GLOBAL ENVIRONMENT FACILITY
INVESTING IN OUR PLANET

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DRAFT GEF-6 PROGRAMMING DIRECTIONS

(Prepared by the GEF Secretariat)

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INTRODUCTION

1. The coming decade presents challenges unprecedented in the history of humankind. We have already reached or exceeded the carrying capacity of several of the earth's ecosystems. Three of the nine 'planetary boundaries' – the estimated safe operating space for humanity – have been transgressed due to unsustainable practices while others are dangerously close to being exceeded, with unpredictable consequences for human well-being. The next ten years will likely see another 700 million people added to the world population, more than one billion additional middle-class consumers, and 50 percent growth in economic output. Under such pressures, incremental environmental strategies alone will simply not suffice. These changes are compelling the GEF to start equipping itself to promote transformational change.

2. The GEF-6 programming directions document is being proposed as the means to start delivering on the goal of the GEF as the champion of the global commons by achieving concrete, measurable, and time-bound outcomes. Over the past 22 years, the GEF has accumulated an invaluable body of experience and knowledge, strengthened its culture of promoting innovation, enhanced and grown its network of agencies, and continued enjoying political legitimacy by serving the key multilateral environmental conventions. This foundation provides the GEF with unparalleled influence and capacity to take a leadership role in finding and implementing bold solutions to global environmental challenges.

3. The Sixth Replenishment period will cover GEF operations and activities from July 1, 2014 to June 30, 2018. This document is a first attempt at defining the overall programming directions for the next cycle, also taking into account the ongoing development of a new longer-term vision for a more ambitious instrument (the GEF2020 Strategy) that can start to revert some of the most risky trends to the global environmental commons. It also starts to concretely reflect on the longer-term goal to promote transformational change through more impactful and targeted set of initiatives that reinforce the central mission of the GEF to become the undisputed champion of the global environmental goods.

4. The overall approach to resource programming builds on the achievements of the past five phases of the GEF, and on lessons learned and refinements introduced in the focal area strategies during GEF-5. Each proposed focal area strategy was developed with the direct input from dedicated Technical Advisory Groups (TAGs) that included world-class experts, agency and convention representatives, in addition to one or more civil society organization liaison participants.

5. This set of full-fledged focal area strategies also gave rise to a series of proposed signature programs that could be prioritized on a pilot basis under the GEF-6 replenishment package to better deliver on integrated approaches to target some of the most significant challenges facing the global environment commons. These are also directly or closely related to the post-Rio+20 UNCSD thematic priorities for which the GEF is already pre-adapted to address. The rationale for these signature programs builds on (a) their ability to deliver on global environmental benefits beyond a single focal area of the GEF – meaning building on existing linkages; (b) the time-bound nature of the concrete impact they seek to deliver; (c) their

relevance for the evolving agenda post-2015; and (d) they require a new way for the GEF to do its business and make financing available at multiple levels (local, regional and global), including with flexibility to engage upfront with key partners and bring them on board. was predicated on the need to build upon the synergies that exist among related focal areas

6. Another innovation in the proposed programming document is the inclusion of individual strategies that, in addition to the focal areas, also span (a) country relations, (b) cross-cutting capacity development and (c) the Small Grants Program, all under the GEF Secretariat Corporate Program. These contain an assessment of the lessons learned and proposed directions to support the overall GEF-6 programming strategy.

7. The programming paper presents, inter alia: (i) focal area strategies, cross-cutting theme strategies and corporate programs strategies; (ii) an integrated approach deliver focused results through a select number of key signature programs; and (iii) results-based management frameworks for each proposed strategy.

8. Therefore, the GEF-6 programming directions paper consists of the following:

i. Introduction
ii. Biodiversity Focal Area Strategy
iii. Climate Change Mitigation Strategy
iv. International Waters Focal Area Strategy
v. Land Degradation Focal Area Strategy
vi. Chemicals Strategy
vii. Sustainable Forest Management Strategy
viii. An Integrated Approach to the Global Environmental Commons in Support of Sustainable Development
ix. Corporate Programs Strategy

9. The Secretariat has also prepared a proposed strategy for Climate Change Adaptation, covering the activities of the Special Climate Change Fund (SCCF) and the Least Developed Countries Fund (LDCF), for discussion with interested donors after the conclusion of the GEF replenishment meeting in Paris. This document is not directly connected to the sixth replenishment of the GEF Trust Fund, but offers concrete possibilities for more integrated resource programming across all GEF focal areas.

10. Finally, this document does not contain financial scenarios to support the implementation of the proposed initiatives, programs and activities. This is to better focus the presentation on the necessary reforms in the systems and modalities of programming needed to maximize impacts on the global environmental commons for a given level of resources provided to the GEF. The possible reform questions are raised in more detail in the strategic positioning document

BIODIVERSITY FOCAL AREA STRATEGY

BACKGROUND

Biodiversity Status

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 ecosystems."[1]

2. The *Millennium Ecosystem Assessment (MA)* and *TEEB (The Economics of Ecosystems and Biodiversity)* demonstrated that biodiversity has considerable economic value beyond its existence value through the ecosystem goods and services that are underpinned by biodiversity, such as food, water, materials, climate regulation, pollination, disaster protection, and nutrient cycling; all of which are required for the survival of human societies and for the future of all life on the planet.[2][3]

3. Although some progress has been in made in sustainably managing biodiversity and ecosystems at local and national levels, it has not been at the scale necessary to stem the ongoing tide of biodiversity loss globally. Scientists recognize the current rate of biodiversity loss as the sixth wave of extinctions in the past half-billion years. Although extinction is a natural phenomenon, it occurs at a natural "background" rate of about one to five species per year. Current estimates indicate that species loss is occurring at 1,000 to 10,000 times the natural background rate. Of all the global environmental problems facing the world today, biodiversity loss is the only one that is likely irreversible.

4. The global target set for 2010 by the Convention on Biological Diversity (CBD) "to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on Earth" was not met as indicated in the Global Biodiversity Outlook 3 which reported the following sobering analysis:

a. Species which have been assessed for extinction risk are on average moving closer to extinction. Amphibians face the greatest risk and coral species are deteriorating most rapidly in status. Nearly a quarter of plant species are estimated to be threatened with extinction;
b. The abundance of vertebrate species, based on assessed populations, fell by nearly a third on average between 1970 and 2006, and continues to fall globally, with especially severe declines in the tropics and among freshwater species;

[1] Convention on Biological Diversity, UNEP/CBD/94/1.
[2] Millennium Ecosystem Assessment 2005, Ecosystems and Human Well-being: Synthesis, Island Press, Washington DC.
[3] TEEB (2010) The Economics of Ecosystems and Biodiversity: Mainstreaming the Economics of Nature: A synthesis of the approach, conclusions and recommendations of TEEB.

c. Natural habitats in most parts of the world continue to decline in extent and integrity, although there has been significant progress in slowing the rate of loss for tropical forests and mangroves, in some regions. Freshwater wetlands, sea ice habitats, salt marshes, coral reefs, seagrass beds and shellfish reefs are all showing serious declines;

d. Extensive fragmentation and degradation of forests, rivers and other ecosystems have also led to loss of biodiversity and ecosystem services; and

e. Crop and livestock genetic diversity continues to decline in agricultural systems.[4]

Drivers of Biodiversity Loss

5. The *Millennium Ecosystem Assessment (MA)* established that the five main direct drivers of biodiversity loss are habitat change, overexploitation or unsustainable use, invasive alien species (particularly in island ecosystems), climate change, and pollution.[5] More recent analyses, including the *Global Biodiversity Outlook 3*, reported that these five drivers remain the principal causes of biodiversity loss and are either constant or increasing in intensity. An analysis of the proportion of threatened species on the IUCN Red List (mammals, birds, amphibians) affected by each driver showed that more than 80% are under threat from habitat loss, 70% from overexploitation/unsustainable use and almost 30% from invasive alien species. Although climate change is an emerging driver, less that 20% of threatened species are affected by climate change and only 10% by pollution.[6]

COP Guidance to the GEF

6. The guidance to the GEF from COP-11 covering GEF-6 (2014-2018) basically directed the GEF to support the implementation of the Strategic Plan of the CBD, including the new Strategic Plan for biosafety and the first set of guidance provided to the GEF from the Open-ended Ad Hoc Intergovernmental Committee for the Nagoya Protocol on Access and Benefit-sharing (ICNP).[7]

7. The Strategic Plan defined by the COP and the guidance provide to the GEF is ambitious, comprehensive and potentially expensive to implement. At COP-11, two estimates were presented of the resources required to implement the strategic plan and achieve the Aichi Targets at the global level and within GEF-eligible countries. For the latter, the expert estimate of the

[4] Secretariat of the Convention on Biological Diversity (2010) *Global Biodiversity Outlook 3*. Montréal, 94 pages.
[5] Millennium Ecosystem Assessment 2005, Ecosystems and Human Well-being: Synthesis, Island Press, Washington DC.
[6] H. M. Pereira, L. M. Navarro, and I. S. Martins, "Global Biodiversity Change: The Bad, the Good, and the Unknown," Annual Review of Environment and Resources, vol. 37, no. 1, pp. 25–50, Jan. 2012.
[7] UNEP/CBD/COP/11/35

amount of resources required for the GEF-6 period ranged from $5 to $29 billion[8]. However, no prioritization was undertaken by the COP as to what elements of the Strategic Plan or which Aichi Targets should be the focus of GEF support during GEF-6.

Rationale

8. Against the backdrop of the CBD strategic plan for achieving the three objectives of the Convention and its associated costs, the scientific literature indicates that pressures on biodiversity from the three principal direct drivers of habitat loss, overexploitation, and invasive alien species, remain the most critical and are largely responsible for current trends of biodiversity loss and ecosystem degradation. Indirect drivers such as governance, institutional capacity, economic development, science and technology, globalization, among others, continue to exert varying degrees of influence on today's negative biodiversity trends.

9. The current threat profile requires a multi-pronged strategy to sustain biodiversity. GEF's response recognizes effectively managed protected area systems—a dedicated conservation land-use in practice for more than 100 years - as a significant contribution to achieving many of the Aichi Targets and as a core element of a country's environmental infrastructure through their provision of economically valuable ecosystem goods and services. At the same time, the often destructive trajectory of development and resource use external to the protected area estate which degrades biodiversity and ecosystem goods and services must be stopped through targeted threat reduction and the promotion of the sustainable use of biodiversity. This approach will help ensure that the conservation objectives of protected areas can be sustained for the long-term, while contributing to the climate-resiliency of the broader landscapes and seascapes where protected areas are located.

10. Biodiversity mainstreaming- a set of actions that internalize the goals of biodiversity conservation and sustainable use into economic development and production sectors that impact biodiversity- can enable biodiversity to persist across the entirety of the landscape and seascape by embedding biodiversity conservation and sustainable use in decision making at all levels of society, and particularly the private sector. However, the societal failure to adequately capture the economic value of biodiversity and the ecosystem services it provides has undermined the long-term sustainability of attempts to mainstream biodiversity which have often focused too narrowly on threat mitigation and palliative attempts to offset biodiversity loss. Hence, GEF's support to biodiversity mainstreaming actions that addresses these systemic failures is paramount.

11. The GEF-6 strategy will not address all direct or indirect drivers of biodiversity loss but instead targets the most critical drivers in order to best exploit the intersection of GEF's mandate and the CBD Strategic Plan and the associated Aichi Targets. This approach will best ensure that GEF investments achieve impact at scale while delivering global environmental benefits.

[8] UNEP/CBD/COP/11/INF/35. 20 September, 2012.

GOAL AND OBJECTIVES

12. The goal of the biodiversity focal area strategy is to maintain globally significant biodiversity and the ecosystem goods and services that it provides to society. To achieve this goal, the strategy encompasses four objectives which aim to:

i. improve sustainability of protected area systems;
ii. reduce threats to biodiversity;
iii. sustainably use biodiversity; and
iv. mainstream conservation and sustainable use of biodiversity into production landscapes/seascapes and sectors.

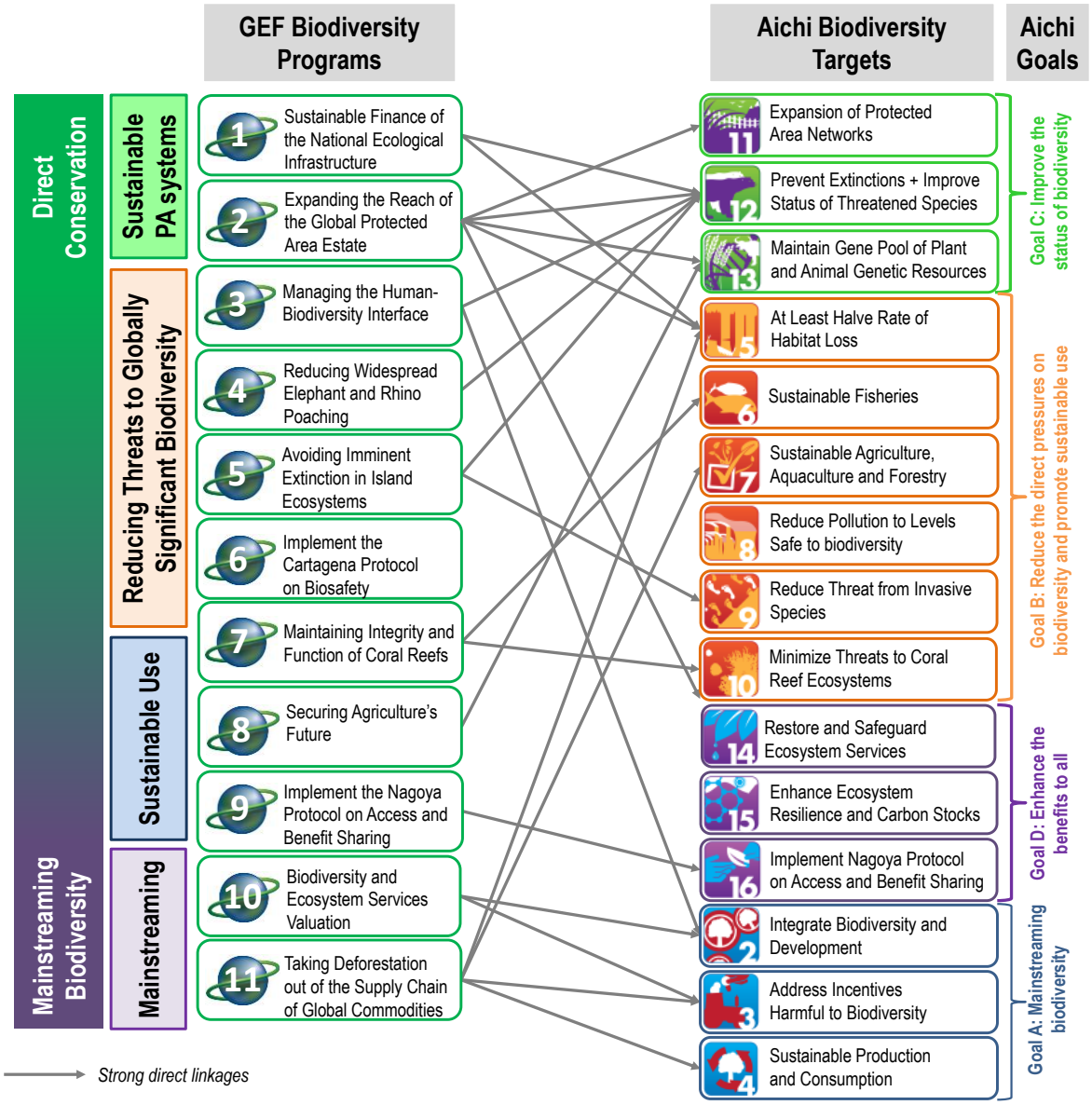
13. The GEF-6 biodiversity strategy is composed of 11 programs that directly contribute to achieving the objective through a continuum of response measures to the drivers of biodiversity loss across the entire landscape and seascape as depicted below in Figure 1. The programs address habitat loss, overexploitation, and invasive alien species through a combination of direct conservation, threat-reduction, sustainable use, and mainstreaming interventions. Each program provides a response to threats that are spatially and thematically specific, i.e., providing the correct response to the threats to biodiversity in a specific ecosystem or location in a landscape or seascape. In addition, the strategy addresses the most critical underlying driver of biodiversity loss; the failure to account for the full economic value of ecosystems and biodiversity, through systemic biodiversity mainstreaming approaches that have high potential for far-reaching and sustained impact. The impact of climate change on biodiversity is addressed through emphasizing opportunities for action that are operationally feasible and strengthen ecosystem resilience and maintenance of biodiversity.

14. The strategy prioritizes investments that meaningfully contribute to directly achieving 15 of the 20 Aichi Targets and that have the greatest potential for a "knock-on" effect to other Aichi Target achievements. The strategy also incorporates elements of the new Strategic Plan on Biosafety, with a focus on implementation of National Biosafety Frameworks (NBF) as this remains unfinished business from previous GEF phases.

15. Hence, targets 1 and 17-20 are not directly addressed in the strategy. Awareness-raising as identified in Target 1 will be supported as an element of GEF projects and programs as appropriate, but not as a stand-alone activity. Targets 17-19 are deemed as operational means to an end and are part of the project design process. With regards to Target 20, GEF will track the total amount of co-financing leveraged through GEF biodiversity projects, including multi-focal area projects of all kinds that have used biodiversity resources, and other GEF projects that contribute directly and indirectly to the Aichi Targets.

16. GEF will also provide support to countries to produce the 6th National Report to the CBD which will be due during GEF-6.

Figure 1. Main Linkages Between Programs and Achievement of the Aichi Targets



OBJECTIVES AND PROGRAMS

Objective 1: To Improve Sustainability of Protected Area Systems

17. Protected areas serve as the cornerstones of conservation and GEF support to their establishment and management has arguably been GEF's greatest achievement during the last 20 years. Support to protected areas is not only a sound investment in biodiversity conservation and sustainable use through one of conservation's most time-tested and proven tools, but also provides significant additional economic and environmental benefits beyond the existence value of globally significant biodiversity, including:

a. Protected areas contain 15% of the global carbon terrestrial stock;

b. Thirty-three of the world's 105 largest cities derive their drinking water from catchments within forest protected areas; and

c. Hundreds of protected areas act as natural reservoirs for agriculturally important biodiversity including crop wild relatives, pollinators and pest control. Protected areas in drylands include the sites of origin for important food crops such as barley, sorghum and other cereals.[9]

18. The GEF defines a sustainable protected area system[10] as one that: a) effectively protects ecologically viable representative samples of the country's ecosystems and provides adequate coverage of threatened species at a sufficient scale to ensure their long term persistence; b) has sufficient and predictable financial resources available, including external funding, to support protected area management costs; 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 with an increased emphasis on reducing external threats to the conservation objectives of protected areas. 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).[11] GEF will also promote protected area co-management between government and indigenous and local communities where such management models are appropriate.

19. Developing climate-resilient protected area systems remains a challenge for most protected area managers because the scientific understanding and technical basis for informed

[9] N. Lopoukhine, *et al.*, « Protected areas: providing natural solutions to 21st Century challenges », *S.A.P.I.EN.S* [Online], 5.2 2012, Online since 10 August 2012, Connection on 04 February 2013. URL : http://sapiens.revues.org/1254

[10] 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.

[11] 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.

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.

20. During GEF-4 and GEF-5 considerable progress has been made in implementing GEF's protected area strategy, however, the application of the strategy has been uneven with regards to: a) the systematic closing of the financing gap at the national level and ensuring that increased revenues are being directed towards globally significant habitat; and b) ensuring that filling the ecosystem and threatened species coverage gap is always being directed to areas of the highest global significance. Therefore in GEF-6, a more targeted strategy will be implemented to ensure that investments in protected area finance and expansion achieve their desired results. In addition, two new programs are introduced which focus on threat reduction in the landscapes and seascapes adjacent to protected areas.

Program 1: Sustainable Financing of the National Ecological Infrastructure

21. GEF has supported basic protected area management capacity building for more than 20 years. While individual protected area management capacity has increased globally through extensive investment by GEF and other donors, a more critical barrier and persistent limiting factor to effective management of protected areas is financial resources.

22. Restricted government budgets in many countries have impacted the financial support for protected area management and many are chronically underfunded and understaffed. 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 began to invest in improving financial sustainability of protected area systems in GEF-4 but scope still remains to reduce the chronic system-wide funding gaps still found at national level in many GEF-eligible countries. An independent assessment estimated that the funds required to meet Target 11 in GEF-eligible countries range between $23-50 billion.[12]

23. 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, economic valuation of protected area goods and services, etc.) and draw on accepted good practices developed by GEF and others. GEF will also encourage national policy reform and incentives to engage the private sector (concessions, private reserves, etc.) and other stakeholders to improve protected area financial sustainability. The GEF-6 strategy prioritizes the development *and* implementation of comprehensive, system-level financing solutions. Previous GEF projects have been too often focused on business plans and strategy development with minimal project resources or time dedicated to actual implementation of the financing strategies.

[12] UNEP/CBD/COP/11/INF/35

24. Notwithstanding that revenue-generating strategies require sufficient time to begin producing additional financial resources, projects supported under this program will be required to identify where and how increased revenues will be directed to support management of globally significant protected areas within the national system (see criteria in Table 1 below). Previous GEF strategies have embodied an approach that any incremental reduction in the system-level funding gap would by default benefit globally significant protected areas to some degree or another. During GEF-6, project designs will identify the protected areas to which increased funding will be directed as a result of the GEF investment while recognizing that a proportion of the increase will be absorbed by system-level administration and management costs.

Program 2: Nature's Last Stand: Expanding the Reach of the Global Protected Area Estate

25. Although TEEB (The Economics of Ecosystems and Biodiversity) noted that the costs of setting up and managing protected areas, including opportunity costs, are commonly outweighed by the value of ecosystem services provided by these areas, the time window for expansion of the protected area estate to bring under-represented ecosystems and threatened species under protection is limited and a sense of urgency remains as land-use pressure increases and populations expand.[13] In many countries, opportunities for expansion of the protected area estate may lie in IUCN categories IV-VI, thus placing increasing importance of using protected areas to promote sustainable use of biodiversity.

26. 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 and GEF continued to promote the increase in coverage of the protected area estate during GEF-5.[14] However, the last report on the progress in achieving the Millennium Development Goals noted that although extent (as measured in hectares) and number of protected areas has increased, this expansion has not necessarily been strategic. For example, only 20-30% of globally significant Alliance for Zero Extinction sites or Important Bird Areas are under any protection or management.[15]

27. Therefore, going forward this program will require that protected areas that are established with GEF support must be globally significant as defined by the criteria in Table 1. Given the limited amount of resources available for this program, the focus of these interventions will be on expansion of the estate, not management of these new sites. Program 1 will focus on generating resources for the management of globally significant protected areas such as those that may be established under this program.

[13] TEEB (2010) The Economics of Ecosystems and Biodiversity: Mainstreaming the Economics of Nature: A synthesis of the approach, conclusions and recommendations of TEEB
[14] OPS3: Progressing Toward Environmental Results, Third Overall Performance Study of the GEF.
[15] http://www.zeroextinction.org/
http://www.birdlife.org/action/science/sites/index.html

Table 1. Summary of GEF Criteria for Defining Globally Significant Sites for Biodiversity Conservation

Criterion	Sub-criteria	Provisional thresholds for triggering GEF support
Vulnerability Regular occurrence of a globally threatened species (according to the IUCN Red List) at the site	N/A	Critically Endangered (CR) and Endangered (EN) species – presence of a single individual Vulnerable species (VU) – 30 individuals or 10 pairs
Irreplaceability Site holds X% of a species' global population at any stage of the species' lifecycle	a) Restricted-range species	Species with a global range less than 50,000 km^2 5% of global population at site
	b) Species with large but clumped distributions	5% of global population at site
	c) Globally significant congregations	1% of global population seasonally at the site
	d) Globally significant source populations	Site is responsible for maintaining 1% of global population
	e) Bioregionally restricted assemblages	To be defined

28. Globally, the marine area currently under protection remains low. Approximately 2.35 million km^2, 0.65% of the world's oceans and 1.6% of the total marine area within Exclusive Economic Zones, are currently protected.[16] The GEF will continue to redress this disparity through investments to increase the representation of globally significant marine ecosystems in protected area systems. 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. As per Program 9, a particular focus of expanding marine area coverage will be to increase the area of coral reefs situated within Marine Protected Areas (MPAs) thus making a direct contribution to the achievement of Aichi Target 10. The identification and establishment of MPA networks or of very large MPAs whose management will help reduce pressures on coral reefs will be targeted.

[16] Assessing progress towards global marine protection targets: shortfalls in information and action. Louisa J. Wood, Fish Lucy, Laughren Josh, Pauly Daniel, 2008, Volume: 42, Oryx.

29. Many countries have also identified gaps at the national level in the coverage of terrestrial ecosystems and threatened species, which coincide with existing global level representation gaps. 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. GEF will also support the creation of new protected areas that extends the coverage of threatened species in protected area systems and improves the coverage of their spatial range.

Objective 2: To Reduce Threats to Globally Significant Biodiversity

Program 3: Managing the Human-Biodiversity Interface

30. Protected areas around the world do not exist as isolated islands of tranquility where centuries of evolutionary processes continue uninterrupted by humans. Rather, they are often found in mixed-use landscapes and seascapes where natural resources are intensively managed for satisfying human needs such as food, water, fuel, and wood. Protected area administrations are thus challenged to achieve their conservation objectives while land-use decisions and development taking place outside the park borders can often work at cross-purposes to their conservation goals.

31. Programs 1 and 2 are focused on two key pillars of a sustainable protected area system: financial resources required for recurrent management costs and expansion of protected area systems to include ecologically viable samples of representative ecosystems and adequate coverage of threatened species at sufficient scale to ensure their persistence. Program 3 will complement these initiatives by focusing on the management of existing protected areas, but with a focus on reducing threats to protected areas that primarily originate in their surrounding landscapes and seascapes.

32. By recognizing the bio-physical and socio-economic milieu that protected areas are part of, protected area administrations and other stakeholders will be supported to turn a potential management problem into an opportunity to sustain protected areas for the long-term. This approach moves beyond the mechanical consideration of biological corridors to encompass a more fluid and integrated understanding of landscape/seascape-level ecosystem processes and management requirements within and beyond protected areas themselves.

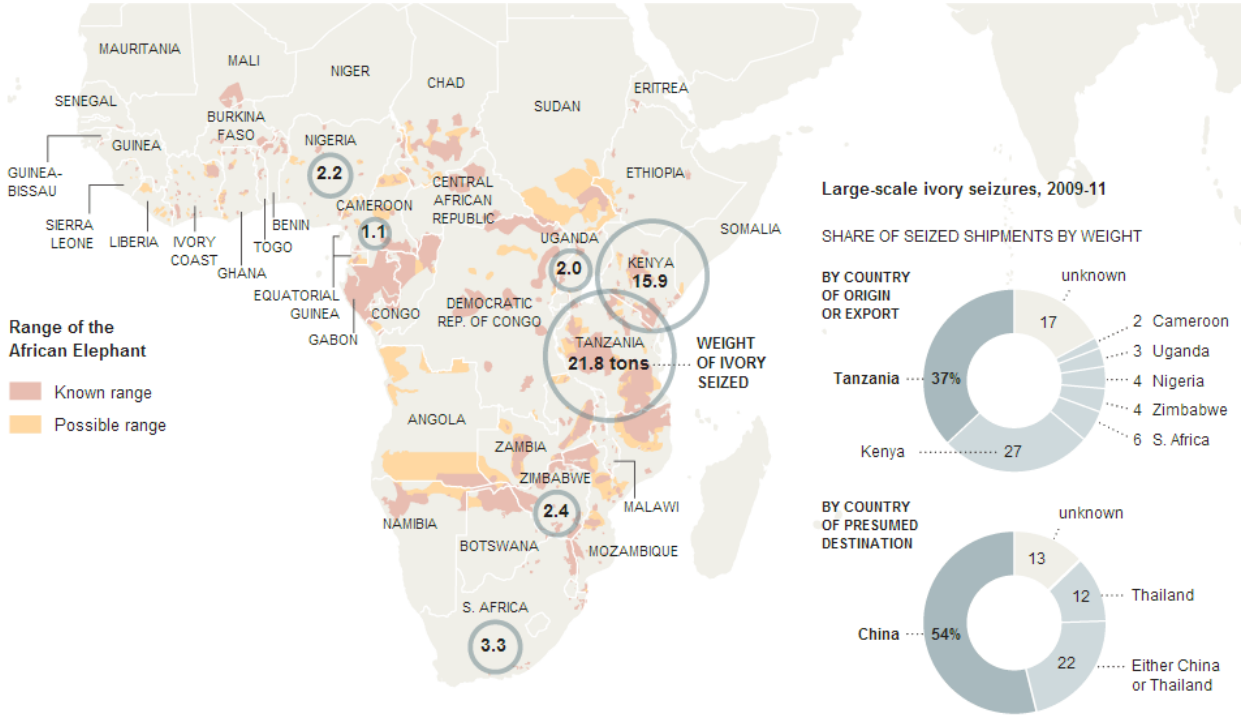
33. Therefore, Program 3 will support investments that reduce external threats in the adjacent landscapes/seascapes of protected areas. The program will support implementation of landscape/seascape level resource management and/or threat reduction strategies in this geography that strengthen protected area integrity and directly and indirectly support the conservation objectives of globally important protected areas (see Table 1). These approaches include spatial- and land-use planning and appropriate zoning, the use of Payment for Ecosystem Services schemes, the promotion of positive incentives such as biodiversity-friendly certification standards for sustainable agriculture, forestry and fisheries production, etc. Support will also be

provided for forest restoration under this program in specific locations where restoration will ensure the persistence of globally important biodiversity in adjacent protected areas.

Program 4: Reducing Widespread Poaching of African Elephants and Rhinos and Illegal Trafficking of Elephant Tusks and Rhino Horns

34. The iconic mammals of the African continent are under siege. Over the past several years, elephant and rhino populations are dwindling as poachers slaughter them for their tusks and horns that are sold on the black market, mainly in Asia (see Figure 2). Armed militias are using increasingly sophisticated communication technologies, weapons, and transport that are overwhelming the capacity of Governments to stop them. These sharp increases in the incidences of poaching have resulted in a call by national and international organizations to increase efforts to stop poachers that threaten not only wildlife but also humans while undermining the economic development that wildlife-based tourism brings to rural communities and national governments. Of equal importance is the need to tackle the illegal trafficking of, demand for, and consumer behavior regarding these natural products in the markets of Asia.

Figure 2. Large Scale Ivory Seizures, 2009-2011



The map appeared in the New York Times, September 13, 2012. Sources of information: Elephant Status Report, Convention on International Trade of Endangered Species (CITES) and Elephant Trade Information Systems (ETIS).

35. This program will be developed and implemented as a pilot to best evaluate how the GEF can engage with the relevant stakeholders, forge new partnerships, and deliver financial resources and the technical assistance required. The program will build on a very limited number of GEF projects targeting the conservation and illegal trade of the target species (e.g. "Strengthening Wildlife Forensic Capabilities to Combat Wildlife Crime for Conservation and Sustainable Use of Species (target: Rhinoceros)" in South Africa).

36. This program will address both supply and demand aspects of this phenomenon with the aim of building monitoring and enforcement capacity at the source and using social media, education and awareness-raising to staunch the demand for these products and pressure Governments to improve enforcement of existing laws.

37. **Strengthening national agencies working on reducing poaching and illegal trade in Africa.** The GEF will support strengthening decision making processes, strategic planning, and national agencies in Africa engaged in reducing poaching and illegal trade of tusks, horns, and associated by-products. Supports include building the capacity of environmental law enforcement agencies and the judiciary in their activities against environmental crime. Border enforcement through cross-sectoral collaboration and public-private-community partnerships may be important. GEF will also support the preparation of action plans where governments commit to an adequate budget for the implementation of strategies, effectively contributing to the sustainability of these activities.

38. **Strengthening law-enforcement at the national and international levels.** The GEF will support joint operations, and law-enforcement actions to reduce poaching in and out of the protected area system. It is necessary to allocate adequate manpower to field protection, and rhino and elephant monitoring with adequate communications and GPS equipment. Efforts should be made to review and strengthen the relevant legislations and its implementation, including ensuring the successful arrest, conviction and sentencing of poachers, illegal traders and crime syndicates operating locally (e.g., at protected area level), nationally, regionally and internationally. Trans-continental trafficking, including efforts to increase cooperation within and between law enforcement agencies and relevant international organizations, and the mobilization of political support for environmental law enforcement will also be supported.

39. **Strengthening information sharing, education and awareness-raising.** The GEF will support initiatives to establish and use information sharing mechanisms among national and international organizations working on anti-poaching and illegal trafficking. There is also need to improve monitoring of elephants and rhinos, horn stockpiles and elephant and rhino movements nationally in and out of the protected area system. Perhaps most importantly, efforts must be made to reduce consumer demand for illegally traded wildlife by raising awareness of the scale and impacts of illegal wildlife trade on biodiversity and the environment, livelihoods, and human health, its links to organized crime, and the availability of sustainable alternatives. GEF will support activities to catalyze high-level political will to fight wildlife trafficking, and secure the shared commitment of government (at national and local level), private land owners, local communities and international stakeholders.

40. **Strengthening anti-poaching efforts in Asia** ***(****To enter into force at the 1.5x replenishment level)****.*** Similar to the case in Africa, wildlife poaching and illegal trade in Eurasia, including Asia, Russia, and Central Asia, is dramatically increasing. The demand for high-value wildlife products in Asian markets has helped fuel a dramatic upsurge of poaching of Asian elephants and rhinos, as well as other wildlife. Illegal wildlife trafficking is well-organized, and addressing this challenge will require both national and regional efforts across borders. At the 1.5x replenishment level, the GEF will complement work undertaken in Africa to reduce poaching through a similar array of interventions at source sites for rhino and elephants in Asia including: 1) strengthening national legislation, institutions, and law enforcement to reduce poaching; 2) strengthening science-based wildlife monitoring, education and awareness; 3) reducing demand for illegal wildlife products.

Program 5: Avoiding Imminent Extinction in Island Ecosystems: a time-sensitive agenda

41. Invasive alien species (IAS) are non-native organisms that cause, or have the potential to cause harm to the environment, economy and human health, and they have been identified as one of the five principal direct drivers of biodiversity loss. The globalization of trade, travel, and transport is greatly increasing the rate at which IAS move around the world, as well as the diversity and number of species being moved.

42. IAS can exert a heavy economic toll on national governments, industries and the private sector. For example, worldwide losses to agriculture have been estimated to be between $55 billion and $248 billion annually.[17] IAS can impact human health through disease epidemics, and pathogens and parasites may themselves be invasive alien species or may be introduced by invasive vectors. Invasive alien species are the primary cause of species extinctions on island ecosystems and if not controlled can degrade critical ecosystem services on islands such as the provision of water.

43. Islands are geographically and evolutionarily isolated units with high degrees of species endemism and restricted ranges, all of which make islands particularly susceptible to the impacts of IAS. Islands are recognized as having exceptionally high numbers of endemic species, with 15% of bird, reptile and plant species on only 3% of the world's land area. The conservation significance of islands is highlighted by global analyses showing that 67% of the centers of marine endemism and 70% of coral reef hotspots are centered on islands, and that 47% of Endemic Bird Areas, 25% of the terrestrial Global 200 Ecoregions, 30% of the biodiversity hostpots and 40% of Alliance for Zero Extinction sites are islands.

44. The isolated nature of islands can also provide some advantages in efforts to minimize the spread and impact of IAS and to manage IAS pathways in a cost-efficient manner. Because of their physical isolation, terrestrial and freshwater IAS have difficulty colonizing islands on their own accord. Furthermore, the contained nature and relatively small size of islands enables the implementation of cost-effective response measures to prevent introductions, and to control and manage IAS that do become established.

[17] Bright, C. 1999. Invasive species: pathogens of globalization. Foreign Policy, Fall 1999: 50-64.

45. During GEF-6, given the high degree of threat that IAS pose to islands, and the potential global biodiversity return on investment, support to the implementation of IAS management frameworks will be targeted solely to island states and islands. GEF will support the implementation of comprehensive prevention, early detection, control and management frameworks that emphasize a risk management approach by focusing on the highest risk invasion pathways. Targeted eradication will be supported in specific circumstances where proven, low-cost and effective eradication would result in the extermination of the IAS and the survival of globally significant species and/or ecosystems.

Program 6: Implement the Cartagena Protocol on Biosafety

46. The Cartagena Protocol on Biosafety (CPB) seeks to ensure an adequate level of protection in the field of the safe transfer, handling and use of living modified organisms resulting from modern biotechnology that may have adverse effects on biological diversity. While rooted in the precautionary approach contained in the Rio Declaration on Environment and Development, modern biotechnology is also recognized as having great potential for the promotion of human well-being, particularly in meeting critical needs for food, agriculture and health care. Recognizing this dual nature, the Protocol sets the parameters to maximize the benefit that biotechnology has to offer, while minimizing the possible risks to the environment and to human health.

47. 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 recently adopted framework and action plan for capacity building for effective implementation of the CPB at the sixth COP serving as the Meeting of the Parties to the CPB (COP-MOP-6) and the recently adopted Strategic Plan for Biosafety, 2011-2020 agreed at COP-MOP 6. By the end of GEF-5, as many as 64 countries will have received support for implementation of their National Biosafety Frameworks (NBFs); however, another 71 eligible countries have yet to request support to implement their NBFs. GEF-6 will provide the opportunity for these countries to seek support for these initial phases of basic capacity building to implement the CPB.

48. The implementation of National Biosafety Frameworks in these remaining countries will be undertaken when the characteristics of the eligible country, as assessed in the stock-taking analysis, recommend a national approach for the implementation of the CPB in that country. 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 to support CPB implementation. These kinds of 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 or thematic areas to develop the capacities of groups of countries lacking competences in relevant fields.

49. The GEF will support a limited number of thematic projects addressing some of the specific provisions of the Cartagena Protocol. These projects should be developed at the regional or sub-regional level and be built on a common set of targets and opportunities to implement the protocol beyond the development and implementation of NBFs.

50. The GEF will support the ratification and implementation of the Nagoya-Kuala Lumpur Supplementary Protocol on Liability and Redress to the CPB for those parties where the NBF has been implemented and is fully operational.

Objective 3: To Sustainably Use Biodiversity

Program 7: Ridge to Reef+: Maintaining Integrity and Function of Globally Significant Coral Reef Ecosystems

51. Coral reefs are among the planet's most biologically rich ecosystems. Although they cover only 0.2% of the ocean's floor they contain 25% of its species. For many countries, coral reef ecosystems are a critical mainstay in supporting fisheries, tourism, and coastal protection, and offer opportunities for other kinds of exploitation such as bio-prospecting, fish aquaria, and jewelry. TEEB estimated that coral reef ecosystems provide society with living resources and services worth about $375 billion each year.

52. However, despite their economic value, coral reef ecosystems are threatened by large disturbances. The last survey (2008) conducted by the Global Coral Reef Monitoring Network concluded that 19% of global coral reefs are unlikely to recover, 15% are in a critical stage (e.g., suffered a bleaching event, some mortality), and 20% are threatened by local activity. The combination of local (e.g., over-exploitation, physical damage), regional (e.g. pollution and sedimentation runoff from the adjacent watersheds), and global threats (e.g., ocean warming and acidification), make coral reef ecosystems increasingly susceptible to disturbance or damage.

53. Of the local pressures, overfishing is the most important threat, affecting more than 55% of the world's coral reef ecosystem; coastal development and watershed-based pollution each threaten about 25%; and marine-based pollution and damage from ships threaten about ten-percent.

54. Table 2 below provides an overview of the status of coral reef ecosystems and threats in each of five major coral reef regions.

Table 2. Regional Coverage and Threat Status of Coral Reef Ecosystems

Region	% of world coral reef	% of Coral Reef threatened	Major threats
Caribbean Region	10% High level of endemism	75%	Disease, Overfishing, Tourism, Land-based pollution, Shipping
Indian Ocean	13%	65%	Overfishing ,Tourism, Land based pollution
Pacific (including Eastern part of the Coral Triangle)	25%	50%	Overfishing, Tourism, Land-based pollution
Middle East	6% High level of endemism	70%	Shipping, Marine based pollution, Tourism industry
South East Asia (including Western half of the Coral Triangle)	28% Most extensive and diverse coral reef of the world	95%	Overfishing, Unregulated aquaculture, Land based pollution

55. Because coral reef resilience to bleaching and other stressors can be improved by a balanced biological and functional diversity with sufficient species interactions, the program will prioritize working in coral reef ecosystems that fulfill the following criteria:

a. Globally significant source population (site is responsible for the persistence of a significant proportion of global population of coral reef); and

b. Bioregionally restricted coral reef (site is responsible for persistence of a significant proportion of rare coral reef species or important for life history of coral reef ecosystem).

56. This program will support the development of the following three inter-dependent components that are focused on threat reduction and sustainable use and that complement the investments in Marine Protected Areas under Program 1and 2.

57. **Expand Marine Protected Area coverage to include Coral Reef Ecosystems.** The GEF will support increasing the area of coral reefs situated within MPAs. An important spatial factor for coral reef resilience is the connectivity among and within coral reefs. Therefore, the development of MPA networks or of very large MPAs will be targeted Programs 1 and 2 will prioritize this expansion and secure resources for the management of these new areas.

58. **Strengthening Policy and Regulatory Frameworks to Protect Coral Reef Ecosystems.** GEF will support the development, adoption and enforcement of legislation to mitigate marine-based pollution and damage to coral reef ecosystems. GEF will also support national and international trade regulations for reef products, e.g., aquarium fish, corals, shells). This could include support to capacity building and encouraging certification and monitoring systems.

59. **Support Integrated Coastal Management in Coral Reef Ecosystem Areas.** GEF will support the implementation of existing integrated coastal management interventions to better address local marine pressures on coral reef ecosystems.

60. GEF will support the development of rights-based management areas at the boundaries of MPAs. The income generated by the payment for access to the rights-based management areas will be used to promote coral reef ecosystem conservation and sustainable use.

61. Both within and outside rights-based management areas, GEF will focus on those actions that enhance coral reef health and resilience at the boundaries of the MPAs including the application of fisheries management tools (restriction of fishing gear, regulations of fishing grounds and fishing seasons), the implementation of regulations for tourism (zoning, infrastructure development), and shipping (discharge from ships, shipping lanes, infrastructure development).

62. This targeted support to Integrated Coastal Management will address direct pressures on coral reefs (the "+" of the Program), and therefore complement current GEF-funded Ridge to Reef projects which primarily aim to reduce land-based pollution and promote Integrated Water Resources Management.

Program 8: Securing Agriculture's Future: Sustainable Use of Plant and Animal Genetic Resources (A joint Program with the Land Degradation Focal Area)

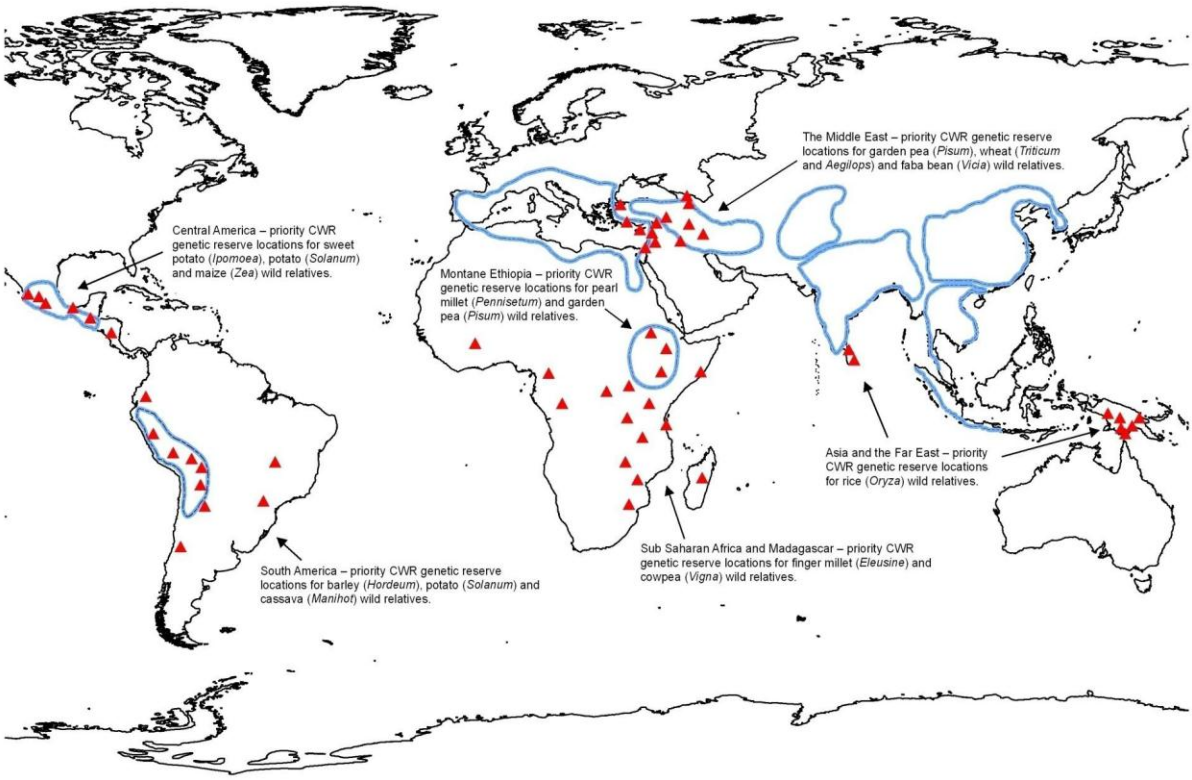
63. The conservation and sustainable use of the genetic diversity of cultivated plants, domesticated animals, of their wild relatives and of other socio-economically and culturally valuable species is central to achieving food security and nutrition of a growing world population, improving rural livelihoods (especially of over one billion extremely poor and vulnerable populations who live in rural areas), developing more sustainable agriculture practices (with reduced pollution and negative impacts on the environment) and improving ecosystem function and the provision of ecosystem services in production landscapes. As climates and production environments change, in often unpredictable ways, new traits will be needed. Genetic diversity is thus also essential to providing the adaptability and resilience that is needed in the face of such changes.

64. There has been significant genetic erosion of crop and animal genetic diversity in many production systems. Threats to genetic diversity are associated with the continuing use of unsustainable approaches that drive excessive use of fertilizers and pesticides, pollution of aquifers and waterways, declining levels of groundwater and mismanagement of soils.

65. Wild relatives remain threatened by land use changes and fragmentation. There has also been significant loss of crop wild relatives (genetic and species diversity) from productive and other ecosystems. Program 2 of the biodiversity strategy will provide support to establish protection for Crop Wild Relatives (CWR) *in-situ* through CWR Reserves and Program 1 may generate revenues to support active management of CWR in existing protected areas. Figure 3 below identifies priority genetic reserve locations for wild relatives for 14 major global food

crops.[18] The centers of crop genetic diversity indicated by the enclosed lines are likely to contain other priority sites for other crop gene pools. GEF investment in CWR reserves would focus on these areas primarily.[19]

Figure 3. Global Priorities for Genetic Reserve Locations.



66. Ex-*situ* and *in-situ* conservation are complementary strategies to allow for the different genetic characteristics of a species to continue to exist over time. Significant progress has been made in the *ex-situ* conservation of crops but gaps and limitations with this conservation approach need to be confronted including the fact that the static approach of *ex-situ* conservation precludes continuing evolution and adaptation. In addition, many minor (but locally important) crops as well as crop and animal wild relatives are inadequately conserved *ex-situ* and many are difficult to conserve this way.

67. *In-situ* conservation, through farmer management, allows continuing evolution and adaptation of cultivated plants and domesticated animals. It meets the needs of rural communities, including indigenous and local communities, who often depend on agricultural

[18] Second State of the World's Plant Genetic Resources for Food and Agriculture. 2009 FAO, Rome. The 14 crop gene pools are: finger millet, barely, sweet potato, cassava, banana/plantain, rice, pearl millet, garden pea, potato, sorghum, wheat, faba bean, cowpea and maize.

[19] A global approach to crop wild relative conservation: securing the gene pool for food and agriculture, 2010, Kew Bulletin, Vol. 65: 561-576. Maxted, Nigel et. al.

biodiversity for their livelihoods through its contribution to food security and nutrition, medicines, fodder, building materials and other provisioning services as well through support for ecosystem function. *In-situ* conservation in production landscapes helps improve sustainability and resilience. A recent analysis confirmed that agricultural biodiversity played a central role in the strategies adopted by rural communities adapting to climate change (Mijatovic et al 2012[20]).

68. While GEF will concentrate it support on the sustainable use of plant genetic resources in Vavilov centers of diversity – especially in those that tend to be less favored by criteria that are based on total biological diversity (e.g. central Asia, the Caucasus, N Africa) – it will also support, holistic responses to *in-situ* and on-farm management of globally significant crop genetic diversity in other geographic areas.

69. GEF will support working with communities and smallholder organizations, as well as government and other stakeholders, including local and indigenous communities, to adopt or develop innovations to current production systems and practices that:

a. Maintain and strengthen different production systems and their elements, including agriculture practices based on local and traditional knowledge, that allow continued evolution and adaptation (adequate population sizes, seed systems, movement of useful materials, local institutions, and access to *ex-situ* materials).

b. Link genetic diversity maintenance to improved food security and economic returns for rural communities and farmers (including local market access and market regulations).

c. Develop policies and strategies (and legislation or regulations) that shift the balance in agricultural production in favor of diversity rich approaches. These include support for the adoption of appropriate fiscal and market incentives to promote or conserve diversity on-farm and across the production landscape

d. Strengthen capacity of the agricultural development, extension and research communities and institutions that are needed for *in-situ* conservation so that agricultural biodiversity is embedded in sustainable intensification and adaptation to climate change; and

e. Strengthen the capacities of community and smallholder organizations, and farmers (both men and women) to participate in the identification, development, and implementation of solutions.

[20] Dunja Mijatovic, Frederik Van Oudenhoven, Pablo Eyzaguirre, and Toby Hodgkin. 2012, The role of agricultural biodiversity in strengthening resilience to climate change: towards an analytical framework. International Journal of Agricultural Sustainability.

Program 9: Implement the Nagoya Protocol on Access and Benefit Sharing

70. The Nagoya Protocol on Access and Benefit Sharing (ABS) provides a legal framework for the effective implementation of the third objective of the Convention on Biodiversity (CBD): "*…the fair and equitable sharing of benefits arising from the utilization of genetic resources*". This legally binding Protocol, will allow users and providers of genetic resources around the world to engage in agreements to make use of the full potential of genetic resources in drug discovery, biotechnology applications, the development of natural personal care and cosmetic products, botanicals, flavors and fragrances, among others.

71. The Nagoya Protocol was adopted by the Parties of the Convention of Biodiversity at the 11th meeting of the Parties on 29th October, 2010 in Nagoya, Japan. At present, 92 parties signed and fourteen have ratified the Protocol. The Protocol will enter into force on the ninetieth day after the date of deposit of the 50th instrument of ratification, acceptance, approval or accession.

72. The GEF will support implementation of the Nagoya Protocol using resources from the GEF Trust Fund (GEF TF) and the Nagoya Protocol Implementation Fund (NPIF).

GEF Trust Fund Support

73. Projects funded under the GEF Trust Fund will support national and regional implementation of the Nagoya Protocol, build capacity among stakeholders, and enhance the value of genetic resources. GEF will also continue to provide support for targeted capacity building, if still required, to facilitate ratification and entry into force of the Protocol.

National and Regional Implementation

74. The GEF will provide financial resources to support the following core activities to comply with the provisions of the Nagoya Protocol:

a. Stocktaking and assessment: ABS provisions in existing policies, laws and regulations, stakeholder identification, user rights and intellectual property rights, and institutional capacity including research organizations adding value to genetic resources (i.e. bio-prospecting).

b. Development and implementation of a strategy and action plan for the implementation of ABS measures (i.e. policy, legal, and regulatory frameworks governing ABS, National Focal Point, Competent National Authority, Institutional agreements, administrative procedures for ABS Agreements with proper Prior Informed Consent [PIC], Mutually Agreed Terms [MAT], and Benefit Sharing, monitoring of use of genetic resources, compliance with legislation and cooperation on trans-boundary issues); and

c. Building capacity among stakeholders (including indigenous peoples, local communities) to negotiate ABS agreements, including domestic protocols, model contractual clauses, and minimum requirements to secure the fair and equitable sharing of benefits. Countries may consider institutional capacity-building to carry out research and development associated with the valorization of genetic resources (bio-prospecting). The GEF would support the development, or updating of existing tools to facilitate the negotiation and implementation of ABS agreements.

75. The GEF will also support initiatives, when properly justified, to enhance national implementation of the Nagoya Protocol through regional collaboration. The objective of regional collaboration would be to promote research and development on species found within regions and to avoid duplication of regulatory mechanisms while encouraging intra-regional collaboration and adding value through research conducted with suitable partners. Regional agreements can also address the financial and human resources constraints faced by small or least developed countries through sharing regulatory and scientific resources.

Building capacity

76. The GEF will support efforts to address the needs and priorities of indigenous peoples, local communities and other stakeholders. The GEF will support activities to build the capacity of Parties to negotiate ABS agreements under the provisions of the Nagoya Protocol of PIC, MAT and Benefit Sharing. Activities could include participation in policy, legal and decision-making processes, and development of domestic protocols, model contractual clauses, and minimum requirements to secure the fair and equitable sharing of benefits. The GEF will also support the participation in the ABS Clearing-House mechanism as soon as it is operational. Support will also be considered for communications and for raising-awareness.

Valuation of genetic resources

77. GEF investments should result in increased capacity of research centers and national universities to carry-out the scientific research needed to bring new uses of genetic resources or derivatives into markets. Increased research and development capacities will increase the opportunities for screening for active compounds, testing for toxicity and safety, and quality control. Since many of the current provider countries are increasingly becoming users as well, investments in the valorization of genetic resource will generate additional interest and incentives for countries making use of these investments. The GEF will support activities leading to the identification of commercial value of biodiversity and genetic resources and opening of market opportunities in the relevant sectors. The GEF will support activities leading to value creation and economic development for providers of genetic resources, including indigenous peoples and local communities.

Nagoya Protocol Implementation Fund (NPIF) Support

78. Projects funded through the NPIF will support the development and implementation of ABS agreements between providers and users of genetic resources that include the three core key elements of the Nagoya Protocol on ABS: PIC, MAT, and Benefit Sharing Providers. It would

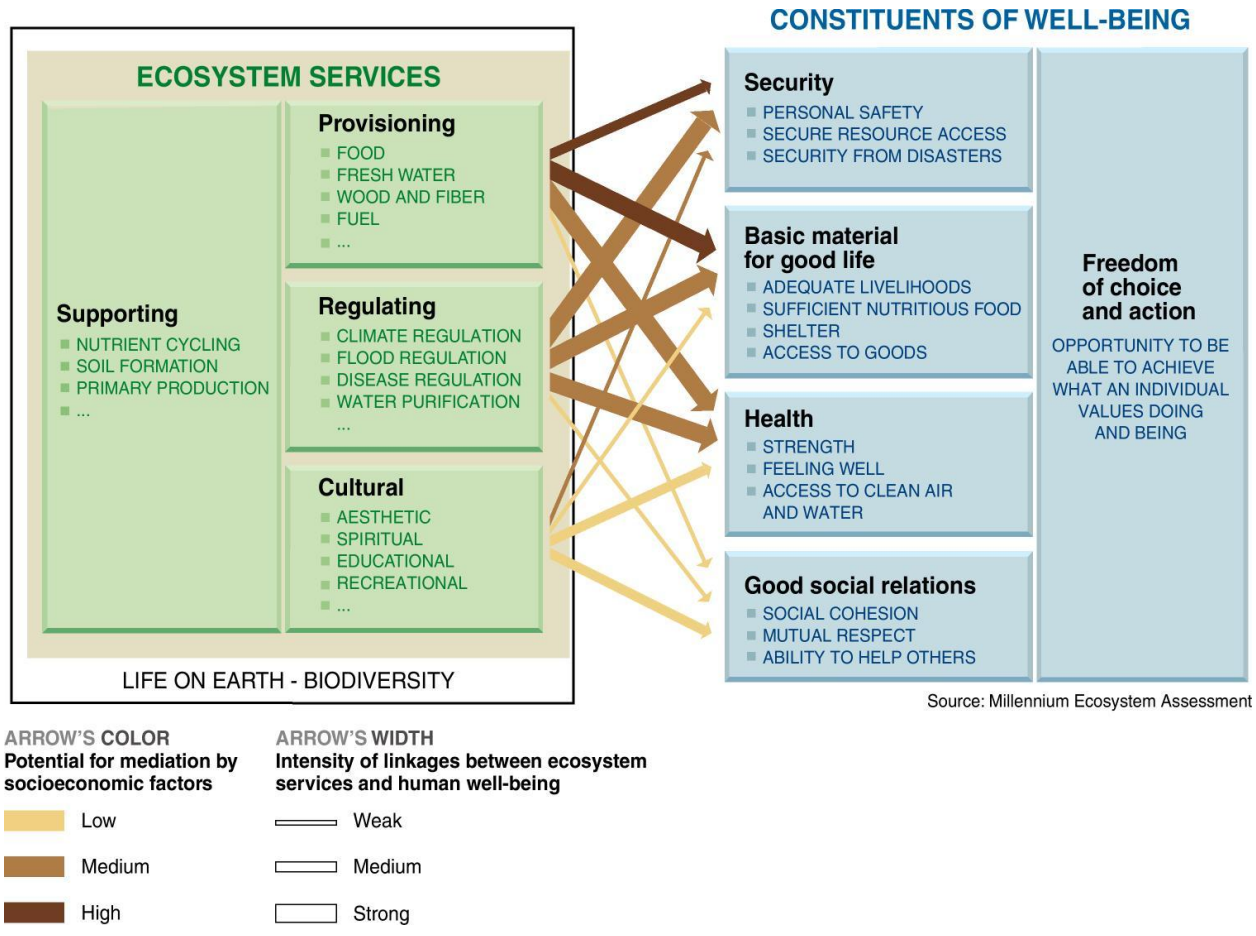
include Parties to the CBD as well as those stakeholders providing access to resources on the ground, including Indigenous and local communities. Users can include Parties of the CBD as well as those interested in the resources including, for example, sectors like the pharmaceutical industry, biotechnology, ornamental horticulture, and natural personal care and cosmetics.

Objective 4: To Mainstream Biodiversity Conservation and Sustainable Use into Production Landscapes/Seascapes and Sectors

Program 10: Integration of the Valuation of Biodiversity and Ecosystem Services into Development & Finance Planning

79. The *Millennium Ecosystem Assessment (MA)* provided a conceptual framework that facilitated a comprehensive understanding of the values of biodiversity to society beyond its mere existence value as depicted in Figure 4 below.

Figure 4. Linkages Between Ecosystem Services and Human Well-Being



80. Applying this conceptual framework as an analytical framework to estimate the value of biodiversity to society through the goods and services it provides has been undertaken by numerous organizations and projects (Wealth Accounting and the Valuation of Ecosystem Services (WAVES) partnership, The Natural Capital Project, The Economics of Ecosystems and Biodiversity (TEEB), the LAC Biodiversity Superpower initiative and numerous GEF-funded projects). In addition, the CBD Strategic Plan identifies Aichi Target 2 as a critical target to achieve in order to address a key underlying cause of biodiversity loss.

81. Although a number of approaches are currently being used to recognize, demonstrate and capture the value of biodiversity and ecosystem services, a mismatch remains between valuation work and development policy and financing. Valuation work is not leading to the development of policy reforms needed to mitigate the drivers of biodiversity loss nor is it triggering an increase in public and private finance flows on the scale necessary to address threats. There is a need for valuation work to be accompanied by policy and finance reforms such that the finance and development decisions that impact natural ecosystems and the associated biodiversity therein include appropriate incentives and price signals resulting in more cost effective and sustained management of ecosystems and biodiversity.

82. This program will pilot national-level interventions that close the circle between theory and practice and link biodiversity valuation and economic analysis with development policy and finance planning—to create an effective policy and financing framework for upscaling biodiversity conservation. The outcome from these projects will be proper valuation that informs the application of economically informed policy instruments and fiscal reforms designed to mitigate perverse incentives leading to biodiversity loss. These may be linked to larger policy reforms being undertaken as part of the development policy dialogue, development policy operations or other means. It will also include specific support to reform finance flows, for instance through public expenditure reviews, and to operationalize innovative finance mechanisms such as payments for ecosystem services, habitat banking, aggregate offsets, and tradable development rights and quotas.

Program 11: Taking Deforestation out of the Supply Chain for Global Commodities of Beef, Soy, Oil Palm, Pulp and Paper to Secure Global Biodiversity Benefits

83. Global consumption of agricultural food and fiber commodities has been recognized as an important driver of deforestation. In addition to species and habitat loss associated with conversion of native forests to annual crops, pastures, and tree plantations, deforestation for production of beef, soy, oil palm, and pulp and paper is responsible for 49% of deforestation annually of primary tropical forests. As such, deforestation for these crops generates about half as many greenhouse gas emissions as all transportation globally each year.

84. Global demand for soybeans for animal-feed and cooking oil, oil palm for cooking oil and biofuels, beef for the domestic and international markets, and pulp and paper is at historical highs and will continue to grow as incomes and consumption increase globally. In 2010-11, the GDP of more than 100 countries grew by 5% or more per capita (these countries include some

60% of global population). Increased consumption of animal protein, especially beef, is a major driver of regional deforestation and global climate change, and warrants greater policy attention.

85. Although the Brazilian Amazon has witnessed a decrease in deforestation since the mid-2000's21, the expansion of cattle ranching continues to be the primary driver of deforestation in virtually all Amazon-basin countries. During the last decade the removal of many policies that stimulated deforestation were offset by an increased influence of global markets. For example, the increased demand for soy meal for livestock and poultry feed plays a significant role in deforestation dynamics; directly by increasing conversion of forest for soy cultivation, and indirectly by displacing existing cattle pastures onto the forest frontier and thus creating another line of deforestation. Indeed, many cattle ranchers who own properties suitable for soy production have sold their holdings with significant capital gains, enabling them to expand their herds, and purchase even more land in forested areas where prices are lower.

86. Oil palm, the most productive oil seed in the world, has led to significant deforestation in tropical rainforests, particularly in Southeast Asia. Conversion of native forests for the establishment of oil-palm plantations to supply the global demand for cooking oil and bio-fuels, has resulted in deforestation of biodiversity rich natural habitats, loss of critically endangered species (i.e. orangutan, rhinoceros, elephants), and a significant increase in greenhouse gas emissions. The situation is aggravated when peat forest swamps (rich in soil carbon) are deforested and drained, becoming prone to fires. With the ever growing demand for palm-oil as one of the most efficient sources of biodiesel, expansion to the remaining forests in South East Asia as well as in the wetter regions of the Amazon and Central Africa will most likely happen if productivity cannot be increased on existing lands and/or alternative lands identified for production.

87. While the demand for these commodities grows, the supply of available land continues to shrink. Since most of this land is concentrated in the tropical rain forests of Amazonia, Central Africa and South East Asia with high levels of biodiversity, agricultural production must be reconciled with other societal objectives such as forest conservation, maintenance of ecosystem services, and climate regulation.

88. Even as the concept of the paperless office has taken root, the reality is that the information age coupled with increasing incomes has resulted in per capita paper consumption of paper that is nearly four times previous levels. Fortunately, nearly half of all paper globally is recycled, but even this does not keep up with increases in consumption. As demand has increased, production has shifted to plantations, particularly in Latin American and subsequently in Indonesia where pulp plantations are more productive. Most Latin American countries have laws against the clearing of forests to establish pulp plantations. That is not the case in Indonesia. This issue is exacerbated by Indonesian pulp companies that also buy wood from national forests, both legal and illegally. The GEF focus on pulp will be confined to Indonesia where the

[21] Official data from National Institute of Space Research (INPE): http://www.inpe.br/ingles/news/news.php?Cod_Noticia=271

problem is the greatest. It is here, too, that a number of companies have made a commitment to take deforestation out of paper and packaging supply chains.

89. This program objective is to take deforestation out of the supply chains of these critical commodities by supporting action with three different sets of actors committed to this overall goal: financial institutions (global, regional, and national); buyers (e.g. any or all of the following—traders, processors, brands and retailers); and producers. Activities are geared to produce results on the ground by sending clear market signals to reward primary producers who improve their performance and eliminate deforestation. The program will also support those institutions that foster change on the ground with producers of the targeted commodities. To achieve this objective the GEF will focus its investments in the following activities.

90. **Engagement of global and national financial institutions:** The GEF will support international financial institutions to develop environmental and social screens or endorse existing standards as conditions for loans extended to the private sector. This could include the development and testing of financial and economic incentives (such as better terms, preferential access to resources, compensation for damages, subsidies and grants) and economic disincentives (such as fines and withholding of benefits) to eliminate clearing of forests and high-conservation value areas for production of these commodities as part of the supply chain. Governments could use this program to formally and explicitly recognize the financial and economic benefits of biodiversity-friendly production methods and practices and to explore new ways to internalize the cost of biodiversity conservation into the production of commodities which would help level the playing field for biodiversity-friendly practices by moving certified products from niche to norm in trade.

91. **Engagement with consumers**: The GEF will facilitate engagement with the ultimate drivers of deforestation: consumers of agricultural commodities (and their derivatives) in the developed countries and emerging economies. Considering that income and consumption will continue to grow in the foreseeable future even if population stabilizes at 9 to 10 billion, it is imperative to address overall consumption by engaging the consumer. The GEF could build on some of the existing initiatives to address this issue at the global, regional and national. In the end, however, the goal of this program is to ensure that all products on the shelf are certified as sustainable.

92. **Development of biodiversity-friendly value chains and products:** The GEF will support the development and implementation of an enabling environment to enhance the adoption of more biodiversity-friendly incentives throughout value chains. The enabling environment includes sufficient policies, laws and regulations as well as national and international multi-stakeholder dialogue groups (roundtables) to foster changes in the value chain. The GEF-funded Biodiversity and Agricultural Commodities Program has engaged the private sector through commodity round tables such as the Roundtable for Sustainable Palm Oil (RSPO) and the Roundtable on Responsible Soy (RTRS). The proposed program will help strengthen the ability of producers to be certified against these standards thereby ensuring certified production, reduced deforestation and the legality of products that enter local and global markets. It will also support efforts that drive demand toward these standards to ensure that

biodiversity-friendly, certified product moves from niche to norm. GEF investments will help producers gain access to new markets for biodiversity-friendly products and engage in certification processes to meet specific biodiversity protection criteria. The GEF will continue supporting the engagement with commodity supply chains, from producers to brands and retailers, for them to achieve positive and measurable benefits for their businesses and the environments in which they operate. Legislation that supports financial incentives and helps remove subsides and perverse incentives will also be supported.

93. **Use of biodiversity-friendly practices on site:** The GEF will support the testing, documentation and adoption of Better Management Practices (BMPs) at the production level. These practices may be related to land use (i.e. biodiversity set-asides, integrated planning and management of palm-oil-agro-ecosystems, etc.) or input use (i.e. integrated pest management, rational use of water and fertilizer, no-till agriculture, rotational grazing, etc.). The GEF will also support zoning and land-use planning for the **protection** of high-conservation value habitats to prevent the expansion of cattle ranching and agro-business into inappropriate areas. In addition, the GEF will support efforts to rehabilitate degraded and underperforming lands in order to reduce pressure to expand plantations onto forested areas. These degraded and underperforming lands hold the potential to be more economically viable (e.g. higher IRR and ROI) for commodity production than clearing natural forests and high-conservation value habitat. GEF will support efforts to identify and map areas where production can be encouraged on rehabilitated lands that will be financially viable and take pressure off forests and high-conservation value habitat.

94. These biodiversity-friendly practices can come from the Biodiversity-, Sustainable Forest Management- and Sustainable Land Management-tool-boxes, making this an ideal place for synergies across the GEF.

Annex 1. Biodiversity Results Framework

Goal: Maintain globally significant biodiversity and the ecosystem goods and services it provides to society.

Impacts:

- Biodiversity conserved and habitat maintained in national protected area systems.
- Conservation and sustainable use of biodiversity in production landscapes and seascapes.

Indicators:

- 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	Expected Outcomes and Indicators	Outcome targets[22]	Core Outputs
Objective 1: To improve sustainability of protected area systems	**Program 1: Sustainable Financing of the National Ecological Infrastructure** Outcome 1.1. Increased revenue for protected area systems to meet total expenditures required for management. *Indicator 1.1: Funding gap for management of protected area systems as recorded by protected area financing scorecards.* Outcome 1.2. Increased revenue invested in PA management of globally significant protected areas. *Indicator 1.2: Funding gap for management of globally significant protected areas as recorded by protected area financing scorecards.*	1.1 80% of projects meet or exceed their target for reducing the protected area management funding gap at the systems and site level.	Output 1.1 Sustainable financing plans under full implementation (number). Output 1.2 Total revenue increase (US$) at level of protected area system and individual sites.
Objective 1: To improve sustainability of protected area systems	**Program 2: Nature's Last Stand: Expanding the Reach of the Global Protected Area Estate** Outcome 2.1 Increase in hectares of terrestrial and marine ecosystems of global significance and increase in threatened species of global significance under protection. *Indicator 2.1 Hectares of terrestrial and marine ecosystems and number of threatened species.*	2.1 % increase in hectares of globally significant ecosystems protected *and* % increase in globally significant species protected.	Output 2.1. New protected areas (number) and coverage (hectares) of unprotected globally significant ecosystems and unprotected threatened species (number).

[22] Outcomes that are geared towards increases or decreases over existing baselines will be dependent on the amount of resources allocated to each program, therefore, in this framework targets are not presented for some outcomes.

Objectives	Expected Outcomes and Indicators	Outcome targets[22]	Core Outputs
Objective 1: To improve sustainability of protected area systems	**Program 3: Managing the Human-Biodiversity Interface** Outcome 3.1: Improved management effectiveness of existing protected areas. *Indicator 3.1: Protected area management effectiveness score of hectares as recorded by Management Effectiveness Tracking Tool.* Outcome 3.2 Threats reduced in the landscapes and seascapes adjacent protected areas. *Indicator 3.2 Measure of threat reduction (specific to each threat).*	3.1 Eighty-percent (80%) of projects meet or exceed their: 1) protected area management effectiveness targets covering "X" million hectares of existing protected areas; and 2) threat reduction targets.	Output 3.1 Sustainable use practices, land-use plans, spatial planning, PES schemes, etc in landscapes/seascapes adjacent to protected areas (number of plans, practices, etc).
Objective 2: To reduce threats to globally significant biodiversity	**Program 4: Reducing Widespread Poaching of African Elephants and Rhinos and Illegal Trafficking of Elephant Tusks and Rhino Horns** Outcome 4.1: Reduction in rates of poaching of rhinos and elephants and increase in arrests and convictions. *Indicator 4.1: Rates of poaching incidents and arrests and convictions.*	4.1 Significant reduction poaching incidence of rhinos and elephants in Africa and significant increase in arrests and convictions.	Output 4.1 Anti-poaching and illegal trade legislation effectively applied in key supply countries and consumer countries (number of policies and legislation).
Objective 2: To reduce threats to globally significant biodiversity	**Program 5: Avoiding Imminent Extinction in Island Ecosystems** Outcome 5.1 Improved management frameworks to prevent, control, and manage invasive alien species. *Indicator 5.1: IAS management framework operational score as recorded by the GEF tracking tool.* Outcome 5.2 Species extinction avoided as a result of IAS management. *Indicator 5.2 Sustainable populations of critically threatened species.*	5.1 Eighty-percent (80%) of projects meet or exceed their target for: 1) fully operational & effective IAS management framework and 2) species extinctions avoided.	Output 5.1 Comprehensive IAS management frameworks (number) Output 5.2 IAS threatening species survival eradicated (number)

Objectives	Expected Outcomes and Indicators	Outcome targets[22]	Core Outputs
Objective 2: To reduce threats to globally significant biodiversity	**Program 6: Implement the Cartagena Protocol on Biosafety (CPB)** Outcome 6.1 Potential risks of living modified organisms to biodiversity are identified and evaluated in a scientifically sound and transparent manner. *Indicator 6.1: National biosafety decision-making systems operational score as recorded by the GEF tracking tool.*	6.1 Eighty-percent (80%) of projects meet or exceed their target for a fully operational and effective biosafety framework.	Output 6.1 National biosafety decision-making systems in place.
Objective 3: To sustainably use biodiversity	**Program 7: Ridge to Reef+: Maintaining Integrity and Function of Coral Reef Ecosystems** Outcome 7.1. Integrity and functioning of coral reef ecosystems maintained. *Indicator 7.1 Area of coral reef ecosystems that maintain or increase integrity and function.*	7.1a Eighty-percent (80%) of projects meet or exceed their protected area management effectiveness targets covering "X" million hectares of coral reef ecosystems. 7.1b Increase in area of coral reef ecosystems that maintain integrity and function as measured by number of coral species and abundance both outside and inside MPAs.	Output 7.1 New MPAs or expanded MPAs to include coral reef ecosystems (number) and sustainable use and rights based management practices employed at the boundaries of MPAs (number).

Objectives	Expected Outcomes and Indicators	Outcome targets[22]	Core Outputs
Objective 3: To sustainably use biodiversity	**Program 8: Securing Agriculture's Future: Sustainable Use of Plant and Animal Genetic Resources *(Joint Program with Land Degradation Focal Area)*** Outcome 8.1 Increased genetic diversity of globally significant cultivated plants and domesticated animals that are sustainably used within production systems. *Indicator 8. 1. Diversity status of target species.*	8.1 Significant increase in genetic diversity status of target species over baseline.	Output 8.1 Agroecosystems comprised of globally significant cultivated plants and domesticated animals that are sustainably used (area).
Objective 3: To sustainably use biodiversity	**Program 9: Implement the Nagoya Protocol on ABS** Outcome 9.1: Legal and regulatory frameworks, and administrative procedures established that enable access to genetic resources and benefit sharing in accordance with the CBD provisions *Indicator 9.1: National ABS frameworks operational score as recorded by the GEF tracking tool.*	9.1 Eighty-percent (80%) of projects result in a fully operational and effective ABS framework.	Output 9.1. ABS frameworks in place and operational and access & benefit-sharing agreements that recognize PIC and MAT (number).
Objective 4: To mainstream biodiversity conservation and sustainable use into production landscapes/seascapes and sectors	**Program 10: Integration of the Valuation of Biodiversity and Ecosystem Services into Development & Finance Planning** Outcome 10.1 Biodiversity and ecosystems valued in national accounting systems and applied in development and finance policy and land-use decision-making. *Indicator 10. 1 Biodiversity status indicators to be developed within each participating country.*	10.1 Stabilized biodiversity status (no net-loss).	Output 10.1 Fully developed valuations of biodiversity and ecosystem services at national scale which have been incorporated into decision-making processes.

Objectives	Expected Outcomes and Indicators	Outcome targets[22]	Core Outputs
Objective 4: To mainstream biodiversity conservation and sustainable use into production landscapes/seascapes and sectors	**Program 11: Taking Deforestation out of the Supply Chain for Global Commodities of Beef, Soy, Oil Palm, Pulp and Paper to Secure Global Biodiversity Benefits** Outcome 11.1 Enabling environment conducive to supporting biodiversity-friendly value chains in commodity production. *Indicator 11.1 Polices and regulations governing commodity production that integrates biodiversity conservation as recorded by the GEF tracking tool as a score.* Outcome 11.2. Increase in area of commodities produced using biodiversity-friendly certified practices. *Indicator 11.2: Landscapes certified by internationally or nationally recognized environmental standards that incorporate biodiversity considerations in commodity production as measured in hectares and recorded by GEF tracking tool.* Outcome 11.3 Decreased rate of deforestation by commodity production *Indicator 11.3 Hectares of deforestation avoided*	11.1 Eighty-percent of projects successfully create enabling conditions required (regulations and enforcement and monitoring mechanisms in place) to support the implementation of biodiversity-friendly value chains in commodity production 11.2 Significant increase in area of commodity production certified. 11.3 Significant reduction in deforestation caused by commodity production.	Output 11.1 Policies and regulatory frameworks for commodity production (number). Output 11.2 Certified production landscapes (hectares). Output 11.3 Forest cover maintained (hectares).

CLIMATE CHANGE MITIGATION STRATEGY

BACKGROUND

1. The Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) from 2007 and more recent scientific findings conclude that delayed reductions in greenhouse gas (GHG) emissions significantly constrain the opportunities to achieve lower levels and increase the risk of more severe climate change impacts. Mitigation efforts, including low carbon technologies and land use, land-use change and forestry (LULUCF) options, and investment in the coming decade will have a large impact on our ability to achieve lower stabilization levels to address this global challenge.

2. Efforts to date by the international community to address the climate change challenge, including those supported by the GEF, have been insufficient to reverse or even stabilize GHG emissions in a timely manner. Facing further challenges, there is a need to step up a global effort in a coordinated manner. The Green Climate Fund (GCF) Board has been established. A robust partnership among various climate finance options, including the GCF, for which mobilization effort is expected to begin, is needed to catalyze transformational change on global scale. The GEF-6 Climate Change Mitigation Strategy is focused on complementarity, to enable mitigation solutions to be implemented at a faster pace with impact. The GEF is ready to sharpen its own value proposition, as presented in this document, in order to maximize synergies within the evolving landscape of climate finance.

3. The GEF-6 period (2014 to 2018) coincides with a seminal period in the global challenge to address climate change. The Durban Platform, agreed by all Parties in 2011, launched a process to develop a legal instrument to reduce GHGs for all countries, both developed and developing. The work on an agreed outcome with legal force under the United Nations Framework Convention on Climate Change (UNFCCC) should be completed by 2015 and implemented by 2020. The GEF-6 period is therefore critical for developing and transition countries to prepare themselves for the new climate agreement, and the GEF has been directed by the Conference of the Parties (COP) to support this effort. Timing is of the essence, and the GEF has a key role to play in helping countries catalyze change, to keep the global temperature increase below the 2°C objective, by stabilizing the atmospheric concentration of carbon dioxide (CO_2) below 450ppm.

GEF'S SPECIFIC VALUE PROPOSITION

4. With financing for over 150 countries, the GEF has provided support to catalyze change and to move towards reduced emissions and a low-carbon development path. The GEF has been supporting policies and regulations to help countries make this transition to the low-carbon path and to incentivize their implementation. Future GEF resources can catalyze more ambitious sustainable development policies and investments, supported, replicated, and scaled up by other international financing institutions or domestic sources. The GEF thus embodies a pioneering

spirit, contributing towards indirect impact beyond the original GEF interventions. GEF's unique values can be characterized as follows:

i. **Facilitating innovation and technology transfer:** The GEF has catalyzed investments and technical assistance to promote technology transfer and innovation. GEF resources also play a key role to pilot emerging innovative solutions, including technologies, management practices, policies, and financial tools. Such support elucidates the potential for systemic change by partners and other financing institutions in position to mobilize much larger scale financing. The GEF's piloting efforts also points to its well established function to mitigate risks associated with the introduction of emerging potential solutions, enabling to increase the pace of delivery of such solutions. The GEF has significant experience of coordination with other climate financing instruments, such as the Climate Investment Funds (CIF), exploiting this piloting and risk-taking feature (see Box 1), which may also be of relevance for the GCF. Furthermore, the Poznan Strategic Program on Technology Transfer and its Long-Term Elements at the national, regional, and global scale has responded to specific COP guidance, and has played a catalytic role in helping countries to advance the technology agenda.

ii. **Catalyzing systemic impacts through synergistic multi-focal area initiatives:** Since GEF-5, an increasing number of projects that address both mitigation and adaptation are being supported by the GEF to help countries realize the low carbon and climate resilient development goals (see Box 2). Topics of emerging importance to address the global commons, such as urban management and climate smart agriculture, also transcend mitigation and adaptation concerns. The flexibility of the GEF to support such initiatives by combining resources from the GEF Trust Fund and the two trust funds managed by the GEF for adaptation is a distinctive feature of the GEF. Furthermore, the multilateral environmental Conventions, including UNFCCC, Convention on Biological Diversity, United Nations Convention to Combat Desertification, and Stockholm Convention, have also highlighted the inter-linkages among their respective objectives. The GEF has the unique ability to promote actions that promote complementarity and synergy to seek multiple global environmental benefits across multiple Conventions while reducing trade-offs and duplication. With the advent of the Mercury Convention, there are additional potential for synergies and co-benefits in projects addressing both climate and mercury emission reduction.

iii. **Building on Convention obligations for reporting and assessments towards mainstreaming**: The GEF's support for Convention-related reporting and assessment is becoming increasingly important, as they are fundamental in helping to inform countries to reach the 2015 universal climate agreement with legal force, with mitigation efforts for all countries. The GEF is currently the only institution with the mandate to finance National Communications and Biennial update reports (BURs), which provide data and analysis needed for countries to articulate emissions sources and mitigation potential. The GEF support has also generated policy-relevant outputs, such as Nationally Appropriate Mitigation Actions (NAMAs), Technology Needs Assessments (TNAs), National

Adaptation Programmes of Action (NAPAs), and other assessments. The GEF is also committed to supporting monitoring, reporting, and verification (MRV) efforts of national mitigation actions. In GEF-6, this work will be enhanced further, to help mainstream climate mitigation planning and policies into strategic decision making.

Box 1: Complementarity with other climate financing

The GEF has been financing climate change initiatives that are complementary to efforts of other climate financing mechanisms. For example, the CIF, through its Clean Technology Fund (CTF) and Strategic Climate Fund (SCF), focuses on providing support to 20 countries, primarily with concessional lending devoted to investments (CIF 2012). The GEF, given the relatively smaller size of project financing and its emphasis on innovative technology and processes, has supported projects on which further investments by the CTF and SCF are based. For example, the CTF support in the Middle East and North Africa region and in Chile for concentrated solar power (CSP) follows a series of seminal GEF projects supporting the first trials of CSP implemented in developing countries. In Mexico, a $50 million GEF grant for a wind energy project by the World Bank encouraged the development of wind energy by lifting one of wind development's key bottlenecks related to the lack of financial competitiveness.

Box 2: Mitigation and adaptation synergy within the GEF

The GEF has been addressing both mitigation and adaptation aspects of climate change. In addition to the GEF Trust Fund support for mitigation, adaptation financing is available through two trust funds, the Least Developed Countries Fund (LDCF) and the Special Climate Change Fund (SCCF). The GEF is able to support initiatives that address synergies between these two areas, so that low carbon and climate resilient development goals of developing countries could be supported in a coordinated fashion. Key examples from GEF-5 are the joint financing for the regional climate technology and financing center initiatives. In GEF-6, emerging synergistic opportunities to address mitigation and adaptation priorities will be sought. Furthermore, appropriate measures will be ndertaken to integrate climate resilience into the mitigation projects that are assessed to be vulnerable to climate change effects. Specific examples of linkages can be articulated in the following areas:

- For Sustainable Cities, the design and implementation of urban transport and infrastructure investments will include measures to reduce GHG emissions and also to ensure their resilience against projected climate change effects such as extreme events, erosion and heat-waves.
-

For Climate Smart Agriculture, GEF finance can promote agricultural land management

GOAL AND OBJECTIVES

5. The goal of the GEF-6 Climate Change Mitigation Program is to support developing countries and economies in transition to make transformational shifts towards a low-carbon development path. The GEF support also aims to enable recipient countries to prepare for the new climate regime under the UNFCCC, with universal emission reduction commitments.

6. To address this goal, the GEF-6 strategy will enhance its focus on supporting innovation and technology transfer, seeking synergies in areas with systemic impacts to address the climate challenge, and building on assessments, strategic planning, and data collection efforts towards climate mainstreaming. These are the areas where the GEF offers unique values to make contributions in a complementary manner within the global climate financing structure. Specifically, the strategy has three objectives which aim to:

1. Promote innovation and technology transfer;
2. Demonstrate systemic impacts of mitigation options; and
3. Foster enabling conditions to mainstream mitigation concerns.

7. These objectives comprise a multi-pronged strategy to help countries address key risks and barriers to the shift towards a low-carbon development pathway. The GEF-6 Climate Change Mitigation strategy encompasses opportunities that combine technologies, systems, financial and

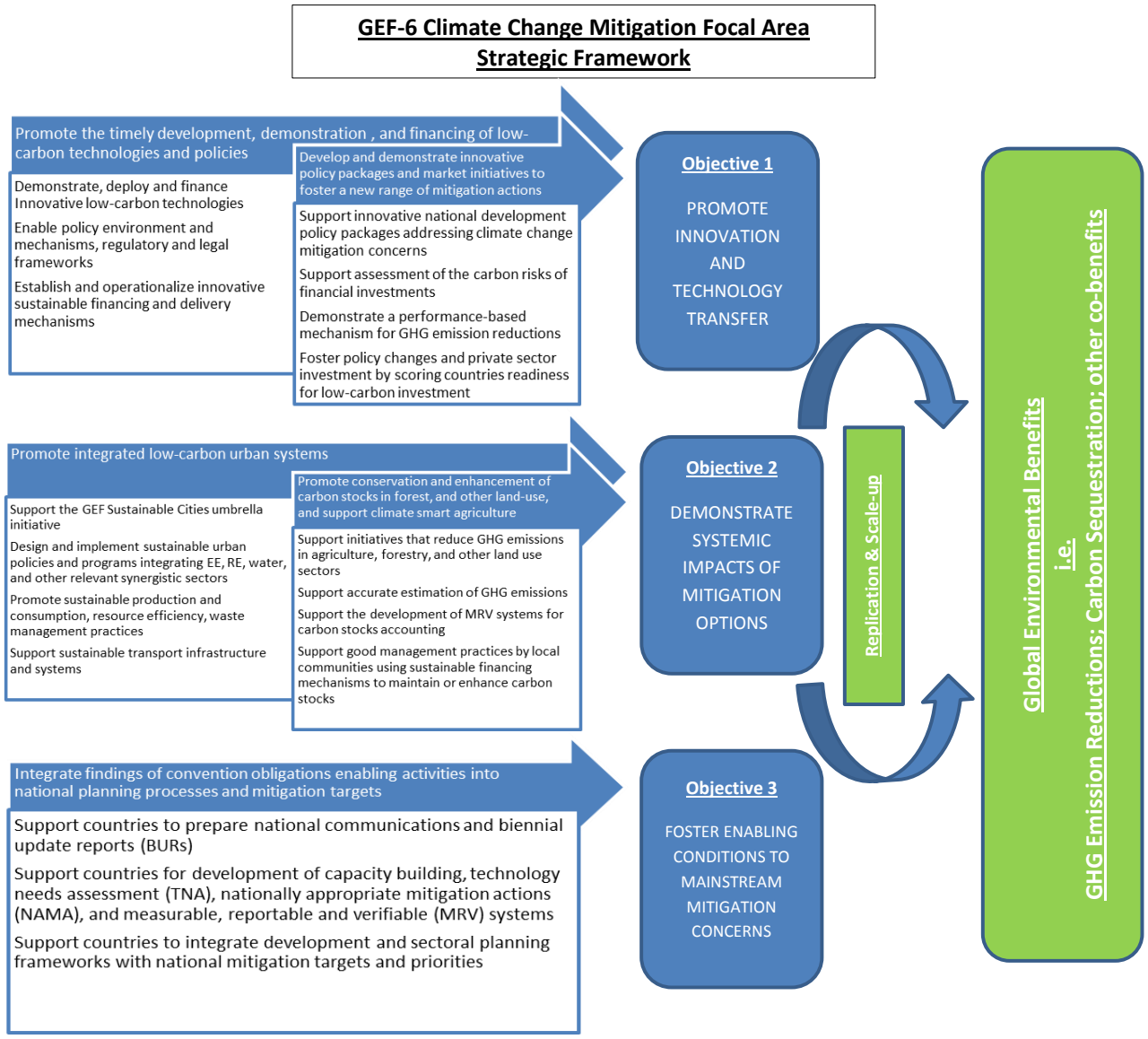
organizational mechanisms, policies and best practices that help countries to move towards innovative, rapid, and transformational change in addressing climate change.

8. Five key Programs of GEF-6 interventions are categorized under the three objectives. They represent a suite of measures to assess and address risks and barriers that remain in the transformation toward low-carbon development. They are described further below, and also shown as Figure 1.

9. During GEF-6, climate mitigation projects at the national level requesting GEF support will be designed as means to address barriers, mitigate risks, and facilitate the implementation of priorities identified in National Communications and BURs, or in line with a NAMA. National Communications, BURs and NAMAs will thus form the core of country activities in GEF-6. Support at the regional and global level will prioritize initiatives that have potential scale and scope benefits to be addressed beyond national boundaries, as well as emerging topics that may have significant, longer-term benefits to address climate change mitigation. Projects will also be expected to address MRV activities, methodologies and mechanism so that effective links and connections can be made to the global mitigation goal.

10. A strong focus will also be placed on ensuring the sustainability of project outcomes beyond the project duration. In particular, the GEF will encourage countries and Agencies to develop innovative initiatives to ensure the sustainability of technical assistance provision and institutional capacity of stakeholders to unlock climate change mitigation impacts.

Figure 1. GEF-6 Climate Change Mitigation Focal Area Strategic Framework



Objective 1. Promote Innovation and Technology Transfer

11. This Objective focuses on promoting innovation through the demonstration, adoption and transfer of innovative mitigation technologies and management practices, and through the development and demonstration of innovative policy packages at the national or supra-national level. Part of this Objective will focus on testing and demonstrating innovative mechanisms that may be complementary to efforts of other financial mechanisms, such as the GCF, to scale up, replicate and reach the critical mass in a timely manner. The Objective consists of the following Programs:

Program 1:	Promote the timely development, demonstration, and financing of low-carbon technologies and policies
Program 2:	Develop and demonstrate innovative policy packages and market initiatives to foster a new range of mitigation actions

12. While projects and initiatives within this Objective are applicable to all countries, efforts may also be made to address time-sensitive needs to mitigate emissions from larger emitters, given their significant impacts on the global commons.

Program 1: Promote the timely development, demonstration, and financing of low-carbon technologies and policies

13. The GEF-6 Climate Change Mitigation strategy supports technology transfer at several key stages, from the demonstration and deployment of innovative low-carbon technologies, towards their market diffusion and adoption.

14. Program 1 will consider all key sectors with mitigation potential, including energy efficiency, renewable energy, transport, and land use, land-use change and forestry. Technologies are defined broadly[23] to include hardware as well as software (people, processes, knowledge, and practices). The GEF has a distinguished history of supporting energy efficiency and renewable energy projects. While they have been largely been evaluated as successful as individual initiatives, the replication of successful efforts has not proceeded as rapidly as needed to achieve impacts with scale. At the same time, there are additional challenges posed by rising energy demand, which call for enhanced access for clean and efficient energy. Given such observation, the GEF-6 Climate Change Mitigation strategy includes consolidated energy-related initiatives under Program 1, and has placed more emphasis on the earlier phases of the innovation chain, where risk mitigation is needed. The areas of GEF support is illustrated in Figure 2.

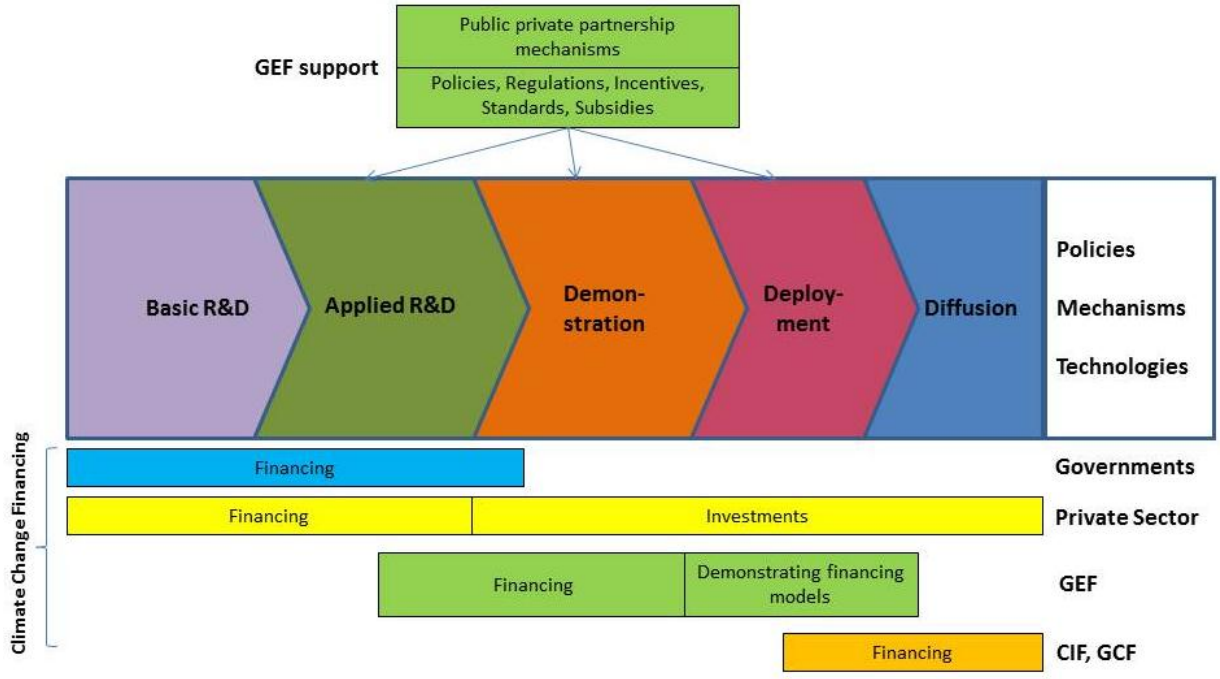
[23] While there are many definitions of technology transfer, the GEF has adopted the concept as defined by the IPCC and embodied in the UNFCCC technology transfer framework. Technology transfer is defined as "…a broad set of processes covering the flows of know-how, experience and equipment for mitigating and adapting to climate change amongst different stakeholders such as governments, private sector entities, financial institutions, non-governmental organizations (NGOs) and research and education institutions…" The definition includes a wide range of activities and extends to a broad array of institutions (for complete definition, see GEF 2012).

15. Because of the urgency to address the global climate challenges, activities supported under this Program are expected to go beyond the incremental technology uptake. The focus of this Program will therefore be on the following:

a. Support development and demonstration of technologies with transformation[24] potential, rather than incremental technological change;
b. Support the acceleration of technology development cycle and innovation chain to demonstrate, deploy, and transfer innovative low carbon technology solutions with speed;
c. Design and implement innovative policies and mechanisms (financial, organizational) sustainably supporting rapid low carbon technologies emergence and uptake; and
d. Foster collaborative initiatives involving the various stakeholders, particularly the private sector, in (i) adapting technologies to user needs and (ii) designing mechanisms supporting accelerated uptake.

16. Specific examples and descriptions of the above program elements are described below.

Figure 2. GEF support in the innovation chain



[24] Transformational technologies are technologies that have the potential to change societies, the way people live, in a sustainable way, and that involve a significant level of risk-taking. They should be distinguished from incremental technology changes that only involve modest changes, series of small improvements ("*doing better what we already do*"). Transformational technologies involve a change of frame ("doing what we did not do before").

17. For the first two elements of Program 1, the focus is technologies which are not yet commercially available and market ready in the considered country context. Options considered for support are expected to be articulated at the local and national level in relevant policy documents, as well as in dialogue with private sector partners. Cutting-edge technologies and options with term potential for large-scale GHG reduction will be considered for support, including but not limited to: use of information and communication technology (ICT) for smart grids, energy management, industrial energy control systems, land use and forestry management as well as agriculture (linked to Objective 2, Program 2), advanced battery technologies, projects addressing black carbon and short-lived climate forcers, and other applications. Innovative initiatives that harness synergies between mercury reduction and GHG mitigation will be encouraged.

18. To foster a stronger private sector involvement in technology transfer and innovation, an aggressive two-phased private sector partnership mechanism may be established, managed by a suitable GEF Agency with due diligence:

i. First phase: Resources will be devoted to initiatives involving the private sector in innovative technologies or organization processes. The review and approval process will be expedited. Projects need to have significant potential impact to address mitigation concerns, but may also involve some risks;

ii. Second phase: Each proposal will have the possibility to request second phase funding. Such requests need to aim at scaling up technology transfer objectives and sustainable mechanisms (policies, financing, enabling conditions) to receive support.

19. For the third element of developing and implementing innovative mechanisms, the GEF will support the development, adoption and implementation of policies, action plans, strategies and regulations that enable increased investments in target sectors, including energy efficiency and renewable energy. In particular, the GEF will support programs and projects that remove policy and regulatory barriers through creation of an enabling environment to support uptake of low-carbon technologies.

20. For energy efficiency, new enhanced efforts may include: global energy efficiency certification and standards program for "greening the supply chain", and new mechanisms for appliance efficiency standards with global and regional coordination with sensitivity to local conditions. The certification and standards program will identify and promote quality, standards, policy development, and MRV for efficient appliances and equipment. Candidate technologies include lighting, air conditions, refrigeration, motors, and building codes. The GEF encourages coordination and partnerships with one or more NGOs that are already working in this area to help support the global coordination efforts.

21. Lessons learned from many programs and projects indicate enforcement and compliance with regulations, programs, and standards are essential to achieve successful energy savings and emissions benefits. Projects that facilitate capacity development and sustainable compliance and enforcement approaches (e.g., fee based building code enforcement) will be supported.

Furthermore, efforts to catalyze GHG emissions reduction from maritime and aviation sectors will be considered for support, as emissions from the transport sector are growing rapidly especially in developing countries.

22. Innovative financing mechanisms will be emphasized under Program 1. The GEF will establish partnerships with the private sector and development banks to introduce financial de-risking instruments which do not seek to directly address policy and regulatory barriers, but instead function by sharing the risks that investors face with public actors. The GEF will also encourage GEF Agencies to develop and promote new risk-mitigation tools that focus on energy efficiency or renewable energy financing, with special emphasis on mechanisms to support aggregation of small projects into bankable size and attract institutional investors (e.g., pension funds). Projects that promote investments without financial tools would be discouraged; projects that link policy development and financial tool usage would be encouraged. The financial mechanisms include guarantees, hedging instruments, regulatory risk insurance, and public co-investments, with a special emphasis on mechanisms to attract institutional investors.

23. Furthermore, the GEF will work with its Agencies and countries to identify suitable business models, which can be adopted by the private sector to promote low carbon technologies. This initiative is especially relevant for energy access for rural areas of developing countries where about 1.4 billion people lack access to electricity. For instance, the GEF will support private or public energy service companies to promote renewables and energy efficiency in rural areas thereby contributing to enhance sustainable energy access.

24. Projects under this program will be expected to present the development and demonstration of innovative mechanisms that are sustainable beyond the project implementation period. Once testing of a technology has proven successful, the results and lessons learned will be widely shared to facilitate subsequent replication efforts by larger-scale financing mechanisms, such as the GCF. Projects will also be expected to include activities to set up mechanisms for MRV of associated GHG emissions.

25. The GEF will take into account the recent decisions reached by Parties giving guidance to the GEF in the areas of development and transfer of environmentally sound technologies for activities under this Program. The GEF will continue the efforts initiated with the Poznan Strategic Program on Technology Transfer and strengthen their implementation under the framework of the Long-Term Program in GEF-6. Efforts will especially be devoted to improving the sustainability of technology transfer financing and to involving the private sector. The GEF is also ready to support, as appropriate, the implementation of the Technology Mechanism of the UNFCCC, including the support for technology needs assessments (TNAs), linked to Objective 3, Program 1. For TNA support, inclusion of the TNA process in the national mitigation strategy of the considered countries will be encouraged.

Outcomes:

i. Innovative technologies and management practices successfully demonstrated, deployed, transferred and financed

ii. Enabling policy, legal and regulatory frameworks and mechanisms created and put into place to accelerate low-carbon innovation, technology transfer, market diffusion and adoption
iii. Innovative sustainable financing and delivery mechanisms established and operationalized
iv. Increased investment in low carbon energy use and production

Indicators:

i. Number of low carbon technologies and management practices transferred
ii. Extent to which policies and mechanisms are adopted and enforced for an accelerated low carbon technology uptake, transfer, diffusion and adoption
iii. Volume of investment mobilized in low carbon technologies, energy use and production
iv. Reduction in energy intensity and/or carbon content of energy

Objective 1. Promote Innovation and Technology Transfer

Program 2: Develop and demonstrate innovative policy packages and market initiatives to foster a new range of mitigation actions

26. This program proposes to develop and demonstrate innovative policy packages that address mitigation concerns and promote market tools to foster a new range of incentives for economically sound mitigation actions.

a. Supporting the design of innovative policy packages addressing climate mitigation concerns: The GEF will support countries, particularly those that articulate in the National Communications, BURs, and other assessments a need for policy packages that would efficiently mitigate their emissions while maximizing their economic benefits, for example through the replacement of fossil-fuel subsidies with other national policies. Several studies, including an analysis by the International Monetary Fund (IMF 2011), show that the implementation of domestic policies suited to the national context allows significant reduction of the economic costs induced by mitigation policies.

b. Demonstrating a performance based mechanism of payment for emission reductions: While many economists advocate for price signals with carbon taxes or cap-and-trade systems to efficiently mitigate emissions, these instruments often prove politically difficult to put in place. At the same time, a project-by-project approach is not adequate, given the scale and timeline of the challenges. Few alternatives have been proposed and fewer have been tested. Within GEF-6, the GEF will offer the possibility for countries to test an innovative incentive mechanism of payment for emission reductions based on an ex-post performance based financing. Countries can access this mechanism by setting the scale (sector or economy-wide) for which:

    i. A level of effort can be defined, and
    ii. Non-grant financing from a development bank or project of adequate size/scope

(to be determined) by any GEF Agency can be secured for climate mitigation policies/activities.

All emissions reductions achieved beyond this internal level of effort scenario will be eligible for an incentive from the GEF through a reduced interest rate or other options.

This mode of intervention would be accessible to most countries, and as an alternative to more traditional project funding. Countries have the flexibility to design and implement the policies they identify as the most effective. The GEF review of such proposal will focus on the quality of the national and/or sectoral scenarios presented and of the MRV system. A more traditional GEF grant could be added to the mechanism to support the MRV part. A similar performance-based mechanism is offered for urban-level initiatives under Objective 2, Program 1.

c. Scoring of countries' readiness for low carbon investment to foster policy changes and private sector investment: The GEF will launch a new initiative aimed at fostering public de-risking policies and private investment for low-carbon sectors based on national priorities. This initiative will support a combination of two complementary activities:

   The GEF will develop the Global Commons Scorecard, by working with entities in relevant sectors to assess and publish the level of readiness for private sector investment in these sectors. The GEF will offer incentives to countries to move to a higher grade through adoption of best practices and MRV.

   The GEF will support the development and demonstration of loan or guarantee schemes implemented by GEF Agencies linked with these scorecard assessments (the level of support will be conditional to the score achieved with the scorecard). Doing so, the GEF will foster countries' efforts to improve their investment environment for green technologies, and private sector investments, especially from institutional investors. This initiative could be launched through an international call for proposal, managed by the GEF secretariat and organized in coordination with interested GEF Agencies to comply with their procurement rules.

d. Supporting a shared transparent assessment of the carbon risks of financial investments: While the global financial community is increasingly aware of the existence of climate change related risks and opportunities, many stakeholders lack the knowledge and tools necessary to take investment decisions based on such risks and opportunities. This limitation impedes the ability of today's financial markets to correctly steer investment in a sustainable direction. In collaboration with private sector and financial market stakeholders, the GEF may launch a new initiative to:

   i. Design a commonly agreed upon method to assess the carbon risks of investments
   ii. Encourage the use of this method to help inform better investments.

Outcomes:

i. Innovative, effective and efficient climate change mitigation policies adopted and enforced along with instruments that address their economic consequences
ii. Awareness raised among governments and private investors regarding climate change related risks and opportunities conducive to more private investment in the low carbon economy

Indicators:

i. Number of countries that have adopted and enforced ambitious and efficient climate change mitigation policies
ii. Volume of investment mobilized and extent of carbon risk reduction in investments
iii. Number of government and private companies that modify their policies or increase their investment towards GHG mitigation

Objective 2. Demonstrate systemic impacts of mitigation options

27. This Objective addresses the need for impacts at regional and global scales and to expedite the adoption of mitigation options. The GEF intervention will focus on two emerging areas where potential systemic impacts of mitigation option are recognized. The Objective consists of the following:

Program 1:	Promote integrated low-carbon urban systems
Program 2:	Promote Conservation and Enhancement of Carbon Stocks in Forest, and other Land-Use, and Support Climate Smart Agriculture

28. The GEF will develop flagship synergy initiatives in the areas of sustainable cities and food security/agriculture that are multidisciplinary. The two Programs within the Climate Change Mitigation strategy will help inform the synergy initiatives, and will focus on activities with significant GHG mitigation potential.

Program 1: Promote integrated low-carbon urban systems

29. The GEF-6 Climate Change Mitigation strategy will introduce a new objective to "promote integrated, low-carbon urban systems." Cities currently consume over two-thirds of the energy, and are responsible for over 70 percent of CO_2 emissions globally (C40 Cities, 2012). Cities also have a strong role in managing sectors with significant GHG emissions, including transportation, electricity, waste management, and buildings. Cities and urban institutions can have an innovative and practical role to act at the local level to address the global commons challenges.

30. This Program will support, and help inform, the GEF-6 Sustainable Cities signature initiative, which builds on synergy among different GEF focal areas. This Program under the Climate Change Mitigation focal area focuses on urban projects with significant climate change

mitigation potential, to help cities shift towards low-carbon urban development. Examples of climate change mitigation-relevant project or program areas that the GEF may support under this Program are:

i. Urban initiatives that commit to GHG mitigation targets at the municipality level, which could utilize performance-based financing and incentives.
ii. Design and implementation of sustainable urban strategies, policies, and regulations, combining energy efficiency (buildings, lighting, air conditioning, transport, district heating systems), renewable energy development (solar, wind, co-generation, waste-to-energy), other sources of GHG emissions (solid waste and wastewater management) and other concerns (adaptation, chemicals management, air quality management, resilient buildings, green zones development).
iii. Land use management, planning, and zoning, including the integration of land use planning with transport planning and transit-oriented development, for sustainable cities to reduce energy demand, enhance climate resilience, and improve living standards.
iv. Promotion of sustainable production and consumption practices to de-couple urban growth and resource use, to reduce use of persistent organic chemicals (POPs) and other chemicals, methane emissions, mercury or lead, and e-waste generation.
v. Phase-out of ozone depleting substances, with energy efficient and low greenhouse potential options.
vi. Design and implementation of integrated water resource management strategies that address climate change mitigation and climate resilience objectives.
vii. Support sustainable transport infrastructure and systems to reduce demand for car travel through catalytic approaches, including road and parking pricing, and congestion charging, which are particularly relevant for urban level low carbon development.
viii. Support sustainable freight and logistics services to address the supply chain, including development of logistics platforms, reverse logistics and low emission zones.
ix. Develop initiatives to assess and reduce the impacts of black carbon and short-lived climate forcers at the urban level.

31. Projects addressing climate change mitigation issues projects under this Program will include a robust MRV system to assess the expected tangible results in terms of global environmental benefits.

Outcomes:

i. Sustainable urban policy, legal and regulatory frameworks adopted and enforced for low carbon urban development
ii. GHG Efficiency of resource use improved in urban systems
iii. Sustainable organization, financing and delivery mechanisms established and operationalized for low carbon urban development

Indicators:

i. Extent to which low carbon urban development policies and regulations are adopted and

enforced

ii. Efficiency level of urban resources utilized (such as GHG emissions per capita)

iii. Volume of investment mobilized in less-GHG intensive urban systems

Objective 2. Demonstrate systemic impacts of mitigation options

Program 2: Promote Conservation and Enhancement of Carbon Stocks in Forest, and other Land-Use, and Support Climate Smart Agriculture

32. Emissions from the agriculture and forestry sectors represent about 31 percent of global emissions (IPCC 2007). A large share (approximately 17 percent) of global anthropogenic emissions is emanating from deforestation, decay of biomass, and other biological processes associated with land use changes (IPCC 2007). In addition, emissions from the agriculture and to a lesser extent forestry sectors also include CH_4 and N_2O emissions (14 percent of global emissions), both with much stronger global warming potentials than CO_2.

33. The Climate Change Mitigation strategy for land use, forestry and agriculture will be enhanced in GEF-6 to address important emerging issues for these sectors. This Program will in particular take into account:

i. The need for land use, forestry or agriculture projects that are robustly structured in their design and scope to significantly mitigate climate change;

ii. The growing needs of human populations (for land, food, fuel, etc.) that advocate for strategies that capitalize on opportunities to derive environmental and social benefits on the same land;

iii. The need to go beyond GEF-5 efforts on CO_2 emissions and sequestration from the agriculture and forestry sectors and to include activities targeting the CH_4 and N_2O emissions of these sectors;

iv. The need to focus on the forest-agriculture nexus since agriculture appears to be the greatest driver of deforestation globally;

v. The need to strengthen and improve the MRV of the GHG emissions and carbon sequestration of these sectors.

34. The GEF will support interventions with a well-articulated mitigation goal, while also seeking to maximize synergies with the other organizations working toward similar goals. For example, there is an opportunity for continuing synergy with the Reducing Emissions from Deforestation and Forest Degradation plus (REDD+) program in the reduction of deforestation loss and forest degradation. This would allow for complementarity, where activities supporting carbon preservation, enhancement or GHG emission reductions can contribute to other benefits (such as enhanced sustainable livelihoods for local communities and forest dependent people). Also, collaboration with organizations and stakeholders focused on agriculture can provide opportunities to help improve agricultural practices that reduce pressure on forests while minimizing emissions of potent GHGs.

35. Opportunities for synergy within the GEF are also expected to grow. For example, under GEF-5 other GEF focal areas have successfully pooled resources with the Climate Mitigation focal area, and through multi-focal area projects have provided a number of global environmental benefits associated with biodiversity, reversal of land degradation, and sustainable land and forest management. In GEF-6, synergistic efforts will be enhanced through the food security-related flagship initiatives, multi-focal initiatives, and through the SFM incentive.

36. Projects and programs to be supported under this objective may include the following:

a. Support initiatives in agriculture, forestry, and other land use sectors: During GEF-6, the GEF will finance agriculture-related projects with climate change mitigation benefits. For example, the GEF may support projects targeting the development of Climate Smart Agriculture, or other similar agriculture, forestry, and other land use (AFOLU) initiatives that contribute to avoiding GHG emissions. Projects with demonstrations of innovative practices and sustainable financing/investment programs will be prioritized. Some examples of projects that may deliver climate change mitigation benefits include: agroforestry, conservation tillage, livestock management, CH_4 mitigation, irrigation, and fertilizer management. Also, since agriculture is often at the crossroad of multiple challenges, cross-cutting initiatives targeting multiple global environmental (and socio-economic) benefits will be considered for support, provided they are robustly structured in their design and scope to significantly mitigate climate change. This enhancement to expand the coverage of agriculture will also enable the GEF to seek comprehensive, multifocal projects with other GEF focal areas that have been supporting agriculture, including Climate Change Adaptation and Land Degradation.

b. Facilitate more accurate estimations of GHG emissions: Under GEF-6, initiatives to improve global carbon accounting may be considered for support. Currently the uncertainty in emissions estimates related to land-use change and deforestation is substantially larger than those from fossil fuel use (estimated to be five percent). There is a need for improved and easy-to-apply methods of predicting and verifying GHG fluxes to and from the atmosphere. To date, estimates of GHG emissions from the land have focused on individual parcels of land or land use types rather than analyses of landscapes as a whole, which may provide more accurate estimates as impacts on forests can be influenced by practices used in juxtaposed agricultural areas. For example, intensive agriculture near forests may reduce the need for deforestation or degradation in that forested area. For these reasons, the calculations of effects of a project on GHG emissions at a landscape level will be encouraged during GEF-6.

   Another factor contributing to poor GHG emission estimates include an inadequate number as well as quality of estimates. Although there are current efforts to estimate carbon stocks around the globe, assessments can be expensive to developing countries, and there are many areas with inadequate data to calibrate carbon stocks using satellite imagery. Uncertainty in emissions from land use can be reduced to less than ten percent

through the use of independent information such as satellite-based estimates of deforestation, which, other than fossil-fuel use, is the largest source of CO_2 emissions (National Academy of Science 2010). Satellite data are useful for remote estimation of the growth of new forests, an important sink for CO_2. The GEF may support the preparation of geographic information systems (GIS) to enable accurate measurements and monitoring of land cover change and land use through high resolution satellite imagery, calibrated with ground data. This calibration with ground data, or "ground-truthing", improves accuracy of carbon stock estimates and predictive ability for prioritizing funding options and in general improves the usefulness of carbon benefit estimations.

A call for proposals could be organized, with the objective of gaining ground-truthed information from critical areas. Critical areas may include areas where independent verification of self-reported emission reductions has not taken place, regions with geographical challenges in access, or if carbon stocks are in a high state of flux due to forest degradation or restoration.

c. Support the development of MRV systems for carbon stocks accounting: Parties to the UNFCCC agreed at its 16th conference in Cancun (COP 16) on the instrument known as REDD+ to be used in reversing the trend of deforestation and forest degradation and to retain carbon stocks by promoting sustainable management of forests and enhanced carbon sequestration. This mechanism provides financial incentives to reduce deforestation and forest degradation, and encourages policies and practices for the enhancement of forest carbon stocks through sustainable management of forests. However, this instrument requires accurate reporting of GHG emissions and carbon stocks, so quality assurance of the data reported is necessary.

During GEF-5, the GEF made substantial investments in the development of countries' national MRV systems through capacity building, including forest assessments, monitoring forest cover change, and information management systems. Funding to countries was not linked to performance accountability requirements, although the development of accounting tools for MRV was encouraged. In GEF-6, all projects targeting carbon stocks will include components for both data reporting and independent verification of the data reported on carbon benefits. This independent verification may attract more partners in funding the efforts, to catalyze significant financing for the sector. The GEF will continue to support capacity building efforts to build these monitoring systems in partnership with the UN-REDD Program. The intent is to help countries develop cost-effective, robust and compatible national monitoring and MRV systems, providing tools, methodologies, training and knowledge sharing that help countries to strengthen their technical and institutional capacity. Such measures are also needed to establish the longer-term viability of carbon markets.

d. Implement good management practices by local communities using financially sustainable mechanism to maintain or enhance carbon stocks: Management practices that

contribute to maintaining and/or enhancing carbon stocks may be supported provided they are robustly structured in their design and scope to significantly mitigate climate change. As highlighted in the COP 16 Agreement, isolated focus on forests no longer can succeed. Addressing the drivers of deforestation supposes to address issues beyond deforestation and take into account the importance of food and energy resources to individuals and national governments. Besides, the potential impact of climate change on forests, agriculture, and food security will increase even further the existing pressures on forests as governments struggle with competing land uses, agricultural productivity and securing food. Examples of good practices may include components in: agroforestry, silvopasture, native vegetation restoration, afforestation, intensive agriculture, and climate smart agriculture techniques, but also cost-effective and innovative certification methods, and landscape approaches for land management planning.

The GEF may introduce a performance-based incentive designed to encourage primarily natural resource projects in following a low-carbon pathway. In order to receive an incentive to make the project "climate smart," the project proposal needs to clarify climate mitigation benefits, with monitoring and reporting.

Similar to the forest product certification programs, GEF-6 could encourage policies for certified status of agricultural industry or landowners that follow climate smart agriculture practices. Incentives for market stimulation at the national and global level and private-public partnerships may be considered, to help develop and implement business models for agriculture, forestry, and other land use initiatives.

Outcomes:

i. Appropriate policy, legal and regulatory frameworks for agriculture, forest, and land-use adopted and enforced
ii. Sustainable management practices for agriculture, forestry, and other land use adopted in agricultural lands, forests, and in the wider landscape that lead to durable mitigation of climate change
iii. Carbon stocks restored and enhanced in forests and non-forest lands, including peatland, and in agricultural lands
iv. CH_4 and N_2O emissions from the agricultural sector are reduced
v. Accurate carbon stock and flow and agriculture, forestry, and other land use emissions monitoring systems established

Indicators:

i. Extent to which agriculture, forestry, and other land use policies and regulations are adopted and enforced
ii. Hectares of forests and non-forest lands restored and enhanced
iii. Extent to which sustainable management practices for agriculture, forestry, and other land use adopted in agricultural lands, forests, and in the wider landscape

iv. Number of cattle, hectares and quantity of manure managed with lower CH_4 or N_2O emissions
v. Extent to which accurate carbon stock and flow and agriculture, forestry, and other land use emissions monitoring systems are established and operational

Objective 3. Foster enabling conditions to mainstream mitigation concerns

37. This Objective addresses the need for enabling conditions to mainstream climate change concerns into the national planning and development agenda, through sound data, analysis, and policy frameworks. The Convention obligations, considered as foundational blocks of GEF interventions, are addressed, as well as enabling activities. The Objective consists of the following:

Program 1: Integrate findings of Convention obligations and enabling activities into national planning processes and mitigation targets

Program 1: Integrate findings of Convention obligations enabling activities into national planning processes and mitigation targets

38. The overall aim of this Program is to facilitate the integration of the reporting and assessment results into the national planning process and to help countries mainstream mitigation action in support of their potential 2020 commitments.

39. To be in a position to meet potential commitments for any new agreement in 2020, GEF recipient countries face significant policy, technical and organizational challenges. The GEF has been providing financial and technical support to non-annex 1 countries as they prepare National Communications to comply with Convention obligations. Parties decided in 2011 at COP 17 in Doha, Qatar to enhance the reporting of National Communications from non-annex 1 countries, consistent with their capabilities and the level of support provided for reporting. Countries agreed to submit BURs, including national GHG inventories, national inventory report, and information on mitigation actions, needs, and support received. The COP also gave guidance to GEF to finance the BURs.

40. During GEF-6, the GEF will continue to provide resources to help countries prepare National Communications and BURs. The GEF may also support actions and activities to enhance the capacity of countries to prepare their national communications and BURs. Wider stakeholder engagement will be encouraged to enhance partnerships and involvement of institutions that are concerned with national development strategies. Also, the GEF will continue to respond to other COP guidance in areas such as TNAs and capacity building.

41. Another Convention-related activity involves countries developing and implementing nationally NAMAs to reduce their GHG emissions. During GEF-6, efforts to produce and

implement NAMAs will be considered for support. These NAMA activities can be of a single-sector, multi-sectors, or economy-wide scale. Also, the GEF may provide support for the development of MRV systems within the NAMAs, which could strengthen the basis for innovative financial mechanisms including carbon finance and trading at the national level. The GEF may also continue to support Low Emission Development Strategy development and implementation, as one of the vehicles to support mainstreaming of mitigation actions.

42. Finally, the GEF may focus on the use of ICT to improve the ability to compare and interpret data and analysis, and thus to enable a wider use of assessment results efficiently and in a timely manner. Such effort may also be offered to other partners, including financing institutions, to enhance complementarity of support. The GEF will also provide resources to countries to assist with capacity building and creating environments, in line with Convention guidance.

43. As indicated earlier in the document, climate change mitigations projects which request support in GEF 6 will need to be linked to NCs, BURs, or TNAs, or be part of an implementation plan of a NAMA. This program will form the basis of activities which will be financed in the climate change mitigation area during GEF-6.

Outcomes:

i. Convention-related reports and assessments are completed and submitted in a timely manner
ii. Development and sectoral planning frameworks at the national level integrate climate change mitigation targets and priorities

Indicators:

i. Number of countries satisfying Convention obligations and other reporting
ii. Number of development and planning frameworks that include mitigation targets and priority actions based on Convention obligations and other enabling activities

Results Framework Table

Goal:	To support developing countries and economies in transition to make transformational shifts towards a low-carbon development path
Impacts:	Slower growth in GHG emissions and contribution to the eventual stabilization of GHG concentrations in the atmosphere
Key Indicators:	Tonnes of CO_2 equivalent avoided (both direct and indirect) over the investment or impact period of the projects

More robust financial scenarios enable the GEF to achieve economy of scale and critical mass effect, resulting in higher emission reduction per dollar of GEF resources compared to the status quo scenario.

GEF-6 Objectives	Expected Outcomes and Indicators	Core Outputs
Objective 1 **Program 1:** Promote the timely development, demonstration, and financing of low-carbon technologies and policies	Outcome 1.1: Innovative technologies and management practices successfully demonstrated, deployed, transferred and financed *Indicator 1.1: Number of low carbon technologies and management practices transferred* Outcome 1.2: Enabling policy, legal and regulatory frameworks and mechanisms created and put into place to accelerate low-carbon innovation, technology transfer, market diffusion and adoption Outcome 1.3: Innovative sustainable financing and delivery mechanisms established and operationalized *Indicator 1.2: Extent to which policies and mechanisms are adopted and enforced for an accelerated low carbon technology uptake, transfer, diffusion and adoption* Outcome 1.4: Increased investment in low carbon energy use and production *Indicator 1.3: Volume of investment mobilized in low carbon technologies, energy use and production* *Indicator 1.4: Reduction in energy intensity and/or carbon content of energy*	Output 1.1: Innovative low-carbon technologies and management practices demonstrated, deployed, transferred and financed on the ground Output 1.2: National policies, regulations and mechanisms to accelerate low-carbon innovation, technology transfer, market diffusion and adoption adopted and enforced Output 1.3: Tangible assets with low-carbon technologies, energy use and production invested in recipient countries Output 1.4: Energy savings and renewable energy production increased
Objective 1 **Program 2:** Develop and demonstrate	Outcome 2.1: Innovative, effective and efficient climate change mitigation policies adopted and enforced along with instruments that address their economic	Output 2.1: Countries receiving GEF support for climate change mitigation policies combined with instruments controlling their

innovative policy packages and market initiatives to foster a new range of mitigation actions	consequences *Indicator 2.1: Number of countries that have adopted and enforced ambitious and efficient climate change mitigation policies* Outcome 2.2: Awareness raised among governments and private investors regarding climate change related risks and opportunities conducive to more private investment in the low carbon economy *Indicator 2.2: Volume of investment mobilized and extent of carbon risk reduction in investments* *Indicator 2.3: Number of government and private companies that modify their policies or increase their investment towards GHG mitigation*	eventual economic consequences Output 2.2: Investment mobilized towards lower carbon risk Output 2.3: Government and private companies modifying their policies or increasing their investment towards GHG mitigation
Objective 2 **Program 1:** Promote integrated low-carbon urban systems	Outcome 3.1: Sustainable urban policy, legal and regulatory frameworks adopted and enforced for low carbon urban development *Indicator 3.1: Extent to which low carbon urban development policies and regulations are adopted and enforced* Outcome 3.2: GHG efficiency of resource use improved in urban systems *Indicator 3.2: Efficiency level of urban resources utilized (such as GHG emissions per capita)* Outcome 3.3: Sustainable organization, financing and delivery mechanisms established and operationalized for	Output 3.1: Cities adopting and enforcing low-carbon development programs Output 3.2: Energy savings and GHG emission reduction achieved in cities of recipient countries Output 3.3: Investment mobilized in less-

	low carbon urban development *Indicator 3.3: Volume of investment mobilized in less-GHG intensive urban systems*	GHG intensive urban systems
Objective 2 **Program 2:** Promote Conservation of Carbon Stocks in Forest, and Land-Use, and Support Climate Smart Agriculture	Outcome 4.1: Appropriate policy, legal and regulatory frameworks for agriculture, forest, and land-use adopted and enforced *Indicator 4.1: Extent to which agriculture, forestry, and other land use policies and regulations are adopted and enforced* Outcome 4.2: Sustainable management practices for agriculture, forestry, and other land use adopted in agricultural lands, forests, and in the wider landscape that lead to durable climate change mitigation *Indicator 4.2: Extent to which sustainable management practices for agriculture, forestry, and other land use adopted in agricultural lands, forests, and in the wider landscape* Outcome 4.3: Carbon stocks restored and enhanced in forests and non-forest lands, including peatland and in agricultural lands *Indicator 4.3: Hectares of forests and non-forest lands restored and enhanced* Outcome 4.4: CH4 and N2O emissions from the agricultural sector are reduced *Indicator 4.4: Number of cattle, hectares and quantity of*	Output 4.1: Carbon stock and flow and agriculture, forestry, and other land use emissions monitoring systems established Output 4.2: Forests and non-forest lands under good management practices Output 4.3: Carbon sequestered and stored due to GEF LULUCF and climate smart agriculture investment and sustainable management practices Output 4.4: CH4 and N2O emissions reduced due to GEF climate smart agriculture investment and sustainable management practices

	manure managed with lower CH4 or N2O emissions Outcome 4.5: Accurate carbon stock and flow and agriculture, forestry, and other land use emissions monitoring systems established *Indicator 4.5: Extent to which accurate carbon stock and flow and agriculture, forestry, and other land use emissions monitoring systems are established and operational*	
Objective 3 **Program 1:** Integrate findings of enabling a activities into national planning processes and mitigation targets	Outcome 5.1: Convention-related reports and assessments are completed and submitted in a timely manner *Indicator 5.1: Number of countries satisfying Convention obligations and other reporting* Outcome 5.2: Development and sectoral planning frameworks at the national level integrate climate change mitigation targets and priorities *Indicator 5.2: Number of development and planning frameworks that include mitigation targets and priority actions based on Convention obligations and other enabling activities*	Output 5.1: Countries receiving GEF support for national communication, etc. Output 5.2: National communications, etc. completed and submitted to the UNFCCC as appropriate Output 5.3: Countries receiving trainings in MRV development and operation

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Annex I. Innovative programming options

For the GEF Climate Change Mitigation focal area, innovation in project design and implementation is critical. Global and regional investment in clean energy and other low-carbon technologies is growing but not at the speed needed to meet our goals nor in all countries. The innovative programming options identified in the GEF-6 position paper will increase flexibility in programming, create new entry points for project partners, and offer low-cost opportunities for achieving GHG emission reductions. Some examples of how climate mitigation projects will take advantage of the innovative programming options are listed below, and also summarized. More detail can be found in the descriptions of each Program in the subsequent sections:

1. Performance-based financing and incentives: The Climate Change Mitigation focal area may make use of performance-based financing and incentives introduced by the GEF for GEF-6 in cases including the following:

    a. *Project-based:* performance-based financing could be utilized on individual projects. Projects that require strong measurement and verification to ensure global environmental benefits, such as renewable energy supply or forest protection, may be suitable.
    b. *Sector, city or economy-wide*: Countries or cities that commit to economy-wide or sector-based emission reduction targets (in tonnes of CO_2 equivalent and/or percent reduction) may utilize performance-based financing. Countries commit to the measurement and verification of meeting the targets, and are paid if the targets are achieved. Countries will have flexibility in selecting and implementing emission reduction options. Countries that achieve above and beyond the agreed mitigation targets and those that achieve the target ahead of schedule will be eligible for an additional incentive.

    The performance-based funding can facilitate competitive bidding and encourages grantees to implement projects quickly with an emphasis on results. Provisions for project development loans and insurance against default must be developed.

2. Incentives for signature integrated projects: Climate change mitigation is a focal area for which initiatives serving multiple global environmental benefits in synergy can be identified with a clear added value in addressing these multiple benefits in a unique project. Examples of eligible topics include: sustainable forest management (SFM); land use-related carbon management; low carbon urban systems; and climate-chemical nexus. Another emerging area is the synergy opportunity for mercury reduction and climate mitigation in power generation. This modality of action is also detailed in the GEF-6 paper on integrated approaches. In addition to the multi-focal projects that use funding from multiple focal areas, projects under single focal areas can also enhance the emphasis on multiple global environmental benefits. For instance, sustainable transport projects can also address climate resilience, projects promoting energy efficient buildings can also address climate resilience, and projects

promoting renewable energy can help reduce pressure on water resources. The GEF will encourage such projects to address multiple benefits, for instance through the application of climate resilience principles in all mitigation projects.

3. Flexible programming for high-impact projects and under-served countries:
    a. *Large-scale, high-impact projects*: Projects with the potential to deliver significant, rapid, sustained emission reduction, greater than ten million tonnes annually, must become a regular part of the GEF portfolio. These large-scale, high-impact projects will be needed particularly in countries with economies in transition and fast-growing urban centers. To encourage these projects, GEF will establish special funding windows, regional approaches, and public private partnerships.
    b. *Flexible programming for least developed countries (LDCs) and Small Island Developing States (SIDS)*: New incentive programs for expedited and flexible programming for LDCs and SIDS under a dedicated funding window will be pursued. This flexible programming tool can be used to promote clean energy access for SIDs and LDCs.

4. Call for innovative proposals and partners: The new objective on low carbon urban systems would allow the GEF and its agencies to engage with city governments and leading institutions in the field. The GEF support for stronger monitoring and verification of carbon emissions could be an opportunity to engage with institutions engaged in carbon monitoring methodologies. The new objective on integration of macroeconomic issues with low-carbon development could be an opportunity to liaise with public and private institutions addressing trade, economics, and finance.

5. Flexibility for regional projects and programs: The Climate Change Mitigation focal area has supported regional projects, such as the Strategic Program for West Africa, and regional Climate Technology and Financing Center projects. Using the new flexibility in GEF-6, Agencies will be encouraged to identify several strong themes in climate change that would allow for rapid replication and adoption of regional programs. Topics might include energy access, innovation and technology transfer promotion, energy efficiency appliances and equipment, transboundary SFM, and regional sustainable agriculture efforts.

6. Catalyzing private sector engagement: To help catalyze investments and leverage opportunities, the Climate Change Mitigation focal area will also actively pursue projects with private sector engagement. Agencies will be encouraged to submit projects that take advantage of the GEF-6 private sector engagement options. Some examples of how the GEF will take encourage private sector engagement are listed below. More detail can be found in the descriptions of each Program.
    a. *Public Private Partnerships (PPP)*
    Clean energy and low-carbon technologies are rapidly going down the cost curve and achieve high penetration rates in selected GEF countries, such as China and India. However, this growth is not consistent, reliable, or uniform across GEF countries. New PPP have proven successful in promoting low-carbon investments through loans, equity investments, and risk-sharing. The Climate Change Mitigation focal

area will pursue multiple PPPs under the private sector set-aside and within country allocation projects.

b. *Risk-mitigation and structured financing tools*
Clean energy and low-carbon technologies are often perceived as risky by potential investors. The development of new tools may be compelling for those countries having difficulty attracting strong private sector investment for clean energy. For example, the GEF could work with MIGA to pilot and validate insurance programs applied to policy risk for renewable power purchase agreements. Other areas are structured financing tools that allow the GEF to reduce risk and attract institutional investors.

c. *Global certification and standards program*
This approach may be pursued for energy efficiency technologies, modeled after the ongoing successful initiatives. For example, this effort could support growing efforts at national and international level for "greening of the supply chain" which helps businesses grow locally while delivering global environmental benefits. The program would identify and promote quality, standards, policy development, and MRV for efficient appliances and equipment and green supply chains. Candidate technologies include lighting, air conditioning, refrigeration, motors, and building codes.

d. *Global commons scorecards*
There is a strong need to identify those countries that are have developed strong policies for clean energy and low-carbon technology development, and have appropriate policies in place to attract private sector investment. These countries can provide excellent case studies for other those countries that are still developing those policies and institutions. The feasibility will be explored to develop one or more scorecards or indices of readiness that can be used to help guide future GEF project design.

e. *Small and Medium Sized Enterprise (SME) Small Grant/Loan Program*
The GEF could develop and launch an SME grant/loan program focused on climate change mitigation and low-carbon technologies for GEF-6. The SMEs could use small grants or loans to promote for example, enhanced adoption of solar thermal technologies for manufacturing; energy efficient cook-stoves; local manufacturing of mini-hydro systems; and other low-carbon technologies. Integrated mitigation and adaptation projects might include small grants for adoption of ICT for tracking of climate smart agriculture to reduce emissions, and use of fertilizer and water.

f. *Accelerated private sector procurement*
Many Clean energy and other low-carbon technology companies are innovative and entrepreneurial. The GEF and its partner Agencies are often approached by companies that want to pilot and validate a promising technology with high potential for GHG emissions reductions. Forging through the GEF/agency project development cycle is a barrier for these companies. The GEF may work with Agencies to identify new approaches that would allow quick start awards and other types of pilot projects that allow private sector ideas to be turned quickly into projects. Examples might

include innovative energy efficient water pumps that could promote climate smart agriculture.

g. *Sustainable technical assistance funding*
The GEF will pursue numerous opportunities with agencies to pilot and validate different forms of this tool. This would be applicable in rural energy access; climate smart agriculture; Sustainable Cities; SIDs–where technical assistance will be needed for many years even after the GEF grant is finished.

INTERNATIONAL WATERS FOCAL AREA STRATEGY

BACKGROUND

1. The International Waters (IW) focal area (FA) helps countries jointly manage their transboundary surface water basins, groundwater basins, and coastal and marine systems to enable the sharing of benefits from their utilization. Through the International Waters focal area, the GEF attends to a unique demand in the global water agenda, fostering transboundary cooperation and building trust between states that often find themselves locked in complex and long-lasting water-use conflicts.

2. The GEF Council approved the long-term goal for the GEF International Waters focal area within its 1995 Operational Strategy. This goal and GEF's strategic approaches remain relevant to this day, and into the GEF-6 period. The goal of the International Waters focal area is to *promote collective management for transboundary water systems and subsequent implementation of the full range of policy, legal, and institutional reforms and investments contributing to sustainable use and maintenance of ecosystem services*.

3. The *global environment benefits* (GEBs) targeted by the IW FA are related to transboundary concerns, including (i) multi-state cooperation to reduce threats to international waters; (ii) reduced pollution load in international waters from nutrient enrichment and other land-based stresses; (ii) restored and sustained freshwater, coastal and marine ecosystems goods and services, including globally relevant biodiversity, as well as preserving the capacity of natural systems to sequester carbon; and (iv) reduced vulnerability to climate variability and climate-related risks, and increased ecosystem resilience through catalyzing multi-state cooperation that balances surface and groundwater use across sectors.

4. There are numerous international conventions, treaties, and agreements on international waters. The architecture of marine agreements is especially complex, and a large number of bilateral and multilateral agreements exist for transboundary freshwater basins. There is also network of more specific regional international legal instruments as well as several regional seas conventions and their protocols. Related conventions and agreements[25] in other areas complement the global legal framework, in which the GEF International Waters focal area operates.

HISTORY OF GEF SUPPORT

5. Over the last twenty years, the GEF International Waters focal area has developed, tested and refined a series of methodologies and approaches for improving the management of many of the world's most important shared marine and freshwater systems. These include the support of common fact finding through the Transboundary Environmental Diagnostic Analysis (TDA)

[25] e.g., the UN Convention on Biological Diversity (CBD), the RAMSAR Convention, the UN Convention on the Law of the Sea (UNCLOS), the U.N. Convention to Combat Desertification (UNCCD), and others.

methodology building on which countries come together to agree on a prioritized Strategic Action Program (SAP). SAPs primarily aim at both institutional and policy reforms and strategic investments on regional, national, and local levels in transboundary rivers, lakes and aquifers, and Large Marine Ecosystems (LMEs). GEF IW has also demonstrated the utility of Integrated Coastal Management[26] (ICM) as a tool to improve management of coastal and marine resources at national, provincial, and municipal levels. The GEF has also been a pioneer in advancing scientific understanding of key emerging issues through a series of targeted research projects. Lastly, GEF has demonstrated success in building upon and supporting emerging regional water and ocean legal frameworks as a means to catalyze transformation of sectors such as shipping and fisheries towards more sustainable practices. Furthermore, a recent decision of the Parties to the UNECE Water Convention enabling accession of non-UNECE member states to the Convention will increase potential for fostering multistate-cooperation on shared river basins and aquifers[27].

6. To date, the GEF has facilitated the development and adoption of 30 Strategic Action Programs and implementation of almost half of them. In many cases, these SAPs have helped to create an enabling policy environment that has catalyzed sizeable investments and other financial flows for aquatic ecosystem restoration and protection. These have led to measurable improvements in the environmental status of major transboundary river basins such as the Danube, and the world's first documented reversal of a large scale hypoxic area in the Black Sea. In East Asia, initial demonstration of ICM has led to a massive scaling up of ICM in the region on target to achieve 20% of East Asia's coastline by 2015. In Africa, a convention legally underpinning the first ecosystem-based LME commission in the Benguela Current is currently being signed. The GEF GloBallast program played a key role in advancing the negotiation, adoption and anticipated coming into force of the Global Convention on Ship's Ballast Water and Sediments. It built capacity in over 60 countries to comply with the new regime, and, working closely with the private sector, helped to catalyze a projected $35 billion ballast water treatment industry.

7. One of the key factors behind the long-term success of the International Waters focal area has been the consistency, since the first GEF Operational Strategy of 1995, in the strategic approach applied within the focal area (joint fact-finding, multi-country strategic planning, implementation of governance reforms and investments). As such, and reiterating the long time frames required for countries to agree on multi-state legal- and institutional frameworks for cooperation, grow functioning and financially self-sustaining regional institutions, and to reverse degradation in large shared aquatic ecosystems, it is essential that the GEF retains its long-term strategic vision and commitment, building on ongoing GEF initiatives at both the enabling and implementation stages.

[26] ICM is a continuous process, which addresses unresolved as well as emerging issues arising from coastal development in order to increase the efficiency and effectiveness of coastal governance towards the sustainable use of coastal resources and of the services generated by ecosystems in coastal areas. It does this by protecting the functional integrity of these natural resource systems while allowing economic development to proceed

27 This was done via an "amendment to the UNECE Water Convention". The amendment was agreed in 2003, it entered into force on February 6, 2013;
http://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-5-b&chapter=27&lang=en

THE CHALLENGE

8. *Most water and ocean resources are transboundary in nature.* Water is a vital resource for economic and social development, for food security, and for the maintenance of vital functions that ecosystems provide. But more often than not, water knows no political boundaries. Globally, there are more than 263 watersheds that cross the political boundaries of two or more countries; these watersheds represent about one half of the earth's land surface and forty percent of global population. The majority of the world's Large Marine Ecosystems, from which over 85 % of the world's fish catch are derived, are equally shared by two or more countries, further underscoring that transboundary water systems are the norm, not the exception. Even more important, cooperation on shared waters has been shown to help build mutual respect, understanding and trust among countries and to promote peace, security and regional economic growth. Therefore, transboundary cooperation is essential, albeit invariably complex to achieve.

9. Historical relations and political imbalances between riparian countries, cross-sectoral interdependencies, and conflicting water use needs, together with global trade and deterioration of key environmental parameters, all enter into this complex equation. To complicate the challenge further, increasingly transboundary water management will need to address the existing links with climate resilience and disaster risk management. This will be necessary to tackle the increasing severity and frequency of floods and droughts, together with higher demand for water associated with expanded food production. This requires integrated governance frameworks for land and water use – i.e. integrated management of the 'green' and 'blue' water. Furthermore, the sustainable management of surface and groundwater should take account of the goals of Chapter 18 of Agenda 21, meaning the needs of water related ecosystems, their biodiversity, and ecosystems services.

10. *Water scarcity and stress is increasing in most regions*. Climate change, population growth, and growing global food demand all put additional pressures on aquatic resources and connected ecosystems. 80 % of the world's population is already exposed to high levels of threat for water security. Climate change and increasing climatic variability will create additional pressure over water resources, with impacts affecting the world's poor disproportionally. Finally, habitats associated with 65 % of global river discharge are already under moderate to high threat[28]. As the planet gets warmer, availability of water resources in basins mainly fed by high altitudes glaciers will experience an overall decrease of run-off in the medium to longer term and, more immediately, are threatened by higher variability through increased frequency and intensity of floods and decreased dry season flows. Communities within such basins are particular vulnerable and human health and ecosystem impacts are likely to be affected from the changes in the hydrologic systems in high altitude basins, of which glaciers are a central component.

11. *Needs for food and water are rising, yet water needs associated with land uses are rarely addressed in basin management plans.* Agriculture accounts for 70 % of the global freshwater

[28] C.V. Vorosmarty, et al., 2010

use, and for over 85 % in many of the least development countries that are eligible for GEF support. Driven by population growth and by the rise in dietary standards, it is also expected that food production will have to increase by 70 % within the next 40 years to meet this growing demand. At the same time, continued investments for expansion of agricultural land for greater food production and associated water use are rarely accounted for in basin planning.

12. *Groundwater governance frameworks remain weak*. While heavily used surface water resources are already regulated in many regions, groundwater remains much less regulated. At the same time, groundwater inherently provides a buffer function to climate variability, and acts as storage to be used during drought crises. With the increase in the frequency of droughts combined with expanded food production, *groundwater* is becoming an increasingly important source of water for agriculture, accentuating the pressure over the aquifer resources. There is thus an urgent need for linking more systematically surface and groundwater governance systems and management, while also taking into consideration that the aerial extent of river basins and underlying aquifers rarely coincide. The technical and governance needs are challenging and not yet comprehensively addressed in the existing GEF IW portfolio.

13. *Land based sources of pollution are leading to increasing ocean hypoxia.* Coastal ecosystems, including deltas, reefs, mangroves and others, are presently threatened by the high level of influx of nutrients and other pollutants originating from land-based activities, primarily agricultural fertilizers, livestock waste and insufficiently treated wastewater. Globally, ocean hypoxic zones driven by nutrient loads and pollution have grown at a geometric pace over the last 30 years with the number of known hypoxic areas now amounting to nearly 500. The socioeconomic impacts of hypoxia and eutrophication are estimated at between 200 - 800 billion dollars per year globally. Nutrient burdens transported from land to the ocean have roughly tripled since pre-industrial times, and are projected to further double or triple by 2050 under a business as usual scenario[29], with the majority of stresses affecting the developing world. Nitrogen deposition is one of a three 'planetary boundaries' that are already considered to have been transgressed, and an estimated 70% reduction in the release of reactive nitrogen will be needed to reverse the degradation trend. There is hence an urgent need to integrate nutrient management needs into water and coastal resource management strategies.

14. *Massive loss of coastal habitats requires global action.* The massive loss of riparian and coastal habitats has had negative impacts on community livelihoods, food security, and also in their intrinsic capacity to sequester carbon. The ocean's vegetated coastal habitats - including mangroves, salt marshes, sea grasses and seaweed, the so-called blue forests - represent only 1% of coastal and marine areas. Yet, these ecosystems are believed to store carbon at rates several times higher than the more widely recognized terrestrial carbon sinks, such as tropical forests. Urgent global action is therefore needed to preserve the vital functions provided by these high priority ecosystems.

[29] S.P. Seitzinger, et al., 2010

15. *Global fisheries are under threat.* One of the key issues affecting the oceans is unsustainable fishing practices, with almost 30% *of* assessed global fish stocks considered collapsed or overexploited in 2009, while a further 57% are fully exploited and need to be carefully monitored and managed to prevent overexploitation [30]. The cumulative economic impact of poor ocean management is estimated to exceed $200 billion dollars per year. Illegal, unregulated and unreported (IUU) fishing alone accounts for catches worth as much as $23.5 billion annually - this is equivalent to about one-fifth of the reported global catch[31]. About 25% of stock from the high seas (so called Areas beyond National Jurisdiction, ABNJ) is considered overexploited or collapsed. Overall, the annual global economic loss from unsustainable fishing is estimated to be $50 billion per year[32] with an estimated net present value of $2.2 trillion[33]. Mismanagement is compounded by $15–$30 billion a year in subsidies to an inefficient fishing industry, helping underpin declining trends.

16. *A common driver behind the accelerating degradation of the marine environment* is the inability of markets to sustainably develop and manage open-access resources such as those found in the ocean. A recent study from the Stockholm Environment Institute stated that "…the ocean is the victim of a massive market failure. The true worth of its ecosystems, services, and functions is persistently ignored by policy makers and largely excluded from wider economic and development strategies…" In this context, not only will the WSSD target of "Maintaining or restoring stocks to levels that can produce the maximum sustainable yield where possible and not later than 2015" not be met but also the relevant CBD Aichi target will be in jeopardy without concentrated and timely intervention. With the overall trajectory of fisheries management still on a negative trend, it is essential that efforts be substantially increased to reverse these trends through application of ecosystem-based approaches, strengthened fisheries institutions, improved monitoring and enforcement, and scaling up of rights-based approaches, sustainable mariculture, and MPAs. GEF-6 International Waters Goal, Objectives and Programs

17. The long-term goal of International Waters Focal Area is to *promote 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*. To achieve this goal, the GEF-6 international waters strategy has three objectives aiming at:

i. Catalyzing sustainable management of transboundary water systems by supporting multi-state cooperation through foundational capacity building, targeted research and portfolio learning;

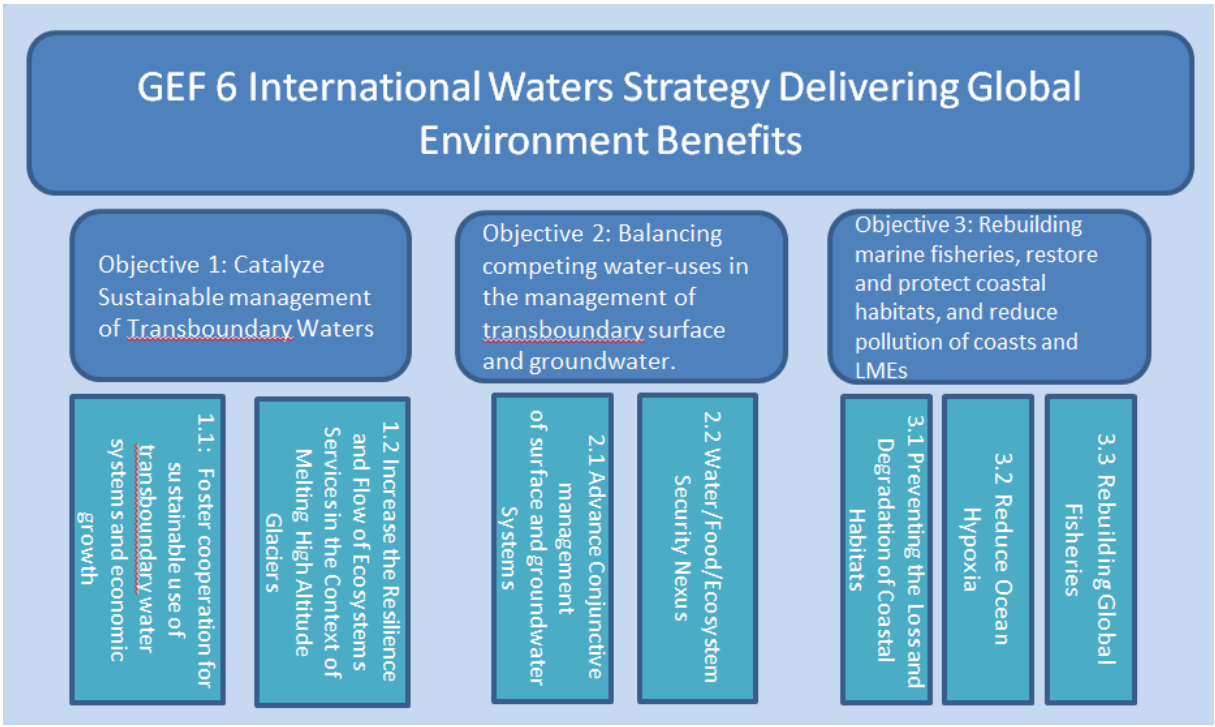
ii. Catalyzing investments to balance competing water-uses in the management of transboundary surface and groundwater and enhance multi-state cooperation;

[30] FAO Review of the state of world marine fishery resources. FAO Fisheries and Aquaculture Technical Paper No. 569. Rome, FAO. 2011. 334 pp.
[31] D. J. Agnew at al., 2009
[32] Arnason et al., 2008
33 Sunken Billions, World Bank and FAO, 2008

iii. Catalyzing investments to rebuild marine fisheries, restore and protect coastal habitats, reduce pollution of coasts and Large Marine Ecosystems (LMEs) and enhance multi-state cooperation.

18. Each objective encompasses distinctive innovative programs that will deliver collective actions and impact on the ground in line with the GEF International Waters Focal Area mandate and opportunities for contributing to transformational changes in the management of international waters.

Figure 1: The GEF6 International Waters Strategy will be delivering Global Environmental Benefits through three Objectives and seven Programs.



Objective 1: Catalyze sustainable management of transboundary water systems by supporting multi-state cooperation through foundational capacity building, targeted research and portfolio learning.

Rationale

19. Water and ocean resources are central to economic growth, food security, and livelihoods. Yet, water needs are increasing from population growth combined with increasing food demand and changing diet preference. Climate change, in addition, is resulting in decreased water availability in most regions and at the same time is leading to increasing extreme events,

such as floods and droughts. This is especially true in GEF eligible countries many of which lag infrastructure, capacity, and financial means to store, treat, or reuse water or increase its productivity. Improved transboundary cooperation for water and ocean governance to balance water and living marine resources needs across sectors and states will become ever more central to maintaining regional stability and avoid conflicts over water and related natural resources, prevent climate induced migrations, and provide for basic human needs, economic growth and maintaining critical ecosystem services. GEF is uniquely positioned to be a catalyst for cooperation and bringing about transformational shifts in country cooperation and regional development.

Program 1.1: Foster Cooperation for Sustainable Use of Transboundary Water Systems and Economic Growth

20. GEF's approach to fostering transboundary cooperation - where capacity and agreement among States is not yet built for collectively addressing transboundary concerns an enabling environment for action will be created through GEF supported foundational processes. These processes include: facilitating a transboundary dialogue process to derive a Shared Vision for collective action, moving from perceptions to agreed facts on pressures within the transboundary water-body through a participatory and cross-sectoral Transboundary Diagnostic Analyses (TDAs), third-party facilitation to design legal and institutional frameworks for coordinated or collaborative action, enhanced stakeholder participation processes, and formulation of Strategic Action Programs (SAPs), including agreed reforms and investments. Transboundary political commitments require time and early visible pay-offs in order to sustain a dialogue. GEF foundational support, therefore, support both a long-term political dialogue as well as demonstration scale investments on local and/or national level. This foundational approach will underpin the prioritization and delivery of regionally agreed country-driven and country-owned high impact investments through Objectives 2 and 3 and the underlying programs (see figure 2).

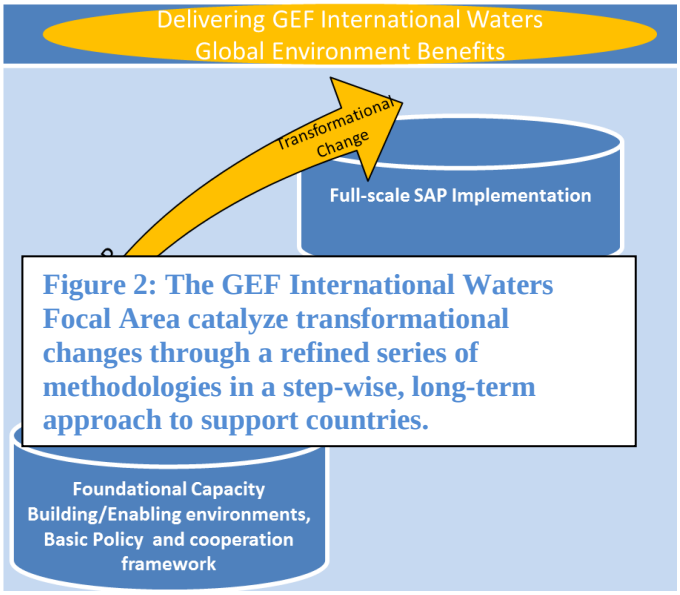


Figure 2: The GEF International Waters Focal Area catalyze transformational changes through a refined series of methodologies in a step-wise, long-term approach to support countries.

21. Building broad trust and confidence is essential to facilitate lasting commitments for cooperation for sustainable management of transboundary water systems. The TDA process involves a range of stakeholders – from ministries, academia, and civil society groups and stakeholders, including the private sector - to create a commonly agreed factual base on pressures on the transboundary water body and their root causes. This forms a foundation for

formulating, prioritizing and agreeing on priority concerns within Strategic Action Programs to be agreed on the ministerial level.

22. Increasing information on clear trade-offs in financial and economic terms will enhance TDA/SAP formulation in GEF 6. This will enable more effective dialogue between ministries of water, environment and other natural resources sectors and central decision makers, including ministries of finance and planning. These ministries, therefore, need to be active partners in national inter-ministerial committees. Priority setting underpinned by sound economic trade-offs will provide greater political buy-in and likely leverage additional public and private finance for SAP implementation resulting in greater impacts. GEF support is an essential component to foster partnerships among development partners within a common approach of support to riparian countries.

23. Recommendations from the 2012 GEF International Waters Science conference clearly pointed to the unique opportunity to use the TDA/SAP process as a vehicle to bridge the science policy gap – through the use of scientific panels, science-policy fora, and dissemination of state-of-the-art methods and tools. For example, methods for the economic valuation of direct- and indirect-use values of ecosystems will be included in TDA formulation. GEF 6 will also mainstream an assessment of risks from climatic variability and change into the TDA/SAP based on current science and available tools.

24. Building on the GEF International Waters success in support to ratification and implementation of Globallast Convention and the strong partnership with International Maritime Organisation (IMO), activities to support the Anti-Fouling Convention, new opportunities for expanded collaboration with the soon-to-become global UN Economic Commission for Europe (ECE) Water Convention will be considered.

25. Over a decade of GEF support within the International Water Focal Area has led to a whole range of experiences, innovations and lessons. GEF's efforts to harness this knowledge capital and exchange experiences within its 'learning project' - the IW-Learn – has proven highly successful and has been recognized by partners. GEF 6 will step up its knowledge management and learning efforts, work with UNECE and other partners, including key NGOs active in international cooperation on freshwater and oceans. This will enhance exchange between scientists and practitioners within the GEF portfolio, as well as serve as a model for effective knowledge management for other GEF focal areas. Emphasis will be kept on active learning across the portfolio and enhancing impact of GEF funded interventions, South-South experience sharing.

26. International waters systems are complex – they encompass political dimensions and by nature cross not only political, but sectoral and ecosystems boundaries. For example, put in simple terms, what happens on land effects what happens in the ocean, all of which is also affected by what is put in the atmosphere? The answer is that large waterbodies on global scale may react slowly to come to tipping points, yet once reached impacts can be detrimental and frames for remedial actions are long and extremely costly to society. It is, therefore, foreseen that a limited number of targeted research projects will be funded to evaluate the severity of a key

upcoming, under-researched global threats and identify a possible niche for GEF support to address these threats. Areas that presently have been identified by GEF STAP and others for potential targeted research includes the disruption of the Global Nitrogen Cycle; better understanding of effective management options to protect coral reefs; connection of nutrient management with eutrophication and hypoxia; and role of groundwater resources in river basin management and their potential for meeting various demands in the changing environment. However, even though this list may be valid at the present time, adjustments and developments may happen during the course of GEF- 6 that will call for additional or changed priorities for targeted research.

27. GEF will support common participatory fact finding processes resulting in TDAs, as a basis for formulating prioritized Strategic Action Plans that require political agreement and adoption at ministerial level. An enabling environment for adopting national or regional Integrated Water Resources Management (IWRM) plans and policies per WSSD targets will be supported in riparian states sharing transboundary surface and groundwater systems; and climatic variability and change will be integrated into GEF supported processes. For coastal and marine ecosystems, GEF will utilize similar foundational capacity building as states adopt ecosystem-based approaches at the LME and local ICM scales.

28. Agreements in complex transboundary settings require in most circumstances a long-term process of dialogue. While in some water-bodies GEF foundational processes will directly result in the formulation of legal and/or institutional frameworks and the creation of regional institutions, in other cases getting all parties around the table in an active dialogue to define such framework and/or create interim institutions will be a highly successful output in itself.

29. Demonstrating benefits from cooperation early on are essential to building and maintaining momentum for regional cooperation. GEF foundational projects therefore support high visibility, local investments in parallel to longer term regionally processes for cooperation. Sustainability and subsequent scale-up of investments through support by Objectives 2 and 3 will be underpinned by intensive institutional and human capacity building efforts and engagement of civil society to raise public awareness of benefits from and support of transboundary cooperation.

Program 1.2: Increase the Resilience and Flow of Ecosystems Services in the Context of Melting High Altitude Glaciers

30. Large scale regional impacts from melting glaciers is expected as climate change and increasing climatic variability are placing human populations and ecosystems dependent on water resources under increased risk in mountain ranges like the Andes, the Himalaya-Hindu Kush ranges, and Central Asia. This risk arises from the rapidly melting glaciers feeding a system of international rivers, resulting in both, significant decreases of dry season flows, and increases of flows and frequency and intensity of floods in other periods. If left unattended, melting glaciers will become politically, socially and economically destabilizing, potentially affecting up to 1.5 billion people. In Asia alone, 500 million people who are dependent on the

waters from the Himalaya- Hindu Kush mountain range are prone to be severely affected by the changing climate scenarios. Melting glaciers will also have widespread consequences for priority mountain and lowland ecosystems of global relevance for biodiversity and ecosystem services.

31. Glaciers can be categorized as being a transboundary resource depending on their geographical position, e.g. melting water from High Asian glaciers feeds many of the region's largest rivers, including Indus, Ganges, Tsangpo-Brahmaputra, and Mekong. While it is estimated that the average melt only constitute roughly 10% of the flow volume, concern persists that continued rapid glacial melt, induced by climate change, could eventually impact water availability and food security in densely populated areas of South and East Asia as well as in Patagonia and Andes where there is a high dependency on the ice deposits as a reservoir providing a steady summer water supply for drinking and agricultural purposes.

32. Synergies with Climate Investment Fund (CIF), Least Developed Countries Fund (LDCF) and Pilot Program for Climate Resilience (PPCR) finance, other GEF focal areas, and coordinated support to countries by development partners will enhance the impact of specific measures as the challenges that the basins with High Altitude Melting Ice are facing will be more sustainably addressed through consolidated multifaceted efforts. South-south knowledge exchanges and scientific cooperation among basins facing comparable challenges may further advance regional knowledge and action.

33. GEF response will result in increased regional cooperation between countries affected by glacial melt through improved and shared information, by enhancing regional dialogues, strengthened governance institutions at regional, national, and local levels, and by investing in innovative demonstrations that will be introducing resilience-enhancing measures at the local level. Support will be provided for formulating and implementing ministerial agreed regional action programs or sub-basin IWRM plans that will serve to underpin adaptive management strategies. Innovative approaches for increased resilience of people and ecosystems will set in motion the scaling-up of climate resilience strategies in priority risk areas.

Objective 2: Catalyze investments to balance competing water-uses in the management of transboundary surface and groundwater and enhance multi-state cooperation.

Rationale

34. GEF assistance is building on a history of more than a decade of support to countries and to States for foundational activities to catalyze multi-state action and to implement agreed Strategic Action Programs (SAP) for interventions in cross-border surface and groundwater basins - with cumulative GEF support including 30 transboundary river basins, 10 transboundary lakes, and six transboundary groundwater basins so far. While this is a large success, GEF action has addressed only a fraction of the world's key freshwater basins so far.

35. GEF support led to stress reducing actions in terms of water use efficiency and productivity, and water quality improvements through a range of ecosystems based interventions.

This experience has shown that the implementation of visible action on the ground is an incentive for riparian states to continue their political dialogue process which may lead to transboundary treaties or other regional coordination or cooperation efforts. Furthermore, increased coordination between river basin institutions and regional economic institutions/commissions is expected to lead to greater regional integration and economic and political stability.

36. Rising food, water and energy needs, population growth and increasing climate variability all result in additional pressures on limited freshwater resources and ecosystems. Effective GEF responses to support implementation of actions on the ground based on SAPs or equivalent agreed regional action programs in GEF-6 requires functioning regional institutions underpinned by national and local policy reforms and investments at regional, national, and local scales. GEF-6 cycle will, therefore, mainly focus on two programs to (i) enhanced institutional effectiveness for conjunctive management of surface and groundwater; and (ii) investments to address the Water/Food/Energy/Ecosystems Nexus.

37. While all GEF-6 supported new TDA and SAPs will consider climate variability and change from the onset, TDAs and SAPs that have been completed years back and that would benefit from latest science in climate impacts will be updated to take climate effects into account. Interventions to address increasing frequency and severity of floods and droughts will continue to be incorporated into the formulation and implementation of SAPs. Furthermore, GEF support will continue to address the needs of Least Developed Countries and SIDS to meet their water and development challenges in a changing climate.

Program 2.1: Advance Conjunctive Management of Surface and Groundwater through Effective Institutional, Legal and Policy Measures

38. GEF-6 will focus support on more effective conjunctive management[34] and sustainable use of transboundary surface and groundwater resources, together with associated ecosystems and the services they provide. Partly due to lack of comprehensive information on groundwater resources and to the 'invisible nature' of groundwater, governance of this resource remains in an incipient stage when compared with that for surface water. GEF-6 support will create the enabling environment and necessary capacity to achieve consistency of water governance frameworks for river and connected groundwater basins. This will become increasingly important as groundwater is used for irrigation for expanding food production and, on the other hand, provides a buffer to sustain water supplies in times of drought.

39. Advancing a sound understanding of aquifers in terms of their extent, water resources potential, together with quality and flow characteristics will be required as a first step in many regions. Increased focus on institutional measures and tools for improved groundwater assessments and conjunctive management, therefore, will be an integral part of the IW GEF-6

[34] Conjunctive management is generally considered as a coordinated and combined use of surface and groundwater to increase the availability of water and to improve the reliability of water supply.

strategy, as will be the integrated management of 'green' and 'blue' waters, the management of floods and droughts, the implementation of innovative measures for nutrient management and water-reuse, and also the promotion of sustainable freshwater fisheries and aquaculture.

40. GEF-6 will foster dialogue and cooperation with the private sector, in particular in reference to initiatives that promote greater transparency and reporting standards, lead to a decrease in the water footprint arising private sectors – such as from food and beverage production/agroindustry and their supply chains, cotton production, and mining - and reduce pollution externalities within supply chains. For example, expansion of agricultural land for greater food production and associated water uses need to be made transparent and be factored into water management strategies and local, national, and basin level.

41. A range of institutional measures and investments identified in the SAP at regional, national, and local scale will be supported within GEF 6, such as the sustainable functioning of already existing joint legal and institutional regional frameworks for surface and groundwater management or support to establishing new ones. On regional, national, and local levels development and enforcement of policy, legislative and institutional reforms identified in SAP will be supported, including measures for greater transparency and policy measures to connect land and water rights.

42. As conjunctive groundwater management is often hampered by lack of information investments in regional and national data- and information, and decision support systems will form an integral part of GEF-6 support. Furthermore, the conjunctive management of surface and groundwater resources to address food crop security needs to take account of climate variability and change. Hence tools and measures to assess climate impacts on recharge areas, storage capacity as buffer against times of droughts, and measures to reduce or avoid over-abstraction of surface and groundwater resources and salt-water intrusion in coastal aquifers will all need to be addressed.

Program 2.2: Delivery of Water/Food/Energy/Ecosystem Security Nexus

43. GEF support will result in increased Water/Food/Energy/Ecosystems security and reduced conflict potential through institutional, policy and legal frameworks, and via investments at regional, national, and local levels. In combination, the strategy will strengthen the delivery of environmental and socio-economic benefits in transboundary basins arising from balancing competing water uses.

44. Building on the International Water Focal Area mandate and to achieve transformational impacts within the wide range of policy and investment needs, GEF will harness synergies across focal areas to focus implementation of agreed basin-/sub-basin SAPs or equivalent regionally agreed development plans predominantly on the nexus of Water/Food/Ecosystems security - while being cognizant of the relevance of the entire spectrum of competing water needs within the larger Water/Food/Energy/Ecosystems Security Nexus for transboundary water management – safeguarding water availability and productivity, water quality, and management and delivery of water and ecosystems services. The focus on Water and Food and Ecosystem security –

including food from freshwater and marine fisheries - provides direct linkage with priority programs within the Land Degradation, Climate Change Adaptation, and Biodiversity Focal Area strategies which will be leveraged for greater impact in programming where feasible (see section on cross-area synergy and linkages below). GEF support with regard to energy security in SAP implementation will foremost address studies and activities, including those necessary to establish environmental flow needs to assure enhancement and maintenance of ecosystems services in basin planning and implementation of multi-purpose investments.

45. Within programming investments in surface and groundwater basins, point and non-point source nutrient pollution is recognized as central issue and cause for eutrophication of freshwater water bodies – such as lakes and inland deltas – and ocean hypoxia. A range of innovative abatement measures may be financed where these are either advancing technology or approaches for nutrient control and impacts are significant with the specific basin or aquifer. Consolidated programming action is nevertheless described under Objective 3 due to the fact that negative impacts and disruption of ecosystems are manifested in receiving waters, i.e. ocean systems.

46. Implementation of SAPs or equivalent regional development programs to increase water, and ecosystems security: GEF support needs to respond to agreed regional and national needs established through a participatory process and confirmed by adoption of SAPs through GEF foundational projects – hence it will be impossible to a priori determine specific investment support by GEF and development partners. Focus in GEF-6 will be given to support implementation of measures that enhance conjunctive management; water, food and ecosystems security; and/or underpin the maintenance of ecosystems services in conjunction with multi-purpose water resources investments.

47. Innovative approaches and technologies will be supported and/or scale-up and/or transfer of such approaches or technologies that have been proven highly successful in either other regions or GEF financed interventions. Demonstration and/or scale-up of innovative approaches will include but not be limited to basin-wide ecosystems based approaches to balance competing water needs and sharing of benefits from water and related natural resources across borders and sectors; water efficiency measures; climate resilience enhancing water resources management, nature based approaches and restoration of ecosystems function, and reducing water pollution.

48. GEF-6 resources may also be used to leverage private and/or public finance by creating or contributing to basin investment funds to prepare and finance SAP investments with GEF support focusing on enhancing and/or maintaining ecosystems services. This type of investment fund support may only be realized in the higher funding scenarios.

Objective 3: Catalyze investments to rebuild marine fisheries, restore and protect coastal habitats, reduce pollution of coasts and Large Marine Ecosystems (LMEs) and enhance multi-state cooperation.

Rationale

49. Coasts and oceans are exposed to increasing threats such as pollution, overfishing, introduced species, habitat and species loss, and poorly planned and managed coastal infrastructure development. Especially serious are reductions in ability to provide protein for food security, livelihoods, and foreign exchange as well as diminished capacity to absorb carbon as part of the ocean's role in sequestering carbon dioxide. Over more than a decade GEF LME projects have been piloting and testing how integrated management of oceans, coasts, estuaries, and freshwater basins can be implemented through an ecosystem-based management approach. This led to globally significant progress in foundational capacity building for States choosing to address the multiple stresses on their shared Large Marine Ecosystems (LMEs) and coasts. GEF has responded to requests from States that have worked together through GEF foundational capacity building projects for 20 LMEs, representing more than one-half of the planet's total number of LMEs that developing countries share.

50. The challenges and consequences of inaction were reiterated by the world leaders at the recent UN Conference on Sustainable Development (Rio+20) recognizing that "oceans, seas and coastal areas form an integrated and essential component of the Earth's ecosystem and are critical to sustaining it. .." They stressed "..the importance of the conservation and sustainable use of the oceans and seas and of their resources for sustainable development, including through their contributions to poverty eradication, sustained economic growth, food security and creation of sustainable livelihoods and decent work, while at the same time protecting biodiversity and the marine environment and addressing the impacts of climate change." The Outcomes Document[35] has identified the oceans and ecosystem services it provides as a critical part of all three dimensions of sustainable development. The world leaders committed themselves to "protect, and restore, the health, productivity and resilience of oceans and marine ecosystems, to maintain their biodiversity, enabling their conservation and sustainable use for present and future generations, and to effectively apply an ecosystem approach and the precautionary approach in the management, in accordance with international law…"

51. Multiple stresses on coastal and marine systems and their drivers interact with each other. If communities are to benefit with on-the ground results in terms of livelihoods, access to safe water sources, food security, safety and improved socio-economic status, the LMEs and ABNJ programs will have to be implemented in conjunction, while addressing the respective priorities of each program. In order to minimize the vulnerability from sea-level rise, displaced fisheries, and other concerns from climatic variability and climate change, GEF support for ICM and LMEs will also consider risks related to these issues as future Strategic Action Programs are implemented and new or revised ones formulated. The programs, described in more detail

[35] http://www.uncsd2012.org/thefuturewewant.html

below, will support and directly contribute to fulfillment of the Global Partnership for Oceans objectives.

Program 3.1.: Reduce Nutrient Pollution Causing Ocean Hypoxia

52. Nutrient pollution and hypoxic zones threaten globally relevant ecosystems, and are now affecting the majority of the world's large marine ecosystems. Excessive levels of nutrients and other oxygen-demanding substances from agriculture, human sewage, and industrial effluents drive algal blooms, including toxic red tides and hypoxic events that impact fish stocks and human health, are responsible for the emergence and expansion of hypoxia zones globally. Most hypoxic zones are a result of run-off to LMEs in developed countries, while GEF support would make important impact on LMEs of global significance in GEF eligible countries where the bulk of projected increases are envisaged to occur unless concerted action is taken.

53. Since the green revolution of the 1950's nutrient pollution has driven a geometric increase in the global occurrence of hypoxia and eutrophication, this is just one of several impacts (such as dramatic increases in groundwater nitrate levels) of a global scale disruption of the earth's nitrogen cycle. The challenge presented by the scope of the increasingly perturbed global nutrient cycle remains under-appreciated in both policy and scientific circles, but already-documented impacts of such changes on biodiversity, climate, economies, livelihoods and human health provide convincing arguments to trigger priority actions on possible options available that can lead to better nutrient management and related policies.

54. GEF will aim to catalyze a transformation in the nutrient economy that will reduce nutrient pollution and coastal hypoxia in 80% or more of all Large Marine Ecosystems in developing countries, looking to eliminate or substantially decrease the frequency and extent of "dead zones". Innovative policy, economic and financial tools, public-private partnerships and demonstrations will be pursued with relevant governments and sectors towards 'closing the loop' on nutrient production and utilization and restoring nutrient balance within planetary boundaries.

55. Action is urgent to address challenges related to increasingly disturbed nutrient cycle. The challenge presented by the scope of the changing nutrient cycle remains under-appreciated in both policy and scientific circles, as recognized by the GEF STAP Hypoxia report. This has led to identification of a number of gaps within the International Waters portfolio on activities addressing the globally disrupted nitrogen cycle. To address these, collaboration through targeted research as well as with the private sector will be initiated.

56. GEF will fund ecosystem-based approaches allowing for sustainable management of LMEs including reducing land-based pollution and the resulting eutrophication. Where capacity is built and collective action agreed upon, support will be provided for national and local strategies and policies, legal, and institutional reforms to reduce land-based inputs of nutrients as in accordance with the Global Program of Action on Land-based Sources of Marine Pollution (GPA). The GPA remains a valuable and flexible tool to achieve the various goals and targets set by the international community as they relate to the coastal and marine environment and their associated watersheds. Innovative partnerships, types of investments, and financing, will be

pursued with relevant sectors targeting land-based sources of marine pollution, and for wetland restoration. Private sector will be engaged in developing solutions, especially for agriculture sources of nutrients, and process water from factories.

Program 3.2.: Preventing the Loss and Degradation of Coastal Habitats

57. Marine ecosystems are increasingly threatened by the loss of coastal habitat with negative impacts on community livelihoods, food security, biodiversity, coastal protection from storm surges, and reduced capacity to sequester carbon. An estimated 20% of global mangroves have been lost since 1980, 19% of coral reefs have disappeared, and seagrasses have been disappearing at a rate of 110 km2 yr−1 since 1980 and that 29% of the known areal extent has disappeared since seagrass areas were initially recorded in 1879[36]. In addition, climate change is expected to increase the intensity and frequency of severe tropical storms rendering the protective role of reefs and mangroves even more critical. Investments in the protection of reefs through establishment of Marine Protected Areas (MPAs) is dwarfed by the avoided investments cost for hard infrastructure, such as seawalls, and co-benefits from tourism and sustainable fisheries37. Despite such obvious win-win gains, only 1.4% of marine habitats are protected.

58. The GEF will substantially contribute to the prevention and further loss and degradation of coastal habitats, so as to maintain or expand the levels of ecosystem services provision, resulting in globally significant benefits. Over nearly 20 years, the GEF's investments have demonstrated the utility of Integrated Coastal Management (ICM) as a tool to promote national, provincial and local governance reform for improved management of coastal and ocean resources (e.g. in East Asian Seas region). ICM provides a structured, multi-stakeholder approach to tackle the complex threats to coastal habitats on different administrative levels. By leveraging sizeable public and private investment in environmental protection and restoration, local ICM reforms supported by national governments have been shown in GEF IW projects to achieve cost-effective outcomes for coastal protection. Furthermore, GEF-6 will support the conservation of "blue forests" within Integrated Coastal Management investments with stronger link to MPAs. This support in GEF-6 will lead to protection of critically important ecosystems in globally most significant areas.

59. GEF would invest in innovative practical application of spatial planning and management of coastal areas and in some cases adjacent freshwater basins through Integrated Coastal Management (ICM) principles and in coastal habitat protection and/or conservation and mangrove restoration. GEF would also support investments in sustainable alternative livelihoods, habitat restoration, targeted research on coral reefs, action towards national and local policy, legal and institutional reforms and increased enforcement to secure coastal/marine habitat, especially the "blue forests" that need protection as carbon sinks.

[36] Michelle Waycott et al., 2009
[37] R. Munang et al, 2013

Program 3.3.: Rebuilding Global Fisheries

60. The Food and Agriculture Organization of the United Nations (FAO) estimated that 19% of all marine fish stocks have been overexploited, 8% depleted, and only 1% is recovering from past overexploitation. About half of all marine fish stocks are at or near the limit where they produce maximum sustainable yields – meaning that their potential has now been fully realized - while only 20% are currently moderately exploited or underexploited (FAO, 2009). Fisheries are in decline in many places primarily because governance and management arrangements have failed to address open access conditions.

61. To help maintain fish stocks at productive levels, and to reverse further fisheries depletion, gaps and weaknesses in the regional and national institutions responsible for managing the world's fisheries must be addressed. In particular, additional monitoring and enforcement efforts are needed to reduce illegal, unregulated and unreported fishing (IUU) in order to ensure access to nominated fisheries by right holders and the effective application of the Rule of Law. Furthermore, restructuring fisheries management in a way that results in increased economic output and efficiencies, improve livelihoods and food security by aligning the socioeconomic incentives of fishermen and fishing communities with the biological health of fish stocks is likely the most important investment to make toward restoring the health of the world's oceans. Rights-based approaches to fisheries management have been shown to be effective in aligning incentives with sustainable fishing practices in a range of cases where they have been properly designed and applied, and the current strategy will seek to expand their applicability.

62. The GEF-6 strategy will aim to catalyze a global transformation of the fisheries sector by supporting improved fisheries management systems that encourage long term interests in sustainability and introducing sustainable fishing practices into 40 % of the globally depleted fisheries (by volume), taking into account, for example, threats to biodiversity, importance for livelihoods, etc., through applying ecosystem-based frameworks, improved monitoring and enforcement, together with scaling up of rights-based approaches, sustainable mariculture, and expansion of marine protected areas (MPAs). Progress towards this goal will be monitored using new tools including World Bank's Fisheries Performance Indicators, and FAO's review of the status of fish stocks.

63. The GEF, therefore, will support the strengthening of Regional Fisheries Bodies (RFB) including Regional Fisheries Management Organizations (RFMOs) and LME commissions that are entrusted with the responsibility for management of transboundary fish stocks, including enhancing regional and national capacities to monitor and enforce fisheries regulations and eliminate destructive fishing practices. GEF will continue pursuing partnerships with national governments and with private sector to further promote innovative, market-based approaches fostering good fishing practices and fishery management on LMEs and ABNJ. Furthermore, GEF will assist countries - in the frame of UNCLOS - in the implementation of the 1995 International Code of Conduct for Responsible Fisheries, and related instruments, together with the 1995 UN Fish Stocks Agreement, and the ratification of the 2009 Port States Measures Agreement (PSMA) by flag and port states.

64. In order to increase the economic, social and nutritional benefits from their fisheries GEF will support enhancement the capacity of developing countries and SIDS to make optimal use of their fishery resources through enhanced fisheries management (e.g., including well-designed rights based management approaches, adjusting fishing capacity and practices in a manner to avoid or eliminate overfishing, ceasing harmful harvesting methods, restoring depleted fish stocks). GEF would invest in policy, legal, institutional reforms and multi-agency strategic partnerships that contribute to WSSD targets for recovering and sustaining fish stocks, including regional and national-level reforms in legal frameworks and governance, access rights, and enforcement in LMEs and ABNJ.

65. Because this program requires a more focused and time-bound approach to implementation, it has also been included in the integrated approaches paper that is also part of the GEF-6 strategies package.

Table 1: GEF-6 International Waters Results Framework

Long-term IW 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.

Impact: Threats to international waters reduced through catalyzed multi-state cooperation to address concerns of transboundary water systems for most every continent and oceans with special impact on conjunctive management of fresh- and groundwater resources, rebuilding marine fish stocks and protecting coastal habitats globally.

Objectives	Expected Outcomes	Key Targets	Outputs
OBJECTIVE 1: Catalyze sustainable management of transboundary water systems by supporting multi-state cooperation through foundational capacity building, targeted research and portfolio learning. .	**PROGRAM 1.1:** Foster cooperation for sustainable use of transboundary water systems and economic growth. **Outcome 1.1.1:** Political commitment/shared vision and improved governance demonstrated for joint, ecosystem-based management of transboundary water bodies. ***Indicator (i):*** *# of SAPs endorsed at ministerial level;* ***Indicator (ii)****: Capacity of transboundary cooperation/ institution built and degree of active participation in national inter-ministry as per IW tracking tool score card* ***Indicator (iii)****: Public awareness of transboundary cooperation benefits (survey).* **Outcome 1.1.2:** On-the-ground demonstration actions implemented, such as in water quality, quantity, conjunctive management of groundwater and surface water, fisheries, coastal habitats. ***Indicator (i):*** *# and type of investments at demonstration scale (as reported in IW tracking tool*	Multi-state cooperation, stepped up demonstration investments, and extensive cross-sectoral capacity & awareness development supported in 10-14 new transboundary water bodies.	# of national inter-ministry committees established. # of Transboundary Diagnostic Analyses & Strategic Action Programs. # of legal and/or institutional frameworks for transboundary cooperation adopted and # of signatory countries; and/or Active dialogue process to define legal and institutional framework for governance of transboundary water bodies. # of regional institutions for joint management of transboundary water body/and related resources established. # of Demonstration-scale local actions implemented. Active experience/sharing/learning practiced in the IW portfolio & South-South knowledge exchanges supported. Dissemination of results from targeted research within IW portfolio & in international fora.

Objectives	Expected Outcomes	Key Targets	Outputs
	score card). **Outcome 1.1.3**: IW portfolio performance enhanced from active learning/KM/science/experience sharing. ***Indicator (i):*** *GEF-6 performance improved over GEF 5 per data from IW Tracking Tool;* ***Indicator (ii)****. Positive feedback from stakeholders/participants.* **Outcome 1.1.4:** Targeted research influences global awareness upcoming critical global concerns. ***Indicator (i):*** *Reports and publications and/or uptake of results into GEF IW projects.*	85% IW projects demonstrate active GEF portfolio experience sharing/learning Targeted research on upcoming critical global concerns carried out and disseminated – two to three urgent issues.	# of demonstrations of adaptive management measures implemented, including local demonstration of innovative approaches.
	PROGRAM 1.2 - Increase the Resilience and Flow of Ecosystems Services in the Context of Melting High Altitude Glaciers **Outcome 1.2.1:** Adaptive management measures identified, agreed and tested in limited transboundary basins/sub-basins with high- altitude melting ice to inform future GEF replenishments. ***Indicator (i):*** *Ministerial agreed transboundary action programs or sub-basin IWRM plans for demonstration basin testing of adaptive management strategies*	Adaptive management measures implemented in 3 high altitude basins with melting glaciers.	Demonstration of ministerial agreed regional action programs or sub-basin IWRM plans for High Altitude Glacier Basins.

Objectives	Expected Outcomes	Key Targets	Outputs
OBJECTIVE 2: Catalyze investments to balance competing water-uses in the management of transboundary surface and groundwater and enhance multi-state cooperation.	**PROGRAM 2. 1** Advance Conjunctive Management of Surface and Groundwater Resources **Outcome 2.1.1** Improved governance of shared water bodies, including conjunctive management of surface and groundwater through **r**egional institutions and frameworks for cooperation lead to increased environmental and socio-economic benefits. ***Indicators (i)***. *Level of capacity and sustainability of regional institutions as reported in GEF 6 IW tracking tool.* ***Indicator (ii):*** *Functioning inter-ministerial committees at national level as reported in GEF IW tracking tool score card.* ***Indicator (iii):*** *# and type of national/local reforms implemented.* **Outcome 2.1.2** Increased management capacity of regional and national institutions to incorporate climate variability and change, including improved capacity for management of floods and droughts. ***Indicator (i):*** *Degree to which climatic variability and change in transboundary surface water basins and aquifers is incorporated into updated SAPs as reported in GEF IW tracking tool score card.*	Adoption and/or implementation of national/local reforms and investments identified in SAPs or equivalent in at least 80 % of basin states 100 % of new and updated TDAs and SAPs address climate variability and change.	Enhanced capacity of regional & national institutions demonstrated to address: (i) management and efficient use and conjunctive management of surface and groundwater; and (ii) climatic variability and change – including enhanced preparedness & management of floods and droughts. Adaptive management demonstrated through updated TDAs/SAPs in X basins (including addressing climate variability & change).

Objectives	Expected Outcomes	Key Targets	Outputs
	PROGRAM 2. 2 Water/Food/Ecosystem/Security Nexus **Outcome 2.2.1** Increased water/food/energy/ ecosystems security and sharing of benefits on basin/sub-basin scale underpinned by adequate regional legal/institutional frameworks for cooperation. ***Indicator (i):*** *#, results and type of investments within basin/sub-basin Strategic Action Programs or equivalent development plans balancing competing water uses, climate change and promoting conjunctive use of surface and groundwater implemented.* ***Indicator (ii):*** *Amount of leveraged finance for SAP/SAP equivalent implementation from public/public-private partnerships.* ***Indicator (iii):*** *Measurable water & natural resources related results and socio-economic benefits for target population on basin/sub-basin/ or areas of investments as reported in GEF IW tracking tool score card.*	Multi-state- cooperation results in greater water-food-ecosystems security in 8-15 transboundary ater systems. Targeted investments funds created in X basins to unleash large scale public and private investments.	XX $ million leveraged to support investments by private and/or public actors. Innovative investments implemented, such as for increased water use efficiency and water reuse; reduced pollution (nutrients and other); maintained or enhanced ecosystem services; sustainable inland fisheries; water supply protection in SIDS; and protection of catchments and recharge areas.
OBJECTIVE 3: Catalyze investments to rebuild marine fisheries, restore and protect coastal habitats, reduce		SAP implementation underway in 13-15 Large Marine Ecosystems.	Application of ecosystem-based approaches, improved monitoring and enforcement in fisheries, and scaling up of rights-based approaches, sustainable mariculture, and expansion of MPAs.

Objectives	Expected Outcomes	Key Targets	Outputs
pollution of coasts and Large Marine Ecosystems (LMEs) and enhance multi-state cooperation			National and local policy/legal/institutional reforms adopted. XX $ million leveraged to support investments by private and/or public actors.
	PROGRAM 3.1 Reduce Ocean Hypoxia **Outcome 3.1.1** Elimination or substantial decrease in frequency and extend of "dead zones" in sizeable part of developing countries' LMEs. ***Indicator (i):*** *#, result and type of investments and reforms for nutrient reduction; demonstration of innovative policy, economic and financial tools and functioning national inter-ministry committees.*	GEF cumulatively supporting efforts to reduce nutrient pollution and coastal hypoxia in 80% or more of (GEF-eligible) LMEs facing eutrophication and hypoxia.	Institutions for joint ecosystem-based and adaptive management for LMEs and local ICM frameworks capacitated and demonstrate sustainability. Types of technologies and investments implemented at regional, national and local level. Enhanced capacity of regional and national institutions for issues of climatic variability and change. Alternative fisheries management approaches (e.g. right-based, MSP, MPAs). # of action plans to combat IUU fishing including improved Monitoring, Control and Surveillance (MCS).
	PROGRAM 3.2 Preventing the Loss of Degradation of Coastal Habitats **Outcome 3.2.1:** Coasts in globally most significant areas protected from further loss and degradation of coastal habitats while protecting and enhancing livelihoods ***Indicator (i):*** *Adoption and implementation of ICM plans and reforms to protect coastal zones (% of country coastline under ICM, # of countries adopting and applying ICM) as reported in GEF IW tracking tool score card.*	15 % of coastline in globally most significant areas protected from further loss and degradation of coastal habitats.	
	PROGRAM 3.3 Rebuilding Global Fisheries **Outcome 3.3.1:** Introduction of sustainable fishing practices into xx % of globally depleted fisheries ***Indicator (i):*** *# of Management plans and appropriate measures implemented for rebuilding or*	40% of globally depleted fisheries (by volume) moved to sustainable exploitation levels through implementation of comprehensive fisheries governance in accordance	

Objectives	Expected Outcomes	Key Targets	Outputs
	protecting fish stocks including alternative management approaches such as rights-based management, marine spatial planning, MPAs in LMEs and ABNJ, port states management and improved RFMO performance to produce measureable results ***Indicator (ii)****: Number of illegal vessels operating in one pilot Tuna RFMO is reduced by xx%.*	with EBFM incorporating as appropriate, rights based management, marine spatial planning, MPAs and effective MCS to address IUU, 10-12 LMEs & ABNJ piloting and scaling up ecosystem-based fisheries management including rights-based approaches to fisheries representing at least 20% of overexploited or depleted stocks volume. 2-3 selected regions through targeted funding and partnerships, to ensure sustainable best-practice fisheries governance institutions and mechanisms. Pilot Rights-Based Management (RBM) system is implemented in at least four tuna-RFMO.	

LAND DEGRADATION FOCAL AREA STRATEGY

BACKGROUND

Status of Land Degradation

1. According to the Food and Agriculture Organization (FAO), 4.9 billion hectares, or 38 percent, of the planet's land area is under agriculture, including 3.4 billion hectares of pastureland and 1.5 billion hectares of cropland (arable land and land under permanent crops). An estimated 52 percent of this area is moderately or severely affected by land degradation and 5 to 10 million hectares of these production areas are lost annually due largely to the impact of unsustainable land management on soil productivity and health. More than 2 billion people, including some of the world's poorest smallholders and pastoralists, are affected globally. Land degradation, if not brought under control, will threaten the livelihoods of rural populations in many regions and undermine the integrity of the planet's global environmental commons.

2. Land degradation is defined as the reduction or loss of the biological or economic productivity and complexity of rainfed cropland, irrigated cropland, or range, pasture, forest and woodlands resulting from land uses or from a process or combination of processes, including processes arising from human activities and habitation patterns, such as: (i) soil erosion caused by wind/water; (ii) deterioration of the physical, chemical and biological or economic properties of soil; and (iii) long-term loss of natural vegetation.

3. As a result of land degradation, new areas are continuously opening up for agriculture use to maintain overall agricultural output, with implications for the health of planet's other global environmental commons, including freshwater, biodiversity and climate. Agriculture expansion into forests and other natural habitats negatively affects biodiversity, and increases vulnerability of people and the environment to impacts of climate change.

4. With world population projected to reach 9.5 billion by 2050, it has been suggested that 70-100% more food will be needed in order to meet global demands.[38] While much can be achieved by reworking global food systems, the pressure to expand cultivated areas for food and feed production will likely increase. However, the global net primary plant production (NPP) is fixed by planetary constraints and has been remarkably consistent at a level of 53.6 Pg per year[39]. Humans currently appropriate roughly 90% of the total *harvestable* NPP, leaving only limited options for major new expansions in area. Sustaining productivity of agricultural and grazing land is, therefore, essential for achieving global food security. It implies, however, that food production must be intensified to meet the demands of a growing world population. But agricultural intensification through increased irrigation and chemical fertilizers also tends to compromise the natural processes and services that underpin sustainability and resilience of

[38] World Bank. 2007. World Development Report 2008: Agriculture for Development. World Bank, Washington, DC

[39] Running, Stephen W. 2012. A Measurable Planetary Boundary for the Biosphere. Science 337: 1458.

production systems. This reinforces the need for innovations that increase agricultural productivity, while sustaining or improving environmental goods and services.

Drivers of Land Degradation

5. Land degradation due to desertification and deforestation is a major factor in the progressive deterioration of ecosystem services (see Table 1) affecting agro-ecosystems[40] globally. Extensive soil degradation due to erosion, salinization, compaction, and nutrient depletion is one of the major drivers of declining crop and livestock productivity in agro-ecosystems. It reduces soil capacity to produce goods and services, such as providing nutrients for crop and livestock production, sustaining biomass production, sequestration and storage of carbon, safeguarding biodiversity, and supporting water and nutrient cycles.[41] Ultimately, severely degraded land becomes unable to sustain production, which creates socioeconomic problems in agro-ecosystems dominated by poor smallholder farmers and pastoralists. In some regions of the world, farmers and herders are forced to abandon such land and migrate to other areas, often leading to major conflicts. Land degradation is therefore a major factor in the fight against poverty, hunger, food insecurity, and natural resource conflicts throughout the developing world.

Table 1. Ecosystem services in agro-ecosystems and forest landscapes [*modified from Millennium Ecosystem services (2005) and Global Environment Outlook (2007)*]

Provisioning	Regulating	Supporting	Cultural
• Food and nutrients • Fuel • Animal feed • Genetic resources	• Erosion control • Climate regulation • Natural hazard regulation (droughts, floods, fire) • Water flows and quality	• Soil formation • Soil protection • Nutrient cycling • Water cycling • Habitat for biodiversity	• Traditional land management practices • Sacred groves as sources of water

6. The land degradation – poverty nexus is particularly obvious in the world's drylands[42], where poverty and unsustainable land use practices reinforce each other. Climate change is likely to further aggravate food insecurity by reducing agricultural productivity, production stability and incomes in developing countries and regions that already have high levels of food insecurity. After the global food price crisis of 2008, climate change emerged as a major factor for

[40] Agro-ecosystems encompass intensive and extensive crop-based, livestock-based, and mixed systems.
[41] Lal, R. 1997. Soil quality and sustainability. In: Lal, R., Blum, W.H., Valentin, C., and Stewart, B.A. (eds), Methods for Assessment of Soil Degradation, p 17-30. CRC Press, Boca Raton, Florida.
[42] Based on the UNCCD definition, drylands is used here to include all arid, semi-arid, and dry sub-humid regions.

agriculture and food security in the 21st century, particularly in many of the poor, agriculture-based economies with low capacity to cope effectively.[43,44]

Challenges and Potential for Transformational Change

7. Agriculture is considered one of the most important instruments for sustainable development.[45] As stated in the Outcome Document of the recent United Nations Conference on Sustainable Development (UNCSD or "Rio+20"), "*desertification, land degradation and drought are challenges of global dimension and continue to pose serious challenges to sustainable development of all countries, in particular* developing *countries*." The Document also identified sustainable agriculture and food security as one of the thematic areas for action and follow-up.[46] The world leaders specially reaffirmed the need "*to promote, enhance and support more sustainable agriculture, including crops, livestock, forestry, fisheries and aquaculture, that improves food security, eradicates hunger and is economically viable, while conserving land, water, plant and animal genetic resources, biodiversity and ecosystems and enhancing resilience to climate change and natural disasters*." The strategy also responds to the recognition by world leaders of "*the need for urgent action to reverse land degradation*," and their commitment to strive for a "*land-degradation-neutral world in the context of sustainable development*."

8. Maintaining the goods and services derived from agro-ecosystems is also essential for poverty reduction and human well-being. The Millennium Ecosystem Assessment noted that, if action is not taken, degradation of ecosystem services will threaten future improvements in human well-being and possibly reverse gains in some regions.[47] Overcoming these challenges requires integrated approaches that generate both environment and development benefits, and for which incremental financing is needed to support developing countries. Such financing will foster and promote innovative approaches that improve crop and livestock productivity without compromising the ecosystem services. This includes financing to improve land and soil health, enhance sustainability of surface and groundwater resources and increase resilience to effects of climate change.

9. For developing countries and regions facing the challenges of food insecurity, efforts to increase crop and livestock production have largely focused on increasing access to inputs (e.g. fertilizers) and biotechnology (e.g. improved varieties). Investments to combat land and soil degradation and depletion of water resources in agro-ecosystems are far outweighed by those directed toward chemical inputs and crop improvements. Yet the sustainability and resilience of existing production systems depend largely on safeguarding the natural capital (land, soil, water)

[43] Shah et al., 2008. Food Security and Sustainable Agriculture. The Challenges of Climate Change in Sub-Saharan Africa. Laxenburg: International Institute for Applied Systems Analysis
[44] Nellemann et al., 2009. The environmental food crisis: the environment's role in averting future food crises. A UNEP Rapid Response Assessment. UNEP, GRID-Arendal
[45] World Bank. 2007. World Development Report 2008: Agriculture for Development. World Bank, Washington, DC
[46] http://sustainabledevelopment.un.org/content/documents/733FutureWeWant.pdf
[47] Millennium Ecosystem Assessment. 2005. *Ecosystems and Human Well-Being Scenarios; Findings of the Scenarios Working Group*, Millennium Ecosystem Assessment Series, Island Press, Washington, DC.

and associated ecosystem services (supporting and regulating).

10. Global aspirations for sustainable agriculture and food security warrant major transformation in the economics of land management to accommodate the need for safeguarding ecosystem services globally. Tackling global environmental threats is therefore essential for long-term sustainability of mainstream development investments in agriculture and food security. This involves helping countries to handle biophysical threats to ecosystem services in agro-ecosystems, as well as providing the policy, socioeconomic and institutional support that would prevent unsustainable land use. Hence, there is a clear need to scale-up and align environmental financing to meet the demands for sustainability of ecosystem services and resilience of the production systems.

The Role of GEF – Transition of Agriculture to a Sustainable Pathway

11. The GEF is well-positioned to influence transformational change in the management of environment and natural resources for long-term sustainability of agro-ecosystems as global commons, particularly in affected countries that are most vulnerable to degradation and desertification. The Land Degradation Focal Area is the GEF window for financing efforts to combat land degradation in affected and eligible countries globally by primarily targeting global environment benefits in production systems – crop, livestock, and forest landscapes. By focusing on sustainable land management (SLM), the focal area strategy has evolved to address the need for sustaining ecosystem services[48] that underpin these production systems. This was founded on the Millennium Ecosystem Assessment, which identified land use change, natural resources consumption and climate change as the three major direct drivers of terrestrial ecosystem degradation. The Millennium Ecosystem Assessment recommended investments in the prevention and control of land degradation in areas with medium to high production potential that are essential for peoples' livelihoods[49], and in affected areas where the social consequences of continuing land degradation can trigger serious environmental and developmental problems.

12. The GEF has over a decade experience financing SLM interventions for sustaining flows of ecosystem services that underpin productivity of agricultural and rangeland systems.[50] GEF investment in SLM fosters a diversified portfolio of interventions from farm-level to wider landscapes, with a focus on maintaining or improving the productivity of drylands, rain-fed and irrigated systems. Interventions such as crop diversification, crop rotation, conservation agriculture, agroforestry and small-scale irrigation schemes, as well as water harvesting and water-saving techniques, are helping farmers in many developing countries to secure fragile production lands from further deterioration. As a result, potential gains in soil health and quality will enable sustained productivity of farm lands, while maximizing ecosystem service flows. Furthermore, arresting soil erosion and siltation in the production landscapes also reduces the risk of sedimentation in aquatic systems.

[48] Ecosystem services are the benefits people derive from ecosystems, which are categorized by the Millennium Ecosystem Assessment as *provisioning*, *regulating*, *supporting*, and *cultural*.
[49] See 'Ecosystems and Human Well-being: Synthesis', Millennium Ecosystem Assessment, 2005 - http://www.millenniumassessment.org/documents/document.356.aspx.pdf
[50] GEF financing for SLM started in earnest during the Third Replenishment Phase (2002-2006).

13. In most developing countries, SLM represents a major opportunity for *sustainable intensification* of existing farmlands through efficient management of nutrients (combining organic and inorganic sources of fertilizers), integrated management of land and water resources ("blue water" and "green water"[51]) and diversification of farming systems (combining crops, trees and livestock). This approach ensures improved management of agro-ecosystem services across production systems and reduces pressure on natural areas, especially those under threat from agricultural expansion. GEF financing also helps to improve and sustain the economic productivity, as well as environmental sustainability, of rangeland and agro-pastoral systems. Specifically, GEF financing targets SLM priorities such as improved grazing management and livestock fodder alternatives, as part of investments to enable livestock producers to maintain sustainable livelihoods through effective planning; animal selection, nutrition and reproduction; and herd health. The GEF also supports interventions that safeguard rangelands from risk of degradation, through actions such as reducing water and wind erosion, resolving wildlife–livestock–crop conflicts and creating fodder-banks. While the types of interventions are influenced by the context, the ecosystem service benefits are consistent with respect to keeping the rangelands productive and healthy.

14. With the experience in financing SLM, an energized global policy framework emerging from Rio+20 (Sustainable Development Goals), and growing need for environmental sustainability and resilience in production systems, the GEF is now positioned to influence transformational change for sustainable agriculture. In this regard, the GEF approach needs to be targeted toward appropriate contexts (geographical and agro-ecological) and scales where the potential for global environmental benefits can be maximized. Such a shift will require a stronger alignment of the Land Degradation Focal Area strategy with global aspirations for food security in the developing world, including the need to engage new partners and actors in the agriculture sector. Furthermore, the mitigation potential of agriculture and urgency for adaptation to a changing climate change are major grounds for changing the scale of environmental investments in the sector.

15. Transformational change in the agriculture sector, necessitating combined action on sustainable development, food security and climate change will require large-scale baseline investments to mainstream sustainable land management into national development agendas. Such efforts can be greatly enhanced by a robust replenishment of the GEF Trust Fund for financing global environment benefits through agriculture and food security within this context.

UNCCD COP Guidance to the GEF

16. The GEF mandate to invest in global environment benefits from production landscapes relates directly to its role as financial mechanism of the UNCCD. The land degradation focal area provides the framework for eligible countries to utilize GEF resources for implementing the Convention and its 10-year (2008-2018) strategy[52], which aims "*to forge a global partnership to reverse and prevent desertification/land degradation and to mitigate the effects of drought in*

[51] *Green water* and *blue water* are used to describe water use in non-irrigated (rain-fed) and irrigated agriculture, respectively.
[52] Document available at http://www.unccd.int/cop/officialdocs/cop8/pdf/16add1eng.pdf#page=8

affected areas in order to support poverty reduction and environmental sustainability".Approval of the focal area by the GEF Assembly (October 2002) and its operationalization by the GEF Council (May 2003) was in line with acceptance by the Conference of Parties (COP), of GEF as a financial mechanism of the Convention. A Memorandum of Understanding between the UNCCD Conference of Parties and the GEF Council (decision 6/COP.7) has since paved the way for direct support to those affected countries eligible for GEF financing through enabling activities. The recent amendment of the GEF instrument has formally designated the GEF as financial mechanism of the UNCCD[53].

17. The Land Degradation Focal Area strategy accommodates priorities the UNCCD 10-year strategy. The GEF-6 strategy will seek to support affected countries in achieving objectives of the 10-year Strategy, which "*will involve long-term integrated strategies that focus simultaneously in affected areas, on improved productivity of land and on the rehabilitation, conservation, and sustainable management of land and water resources, leading to improved living conditions, in particular at the community level*." The GEF will also play a catalytic role in supporting efforts of eligible Parties to mobilize resources for combating land degradation.

LAND DEGRADATION STRATEGY GOAL AND OBJECTIVES

Strategic Considerations

18. The Land Degradation Focal Area embraces the landscape approach by adopting agreed ecosystem functioning principles, such as maintaining and enhancing connectivity, resilience and stability of ecosystems. By adopting an integrated approach to natural resources management[54], the focal area 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. In this regard, joint programming with other GEF focal areas will be actively pursued, especially in the context of integrated watershed in priority transboundary catchments and groundwater recharge areas (links with International Waters), increasing forest and tree cover in production landscapes (links with Climate Change Mitigation and the incentive mechanism on Sustainable Forest Management and REDD+), and implementation of landscape approaches for protected area management (links with Biodiversity). This effort will also take into account opportunities to develop country-level or regional programmatic approaches for natural resource management where they are likely to trigger transformational changes in the agriculture and forest sectors.

19. The GEF recognizes that successful SLM investments requires appropriate enabling environments, such as effective policies, legal and regulatory frameworks, capable institutions, knowledge sharing and monitoring mechanisms. While these have benefited from GEF

[53] The Fourth GEF Assembly held in May 2010 in Punta del Este, Uruguay formally amended the GEF Instrument.
[54] As defined in: *Sayer J.A and Campbell, B. 2004. The Science of Sustainable Development: Local Livelihoods and the Global Environment. Cambridge University Press*. "Integrated Natural Resource Management is a conscious process of incorporating the multiple aspects of resource use into a system of sustainable management to meet the goals of resource users, managers and other stakeholders (e.g. production, food security, profitability, risk aversion and sustainability goals)."

financing during GEF-4 and GEF-5, it is essential that existence of such enabling conditions be considered as evidence of commitment by eligible country governments toward transformational change in land management. Therefore, the Land Degradation Focal Area strategy for GEF-6 will focus on delivery of SLM practices as a means to control the increasing severity and extent of land degradation in production systems. Project support for eligible countries will be driven by existing or planned investments in appropriate enabling conditions for combating land degradation, including policy frameworks, investment strategies, and regulatory mechanisms. This will ensure that focal area resources are directly channelled toward investment in SLM practices that generate multiple benefits.

20. 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 functions. During GEF-5, there was an increased focus on enhancing the focal area portfolio with solutions to the emerging challenges, and with the opportunities to act in rural production landscapes. This included 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 both climate change adaptation and mitigation, and at options to mitigate the exploitation of natural resources for short-term economic gain at the cost of ecological and social sustainability.

21. Financing sustainable land management in production systems also plays a critical role in ensuring the health and resilience of ecosystems. This is possible because SLM innovations that address productivity needs in crop, livestock, and forest landscapes also contribute to: a) biodiversity conservation by reducing the conversion of natural ecosystems and safeguarding agro-biodiversity; b) reduction of pollution risks and degradation of water resources to ensure sustainable flow for consumptive uses; c) reducing deforestation and emission of greenhouse gasses in production systems; and d) increasing sustainability and resilience of agro-ecosystem services. These multiple benefits from are at the heart of GEF's mandate, and an opportunity to foster cross-focal area investments for harnessing synergies and managing tradeoffs.

22. The GEF-6 strategy will seek to further deepen and expand these integrated efforts in the context of supporting implementation of the UNCCD 10-Year Strategy. In this regard, the focal area strategy for GEF-6 will directly support strategic objectives on achieving long-term benefits for affected populations (SO 1), affected areas (SO 2), and for the global environment (SO 3). Specifically, the strategy will support actions and innovations that generate human livelihood and global environmental benefits. The GEF-6 replenishment phase (2014 – 2018) coincides with the final four years of the UNCCD 10-year strategy, which will ensure that focal area investments are appropriately channeled by eligible countries.

Goal and Objectives

23. 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 good practices conducive to sustainable land

management (SLM),[55] and that are able to generate global environmental benefits while supporting local and national socio-economic benefits (see box 1). At a landscape level this includes sustainable forest management (SFM) practices that generate sustainable flows of forest ecosystem services, in particular in drylands, sustaining livelihoods of forest dependant people. At a landscape level, it also encompasses integrated natural resource management (INRM) addressing pressures on natural resources from competing land uses.

Box 1 – Agreed Benefits from for the GEF Land Degradation Focal Area

a. Agreed global environmental benefits:

i. Improved provision of agro-ecosystem and forest ecosystem goods and services.

ii. Reduced GHG emissions from agriculture, deforestation and forest degradation and increased carbon sequestration.

iii. Reduced vulnerability of agro-ecosystem and forest ecosystems to climate change and other human-induced impacts.

b. Expected national socio-economic benefits:

i. Sustained livelihoods for people dependent on the use and management of natural resources (land, water, and biodiversity).

ii. Reduced vulnerability to impacts of climate change of people dependent on the use and management of natural resources in agricultural and forest ecosystems.

24. In order to maximize potential for transformational impact in the context of sustainable development goals, the focal area strategy will specifically focus on maintenance of land resources and ecosystem services to support food security. With food security as a major priority throughout the developing world, and particularly in the dryland regions, GEF focus on ecosystem services in agro-ecosystems will create opportunities to leverage significant development financing for transformational impacts.

25. The GEF will mainly target improved on-farm productivity of major food crops and livestock through sustainable management of natural capital (land, soil, water, and vegetative cover). The focus will be on agro-ecosystems where the potential for scaling-up successful interventions exist to benefit millions of smallholder farm households, while contributing to

[55] As defined in: World Bank. 2006. Sustainable Land Management: Challenges, Opportunities and Tradeoffs. International Bank for Reconstruction and Development/The World Bank, Washington, DC. Sustainable land management (SLM) is a knowledge-based procedure that helps integrate land, water, biodiversity, and environmental management (including input and output externalities) to meet rising food and fiber demands while sustaining ecosystem services and livelihoods.

global food security. The approach for GEF-6 will be to primarily address priorities that represent the best opportunity for supporting agriculture and food security in the world's most affected regions, including the need to: a) reinforce SLM for enhancing resilience in agro-ecosystems; b) harness and maintain ecosystem services for agro-ecological intensification; c) promote integrated management and restoration of production landscapes; and d) mainstream SLM in sustainable development.

26. Building on the focal area mandate and the opportunities for transformational impact as described above, the GEF-6 investments will be guided by the following four objectives to deliver agreed global environment benefits and expected national socio-economic benefits (with indicators and measures in Annex 1):

i. **Objective 1** (LD-1) - Maintain or improve flows of agro-ecosystem services to sustain food security and livelihoods;

ii. **Objective 2** (LD-2) - Generate sustainable flows of forest ecosystem services, particularly in drylands;

iii. **Objective 3** (LD-3) - Reduce pressures on natural resources by managing competing land uses in the wider landscape; and

iv. **Objective 4** (LD-4) – Maximizing transformational impact through maintenance of land resources and ecosystem services to support food security.

OBJECTIVES AND PROGRAM SUPPORT

Objective 1 (LD-1): Maintain or improve flow of agro-ecosystem services to sustaining food security and livelihoods

Rationale

27. Unsustainable agricultural activities cause many types of land degradation with a wide variety of underlying causes. During the last two replenishment phases (GEF-4 and GEF-5), Land Degradation focal area resources were widely utilized to address barriers to sustainable agriculture, such as those 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. For GEF-6, a greater emphasis will be placed on interventions that enable land users to take full advantage of the existing enabling environment, in the context of improving crop and livestock production. Focal area investment under this objective will contribute to reduced soil erosion rates, reduced GHG emissions from agricultural (crop and livestock) activities, increased accumulation of soil organic matter and sequestration of carbon, and maintenance of habitats for biodiversity in the agricultural landscape. Consistent with the development priority, GEF will focus on areas where agricultural and rangeland management

practices underpin the livelihoods of poor rural farmers and pastoralists.

28. The efficient use of natural resources (land, soil, water, and vegetation) in existing agro-ecosystems is essential for intensifying production of food crops and livestock. There are a myriad of SLM options for agro-ecological intensification, from diversification of farming systems to improvement of soil health and conservation of water resources. These options are at the heart of "evergreen agriculture", which promotes the use and integration of perennials in smallholder production systems.[56] The GEF is well-placed to leverage global environment benefits in the context of agro-ecological intensification for food security and livelihoods in many developing countries faced with the threat of land degradation due to desertification and deforestation.

29. An emerging opportunity for increasing the role of SLM in agro-ecosystem resilience is through Climate-Smart Agriculture, defined as "….agriculture that sustainably increases productivity, resilience (adaptation), reduces/removes greenhouse gases (mitigation), and enhances achievement of national food security and development goals." The is presents a timely opportunity to foster the application of innovative SLM approaches toward achieving the triple win in targeted agro-ecosystems, especially rain-fed and irrigation systems where the risk of land degradation is exacerbated by climate change.

Programs and project support

(a) ***Agro-ecological Intensification*** - The GEF financing will address agro-ecosystems and rangelands targeting multiple environment benefits through improved land and soil health and increased vegetative cover. As a means to ensure long-term sustainability of outcomes, the GEF financing will seek to leverage commitments by other development partners to increase investments in policy options for achieving food security, such as support for improvements in genetic resources and use of inputs, institutional frameworks to strengthen capacity of smallholder farmers, and efficient marketing and extension programs, among others through:

i. Agroecological methods and approaches including conservation agriculture, agroforestry, etc.
ii. Improving rangeland management and sustainable pastoralism, including regulating livestock grazing pressure, sustainable intensification, rotational grazing systems, and diversity in animal and grass species, managing fire disturbance
iii. Strengthening community-based agricultural management, including participatory decision-making by smallholder farmers on diversification of farms and practices at scale

[56] Garrity, D et al. (2010). Evergreen Agriculture: a robust approach to sustainable food security in Africa. Food Security 2(3):197-214

iv. Integrated watershed management where SLM interventions can improve hydrological functions and services for agro-ecosystem productivity (crop and livestock)
v. Implementing integrated approaches to soil fertility and water management

(b) ***SLM for Climate-Smart Agriculture*** – The GEF financing will specifically benefit eligible countries with existing policies that recognize the need to streamline multiple environmental priorities at scale for long-term sustainability and resilience of agro-ecosystems. This program will mainly support objective 1 (agro-ecosystems and rangelands) with linkages to objective 3 (mixed land uses) of the LD FA strategy, and enable eligible countries to potentially leverage additional financing from other focal areas. In the dryland regions for example, water-efficient approaches and productive safety nets must be implemented alongside concrete actions that diversify income and improves livelihoods of farmers and pastoralists, among others through:

i. Agricultural land management systems that are resilient to climate shocks (drought, flood)
ii. Improving management of impacts of climate change on agricultural lands (including water availability) to enhance agro-ecosystem resilience and manage risks
iii. Diversification of crops and livestock production systems through SLM to enhance agro-ecosystem resilience and manage risks; e.g. Integration of tree-based practices into smallholder crop-livestock systems to increase resilience
iv. Mitigate impacts of climate change on agricultural lands using SLM (e.g. water management practices) to enhance agro-ecosystem resilience and manage risks
v. Applying SLM strategies and other ecosystem-based climate adaptation strategies for drought mitigation in drylands
vi. Applying innovative financial and market instruments (e.g. carbon finance) to implement SLM practices that reduce GHG emissions and increase sequestration of carbon on smallholder farms
vii. Rangeland management and sustainable pastoralism, including regulating livestock grazing pressure (adaptation to climate change), sustainable intensification, rotational grazing systems, diversity in animal and grass species; managing fire disturbance

30. Key Outcomes:

a. Improved management of agricultural, rangeland and pastoral, including soil health and fertility through maintenance of soil organic matter
b. Increased availability of technologies and practices for crop, tree and livestock production that increase ecosystem services
c. The functionality and vegetative cover of agro-ecosystems are improved and maintained
d. Increased investments in sustainable land management

Objective 2 (LD-2): Generate sustainable flows of ecosystem services from forests, particularly in drylands

Rationale

31. Forests in agricultural landscapes play an important role in maintenance of ecosystem services that underpin sustainability of crop and livestock production. In addition, millions of farmers and herders, particularly in drylands, harness forest resources as vital components of their livelihood. This objective focuses on removal of barriers to integration and management of forests in agricultural landscapes by promoting access to innovative financing mechanisms, technology, and best practices combined with large-scale applications on the ground. Land degradation financing under this objective will complement the SFM/REDD+ incentive mechanism by emphasizing agro-ecological practices that secure forests patches in agricultural landscapes. Results will ultimately lead to a net gain in forest area and the improvement of selected forest ecosystem services such as provisioning (e.g. food and fuel for livelihoods), regulating (e.g. reducing greenhouse gas emissions, erosion control) and supporting (e.g. soil protection and habitat for biodiversity).

32. Forests in agricultural landscapes provide multiple ecosystem goods (fodder, fuelwood, fruits, vegetables, resins, gums, and medicinal plants) and services (hydrological flows, reduction of erosion). In the drylands where communities have evolved adaptive capacities to manage and harness these services, the threat of land degradation due to desertification and deforestation is exacerbated drought and climate variability. Management of forests in agricultural landscapes plays an important role in tackling these threats to harness synergies at appropriate scales. Integrated landscape management and restoration will diversify livelihood options for affected communities while safeguarding the valuable ecosystem services that underpin crop and livestock production.

Programs and project support

a. ***Landscape Management and Restoration*** – This program will address forests in agricultural landscapes seeking synergies with the SFM/REDD+ program and with linkages to Objective 3 (reducing pressures in the wider landscape). GEF financing will focus specifically on land management options that support agricultural productivity and deliver multiple environment benefits at landscape scale, particularly in the context of addressing food security and livelihood needs of affected communities, e.g:

    i. Sustainable management of forests and agroforestry for increased ecosystem services (e.g. food resources, reduced land and soil degradation, diversification) in agriculture
    ii. Landscape regeneration through use of locally adaptive species, including agro-forestry and farmer-managed natural regeneration
    iii. Applying SLM approaches to avoid deforestation and forest degradation in production landscapes

iv. Promotion of good practices in community and small-holder land management, including local knowledge
v. Integrated forest fire management in landscape

33. Key Outcomes:

a. Support mechanisms in place for forest management, particularly in dryland landscapes
b. Functionality and vegetative cover of forest ecosystems maintained and improved
c. Increased availability of technologies and practices that sustain or enhance ecosystem services
d. Increased investments in forests for local communities to maintain or scale-up the application of improved management practices.

Objective 3 (LD-3): Reduce pressures on natural resources by managing competing land uses in the wider landscape

Rationale

34. 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 resilience of habitats and ecosystems, and contributes to local and regional as well as global climate change. 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). It reinforces objective 1 and 2 by emphasizing cross-sector harmonization and multi-scale integration of SLM. The GEF-6 financing will specifically focus on reinforcing efforts by eligible countries to an enabling environment for cross-sector engagement 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 and competition between land use systems will be explored and experimented with improving the livelihood basis of people dependant on the use of natural resources.

Programs and project support

a. ***Scaling-up sustainable land management options for crop and rangeland productivity*** – GEF financing will help to enhance policies, practices, and incentives for improving crop and livestock production with environmental benefits; application of innovative tools and practices for improving soil health, water resource management, vegetative cover in production landscape. This will contribute to sustainability of ecosystem services at scale in crop lands, rangelands, pastures, and pastoral systems to benefit land users most vulnerable to land degradation. Potential support activities include:

    i. Institutional capacity development and institutional finance for sustainable land management

ii. Securing innovative market and financing mechanisms that provide incentives for reducing the pressures and competition between land use systems (this may not include initial support for setting-up the mechanisms);
iii. Integrated watershed management, including transboundary areas and mountainous regions where SLM interventions can improve hydrological functions and services for agro-ecosystem productivity (crop and livestock)
iv. Multi-stakeholder landscape planning to inform decision-making on integrated management of ecosystem services important for the global environment and for peoples' livelihoods
v. Improving agricultural land management within the vicinity of protected areas
vi. Management of impacts of climate change on integrated landscapes

35. *Key Outcomes:*

a. Support mechanisms in place for integrated landscape management in production systems
b. Integrated landscape management practices adopted by communities and other actors in relevant economic sectors
c. Increased investments in integrated landscape management approaches linking multiple environment and development sector priorities

Objective 4 (LD-4): Maximizing transformational impact through maintenance of land resources and ecosystem services to support food security

Rationale

36. The potential to achieve transformational change for sustainable agriculture will be greatly enhanced by influencing standards, institutions, governance and policy frameworks that promote SLM in all productive land uses. In addition to agriculture, livestock and forestry, SLM mainstreaming is relevant in the context of poverty reduction and rural development investments. The mainstreaming of SLM enables countries to effectively scale-up best practices to safeguard ecosystem services and minimize the risk of negative externalities from other development sectors. The GEF already has considerable experience from investing in the mainstreaming of SLM, particularly in the context of creating enabling environment to meet the needs of affected populations.

Programs and project support

a. ***Mainstreaming SLM in Development*** – This program will address Objectives LD-1, LD-2 and LD-3 in a cross-cutting manner by influencing standards, institutions, and governance and policy frameworks relative to all productive land uses. The GEF financing will specifically target innovative mechanisms for multi-stakeholder planning and investment in SLM at scale, including engagement of the private sector. This will be crucial for integrating ecosystem services into mainstream development investments and

value-chains to support agriculture and food security across multiple scales, from local to national and regional. Potential support activities include:

i. Incorporating SLM in new PPP agricultural investments to support food security
ii. Securing innovative financing mechanism based on valuation of environmental services (e.g. PES and other market-based mechanisms) to create sustainable finance flow for reinvestment in sustainable agriculture; this does not include direct support for PES or other mechanisms
iii. Valuation of natural resource assets and ecosystem services from production landscapes to inform decision-making on investments
iv. Mechanisms to scale up and out good practices for landscape regeneration, such as through e.g. engagement of private sector, local institutions, community-based organizations, extension services, and media

37. *Key Outcomes:*

a. Mainstreaming of development investments and value chains to support agriculture and food security across multiple scales
b. Innovative mechanisms for multi-stakeholder planning and investments at scale
c. Appropriate actions to secure long-term sustainability and resilience of agro-ecosystems

Annex 1 – LD FA Results-Based Management Framework

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

Impact: Sustained productivity of agro-ecosystems and forest landscapes in support of human livelihoods

Indicators:

- Change in land productivity (*greenness measure as proxy - NPP, NDVI – corrected by RUE*)
- Improved livelihoods in rural areas (*Farmer income*)
- Value of investment in SLM *($ generated from diverse sources, co-financing in projects*)

Objectives	Expected Outcomes and Indicators	Core Outputs
LD-1: Agriculture and Rangeland Systems: Maintain or improve flow of agro-ecosystem services sustaining the livelihoods of local communities	Outcome 1.1: Improved agricultural, rangeland and pastoral management *Indicator 1.1 Increased land area under effective agricultural, rangeland and pastoral management practices (Hectares by management practice)* Outcome 1.2: Functionality and cover of agro-ecosystems maintained *Indicator 1.2 Land area under effective management in production systems with*	• Types of Innovative SL/WM practices introduced at field level • Suitable SL/WM interventions to increase vegetative cover and soil health in agro-ecosystems • Appropriate actions to diversify the financial resource base • Reduced erosion and siltation risks in water bodies

Objectives	Expected Outcomes and Indicators	Core Outputs
	improved vegetative cover; Flow of services in agro-ecosystems maintained/increased Outcome 1.3: Increased investments in SLM *Indicator 1.3: Value of resources flowing to SLM from diverse sources*	• Information on SLM technologies and good practice guidelines disseminated
LD-2: Forest Landscapes: Generate sustainable flows of forest ecosystem services in drylands, including sustaining livelihoods of forest dependant people	Outcome 2.1: Support mechanisms in place for forest landscape management in drylands *Indicator 2.1: Innovative mechanisms, institutions, legal and regulatory frameworks functioning to support SFM* Outcome 2.2: Improved forest management in drylands *Indicator 2.2 Increased land area under sustainable forest management practices; Increased coverage and quality of forests in dryland ecosystems* Outcome 2.3: Increased investments in SFM in dryland forests ecosystems *Indicator 2.3: Increased resources flowing to SFM from diverse sources (e.g. PES, small credit schemes, voluntary carbon market)*	• Institutional, legal and regulatory frameworks that integrate SFM principles • Types of innovative SFM practices introduced at field level • Suitable SFM interventions to increase/maintain natural forest cover in dryland production landscapes • Appropriate actions to diversify the financial resource base • Information on SFM technologies and good practice guidelines disseminated

Objectives	Expected Outcomes and Indicators	Core Outputs
LD-3: Integrated Landscapes: Reduce pressures on natural resources from competing land uses in the wider landscape	Outcome 3.1: Support mechanisms for SLM in wider landscapes *Indicator 3.1: Demonstration results strengthening cross-sector integration of SLM* Outcome 3.2: Integrated landscape management practices adopted by local communities *Indicator 3.2: Application of integrated natural resource management (INRM) practices in wider landscapes* Outcome 3.3: Increased investments in integrated landscape management *Indicator 3.3: Increased resources flowing to INRM and other land uses from divers sources*	• Government agencies collaborating on SLM initiatives across sectors and at multiple scales • Innovative INRM tools and methodologies developed and tested • Appropriate actions to diversify the financial resource base • Information on INRM technologies and good practice guidelines disseminated
LD-4: Maximizing transformational impact: Maintain land resources and ecosystem services to support food security	Outcome 4.1: Mainstreaming of development investments and value chains to support agriculture and food security across multiple scales *Indicator 4.2: Increased investments in SLM* Outcome 4.2: Innovative mechanisms for multi-stakeholder planning and investments at scale *Indicator 4.2: Innovative mechanisms, institutions, legal and regulatory frameworks*	• Government agencies collaborating on SLM initiatives across sectors and at multiple scales • Decision-making informed by valuation of natural resource assets and ecosystem services from production landscapes • Increased PPP agricultural investments to support food security

Objectives	Expected Outcomes and Indicators	Core Outputs
	functioning to support SLM Outcome 4.3: Appropriate actions to secure long-term sustainability and resilience of agro-ecosystems *Indicator 4.3: Improved livelihoods and food security*	• Maintenance and improvement of soil health and quality in production lands

BACKGROUND

Impacts of harmful chemicals and waste

1. Scientists estimate that everyone alive today carries within her or his body at least 700 chemical contaminants, most of their health impacts are not well known.[57] This is true whether we live in rural or isolated areas, in the middle of a large city, or near an industrialized area. All ecosystems on earth are contaminated by toxic chemicals.

2. Many chemicals have the ability to attach to dust particles or get disbursed through air and water currents and travel over large distances. Chemicals such as polychlorinated biphenyls (PCBs), mercury and pesticide DDT have been found in high concentrations in Arctic species and indigenous populations in these areas where these chemicals are not used causing a number of negative impacts to these populations and species.

3. Chlorinated pesticides, such as DDT, can remain in the body for 50 years. Some of the chemicals residing in our bodies are pesticides, and some are used in or produced by other forms of industrial production. Many are found in a wide variety of consumer products. Some chemicals like dioxins and furans are created unintentionally by industrial processes using chlorine and from the manufacture and incineration of certain plastics. Scientists estimate that there are many other unintentionally created by-products which have not yet been "discovered" since no tests have yet been developed that would fully identify or describe these by-products.

4. Almost all of the dioxin found inside humans got there from eating contaminated food. However, it may have originated in a local medical waste incinerator or it may have been created by a distant, chlorine-based, paper manufacturing plant located thousands of miles from the point of impact. Whatever its source, somewhere it entered the food chain and made its way into the food chain. Similarly, a pesticide found inside your body may have come from pesticide spraying done at a local school, in your garden or kitchen, or it may have arrived on foodstuffs grown with pesticides.

5. Chemicals can have different effects in people or in wildlife, depending on the amount, timing, duration, and pattern of exposure as well as the properties of the specific chemical. Chemicals can have toxic effects on humans and the environment through a variety of mechanisms.

6. Fetal exposure to PCBs is related to behavioral and cognition problems. DDT exposure has been related to women's inability to produce sufficient breast milk. Mercury has been identified as the cause of Minamata disease; lead has been shown to reduce the Intelligence Quotient (IQ) of affected populations.

[57] http://www.chemicalbodyburden.org/

7. Every day new chemicals are developed and manufactured. Most, when used properly, help us improve agriculture, refrigerate products, and improve medicines, make buildings safer and many other benefits to human development. When used incorrectly and improperly disposed, chemicals have serious toxic and hazardous effects and long term negative impacts on human health and the environment.

8. The essential role of chemicals in today's world and their contribution to improved living standards needs to be balanced with recognition of the potential adverse impacts of hazardous chemicals and waste on the environment and human health.

Recent trends surrounding harmful chemicals and waste

9. The sixth replenishment period of the Global Environment Facility (GEF) Trust Fund (2014 to 2018) coincides with a period of a rapidly evolving chemicals and waste management global architecture and changing needs of developing countries and countries with economies in transition (CEITs). The following are the major developments:

i. The work recently completed by UNEP on the Global Chemicals Outlook (GCO) highlights the increase of chemicals production and consumption, the shift in production and use from highly industrialized towards developing countries, and the economic implications of these trends when they occur in the absence of sound chemicals management. The Global Chemicals Outlook also identifies a number of approaches to mitigate the risks of unsound chemicals management whilst still enjoying the benefits that chemicals bring to our daily lives. The GCO presents evidence suggesting that the costs of inaction to a country and resulting from the negative consequences on human health and the environment are often significantly higher than the costs of action.

ii. Green chemistry and life cycle analysis of organic and inorganic chemicals are receiving more attention from producers and consumers of potentially toxic chemicals. With the advent of the Green Chemistry Council, greater emphasis is being placed on sustainable policies, technologies and best practices in the life cycle of toxic chemicals.

iii. The Stockholm Convention on Persistent Organic Pollutants (POPs) has identified 10 new chemicals, which were added to the convention over the last four years (9 chemicals were added at the 4th Conference of the Parties (COP 4) in May 2009 and 1 chemical was added at COP 5 in April 2011). Five more chemicals and chemical groups are currently under review and it may be expected that some of these chemicals will be added to the Convention in the coming years. These chemicals all require urgent global action to eliminate their production and consumption and to destroy wastes arising from former use.

iv. The Mercury Convention was adopted in January 2013 and is expected to come into force before the end of the sixth replenishment of the GEF Trust Fund (GEF-6) period. Urgent work will be needed during GEF-6 to support states in their preparations for participation

in the Convention and to take early actions to address the measures set out in the convention, including supporting early action on mercury already taken up through partnerships. Actions are likely to include support for national assessments of mercury issues and, where necessary, the preparation of plans to address priority concerns; actions to reduce the use of mercury in products and processes; actions to reduce releases of mercury from industrial processes; actions towards the sound disposal of mercury; and actions to address mercury use in artisanal and small-scale gold mining. As part of their ratification process, states will also need to examine what control measures they may need to put in place to meet obligations for controls under the convention and how best to ensure that these are effective and sustainable. They will likely undertake reviews of current regulatory regimes and, where necessary, strengthen these, including through the development of new legislation or regulations.

v. A number of priority emerging chemical issues of global concern not yet covered or adequately addressed by MEAs have been identified as priority areas. These include heavy metals (other than mercury), polycyclic aromatic hydrocarbons (PAHs), mixture effects, open burning, endocrine disruption, and sewage, followed by a range of other issues. Interactions between issues (such as PAHs and open burning) allows for multiple possibilities of interventions at various levels.

vi. The Synergy process of the Basel, Rotterdam and Stockholm Conventions – the parties to these conventions drove a process to bring about implementation synergy of the conventions. This has resulted in a joint Secretariat for the conventions and it is expected that, as the process moves forward, there will be joint implementation of the conventions at a national level. The first joint simultaneous ordinary and extraordinary Conference of Parties to the three conventions took place in Bali, Indonesia in February 2010 and the second one will take place in May 2013 in Geneva. In addition, the UNEP Governing Council in February 2013 invited the GEF to consider the integrated approach in the context of its 6th replenishment.

Box 1. Multilateral Environmental Agreements in the Harmful Chemicals and Waste Area

Governments recognize that concerted action at the international level is required to address certain substances or practices of global concern. Over the past 30 years, governments have agreed a number of multilateral environmental agreements (MEAs) that regulate harmful chemicals and waste. Most governments have ratified these conventions. The conventions relevant to the GEF are:

1. Legally-binding instruments where the GEF serves as the financial mechanism

- **The Stockholm Convention on POPs** – This convention controls the production and use of POPs. The convention originally had 12 controlled POPs substances including DDT, PCB and Dioxins and Furans. The convention also has a process for adding new substances when there is scientific evidence that the substances exhibit persistent organic pollutant characteristics. As a result of this, 10 new POPs have been added to the list of controlled substances and more can be added in the future. As the financial mechanism for this convention the GEF finances programs and projects to assist developing country parties and countries with economies in transition to meet their convention obligations.

- **The Mercury Convention** – This convention has recently been negotiated to control the use of mercury. The convention has selected the GEF as the financial mechanism. This convention will be open for signature in October 2013 and will come into force once the required number of countries ratifies the Convention. The GEF will provide funding to assist developing **country** parties and CEITs to meet some of their obligations. In the period prior to the coming into force of the convention (the 'interim' period), the GEF may be asked to provide resources to parties to enable ratification of the convention and take early action on urgent areas.

2. Legally binding instruments where the GEF does not serve as the financial mechanism but has provided support up to today

- **The Montreal Protocol on Substances that Deplete the Ozone Layer** – The Montreal Protocol controls ozone depleting substances (ODS) which are the substances that created the hole in the Earth's protective ozone layer. This Protocol has its own financial mechanism; however the GEF provides support to parties with economies in transition. At the time the protocol was negotiated, the former Union of Soviet Socialist Republics (USSR) was the party that signed the treaty. The country was considered as a developed country party and therefore had to meet its obligations from its own resources. The break-up of the former USSR resulted in the unique situation where due to the level of consumption of ODS of the resulting Soviet Republics, they were still classified as non-developing country parties and therefore not eligible for resources from the Montreal Protocol's Multilateral Fund. In this regard the GEF Council decided to provide support to these countries to assist them to meet their obligations.

3. Legally binding instruments where the GEF provides indirect support through its programming in POPs

- **The Basel Convention on Controlling Transboundary Movements of Hazardous Wastes and their Disposal** – This Convention pre-dates the Stockholm Convention and deals with the international movement of hazardous waste and its disposal. All POPs waste are treated as Basel Wastes so that in providing support to the parties to the Stockholm Convention for disposal of obsolete POPs and POPs waste, the GEF has supported the implementation of the Basel Convention.

- **The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade** – This convention deals with the control in trade of hazardous and harmful chemicals. All POPs for the purposes of trade are controlled under this convention so the GEF in providing support to parties to control the trade of POPs through import and export bans has supported the implementation of this convention.

4. Non-legally binding instruments:

- **Strategic Approach to International Chemicals Management (SAICM)** – The development of multiple chemical conventions was recognised as creating fragmentation in the global management of harmful chemicals and waste particularly since the conventions are not uniformly ratified. In 2006 governments adopted the SAICM in an attempt to harmonise global management of harmful chemicals and waste through a cradle to grave approach. The SAICM process identifies emerging chemical issues of global concern and provides a framework to operationalize the implementation of an integrated approach to managing harmful chemicals and waste. The GEF has been invited at each of the International Conference on Chemicals Management to support the priorities identified by the SAICM. The GEF has provided support to the management of e-waste, lead in paints and chemicals in products.

In order to meet the objectives of the harmful chemicals and waste MEAs and SAICM, each Party must implement actions to meet its obligations under these treaties. In most cases, these treaties prohibit or limit the production, use, trade and release of particular substances of concern or restrict and control the practices by which they are managed. It follows that governments need to establish legal and regulatory frameworks and to monitor and enforce their operation as well as take action to stop the consumption and production of these substances and dispose of stockpiles and contaminated material.

CATALYTIC ROLE OF THE GEF

10. Since GEF-2, the GEF has moved from a small program on Persistent Toxic Substances (PTS) under International Waters and through the support to CEITs for their implementation of the Montreal Protocol to a consolidated Chemicals Strategy in GEF-5 bringing together the different pieces of the GEF that addresses POPs and ODS as well as new areas including mercury and SAICM. The GEF-5 chemical strategy aims to reduce the fragmentation and low synergy in the chemicals and waste global agenda which exists due to a number of conventions and processes.

11. The GEF approach has assisted in the building of capacity in countries for management of chemicals and waste and has piloted a number of environmentally sound technologies, practices, techniques and approaches that have proven to be effective in reducing and eliminating chemicals and waste.

12. The GEF has invested US$ 695 million to projects in the Chemicals focal area and leveraged some US$ 1701 million in co-financing from partners in the public and private sectors, bringing the total value of the GEF Chemicals portfolio to over US$2.4 billion.

13. In terms of the amount of harmful chemicals, the GEF through its projects have addressed approximately 300,000 tons of PCB, DDT and obsolete pesticides through its programming since 1992.

14. Despite domestic and international effort, including GEF's intervention, National Implementation Plans of developing countries and CEITs under the Stockholm Convention suggest the quantity of chemicals (only PCB, DDT and obsolete pesticides contained in the original 12 POPs) needed to be cleaned up (see Table 1). For example, the amount of pure PCB oils is approximately 6.5 million tons. The clean-up of those chemicals would require a lot of investments and capacity development. This does not include the leveraged resources or the cost estimates for reducing unintentional POPs and the new POPs.

Table 1. Amount of Chemicals addressed under the Stockholm Convention

Types of Chemicals		Unit	Quantity
Obsolete stockpiles	POPs pesticides[58]	1000 tons	25.9
	Other pesticides	1000 tons	200.0
PCB	Pure PCB oils	1000 tons	47.0
	Contaminated oils	1000 tons	6,489.9
		1000 liters	1,728.0
	Contaminated equipment	1000 tons	292.6
DDT stockpiles	For use	1000 tons	0.32
	As waste	1000 tons	109.4
Dioxins/Furans	Total estimated releases	gTEQ/year	196.9
	Total estimated releases in air	gTEQ/year	32.4

[58] excl. DDT stockpiles

15. The Mercury Convention will need to deal with an estimated 1960 tonnes of mercury emitted to air and a similar quantity released to water and land from human activity.59 While industrial uses of mercury in products and processes are declining, concerted action is required to meet the target dates set for their phase-out in the convention.

16. Other emerging chemicals and waste issues will add additional targets for intervention, geared towards the priority needs of countries. Consideration is being given to develop a quantification and prioritization tool to support countries in decision making.

17. The scale of the problem of addressing chemicals is both complex and large. Taking into consideration the above situation, the rate at which the GEF and its partners have addressed harmful chemicals and waste needs to be increased. The GEF's timely intervention would protect the global commons from harmful chemicals and waste through preventing the continuing threat to food safety, health ecosystem and human health.

18. Experience has shown that the GEF has been relatively successful in building capacity at national level, but this capacity has rarely been sustained over long periods of time. The GEF has demonstrated and piloted a number of environmentally sound technologies, techniques and practices and approaches that have led to successful reduction of chemicals and waste but still needs to pursue these efforts for total phase-out of banned chemicals as well as for clean-up operations. The GEF has built human and institutional capacity to manage policies and technologies in developing countries.

19. One of the reasons for the slow pace of clean-up and elimination is lack of resources at all levels including the national level and public international sources. The Scientific and Technical Advisory Panel (STAP) says that the cost of environmentally sound disposal of the totality of POPs waste in developing countries and CEITs will greatly exceed available GEF resources.60 This is further hampered by a fragmented approach by governments, which largely neglects to involve the private sector. The private sector should play a greater role in transformation activities

20. In order to sustain GEF interventions and achieve clean-up and reduction at the scale needed to protect human health and the environment, the GEF should play a catalytic role in leveraging budgetary resources from national governments and incentivizing the private sector to contribute more to the achievement of elimination and reduction of harmful chemicals and waste.

21. Besides, greater awareness of the impacts of harmful chemicals and waste needs to be communicated to policy makers at the national level so that sound management of chemicals and waste is fully integrated into national budgets and sector level plans. The tool to accomplish this shift from exclusive attention by ministries of environment to ministries of planning and finance, as well as ministries of industry, technology and innovation, and ministries of health, would be to systematically increase the visibility of these issues using assessments of the cost of inaction on

[59] UNEP "Global Mercury Assessment 2013: Sources, emissions, releases and environmental transport"
[60] STAP advisory document (2011), Selection of Persistent Organic Pollutant Disposal Technology for the Global Environment Facility

chemicals and waste and the impact on the productivity and health of impacted communities. The allocation of resources from national budgets, and increased participation and contributions from the private sector will foster GEF interventions to be sustained after the projects and programs are completed. This way, the GEF can become a true catalyst for sustainable and sustained behavioral change in societies.

22. In a global market place in order to achieve the transformational change and be effective, the GEF interventions need to seek closer integration with global supply chains ensuring that products crossing national borders are free of global priority substances that otherwise enter into markets and recycling chains.

GOAL AND SCOPE OF THE GEF-6 STRATEGY

Long-term goal

23. The GEF-6 chemical and waste strategy's long term goal is "a significant reduction in the exposure of humans and the environment to harmful chemicals and waste of global importance." This could be achieved through innovative and sustainable investments in partnership with other stakeholders including the private and public sectors and civil society groups to pilot new areas of work to begin the process of tackling new and emerging issues.

Scope of the GEF-6 strategy on chemicals and waste

24. The GEF-6 chemicals and waste strategy targets harmful chemicals and waste regulated under legally binding MEAs with the aim of achieving the above long-term goal. The strategy also takes into account activities on the environmentally sound management of chemicals and waste under non-binding instruments, with a view of supporting the implementation of legally binding instruments. Private sector cooperation and involvement is an important ingredient of GEF-6 chemicals and waste strategy.

25. This Strategy seeks to create a fully integrated focal area for chemicals and waste that is responsive to the instruments shown in Box 1. With regard to support for the Mercury Convention, the GEF is currently supporting projects intended to inform the intergovernmental negotiation process that led to the adoption of the new mercury treaty. Projects are consistent with GEF-5 strategy and addressed reducing mercury use in products and in industrial processes, reducing mercury use and exposure in artisanal and small scale gold mining, enhancing capacity for mercury storage and enhancing capacity to address waste and contaminated sites.

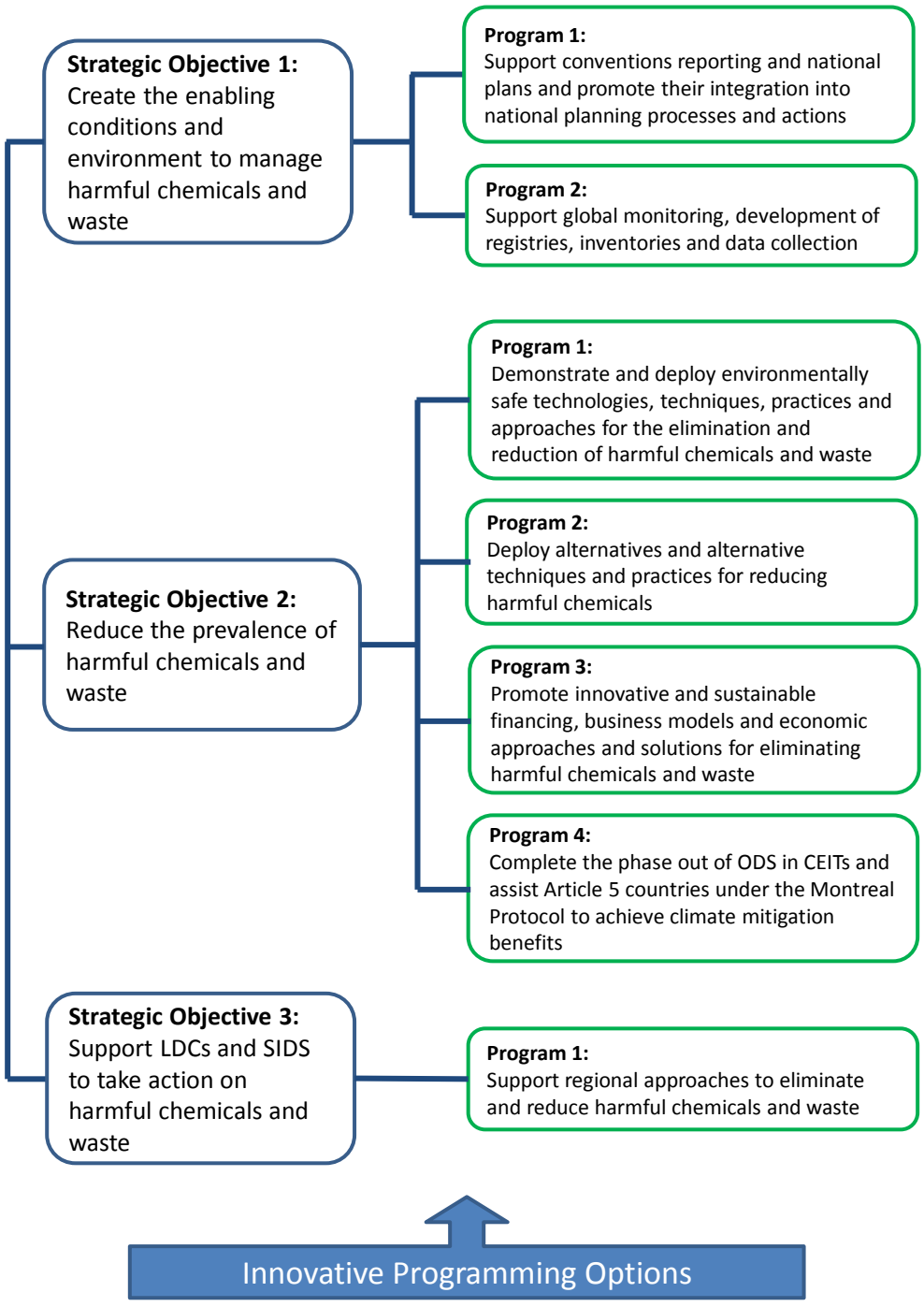
26. The strategy will facilitate programming along the following three strategic objectives:

i. Strategic Objective 1: Create the enabling conditions and environment to manage harmful chemicals and waste
ii. Strategic Objective 2: Reduce the prevalence of harmful chemicals and waste
iii. Strategic Objective 3: Support least developed countries (LDCs) and small island developing states (SIDS) to take action on harmful chemicals and waste

27. Under the three strategic objectives, seven programs will enable the market transformations needed to take significant action on reducing and eliminating harmful chemicals and waste (Figure 1). In terms of topics, the following will receive priority funding in GEF-6, while other areas would also be funded but on a case-by-case basis:

a. Elimination of stockpiles of PCB, DDT and obsolete pesticides and stockpiles of new POPs
b. Management and phase out of PCB oils and POPs pesticides as stipulated in the Stockholm Convention
c. Reduction of emissions of unintentional POPs (UPOPs)
d. Introduction of alternatives to DDT for vector control
e. Early action on mercury to enable ratification of the Mercury Convention
f. Action on new POPs particularly in the context of e-waste and chemicals in products
g. Complete phase out of ODS in CEITs and introduction of low GWP, zero ozone depleting potential (ODP) alternatives
h. Projects that manage harmful chemicals and waste on a sectoral basis such as health care waste management, and harmful waste management
i. Innovative financial instruments that engage the private sector

Figure 1. Strategic Objectives and Programs under the GEF-6 Chemicals and Waste Strategy



INNOVATIVE PROGRAMMING OPTIONS

28. Historically, chemical projects have been supported primarily through GEF grants. This was necessary in the past since there was limited capacity to implement the chemical conventions in the early phase of the conventions. Since then, capacity has been built in a number of countries that would enable them to use GEF resources in different ways to maximize the use of resources. In the future, we must engage the private sector and explore innovative investment models

29. The way forward for achieving significant impact on reducing chemicals and waste requires supporting and, in some cases, creating the enabling conditions to permit action on chemicals and waste and development and deployment of tools and mechanisms for implementation.

30. Means of implementation is required at a higher level than previous GEF phases simply due to more chemicals being on the agenda, in particular mercury and new POPs, but also to achieve accelerated support for ensuring convention compliance and deadlines. For magnifying the impact, more resources are needed. Since there are limited public funds available for chemicals management, there needs to be the development of models that can be used to incentivize the private sector through soft loans, risk guarantees and others.

31. In order to incentivize countries and stakeholders, including the private sector, to expedite and scale up action to eliminate and reduce chemicals and waste, and to encourage synergies, the following innovative programming options may be utilized in implementing the three strategic objectives:

a. Incentives for synergies;
b. Private sector partnerships;
c. Performance-based financing and incentives;
d. Support for civil society initiatives.

32. The options complement the traditional GEF financing instruments, and can be applied as appropriate. Examples of how chemicals and waste will take advantage of the innovative programming options and private sector engagement are listed in Annex 2.

33. They will be also harmonized with the development of the enabling environment at the national and sector level to implement and sustain interventions using the tools and mechanism developed. With regard to the private sector partnership, the best candidates for application of these tools may be countries that already have robust GEF chemicals portfolios or countries that already have the outlines of strong private sector relationships.

GEF-6 CHEMICALS AND WASTE STRATEGIC OBJECTIVES

34. The GEF-6 chemicals and waste strategy encompasses opportunities that combine environmental safe technologies, systems, financial and organizational mechanisms, policies and practices that help countries to move towards innovative, rapid, transformational change in addressing chemicals and waste through sound management and technological approaches. The GEF-6 strategy is based on three strategic objectives that in combination will build and sustain capacity, opportunity and means to meet the goals of eliminating harmful chemicals and waste.

35. Seven key programs of GEF-6 interventions are categorized into three strategic objectives: they are described further below.

Objective 1: Create the enabling conditions and environment to manage harmful chemicals and waste

36. This objective addresses the need for enabling conditions to mainstream chemicals and waste management concerns into the national planning and development agenda, through sound data, analysis, and policy frameworks. As the foundational blocks of GEF interventions, related convention obligations are also included, as well as enabling activities. This objective is necessary for promoting scaled up interventions in the management of harmful chemicals and waste and to wider chemicals and waste objectives.

37. This objective will assist countries to develop and implement policy and legislation that will remove barriers to scale up interventions including access to finance, and national and sectorial policy that allows for mainstreaming of chemicals and waste throughout the development sectors of countries.

Program 1: Support conventions reporting and national plans and promote their integration into national planning processes and actions

38. This program will support countries to report to the conventions and develop implementation plans for meeting their obligations under the conventions. This objective applies principally to the Stockholm Convention, the Mercury Convention and the Montreal Protocol. The joint reporting will support the synergistic process of the chemicals and waste conventions. Where possible, projects can be developed that includes reporting to other conventions to which the GEF serves as the financial mechanism.

39. In order to maximize the impact of convention reporting, this program will also support and promote integration of the findings of convention reporting and enabling activities into national and sector level development planning. The aim is to facilitate the integration of the assessment results into the national planning process and to help inform countries on establishing reduction targets and leveraging resources from all sectors for the sound management of harmful chemicals and waste.

40. *Outcomes:*

i. Countries meet their convention reporting and planning obligations
ii. Countries develop consolidated frameworks for reporting to conventions
iii. Integration of sound management of chemicals and waste into national and sector level planning frameworks
iv. Countries are able to leverage resources from their national and sector level budgets

41. *Indicators:*

i. Number of countries receiving support to prepare convention reports and national plans
ii. Number of countries developing mechanisms for joint reporting
iii. Number and type of development and planning frameworks that include sound management of harmful chemicals and waste and actions based on convention obligations and other enabling activities
iv. Amount of resources leveraged from national budgets

Program 2: Support global monitoring, development of registries, inventories and data collection

42. This program is required to measure the effectiveness of the conventions. In addition, the program will support development of mechanisms to utilize the data with the aim of assisting the decision-making of the conventions and sustaining the monitoring networks.

43. *Outcomes:*

i. Global level date available to all countries and the conventions
ii. Global monitoring networks operational and sustainable

44. *Indicators:*

i. Number of monitoring sites and analytic laboratories receiving support
ii. Percentages of emissions POPs reduced, using the Toolkit for identification and quantification of releases of Dioxins, Furans and Other UPOPs
iii. Number and categories of chemicals monitored and analyzed

Objective 2: Reduce the prevalence of harmful chemicals and waste

45. This objective will assist countries to get rid of harmful chemicals and waste thereby reducing the exposure of humans and the environment to harmful substances.

46. The objective will demonstrate and in some cases support the development of environmental safe technologies that will be necessary for chemicals and waste elimination and management. These are not yet elaborated or fully explored for some of the new POPs under the

Stockholm convention, mercury storage, reduction of mercury in extractive industries and others. The objective will also promote the development and demonstration of financial mechanisms, economic incentives, policy and legislative tools, and certification schemes.

47. Moreover, the integration of sound management of chemicals and waste into other focal areas would be supported under this objective.

Program 1: Demonstrate and deploy environmentally safe technologies, techniques, practices and approaches for the elimination and reduction of harmful chemicals and waste

48. The chemicals and waste focal area has in the past helped to test a number of emission reduction technologies and practices, disposal methods and management practices to deal with the original 12 POPs and ODS. The GEF also will need to address mercury in a number of sectors as well as emerging chemicals and waste issues of global concern. In this regard demonstration and validation for new environmental sound technologies will be encouraged. Examples of cutting-edge technologies with significant near and long-term potential include contaminated soil and sediment cleanup technologies, bio-remediation, and non-combustion technologies. Multiple applications of some of these techniques should be further explored. The GEF can support demonstration to help countries pursue technology transfer and adoption, where GEF incremental funding can catalyze significant additional efforts and benefits. Projects with significant investment need, for example treatment technologies such as alternatives to large-scale incineration, may be considered when large-scale leveraging of national and bilateral resources exists and strong long-term national commitments are demonstrated.

49. The GEF may support the following initiatives under this program:

a. National initiatives and projects for the demonstration and transfer of innovative environmentally safe chemicals and waste reduction and elimination technologies
b. Public-private partnerships to mobilize financing for innovation in technology transfer and development of indigenous technological solutions
c. Technological solutions to address harmful hazardous chemicals and waste including emerging chemicals and waste issues of global concern (e.g. e-waste, mercury, lead in paints, endocrine disruptors, marine debris and chemicals in products)
d. Innovative modalities targeting the rapid emergence and up-take of low chemical and waste development technological innovations
e. Testing and demonstration of environmentally safe technologies for chemical and waste reduction/disposal
f. Deployment of proven environmentally safe reduction and elimination technologies, techniques, practices and approaches through innovative financing
g. Development and demonstration of private sector partnerships, economics instruments and financing models to reduce and eliminate chemicals and waste
h. Innovative approaches to remediating contaminated sites

50. *Outcomes:*

i. Investment in the sectors to reduce emissions and chemical usage
ii. Investment in the sectors to reduce the generation of waste and eliminate waste
iii. Innovative technologies successfully demonstrated, deployed, and transferred
iv. Enabling policy environment and mechanisms created for innovation and chemical development
v. Innovative financing and delivery mechanisms established and operationalized

51. *Indicators***:**

i. Amount of harmful chemicals and waste eliminated, reduced and avoided, including POPs, ODS, CO2
ii. Volume of investment mobilized for sustained elimination and reduction of harmful chemicals and waste
iii. Harmful chemicals in products and e-waste (e.g. lead in paints)
iv. Number of technologies developed with the ability to be quickly absorbed by other countries and easily scaled up
v. Number of countries implementing SAICM priorities that generate global environmental benefits
vi. Volume of investment mobilized

Program 2: Deploy alternatives and alternative techniques and practices for reducing harmful chemicals

52. This program is aimed towards dealing with the demand for harmful chemicals. The program will help reduce global consumption of these chemicals, thereby reducing the future accumulation of these chemicals. The GEF may support the following initiatives under this program:

a. Deployment of alternatives and practices to DDT
b. Integrated pesticide management including in the context of smart agriculture
c. Deployment of alternatives and practices to other chemicals
d. Application of green industry, by the deployment of "Reduce, Reuse and Recycle Waste," cradle to cradle and eco-sensitive industrial development approaches
e. Green chemistry, i.e. pilot projects for SMART chemicals management along the supply chain
f. Design of products and processes that minimize the use and generation of hazardous and toxic substances and waste

53. Along with the necessary policy, economic and regulatory instruments, partnerships with the private sector and other economic and productive sectors will need to be developed.

54. *Outcomes:*

i. Appropriate policy, legal and regulatory frameworks deployed, adopted and enforced
ii. Sustainable financing and delivery mechanisms established and operationalized
iii. Global demand for harmful chemicals reduced

55. *Indicators:*

i. Extent to which policy, legal and regulatory frameworks are adopted and enforced
ii. Volume of investment mobilized
iii. Volume of harmful chemicals and waste eliminated and avoided

Program 3: Promote innovative and sustainable financing, business models and economic approaches and solutions for eliminating harmful chemicals and waste

56. Global public financing for harmful chemicals and waste management has so far only been able to demonstrate technologies and practices that can be scaled up. To deal with the extent of global pollution caused by chemicals and waste of global concern, financing needs to be mobilized for long-term sustainable actions.

57. This program proposes to promote projects and programs that seek to achieve investment for cleaning up contaminated sites, closure and/or repurposing of hazardous chemical manufacturing and waste management. Actions under this program can complement activities in other focal areas in order to promote clean urban development, smart agriculture and extractive industries.

58. Examples of projects and programs that the GEF may support under this program are:

a. Design and implementation of sustainable financing and economic models and instruments that can be applied in a range of sectors, countries and regions. There will be a priority for projects from countries with mature chemicals and waste programs which already have demonstrated various technologies and practices so that the financing models and instruments can be demonstrated for effectiveness in generating the levels of resources needed to scale up action.

b. Promotion of sustainable production and consumption practices to de-couple urban growth and resource use from the use of POPs and other chemicals of concern (e.g. heavy metals including mercury and lead, and e-waste generation)

c. Phase-out of ODS, with energy efficient and low greenhouse potential options

59. *Outcomes:*

i. Policy, legal and regulatory frameworks adopted and enforced for low chemical urban development

ii. Sustainable organization, financing and delivery mechanisms established and operationalized

60. *Indicators:*

i. Extent to which low chemical development policies and regulations are adopted and enforced.
ii. Volume of investment mobilized
iii. Number of sites cleaned up through increased financing
iv. Number of tonnes of chemicals and waste eliminated, reduced and avoided as a result of implementation of innovative financing solutions

Program 4: Complete the phase-out of ODS in CEITs and assist Article 5 countries under the Montreal Protocol to achieve climate mitigation benefits

61. This program applies specifically to the completion of the phase-out of hydro-chloro-fluoro-carbons (HCFCs) in CEITs. Under this objective, HCFC phase-out management plans and production sector plans will be supported. Special programs will be established to promote linkages in Article 5 countries to assist in the phase-out of HCFCs. This will only apply to manufacturing of appliances and foams and will cover only energy efficiency gains associated with action being taken using other funding sources by the Article 5 countries. Through the phase-out of HCFCs in appliance and form manufacturing, climate mitigation benefits will be achieved as well.

62. *Outcomes:*

i. Countries able to meet their phase-out obligations under the Montreal Protocol

63. *Indicators:*

i. Tonnes of HCFCs phased out
ii. Tonnes of CO2 equivalent phased out

Objective 3: Support LDCs and SIDS to take action on harmful chemicals and waste

64. In dealing with harmful chemicals and waste, the LDCs and SIDS typically have limited capacity. In many instances, they are also geographically isolated and remote. Therefore, different approaches for solutions are required for these types of countries.

65. Historically, these countries have had difficulty to leverage sufficient resources from their own budgets, the private sector and other bi-lateral donors to deal with harmful chemicals and waste. They also have difficulties in accessing GEF funds in comparison to other countries.

66. This objective will allow programming for resources to LDCs and SIDS to assist them, to create the enabling environment, and to take action to eliminate and reduce harmful chemicals and waste. The objective will encourage regional and sub-regional cooperative action and south-south cooperation for developing regional approaches. In particular, regional approaches, such as coordination of POPs collection and disposal, will improve logistical and financial efficiency of waste management in SIDS. Hence, regional cooperation will be fostered and encouraged.

67. It will also encourage civil society participation in enabling activities to ensure broad recognition of public needs and requirements. Management of harmful chemicals is especially urgent for these countries, as correct decisions made now can result in the avoidance of negative environmental and social consequences suffered by industrialized countries in this context.

Program 1: Support regional approaches to eliminate and reduce harmful chemicals and waste

68. This program will support regional and sub-regional approaches to eliminate and reduce harmful chemicals and waste in response to the barriers LDCs and SIDS are facing. The regional and sub-regional approaches will cover:

a. Enhanced capacity to manage harmful chemicals and waste at a regional/sub-regional level
b. Regional-level plans for the management of harmful chemicals and waste
c. Technologies and techniques suitable to LDCs and SIDS
d. Innovative management practices suitable to LDCs and SIDS
e. Innovative financing models appropriate for LDCs and SIDS
f. Development of private public partnerships with SMEs

69. Through this program along with activities covered by the Strategic Objectives 1 and 2, LDCs and SIDS will be able to manage harmful chemicals and waste, and to mainstream sound management of chemicals and waste into regional/sub-regional, national and sector level development planning.

70. *Outcomes:*

i. Enhanced capacity of LDCs and SIDS to manage harmful chemicals and waste
ii. LDCs and SIDS regional/sub-regional plans include and account for the management of harmful chemicals and waste.
iii. Technologies developed and deployed that meet the particular needs of LDCs and SIDS
iv. LDCs and SIDS eliminate and reduce harmful chemicals and waste.
v. Regulation, management practices and policy instruments developed and deployed to LDCs and SIDS
vi. Financial models specific to the needs of LDCs and SIDS developed

71. *Indicators:*

i. Number of regional/sub-regional level plans developed that account for chemicals and waste issues
ii. Number of technologies deployed
iii. Percentages of emissions POPs reduced, using the Toolkit for identification and quantification of releases of UPOPs
iv. Number of regulatory, policy instruments and financial models developed and enforced

Annex 1. Results Framework Table

GEF-6 Objectives	Expected Outcomes and Indicators	Core Outputs
Objective 1: Create the enabling conditions and environment to manage harmful chemicals and waste **Program 1:** Support conventions reporting and national plans and promote their integration into national planning processes and actions	**Outcome 1.1:** Countries meet their convention reporting and planning obligations **Indicator 1.1:** Number of countries receiving support to prepare convention reports and national plans **Outcome 1.2:** Countries develop consolidated frameworks for reporting to conventions **Indicator 1.2:** Number of countries developing mechanisms for joint reporting **Outcome 1.3:** Integration of sound management of chemicals and waste into national and sector level planning frameworks **Indicator 1.3:** Number and type of development and planning frameworks that include sound management of harmful chemicals and waste and actions based on convention obligations and other enabling activities **Outcome 1.4:** Countries are able to leverage resources from their national and sector level budgets **Indicator 1.4:** Amount of resources leveraged from national budgets.	**Output 1.1:** Convention reporting and national implementation plans **Output 1.2:** Joint convention reporting **Output 1.3:** National and sector level development plans which include sound management of harmful chemicals and waste **Output 1.4:** Tangible assets for sound management of harmful chemicals and waste
Objective 1: **Program 2:** Support global monitoring, development of registries, inventories and data collection	**Outcome 2.1:** Global level date available to all countries and the conventions **Indicator 2.1:** Number of monitoring sites and analytic laboratories receiving support **Indicator 2.2:** Percentages of emissions POPs reduced, using the Toolkit for identification and quantification of releases of Dioxins, Furans and other UPOPs **Outcome 2.2:** Global monitoring networks operational and sustainable **Indicator 2.3:** Number and categories of chemicals monitored and analyzed	**Output 2.1:** Monitoring sites and analytic laboratories receiving support **Output 2.2:** Countries using Toolkit for identification and quantification of releases of UPOPs **Output 2.3:** Global monitoring network
Objective 2: Reduce the prevalence of harmful chemicals and waste **Program 1:** Demonstrate and deploy	**Outcome 3.1:** Investment in the sectors to reduce emissions and chemical usage **Outcome 3.2:** Investment in the sectors to reduce the generation of waste and eliminate waste **Indicator 3.1:** Amount of harmful chemicals and waste eliminated, reduced and avoided, including	**Output 3.1:** Elimination and reduction of harmful chemicals and waste **Output 3.2:** Investment mobilized

GEF-6 Objectives	Expected Outcomes and Indicators	Core Outputs
environmentally safe technologies, techniques, practices and approaches for the elimination and reduction of harmful chemicals and waste	POPs, ODS, CO_2 **Indicator 3.2:** Volume of investment mobilized for sustained elimination and reduction of harmful chemicals and waste **Indicator 3.3:** Harmful chemicals in products and e-waste (e.g. lead in paints) **Outcome 3.3:** Innovative technologies successfully demonstrated, deployed, and transferred **Indicator 3.4:** Number of technologies developed with the ability to be quickly absorbed by other countries and easily scaled up **Outcome 3.4:** Enabling policy environment and mechanisms created for innovation and chemical development **Indicator 3.5:** Number of countries implement SAICM priorities that generate global environmental benefits **Outcome 3.5:** Innovative financing and delivery mechanisms established and operationalized **Indicator 3.6:** Volume of investment mobilized	**Output 3.3:** Innovative technologies demonstrated and deployed on the ground **Output 3.4:** Countries created enabling policy environment and mechanisms **Output 3.5:** Financing and delivery mechanisms for environmentally safe technologies, techniques, practices and approaches
Objective 2: **Program 2:** Deploy alternatives and alternative techniques and practices for reducing harmful chemicals	**Outcome 4.1:** Appropriate policy, legal and regulatory frameworks deployed, adopted and enforced **Indicator 4.1:** Extent to which policy, legal and regulatory frameworks are adopted and enforced **Outcome 4.2:** Sustainable financing and delivery mechanisms established and operationalized **Indicator 4.2:** Volume of investment mobilized **Outcome 4.3:** Global demand for harmful chemicals reduced **Indicator 4.3:** Volume of harmful chemicals and waste eliminated and avoided	**Output 4.1:** Policy, legal and regulatory frameworks for alternatives and alternative techniques and practices **Output 4.2:** Investment mobilized **Output 4.3:** Alternatives and alternative techniques and practices deployed on the ground
Objective 2: **Program 3:** Promote innovative and sustainable financing, business models and economic approaches and solutions for eliminating harmful chemicals and waste	**Outcome 5.1:** Policy, legal and regulatory frameworks adopted and enforced for low-chemical urban development **Indicator 5.1:** Extent to which low chemical development policies and regulations are adopted and enforced **Outcome 5.2:** Sustainable organization, financing and delivery mechanisms established and operationalized	**Output 5.1:** Policy, legal and regulatory frameworks enacted **Output 5.2:** Investment mobilized **Output 5.3:** Elimination and reduction of harmful chemicals and waste

GEF-6 Objectives	Expected Outcomes and Indicators	Core Outputs
	Indicator 5.2: Volume of investment mobilized **Indicator 5.3:** Number of sites cleaned up through increased financing **Indicator 5.4:** Number of tonnes of chemicals and waste eliminated, reduced and avoided as a result of implementation of innovative financing solutions	
Objective 2: **Program 4:** Complete the phase-out of ODS in CEITs and assist Article 5 countries under the Montreal Protocol to achieve climate mitigation benefits	**Outcome 6.1:** Countries able to meet their phase-out obligations under the Montreal Protocol **Indicator 6.1:** Tonnes of HCFC phased out **Indicator 6.2:** Tonnes of CO_2 equivalent phased out	**Output 6.1:** HCFC phase-out management plan and production sector plan **Output 6.2:** Energy savings achieved
Objective 3: Support LDCs and SIDS to take action on harmful chemicals and waste **Program 1:** Support regional approaches to eliminate and reduce harmful chemicals and waste	**Outcome 7.1:** Enhanced capacity of LDCs and SIDS to manage harmful chemicals and waste **Outcome 7.2:** LDCs and SIDS regional/sub-regional plans include and account for the management of harmful chemicals and waste **Indicator 7.1:** Number of regional/sub-regional level plans developed that account for chemicals and waste issues **Outcome 7.3:** Technologies developed and deployed that meet the particular needs of LDCs and SIDS **Indicator 7.2:** Number of technologies deployed **Outcome 7.4:** LDCs and SIDS eliminate and reduce harmful chemicals and waste. **Indicator 7.3:** Percentages of emissions POPs reduced, using the Toolkit for identification and quantification of releases of UPOPs **Outcome 7.5:** Regulation, management practices and policy instruments developed and deployed to LDCs and SIDS **Outcome 7.6:** Financial models specific to the needs of LDCs and SIDS developed **Indicator 7.4:** Number of regulatory, policy instruments and financial models developed and enforced	**Output 7.1:** Regional/sub-regional plans for harmful chemicals and waste management **Output 7.2:** Technologies specific to the needs of LDCs and SIDS demonstrated and deployed on the ground **Output 7.3:** LDCs and SIDS using Toolkit for identification and quantification of releases of UPOPs **Output 7.5:** Regulation, management practices and policy instruments enacted **Output 7.5:** Financing models enacted

Annex 2. Innovative Programming Options in the GEF-6 Chemicals and Waste Strategy

1. Incentives for synergies

The GEF should build projects that serve multiple focal areas and trust funds, help to deliver multiple benefits in a synergistic project within the chemicals and waste cluster and the Montreal Protocol and with other focal areas. The GEF can provide unique added value based on its role as a financial mechanism for multiple conventions. Countries can access incentives on projects/programs that aim to address multiple environmental benefits and seek synergies across Conventions. Examples of eligible topics include: climate-chemical nexus (Clean Cities, Green Industry), and Chemical-Natural Resource Nexus (Healthy Ecosystems, Smart Agriculture, Clean Rivers, Lakes and Oceans). This modality may incentivize projects where targeting multiple benefits clearly enables economies and results to have more significant impacts compared to separate projects. With the GEF as the financial mechanism of Mercury and the Climate Change conventions, the opportunities to explore synergies of carbon and mercury emissions reduction is a unique opportunity.

2. Private sector partnerships

In GEF-6, all focal area strategies will be identifying and establishing stronger partnerships with the private sector to attract and retain private sector investment. For chemicals and waste this has been an area that has not been fully explored but it will be a robust area of activity in GEF6. In some cases, for example in PCB management projects where private utilities are involved the utilities sustain the reduction and management of PCB while in others where disposal equipment or facilities are provided the sustainability ends when resources for disposal ends with the project.

A major aim in GEF 6 for this focal area will be to explore and develop and demonstrate models that integrate the private sector in chemical and waste projects thereby achieving the scale of engagement and investment that is needed to scale up action on chemicals and waste.

Partnerships may take several forms, including assessment and fortification of enabling environments; certification and standards programs; engagement across global supply chains; application of risk-mitigation tools; and engagement of institutional investors. Recent GEF intervention in hospitals and the way they manage waste is one example. Another innovative approach will invite private sector project ideas that can be submitted and cleared through agency processes quickly. Countries will be encouraged to hold competitive bidding for innovative projects. In some cases, countries will be encouraged to provide endorsement letters to agencies in advance to allow rapid approval and project launch. This approach enables the GEF network to engage with potential private sector partners with innovative ideas that need demonstration and validation. Examples of projects that would be amenable to this approach include:

- Innovative environmentally sound waste reduction projects
- Technology demonstrations

- Recycling and waste-management through micro, small and medium enterprises
- Green development – industries and cities
- Innovative approaches to cleaning up and remediation of contaminated sites
- Economic instruments and business models to facilitate income generation for chemicals and waste management including waste recycling and extraction of valuable constituents of waste.
- Life cycle and green chemistry investments

For risk-mitigation and structured financing tools, the GEF Chemicals Network will explore the development of non-grant instruments. For example, innovative e-waste technologies do not have a proven track record and may be perceived as too risky for commercial investors. The GEF and its agency partners will explore what types of risk-mitigation tools could help catalyze investment in e-waste technologies.

Furthermore, chemicals and waste projects will need to ensure that small and medium-sized enterprises (SMEs) are prepared to properly manage POPs and ODS, and to take up new technologies for reduction and disposal. SMEs could use small grants or loans to promote for example, to improve waste management practices, encourage recycling and reuse of plastics, e-waste, adopt integrated pest and vector management, improvements in preventing contamination from ASGM through provision of low cost technological solutions such as retorts. Chemicals and waste projects will certainly be considered for the SME Small Grant/Loan Program.

3. Performance-based financing and incentives

The GEF may introduce performance-based financing and incentives, where countries/agencies receive GEF resources based on successful project implementation and demonstration of results. For chemicals and waste, this option may be applied in cases including the following:

- *Project-based:* Performance-based financing could be utilized on individual projects. Projects that require strong measurement and verification to ensure global environmental benefits, such as phase out of chemicals, may be suitable. This would be at the invitation of the country and would be subject to a performance based agreement between the GEF and the country.

- *Sector or economy-wide*: Countries or cities that commit to national or sector-based emission reduction targets (in toxic equivalents (TEQ/g) for UPOPs, ODP for Ozone, and Tons for mercury and POPs) may utilize performance-based financing. Countries commit to the measurement and verification of meeting the targets, and are paid if the targets are achieved. Countries will have flexibility in project design, implementation modalities and selection and implementation of emission/release reduction options. This approach offers flexibility for countries and agencies to develop programs and reduces the review process in the GEF since the details of project design will be left to the country and agency.

4. Support for civil society initiatives

In GEF-6, nongovernmental organizations can submit and receive approval for projects focused on elimination of hazardous chemicals and waste. Partnership with this sector will be supported through GEF Small Grant Program (SGP) where a proportion of funding given to initiatives on chemicals and waste will be shared equally with other GEF SGP national priorities such as climate change and biodiversity.

SUSTAINABLE FOREST MANAGEMENT STRATEGY

BACKGROUND

Status of Global Forests and Forest Ecosystem Services

1. Forests fulfill a diverse range of functions. When well-managed, forests contribute to countries' sustainable development as well as provide livelihood opportunities for local communities and indigenous peoples. At the same time forests include some of the worlds' most biodiverse habitats as well as providing important ecosystem services such as carbon sequestration, water regulation and soil protection. The importance of forests for people and the world's environment is therefore hard to over-estimate. Despite 20 years of activity since the World Summit on Environment and Development in Rio de Janeiro, deforestation and forest degradation continue at alarming rates in many countries.

2. The world's total forest area is just over 4 billion hectares, or 31 percent of total land area. Primary forests account for 36 percent of the total forest area, other naturally regenerated forests make up some 57 percent, and planted forests account for 7 percent. The rate of deforestation has decreased over recent years in some countries. However it remains worryingly high. Over the last decade, each year 13 million hectares of forest were converted to other uses with attendant loss in biodiversity, livelihoods provision and ecosystem services.

3. While forest ecosystems provide a variety of benefits which are realized at the global, sub-regional, national and local scales, the threats to forest ecosystems are also multiple. These range from the impacts of climate change to all aspects of competing land uses that lead to forest degradation and forest loss.

4. Forests maintain land productivity and the provision of water resources to agricultural systems and thus support food production and rural livelihoods. By one measure forests also provide wood and non-wood forest products, income and employment to millions of people. Through another perspective, forests harbor and protect biological diversity; maintain and provide clean and reliable water resources to urban and rural populations; conserve soils, protect against flooding, enable carbon sequestration to protect the atmosphere and protect coastal and marine resources.

5. Forests and the benefits they provide in the form of food, income and watershed protection have an important role in enabling people around the world to secure a stable and adequate food supply. Forests are critically important to the food insecure because they are one of the most accessible productive resources available to them.

6. Deforestation and forest degradation, however, are impairing the capacity of forests to contribute to countries' sustainable development, jeopardizing food security as well as depleting the provision of ecosystem services at local, national and global scales.

Drivers of Deforestation and Forest Degradation

7. There is now full acknowledgement that dealing with issues of deforestation and forest degradation is much more complex than initially expected. The drivers of forest loss and degradation are manifested in deep rooted institutional and market problems which will remain unassailable when viewed from purely a forest perspective.

8. The expansion of agriculture has recently been identified as the main driver of forest loss worldwide. Forest degradation often has different driving forces and is commonly a longer-term process however it is still a major issue for forests with an estimated one billion hectares of deforested and degraded forest land worldwide.

9. Population growth and economic growth create increased demand for agricultural land and increased demand for forest products. The resulting pressures on forests are often exacerbated by poor forest governance, unsustainable natural resource planning, high levels of corruption, low capacity of public forestry agencies and land tenure uncertainties to create a situation where further loss and degrade of forests is inevitable without fundamental change to both the direct and indirect causes.

Challenges and Potential for Transformational Impact

10. Governments face difficult decisions, but often make unnecessarily stark choices between development or conservation goals. Hence in many countries forests with high conservation value continue to be lost, unsustainable management practices degrade forests and landscapes have been degraded to an extent where ecosystem services have been lost or severely impacted. Indigenous people, local communities, the general public and governments also have a growing appreciation of the social, political and economic costs when forests are lost or degraded. Forests have often been underappreciated but vital elements of rural livelihoods and wider national economies, and the true costs and consequences of their loss are only now beginning to be realized.

11. On the other hand, many countries are beginning to recognize the results of the loss and degradation of forests and there is now growing appreciation of the links between national and local development and the sustainable management of forest resources. Through the use of approaches such as natural capital accounting, governments are beginning to recognize the economic value of the multiple goods and services their forests can provide.

12. Forests, like other ecosystems, are affected by climate change. In some places, impacts may be negative, while in others they may be positive. Studies show that the greater frequency of extreme climatic events resulting from global warming affects forests significantly. Climate change also modifies local climatic regimes and leads to species and ecosystem extinction where conditions are no longer favorable for locally occurring native species. There is however a positive relationship between diversity and ecosystem resilience, thus approaches which support genetic, species and landscape heterogeneity can help support healthy forest ecosystems. Forests

also continue to offer a significant role in climate change mitigation efforts through maintenance and enhancement of forest carbon, particularly through REDD+ initiatives.

13. A number of transitions are underway in the forest sector including the growing roles of local communities and indigenous groups, forest governance modernization, appreciation of the role of the private sector, advance of REDD+, novel forest financing mechanisms and nascent markets for ecosystem services that present new opportunities for forests. An integrated approach to sustainable forest management, poverty alleviation and sustainable development offers potential convergence of separate social, conservation and economic agendas.

The Role of GEF – Investing in Forests for Multiple Benefits

14. Against this background, GEF seeks to make transformational investments, supporting countries to manage their forest resources sustainably and continue to provide a wide range of ecosystem services and support diverse livelihood opportunities. The GEF has been an important advocate of sustainable forest management (SFM) across the world. Sustainable forest management explicitly aims to manage and maintain the full range of benefits and services of forests. Current global efforts have also identified the need to address forests in a holistic manner and there is growing recognition of the links between poverty alleviation and the sustainable management of forest resources. Only if the needs of local communities and forest dependent people are met in the implementation of sustainable forest management, is it likely that the inherent biodiversity, climate change mitigation, and land degradation focal areas' objectives will be achieved.

15. By widening its efforts in sustainable forest management the GEF aims to champion the protection and responsible use of the world's forests. The GEF will also respond to the different national circumstances of recipient countries and catalyze 'step-change' innovation and investments in the world's forests. Through transformational investments the GEF will support countries to manage their forest resources sustainably enabling the provision of a wide range of ecosystem services and supporting diverse livelihood opportunities.

Supporting the Objectives of the Conventions

16. The GEF continues to be in a unique position to respond to the combined guidance of the three Rio conventions and the United Nations Forum on Forests (UNFF) to ensure the maintenance of the multiple benefits and services provided by forests. GEF will continue to support countries to implement the three forest-related conventions and their respective country action plans in a more synergistic fashion.

17. The proposed strategy for Sustainable Forest Management is fully responsive to the guidance provided to the GEF by the UNFCCC and CBD. 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. Furthermore, the strategy addresses the focus of the non-legally binding instrument

(NLBI[61]) on 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.

Table 1. Links between the forest-related decisions of the Rio conventions and the UNFF

Aichi Biodiversity Targets (CBD decision X/2)	**REDD-plus elements (UNFCCC decision 1/CP.16)**	**DLDD and sustainable forest management (SFM) (UNCC D decision 4/CO P.8)**	**UNFF Global Objectives on Forests (E/2006/42 E/CN.18/2006/18)**
5. By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced	• Reducing emissions from deforestation • Reducing emissions from forest degradation • Conservation of forest carbon stocks	• Reinforce SFM as a means of preventing soil erosion and flooding, thus increasing the size of atmospheric carbon sinks and conserving ecosystems and biodiversity. • Strengthen the capacity of LFCCs to combat desertification, land degradation and deforestation.	Reverse the loss of forest cover worldwide through sustainable forest management (SFM), including protection, restoration, afforestation and reforestation, and increase efforts to prevent forest degradation.
7. By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity	• Sustainable management of forests • Actions are to be consistent with conservation of natural forests and biological diversity and are to incentivize the protection and conservation of natural forests and their ecosystem services	• Reinforce SFM as a means of preventing soil erosion and flooding, thus increasing the size of atmospheric carbon sinks and conserving ecosystems and biodiversity.	Increase significantly the area of sustainably managed forests, including protected forests, and increase the proportion of forest products derived from sustainably managed forests.

[61] The Non-Legally Binding Instrument (NLBI) of the UNFF defines sustainable forest management as a dynamic and evolving concept that aims to maintain and enhance the economic, social and environmental value of all types of forests, for the benefit of present and future generations.

11. By 2020, at least 17 percent of terrestrial areas are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas	• Conservation of forest carbon stocks • REDD-plus activities should be consistent with the objective of environmental integrity and take into account the multiple functions of forests and their ecosystems	• Reinforce SFM as a means of preventing soil erosion and flooding, thus increasing the size of atmospheric carbon sinks and conserving ecosystems and biodiversity. • Strengthen the capacity of LFCCs to combat desertification, land degradation and deforestation.	Increase significantly the area of sustainably managed forests, including protected forests.
14. By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.	• Conservation of forest carbon stocks • Enhancement of forest carbon stocks • REDD-plus activities should promote and support full and effective participation of relevant stakeholders, in particular indigenous peoples and local communities	• Strengthen SFM and integrated water management to maintain ecosystem services in affected areas, prevent soil erosion and flooding, increase the size of atmospheric carbon sinks, and conserve and sustainably use biodiversity.	Enhance forest-based economic, social and environmental benefits, including by improving the livelihoods of forest-dependent people.
15. By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 percent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.	• Reducing emissions from deforestation • Reducing emissions from forest degradation • Conservation of forest carbon stocks • Sustainable management of forests • Enhancement of forest carbon stocks	• Strengthen SFM and integrated water management to maintain ecosystem services in affected areas, prevent soil erosion and flooding, increase the size of atmospheric carbon sinks, and conserve and sustainably use biodiversity.	Reverse the loss of forest cover worldwide through sustainable forest management (SFM), including protection, restoration, afforestation and reforestation, and increase efforts to prevent forest degradation.

History of GEF Forest Funding - Lessons Learned from GEF-4 and GEF-5

18. While in the earlier years, the GEF's efforts in the field of sustainable forest management (SFM) were rather fragmented, GEF-4 introduced a more strategic and focused approach to SFM. The GEF-4 SFM strategy 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 and the role of forests in climate change mitigation via land use change and forestry (LULUCF). The successful GEF-4 strategy was operationalized through a SFM program which rapidly emerged as a diverse portfolio of

investments that address individual GEF focal area aspects of forests or emphasize the multiple benefits character of forest ecosystems through major programmatic approaches.

19. In its fifth replenishment cycle, acting on GEF Council guidance to foster a convergence of investments in more efficient and cost-effective projects and programmatic approaches, the GEF expanded and strengthened its SFM efforts. Uniquely this initiative supported countries to combine resources from biodiversity, climate change and land degradation focal areas for more comprehensive SFM/REDD+ multi-focal area (MFA) projects and programs. The GEF-5 SFM/REDD+ Incentive sought multiple global environmental benefits from the management of all types of forests and strengthening of sustainable livelihoods for people dependent on forest resources.

20. The objective of encouraging $1 billion investment in forests reinforced GEF's position as a significant global funder of forest-related activities. The GEF SFM/REDD+ Incentive has been able to build and expand GEF's support for a wide range of activities. Some key lessons already emerging from this experience are the following:

a. After an initial slow start due to the absolute novelty of the incentive mechanism, it has proved effective in mobilizing resources for forests both within GEF and through co-financing, particularly through the programmatic approach modality. The SFM-REDD+ Program has contributed over $420 million towards forest projects. This compares with $470 million over the full GEF-4 period. The program has also encouraged a total of $3.46 billion in co-finance so far during GEF-5.

b. The incentive mechanism has encouraged 55 countries to target significant investments directed at a range of different forest types. These investments are also addressing a range of forest use situations, including strictly protected areas, mixed agricultural and forest landscapes, and community managed areas. In particular, the GEF is promoting SFM as a tool for delivering multiple benefits at a range of levels, including REDD+ and through the use of payments for ecosystem services (PES) mechanisms.

c. The SFM/REDD+ incentive mechanism has supported an expansion in GEF investments in landscape-level approaches. From GEF-4 to GEF-5, the number of forest projects focusing on landscape-level actions has grown in comparison with the past predominance of those directed at the creation and strengthening of protected area systems. The majority of projects within GEF-5 are located in active productive landscape matrices and deal with a range of focal area topics at the same time.

d. Many projects aim at mainstreaming management practices to support biodiversity, reduce land degradation and address REDD+ issues in productive landscapes. This has included a wide range of sustainable livelihood opportunities for forest dependent communities. Implementation of the incentive did identify some issues to be considered for follow up:
    i. being strictly tied to the STAR allocation and the use of STAR resources the incentive allowed only national issues to be addressed. However this

approach did not allow the potential for synergy between projects to be harnessed through addressing overarching thematic issues. While each project addresses important national issues, because of its diversity, the GEF's forest portfolio has not had similar impact on major issues facing forests regionally or globally.

ii. Although the mechanism has led to nearly 40 percent of the incentive being drawn down it can be seen that it is easier and more attractive for those countries with larger allocations and the ability to develop larger projects. While the incentive ratio of 3:1 suits these situations it may not provide suitable incentive for the development of projects in countries with more modest STAR allocations (particularly where forests are not currently seen as a development agenda topic) or the development of smaller SFM projects.

iii. Financial support for regional projects and programmatic approaches are becoming more relevant for low forest cover countries (LFCCs) and small island developing states (SIDS). However, countries with modest forest resources tend to have fewer forest-focused staff and thus continue to face a perennial issue when it comes to developing new projects. Therefore, the programmatic approach for both LFCCs and SIDS will remain one of the few instruments available for directing financial resources until the necessary capacity is built within their national agencies.

SUSTAINABLE FOREST MANAGEMENT STRATEGY GOAL AND OBJECTIVES

Strategic considerations

21. The GEF's Sustainable Forest Management Program advocates an integrated approach at the landscape level, embracing ecosystem principles. 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 aims to achieve multiple global environmental benefits, including those related to the protection and sustainable use of biodiversity, climate change mitigation and adaptation and combating land degradation.

22. The program strives to maximize the synergy developed through multi focal area programs and projects. Beyond the global environmental benefits that are created by investments in forest related focal areas, the SFM Program will specifically generate the following **global environmental benefits** addressing the emphasis placed by UNFCCC, CBD and UNCCD as well as UNFF on the importance of conservation, sustainable use and management of forests:

a. Reduction in forest loss and forest degradation;
b. Maintenance of the range of environmental services and products derived from forests; and

c. Enhanced sustainable livelihoods for local communities and forest-dependent peoples.

Goal and Objectives

23. The goal for the GEF-6 SFM Program is to **achieve multiple environmental benefits from improved management of all types of forests and trees outside of forests**. This includes pristine, managed forests and degraded forest land. The program recognizes that when forests fulfill their potential to contribute to national economic development and sustainable livelihood options for local communities, they are more likely to effectively contribute enhanced global environmental benefits. The program acknowledges that countries vary significantly in their current development pathway, technical and institutional capacity and the extent and nature of the forest resources with which they are endowed. The program will provide options for countries in different circumstances to tackle the drivers of deforestation and forest degradation while supporting the development of forests' role in national and local sustainable development plans. Four objectives will drive the SFM portfolio and contribute to the goal:

i. **Maintained Forest Resources:** Reduce the pressures on high conservation value forests by addressing the drivers of deforestation.
ii. **Enhanced Forest Management:** Maintain flows of forest ecosystem services and improve resilience to climate change through sustainable forest management.
iii. **Restored Forest Ecosystems:** Reverse the loss of ecosystem services within degraded forest landscapes.
iv. **Increased Regional and Global Cooperation**: Enhanced regional and global coordination on efforts to maintain forest resources, enhance forest management and restore forest ecosystems through the transfer of international experience and know-how.

SFM-1: Maintained Forest Resources: Reduce the pressures on high conservation value forests by addressing the drivers of deforestation.

Rationale

24. Forest ecosystems are still disappearing at an alarming rate. Over the last decade, each year, 13 million hectares of forest were converted to other uses, mainly agriculture. Recent studies identify agriculture to be the direct driver for around 80 percent of deforestation worldwide. The development of new biofuel technologies creates additional new pressures on forest resources.

25. The loss of quantity and quality of linked ecosystem services from forests 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-dependent people struggle to sustain their livelihoods once the forest-based opportunities have been removed. The social benefits of forests offer support to

healthy livelihoods and combined with good governance, can contribute to peace and stability of entire regions.

26. The ultimate drivers of deforestation are complex interactions of social, economic, political, cultural and technological processes often remote from the location of deforestation. While illegal activities are prevalent in some countries, in most, the use of forest resources in a certain manner results from a deliberate policy decision. Decision-makers in both the public and private sectors as well as at the national and local level often choose short-term economic gains over the long-term sustainable provision of those multiple benefits which forests provide. These decisions are often being made based on incomplete information on alternative forest management options. The problem is often exacerbated by the lack of a long-term and more integrated vision for a country's natural assets including an understanding of the impacts of these decisions on socio-economic and ecological stability and the potential for supportive actions of the private sector through responsible business practices, such as those identified by the Consumer Goods Forum.

27. This objective will address the drivers of deforestation by promoting the enabling conditions for integrated national and landscape level planning that recognizes and incorporates the true value of forests in natural resource decision-making in both the public and private sectors and within a range of governance levels. In particular this objective will support intra-governmental and cross-sector integration including those being developed through REDD+ readiness processes and support for REDD+ Phase II initiatives. This objective also supports the use of the concept of high conservation value forests[62] as a multi-stakeholder means to identify and incorporate the multiple functions and services of forests into landscape level planning by expanding the notion of importance beyond protected areas and pristine forests, by focusing on the values which a forest may contain or provide. By identifying those key values rational decision making is more likely that is consistent with the protection of forests which have critically important environmental and social values.

28. The objective will support effective land use planning combined with large-scale applications on the ground to avoid further loss of high conservation value forests and the maintenance of forest ecosystem services such as habitat services (biodiversity), regulating

[62] There are six recognized forms of high conservation values forests:
HCV1. Forest areas containing globally, regionally or nationally significant concentrations of biodiversity values (e.g. endemism, endangered species, refugia).
HCV2. Forest areas containing globally, regionally or nationally significant large landscape level forests, contained within, or containing the management unit, where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance.
HCV3. Forest areas that are in or contain rare, threatened or endangered ecosystems.
HCV4. Forest areas that provide basic services of nature in critical situations (e.g. watershed protection, erosion control).
HCV5. Forest areas fundamental to meeting basic needs of local communities (e.g. subsistence, health).
HCV6. Forest areas critical to local communities' traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities)

services (carbon) and productive services (soil and livelihoods). This objective develops synergy particularly with the efforts on improving of protected areas within the Biodiversity Focal Area and the promotion of carbon stocks within the Climate Change – Mitigation Focal Area. It also responds to achieving resilience of forests to climate change resilience by maintaining vital forest functions and high levels of biodiversity, which at the same time ensures that GEF investments are sustainable in the long term.

Outcomes

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

a) Cross-sector collaboration and planning approaches to avoid loss of high conservation value forest are adopted at appropriate governance scales in public and private operations;
b) Sustainable finance mechanisms to avoid the loss of high conservation value forest are established.

30. *Programs*

i. ***Integrated land use planning***: To effectively address the drivers of deforestation and forest degradation, many developing countries need to review and revise their policies and laws pertaining to forests, agriculture, infrastructure development and mining. Knowledge about tools and methodologies for valuing natural capital and identifying appropriate policy and economic incentives are key supporting capacities. Supporting forest, agriculture and energy policy and related legal and regulatory frameworks reformulation and action plans for land use and land-use change driven by agriculture and bio-energy production can address the drivers of deforestation;

ii. ***Identification and monitoring of high conservation value forests***: The high conservation value forest concept is being used by a wide range of organizations as a competent way to identify and support the conservation of important forest areas. In particular its adoption by the private sector to identify critical areas in landscape level development plans as well as a means to identify and support the implementation of zero-deforestation commodity supply chains highlight the potential of this approach in addressing the drivers of deforestation. Supporting its adoption in active landscapes undergoing rapid development will help to identify and protect the most important forest resources and maintain critical ecosystem services;

iii. ***Identifying and monitoring forest loss***: Technological advances in the identification of forest loss have taken great steps in recent years. In addition the availability and cost of equipment and data have been greatly reduced offering governments new opportunities to understand the modalities of forest loss and the potential landscape impacts of these. However few countries have been able to take advantage of these advancements due to a lack of capacity. By supporting the development of technical and institutional capacities to identify and monitor forest loss countries will be able to make improved land-use

planning decisions, target specific drivers of deforestation and engage with forest carbon and REDD+ initiatives including mechanisms that allow for generation of revenues from forest carbon.

SFM-2: Enhanced Forest Management: Maintain flows of forest ecosystem services and improve resilience to climate change through sustainable forest management.

Rationale

31. Thirty percent of the world's forests, 1.2 billion hectares, are primarily used for production of wood and non-wood forest products. An additional 949 million hectares (24 percent) are designated for multiple-use – in most cases including the production of wood and non-wood forest products. There is now widespread recognition it is necessary for biological processes to be maintained on a substantial portion of the 88 percent of the world's forests outside of protected areas. The costs of enforcing strict protection on any more of the world's forests and potential curbs on livelihoods mean that forests must generate wealth and provide employment as well as deliver the full range of environmental services. The development and implementation of sustainable forest management across a range of scales and governance models which are based on sustainable practices[63] is a priority prerequisite for a future in which forests can continue to contribute through productive and conservation functions.

32. The challenge is for this to be done through mechanisms which make sustainable forest management competitive with unsustainable uses of forests and alternative uses of forest land. The contribution of forests to sustainable development and their potential to provide livelihood opportunities and assist in poverty reduction is not fully recognized. This is in part because the true value of these resources is unknown or as it is presently calculated not high enough to attract the attention of policy makers and private investors alike.

33. Globalization has changed private sector involvement in the forest sector over recent years. Forest products such as timber have been traded internationally for hundreds of years, and often led to forest degradation and loss. The globalization of a range of natural resource-based commodities that impact the forest sector means there is a much wider array of players now influencing forests. This also offers opportunities for the forest sector. The scale and reach of global corporations offers the potential to inject much needed capital and to modernize forest management and forest products businesses. Progressive companies are seeking sustainable

[63] Sustainably managed forest is identified in line with ITTO's assessment of the Status of Tropical Forest Management (ITTO, 2006). Forest areas that fulfill any of the following conditions:
• Have been independently certified or in which progress towards certification is being made;
• Have fully developed, long-term (ten years or more) forest management plans with firm information that these plans are being implemented effectively;
• Are considered as model forest units in their country and information is available on the quality of management;
• Are community-based forest management units with secure tenure for which the quality of management is known to be of high standard;
• Are protected areas with secure boundaries and a management plan that are generally considered in the country and by other observers to be well managed and that are not under significant threat from destructive agents.

forest supply chains as a means to differentiate from those operating without regard for environmental and social concerns.

34. Forest policies and land tenure legislation has been revised in some countries [64], enabling the participation of the private sector in forest management, including indigenous people, community groups and farmers. Joint forest management between government and local communities and management by forest-user groups is spreading. While modernization of forestry departments is taking place, many are still in need of radical change to their structure and functions. Following wider government reform forest departments' primary responsibilities are likely to shift from direct management of forests to policy development, regulatory and enabling functions as stewardship of forests is further devolved to the private sector and local communities. Forest law enforcement and governance efforts are providing a focus for renewed interest in transparent processes for strengthening forest governance and are providing opportunities for synergies between national approaches.

35. Traditional and community based forest management practices can provide management regimes in which environmental, social and economic benefits are realized. As well as providing livelihood opportunities for rural communities, locally managed forests have been shown to provide enhanced opportunities for the improvement and maintenance of carbon stocks and the conservation of biodiversity. Payment for ecosystem services systems interact with the full scope of financial, natural, social, human and built assets that underpin local livelihoods. PES can have important impacts on local and indigenous peoples' livelihoods and the maintenance of services such as carbon sequestration or water. However while PES schemes are frequently used, their design and implementation including how to address tenure, benefit sharing and local communities' capacity still require development to avoid unnecessary trades-off between efficiency, effectiveness, equity and social welfare.

36. This objective will support the implementation of sustainable forest management within all types of forest covering all seven themes of the UNFF's Forest Instrument in order to promote the continued provision of the widest possible range of forest derived benefits, products and services. This objective will support the implementation of sustainable forest management by public, private and local community organizations and address the barriers which prevent the uptake and spread of sustainable forest management in developing countries including technical, capacity and financial aspects. It promotes the mobilization of forest financing in particular through national forest programs and financing strategies taking into account the inter-linkages of forests with different issues including poverty eradication, food security, climate change adaptation, and rural development. This objective develops synergy with the mainstreaming of conservation and sustainable use of production landscapes in the Biodiversity Focal Area and also with the provision of sustainable flows of ecosystem services in forests and trees outside forests in rural production landscapes within the Land Degradation Focal Area.

[64] Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security, FAO 2013.

Outcomes

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

a) Good management practices are applied in all forests by relevant government, local community and private sector actors;
b) Sustained forest ecosystem services contribute to national economies;
c) Sustainable finance and delivery mechanisms are established and operational.

Programs

i. ***Developing and implementing model projects for Payment for Ecosystem Services:*** The extent of human dependence on forest ecosystem services and how best to protect these services in perpetuity is a key question in many forested countries. Payment for ecosystem services (PES) is acknowledged as one of the mechanisms that allow societies to pay for the maintenance of these services. PES schemes offer considerable potential to raise new funds for SFM activities including pro- biodiversity, climate change and land degradation efforts. or to use existing funding more efficiently, and that both the public and private sectors can play a role in establishing PES in different contexts. However for PES to effect change at scale there is a need to build capacity at the local and national level to properly design and implement PES schemes including activities such as modifying the policy and regulatory frameworks to make PES schemes viable, building human and institutional capacity, or setting up and implementing pilot PES schemes including initiation of public-private partnerships would allow for the inclusion of market forces into the development of PES schemes.

ii. ***Capacity development for SFM within local communities*****:** The increase in the area of forest managed by local communities and indigenous peoples provides opportunities for a range of livelihood, sustainable development and conservation benefits. However in many cases support for these initiatives to develop the capacity for community based forest management is limited and the realization of the potential benefits is unfulfilled. Additionally, inadequate and insecure tenure rights increase vulnerability, hunger and poverty, and can lead to conflict and environmental degradation when competing users fight for control of these resources, which often leads to conversion or degradation of forests. By providing technical support for SFM and forest-based community enterprises which builds on the conservation of traditional knowledge and management practices local communities will be empowered to develop a range of sustainable livelihoods based on responsible forest management which will also maintain forest resources and ecosystem services;

iii. ***Supporting sustainable finance mechanisms for SFM***: The contribution of forest resources to national development and their potential to assist in economic growth and sustainable development are often unrecognized. This is in part because the value of these resources and the services they provide is unknown or as it is presently calculated is not

high enough to attract the attention of policy makers and private investors alike. National assessments of the net benefits of SFM and the incorporation of forests within natural capital accounting initiatives are crucial for improving public and private decision making on forests and land use. These assessments would then be integrated into national policy and planning processes by identifying sustainable uses of forest resources and developing mechanisms for sustainable finance. This program provides a means for targeted implementation of *Biodiversity Strategy Program Ten: Integration of the Valuation of Biodiversity and Ecosystem Services into Development & Finance Planning* within forests.

Objective 3: Restored Forest Ecosystems: Reverse the loss of ecosystem services within degraded forest landscapes.

Rationale

38. Forest degradation can be characterized as a continuum of decline in the provision of ecosystem services resulting from increasing levels of unsustainable human impacts. Drivers of forest degradation include unsustainable and illegal logging, over-harvest of fuelwood and non-timber forest products (NTFPs), overgrazing, human-induced fires, and poor management of shifting cultivation. The underlying causes of these are generally poverty and population growth together with forest management capacity deficits within local users and authorities to manage forest resources sustainably.

39. Degradation can be but is not always a precursor to the ultimate total loss of forest and subsequent land use change, however degradation may also occur as a prolonged process as constituent elements of the forest are run down or even lost over many years or decades but remnant forest characteristics are left intact. The International Tropical Timber Organization estimates that 850 million hectares of tropical forest are degraded. The extent of degraded forest is therefore considerable and the potential exists to prevent complete forest loss and maintain important ecosystem services. The Global Partnership on Forest Landscape Restoration suggests that more than one billion hectares of deforested and degraded forest land worldwide are suitable and available for restoration. There exist encouraging examples on how degraded forest landscapes can be brought back to live and made functional again, especially by assisted natural regeneration (e.g. farmer assisted regeneration in the Sahel zone, 'mountain closures' in the Chinese Loess Plateau).

40. The restoration of forest lands offers the potential when well designed and implemented to support the maintenance and restoration of forest ecosystem services and the development of sustainable product flows as well as creating livelihood opportunities for local communities. Forest landscape restoration also offers the opportunity through which greater private sector involvement, across a range of scales and tenure arrangements, can be fostered in sustainable forest management.

41. This objective will support the arresting of further loss of environmental services from forest landscapes that are currently undergoing depletion of function and degradation, as well as

restoring environmental function to landscapes that have already been degraded. In particular this objective will focus on the restoration of landscapes including forests, forest remnants, and trees outside forests to restore a wide range of ecosystem services while at the same time ensuring the support of local livelihood opportunities, enhance climate change resilience and support green growth. This objective links with LULUCF activities Climate Change-Mitigation Focal Area and with the Land Degradation Focal Area's activities on maintaining forest ecosystems services in production systems and the reduction of pressures on natural resources from competing land uses.

Outcomes

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

a) Integrated landscape restoration plans to maintain forest ecosystem services prepared;
b) Forest restoration techniques are applied at appropriate scales by government, private sector and local community actors.

Programs

i. ***Building of technical and institutional capacities to identify degraded forest landscapes and monitor forest restoration***: Despite experience of forest restoration, the implementation of restoration at scale is hampered by a lack of capacity. In particular there is a need for improved landscape level planning processes to ensure the rehabilitation of ecosystem services and improvement of livelihood opportunities. Additionally support for innovative finance mechanisms for restoration including PES and testing of public-private approaches that allow for generation of revenues from options such as forest carbon will result in forest landscape restoration at scale;

ii. **Integrating plantation management in landscape restoration:** Large scale landscape restoration remains an elusive goal, which requires the combination of mixed land uses in order to finance extensive restoration operations. The opportunity exists to capture potential synergy between the development of sustainable plantations, local community livelihood opportunities and the restoration of forest ecosystem services. By supporting the development of integrated natural resource management including agroforestry techniques, especially for small scale land users a mix of conservation, commercial and community focused restoration can be achieved.

Objective 4: Increased Regional and Global Cooperation: Enhanced regional and global coordination on efforts to maintain forest resources, enhance forest management and restore forest ecosystems through the transfer of international experience and know-how.

Rationale

43. The increasing relevance and importance of South-South Cooperation for capacity building and knowledge transfer has been stressed in major international events including UN General Assembly sessions and resolutions. In the context of capacity building, the considerable experiences and successes that many developing countries have achieved in sustainable forest management and REDD+ can provide valuable impetus, ideas and means for other countries in the South to address similar concerns and challenges. South-South Cooperation can also increase the flow of information, resources, expertise and knowledge among developing countries in a cost-effective way

44. The work of the UNFF Facilitative Process has clearly identified the importance of regional collaboration and cooperation on forest finance and other issues among LFCCs and SIDS. The UNFF has also called for strengthened coordination and cooperation to build on existing regional and international mechanisms to implement sustainable forest management such as national forest programs, criteria and indicators for SFM, and other monitoring methodologies and assessment tools and means for capacity building and the transfer of environmentally sound technologies for forests. The Collaborative Partnership on Forest (of which the GEF is a partner) has also been invited to support cooperation on forest law enforcement and governance.

45. As has been identified above, the issues facing forests can rarely be addressed in isolation. Many issues are of a transboundary and regional nature that cannot be addressed by national project alone. Transboundary and regional cooperation addressing thematic gaps and geographic issues can help support national efforts at maintenance, responsible use, and restoration of forests as well as improve linkages with FCPF, UN-REDD and wider REDD+ readiness processes. Furthermore, the support of regional and global cooperation will help to tackle pressing forest issues such as policy integration and dissemination of lessons learned, the application of key technologies in monitoring, regional watershed management issues, and global wildlife trade.

Outcomes

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

a. Tools and technologies for improved monitoring of sustainable forest management available;
b. Collaboration between countries on sustainable forest management;

Programs

47. Programs addressing this strategic objective may for example focus on:

i. ***Private sector engagement***: There is increasing recognition that the private sector, and public-private partnerships, have an important role to play in achieving sustainable forest

management and land-use. It is important to consider both (i) the role of the private sector in financing a transition to sustainable forest management, and (ii) the role of the private sector as a key stakeholder and as a driver of deforestation, notably in agriculture, mining, and other key sectors. However, few national REDD+ strategies or National Forest Programs explicitly address the engagement of the private sector. Private sector engagement can benefit from regional approaches, as key private sector actors are often active across several neighboring countries, and regional approaches can reduce the costs of engagement, as well as provide inspiration between countries for best practices to engage the private sector.

ii. ***Global technologies for national progress***: In recent years, technological progress has supported countries in achieving their global environmental benefits. For example, cost-effective technologies for community-based natural resource monitoring has benefitted from the development of key technologies at global level, which has then been tested and improved at national level. Likewise, the recent progress in tracking illegal timber through the use of genetic fingerprinting has been developed for global use, and is now being verified and tested in GEF eligible countries. GEF-6would continue to invest in the development of key technologies to enable the achievement of Objectives 1-3 of the SFM strategy, preferably linked with national-level testing and further development of such technologies.

Options for Operating the GEF-6 SFM Funding Envelope

48. The GEF-6 SFM Program proposes to build on the successes of the GEF-5 SFM/REDD+ Incentive Mechanism by further developing and refining the incentive with a view at continuity in the approach and without making it more complicated. The GEF-6 SFM Program is based on a dedicated SFM funding envelope operated as an incentive mechanism to encourage countries to invest portions of their allocations from biodiversity, climate change and land degradation in fully integrated multi-focal area SFM projects and programs. The respective focal area contributions will address specific focal area objectives in forests while the incentive will address specific SFM objectives. Synergy is created especially in landscape scale projects where the incentive will make sure that the project has a clear forestry focus by applying the SFM impact indicators to the entire project.

49. In addition to the incentive mechanism as described above and in order to address the collaborative and cooperation issues identified through GEF-5it is proposed to decouple a portion of the program envelop from countries' STAR allocations to provide for targeted investments to increase regional and global cooperation on major issues such as the participation of indigenous peoples, civil society organizations, and the private sector in SFM through networking, South-South cooperation, and sharing of international experience and know-how.

Annex 1. SFM FA Results Based Management Framework

Goal: To achieve multiple environmental, social and economic benefits from improved management of all types of forests and trees outside of forests.

Impacts: Maintaining forest resources and strengthening the sustainable management and restoration of forest landscapes in ways that improve rural livelihoods to achieve environmental benefits.

Indicators:

- Reduction in forest loss and forest degradation (% reduction);
- Maintenance of the range of environmental services and products derived from forests (number of services and products maintained);
- Enhanced sustainable livelihoods for local communities and forest-dependent people (% increase in income).

Objectives	**Expected Outcomes and Indicators**	**Core Outputs**
SFM-1: Maintained Forest Resources: Reduce the pressures on high conservation value forests by addressing the drivers of deforestation.	Outcome 1.1: Cross-sector collaboration and planning approaches to avoid loss of high conservation value forest are adopted at appropriate governance scales in public and private operations. *Indicator 1.1: REDD+ initiatives are implemented.* Outcome 1.2: Sustainable finance mechanisms to avoid the loss of high conservation value forest are established. *Indicator 1.2: Incentive mechanisms to avoid the loss of high conservation value forests are implemented.*	Innovative mechanisms and approaches (number) that avoid deforestation. Area (ha) of high conservation value forest identified and monitored. Maintenance of forest carbon stock (tCO2e). Payment schemes supporting REDD+ (number) established.
SFM-2: Enhanced Forest Management: Maintain flows of forest ecosystem services and improve resilience to climate change through sustainable forest management.	Outcome 2.1: Good management practices are applied in all forests by relevant government, local community and private sector actors. *Indicator 2.1: Increase in the area of sustainably managed forest.* Outcome 2.2: Sustained forest ecosystem services contribute to national economies. *Indicator 2.2: The range of ecosystem services valued and accounted for within forest landscapes.* Outcome 2.3: Enhanced forest-based livelihoods for communities and smallholders.	Forest area (hectares) sustainably managed. Area of forest managed under government recognized community forest management. Products and services (number) derived from sustainable sources. Payment for ecosystem services systems (number) established. Increase in forest carbon stock (tCO2e).

	Indicator 2.3: Increased income from forest-based activities.	
SFM-3: Restored Forest Ecosystems: Reverse the loss of ecosystem services within degraded forest landscapes.	Outcome 3.1: Integrated landscape restoration plans to maintain forest ecosystem services prepared. *Indicator 3.1: Plans and programs support integration of forest, agriculture and other land uses in restored landscapes.* Outcome 3.2: Forest restoration techniques are applied at appropriate scales by government, private sector and local community actors. *Indicator 3.2: Extent of forest resources restored in the landscape.*	Area (ha) of degraded forest restored. Forest landscape restoration tools and methodologies (number) developed and tested. Increase in forest carbon stock (tCO2e). Payment for ecosystem services systems (number) established.
SFM-4: Increased Regional and Global Cooperation: Enhanced regional and global coordination on efforts to maintain forest resources, enhance forest management and restore forest ecosystems through the transfer of international experience and know-how.	Outcome 4.1: Tools and technologies for improved monitoring of sustainable forest management are available. *Indicator 4.1: Increased capacity to monitor including shared databases and tools.* Outcome 4.2: Collaboration between countries on sustainable forest management. *Indicator 4.2: Development of networks to promote regional and global cooperation.*	Monitoring methodologies developed (number). Use of shared tools by countries (number). Increase in use of regional and global networks Increase in South-South collaborations (number).

AN INTEGRATED APPROACH TO THE GLOBAL ENVIRONMENTAL COMMONS IN SUPPORT OF SUSTAINABLE DEVELOPMENT

BACKGROUND

1. The UN Conference on Sustainable Development (UNCSD, or Rio+20) agreed that a new framework for sustainable development was urgently needed in order to achieve concrete action at multiple scales and across sectors. The consensus emerging from the Rio+20 outcomes document – *The Future We Want* – and from subsequent UN-led follow-up processes reveals that incremental gains and business as usual will not bring about needed transformative change, particularly when dealing with the global environmental commons. Furthermore, despite significant progress in some areas, several prominent studies presented at the *Planet Under Pressure* conference in 2012, also associated with Rio+20, concluded that because the global environmental challenges are tightly interdependent, they require more systemic responses to solve them. Sector by sector or issue by issue approaches alone will not change the status quo or reverse some of the most worrisome trends for the global environment.

2. The key environmental conventions that address the global environmental commons – United Nations Convention on Climate Change (UNFCCC); Convention on Biological Diversity (CBD) and the biodiversity-related conventions; United Nations Convention to Combat Desertification (UNCCD); the new mercury convention, and the non-binding United Nations Forum on Forests (UNFF) – have not only recognized the slow progress towards achieving their goals, but themselves highlighted the inter-linkages that exist between their respective objectives. These conventions, many of which the GEF serves as a financial mechanism, recommended actions to promote complementarity and synergy in seeking multiple environmental benefits, while avoiding trade-offs between competing objectives or negative impacts arising from the lack of proper safeguards.

3. The Framework for Action included in the Rio+20 outcomes document reiterated the original themes and the associated conventions established in the 1992 Earth Summit. But it also went further in identifying the remaining gaps that need to be addressed in order to build a truly transformative framework for sustainable development. An underlying principle that defines most of these gaps is the multi-disciplinary nature of both the threats to the global environmental commons and the solutions to them. The GEF operates across most of the priority themes and gaps identified in the UNCSD outcomes document, offering tremendous opportunities for GEF to become relevant to the post-2015 process while building on its existing comparative advantages (see figure 1 below).

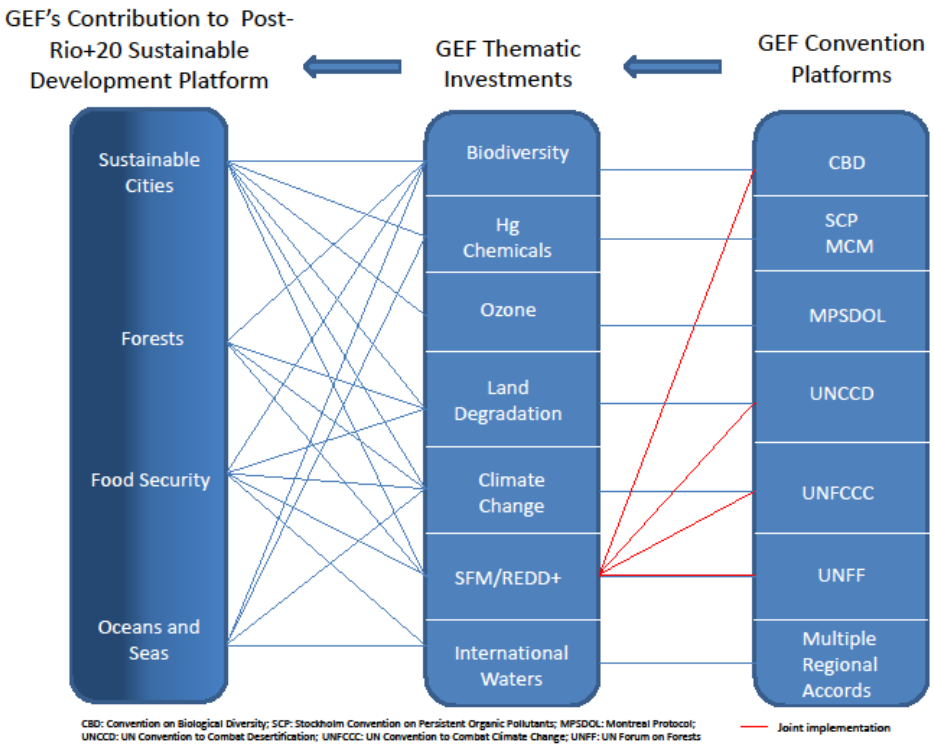


Figure 1. Schematic depiction of GEF's work in support of individual conventions evolving to allow for the implementation of multiple convention objectives (e.g., through the pilot with SFM/REDD+), and potential for addressing many of the thematic priorities of the post-Rio+20 sustainable development platform during the GEF-6 cycle.

4. A major strength of the Global Environment Facility (GEF) as a financial mechanism is its ability to support activities in recipient countries that, within the context of their sustainable development needs, can help them meet commitments to more than one global convention or thematic area, especially when dealing with the plight of the global environmental commons. Though GEF strategies are articulated by focal area, and draw closely on Convention guidance, project design and implementation approaches can increasingly build on the existing inter-linkages and connections across the different focal areas, reflecting the multiple needs of recipient countries on the sustainable development front. In summary, the GEF is arguably unique among multilateral funding mechanisms in being able to integrate various inter-linked and reinforcing objectives to promote cost-efficiency and higher impact of scarce resources directed at initiative with potential for transformational change. This, however, will require new ways for the GEF to conduct its business, including how it prioritizes and allocates financial resources.

5. The GEF Scientific and Technical Advisory Panel (STAP) has recently recommended the scaling-up of projects and programs that can reinforce processes already underway designed to overcome GEF focal area silos and to build on the respective inter-linkages that underpin focused action in the sustainable development arena. STAP goes further in recommending that while projects and programs within single or multiple focal areas must remain the foundation of GEF operations, the overall delivery should also start seeking broader outcomes. According to

the STAP, a move towards an integrated approach to the environmental commons is bound to strengthen the relevance and effectiveness of the GEF in delivering support to the global sustainable development agenda. The GEF is uniquely positioned to leverage the existing inter-linkages between multiple thematic areas vital for the global commons, while making them more relevant to sustainable development.

6. STAP suggested that a strategy to achieve this goal could include the following: (a) improved focal area synergies leading to GEF projects with greater and sustained impact; (b) improved targeting of issues at the environment/development nexus to enhance broader developmental co-benefits; (c) maximize value from engagement, leading to enhanced financial efficiency (achieving more with less); (d) better communication of GEF impacts to the rest of the world, leading to a better appreciation of GEF contributions; (e) seek new forms and opportunities for private sector engagement for greater financial leverage and to enhance GEF's catalytic role; (f) promote innovation to enhance impact and scale-up outcomes; and (g) improve evidence-based design and implementation to enhance learning and effectiveness of interventions.

RATIONALE FOR THE GEF SIGNATURE PROGRAMS

7. In this document we propose a series of signature programs that could be initiated on a pilot basis as part of the GEF-6 replenishment package, so as to begin delivering on integrated approaches that address significant but discrete challenges facing the global environmental commons. In addition to aiming at delivering focused impact, the initial signature programs included in this document are predicated on a combination of the following features: (a) their ability to deliver on global environmental benefits beyond a single focal area of the GEF – meaning building on existing linkages; (b) the time-bound nature of the concrete impact they seek to deliver; (c) their relevance for the evolving agenda post-2015; and (d) they require a new way for the GEF to do its business and make financing available at multiple levels (local, regional and global), including with flexibility to engage upfront with key partners and bring them on board. Finally, the proposed programs in no way substitute for the suite of initiatives contained in the individual focal area strategies. Rather, they complement them by bringing certain pressing issues under sharper financial programming focus. The signature programs will make use of the rationale that is rapidly being expanded in the programming of resources throughout GEF-5, particularly to promote the sustained flow of multiple global environmental benefits while ensuring that progress in a particular dimension of the global commons does not negatively affect other related objectives. Furthermore, they will seek to increase the cost effectiveness of GEF investments and ensure that global environmental benefits are resilient to climate change and other forces.

8. GEF investments with integrated approaches to resource programming for higher impact are already addressing this need through the experience that has been building solidly over the past few years. During GEF-5, for example, the integrated approach to resource programming was reinforced by expanding GEF's role as a significant global funder of forest-related activities that deliver multiple global environmental benefits from the management of all types of forests and enhance resilience to a changing climate, together with the strengthening of sustainable

livelihoods across the biodiversity, climate change and land degradation focal areas. By providing the links between the relevant focal areas, the Sustainable Forest Management/Reducing Emissions from Deforestation and Forest Degradation (SFM/REDD+) incentive mechanism has supported the development of an integrated approach to forests within the GEF by offering a platform to maximize the opportunities for synergy between approaches and actors.

9. In summary, in addition to the individual strategies developed to orient and prioritize GEF-6 investments in biodiversity, chemicals and mercury, climate change mitigation, international waters, land degradation and sustainable forest management, GEF is proposing to develop the appropriate incentives that can trigger the implementation of integrated signature programs under the thematic interfaces listed above. This combination of signature programs is, in no way, comprehensive to the extent of GEF's full potential to deliver discrete programs using this new approach. Furthermore, not all of these integrated approaches would necessarily be implemented during the GEF-6 cycle. But over time, this model can start to be mainstreamed into the GEF portfolio and into the GEF2020 strategy on the basis of lessons learned from this pilot initiative.

10. The proposed signature programs are listed below, organized under overarching themes included in the Rio+20 Framework of Action:

i. Forests
- *Taking Deforestation out of the Commodities Supply Chain*
- *A New Development Path for the Amazon Basin*

ii. Food Security
- *Fostering Sustainability and Resilience of Production Systems in Africa*

iii. Oceans and Seas
- *Rebuilding Global Fisheries*

iv. Sustainable Cities
- *Harnessing Local Action for Global Commons*

OVERARCHING THEMES AND PROPOSED SIGNATURE PROGRAMS

Forests

Taking Deforestation out of the Commodities Supply Chain

11. Global consumption of agricultural food and fiber commodities has been recognized as an important driver of deforestation. In addition to species and habitat loss associated with conversion of native forests to annual crops, pastures, and tree plantations, deforestation for production of beef, soy, oil palm, and pulp and paper is responsible for 49% of deforestation

annually of primary tropical forests. As such, deforestation for these crops generates about half as many greenhouse gas emissions as all transportation globally each year.

12. Demand for soybeans for animal-feed and cooking oil, oil palm for cooking oil and biofuels, beef for the domestic and international markets, and pulp and paper is at historical highs and will continue to grow as incomes and consumption increase globally. In 2010-11, the GDP of more than 100 countries grew by 5% or more per capita (these countries include some 60% of global population). Increased consumption of animal protein, especially beef, is a major driver of regional deforestation and global climate change, and warrants greater policy attention.

13. This program objective is to take deforestation out of the supply chains of these critical commodities by supporting action with three different sets of actors committed to this overall goal: financial institutions (global, regional, and national); buyers (e.g. any or all of the following—traders, processors, brands and retailers); and producers. Activities are geared to produce results on the ground by sending clear market signals to reward primary producers who improve their performance and eliminate deforestation. The program will also support those institutions that foster change on the ground with producers of the targeted commodities.

14. The GEF could support the development and implementation of an enabling environment to enhance the adoption of more biodiversity-friendly incentives throughout value chains. The enabling environment includes sufficient policies, laws and regulations as well as national and international multi-stakeholder dialogue groups (roundtables) to foster changes in the value chain. The GEF-funded Biodiversity and Agricultural Commodities Program has engaged the private sector through commodity round tables such as the Roundtable for Sustainable Palm Oil (RSPO) and the Roundtable on Responsible Soy (RTRS). The proposed program will help strengthen the ability of producers to be certified against these standards thereby ensuring certified production, reduced deforestation and the legality of products that enter local and global markets. It will also support efforts that drive demand toward these standards to ensure that biodiversity-friendly, certified product moves from niche to norm.

15. Finally, the GEF could support efforts to identify and map areas where production can be encouraged on rehabilitated lands that will be financially viable and take pressure off forests and high-conservation value habitat. These biodiversity-friendly practices can come from the Biodiversity-, Sustainable Forest Management- and Sustainable Land Management-tool-boxes, making this an ideal place for synergies across the GEF. Finally, success in reversing commodity-driven deforestation trends will have direct benefits in reducing GHG emissions from deforestation and forest degradation, and reduce pressure over land under cultivation by small farmers and landholders, contributing to the GEF land degradation strategy.

16. This overall initiative is also included as a pillar or program of the GEF-6 Biodiversity Strategy.

A New Development Path for the Amazon Basin

17. While forests are important for almost every country, the return on investment arising from the multiple benefits they provide is potentially much greater on certain geographies and over predefined spans of time, particularly in the tropics. Tropical deforestation is responsible for some 15 percent of global CO^2 emissions, while at the same time the fate of tropical forests is also intimately tied to the future of biodiversity, as these forests harbor over one half of all global biodiversity. Preventing tropical deforestation is also foundational to poverty reduction strategies, as these forest ecosystems ensure the long-term provision of environmental services that are vital to national economies and local communities.

18. Three regions of large and relatively intact tropical forest have been repeatedly highlighted in global priority blueprints for biodiversity and avoided deforestation objectives. These three regions are the Amazon Basin, the Congo Basin and New Guinea. Each of these regions has over 8 million hectares of wet broadleaf forest and is over 70% intact. Together, the17 countries in these regions are responsible for a remarkable fraction of global environmental benefits, harboring 54% of tropical forest cover and 68% of terrestrial tropical forest carbon.

19. Of these, the Amazon basin, the largest expanse of tropical forest in the world, is in the process of undergoing the most dynamic change. It spans nine countries: Bolivia, Brazil, Colombia, Ecuador, France (French Guiana), Guyana, Peru, Suriname and Venezuela. Recent simulations indicate that not only is the Amazon basin crucial for maintaining climatic and ecosystem stability locally, regionally and globally, but it is getting dangerously close to a human-induced tipping point scenario called the 'dieback'. Climate change coupled with deforestation that is bound to gain momentum with rapidly developing road infrastructure, agriculture and illegal logging, may push this vital system for the planet beyond the point of no-return.

20. It is thus only a matter of time before economic pressure starts reversing the gains of recent years in reducing deforestation rates. There is also significant political awareness and commitment by various governments that share the Amazon basin to come together to discuss development options across the region, as infrastructure development is no longer following a national agenda solely. The same has been recognized regarding the health and functioning of the Amazon basin ecosystem which transverses the political boundaries of nine countries.

21. Fortunately, there already exists a robust and extensive 'ecological infrastructure' composed of protected areas, indigenous reserves, extractive reserves, national forests and other regulated categories of land use. These interventions relied mostly on command-and-control measures and have been effective in reducing the rates of illegal deforestation. At the same time, mounting pressure is requiring that a more comprehensive sustainable development model is articulated and piloted across the region. This model must now make this prior investment – in no small part due investments by the GEF and its partners – more directly relevant to the social and economic context of the region, in addition to more resilient to climate change and the dynamic emerging by the expanding development frontier.

22. Complementing GEF's prior investments in the expansion of the region's protected areas system, this landscape-scale initiative will seek to move beyond command-and-control approaches to also consider the development options available for the region, and that are more reliant on a strong forest-related sector that can reduce poverty and stabilize the agriculture frontier. Furthermore, it will build on the increasing trend of regional integration to identify a set of policy options that can be introduced beyond the national scale. The private sector will also have to start playing a key role as a positive force for the sustainable development of the region as a whole.

23. GEF's participation would initially be directed towards the creation of platforms for the different stakeholders to bring their views and proposals forward. Beyond participating governments, this would include other funding agencies – national, regional and international – the private sector (particularly agriculture, forestry and infrastructure development), regional bodies (e.g., the Amazon Cooperation Treaty Organization), in addition to civil society and indigenous people's organizations. Consensus emerging from these processes would feed into more comprehensive funding packages that include the GEF and other financial partners. A program of this scope and magnitude can generate benefits across a wide spectrum of GEF focal areas, including biodiversity, climate change mitigation and adaptation, land degradation and international waters.

Food Security

Fostering Sustainability and Resilience of Production Systems in Africa

24. Land and soil degradation, together with widespread desertification ultimately threaten the livelihood and food security of people globally. As a result of land degradation, new areas are continuously opened up for agriculture use, so as to maintain overall agricultural output, with direct implications for the health of planet's other global environmental commons, including freshwater, biodiversity and climate.[65] Agriculture expansion into forested land and other natural habitats negatively affects biodiversity, and increases vulnerability of people and the environment to impacts of climate change. Certain regions stand out as being particularly vulnerable and may already be approaching regional tipping points for the environmental commons[66].

25. Sub-Saharan Africa remains the primary target for global development aid toward tackling food insecurity. In addition to the common predicament of crop failures due to climate variability (droughts and floods), millions of smallholder farmers in this region cannot afford the cost of necessary inputs required to sustain production levels of staple crops beyond mere subsistence. For them, the only option is to harness the ecosystem services provided by nature, such as organic matter for increasing crop productivity, microbial communities for nutrient

[65] Godfray, H.C.J, et al. 2010. Food Security: The Challenge of Feeding 9 Billion People. *Science 327:812-818.*
[66] http://www.stockholmresilience.org/21/research/research-news/7-2-2012-addressing-some-key-misconceptions.html

cycling in soils, and vegetative cover to reduce soil erosion and loss. However, the trends are not going in the right direction in relation to keeping these vital ecosystem services flowing.

26. A second wave of the green revolution is starting to be mainstreamed in Sub-Saharan Africa. This includes some major efforts to increase access by poor farmers to inorganic fertilizers, improved crop varieties, and opening up of markets as a means of intensifying and increasing food production. Among the key players are the Alliance for a Green Revolution in Africa (joint program of the Rockefeller Foundation and the Bill and Melinda Gates Foundation), the Global Agriculture and Food Security initiative (US Agency for International Development), and the revamped Fund of the Consultative Group for International Agricultural Research (CGIAR) consortium of 15 centers around the world. However laudable, most of these efforts do not take into full account land degradation and desertification in vulnerable drylands from an integrated perspective - one that includes other systemic agro-ecosystem components such as water, nutrient deposition, biodiversity and climate change mitigation and adaptation.

27. The GEF is very well placed to engage with these powerful partners and leverage this suite of emerging initiatives by targeting options that enhance long-term sustainability and resilience of the production systems, especially in the most vulnerable areas: Sahel, Horn of Africa and the East African Highlands. Elsewhere in the world, this initiative could eventually expand to include the Indo-Gangetic Plains and Central Asia which face similar regional challenges and are also important priorities.

28. The GEF approach with this program will be different from business-as-usual because the priorities will be defined by their potential for transformational impact and guided by an integrated and more systemic framework, in contrast to pursuing solely a set of individual focal area objectives. Earlier attempts at transformational impact made through GEF's programmatic approaches have demonstrated that without such an integrated framework, the operationalization of programs in terms of transaction costs, integration of goals and objectives, together with the time requirements for strategy formulation is ineffective and does not make use of the full potential for transformational impact.

29. GEF's envisaged transformational and sustained impact on food security contribution will be the scaling-up of sustainable land management options for crop and rangeland productivity. GEF financing will help to enhance policies, practices, and incentives for improving crop and livestock production with environmental benefits through the application of innovative tools and practices for improving soil health, water resource management, and vegetative cover in production landscape. This will contribute to sustainability of ecosystem services in crop lands, rangelands, pastures, and pastoral systems to benefit land users most vulnerable to land degradation. GEF's entry points will be done in accordance with its mandate to invest in global environmental benefits (GEB) in production systems, through the following three programs, which will have to be worked out further with the potential partners mentioned above:

i. *Sustainable intensification of agricultural crop production* to improve food security through higher levels of production in agro-ecosystems. This requires innovations in land use and agricultural management that deliver improved crop productivity, while

contributing to a) biodiversity conservation by reducing the conversion of natural ecosystems and safeguarding agro-biodiversity; b) reduction of pollution risks and degradation of water resources to ensure sustainable flow for consumptive uses; c) climate change mitigation by reducing deforestation and emission of greenhouse gasses in production systems; and d) climate change adaptation by increasing sustainability and resilience of agro-ecosystem services.

ii. *Promoting innovative approaches to sustainable livestock management* to sustain the flow of ecosystem services in agro-pastoral landscapes. In the context of mainstream agricultural, livestock and fisheries development programs, GEF financing can lead to more resilient, productive and sustainable systems that also contribute to reducing the emission or increasing the sequestration of greenhouse gases. With the livestock sector as the largest user of land resources through grazing lands and croplands used for feed production, expansion of agro-pastoral systems is a major cause of overgrazing, land degradation and deforestation in the developing world. Sustainable intensification in the livestock sector will include measures that a) focus on animal productivity, b) manure management and c) grassland management practices so as to reduce emissions and reduce overgrazing, land degradation and deforestation.

iii. *Increasing adaptation to climate change* for food security. GEF financing will support mainstreaming of adaptation into investment planning, policy improvements, early warning systems, improved weather forecasting, drought- and flood-resistant crops and risk insurance, as well as capacity development and knowledge management activities for implementing best practices and coping strategies against climate change risks at multiple scales.

Oceans and Seas

Rebuilding Global Fisheries

30. Marine and coastal ecosystems are estimated to provide 63% of global ecosystems services, with a global market value of $3 trillion per year. More than 40% of the world oceans are however threatened by overfishing, pollution, physical alteration and destruction of habitats, and climate change, with direct and serious implications for the well-being of populations dependent upon these resources. The ocean also plays a critical role in our climate system, which and is significantly impacted by climate change and ocean acidification. The ocean is increasingly vulnerable. The United Nations Environment Programme (UNEP) in an interagency paper on "blue economy in the green world" in preparations for Rio+20 has estimated that: 60% of the world's major marine ecosystems that underpin livelihoods have been degraded or are being used unsustainably.

31. A common driver behind the accelerating degradation of the marine environment is the inability of markets to sustainably develop and manage open-access resources such as those found in the ocean. A recent (2012) study from the Stockholm Environment Institute stated that

"…the ocean is the victim of a massive market failure. The true worth of its ecosystems, services, and functions is persistently ignored by policy makers and largely excluded from wider economic and development strategies…"

32. The challenges and consequences of inaction were reiterated by the world leaders at the recent UN Conference on Sustainable Development (Rio+20)[67] recognizing that "oceans, seas and coastal areas form an integrated and essential component of the Earth's ecosystem and are critical to sustaining it."

33. The Food and Agriculture Organization of the United Nations (FAO) estimated that 19% of all marine fish stocks have been overexploited, 8% depleted, and only 1% is recovering from past overexploitation. About half of all marine fish stocks are at or near the limit where they produce maximum sustainable yields – meaning that their potential has now been fully realized - while only 20% are currently moderately exploited or underexploited (FAO, 2009).

34. To help maintain fish stocks at productive levels, and to reverse further fisheries depletion, gaps and weaknesses in the regional and national institutions responsible for managing the world's fisheries must be addressed. In particular, additional monitoring and enforcement efforts are needed to reduce illegal, unregulated and unreported fishing (IUU). Rights-based approaches to fisheries management have been shown to be effective in aligning incentives with sustainable fishing practices in a range of cases where they have been properly designed and applied, and the current strategy will seek to expand their applicability.

35. Through this integrated approach to fisheries, GEF is proposing to help catalyze a global transformation of the fisheries sector by introducing sustainable fishing practices into 20% to 40% of the globally depleted fisheries (by volume) through applying ecosystem-based frameworks, improved monitoring and enforcement, together with the replication of rights-based approaches, sustainable mariculture, and expansion of marine protected areas (MPAs). Support would also be directed towards the strengthening of Regional Fisheries Bodies (RFB) including Regional Fisheries Management Organizations (RFMOs) and LME commissions that are entrusted with the responsibility for management of transboundary fish stocks, including enhancing regional and national capacities to monitor and enforce fisheries regulations and eliminate destructive fishing practices. GEF will continue pursuing partnerships with national governments and with private sector to further promote innovative, market-based approaches fostering good fishing practices.

36. In order to increase the economic, social and nutritional benefits from their fisheries GEF will support enhancement the capacity of developing countries and SIDS to make optimal use of their fishery resources through enhanced fisheries management (e.g., adjusting fishing capacity and practices in a manner to avoid or eliminate overfishing, ceasing harmful harvesting methods, restoring depleted fish stocks). GEF would invest in policy, legal, institutional reforms and multi-agency strategic partnerships that contribute to WSSD targets for recovering and

[67] http://www.uncsd2012.org/thefuturewewant.html

sustaining fish stocks, including regional and national-level reforms in legal frameworks and governance, access rights, and enforcement in LMEs and ABNJ.

37. In addition to its clear economic development connections, this initiative is bound to generate significant benefits for the health of coastal fisheries and associated biodiversity, in addition to reducing climate change stressors over vulnerable ecosystems.

38. This signature program is also included as a pillar of the International Waters strategy, while also delivering biodiversity and climate change adaptation benefits.

Sustainable Cities

Harnessing Local Action for Global Commons

39. Cities have a strong role in facilitating equitable access to and sustainable use of the global commons, including access to water, air, biodiversity, as well as shared assets such as knowledge and public infrastructure, since key decisions to manage such commons and shared assets take place increasingly at the city level. Cities are particularly suited as a focus of intervention in addressing energy security, water security, food security, public health and the environment, and to build resilience.

40. Cities face unique challenges and opportunities in addressing global environmental concerns. Cities represent the multidisciplinary problem which the entire globe is facing but in a most acute way. Their challenges are only increasing, with the growing concentration of people, emission sources, and impacts on terrestrial and marine ecosystems.

41. While urban areas occupy less than 5% of the world's landmass, they are inhabited by more than 50% of the global population. Almost all of the global population growth in the next two decades is expected to be in cities in the developing world. The share of the urban population is also expected to grow. Cities currently consume over two-thirds of the energy, and are responsible for over 70 percent of CO2 emissions globally (C40 Cities, 2012).

42. Cities also put a significant strain on the rural and urban ecosystems, from the physical expansion of urban areas, as well as a result of production and consumption to meet the needs of the urban population (i.e., food production, energy provision, water usage, construction, manufacturing of goods and provision of services, etc.). Higher concentrations of the urban population may generate chemical management risks and challenges, such as waste management, fuel storage, handling and disposal of chlorinated solvents, pesticide application for public health and vector control, and urban run-off. Preferred locations for cities have been coastal areas and river deltas, with 14 of the world's 19 largest cities located in port areas. Such areas may face more significant impacts of environmental degradation, highlighting in particular the need for climate adaptation to enhance resilience.

43. There is also inadequate coordination among institutions that address issues with impacts on the urban environment and development.

44. The role of cities, among different levels of government, as implementers of a sustainable development agenda has long been recognized in documents such as Agenda 21 and multiple internationally agreed commitments. Most of these commitments lack specific targets and delivery dates. However, some commitments and agreements are emerging in areas of direct relevance for the GEF. In particular, the Rio +20 process confirmed the importance of the subject of "sustainable cities and human settlements." In a recent survey, member states of the United Nations identified this topic as one of the top 15 priorities to be addressed in the discussion on the Sustainable Development Goals (United Nations 2012). Parties to the Convention on Biological Diversity have agreed on the Plan of Action on Subnational Governments, Cities, and Other Local Authorities for Biodiversity (2011-2020). A number of cities have initiated Local Biodiversity Strategic Action Plans (LBSAPS) in partnership with national governments.

45. Against this background, the GEF will introduce a signature program in GEF-6 to catalyze sustainable management and development of cities. This initiative recognizes that cities are the key focus for sustainable development in many countries, and facilitates local efforts towards safer, cleaner, and more resilient cities with positive impacts on the global commons. A number of institutions are working on cities, with a wide range of ongoing efforts. The GEF will seek partnership opportunities with such organizations active in the area of sustainable urban management, including ICLEI, C40, and others, to learn from and build on their experiences and further promote innovative approaches to address the commons challenges in the urban context. The GEF may offer new insights to complement the ongoing efforts, by building on its focal area experiences and by exploring innovative options for financing. Partnership opportunities among the national and local government institutions will also be sought. In particular, the GEF may forge a partnership with a select number of cities whose leadership has expressed interest in working with the GEF.

46. This flagship initiative is proposed, based on two observations that increasingly point to the benefit of GEF's engagement at the urban level. First, by focusing on the multidisciplinary nature of urban problems faced by the cities, the GEF can offer a more effective solution package to urban leaders based on GEF's various focal area expertise. The second observation is the need for speed. There growing recognition that leadership at the municipal level tends to be quicker in decision making. Local constituencies tend to put more immediate feedback and pressure to city leaders. Such pressure elicits quicker action, and quicker action has generated growing interest among city leaders to explore new partners, such as the GEF. Addressing multidisciplinary issues at the local level may also be beneficial due the comparative ease of coordination needed among urban level institutions, compared to national level coordination with multiple ministries and levels of governance.

47. Under this signature program, the GEF will consider working in partners to promote smarter and more resilient retrofitting of existing urban systems (such as buildings, transport systems, and water and energy grids, chemical and waste management), and promote policy and strategy measures to facilitate new urban development in a sustainable fashion. The projected

urban infrastructure development needs in the next 20 years present a window of opportunity for the GEF to help partners to “do it right” from the planning and design phase. This initiative will take advantage of this window of opportunity, through upstream planning and sustainable design, to avoid "lock in" of unsustainable urban forms yet to be constructed that would then be difficult and/or expensive to change.

48. The signature program will feature four main components:

i. Provide policy and governance support to facilitate integrated urban design, planning, and management that lead to sustainable development with resilience and sound ecosystem management.

ii. Support demonstrations of large-scale, high-impact sustainable cities initiatives, including performance-based urban management pilot projects, climate smart agriculture, sound management of chemicals for safer and healthier cities, and other elements.

iii. Develop innovative financial mechanisms to enable replication.

iv. Build partnerships to facilitate dissemination and replication, including facilitation of knowledge management, engagement with partner institutions for replication, and sharing of best practices.

49. The initiative will build on experiences in supporting urban level projects in synergy within individual focal areas, such as climate change adaptation, climate change mitigation, chemicals, land degradation, biodiversity, and international waters.

CORPORATE PROGRAMS STRATEGY

INTRODUCTION

1. Corporate programs are those activities undertaken by the GEF to support work in the focal areas as well as to ensure the coherence of the GEF mandate across its network of partners. Corporate activities are largely cross-cutting in nature and seek to address the needs of countries and civil society organizations to effectively develop their capacity that allow them to protect the global commons. For GEF-6, three corporate programs are proposed: (i) Cross-Cutting Capacity Development (CCCD); (ii) Country Relations (CR); and (iii) Small Grants Program (SGP).

2. The GEF-6 strategic approach to corporate programs will build further on the successes achieved in GEF-5 and will incorporate the results of the evaluations done for some programs. Overall, the rationale and strategic objectives of corporate programs will be aligned with both the GEF 2020 vision and the strategies of the GEF focal areas.

3. The GEF Secretariat will continue to work with the GEF Agencies and other stakeholders on these corporate programs and take the lead in CR. UNDP will continue to implement the SGP, while various GEF Agencies will assist countries in the design of CCCD projects, as in the previous replenishment periods. The descriptions of the proposed corporate programs are below.

CROSS-CUTTING CAPACITY DEVELOPMENT

Background

4. Countries require appropriate foundational capacity to undertake the necessary actions to achieve sustainable development and overcome global environmental challenges. The capacities needed to meet global environmental objectives are closely linked to the capacities to undertake priority actions at the national level. Building countries' capacities for managing the global commons has always been and must remain a key concern for the GEF.

5. Cross-Cutting Capacity Development (CCCD) in the GEF context traditionally refers to the targeted support provided to countries to strengthen their capacities to meet their commitments under the Rio Conventions and other Multilateral Environment Agreements. The GEF funded National Capacity Self Assessments (NCSA) projects in 153 countries most of which have been completed. A synthesis of the results and lessons learned of the NCSAs conducted in 2010 indicated that the top five capacity development needs were: public awareness and education; information management and sharing; policy, legislative, and regulatory framework; organizational mandates and structures; and economic and financial sustainability.

6. Follow up projects aimed at addressing the challenges identified have begun in some of the countries during GEF5. A comprehensive assessment of this Capacity Development portfolio

will be undertaken during 2013 to analyze whether CCCD projects have been responsive to critical gaps in countries' capacity development needs.

7. The value added of the GEF CCCD resides in its ability to address capacity needs across multiple GEF focal areas and catalyze synergies among different sectors. The Cross-Cutting Capacity Development Strategy for GEF-6 is distinct in that it will address those transversal issues that focal area projects alone do not address. Cross-cutting refers to the GEF's ability to establish synergies between the Rio conventions and other MEAs and the consequent possibility to work across sectors of the economy. During GEF 6 special emphasis will be placed on these projects bringing together the national and local stakeholders, in particular the Ministries of Finance, Agriculture, Industry, Energy, Planning, Budget, as appropriate, so that the issues referring to the global commons are understood as an essential part of national interest and are incorporated in to the regular process of decision making.

Overall Goal

8. To help countries meet and sustain global environmental outcomes by strengthening key capacities that address challenges and remove barriers common to the MEAs that the GEF serves and to mainstream the global commons into decision making.

Strategic Objectives

9. The Cross-Cutting Capacity Development Strategy for GEF-6 (2014-2018) will facilitate the acquisition, exchange and use of knowledge, skills, good practices, behavior necessary to shape and influence national planning and budgeting processes and implementation in support of global environmental benefits by:

(i) ***Promoting country ownership*** and country-led programs to ensure that the GEF supports embedded environmental objectives at the core of national decision-making and the development planning;

(ii) ***Fostering Innovation*** and replicable actions;

(iii)***Catalyzing*** synergies, burden-sharing and the scale-up of capacities to support on-going sustainable environmental management and growth.

(iv)***Promoting knowledge sharing and improved information management*** at all levels to enhance public awareness and promote a behavioral change;

(v) ***Ensuring consultations and involvement of public and other stakeholders*** in decision making from the earliest stages of planning;

(vi) ***Promoting partnerships*** with different stakeholders and across different (development) sectors; and

(vii) ***Empowering action*** through learning-by-doing.

Strategic Programs

10. The main features of the CCCD strategy in GEF-6 is that projects be transformative from a systemic perspective and pilot innovative approaches to realizing and sustaining global environmental outcomes.

11. Thus, in addition to mainstreaming of MEAs into the national and sub-national policy, legal and planning agenda, it is proposed that the strategy emphasizes integration of environmental sustainability across key development sectors, and across various actors including government, civil society and the private sector.

i. **To integrate global environmental needs into management information systems.** This objective focuses on strengthening cross-sectoral, national and regional knowledge management systems that are directly relevant to meeting global environmental priorities. Institutional networks and information centers will be developed, both nationally and regionally, so as to strengthen an integrated approach to information analysis and its dissemination to support improved decision- and policy making, monitoring and evaluation.

ii. **To strengthen consultative and management structures and mechanisms.** This objective focuses on filling critical decision- and policy-making gaps. Whereas objective 1 focuses on the creation, coordination and dissemination of new and improved information, this objective focuses on how this information is used. Broader non-state stakeholder engagement would be built into the key consultative mechanisms that lead to policy-decisions, reinforced by related consultative processes from the local (e.g., private sector round-tables and local community and village meetings) to the national (open-ended technical committees in parliamentary sessions).

iii. **To integrate Multilateral Environmental Agreements' provisions within national policy, legislative, and regulatory frameworks.** This objective will be targeted to a set of mainstreaming exercises. Specifically, projects would support a more systematic integration of the global environmental priorities called for in the articles of the three Rio Conventions and decisions of their respective Conference of the Parties and other MEAs. Vertical integration would be piloted to demonstrate the need for monitoring and enforcing of new and improved policies, legislation, and regulation. This type of cross-cutting capacity development project could build upon the outcomes delivered under objectives 1 and/or 2.

iv. **To pilot innovative economic and financial tools** for Convention implementation.Under this objective, projects would pilot environmental fiscal reform within a broader program of fiscal reforms to improve the flow of resources to finance activities under the MEAs, as well as to create stronger financial disincentives for degradation of the global environment under the Rio Conventions. In concrete terms, this would mean the restructuring of processes for the collection of environmental taxes, fees and fines, as well as a more transparent and streamlined process of resource allocation and distribution between the local, regional, and central government authorities. Another type of project would develop a set of natural resource valuation tools that could be applied to the national sustainable development context, which would include SMART program indicators for the delivery of global environmental outcomes. The project would complement the development of these natural resource valuation tools with a set of training and awareness-raising workshops to facilitate the use of these tools, including the piloting of these for a specific sectoral plan, program or project.

v. **Updating of NCSAs.** Countries will be supported to update their NCSAs and, as appropriate, expand them to include other MEAs for which the GEF serves as a financial mechanism. Those countries that have assessed the capacity development needs across the set of MEAs whose implementation is being financed by the GEF would be eligible to design a CCCD project that delivers global environmental outcomes under that set of MEAs.

Table A: Examples of CCCD activities

Programmatic Objectives:	**Program Activities**	**Performance Activities**
Integrating global environmental needs into management information systems	• Carry out (or update) an in-depth analysis of the current management information systems (MIS) related to the Rio Conventions and other MEAs employed by line ministries and their agencies • Negotiate an agreement among all key line ministries and agencies on a realignment of their MIS mandates to fill data gaps and reduce unnecessary duplication • Provide training on the use of targeted advanced data collection methodologies	• Preparation of draft background analyses by national experts are peer reviewed by representatives of all key stakeholders • Draft policy and program recommendations are prepared collaboratively among representatives of all stakeholders
Strengthening consultative and management structures	• Undertake (or update) an in-depth evaluation of the current domestic decision-making processes related to the Rio Conventions and other MEAs	• Carry out public

and mechanisms	• Negotiate an agreement among ministries and non-state stakeholders on the best practicable consultative process for improved decision-making on the Rio Conventions and other MEAs • Provide training to decision-makers on the critical linkages between the objectives of the Rio Conventions and other MEAs and sectoral development priorities	dialogues of key issues with targeted stakeholder groups • Conduct surveys to asses baseline and evolving environmental attitudes, values and behavior (N>500)
Integrating MEAs provisions within national policy, legislative, and regulatory frameworks	• Undertake (or update) an in-depth analysis of the country's environment and development policy framework • Develop an analytical framework for the in-depth analysis of sectoral policies, plans, programs and associate legislative and regulatory instruments • Pilot the negotiated realignment of a selected set of sectoral policies with the provisions of the Rio Convention and other MEAs	• Actively engage potential project champions • Pilot proposed recommendations and/or reforms to a targeted sector or region
Piloting innovative economic and financial tools for Convention implementation	• Undertake a detailed study on the applicability of innovative econometric indicators for the valuation of natural resources • Undertake a detailed study on potentially applicable best practices on environmental fiscal reforms • Test the applicability of targeted innovative tools for the review of a proposed development project.	• Negotiate strengthened partnership agreements with key national and international organizations • Facilitate active roles for partner stakeholders to carry out project activities and promote project objectives
Updating of NCSAs	• Conduct a consultative process to update the capacity needs to implement the Rio Conventions and the country's commitments under other MEAs	• Preparation of the updated NCSA involving different stakeholders and sectors

COUNTRY RELATIONS

Background

12. The sixth replenishment period of the Global Environment Facility (GEF) from 2014 to 2018 coincides with a moment when most of the global environmental challenges addressed with the support of GEF funding are at a complex stage of urgency. For the upcoming phase, the GEF is seeking to change its way of doing business to address these resulting challenges by achieving transformational change to become the champion of the global commons.

13. The GEF is a partnership institution and, as such, its success depends on the manner in which its member countries, GEF Agencies, the private sector, and civil society work together. This partnership is a complex arrangement that has many rules, procedures and regulations that are constantly evolving. No matter how simplified, these are not easy to understand and to follow. Therefore, the Secretariat has the responsibility to guide the partners and to maintain the consistency and integrity of the GEF core mission.

14. In this context, and consistent with the principle of country ownership, developing country participants need to enhance their understanding of these complexities. The Country Relations Strategy (CRS) will address this need so countries can fully benefit from the partnership and effectively use the resources available.

15. The GEF is the/a financial mechanism of the main Multilateral Environmental Agreements and is therefore the only common element that links them together thus allowing the partnership to explore and exploit synergies for greater impact. The CRS will continue to provide a setting for the different focal points to develop coordination among them and discuss issues of common interest.

16. The Country Relations Strategy for GEF-6 will build on the successes and lessons learned from its past activities. The design and content of the programs described below has been redeveloped based on experience and feedback from participants. Additionally, the CRS will work closely with all focal areas to ensure a cohesive message and integrated support for all countries. Finally, the Country Relations Strategy will be guided by discussions and outcomes of the GEF2020 strategy.

Overall Goal

17. The goal of the Country Relations Strategy is to support countries by informing, assisting and empowering them so they can fully benefit from the partnership and effectively use the resources available, thus maintaining the consistency and integrity of the GEF core mission to protect the global commons.

Strategic Objectives

18. Following the description above, the Country relations Team will seek the following strategic objectives:

1) **To facilitate countries' understanding and adoption of the new approaches of GEF-6**. The transformational change sought by the GEF over the coming years will require fundamentally different and new ways of doing business. The transition from GEF-3 to GEF-4 showed that radical change is resisted until it is understood and embraced. The way to achieve this desired change faster is to inform, explain and convince of the merit and need of such fundamental changes.

2) **To empower countries to use GEF funds in the most cost-efficient and impactful manner to safeguard the global environment.** For countries to use the limited resources available through the GEF partnership, they have to understand the GEF strategies and how they can benefit from them. For this to happen, they need to learn how to work more cohesively on all the issues related to the GEF partnership: among government ministries, in the conventions, with agencies, with civil society, etc. This will lead to the realization of projects, programs and activities with greater impact that are validated and broadly supported.

3) **To contribute to building greater recognition for the GEF in Participant Countries.** By virtue of being a partnership, the GEF seeks efficiency by building upon the strengths of the various partners. As such, the GEF has no individual presence on the ground and its efforts are often overlooked. The CRS programs provide the only institutional presence in the field.

4) **To serve as the first point of entry or reference for all country focal points and other stakeholders on GEF issues.** The Country Relations team will continue to provide timely information and advice to countries on various rules, procedures and regulations relating to the GEF partnership.

Programs

GEF Workshops

19. The GEF Secretariat, in consultation with countries and Agencies, will design and organize regional workshops to train participants on the GEF6 business model. The workshops will also facilitate trans-boundary collaboration; discuss regional programming; address signature projects; and other issues based on thematic and geographic areas. These workshops will be one of the main vehicles to improve the knowledge management between the GEF and its partners. The workshops will also be used for south-south exchange of experiences and to build political and financial support.

20. Each year the agenda of the workshops will be different so as to address different topics that will lead to the achievement of the above mentioned objectives. Developed countries will be invited to participate so they can interact with developing countries on GEF issues.

GEF National Dialogues

21. National Dialogues will be used as a strategic tool for promoting the incorporation of the global commons into national thinking. A broad array of national and local level stakeholders, including line ministries and civil society, will discuss and understand how protecting the global commons is essential to the national interest and how to reflect it in daily work. These dialogues will further engage key players in the country's public and private financial architecture, in a discussion on the possible ways to catalyse public/private financing for the environment.

22. For these purposes, a more standardized and fixed format for carrying out these dialogues will be designed jointly between the GEF Secretariat and the GEF Agencies, and adapted to host Country requirements, as necessary. National Dialogues will be available to all countries at the request of the OFP. Additionally, in close consultation with GEF technical teams, a number of countries where these dialogues can be particularly useful will be targeted.

GEF National Portfolio Formulation Exercise (NPFE)

23. This activity is to help GEF Operational Focal Points to engage main national stakeholders and line ministries, in the planning process for developing national priorities for GEF support. This approach strongly promotes national ownership and will result in a document that will guide programming of GEF resources. The NPFE will be optional, will not be a prerequisite for project funding and will build upon existing national development plans and strategies. GEF Operational Focal Points may request an NPFE during the first 18 months of GEF-6. GEF technical teams will be actively involved, as necessary.

24. The final output of this activity is a National Portfolio Formulation Document (NPFD). GEF Evaluation Office is currently undertaking an evaluation of the NPFE activity carried out in GEF-5, and the recommendations of the evaluation will be incorporated in the final design of this activity for GEF-6.

GEF Introduction Seminars

25. The aim of this activity is to train new GEF Agency staff, Convention Secretariat staff, and selected stakeholders. Introduction Seminars will reach out to other audiences that are critical for the GEF to succeed, particularly national line Ministries, media, as well as people from other organizations that are part of the current financial environmental architecture and the private sector, where possible. These seminars will take place once a year in Washington, D.C.

GEF Constituency Meetings

26. Constituency Meetings continue to be the main tool for the Council Members to engage their Constituency members in the decision making at the GEF Council. They are meant to discuss Council agendas, papers and draft decisions so that the Council Member and Alternate may better understand and represent constituency members' interests. These meetings, that are also an instrument to discuss constituency governance, will continue to be organized at the request of the Council Member. They are also a critical tool for the GEF country officers to maintain personal contact with OFPs/PFPs.

Pre-Council Meeting for developing country constituencies

27. An additional option will be available in GEF- 6 for the developing country Council / Alternate Members to meet the day before the Council Meeting to exchange views, positions and perspectives in relation to the Council documents and to receive clarification from Secretariat staff, as necessary.

Relations with developed countries

28. In GEF-6 the Country Relations team will engage more strategically with developed countries. The team will organize and coordinate visits for developed country officials to some of the recipient countries' GEF financed projects to understand how they incorporate the GEF core mission into their national strategies. These missions would be organized based on an initial survey on developed country/donor interest. The purpose of these missions is to familiarize them with the activities and concrete results on the ground, and for the recipient countries to share their lessons learned.

GEF SMALL GRANTS PROGRAMME

Background

29. The GEF Small Grants Programme (SGP) has been designed to empower poor and vulnerable communities so that they become direct and active actors in environment and sustainable development work. The active participation of poor and vulnerable sectors is critical in that their increasing population make them a major driver of environmental change.[68] Poverty and social exclusion impact directly on the global environment because it leads these people to engage in highly destructive forms of resource exploitation.

30. The way that SGP that has contributed to the good management and defense of the global commons is through local empowerment and good governance objectives. For example, agreement by governments for a highly socially-inclusive approach is one of the first transformative outcomes of the programme. The 2007 Joint Evaluation of the SGP concluded that the programme has significantly higher sustainability than MSPs and FSPs and that it "has contributed to numerous institutional reforms and policy changes in the recipient countries to address global environmental issues".

31. GEF SGP projects have been "incubators" in the design of MSPs and FSPs and of replication by other non-GEF projects. At the global level, lessons learned have informed global environmental governance discussions and debate. Over time, a critical mass of coverage leads to sizeable impact such as in the effective management of over 3 million hectares of protected areas and buffer zones in UNESCO natural World Heritage Sites. Support to global CSO networks such as that of the Indigenous and Community Conserved Areas and Territories (ICCA) Network have strengthened the conservation of 13.66 million hectares of critical ecosystems and the recognition of the value of ICCAs by the Convention on Biological Diversity in meeting its global targets. Successful community-based adaptation (CBA) work in Namibia and the network of micro-hydro projects in Dominican Republic have led to national policies that further support these initiatives. In a 2013 survey of SGP Country Programmes, about 70% reported that activities to expand the impact of projects beyond the community have been initiated with 50% citing influence on national or regional policy-making. All these will serve as strong foundations for further contributions by GEF SGP in GEF-6 to global environmental benefits and the defense of the global commons.

[68] It is estimated that 1.3 billion people live in extreme poverty, mostly in South Asia and Sub-Saharan Africa. If social exclusion is also factored in, the proportion of the global population at risk increases to 2.8 billion, spread across all developing regions. (Chen Shaohua and Martin Ravallion (2012) 'More Relatively Poor People in a Less Absolutely-Poor World' Policy Research Working Paper 6114, World Bank).

Overall Goal of the GEF Small Grants Programme

32. The goal of the SGP in GEF-6 can be stated in the following:

> "*Effectively support the creation of global environmental benefits and the safeguarding of the global commons through community and local solutions that complement and add value to national and global level action*".

Strategic Objectives

33. To achieve the overall goal, SGP will use a two-pronged approach: (a) by focusing its work on globally recognized critical ecosystems and; (b) by setting-up innovative institutional and financial support mechanisms to expand the value and impact of projects nationally and globally.

34. GEF SGP in GEF-6 will focus its efforts on the following strategic objectives:

a. *Implementation of sustainable co-management of ecosystems of universal value at the landscape/seascape-wide level in participating countries.*

   This represents a new approach for SGP, moving from standalone projects to a consolidated approach in such a way that, spatially and thematically, each project supported complements the others, thereby creating a greater impact at a faster rate. This also involves linking more closely to a clearly identified niche in the development and implementation of national plans and strategies as well as national policy making. Focused work can be supported by promoting the use of *SGP as a delivery mechanism* for national or regional level FSPs.

b. *Expansion of the coverage of and strengthening networks of Indigenous and Community Conserved Areas and Territories (ICCAs) within countries and globally.*

   This objective supports an important objective of the CBD Program of Work on Protected Areas (POWPA) and potentially increases the global coverage of protected areas from 12% to 17%. It also follows the shift to consolidated and integrated approaches for SGP in GEF-6.

c. *Establishment of a network of capable communities and CSOs in each country that will serve as hub for country-wide joint action and provide a representative constituency for constructive dialogue with government in national-level environment and sustainable development planning and policy development.*

d. *Global sharing of innovative technologies and methodologies for the protection and sustainable management of the global commons that are adapted to community and CSO application.*

e. *Increasing the flow of additional resources to communities and local CSOs through the design and testing of sustainable use of local assets and innovative environmental financing mechanisms including their replication and scaling up.*

35. The shift for GEF SGP in this case is its transformation from mainly being a mechanism for communities and local CSOs to access GEF funds to one that will be *a catalyst for innovative environmental finance*. This means supporting efforts at augmenting limited SGP funds through the implementation of microlending or hybrid grant/microlending approaches in partnership with established credit coops and banks, supporting the design of "payment for ecosystem services", and the establishment of revolving funds at project and country programme levels. A *"Green Grameen"* concept will be also explored.

Programs

36. There are four (4) programs proposed for implementation at the country level:

1. Community Landscape and Seascape Conservation
2. Climate Smart Innovative Agro-ecology
3. Low-Carbon Energy Access Co-benefits
4. Local to Global Chemicals Management Coalitions

37. Additionally, support mechanisms will be organized:

a. Barefoot Consultants
b. Grassroots Reach communication channels
c. CSO-Government Policy and Planning Dialogue Platform

38. At the global level, under a *Global Reach for Citizen-Practice Based Knowledge* program, SGP will set up the following:

a. Digital library of Community Innovations for the Global Commons
b. South-South Community Innovation Exchange Platform

39. The implementation of these programs will be highly integrated both in terms of geographic focus and portfolio programming. The synergistic relation between the four (4) *programs* and the three (3) *support mechanisms* at the country level and two (2) *initiatives* at the global level must also be noted. The programs will provide inputs for these support mechanisms and initiatives. The latter on the other hand will provide an enabling environment and will scale up the impacts of the programs nationally and globally through networking and knowledge exchange. In this way, what starts at the local level eventually reaches global level discourse and action hence allowing the SGP to contribute more fully to global environmental benefits and to the defense of the global commons.

Community landscape and seascape conservation (CLSC)

40. During OP6, SGP will identify important ecosystems and use a landscape and seascape (CLSC) approach for their protection and sustainable use. Under CLSC, the number of WHS adopting a "shared PA governance" approach will be expanded globally with a special focus on natural WHS at risk in Africa. Similarly, SGP work with large international waters projects that utilized SGP as a delivery mechanism for their community/NGO components[69] will be used to set up *Satoumi* "ridge-to-reef" seascape approach to support the expansion of the global network of Locally Managed Marine Areas (LMMAs).

41. SGP through the community landscape and seascape conservation approach will assist civil society coalitions and governments to achieve of the Aichi CBD targets by 2020. Identified landscapes will promote Community-Based REDD+ (CBR+), an innovation arising out of SGP's community-based approach to forest carbon storage, piloted in Mexico and Panama. Under the CLSC, SGP will implement a truly multi-focal approach involving communities in buffer zones and corridors thus providing connectivity for complex landscape mosaics – representing a unique advantage GEF would have through SGP over other funding mechanisms.

Climate Smart, Innovative Agro-ecology

42. During OP6, SGP's niche in this will be in the production buffer zones of its identified critical ecosystems, also in forest corridors in danger of fragmentation, often remote and unaddressed by other traditional donors. In this way, SGP will support the strategic move towards land degradation neutrality by 2035 as stipulated in the Rio+20 outcome document. SGP will further innovate by integrating elements of *in-situ* conservation of genetic resources,[70] market-based solutions for promoting sustainable products, as well as use of land-based organic providers (i.e. biodeposit) to reduce use of chemical-based fertilizers, while also reducing emission from ozone depleting substances such as nitrites and nitrates. With support from a Global Initiative in CBA (GICBA) which will be formed to network CSOs from all countries involved in CBA, the proven methodologies and tools from these projects will be utilized to make agro-ecology projects within buffer and forest zones in more than 100 countries truly climate smart.

Low Carbon-Energy Access Cobenefits

43. SGP will contribute to "decarbonize" development while still satisfying global demand for energy services for 1.3 billion people without access to electricity and 2.7 billion that still

[69] SGP was a delivery mechanism for the World Bank-implemented Nile Transboundary Environmental Action Project, the UNEP-implemented South China Sea Project, and the UNDP-implemented Program for the Environmental Management of the Seas of East Asia (PEMSEA).

[70] In-situ conservation of agrobiodiversity is an important task in the management of the global commons, one that is best taken on by the farmers themselves and exemplifies the important role of a grant mechanism that they can easily access.

rely on traditional biomass for cooking.[71]. SGP will work within the larger framework of Sustainable Energy for All (SE4ALL), which will provide a platform for scaling up SGP work in this sphere and synergies with national and global planning and policy advocacy. SGP will focus on low-cost and high mitigation options that can contribute to a large proportion of carbon emissions reduction, which, for improved cookstoves alone, is estimated at 1 Gt CO2 per year[72]. GEF and other public sector funding delivered by SGP will play a catalytic role, as successful innovations will be positioned to attract financing from private sector and households.

Local to Global Chemicals Management Coalition

44. SGP will focus support on communities in the forefront of chemical threats either as users or consumers. Activities will include support for innovative, affordable and practical solutions to chemicals management in joint effort with SGP's established partners such as IPEN, as well as new partnerships including with government agencies, research institutions, private sector and international agencies such as UNIDO and WHO. SGP will seek to establish systems of local certification of producers and/or their products which then could expand to the national level through initially producer-consumer agreements eventually graduating to national government policy. In mercury management, at least one artisanal gold-mining community in each of the hotspot countries -- Burkina Faso, Cambodia, Ghana, Indonesia, Mali, Mongolia, Peru, Senegal, Tanzania, Zimbabwe – could be converted to the use of alternative gold mining techniques and serve as basis for policy changes in these countries.

Global Reach for Citizen-Practice-Based Knowledge

45. Expanding the reach of SGP knowledge and lessons learned will be further achieved through a highly proactive sharing of knowledge developed by the programme's wide network of grantee-partners.

46. Activities related to the promotion of citizen-practice-based knowledge will include the development of a **Digital Library of Community Innovations for the Global Commons.** Complementing the digital library of community innovations will be a South-**South Community Innovations Exchange Platform**. This platform will create active communities of practice, link mentors to emerging practitioners, provide contact persons in every SGP country that can share actual experience of particular projects[73] and of projects that can be used as models. An

[71] Resource Revolution: Meeting the world's energy, materials, food and water needs. McKinsey Global Institute, November 2011.

[72] Assessing the Climate Impacts of Cookstove Projects: Issues in Emissions Accounting, Carrie M. Lee, Chelsea Chandler, Michael Lazarus and Francis X. Johnson, Stockholm Environment Institute, Working Paper 2013-01) http://www.cdmgoldstandard.org/wp-content/uploads/2013/02/SEI-WP-2013-01-Cookstoves-Carbon-Markets.pdf

[73] In the GEF EO evaluation of Cuba GEF portfolio: Experiences and results from two SGP projects have received international recognition and willingness to replicate them abroad. For example, the expert in charge of an SGP project that developed a model for raising *Jatropha* was hired by Brazil and the expert in charge of an SGP project on biodiversity that developed a model for raising sponges was hired by Nicaragua and later by Mexico.

important feature would be for the platform, in regional groupings, to be able to use adaptive language and speak in virtually all languages and dialects.

SGP as Grantmaker+

47. The high value of SGP to the GEF lies on the assets the programme has built up over the last 20 years. These include: (a) Global and national networks of over 16,000 grantee-partners alone, that have the ability to "speak" in almost all languages and dialects and can quickly and effectively mobilize constituencies on key environment matters, and; (b) Committed SGP staff in each country who, with more than a thousand voluntary NSC government and non-government members, provide a core for knowledge sharing, advisory services, and policy advocacy on GEF focal area matters.

48. To derive full utility for these built up assets there must be agreement that projects are not the ends but the means and that funds for non-grant services such as institution-building and policy advocacy are also vital and will allow SGP to build value beyond grant-making. The additional services and value that SGP can provide as a "Grantmaker+" include:

- assisting country stakeholders, especially communities and local CSOs, to develop relevant proposals as "***Barefoot Consultants***" particularly with the "direct access" modality of new funds;

- setting up a "***Grassroots Reach***" communication channel for use not only by SGP but also by the government, GEF, other international donor agencies, and the private sector interested either as a business partner on marketing sustainable products or in CSR partnership;

- supporting the establishment of a "***CSO-Government Policy and Planning Dialogue Platform***" (which could be in partnership with the GEF NGO Network) building on the built trust and joint working relationship developed between civil society and government in SGP National Steering Committees (NSCs).

v. In preparation for SGP in GEF6, country programmes will immediately begin the necessary institutional shifts that include strengthening the SGP staff capacity in many new non-grant skills such as policy advocacy, entrepreneurship, environmental finance, and project development with non-GEF funding mechanisms. The SGP National Steering Committee will be expanded to involve additional members from the Ministry of Finance and/or Economic/Development Planning as well as from the private sector. Networking with national and global CSO advocacy networks will also be expanded, including those based in key urban centers. Each country programme will identify at least one national university to establish an agreement to bolster SGP's scientific and technological base as well as its training capacity.