replicate good practices before project completion. South-to-South experience sharing among IW projects has been shown to contribute to capacity building, quality enhancement for the GEF IW portfolio, development of knowledge management tools to capture good practices, and accelerated replication of good practices. With the help of the GEF IW:LEARN program, its web-based resource center and communications platform (www.iwlearn.net), and the GEF International Waters Task Force, real-time portfolio learning will continue as an important feature of GEF programming and will be enhanced with a focus on Communities of Practice for different types of IW projects.

**International Waters
Draft Focal Area Strategy GEF-5**

Goal: Promotion of collective management of transboundary water systems and implementation of the full range of policy, legal, and institutional reforms and investments contributing to sustainable use and maintenance of ecosystem services

Objective 1: Build foundational capacity for collective, multi-state management of transboundary surface, groundwater and marine water systems	
Expected Outcomes	Core Outputs
<ul style="list-style-type: none"> • Enhanced understanding/consensus: transboundary water concerns, including climatic variability and change, by regional, national, and local stakeholders • Increased political commitment and institutional capacity for collective action on transboundary waters • Transboundary water management priorities incorporated into national planning frameworks • Benefits demonstrated from water and fisheries pilots 	<ul style="list-style-type: none"> • National inter-ministry committees established • Strategic Action Programme (SAP) based on Transboundary Diagnostic Analyses and successful local pilots agreed by ministers.
Objective 2: Catalyze multi-state cooperation in balancing competing uses of transboundary surface and groundwater basins and integrated water resources management in Small Island Developing States (SIDS) while considering climatic variability and change	
Expected Outcomes	Core Outputs
<ul style="list-style-type: none"> • IWRM incorporated into management frameworks and national plans that take into account climate change and variability (including SIDS) • Sustainable institutions for collective and adaptive management of shared water systems • SAP implementation supported by monitoring networks and research capacity • Innovative solutions demonstrated--private sector and community involvement for reduced water use, reduced pollution, sustainable fisheries, habitat & groundwater protection/ management • For SIDS, innovative demonstrations show benefits for human health and drinking water availability • Countries replicate successful, demonstration projects and donors support scaling-up, emphasizing livelihood benefits (disaggregated by gender) 	<ul style="list-style-type: none"> • Updated Strategic Action Programmes (SAP) reflect adaptive management and surface/groundwater considerations • Financially sustainable water resource policy and legislative frameworks • Completed demonstration projects • For SIDS, completed demonstration projects for protecting surface and groundwater drinking supplies

Objective 3: Catalyze integrated, ecosystem-based approaches to improved management of Large Marine Ecosystems (LMEs) and their coasts while taking account of climatic variability and change	
Expected Outcomes	Core Outputs
<ul style="list-style-type: none"> • ICM incorporated into political and legal commitments to new or updated LME adaptive management SAP or ICM plan that takes into account climatic variability & change • Sustainable institutions and management frameworks for transboundary LMEs and coasts • SAP implementation supported by monitoring networks and research capacity • Innovative solutions demonstrated, with private sector and community involvement for reduced pollution, sustainable fisheries, habitat conservation/ restoration, ICM application • Countries replicate successful, demonstration projects and donors support scaling-up, emphasizing livelihood benefits (disaggregated by gender) 	<ul style="list-style-type: none"> • Updated Strategic Action Programmes (SAP) and ICM plans reflect adaptive management • Financially sustainable coastal and marine policy and legislative frameworks • Completed demonstration projects
Objective 4: Support improved management of Marine Areas Beyond National Jurisdiction -ABNJ (Biodiversity FA is being asked to work with IW focal area on an integrated pilot)	
Expected Outcomes	Core Outputs
<ul style="list-style-type: none"> • Political commitments made to conserve targeted ABNJ • Targeted ABNJ, especially seamounts under effective management as MPAs, MMAs • Improved flag-state monitoring and control of fishing practices • Results of GEF pilot testing influence adoption of ABNJ regimes 	<ul style="list-style-type: none"> • Pilot institutions and demos for ABNJ • MPAs and MMAs in open ocean, including seamounts • Partnerships with business and industry
Objective 5: Demonstrate reduced pollution from Persistent Toxic Substances (PTS), particularly endocrine disruptors (cooperative pilot with the Chemicals FA)	
Expected Outcomes	Core Outputs

<ul style="list-style-type: none">• Reduced human and ecosystem health risks from PTS• Pollution prevention for PTS adopted in private sector operations• Experience base established for prioritizing endocrine disruptors in GEF-6 programming.	<ul style="list-style-type: none">• Avoided releases of PTS in local demonstrations• Policies tested and adopted• Partnerships with business and industry
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Chemicals Strategy for GEF-5

BACKGROUND

1. The chemicals industry is experiencing a shift in production of chemicals from OECD to non-OECD countries. This increases the stakes and the challenges of managing chemicals safely in the developing world. For example, WHO estimates that about 3% of exposed agricultural workers suffer from an episode of acute pesticide poisoning every year. The overwhelming majority of fatalities take place in developing countries.
2. Chronic effects of exposure to toxic chemicals most often go unreported, particularly in the developing world. Industrial compounds such as methyl-mercury, lead, PCBs, and other neurotoxicants cause neurodevelopment disorders with very serious societal implications: studies in the past decade have shown that low-level prenatal exposure to methyl-mercury is correlated with decreased IQ, leading to downward shift in IQ at the population level. The costs associated with lost productivity due to the loss of IQ of children exposed to mercury through seafood consumption of their pregnant mothers were estimated at \$8.7 billion annually in the US. Healthcare costs due to lead poisoning are estimated at \$43 billion per year in the same country.
3. The effects of toxic exposure on wildlife and ecosystems are also well documented, although cause and effect relationships can be difficult to ascertain. For instance, pesticides have been implicated in the decline of amphibians worldwide; DDT metabolites have been known for decades to induce egg-shell thinning and were responsible for the decline of populations of fish-eating birds; coral reefs were recently shown to be under threat from pesticides run-off, compounding the effects of climate change.
4. Amongst the number of persistent toxic substances (PTS) of concern, one category of chemicals, persistent organic pollutants (POPs), poses the greatest risks to the global environment because of their persistence and potential for bio-accumulation and long range transport. As a consequence, they are at the core of the GEF strategy for chemicals.
5. The realization of the risks to human health and the environment posed by the unsafe production and use of chemicals has led nations to indicate their support for sound chemicals management globally, as expressed via various regional and international agreements on chemicals. These include the Stockholm Convention and the Montreal Protocol (for both of which the GEF is a financial mechanism), as well as the Basel Convention, the Rotterdam Convention, the Strategic Approach to International Chemicals Management (SAICM), the Kyoto Protocol, a variety of marine conventions focused on protection of the environment from toxic and hazardous wastes, and the International Labour Organization (ILO) chemicals conventions pertaining to worker safety. Sound chemicals management at the national level, as underpinned by these regional and international agreements, brings many global economic, social and environmental benefits.

Emerging issues and changing conditions for the focal area

6. Leading to and under GEF-4, the bulk of chemicals-related activities in the GEF were comprised of:

- Activities under the POPs focal area in support of the implementation of the Stockholm Convention;
- Activities in the ozone layer depletion focal area to support implementation of the Montreal Protocol in eligible Countries with Economies In Transition; and
- Limited interventions targeting persistent toxic substances under the International Waters focal area.

7. GEF-4 also saw for the first time the implementation of a cross-cutting strategy on sound chemicals management with mixed success due to, *inter alia*, limited incentives.

8. Since the time of the replenishment for GEF-4, the international chemicals agenda has expanded considerably in quantity and scope, requiring enhanced response from the GEF. New agreements have been established, new substances have come into focus and countries have begun to realize that more comprehensive efforts are needed to deal with the large number of chemicals used in modern society. Recent incidents, e.g. lead paint on imported toys, have shown the need for a better management of all chemicals including those in articles in all countries.

9. The Strategic Approach to International Chemicals Management (SAICM) was adopted in 2006 with the International Conference on Chemicals Management at its second session in May 2009 urging the GEF “*to consider expanding its activities related to the sound management of chemicals to facilitate SAICM implementation, whilst respecting its responsibilities as the financial mechanism for the Stockholm Convention.*” Negotiations for a legally-binding agreement on mercury were launched in 2009 and the linkages between the ODS and climate forcing GHGs have been emphasised.

10. The synergy process currently taking place within the chemicals and waste cluster of multilateral environmental agreements creates demand and opportunity for a more comprehensive approach. The recommendations by the Ad-Hoc Joint Working Group on enhancing cooperation and coordination among the Basel, Rotterdam and Stockholm conventions that have been adopted by the Basel, Rotterdam, and Stockholm COPs, recognise that “*actions taken to enhance coordination and cooperation should be aimed at strengthening implementation of the three conventions at the national, regional and global levels, promoting coherent policy guidance, enhancing efficiency in the provision of support to Parties [...]*” and invite the GEF, “*within its mandate, [...] to carry out projects aimed at cooperation and coordination in support of implementation of the three conventions [...]*”.

11. Indeed, fragmentation is damaging at the international level as well as at the national level, in particular for the countries with weak capacity. The strategic framework following the life-cycle of chemicals proposed herewith, by seeking alignment with recipient countries’ development priorities and institutional structures will lead to programs on the ground that are more country-driven and sustainable.

Convention Guidance

12. The GEF strategy for chemicals is informed and grounded in the priorities developed by the international community through the agreements mentioned above, and in particular in guidance from the Stockholm Convention on Persistent Organic Pollutants, for which the GEF serves as the financial mechanism²⁴. The strategy is in response to guidance adopted by the Conference of the Parties (COP) to the Stockholm Convention at its first three meetings, and will be further revised to take into account the guidance adopted by the COP at its fourth meeting in May 2009. The strategy responds to the COP-3 request that the GEF “*give special consideration to support those activities identified as priorities in NIPs which promote capacity building in sound chemicals management, so as to enhance synergies in the implementation of different multilateral agreements and further strengthen the links between environment and development objectives*”.

LONG-TERM GOAL AND IMPACTS

13. The goal of the GEF through its chemicals program is ***to promote the sound management of chemicals throughout their life-cycle in ways that lead to the minimization of significant adverse effects on human health and the environment, and to contribute to the overall objective of the Strategic Approach to International Chemicals Management (SAICM)***.

14. The long term impact of GEF interventions is a reduction in the exposure to POPs and other PTS of humans and wildlife. The main indicator for this reduction of exposure is a decrease in the observed concentration of specific POPs chemicals in the environment. This global level indicator is to be assessed within the framework of the efforts of the Conference of the Parties to evaluate the effectiveness of the Stockholm Convention, as required by Article 16 of the Convention.

15. because of the negative impacts of unsound chemicals management on the global environment and the global interlinkages etc., supporting sound management of chemicals provides for global environmental benefits. Limiting GEF support only to POPs and ODS would preclude many chemicals related activities that provide for global benefit. Opening the focal area more generally to chemicals management would also enhance synergies, effectiveness and efficiency.

FOCAL AREA OBJECTIVES AND OUTCOMES

16. Under GEF-5, it is proposed to consider chemicals activities in a more systematic and comprehensive manner, such as to maximise global environmental benefits and strengthen the value added at the country level of GEF interventions in the chemicals sphere. Whilst the

²⁴ Formally: Article 14 of the Stockholm Convention states that the GEF shall, on an interim basis, be the principal entity entrusted with the operations of the financial mechanism”

framework for this approach follows chemicals' life-cycles, the main driver in this effort is the role and mandate of the GEF as the financial mechanism to the Stockholm Convention: implementing Stockholm COP guidance and reporting back to the COP is central to this effort. This proposal assumes a significantly increased replenishment for POPs and chemicals.

17. The four following objectives are identified for Chemicals under GEF-5, and are further defined below:

- (1) Phase out production and use of controlled chemicals;
- (2) Manage the use of chemicals in an environmentally sound manner;
- (3) Reduce releases of POPs and other PTS of concern to the environment; and
- (4) Prevent, manage, and dispose of waste, and manage contaminated sites.

18. This framework will facilitate joint implementation of international instruments and policies and allow the GEF to respond to the demands of the Stockholm Convention [...T]to support those activities identified as priorities in NIPs which promote capacity building in sound chemicals management, so as to enhance synergies in the implementation of different multilateral agreements [...], as well as to the obligations that arise to eligible countries from the Montreal Protocol, as appropriate. This set of objectives also allows the GEF to be well positioned to respond to other international agreements, such as the SAICM or the mercury agreement that is being developed, should additional resources be available.

19. With availability of additional resources, support could be provided to those SAICM "concrete measures" that have most obvious regional/global aspects. Regarding mercury, it is anticipated that, just as it did for POPs, the GEF would support assessment-type activities and demonstrations of good practices for alternatives or mercury release reduction whilst the treaty is negotiated, so that the international community is indeed ready for implementing the treaty when it is adopted. This is similar to the range of activities that the GEF supported in the years leading to, and during, the negotiations for the Stockholm Convention.

20. To facilitate implementation of this strategy, the GEF Secretariat will work with recipient countries at the beginning of the GEF-5 replenishment period to develop national plans for accessing GEF-5 resources for chemicals. Guidelines will be developed in order to guarantee a level of "core" POPs resources in order to guide these discussions, and amongst other things demonstrate that the GEF's mandate as financial mechanism to the Stockholm Convention is met, and facilitate reporting to the COP.

21. Capacity strengthening imperatives cut across and underpin all four objectives. Therefore, activities²⁵ aimed at building institutional and legislative frameworks for chemicals management, including POPs, will be supported within each of the four objectives, most often in the context of a broader project or program of activities. Following earlier strategies, GEF interventions will be nested within the framework of a country's capacity for sound chemicals management and will include and build upon foundational capacities aimed at completing the

²⁵ Including incremental capacity building for POPs monitoring and support to country-driven and sustainable activities consistent with the GEF's mandate in support of the Global Monitoring Plan that underpins the effectiveness evaluation of the Convention.

basic governance framework (policy, law, and institutional capabilities) for chemicals within the country. This will be especially important for countries that lag the farthest behind at putting in place the constituent elements of a governance framework for chemicals, notably LDCs and SIDS.

Objective 1: Phase out production and use of controlled chemicals

22. *Rationale.* This objective addresses the phase out of those priority chemicals that are deemed a serious hazard and therefore are controlled under global or regional agreements. Hence, activities under this objective seek to eliminate certain or all uses of a chemical, or its production. The objective responds to, and in is in support of, *inter alia*, the Stockholm Convention, Montreal Protocol²⁶, and mercury negotiations.

23. Expected *short and long term outcomes* for this objective include:

- (1) Country capacity built to effectively phase out controlled chemicals
- (2) Controlled chemicals phased out in a sustainable manner

24. *Scope and types of project interventions.* The GEF will continue to support eligible countries in meeting their obligations to develop, submit, and update a National Implementation Plan (NIP) under the Stockholm Convention. Inventories and assessments of implications for developing countries of “new²⁷ POPs” control measures would also be supported.

25. Following Stockholm Convention guidance, investment and capacity building activities further supported will be in conformity with, and supportive of, the priorities identified in countries’ respective NIPs. Depending on NIP priorities, interventions can include the phase out of production and/or use of certain POPs. Pesticides phase out will include promoting alternatives such as integrated pest management, and promoting alternatives to DDT for vector control. Phase out of industrial chemicals will also include phase out of production and use of HCFCs in eligible countries in response to an accelerated phase-out agreed by the parties to the Montreal Protocol (the latter particularly in relation with energy efficiency, and the GEF-5 climate change mitigation objective #3 – see linkages section V). The level of effort related to the Stockholm Convention for this objective is estimated for GEF-5 at \$100m.

26. Should further resources be available through the replenishment and with a broadened mandate, the GEF could address the phase-out of certain uses of PTS of priority concern, such as mercury in articles, and lead in paint and gasoline (the latter particularly in relation with transport, and the GEF-5 climate change mitigation objective #5 – see linkages section V).

Objective 2: Manage the use of chemicals in an environmentally sound manner

²⁶ The GEF finances activities in eligible countries with economies in transition that are not eligible for funding under the Multilateral Fund of the Montreal Protocol. Further, operational policies for financing activities in the ozone focal area are consistent with those of the Multilateral Fund, to the extent that these are consistent with other GEF policies.

²⁷ The Stockholm Convention COP is likely to add new chemicals to its list of controlled measures at its fourth meeting in May 2009.

27. *Rationale.* Chemicals that are used because they are beneficial and/or have no alternatives need to be managed so impact from their use is minimized. The objective responds to, and is in support of, *inter alia*, The Stockholm Convention, Montreal Protocol, Rotterdam Convention and Strategic Approach to International Chemicals Management.

28. Expected *short and long term outcomes* for this objective include:

- (1) Country capacity built to minimise risks from continuing exempted use of POPs, or use of other hazardous chemicals
- (2) Risks from continuing exempted use of POPs, or use of other hazardous chemicals, minimised in a sustainable manner

29. *Scope and types of project interventions.* This objective addresses in particular the management of chemicals that have exemptions or acceptable uses (under the Stockholm Convention), or non-controlled uses (under the Montreal Protocol). Following Stockholm Convention guidance, activities supported will be in conformity with, and supportive of, the priorities identified in countries' respective NIPs, and, for example, can address: management of DDT and vector control chemicals; management of PCBs; management of “new” POPs²⁸ (i.e., those entering Stockholm Convention); awareness raising, education, and access to information for government and local authorities, civil society, and the private sector. Activities related to quarantine and pre-shipment of ODS, and to feedstock, could also be supported where they can cost-effectively generate global environmental benefits. The level of effort related to the Stockholm Convention for this objective is estimated for GEF-5 at \$150m.

30. Should further resources be available through the replenishment and with a broadened mandate, the GEF, for example, could address: the management of pest control and agricultural production chemicals; the management of other persistent toxic substances of concern; capacity strengthening for joint implementation of international instruments; the management of toxics in articles²⁹; management of trade³⁰, including illegal trade and illegal import of waste; support to the implementation of GHS (in partnerships with the private sector); and the management, collection, and recycling of mercury uses related to efficient lighting (in relation with energy efficiency, and the GEF-5 climate change mitigation objective #3 – see linkages section V). The GEF could also support the demonstration of “paradigm shifts” such as “chemicals leasing” and “zero waste” concepts.

Objective 3: Reduce releases of POPs and other PTS of concern to the environment

²⁸ “POPs” is used throughout the text as defined in the Stockholm Convention.

²⁹ Trade in chemicals grows quicker than manufacture and contributes to their global distribution, often as constituents in articles. Several of the new POPs candidates to be considered by SC COP-4 in May 2009 appear mainly as constituents or components in articles e.g. furniture, upholstery, textiles, electronics, medical apparatus etc. Information about the content of such substances in articles is frequently lost along the product chain from manufacture of the ingredient to the end user and to its sound environmental disposal. There is a growing need to address chemicals in articles and to improve the passage of information along the product chain, so that informed choices may be made by all involved. The dumping of electronic waste in developing countries is one extreme example where such knowledge would be crucial.

³⁰ In particular trade in chemicals listed under the Rotterdam Convention.

31. *Rationale.* Under this objective the GEF will address industrial processes and other sources of POPs and PTS releases to the environment. The objective responds to, and in is in support of, *inter alia*, the Stockholm Convention, Montreal Protocol, and mercury negotiations.

32. Expected *short and long term outcomes* for this objective include:

- (1) Country capacity built to reduce releases to the environment, or prevent releases, of POPs and other PTS of concern
- (2) Sustainably reduced releases to the environment, or prevention of releases, of POPs and other PTS of concern

33. *Scope and types of project interventions.* Following Stockholm Convention guidance, investments supported by the GEF will be in conformity with, and supportive of, the priorities identified in countries' respective NIPs, and, for example, can address: implementation of BAT/BEP for U-POPs release reduction, including from industrial sources and open-burning (the former in relation with technology transfer of low-carbon technologies, and energy efficiency, and the GEF-5 climate change mitigation objectives #2 and 3 – see linkages section V); or good practices for ODS emission reductions. The level of effort related to the Stockholm Convention for this objective is estimated for GEF-5 at \$150m.

34. Should further resources be available through the replenishment and with a broadened mandate, the GEF could address, for example, the demonstration of BAT/BEP for PTS and mercury release reduction, including from artisanal gold mining; or the development and implementation of pollutant release and transfer registers (PRTS).

Objective 4: Prevent, manage, and dispose of waste, and manage contaminated sites

35. *Rationale.* This objective is to ensure that chemicals at the end of their life-cycle, when they become waste, are managed and disposed of in an environmentally sound manner, but also that mechanisms are in place to prevent and limit the generation of such waste. The objective also addresses legacy issues such as obsolete stockpiles of pesticides and contaminates wastes, and responds to, and in is in support of, *inter alia*, the Stockholm and Basel Conventions, and the Montreal Protocol

36. Expected *short and long term outcomes* for this objective include:

- (1) Country capacity built to minimise the generation of hazardous waste and to dispose of it in an environmentally sound manner, including locally as appropriate.
- (2) Long-term: Hazardous waste generated sustainably minimised, and managed and disposed of in an environmentally sound manner.

- (3) Long-term: Decreased exposure of local communities living in proximity to POPs or other PTS waste that have been disposed of or contained

37. *Types of project interventions.* Following Stockholm Convention guidance, investments supported by the GEF will be in conformity with, and supportive of, the priorities identified in countries' respective NIPs, and, for example, can address: the development of waste treatment facilities such as for PCB transformer dismantling and dechlorination, or low-tech, locally appropriate technologies for treatment of medical waste; the development of temporary storage facilities; the removal and disposal of POPs and POPs-containing waste and related materials such as obsolete pesticides; inventories and development of management plans for contaminated sites, including risk assessment and prioritization; and, where warranted by pressing health or environmental concerns, supporting partnerships for remediation and piloting remediation technologies. The level of effort related to the Stockholm Convention for this objective is estimated for GEF-5 at \$200m.

38. Should further resources be available through the replenishment and with a broadened mandate, the GEF could support countries in addressing, for example, the issue of permanent retiring of mercury when taken out of use; the development of waste prevention and management strategies; or illegal traffic of hazardous wastes.

I. Learning Objectives

39. In pursuing these focal area objectives, the GEF will support the generation and dissemination of good practices and the development of practical guidelines, so that good practices and lessons learned from GEF and other projects are incorporated into the design of new activities. Under GEF-5, building on work of the STAP under GEF-4, operational linkages between U-POPs release reduction and greenhouse gas emission control measures will be emphasised. Additionally, the application of Best Available Techniques / Best Environmental Practices that are appropriate to local conditions and capacity will be emphasized.

II. Linkages with other focal areas

40. The Chemicals program has linkages with all other focal areas of the GEF, either because chemicals are a driver for ecosystem degradation and removal of chemicals reduces the stress on those ecosystems (e.g., with biological diversity, land degradation, or international waters), because interventions in one focal area can have co-benefits in the other (e.g., with climate change mitigation), or because interventions can be complementary (e.g., with international waters). GEF-5 programs and objectives with the greatest potential for such linkages are identified below.

41. *Climate Change Mitigation.* The relationship of the climate change focal area to the chemicals program is multi-faceted, and includes co-benefits. Opportunities exist to maximize these co-benefits, for example between releases of POPs and PTS and energy efficiency programs. Linkages can also take the form of opportunities, for example to reduce lead in

gasoline in the framework of transport programs. Projects that promote energy efficiency in buildings and industries will support the phase out of HCFCs where this is justified by consideration of greenhouse gas benefits. Trade-offs can also exist: the remaining use of mercury in efficient lighting, for example, requires support for management interventions to minimize risks of environmental releases at end-of-life.

42. *Adaptation to Climate Change.* With respect to adaptation to climate change, chemicals management considerations come into play at various levels. For instance, the extension of the habitats of pests under global climate change has to be taken into account when devising an integrated vector control strategy. Another example is flood control management to protect a particular coastal zone and affected community, where the risk of chemical spills would have to be addressed in developing contingency plans for natural disasters.

43. *Land Degradation.* With sustainable land management, the linkages are varied and concern all objectives. Linkages could include interventions that reduce the reliance of local communities on POPs and other pesticides, or address the legacy of land degraded through historical pesticides abuse or obsolete pesticides spread over large areas, for example. Programs that minimize slash and burn practices will have a beneficial impact on emissions of unintentionally produced POPs.

44. *Biological Diversity.* PTS including POPs are a threat to wildlife and biodiversity, and ultimately all projects under the chemicals program benefit the biodiversity focal area. The aquatic environment is both a sink for many chemicals and a major pathway for exposure. This translates to Chemicals resources being allocated to reducing releases to particular waterbodies or terrestrial ecosystems as a matter of priority³¹, thereby potentially contributing to biodiversity objectives. Opportunities for promoting sound chemicals management also abound with programs to mainstream biodiversity in production landscapes and seascapes, for example with agro-forestry, shade-grown coffee or cocoa, and forest certification schemes. Linkages can also be supported with marine protected areas, in cases for example where pesticides runoff is a significant stress for the resources under protection.

45. *International Waters.* Joint programs are envisaged with objective # 5 of the IW focal area that addresses the demonstration of reduced pollution from persistent toxic substances, particularly endocrine disruptors. It is anticipated that this program will focus on particular hot spots of chemical pollution when they are a dominant source of degradation of inland or coastal waters. In this context, priority setting exercises under the Global Plan of Action can also inform and guide GEF interventions at the national and regional levels.

46. Exploring and exploiting these linkages will lead to designing potentially synergistic interventions that generate multi-focal area benefits.

³¹ Typically, even when this is not explicitly acknowledged at the program level, wherever a priority setting exercise takes place – for example, to decide which stockpile of obsolete POPs to remove as a priority – considerations take into account proximity of human settlement as well as proximity to aquatic systems and areas of biodiversity of significance.

GEF Chemicals Program Goal: To promote the sound management of chemicals throughout their life-cycle in ways that lead to the minimization of significant adverse effects on human health and the environment

Impact: reduction in the exposure to POPs and other PTS of humans and wildlife

Objective 1: Phase out production and use of controlled chemicals <i>Expected SC* related level of effort \$100m</i> In support of, <i>inter alia</i> , SC, MP, Hg	
Expected Outcomes	Core Outputs
Short-term: Country capacity built to effectively phase out controlled chemicals Long-term: Controlled chemicals phased out in a sustainable manner	<ul style="list-style-type: none"> NIPs prepared or updated, or national implications of new POPs assessed Specific POPs or ODS phased out from production Specific POPs or ODS phased out from use If additional resources available: <ul style="list-style-type: none"> Specific PTS phased out from use
Objective 2: Manage the use of chemicals in an environmentally sound manner <i>Expected SC related level of effort \$150m</i> In support of, <i>inter alia</i> , SC, MP, RC, SAICM	
Expected Outcomes	Core Outputs
Short-term: Country capacity built to minimise risks from continuing exempted use of POPs, or use of other hazardous chemicals Long-term: risks from continuing exempted use of POPs, or use of other hazardous chemicals, minimised in a sustainable manner	<ul style="list-style-type: none"> Management plans under implementation for PCBs, DDT, or “new POPs” PCB-containing electrical equipment in the country under environmentally sound management Management of pesticides for agriculture production, and prevention of obsolete stocks If additional resources available: <ul style="list-style-type: none"> Management plans under implementation for PTS of concern
Objective 3: Reduce releases of POPs and other PTS of concern to the environment <i>Expected SC related level of effort \$150m</i> In support of, <i>inter alia</i> , SC, MP, Hg	
Expected Outcomes	Core Outputs
Short-term: Country capacity built to reduce releases to the environment, or prevent releases, of POPs and other PTS of concern	<ul style="list-style-type: none"> Countries with enhanced capacity for the implementation of BAT/BEP for U-POPs release reduction

<p>Long-term: sustainably reduced releases to the environment, or prevention of releases, of POPs and other PTS of concern</p>	<ul style="list-style-type: none"> • Sustainably reduced or avoided releases of POPs by-products from industrial and from non-industrial sectors • BAT/BEP demonstrated in priority sectors for U-POPs release reduction <p>If additional resources available:</p> <ul style="list-style-type: none"> • BAT/BEP demonstrated in priority sectors for PTS release reduction
<p>Objective 4: Prevent, manage, and dispose of waste, and manage contaminated sites <i>Expected SC related level of effort \$200m</i> In support of, <i>inter alia</i>, SC, MP, BC</p>	
<p>Expected Outcomes</p>	<p>Core Outputs</p>
<p>Short-term: Country capacity built to minimise the generation of hazardous waste and to dispose of it in an environmentally sound manner, including locally as appropriate</p> <p>Long-term: Hazardous waste generated sustainably minimised, and managed and disposed of in an environmentally sound manner</p> <p>Long-term: Decreased exposure of local communities living in proximity to POPs or other PTS waste that have been disposed of or contained</p>	<ul style="list-style-type: none"> • POPs and other obsolete pesticides repackaged to appropriate standards and moved to secure storage, or disposed of • PCBs, PCB-contaminated oils, and PCB-contaminated equipment disposed of, or decontaminated • Facilities available and certified for environmentally sound dismantling and cleaning of PCB-contaminated equipment, or environmentally sound disposal of PCBs and hazardous waste <p>If additional resources available:</p> <ul style="list-style-type: none"> • Strategies for contaminated sites assessment and management in place, or under implementation • Waste prevention and management strategies in place or under implementation

- * SC: Stockholm Convention
- MP: Montreal Protocol
- BC: Basel Convention
- RC: Rotterdam Convention
- SAICM: Strategic Approach to International Chemicals Management
- Hg: Mercury

Climate Change Focal Area Strategy for GEF-5

BACKGROUND

Introduction

The Fourth Assessment Report of the IPCC concludes that climate change due to human activities is now a virtual certainty and that even if the international community resolves itself to aggressively mitigate GHG emissions, climate change impacts will continue to increase in the future. It is widely recognized that the overall costs and risks of climate change will far exceed the cost of action to mitigate climate change. Emissions of greenhouse gases covered by the United Nations Framework Convention on Climate Change (UNFCCC) have increased in most countries worldwide over recent decades. Carbon dioxide is the largest source of emissions. Measures to address greenhouse gas emission issues transcend the global issues of energy security, economic prosperity and environmental protection. Economic development needs, resource endowments, and mitigation capacities differ across regions. Consequently mitigation solutions need to be differentiated to reflect different socio-economic conditions. Parties to the UNFCCC will meet in Copenhagen, Denmark in December 2009 to articulate a new global agreement to address growing greenhouse gas emissions.

As an operating entity of the financial mechanism of the UNFCCC, since its inception in 1991, the Global Environment Facility (GEF) has invested \$2.5 billion in financing climate change mitigation, adaptation, and enabling activities, and has leveraged more than \$15 billion additional investment. The GEF has become the largest public-sector funding source to support the transfer of environmentally sound technologies to developing countries.

Historical development and lessons learned

The climate change focal area strategy has evolved considerably since the inception of the GEF in 1991. During the Pilot Phase, climate change projects involved demonstration of many relevant climate-friendly technologies and applications. However, considering the recommendation of the First Evaluation Study of the Pilot Phase (date of the study?), which stated that such an approach was spreading resources too thin, the GEF climate change focal area has become strategically more focused in subsequent GEF replenishment periods.

GEF-1 and GEF-2 programming was based on the GEF Operational Strategy (1995) and the Operational Programs developed from 1996 to 2000. During this period, GEF climate change projects emphasized removing barriers to the widespread adaptation of energy efficiency and renewable energy technologies. The 2004 Program Study on Climate Change (CCPS) highlighted positive indirect impacts of the GEF on poverty alleviation, replication of project results, project risk management, transfer of technological know-how, long-term programmatic approaches, and the potential for GEF projects to influence policy.

The GEF Second Overall Performance Study (OPS2) (2002) stressed, among other things, the importance of replication, private sector involvement, coordination of GEF projects with national strategies and needs, and fully utilizing the potential for influencing policy. Looking across the GEF climate change portfolio, OPS2 also concluded that the GEF has been most effective in promoting energy efficiency, and has had more modest success in promoting grid-connected

renewable energy. More specifically, the study concluded that the GEF has had the least success with off-grid, rural, renewable energy projects.

Taking OPS2 findings into account, the GEF climate change strategy has largely moved away from rural off-grid electrification projects during GEF-4 in the renewable energy area, and has concentrated its efforts on market approaches to on-grid renewable energy and sustainable energy production from biomass in order to achieve high global environmental impact. An important element of a more focused climate change program has been the creation of enabling environments for market transformation. In the meantime, since the GEF Council approved the Operational Program on sustainable urban transport in 1999, this portfolio has grown rapidly during GEF-3 and GEF-4.

As identified in the Third Overall Performance Study (OPS3) of the GEF (2005), the GEF was able to further accelerate the shift from technology-based towards market-based approaches by focusing on the seven Strategic Priorities guiding GEF programming.

With regards to the relations with the Conventional, the OPS3 found that the GEF climate change program has been responsive to guidance from the United Nations Framework Convention on Climate Change, has effectively performed its role as financial mechanism of the UNFCCC, and has been responsive to its mandate as defined by the Convention and guidance and priorities as given by the COP. GEF funding of projects has been in direct response to the priorities outlined by the COP.

GUIDING PRINCIPLES

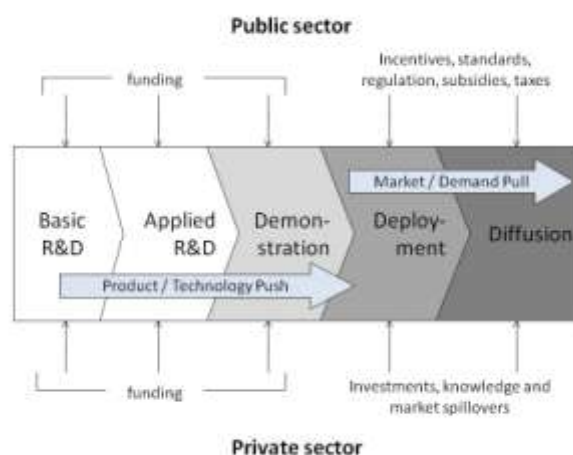
Development of GEF-5 strategy in the climate change focal area will draw on past experience and will be guided by three principles: (i) responsiveness to Convention guidance; (ii) consideration of national circumstances of recipient countries; and (iii) cost-effectiveness in achieving global environmental benefits. GEF-5 will endeavor to make a transformative impact in helping GEF-recipient countries move to a low-carbon development path through market transformation of and investment in environmentally sound, climate-friendly technologies.

Recent decisions reached by the Conference of the Parties (COP) to the UNFCCC have given the GEF guidance, particularly in the areas of development and transfer of environmentally sound technologies and of land use and land-use change. At COP13, the GEF was requested to elaborate a strategic program to scale up the level of investment in technology transfer to help developing countries address their needs for environmentally sound technologies. COP14 welcomed the technology transfer program presented by the GEF as a step toward scaling up the level of investment in technology transfer to developing countries and requested the GEF to consider the long-term implementation of the strategic program on technology transfer. On land use and land-use change, COP12 requested the GEF to explore options for undertaking land use and land-use change projects within the climate change focal area in light of past experience. Furthermore, the Bali Action Plan highlighted new issues, such as measurable, reportable, and verifiable (MRV) nationally appropriate mitigation actions (NAMAs) by developing countries in the context of sustainable development, supported and enabled by technology, financing, and capacity building.

GEF-recipient countries vary significantly in terms of their stage of development, technical and institutional capacity, and market potential to reduce greenhouse gas (GHG) emissions. The GEF-5 climate change strategy will endeavor to provide options for countries with different national circumstances to tackle climate change mitigation while supporting sustainable development.

The GEF-5 climate change strategy will promote a broad portfolio of environmentally sound, climate-friendly technologies to achieve large GHG reductions in the GEF-recipient countries in accordance with each country's national circumstances. The portfolio will include technologies at various stages of development in the innovation chain, with a focus on the stages of market demonstration, deployment, and diffusion (see Figure 1). GEF support will involve a combination of technology push and market pull interventions.

Figure 1: Technology Development Cycle and Innovation Chain³²



In GEF-5, a national planning process will be introduced to support countries in identifying priority areas for GEF support in line with the countries' development objectives and climate change policy and strategies. Programming of GEF resources at the country level will be based on the priority sectors, technologies, and activities identified by the countries themselves. The GEF will endeavor to make transformative impacts in all GEF-recipient countries, taking national circumstances into consideration. The use of non-grant instruments will be promoted in countries where conditions are suitable and demand exists in order to catalyze commercial financing and leverage investment from the private sector.

In large, medium-income developing countries and rapidly growing economies, the GEF will continue to support programs and projects that will bring significant GHG reductions, such as market transformation in the building, industry, and transport sectors. In relatively small, low-income countries, the GEF will boost its support in investment and in technical and institutional capacity building and will expand its efforts in helping these countries access modern energy

³² Source: Adapted from IPCC, 2007: Technical Summary, in Climate Change 2007: Mitigation, Contribution of Working Group III to the Fourth Assessment Report of the IPCC.

from renewable sources. Technology innovation and transfer will be promoted in all GEF-eligible countries: in large, medium-income countries with strong technical capacity and market potential, emphasis will be placed on market demonstration and commercialization of new, emerging technologies; in relatively small, low-income countries, GEF support will focus on adapting commercially available technologies to local market conditions for deployment and diffusion through investment, capacity building, and technology cooperation.

Furthermore, the GEF can play a useful and growing role in the emerging carbon markets, which is expected to increase rapidly in the future. The GEF is uniquely positioned to expand its engagement in the carbon markets given its extensive network of partner institutions, its rich experience in financing clean energy and sustainable urban transport activities and in promoting the transfer of a broad range of environmentally sound technologies to developing countries, and finally its strong track record in reducing GHG emissions cost-effectively from its investments. In fact, GEF's early intervention in many cases – be it demonstrating technologies for landfill gas and coalbed methane utilization or putting policy and regulatory frameworks in place to stimulate investment in renewable energy – has laid the foundation for the carbon market to function and replicate subsequently. Options to be explored by the GEF may include: (i) capacity building related to sectoral targets, NAMAs, MRVs, programmatic carbon finance, and other activities under the post-2012 climate regime; (ii) risk mitigation for projects at an early stage of technological innovation; and (iii) co-financing of innovative projects, with credits to be retained in the recipient country for further project replication. GEF engagement in carbon finance activities will complement other programs and reforms in GEF-5.

FOCAL AREA GOAL, OBJECTIVES, AND OUTCOMES

As an operating entity of the financial mechanism of the UNFCCC, the GEF finances eligible enabling, mitigation, and adaptation activities in the climate change focal area. Since the GEF strategy on adaptation to climate change is undertaken on a separate track, the present climate change focal strategy covers only mitigation and enabling activities.

The overall goal of the GEF in climate change mitigation is to support developing countries and economies in transition toward a low-carbon development path. The long-term impact of the GEF work will be slower growth in GHG emissions to the atmosphere from the GEF-recipient countries and contribution to the ultimate objective of the UNFCCC, which is to achieve “stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.”

The climate change mitigation strategy for GEF-5 will consist of six objectives. The first objective will focus on technologies at the stage of market demonstration or commercialization where technology push is still critical. The second through fifth objectives focus on technologies that are commercially available but face barriers and require market pull to achieve widespread adoption and diffusion. The last objective is devoted to supporting enabling activities and capacity building under the Convention.

Objective 1: Promote the demonstration, deployment, and transfer of advanced low-carbon technologies

In accordance with COP guidance, the GEF has been at the forefront of financing the transfer of environmentally sound technologies to developing countries. The entire GEF climate change portfolio can be characterized as supporting technology transfer as defined by the IPCC and the technology transfer framework outlined by the COP,³³ in the areas of energy efficiency, renewable energy, sustainable urban transport, and short-term response measures.³⁴ In response to the COP 14 decision on the development and transfer of technology, the GEF launched a strategic program on technology transfer for the remainder of the GEF-4 that involves support of a new round of TNAs and financing priority pilot projects related to the transfer of environmentally sound technologies.

During GEF-5, following COP 14 decision that requested the GEF to consider the long-term implementation of the strategic program on technology transfer, the GEF will step up its efforts in promoting the demonstration, deployment, and transfer in advanced low-carbon technologies. Drawing on the past achievements, experiences, and lessons learned, the GEF will revitalize and employ its catalytic role in supporting the transfer of new, cutting-edge technologies and know-how to developing countries. Although it requires additional time and risks to work with new, emerging technologies, GEF experience with concentrating solar power (CSP) and fuel-cell bus (FCB) projects, for example, has shown that GEF support in the early stages of these technologies has played a pivotal role in spurring interest and subsequent investments in these technologies, thereby accelerating the pace of their commercialization.

Projects supported under this objective will target the demonstration and deployment of leap-frog technologies that could have significant impact in the long-run in reducing carbon emissions. GEF support may also involve the demonstration, deployment, and transfer of priority technologies identified by the recipient countries that are commercially available but have not been adopted in their particular markets. Technologies at the diffusion stage or projects that aim to support wide-scale dissemination of proven and available technologies are not to be supported under this objective; instead, they should be considered under other objectives (see below). The technologies aimed for support by the GEF should be consistent with the priorities identified in the TNAs, national communications to the UNFCCC, or other national policy documents.

GEF intervention under this objective will include technical assistance for creating an enabling policy environment for technology transfer, institutional and technical capacity building, establishment of mechanisms for technology transfer, North-South and South-South technology cooperation, purchase of technology licenses, and investment in pilot projects. Project supported

³³ The IPCC defines technology transfer as a “broad set of processes covering the flows of know-how, experience and equipment for mitigating and adapting to climate change amongst different stakeholders such as governments, private sector entities, financial institutions, NGOs and research/education institutions” (IPCC Working Group II, *Methodological and Technical Issues on Technology Transfer*). The UNFCCC technology transfer framework (Annex to COP decision 4/CP.7) defines five elements for meaning and effective actions to enhance the implementation of technology transfer: (1) technology needs and needs assessments, (2) technology information, (3) enabling environment, (4) capacity building, and (5) mechanisms for technology transfer.

³⁴ The so-called short-term response measures are projects that are extremely cost-effective, with a unit abatement cost of less than \$10/ton of carbon avoided or roughly \$2.7/ton of CO₂ equivalent avoided.

under this objective should clearly identify the source of the technology and the target for the transfer, the scope and the mechanism of technology co-operation and transfer, and the market potential and strategy for replication. Project activities may include developing local capacity to adapt exogenous technologies to local conditions and to integrate them with endogenous technologies.

Successful outcomes of this objective will include:

- (1) Enabling policy environment for technology transfer created
- (2) Institutional and technical capacity strengthened to enhance technology transfer processes
- (3) Technology transfer mechanisms established
- (4) Technologies successfully demonstrated, deployed, and transferred

Outputs/Indicators

- (1) Technologies transferred by country
- (2) Technology transfer mechanisms established
- (3) Estimated GHG emissions avoided

Objective 2: Promote market transformation for energy efficiency in industry and the building sector

The GEF has a strong track record and considerable experience in promoting energy efficiency in developing countries and economies in transition. Since 1991, the GEF has invested almost \$1 billion in energy efficiency, covering a wide spectrum of sectors and approaches: from standards and labels for appliances and lighting technologies to building codes and integrated building designs, from innovative risk-sharing instruments to market-based approaches, from sector-specific industrial technologies to energy audit and energy management standards, from district heating to cogeneration, from energy-efficient equipment to system optimization, from demand-side energy efficiency measures to supply-side efficiency improvement in power generation, transmission, and distribution.

The GEF will build on this performance record to enhance and expand investments in energy efficiency in industry and the building sector. GEF support will be directed toward developing and enforcing strong policies, norms, and regulations in order to achieve large-scale impact in terms of energy savings and GHG emissions reduction. During GEF-5, project under this objective will aim at stepping up policy interventions as well as scaling up energy efficiency investments across the wide spectrum of developing countries and economies in transition at different stages of development.

In the industrial sector, emphasis will be placed on promoting energy efficient technologies and practices in industrial production and manufacturing processes especially in the small and medium-sized enterprises (SMEs) while supporting industrialization and sustainable development in developing countries. In the building sector, GEF support will cover residential, commercial, and public buildings, and include both new buildings and retrofitting of existing

buildings. It covers the entire spectrum of the building sector, including the building envelope, the energy-consuming systems, appliances, and equipment used for heating, cooling, lighting, and building operations. Project activities may incorporate the use of solar energy and thermal capacity of shallow ground for heating and cooling in the building system. Emphasis will be placed on integrated and systemic approaches and high performance buildings, appliances, and equipment.

Consistent with “chemical proofing” and in order to build synergy across Conventions, projects aligned with this objective may extend to supporting the phase-out of hydrochlorofluorocarbons (HCFCs) used in industry and buildings such as chillers, air-conditioners, and refrigerators, even before the required phase-out dates under the Montreal Protocol. The replacement of older equipment should be done with new one that both operates more efficiently and uses chemicals with lower global warming potential, while minimizing the use of chemicals damaging to the ozone layer. Government commitments to adopting and enforcing standards and regulations are essential for these initiatives in order to have an impact through replication.

GEF support under this objective will involve a synergistic combination of technical assistance on policy, regulation, and institutional capacity building; incentives and financing mechanisms to support the adoption of energy efficiency technologies and measures; piloting innovative technologies, practices, and delivery mechanisms; and support for large-scale dissemination activities. Where appropriate, GEF projects may be linked to supporting nationally appropriate mitigation activities under the Bali Action Plan and in accordance to future COP guidance, with a view to achieving policy gain.

Successful outcomes of this objective will include:

- (1) Appropriate policy, legal and regulatory frameworks adopted and enforced
- (2) Institutional and technical capacity for energy efficiency strengthened
- (3) Sustainable financing and delivery mechanisms established
- (4) Increased market penetration of energy efficient technologies and products

Outputs/Indicators:

- (1) Energy efficiency policy and regulation in place
- (2) Investment mobilized
- (3) Energy saved
- (4) Estimated GHG emissions avoided

Objective 3: Promote investment in renewable energy technologies

Financing renewable energy technologies and supporting removal of barriers to the adoption of renewable energy has been a key component of the GEF climate change strategy since the beginning of the GEF. The GEF renewable energy portfolio stands at about \$1 billion, and GEF support has covered a wide range of renewable energy technologies, including off-grid and on-grid photovoltaics, solar water heating, wind turbines, geothermal, small hydro, methane from waste, and biomass applications for power and heat production. During GEF-4, GEF support has

focused on promoting market approaches to renewable energy technologies and energy production from biomass, with an emphasis on the development of policies and regulatory frameworks for renewable energy along with limited support to pilot and demonstration investments.

In GEF-5, the GEF will build upon its robust experience in the past and will boost investment in renewable energy technologies, recognizing that renewable energy plays an indispensable role not only in combating global climate change but also in addressing energy access, energy security, environmental pollution, and sustainable development. Today, 1.6 billion people in the developing world, mostly in sub-Saharan Africa and South Asia, do not have access to electricity, and more than 2.6 billion rely on traditional biomass to meet their basic energy needs for cooking and heating. On the other hand, fossil fuels dominate the energy structure of the large developing countries and emerging economies such as China, India, and South Africa. Even with favorable policies on renewable energy, many countries still face higher cost of initial investment and other risks associated with renewable energy, while the private sector and financial institutions sometimes are reluctant to invest in small projects or decentralized technologies.

In GEF-5, GEF support under this objective will extend beyond the creation of enabling policy and regulatory environment to promoting investment in renewable energy technologies, including in the relatively small, poor developing countries and the least developed countries (LDCs), where both private and public capital is scarce and access to energy services is low. The GEF will endeavor to invest in renewable energy projects that will lead to a step-change in the deployment and diffusion of reliable, least-cost renewable energy technologies that address the natural resource endowments of participating countries.

Given the acute demand for energy access and services in rural areas in developing countries, GEF support will cover not only on-grid renewable energy programs but also decentralized production of electric power as well as heat using indigenous renewable sources such as biomass, solar, wind, hydro, and geothermal. GEF projects can promote local SMEs to enhance their technical capacities to provide installation, operating and maintenance services for renewable energy technologies. GEF support may also extend to supporting sustainable production of biomass for solid and liquid biofuels as a substitute to fossil fuels where appropriate conditions, including safeguard policies, exist.

In promoting biomass applications, sustainability criteria will have to be observed to ensure that GEF support to modernization of biomass use does not undermine food security, contribute to deforestation, reduce soil fertility, increase GHG emissions beyond project boundaries, or violate sustainability principles relating to biodiversity conservation or sustainable land and water management.

GEF intervention under this objective can be a combination of technical assistance for policy and regulatory support, building the technical and institutional capacity, and establishing financing mechanisms for investment in the deployment and diffusion of renewable energy technologies. GEF support in the form of direct investment is particularly applicable in small, poor developing

countries and LDCs. Financial sustainability should be taken into consideration where the GEF is directly involved in investment activities.

Successful outcomes of this objective will include:

- (1) Favorable policy and regulatory environment created for renewable energy investments in the participating countries
- (2) Technical and institutional capacity for renewable energy strengthened
- (3) Increased investment in renewable energy technologies
- (4) Increased access to electricity from renewable sources

Outputs/Indicators:

- (1) Renewable energy policy and regulation in place
- (2) Households having access to electricity from renewable sources
- (3) Investment mobilized
- (4) Renewable energy capacity installed
- (5) Electricity and heat produced from renewable sources
- (6) Estimated GHG emissions avoided

Objective 4: Promote energy efficient, low-carbon transport and urban systems

GEF support for sustainable urban transport started in 1999. In the ensuing year, the GEF Council approved an operational program on sustainable urban transport. By early 2009, the GEF has funded more than 40 projects in sustainable urban transport covering more than 70 cities throughout Asia, Latin America, Africa, Middle East, and Eastern Europe. The total GEF allocation to this sector stands at about \$200 million, which has leveraged additional \$2.5 billion investment. GEF-funded activities have included technological solutions, such as fuel-cell buses and electric three-wheelers; investment in public and non-motorized transport infrastructure; development and implementation of comprehensive transport strategies, such as urban and transport planning, traffic demand management, and modal shift to less-GHG intensive transport modes.

Rapid urbanization and expansion of transport systems will likely comprise the largest source of future growth of GHG emissions in developing countries. In GEF-5, promoting energy efficient, low-carbon transport and urban systems will be a key objective in the climate change focal area. This objective will build upon the existing GEF sustainable urban transport program and will expand its scope to include integrated approaches to promoting energy efficient, low-carbon cities. Although the focus of this objective in GEF-5 will remain on transport, given the critical importance of integrated approaches to attain maximum global environmental benefits, the expanded scope will attempt to address urban systems as a whole where appropriate.

Options for intervention during GEF-5 will include land use and transport planning, public transit systems, energy efficiency improvement of the fleet, efficient traffic control and management, transport demand management, and non-motorized transport. Technological options in the transport sector, such as promoting clean, low-carbon vehicles, may be considered

in countries where significant GHG emissions reduction as well as local development and environmental benefits can be achieved. Public awareness and participation will be an integral part of a successful program. Through comprehensive, integrated intervention, GEF projects will address not only climate change mitigation but also local air pollution, traffic congestion, and access to affordable and efficient transport and public utilities.

Strong commitments from the local as well as the national governments are particularly important. At the city-level, emphasis will be placed on integrated low-carbon urban planning for transport, energy efficiency, and renewable energy, covering housing, transport, public utilities and commercial development. Comprehensive interventions through integration of transport, energy, water, and housing sector activities will be encouraged. GEF support under this objective will involve technical assistance in transport and urban planning, development of innovative financing mechanisms, awareness campaigns, and investments in demonstration and deployment of high-performance technologies. During GEF-5, greater attention will be given to measuring and quantifying global environmental benefits, which will provide a basis for choosing the best sets of interventions to deliver maximum global and local benefits.

Successful outcomes of this objective will include:

- (1) Institutional and technical capacity for low-carbon transport and urban systems strengthened
- (2) Sustainable transport and urban policy and regulatory frameworks adopted and implemented
- (3) Innovative technologies, practices, and financing mechanisms introduced
- (4) Increased investment in less-GHG intensive transport and urban systems
- (5) Public awareness raised about climate change

Outputs/Indicators:

- (1) Cities participating in low-carbon programs
- (2) Public awareness campaigns completed
- (3) Investment mobilized
- (4) Energy saved
- (5) Estimated GHG emissions avoided

Objective 5: Conserve and enhance carbon stocks through sustainable management of land use, land-use change, and forestry

In response to COP decision 2/CP.12, the GEF launched a strategic program during GEF-4 to promote the reduction of GHG emissions from LULUCF within the climate change focal area. This program has also been linked to the GEF cross-cutting program of Strategic Forest Management (SFM). Activities supported during GEF-4 have included a global initiative to define and refine a methodology for estimating avoided carbon emissions from LULUCF. At the national level, GEF projects have supported afforestation and reforestation, developing and implementing policies and regulations to avoid deforestation, defining conservation areas to secure carbon sinks, securing and establishing positive incentives for sustainable management of

forests, strengthening networks of stake-holders, and capacity building of national and local institutions.

In GEF-5, the GEF will continue, and will enhance, the LULUCF program within the climate change focal area and through cross-cutting project activities linking to SFM as well as biodiversity and land degradation focal areas. The objective on LULUCF during GEF-5 will be two-fold: one is to conserve, restore, enhance, and manage the carbon stocks in forest and non-forest lands, and the other is to prevent emissions of the carbon stocks to the atmosphere through the reduction of the pressure on these lands in the wider landscape.³⁵

GEF intervention will cover the spectrum of land-use categories as defined by IPCC, including reducing deforestation and forest degradation and enhancing carbon stocks in non-forest lands, as well as management of peatland. During GEF-5, the GEF will support activities that will develop national systems to measure and monitor carbon stocks and fluxes from forest and non-forest lands, strengthen related policies and institutions, undertake good management practices with local communities, and establish financing mechanisms and investment programs.

GEF support will involve a combination of technical assistance for policy formulation, building institutional and technical capacity to implement strategies and policies, monitoring and measurement of the carbon stocks and emissions, developing and testing policy frameworks to slow the drivers of undesirable land-use changes, and working with local communities to develop alternative livelihood methods to reduce emissions and sequester carbon. Where appropriate, pilot investment projects designed to reduce net emissions from LULUCF and to enhance carbon stocks will be supported. Synergy with SFM, biodiversity, land degradation, and reduction of the vulnerability of the forest and non-forest lands due to climate change should be explored so as to generate multiple global environmental benefits as well as social economic benefits.

Successful outcomes of this objective will include:

- (1) Institutional capacity and enabling environment created for conservation and enhancement of carbon stocks
- (2) Good management practices in LULUCF adopted both within the forest land and in the wider landscape
- (3) Restoration and enhancement of carbon stocks in forests and non-forest lands, including peatland
- (4) Sustainable financing mechanisms established

Outputs/Indicators:

- (1) Carbon stock monitoring systems established
- (2) Forests and non-forest lands under good management practices
- (3) Estimated GHG emissions avoided and carbon sequestered

³⁵ The IPCC good practice guidance for LULUCF describes six broad land-use categories for reporting national inventories under the Convention: forest land, cropland, grassland, wetlands, settlements, and other land.

Objective 6: Continue to support enabling activities and capacity building

As the financial mechanism of the UNFCCC, the GEF has provided financial and technical support to more than 130 non-Annex I Parties to prepare their initial, second, and, in some cases, third national communications to the Convention. In the period of GEF-3, the GEF funded a global program to support the second national communications of most eligible countries. A few countries have also received GEF funding outside of the global program during GEF-4 to prepare their second and third national communications. In addition, in GEF-3, the GEF funded an initial round of technology needs assessments (TNAs) as “top-ups” to national communications in more than 90 countries. In GEF-4, the GEF has allocated resources for a global project that will aim to support eligible countries to prepare or update their TNAs.³⁶

During GEF-5, the GEF will continue to support as a first priority non-Annex I Parties to prepare their national communications to the UNFCCC. In the GEF-5 period, most non-Annex I Parties will likely require financial support to prepare their third or fourth national communications to the UNFCCC. The GEF will ensure adequate resources to support non-Annex I Parties to meet their obligation under the Convention. In addition, the GEF will continue to fund the preparation and updating of TNAs especially for countries that have not support for TNAs from GEF-4.

Subject to future COP guidance, the GEF may finance activities to support capacity building activities, implementation of Articles 6 of the Convention on education, training, and public awareness (in addition to those funded under regular climate change projects), as well as other relevant enabling and capacity building activities as requested by the COP.

Furthermore, the GEF will play a useful and growing role in carbon finance, particularly in capacity building directed toward helping the least developed countries (LDCs) undertake activities for exploring the benefits of the carbon market for their sustainable, low-carbon development. The GEF is uniquely positioned to stimulate the development of carbon finance activities and markets in developing countries.

Successful outcomes of this objective will include:

- (1) Adequate resources allocated to support enabling activities and capacity building under the Convention
- (2) Human and institutional capacity of recipient countries strengthened

Outputs/Indicators:

- (1) Countries receiving GEF support for national communications and technology needs assessments (TNAs)
- (2) National communications completed and submitted to the UNFCCC
- (3) TNAs prepared and updated

³⁶ Aside from national communications and TNAs, the GEF has provided support to several corporate programs on capacity building, such as National Capacity Self-Assessment and the Country Support Program.

IV. Learning objectives

Knowledge management and portfolio monitoring of GEF-funded projects, including those in the climate change focal area, have been sporadic. Some activities have taken place in the past within the GEF Secretariat and the implementing agencies, but more systematic efforts are needed to learn from the past experience of implementing GEF projects.

The 2002 Second Overall Performance Study (OPS2) found that “the existing GEF system is slow to recognize success, and thus slow to replicate and integrate positive lessons in planning for future projects.” The 2004 Climate Change Program Study (CCPS) also concluded that “learning within the GEF family has been neither systematic nor system-wide, nor has it had strong outreach to outside expertise.” Although the 2004 CCPS found examples of good knowledge-sharing initiatives within the GEF implementing agencies and at the headquarters level within the Climate Change Task Force, it suggested that better learning was needed among projects within the same clusters and within and between countries.

During GEF-5, the GEF Secretariat in the climate change focal area will step up its efforts to work together with the GEF agencies and other stakeholders on portfolio monitoring, knowledge management, and dissemination of good practices. Over the course of GEF-5, at least five clusters of projects in energy efficiency, renewable energy, and sustainable urban transport will be monitored closely at the portfolio level by the GEF Secretariat. Desk studies and field visits of sample projects in these portfolios will be undertaken in coordination with terminal evaluation, mid-term evaluation, or annual project implementation review by the GEF agencies. Good practices and lessons will be identified, synthesized, and disseminated through publications and outreach programs to GEF agencies, stakeholders in the recipient countries, and the international community.

The GEF Climate Change Task Force will be one avenue through which to continuously and systematically share information between the GEF Secretariat and the GEF agencies. The GEF Country Support Program, including National Dialogue Initiatives and sub-regional workshops, is another pathway to gather information and to disseminate knowledge. Furthermore, the GEF website, including the GEF newsletter, *Talking Points*, will continue to be used to distribute quick, topical, time-sensitive information. Finally, it is proposed that the GEF Secretariat publish a knowledge management series on good practices in project design, management, and implementation; review of clusters of projects, implementation experiences, and lessons learned; and news and views related to climate change from the Convention, the GEF Secretariat, the GEF agencies, the STAP, and the recipient countries.

Adaptation to Climate Change Strategy for GEF-5

BACKGROUND: THE ROLE OF THE GEF ON ADAPTATION TO CLIMATE CHANGE

Introduction

The recognition that the GEF has a role in financing adaptation to climate change, consistent with its mandate under the Climate Convention, goes back to the early evolution of guidance to the financial mechanism under the UNFCCC. According to the GEF Operational Strategy, approved by the Council in 1995, “the strategic thrust of GEF-financed climate change activities is to support sustainable measures that minimize climate change damage by reducing the risk, or the adverse effects, of climate change. The GEF will finance agreed and eligible enabling, mitigation, and adaptation activities in eligible recipient countries.” In particular, the Strategy defines “adaptation activities as those that minimize the adverse affects of climate change.” The strategy called for a staged process of GEF support: an initial stage to finance studies, assessments and capacity building, followed by an implementation stage to finance adaptation measures. The latter was based on Articles 4.1. and 4.4 of the Convention, which identified the needs for financing specific adaptation measures (e.g., insurance) to assist vulnerable developing countries to meet the costs of adaptation.

The GEF Council, consistent with this guidance, initially envisioned support for the costs of adaptation through the GEF as reflected in the Operational Strategy. The parties to the UNFCCC, however, subsequently established several dedicated adaptation funds and asked the GEF to manage them, making the financial landscape for adaptation more complex and comprehensive.

Scientific Consensus on Climate Change Adaptation, Impacts and Vulnerability

In parallel with the evolution in convention guidance, scientific understanding of climate impacts also dramatically increased awareness and concern for the need to respond to climate change. The publication of the Fourth Assessment Report of the IPCC in 2007 summarized the increasing scientific evidence of the observed increase in global average temperatures due to the increase in anthropogenic GHG concentrations since mid-20th century. In addition, the report emphasized the urgency of actions to avoid irreversible damage to human communities, development sectors and ecosystems based on the scientific consensus that, even if the international community commits to aggressively mitigate GHG emissions, climate change impacts will continue for many decades.

More scientific research is expected to further explore the impacts of climate change on the oceans and ocean life, and the possible negative feedbacks on terrestrial life. Early results of research on impacts of climate change on the oceans suggest that even the IPCC thresholds of +2°C temperature change and 450ppm atmospheric CO₂ would likely be catastrophic for much marine life.

What is certain, so far, is that poorer countries and poorer communities within developing countries will be the ones most adversely affected and least able to respond to the effects of climate change.

Evolution of UNFCCC Guidance to the GEF on Adaptation

In response to this increasing scientific concern, recent Convention guidance to the GEF has focused primarily on adaptation. This guidance addresses both the impacts of climate change on human life and development, as well as on vulnerable ecosystems, and also responds to assessments showing the costs of adaptation to developing countries (estimated to amount to several tens of billions of dollars). The GEF has made a series of financial and operational commitments based on this guidance : (i) in 2003 the GEF Council approved the allocation of \$50 million under the climate change focal area for a pilot adaptation program, the *Strategic Priority on Adaptation (SPA)* during GEF-3; (ii) at COP7 in 2001, the UNFCCC created and asked the GEF to manage two voluntary adaptation funds, the *Least Developed Countries Fund (LDCF)* and the *Special Climate Change Fund (SCCF)*; and (iii) at the 2007 Bali UNFCCC COP the Parties to the Kyoto Protocol asked the GEF to provide secretariat services to the Adaptation Fund and its Board on an interim basis. The GEF is therefore currently managing under the Climate Convention two independent funds whose priority is adaptation, in addition to its conventional operations under the GEF Trust Fund. In order to avoid duplication between the GEF and the new funds, it is proposed to channel all adaptation financing resources through the LDCF and the SCCF.

Adaptation Economics and the Gap between Supply and Demand

Several studies have recently made preliminary estimates of the costs of adaptation and agree on the following conclusions: climate change is ongoing and further significant impacts are now inevitable; the costs of adaptation are difficult to estimate, as they depend on many factors, including mitigation scenarios and the timing and manner in which adaptation measures are locally implemented; the costs will be high, of the order of tens of billions of dollars per year; and these estimates are still very rough. These figures, validate the developing countries' request for a much more significant level as well as predictability of resources for adaptation under the Convention, its funds and its financial mechanism, particularly when combined with findings that the climate change is already affecting the lives of the poorest and most vulnerable already

GEF Research on Adaptation Economics. To advance the understanding of of climate risks and responses, the GEF has embarked on a major study with McKinsey & Company to investigate the economics of climate adaptation (the ECA study), in partnership with UNEP, Swiss Re, and the Rockefeller Foundation. An analytical framework, developed specifically for this study, is being applied in developing and developed countries, through a diverse set of case studies. The framework identifies where and from which type of hazard a country is most at risk, together with the magnitude of the expected loss, and reveals what sets of adaptation measures should be considered, based on societal costs and benefits of implementing the measures. These, in turn, can readily become primary inputs in adaptation strategies developed by individual countries. The key contributions to the global adaptation challenge being provided by ECA are: a) the production of a holistic analysis linking climate hazards to adaptation measures; b) results that allow for consistent comparison of adaptation measures across different types of hazards and across different sectors (informing trade-offs of adaptation measures across sectors); and c) outcomes applicable to both the developing and the developed world.

Some early findings are already generating important insights. In Mali, for instance, ECA focused on climate zone shift hazard (i.e., changes in average temperature and precipitation) to model crop and livestock loss valuations under two economic growth pathway set of assumptions. In the worst case climate change scenario, the value of five main crops could decrease by 18% and livestock by 7%. The work on the measures builds on Mali's NAPA. Measures can be classified into two main themes: (1) optimizing location and mix of activities; and (2) technical adaptation of the land use system. Implementation of a collection of measures within these themes will likely provide benefits larger than potential loss due to climate zone shift. Without considering additional revenue (e.g., cash crops), low-tech behavioral measures such as low tillage, zai (i.e., planting seeds in holes to force rainwater penetration), level curves and open wells appear most cost effective.

The analysis suggests vaccines are the most cost effective way to address impacts on livestock. In Florida, the probabilistic loss assessment from hurricane risk is driven by sea surface temperature and sea level rise assumptions. ECA's preliminary assessment suggests significantly increased risk in 2030, with annual expected loss equivalent to 9.4% of GDP. To address this risk, measures such as beach nourishment, building code bundles, and top layer risk transfer appear most cost effective. Considering how these tropical storm lessons apply to the developing world in terms of future planned coastal growth will be a key next step for the ECA analysis.

Financing Adaptation Action: Adaptation Pilot and Climate Change Funds

Through the Adaptation Pilot under the GEF trust fund, the LDCF and the SCCF, the GEF has financed the first concrete adaptation measures on the ground, gathered experience, and learned valuable lessons regarding actions to reduce vulnerability in core development sectors such as agriculture, water and health. More than 72 adaptation projects have been approved for funding (Work Program and CEO endorsed), including 23 under the SPA, 26 under the LDCF, and 23 under the SCCF. Yet, available resources – only \$175 million and \$110 million have been pledged so far respectively for the LDCF and the SCCF – remain very limited. SPA resources have all been committed, and there is currently a large unmet demand from the most vulnerable countries.

The experience and lessons learned through these programs and projects have been pivotal to help the GEF and its agencies better understand what adaptation means in practice, e.g., how adaptation can be integrated into development to make it climate-resilient, and how to estimate the costs of adaptation. Based on its broad experience at the operational, technical and policy levels, the GEF remains uniquely qualified to manage a larger amount of adaptation resources to respond to countries' adaptation needs. This strategy focuses on building on the pilot experience and scaling up through a robust replenishment of the funds. Initial evaluations and reactions from both donors and client countries agree on the need to move from a project-based approach to a more programmatic, sectoral or national level, to maximize the impact of the LDCF/SCCF resources and fully mainstream adaptation into development. Another important lesson learned from the initial phase in managing the funds is that both the amount and predictability of resources are important. The funds have mainly suffered from the fact that countries and

agencies were never able to predict and therefore program the amount of resources available. This strategy is therefore based on the need for sufficient and predictable resources for adaptation.

Adaptation in Practice

One of the main accomplishments of the GEF adaptation program has been to test and demonstrate adaptation in practice. The literature is quite exhaustive with respect to defining and measuring different aspects and levels of vulnerabilities, but is less generous in providing examples and guidance on how to plan and implement adaptation actions. This is mostly because the effectiveness of adaptation measures must be tested on the ground and lessons must be learned by doing. In some areas, such as water resources and coastal management, cross-sectoral tools such as Integrated Water Resources Management (IWRM) and Integrated Coastal Management (ICM) show promise for sustaining protein from fisheries and introducing efficient irrigation for food crops.

The LDCF and the SCCF, together with the experience from the pilot projects financed under the SPA, are a unique source of practical operational knowledge. They provided vulnerable countries and communities, as well as the GEF network of agencies who assisted them, initial resources to finance a pioneering adaptation portfolio. This experience has resulted in a much clearer sense of what adaptation means in practice, how to implement it, and how to estimate its costs. The strategy proposed in this document is consistent with these findings, as briefly summarized below.

Climate-Resilient Development

The LDCF and the SCCF have been operational for only a few years, however many relevant lessons have already been learned. The funds were established to support projects aimed at reducing vulnerability and increasing the adaptive capacity to climate change by financing the implementation of adaptation measures as part of efforts to foster *climate-resilient development and ecosystem resiliency*. The first lesson learned was how to put in practice the initial concrete actions on the ground, and to use the available knowledge about vulnerability as the basis for proactive, preventive adaptation actions. GEF agencies and vulnerable governments and communities collaborated together in defining how to protect human needs essential for continued development (e.g., water resources and drinking water supplies, food security, and health) when threatened by the adverse impacts of climate change. Adaptation was viewed and applied in the context of development and was not addressed in isolation.

To achieve the objective of climate-resilient development, climate change adaptation interventions (i.e., climate change risk-response measures) were integrated into national development policies, plans, programs, projects and actions. In the case of the LDCF, the proposed approach for effective implementation of NAPAs was to integrate urgent and immediate adaptation measures into the development activities of each LDC, taking into account national circumstances and economic and social priorities.

For example, in Bhutan, where river valleys are prone to massive floods when Himalayan glaciers reach critical thresholds, an LDCF project has helped to finance adaptation measures to

increase disaster risk management capacity in affected valleys (including the integration of climate change risks), and to implement artificial lowering of water level in glacial lakes and creating early warning systems. The integration of all these measures into existing development plans resulted in a decreased risk of expected significant destruction of agricultural areas, and prevention/ limitation of human and economic losses.

In Cambodia, an LDCF project addresses vulnerabilities shared by many countries around the world. As the country's agriculture sector is prone to both drought and floods, adaptation measures include: training of 'adaptation experts' in agricultural extension teams; implementation of pilot projects in local communities; rainwater harvesting techniques; measures to decrease soil erosion and preserve genetic diversity in rice agriculture; changed design of reservoirs and irrigation channels to prevent risks from increased peak flows; and lessons learned disseminated to national and international levels. Both projects are being implemented by UNDP.

Additional Costs of Adaptation — the basis for GEF financing under the LDCF/SCCF

Addressing the adverse impacts of climate change imposes an additional cost on vulnerable countries in their effort to achieve their development goals. In the context of the funds, the term *additional costs* was adopted and defined to mean the costs imposed on vulnerable countries to meet their adaptation needs due to the adverse impacts of climate change³⁷. Access to LDCF/SCCF resources is justified by identifying and meeting the costs of adaptation defined as *additional costs over business as usual*. Activities that would be implemented in the absence of climate change constitute a project *baseline*, (or *business-as-usual*) and the costs of achieving this development scenario are referred to as baseline costs or *baseline/business-as-usual financing*. The altered plan of action required to implement adaptation measures needed to reduce vulnerability, build adaptive capacity, and an overall increase of resilience to climate change comprises the LDCF/SCCF financed *adaptation project or program*.

Estimating the Costs of Adaptation

In practice, it may be difficult to assess *ex-ante* the additional cost of adaptation, as the construction of detailed baseline and adaptation scenarios can be quite complex, time-consuming, and imprecise. Consequently, to simplify the estimate of the additional costs, vulnerable countries have successfully used the option of a sliding scale or proportional scale – proposed by the GEF as a streamlining tool – which takes into account the size and nature of projects. If the project's financing structure fits within the limits set by this scale, the project's requested funding shall be considered an acceptable approximation of the project's additional cost. As studies on the costs of adaptation are still ongoing, LDCF and SCCF projects can currently be financed using these practical methodologies as an initial basis for financing. These portfolios will retroactively provide hard data on the costs of adaptation after project completion to contribute to the broader and longer term discussion on the costs of adaptation worldwide.

³⁷ In Decision 3/CP.11 "... LDCF... a specific definition of *additional costs* is provided to be used in the context of the LDCF."

Innovative Features of LDCF and SCCF

Programming under the LDCF and SCCF has several innovative features, which have been tested on the ground with positive feedback from stakeholders. These include:

- ⇒ *The application of the Additional Cost principle:* As highlighted above, the concept of additional costs has been applied to determine the level of LDCF/SCCF funding. In both the LDCF and the SCCF, eligible adaptation funding is defined in the context of development, and is not based on generating global benefits as defined for conventional operations in GEF focal areas.
- ⇒ *Sliding Scale:* A sliding scale is proposed as a simplified approach to estimating additional costs. If the co-financing for a given proposal falls within acceptable limits given the requested size of the LDCF/SCCF grant, the proposal will be deemed acceptable without requiring any further additional cost reasoning (sliding scales of LDCF and SCCF differ).
- ⇒ *Allowance for Full-cost Funding:* In those rare cases where no baseline of activities can be identified, the LDCF (this is a case for LDCF only) will pay the full-costs of the adaptation project, provided that it targets an urgent and immediate need as defined in the NAPA.
- ⇒ *Expedited Project Cycle:* All pipeline and project reviews and approvals have been undertaken on a rolling basis. Full projects, defined as projects requesting more than \$2m of LDCF funding have been approved by Council on a “no objection” basis. Only in cases where four Council members object to a project will it need to be submitted to a Council meeting for discussion (this has, however, to date never occurred). The SCCF follows the expedited GEF trust fund project cycle.
- ⇒ *Increased limit for CEO Approval:* Under LDCF approval procedures, the CEO is authorized to approve projects of up to \$2m in size, notifying Council of such approval on a “no objection” basis. This represents a significant increase in CEO commitment authority, which is normally limited to \$1m for projects within the GEF Trust Fund. The SCCF follows the GEF trust fund project cycle.

GEF ADAPTATION STRATEGY IN 2010–2012

Goal, Impact, Objectives, Outcomes, Scope and Activities

Goal: To support developing countries to increase resilience to climate change through both immediate and longer-term adaptation measures in development policies, plans, programs, projects and actions.

Impact: Reduce absolute losses due to climate change, including variability.

Objectives: The goal will be achieved through two equally important objectives. One is to reduce vulnerability to climate change of sectors, areas, countries, communities and ecosystems, and the other is to increase adaptive capacity.

Outcomes:

- Adaptation objectives and budget allocations incorporated in broader development frameworks
- Risk analysis and vulnerability assessment incorporated as part of development programs and project planning
- Adaptation practices developed and implemented to respond to climate change-induced stresses in development sectors and vulnerable ecosystems
- Climate change and variability -induced disaster planning mechanisms developed and applied
- Reduced absolute losses due to climate change, including variability
- Awareness raised and communities involved in disaster planning, preparedness and prevention
- Strengthened institutional adaptive capacity to implement adaptation measures
- Diversified and strengthened livelihoods
- Enhanced climate resilience of relevant development sectors and natural resources

Scope: The strategy is mainly focused on a robust replenishment of the *Least Developed Countries Fund* and the *Special Climate Change Fund*. If properly financed, these two Climate Change funds currently have the possibility to meet a significant share of the demand for adaptation of some of the most vulnerable countries in the world.

Proposed Innovative Features of the LDCF and the SCCF

It is worth noting that climate change funds follow the operational rules of the GEF trust fund except for when Convention guidance decides otherwise. For example, the GEF project cycle, fiduciary standards, voting modalities and other procedures fully apply to the SCCF. The LDCF has, per UNFCCC guidance request, a streamlined project cycle. Both funds do not apply the Resource Allocation Framework (recently denominated STAR, as the system has been developed for climate change mitigation) and apply the additional costs principle associated to adaptation benefits as opposed to the incremental costs and global benefits.

Based on this principle, all innovative proposals listed in the GEF5 Replenishment Document, including the expanded access for additional implementing agencies; the option to engage more directly with GEF and develop national plans on adaptation if predictable resources are available under these funds; and a pilot initiative on direct access are features that can be tested under the funds.

Another important issue is the relative comparative advantage of the different GEF agencies for support of adaptation projects. This topic has been discussed by GEF stakeholders. Some of the agencies have proved to be leaders in adaptation activities, but others have yet to develop or implement any adaptation project or program, or have showed a lack of specific development and adaptation expertise. For this reasons, GEF partners, countries and other stakeholders have emphasized the need to expand the network of agencies so as to include a wider range of adaptation experience and capabilities. . For example, agencies such as the International Red Cross, with direct expertise on disaster risk management and prevention, and the World Food Program, with a strong presence in the field managing food security and community-level

services relevant to climate variability and change, have been identified as appropriate candidates for additional agencies to implement the LDCF and the SCCF.

Example: World Food Program and Adaptation

The WFP supports programs which aim to better manage the environment, help improve food security in communities to protect, develop or use natural resources as part of their livelihood strategies, and rebuild food security systems and vital infrastructures impacted by disasters.

Climate change adaptation and disaster risk reduction play a prominent role in WFP's Strategic Plan for 2008 to 2011. The WFP's *disaster risk reduction, preparedness and response* programs offer significant opportunities to enhance sustainable development. Guided by governments, who have the primary responsibility for consistent disaster prevention and mitigation policies, and working with other partners, WFP enhances national disaster risk reduction and adaptation frameworks with its experience and services, field presence, and programs to help communities reinforce their essential food and nutrition security systems and infrastructures – including voucher, cash and food-based safety nets.

In countries where WFP has a continuing presence, ***vulnerability analysis and mapping*** helps the organization, governments, and other stakeholders identify hungry poor populations, where they are located, and the nature and causes of their vulnerabilities. WFP's Food Security Analysis Service and its unique network of about 120 specialists posted around the world answer these fundamental questions through about 90 assessments every year.

As a further response to the impacts of climate variability, WFP activities such as targeted food-supported employment programs are being deployed to build flood defenses and small-scale irrigation systems, fix dunes to stop the encroachment of the desert onto agricultural land, plant trees to mitigate the impacts of floods and landslides, harvest water and to rehabilitate depleted land.

These activities help vulnerable communities adapt to the actual and expected impacts of climate change. In 2007 WFP food or cash-based employment programs targeted to food insecure communities amounted to USD 280 million, reaching over 13 million people. They contributed to the construction or rehabilitation of 1,579 ponds, 1,571 wells, 14,305 kilometers of irrigation systems, and 1,621 kilometers of dykes. 169,884 hectares of land were protected, cultivated or rehabilitated and made available for agricultural production, and 152,851 hectares of land were reforested throughout the world. With GEF support, these programs could be expanded and more effectively tailored to incorporate climate change adaptation needs.

Least Developed Countries Fund (LDCF)

The Least Developed Countries Fund is aimed at addressing the special needs of the least developed countries (LDCs) under the Climate Convention; Adaptation has been identified as the most relevant issue; the fund must finance the adaptation needs of the LDCs that are most urgent and immediate.

Purpose under the Convention: The Least Developed Countries Fund (LDCF) was established in response to guidance received from the Seventh Conference of Parties to the UNFCCC meeting in Marrakech in 2001. It is designed to support projects addressing the urgent and immediate adaptation needs of the least developed countries (LDCs), focusing on reducing the vulnerability of those sectors and resources that are central to human and national development, such as water, agriculture and food security, health, disaster risk management and prevention, and infrastructure, as identified and prioritized in their National Adaptation Programmes of Action (NAPAs).

Preparation for Programming: Of the 48 LDC's, 47 have already received support to prepare their NAPAs. The remaining four countries are in differing stages of preparing the proposals for NAPA support. GEF has already disbursed \$12m to support the NAPA preparation phase.

Programming Priorities: Following the preparation phase, the demand has exponentially grown for the implementation of NAPAs. Programming priorities indicated by the NAPAs are in the following sectors: *water resources; food security and agriculture; health; disaster preparedness; infrastructure; and natural resource management.* *Community-based adaptation* is also considered a cross-sectoral priority requiring urgent attention. Especially for LDC/SIDS, improved coastal management would be a priority.

The Special Challenge of Food Security and Water under the LDCF

The gap in funding for adaptation is rapidly growing in the closely related areas of water resources, coastal oceans, and food security. The rapid recent warming of the oceans influences continental rainfall patterns and ice melt. The result is that droughts and floods worsen, sea level rises, fisheries are impacted, coastal storm vulnerability is increased, and acidification from excessive carbon sequestration in the oceans dissolves coral reefs with pending catastrophic damage to coastal communities. Moreover, elevated heat, evaporation rates, and drought create greater demands for crop irrigation and more frequent famines through crop failure.

These linked impacts of climate change pose very complex adaptation challenges that are additional to the existing policy and management failures facing hydropower, water supply, irrigation, fisheries and water resources management, including the commonly ignored areas of groundwater and coastal management. Climate stress is only one of the multiple stresses on water and coastal ocean resources that need to be collectively addressed along with adaptation to a changing climate if drinking water supplies, protein from fisheries, food from irrigation, and electricity are to be sustained. Projections show billions of people will suffer from water and food shortages in the future resulting in deepening poverty, further political instability, and forced migration.

Based on NAPA priorities and on the project demand under the LDCF, the adaptation strategy under this fund is therefore expected to give high emphasis to water and food security. Some of the most direct impacts of climate change, including climate variability, will continue to be on agriculture and food systems. More frequent and intense climate-related events already have adverse impacts on food availability, accessibility, stability and utilization. Increasing temperatures and declining precipitation reduce yields, force transitions to lower valued

commodities, and cause volatility in commodity prices. Farmers in food insecure regions, especially those that rely on local production to meet their food needs are particularly vulnerable to global climate variations and price fluctuations. Even small changes in temperature and humidity levels pose risks for food safety and human health, with humans, plants, livestock and fish facing exposure to new pests and diseases.

Climate change worsens the living conditions of farmers, fishers and forest-dependent people, many of whom are already food insecure. Climate induced disasters reduce livelihood assets and opportunities, increasing the number of people at risk of hunger in both rural and urban areas. More than 90 per cent of exposure to natural disasters is in the developing world and the poor are at greatest risk of losing assets and livelihoods. As they lack adequate insurance coverage food insecurity will continue to increase.

Sub-Saharan Africa is particularly vulnerable to reduced agricultural productivity, increased water insecurity and increased risks to human health with nutrition, health and education implications. For example, in Ethiopia and Kenya, two of the world's most drought-prone countries, children aged five or less are respectively 36 and 50 percent more likely to be malnourished if they were born during a drought. Rural people's ability to cope with climate change impacts depends on the existing cultural and policy context, as well as on socio-economic factors like gender and the distribution of household assets.

Sustainable food security practices and climate change adaptation and mitigation strategies can be supportive and reinforcing. Climate and weather risk management strategies (the emerging concept of "climate services" akin to more traditional weather services) also can support sustainable agriculture and fisheries practices.

In managing the LDCF, the GEF and its network of agencies have built relevant on-the-ground experience in financing adaptation action and learned lessons on activities that are particularly significant to reduce vulnerability and increase adaptive capacity of LDCs and other vulnerable countries.

Activities

Consistent with the priorities identified by the NAPAs, the LDCF finances the activities that are linked to the most urgent and immediate adaptation needs of the LDCs, or activities whose further delay could increase vulnerability, or lead to increased costs at a later stage.

Table: A few examples follow that show specific activities ready for or under implementation in response to priorities identified by the NAPAs under the LDCF.

- ⇒ *Water*: Improved rainwater harvesting facilities in each village; System of Rice Intensification prescriptions reduce vulnerability to changing precipitation amounts and patterns; Modifications to design of reservoirs and irrigation channels, and to management of these features and natural ponds to better manage climate change induced risks. *Building Capacities to Integrate Water Resources Planning in Agricultural Development (Cambodia, UNDP)*

In addition, drought management planning, floodplain management and early warning systems, more efficient water supply and irrigation technologies, and institutional reforms through IWRM can help sustain water and food supplies. In addition, ICM in coastal areas and ecosystem-based approaches to fisheries can help reduce vulnerability to multiple disasters, including saltwater intrusion to drinking supplies while sustaining fish protein sources.

Moreover, integrated coastal zone management in coastal areas and ecosystem-based approaches to fisheries can help reduce vulnerability to multiple stresses, including saltwater intrusion to drinking supplies while sustaining fish protein sources.

- ⇒ *Food security/Agriculture*: Activities include: Crop diversification; Improved cropping sequences; Conservation tillage; More efficient water use in irrigation; community-based supplemental irrigation; Food storage; Creation of an enabling environment for Climate Risk Management; Policy development and implementation; Institutional coordination; and Generation of knowledge and awareness raising. Project example: *Climate Adaptation from Rural Livelihoods and Agriculture in Malawi (AfDB)*
- ⇒ *Disaster risk management*: Activities include: Increase disaster risk management capacity in affected valleys; Artificial lowering of water level in glacial lakes; Creation of an Early Warning System for glacial flashfloods – Project example: *Reduce CC-induced Risks and Vulnerabilities from Glacial Lake Outbursts in the Punakha-Wangdi and Chamkar Valleys in Bhutan (UNDP)*.
- ⇒ *Natural Resources Management (Bangladesh)* - Pilots implemented at community level including: Forest management and mangrove/wetland restoration → natural coastal protection. Innovative ways of securing potable water. Promotion of alternative livelihoods. Improving institutional and technical capacity, including Early Warning Systems.

Financing needs – Least Developed Countries Fund

Current and projected financing needs: A recent assessment of the financing needs to support the implementation of NAPAs carried out by the UNFCCC Secretariat estimates that the costs of adaptation range between \$800 million and \$1.5 billion. As the LDCF is the fund especially established under the Convention to pay these costs, the GEF estimates a replenishment need for the LDCF of \$1 billion, consistent with the analysis of the UNFCCC. The activities to be financed will be consistent with the priorities identified by the NAPAs, through a programmatic approach that will build on project experience and maximize impact by reducing vulnerability and increasing the adaptive capacity of the most important and vulnerable development sectors.

A recently published analysis carried out by the UNFCCC Secretariat, “Investment and financial flows to address climate change: an update,” utilized the National Adaptation Programmes of Action (NAPAs) as a tool to estimate the costs of adaptation at project level, identified through bottom up assessments in the 38 NAPAs so far completed. In total, these countries have identified about 430 “urgent and immediate” adaptation projects, of which the cost of 385 has been evaluated. The estimated total cost of these projects is over USD 800 million with an

average project cost of approximately USD 2 million (excluding a single USD 700 million project). Table 1. illustrates the sectoral breakdown of NAPA projects.

Table 1. Projects identified in National Adaptation Programmes of Action, by sector

Sector	Number	Total cost (USD)
Agriculture/livestock/fisheries	104	269 692 234
Water resources	57	140 960 970
Coastal management/marine ecosystems	34	95 671 300
Forestry	33	53 494 730
Health	31	40 043 000
Cross-sectoral	27	740 227 240
Terrestrial ecosystems/biodiversity	21	24 908 592
Early warning and forecasting	15	37 423 063
Energy	15	27 964 120
Fisheries	14	35 375 500
Infrastructure	13	16 881 631
Education	10	9 005 000
Disaster management	8	12 953 597
Tourism	2	1 250 000
Insurance	1	225 000
Total	385	1 506 075 977

It is difficult to compare the estimates of adaptation projects in NAPAs with the global estimates of adaptation costs such as those given in the 2007 UNFCCC report for several reasons. First, the NAPAs are not intended to address medium to long-term adaptation, but to identify urgent and immediate adaptation needs. So far, fewer than 40 countries have completed NAPAs and it is questionable whether these can be extrapolated to the rest of the developing world. Second, the total investment needs per project may not represent annual investment needs but cumulative needs. And third, it can be difficult to determine the extent to which climate change is a primary cause or more a justification for investments.

Based on lessons learned from LDCF experience, there is a need to significantly increase the impact achieved at the project level and expand the scale and scope of the LDCF projects and programs on the ground at the sectoral and national levels. In order to achieve this objective, resources under the LDCF must significantly grow. The process initiated by the NAPAs and the analysis provided by the reports identifying the most urgent and immediate needs remain seminal steps to be scaled up and replicated at the sectoral and national level. The LDCF remains the only mechanism created by and accountable to the Climate Convention with respect to the urgent and immediate needs of the LDCs, and this strategy highlights the responsibilities of donor countries to honor their commitments under the Convention.

In conclusion, despite the fact that estimating the financial needs for adaptation for the LDCs remains difficult, it is imperative that at least \$500 million be mobilized within the next 4 years to finance the urgent and immediate adaptation needs of the Least Developed Countries to implement the National Adaptation Programmes of Action as estimated by the UNFCCC.

Special Climate Change Fund

In the context of the GEF Adaptation Strategy, and on financing adaptation in general, the Special Climate Change Fund (SCCF) currently plays a pivotal role as it is the fund with a large potential to address the adaptation needs of vulnerable countries worldwide.

Unlike the LDCF, which is specifically dedicated to the urgent and immediate needs of the LDCs, the SCCF is open to all vulnerable developing countries. In addition, it may finance a wide range of concrete adaptation measures, which may include longer term time horizons. Projects have the option to focus on long-term planned response strategies, policies, and measures, rather than short-term activities.

Purpose under the Convention: The Special Climate Change Fund (SCCF) was established in response to guidance received from the Seventh Conference of Parties to the UNFCCC meeting in Marrakech in 2001. It is designed to finance activities, programs and measures related to climate change that are complementary to those funded by GEF under the climate change focal area, in the areas of:

- (a) Adaptation to climate change;
- (b) Technology transfer;
- (c) Selected sectors including: Energy, transport, industry, agriculture, forestry and waste management; and
- (d) Economic diversification.

Among these four categories, adaptation has the top priority. This strategy brief note describes the essential features of the SCCF Adaptation program. The Scope of the Adaptation Strategy encompasses only the first financing window of the Special Climate Change Fund on Adaptation (a).

Eligibility: All developing countries that are parties to the United Nations Framework Convention on Climate Change (UNFCCC) are eligible to receive financial support for adaptation interventions to be integrated into development activities.

Preparation for Programming: The adaptation program under the SCCF does not allocate resources for enabling activities limited to assessing vulnerability to climate change and identifying adaptation needs. Projects proposed under this fund are to be for implementation of adaptation activities under priority areas of intervention as identified by the Climate Convention.

Programming Priorities: Starting to implement adaptation activities promptly where sufficient information is available to warrant such activities, inter alia, in the areas of:

- water resources management
- land management
- agriculture
- health
- infrastructure development

- fragile ecosystems, including mountainous ecosystems
- integrated coastal zone management.
- Improving the monitoring of diseases and vectors affected by climate change, and related forecasting and early-warning systems, and in this context improving disease control and prevention.
- Supporting capacity building, including institutional capacity, for preventive measures, planning, preparedness and management of disasters relating to climate change, including contingency planning, in particular for droughts and floods in areas prone to extreme weather events.

Activities

Eligible activities are directly related to the programming priorities listed above. Selected examples of concrete adaptation activities that are already under implementation under the existing adaptation SCCF program are:

Health : Cost-effective strategies and measures developed that reduce the long-term risk of climate change impacts on diseases such as malaria etc; Roll Back Malaria programme and other campaigns up-scaled to take into account climate change ; Adjustments to existing health regulations to factor in climate change risks – project example: *Integrating climate change into the management of priority health risks in Ghana.-UNDP*

Integrated coastal management: Improved management of drainage system; Implementation of adaptation measures such as beach nourishing at particularly important sites; Construction of hydrological models; Institutional support for implementation of integrated coastal zone management and disaster management; (*Guyana, WB; Egypt, UNDP*); *In addition, ICM in coastal areas can help reduce vulnerability to multiple disasters, including saltwater intrusion to drinking supplies; and ecosystem-based approaches to fisheries that help sustain fisheries for protein sources.*

Water Resources Management in response to Glacial Retreat: Filling knowledge gaps on links between climate change, glacial retreat and socio-economic/ecological effects; Capacity development and policy support for integrated water management and prioritization of limited water resources at national and community levels; Pilot measures and improved water management promoted in agriculture and hydroelectricity sectors; Innovative ways of meeting potable water needs. *Regional (Bolivia, Ecuador, Peru), WB*. In addition, implementing IWRM in basins with retreating glaciers (*Peru, FAO*).

Improved Water Resources Management in response to droughts, floods, and warming.

Realtime-data-sharing and hydrologic drought/flood prediction and warning systems; catchment protection; drought management planning; flood, floodplain, land use management measures; water use efficiency for water supplies and irrigation for food crops as part of IWRM strategies; groundwater protection and management for alternative supplies; sustainable fisheries management to adapt to lake warming; *Follow-up to SPA projects for drought management in the Amazon River Basin and for flood and floodplain management in the Plata River Basin; Senegal River Basin; Lake Malawai/Nyassa/Niassa Basin.*

Potential use of fiscal instruments. Given the wide range of sectors and economic activities that need to be engaged, broader fiscal policies and economic measures may sometimes be appropriate in addition to the specific activities listed above. . While detailed analysis and careful design will be essential, numerous fiscal measures could be designed consistent with the economies and circumstances of vulnerable countries to make them more climate-resilient.

Examples include: (i) tax-breaks for climate appropriate reconstruction after disasters, (i) government supported insurance programs and policies for farmers, coastal and other vulnerable communities linked to climate appropriate investments and behaviors and (iii) technical assistance to help governments take climate change risks into account in their national economic planning, particularly for climate sensitive sectors with public ownership or control such as water and other infrastructure. There is considerable opportunity to incorporate risk management more generally in national economic planning decisions in the most vulnerable countries given the large impact of climate disasters, especially in smaller economies. There is an opportunity to integrate “climate services” akin to weather services as part of national economic planning systems.

The engagement of ministries of planning and economic development would be sought in order to influence development planning and investments. Should developing countries wish to engage in discussion of such strategies or related fiscal measures, the International Monetary Fund may be an ideal partner.

The Special Climate Change Fund – Financing Needs

Current and projected financing needs: The major obstacle emphasized by our stakeholders, including the agencies and the client countries, is the uncertainty that currently exists with respect to how much money is available to develop adaptation projects under the SCCF. The SCCF is the only active fund currently available aimed at providing resources for all vulnerable developing countries (only LDC countries, by definition, are eligible for LDCF resources). The demand under the SCCF to date is about \$150 million per year, while the fund totals \$110 million, of which only \$100 million is for adaptation. (More projects might be also proposed if more resources were available.) To meet the demand and ensure financing predictability, the GEF estimates the need for \$500 million for the SCCF adaptation window for the same 4 year cycle of the GEF-5 replenishment, to finance the necessary adaptation activities under the priority sectors listed above.

The mandate of the SCCF is broad enough to incorporate the category of projects that were so far financed under the SPA (trust fund), for example those that address the vulnerability of ecosystems. An example of activities that were previously financed under the SPA portfolio (trust fund) and could be financed under the SCCF include addressing climate impacts on coral reefs, mangrove, forest and other vulnerable ecosystems, and, as in the example listed below, agro-biodiversity of global significance.

Example of adaptation activities for agrobiodiversity conservation: Extension services are given the capacity to provide information and advice to farmers on agrobiodiversity conservation and effective coping measures to climate risks; Farm-based adaptation practices are developed and implemented, including water harvesting regimes, soil conservation, flood protection terracing,

stress-resistant local varieties; Improved access to seasonal forecasts for farmers; Agreements between farmers, farmer groups, provincial and district governments to govern the use of resources and agro-biodiversity developed in the pilot sites; a Seed Insurance Scheme is being piloted in selected communities to promote agrobiodiversity and improve resilience of local farmers – project examples: *Sustaining agricultural biodiversity in the face of climate change (Tajikistan, UNDP)*; *similar project, Yemen, WB*)

RATIONALE FOR STRATEGY

The need for a significantly more robust replenishment of the LDCF and the SCCF, and the proposal to align the GEF replenishment process with that of the funds are based on three main pillars:

- a. *Responsiveness to Convention Guidance;*
- b. *Responsiveness to developing country needs and consequent need for predictability of resources;*
- c. *Complementarity among different adaptation-related funds.*

(a) Responsiveness to UNFCCC Guidance³⁸

The GEF has received a significant amount of guidance on adaptation throughout the last 14 years from the UNFCCC. From the initial staged approach (COP1, COP4), Convention guidance on adaptation dramatically evolved, particularly in Marrakech (COP7, 2001), when the GEF was requested to finance *pilot or demonstration projects to show how adaptation planning and assessment can be practically translated into projects that will provide real benefits*, and to manage the newly established climate change funds, the LDCF and the SCCF.

At COP12, in Nairobi, the developing countries group pointed out the importance of a financial mechanism with greater balance between mitigation and adaptation activities. They questioned the adequacy of the GEF response to the adaptation needs of developing countries in accordance with guidance by the Conference of the Parties. This criticism has been recurrent during the most recent UNFCCC COPs. In response to the Convention and to developing country needs, the GEF Secretariat proposes to include in the GEF-5 strategy a comprehensive adaptation program in both financial and operational terms. .

(b) Amount and predictability of resources

A major criticism the GEF has received with respect to the LDCF and particularly the SCCF, has been the lack of predictability of financial resources. Unlike the GEF, which is replenished every four years, the LDCF and SCCF receive voluntary contributions without a regular replenishment schedule. . Countries and agencies who support their work need to know the available resources

³⁸ Annex 2 lists UNFCCC Guidance to the GEF regarding adaptation including all decisions, titles and respective websites.

sufficiently far in advance to plan their programs and projects; this is an impossible exercise when resources are mobilized in relatively small amounts every six months. Moreover, the size of the funds is very small compared to the adaptation needs of vulnerable countries. The GEF is fully capable to manage a much higher volume of resources as it does under the trust fund. A more commensurable amount for adaptation would also allow the GEF to meet its commitment vis-à-vis the Convention. This argument is further explained below under “Financing Needs.”

(c) Complementarity among different adaptation-related funds

It is important to clarify and increase understanding of the distinctions and complementarity between the GEF-managed adaptation funds, the LDCF, the SCCF, the GEF trust fund, and the Adaptation Fund.

As mentioned in the previous sections, the GEF mandate on adaptation can be at this stage fulfilled under the LDCF and SCCF, as the global benefits required by the trust fund can be generated through projects that reduce vulnerability of ecosystems of global significance. These projects are both eligible under the SCCF, which has vulnerable ecosystems as a priority identified by the UNFCCC COP, and by the LDCF, as identified by the NAPAs.

The adaptation pilots financed under the GEF trust fund through the Strategic Priority on Adaptation illustrate the importance of programming adaptation measures in the other GEF focal areas like Biodiversity, International Waters, and Land Degradation. As part of the GEF 5 focus on integrated, cross focal area approaches in natural resources, opportunities would be sought where countries have interest to link climate change adaptation measures with other GEF interventions in natural resources to take advantage of cross-convention synergies, needed sector reforms, and programmatic approaches. Interventions related to food security, water resources, and coastal oceans are especially complex and would benefit from integrated approaches.

With respect to the Adaptation Fund, as all funds have adaptation as the top priority there may be a conceptual risk of overlap in scope. However, it is equally important to recognize that the LDCF was created to address all the specific needs of the LDCs under the Convention, besides adaptation and will likely remain the leading financial mechanism for the implementation of NAPAs. The SCCF has three additional financing avenues besides adaptation, which include technology transfer, followed by support for specific sectors and economic diversification. There are many other elements that diversify these funds, make them all unique, and significantly distinguish their respective mandates and *modus operandi*.

First, there is a strong mandate from the Convention and its Protocol to keep these as distinct funds. Second, there are three aspects that make the AF unique. These are: its revenue regime; the composition of its governing body; and the “direct access” modality. On the other hand, the LDCF and SCCF are maintaining the conventionally structured project financing that shareholders and stakeholders are familiar with whereas the AF is exploring a highly innovative approach to adaptation financing. Therefore these funds will continue to operate in their conventional manner for GEF’s next replenishment timeframe and with conventionally mobilized resources, with the option of including innovative elements as proposed in previous sections. Since the AF Board is still discussing the Operational Policies and Guidelines and

related issues (fiduciary standards, etc), other criteria to differentiate among those funds may raise in the future.

It is also important to take into account the timing of this replenishment: a new post 2012 regime will not start, by definition, before 2012, and the demand for adaptation under the funds is now.

II. Conclusion

In closing, based on Convention guidance, responsiveness to developing countries' needs – including predictability of resources – and a commitment to complementarity and maximization of GEF-managed funds and resources, this strategy includes a request for a strong replenishment of the *Least Developed Countries Fund* (LDCF) and the *Special Climate Change Fund* (SCCF). The financial needs for Adaptation under the LDCF and SCCF are of \$1 billion total for a four-year cycle, concomitant with the GEF replenishment, illustrated in Table 2. below. To fund the SCCF and LDCF at the appropriate level, it is proposed that these funds be replenished on a four-year cycle concomitant with the replenishment of the GEF.

Table 2. Estimated Financing Needs for the LDCF and the SCCF

Funds	Estimated Financial Needs (2010-2014)	Replenishment Proposal	Total
LDCF	\$800 M - \$1.5 B To finance urgent and immediate adaptation needs as identified by the NAPAs for NAPA implementation under the LDCF	\$500 million	
SCCF	Activities include adaptation and development as well as ecosystem resiliency Estimated costs based on worldwide demand to GEF through its Agencies \$150 M/per year	\$500 million	
LDCF & SCCF			\$1 billion

Annex 1. Result-Based Management Framework

Adaptation to Climate Change

Goal: To support developing countries to increase resilience to climate change through both immediate and longer-term adaptation measures in development policies, plans, programs, projects and actions.

Impact: Reduced absolute losses due to climate change, including variability

Objective 1: Reduce vulnerability to address the adverse impacts of climate change, including variability	
Expected Outcomes	Core Outputs
<ul style="list-style-type: none"> • Adaptation objectives and budget allocations incorporated in broader development frameworks • Strengthened institutional capacity to implement adaptation measures • Awareness raised on the impacts of climate change, including variability • Risk analysis and vulnerability assessment incorporated as part of development programs and project planning • Adaptation practices developed and implemented to respond to climate change-induced stresses linked to development sectors 	<ul style="list-style-type: none"> • Relevant frameworks that include adaptation measures (UNDAP, PRSP) and budget allocations • Policy reforms and inclusion of (building and other) codes to prevent damage of goods and economic losses due to climate change, including variability • Adaptation assets created in support of individual or community livelihood strategies, disaggregated by gender
Objective 2: Increase adaptive capacity to climate change, including variability	
Expected Outcomes	Core Outputs
<ul style="list-style-type: none"> • Adaptation objectives and budget allocations incorporated in broader sector frameworks • Risk analysis and vulnerability assessment incorporated as part of GEF programs and project design • Adaptation practices developed and implemented to respond to climate change-induced stresses in sectors linked 	<ul style="list-style-type: none"> • Relevant frameworks that include adaptation measures (UNDAP, PRSP) and budget allocations • Policy reforms and inclusion of (building and other) codes to prevent damage of goods and economic losses due to climate change, including variability • Adaptation practices piloted and replicated in GEF programming

<p>to development</p> <ul style="list-style-type: none">• Enhanced climate resilience of relevant natural resources and ecosystems	<ul style="list-style-type: none">• Adaptation assets created which strengthen individual or community livelihood strategies, (disaggregated by gender)
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