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ELEMENTS FOR A GEF OPERATIONAL PROGRAM ON CARBON SEQUESTRATION

Recommended Council Decision:

The Council reviewed document GEF/C.13/14, *Elements of an Operational Program on Carbon Sequestration*, and approves the elements as a basis for preparing an operational program, subject to the comments made during the Council meeting and written comments submitted to the Secretariat by June 4, 1999. The Council requests the Secretariat, in consultation with the Implementing Agencies, to develop and publish the Operational Program on Carbon Sequestration.

INTRODUCTION

1. The concept of greenhouse gas mitigation by sequestering carbon in sinks¹ has been extensively discussed over the last decade. While the debate on complex quantification issues² is still evolving, there is an emerging scientific consensus that carbon sequestration in ecosystems can be a highly cost effective and environmentally sound mitigation measure. This will be the case if multiple domestic and global benefits of integrated approaches to enhance sinks, (such as income generation, combating desertification and land degradation, protection of watersheds, soils and conservation of biodiversity particularly in marginal ecosystems and drylands) are taken into account and systematically integrated in sequestration strategies.

2. The elements proposed follow the GEF operational principles approved by Council in 1995. These principles and other Council-approved policies, notably the one on incremental costs, provide the foundation for GEF assistance. A consolidated summary, relating proposed elements to agreed principles is provided in the box on the following page. The paper has been prepared by the Secretariat in consultation with GEF's three Implementing Agencies (IAs) and STAP. Comments and advice from NGOs and other interested stakeholders, particularly the private sector have been solicited through the internet and in meetings, such as a carbon sequestration workshop of countries of the tropical belt held in Caracas, Venezuela in March 1999.

3. While diverse opportunities to sequester greenhouse gases (GHGs) other than carbon dioxide are being recognized, the suggested focus of this program is carbon sequestration in ecosystems. This is a response to commitments by contracting Parties under the Conventions on Climate Change (FCCC) and on Biological Diversity (CBD). FCCC commitments specifically refer to conservation and enhancement of carbon sinks, including biomass, forests, and oceans and other terrestrial, coastal, and marine ecosystems³. The Operational Strategy of the Global Environment Facility (GEF), approved by GEF's governing Council in October 1995, has responded to FCCC and CBD provisions and subsequent CoP guidance.⁴ The strategy provides that an operational program concerning carbon sequestration would be developed for Council consideration after evaluation of relevant experience.

4. GEF's Scientific and Technical Advisory Panel (STAP) has extensively reviewed the relevant research in the light of these deliberations. GEF experience and relevant scientific information were discussed during a joint workshop of newly entering and leaving members at a June 1998 STAP meeting. Proceedings of this event⁵ and other relevant publications, such as IPCC reports, have provided background and valuable inputs to this document. STAP has indicated interest to provide additional guidance on projects that can simultaneously achieve climate and biodiversity benefits as well as multiple benefits of carbon sequestration in arid and degraded lands.

¹ Sinks means any process, activity, or mechanism which removes a greenhouse gas from the atmosphere.

² IPCC is paying specific attention to quantification issues and will deliver a special report to FCCC parties in 2000.

³ Article 4 (d) of the FCCC.

⁴ Compare decision I/9 of the Conference of the Parties.

⁵ Report of the STAP brainstorming session on carbon sequestration.

**BOX: ELEMENTS OF A OPERATIONAL PROGRAM ON CARBON SEQUESTRATION
AS RELATED TO GEF OPERATIONAL PRINCIPLES**

Elements of the Operational Program	Approved Operational Principle
<p>1. Responding to Conventions The proposed program would respond to provisions of both the Framework Convention on Climate Change and the Convention on Biological Diversity. Objectives of other international agreements, such as the Convention to Combat Desertification are taken into account. Opportunities to achieve multiple global and domestic benefits will be emphasized in program implementation.</p>	<p>Principle 1: GEF will function under Convention guidance.</p>
<p>2. Tailoring Modalities to Stakeholder Needs Taking into account increasingly diverse stakeholder needs in changing market and policy environments, GEF will encourage consideration of innovative financing modalities. This is to meet incremental costs with customized tools responding to specific needs of public and private stakeholder groups.</p>	<p>Principle 2: GEF will provide grant and concessional funding to meet agreed incremental costs of measures to achieve agreed global environmental benefits</p>
<p>3. Achieving Sustainable Impact Cost effectively GEF will initially focus on sustainable carbon sequestration opportunities that build on proven approaches with a high replication potential, so that sequestration benefits could be achieved at least cost. GEF will aim to link its contributions to results in influencing sequestration trends, and ask for their verification. In addition the GEF will support targeted research on adaptation of viable sequestration approaches to local conditions.</p>	<p>Principle 3: GEF will ensure the cost-effectiveness of its activities to maximize global environmental benefits.</p>
<p>4. Assisting Countries in Implementing their Priorities GEF will concentrate on providing support sequestration activities identified as priorities in National Communications to UNFCCC and CBD, or other information about national priorities that would allow coherent implementation of domestic and global objectives.</p>	<p>Principle 4: GEF projects are country-driven and based on national priorities designed to support national development.</p>
<p>5. Maintaining Flexibility To minimize operational risks, the program will be reviewed regularly and may be modified on the basis of new scientific information and operational experience, in consultation with STAP, and in conformity with these elements.</p>	<p>Principle 5: GEF is to maintain sufficient flexibility to respond to changing circumstances, including evolving Convention guidance and the experience gained from monitoring and evaluation activities.</p>

Elements of the Operational Program	Approved Operational Principle
<p>6. Facilitating Structured Learning and Replication GEF will assure that project lessons (positive as well as negative), innovative design, technology or management features and best practice suitable for replication would be disclosed and shared with interested stakeholders.</p>	<p>Principle 6: GEF project will provide full disclosure of all non confidential information.</p>
<p>7. Ascertaining Local Leadership GEF will ascertain leadership and broad participation of local constituents to ensure that stakeholder concerns and interests are duly taken into account in project design and implementation. Proactive involvement of relevant private and public entities in the development of local sequestration strategies will be encouraged.</p>	<p>Principle 7: GEF projects provide for consultation with, and participation as appropriate of, the beneficiaries and affected groups of people.</p>
<p>8. Promoting Strategic Public-Private Partnerships The GEF instrument will continue to provide the overall framework for GEF operations. Special attention will be paid to provisions calling for strategic cooperation with interested public and private entities. Strategic partners will be identified taking into account their track records, effectiveness, and comparative advantages in delivering required services. This is to optimally assist local stakeholders in addressing problems that prevent the realization of strategic sequestration opportunities.</p>	<p>Principle 8: GEF projects will conform to requirements set forth in the Instrument.</p>
<p>9. Facilitating Favorable Mainstream Policy and Business Decision Making GEF resources alone will not suffice to generate sizable and sustainable sequestration benefits. Therefore the GEF will strive to facilitate public (policy) and private (business) decision making processes that redirect mainstream financing to programs and investments in sustainable ecosystem management enabling carbon sequestration, as well as conservation and sustainable use of soils, international waters, and biodiversity.</p>	<p>Principle 9: GEF will emphasize its catalytic role and leverage additional financing from other sources</p>
<p>10. Verifying Cost Effective Results The single most important common denominator determining strategic fit of proposed interventions will be their likelihood to generate sequestration and other desired global benefits cost effectively and to promote widespread replication. Monitoring cost effective achievement of desired results will require the establishment of reliable, but also affordable, monitoring and evaluation frameworks. Indicators enabling quantitative characterization of changes in ecosystem management patterns and related sequestration benefits will be developed to allow thorough assessments of GEF impact.</p>	<p>Principle 10: GEF will ensure that its programs are monitored and evaluated on a regular basis.</p>

LINKS TO EXISTING GEF PROGRAMS

5. GEF is already promoting carbon sequestration through a number of GEF operational programs and the short term opportunity window of the Operational Strategy. The proposed program will complement, not duplicate, sequestration related objectives of other operational programs and policies.

6. Particularly biodiversity operational programs and specifically projects supported in accordance with GEF policies on land degradation and agrobiodiversity, strive to conserve and promote sustainable use of ecosystems that also serve as carbon sinks. Their implementation will help to maintain and increase carbon sinks. Conversely, carbon sequestration projects are expected to support the achievement of biodiversity and other GEF programming objectives wherever feasible. At the same time it will be ensured that adverse impacts between programs would be avoided.

OBJECTIVES OF A GEF PROGRAM ON CARBON SEQUESTRATION

7. The GEF will aim to achieve multiple benefits by emphasizing opportunities to address climate change, biodiversity and international waters related objectives -including land degradation - with integrated programming approaches. The overall program objective would be to reduce the risk of climate change and to promote conservation and sustainable use of biological diversity by strategically assisting clients in developing new and/or enhancing existing GHG sinks in ecosystems that offer sustainable sequestration potential. The program would focus on sequestration opportunities that promise the best medium and long term impact on sequestration in a given country, region, or market at least costs (operational principle 3). Based on GEF experience gained so far, the most promising pathway would be to address impediments to the implementation of economically viable and environmentally sound sequestration programs that benefit from broad stakeholder participation, and contribute to conservation and sustainable use of ecosystems, including soils and biodiversity.

8. To promote local ownership and country drivenness, GEF would focus on interventions offering local as well as global benefits, e.g. those addressing local economic and other development objectives by sustainable use of ecosystems, in a way that would improve carbon sequestration and biodiversity. To enhance the likelihood of long term success, the GEF would pursue strategic partnerships with interested public and private entities. This is to support sustainable development objectives, as identified within the context of national plans and programs (operational principle 4).

PROGRAMMING APPROACH

9. Carbon sequestration opportunities have not been tapped to the extent expected, especially considering relative costs and potential local benefits. Local public benefits, such as watershed protection, land degradation control, conservation of marginal ecosystems, and potential economic gains, such as income generation through sales of biomass products, are not taken into account or are underestimated in relevant business and policy decision making processes. Even if viable opportunities are recognized, local stakeholders often tend to be

reluctant to take action. The following factors, among others, may significantly hamper the use of viable sequestration opportunities:

- (a) economic risks may be perceived greater than local benefits
- (b) introduction of innovative sequestration approaches and technologies may be associated with increased initial capital and transaction costs
- (c) there may be difficulties in gaining access to capital and/or know-how needed to develop and manage carbon sinks sustainably
- (d) markets may be distorted by unfavorable regulatory environments and policy frameworks may be not supportive
- (e) market imperfections may lead insufficient economic incentives (e.g. prices for biomass/timber not internalizing external benefits may be too low)
- (f) public benefits, such as watershed protection, may not be economically internalized.

10. In view of these constraints, the GEF would strive to promote sequestration by providing incremental cost finance for services and activities that would help local stakeholders to address the above problems effectively and at least costs. The GEF may finance the following services and activities typically needed to address impediments to carbon sequestration:

- (a) Information, advisory and capacity building services
 - (i) to raise awareness and to facilitate favorable public (policy) and private (business) decision making processes leveraging mainstream financing for carbon sequestration
 - (ii) to promote conducive market, policy, regulatory, and institutional environments
 - (iii) to provide necessary management skills and know-how
 - (iv) to improve access to mainstream sources of financing

11. Such services would be financed through grants, if their costs are not likely to be recovered by increased internal revenue. Recipients would normally be public or nonprofit making private entities. Contingent financing would be considered for commercial and quasi commercial ventures that may recover initial incremental costs through increased profits over time.

12. Performance contracting arrangements linking disbursement of agreed GEF contributions to verification of results (milestones and benchmarks) would be considered for large, longer term interventions and strategic partnerships with both public and private entities.

13. GEF may also assist clients in securing resources for investments in carbon sequestration, e.g. afforestation or sustainable forestry by providing incremental cost coverage for a range of financing services to address perceived incremental costs, including the following:

(b) Investment financing services:

- (i) investment grants (e.g. to address increased initial transaction or conversion costs)
- (ii) investment loans (e.g. to enable access to debt finance)
- (iii) partial risk guarantees⁶ (e.g. to facilitate increased equity investments)

14. Investment resources would normally be provided on a contingent⁷ basis and subject to reimbursement if the investment promises to become economically viable. Increased transaction/conversion costs in the initial stages of program implementation could be compensated through concessional financing arrangements or grant components. Investments should promise economic return, or other recognizable domestic benefits⁸. This is to assure sustained stakeholder interest and to enhance the likelihood of sustainability, including refinancing arrangements needed to maintain sequestration activities and to enable replication.

ELIGIBLE INTERVENTIONS

15. The single most important common denominator for GEF support will be medium and long term impact on sequestration trends, ecosystem and soil conservation, and other GEF objectives at least incremental costs. Realistic forecasts of sequestration trends over the medium term⁹ will be a prerequisite for the assessment of cost effectiveness. The projected medium term cost effectiveness of initial GEF interventions under this program would be expected to be significantly better than the short term threshold.¹⁰ Cost effectiveness targets would be subject to regular review and adjustment in annual portfolio reviews. This is to assure GEF responsiveness to changing circumstances and sufficient incentives for the implementation of the carbon sequestration program by GEF clients.

IMPACT ASSESSMENT AND MONITORING

16. Just as the carbon cycle depends on complex biological, climatic, and other natural factors, sequestration rates vary significantly from site to site. In view of these complexities, the GEF would not expect detailed on-site carbon analysis, but realistic assessments of changes in sequestration trends (net-fluxes) in target regions resulting from GEF sponsored activities, e.g. changes in ecosystem usage patterns and related above and below ground carbon storage capacities. Relevant assessments would be supported by references to existing studies, particularly those of STAP and IPCC, wherever feasible.¹¹ Project proponents would provide as

⁶ A specific form of a grant commitment linked to performance indicators,

⁷ A comprehensive study on options to provide contingent loans, grants and other forms of contingent finance in full conformity with GEF incremental cost policies has been commissioned under the GEF PRINCE Program. The report is available from the GEF Secretariat.

⁸ E.g., watershed protection, erosion control, soil conservation.

⁹ Normally at least one decade or lifecycle of relevant investments plus time needed for replication, whichever is longer.

¹⁰ \$10 per tonne of carbon.

¹¹ A significant increase of the scientific information base is expected upon completion of currently ongoing IPCC studies, their results should be used extensively as soon they become available.

much information as possible to back their initial estimates. Further evidence to bolster these judgements would be gathered during project preparation.¹²

17. Accountability for the determination of appropriate indicators to verify carbon off-sets and monitoring of progress in setting relevant trends in motion would continue to rest with the GEF Implementing Agencies. STAP roster experts may assist the agencies in these efforts. Involvement of local specialists with expertise and knowledge about specific local ecosystem patterns would be strongly encouraged.

18. Verifying cost effective achievement of desired impacts will require the establishment of reliable, but also affordable, monitoring and evaluation frameworks. Coherent indicator sets enabling quantitative characterization of ecosystem management patterns and related sequestration trends, will be required to enable justification of changes and benefits triggered by the GEF interventions (ex-ante, in-progress, ex-post). The following primary impact assessment indicators are proposed to enable monitoring of impact (operational principle 10):

- (a) Sequestration trends (increase in ecosystem carbon storage capacity) in the target region or market,
- (b) Replication rates over the medium term.

AVOIDING ADVERSE IMPACTS

19. The GEF will not finance activities that may result in negative impacts on the environment, especially biodiversity, or the economic and social situation of local stakeholders. Among others, the following activities would normally be expected to carry unfavorable effects:

- (a) Conversion of intact natural ecosystems, particularly forests, into plantations
- (b) Activities that would introduce new invasive alien species
- (c) Monocultures heavily relying on herbicide and pesticide applications and other ecosystem uses that may adversely affect biodiversity
- (d) Conversion of arable agricultural lands into forests where those lands would be needed for local subsistence.

INITIAL EMPHASIS

20. Initially local stakeholders may wish to emphasize the following areas in identifying viable interventions promising highly cost effective above and below ground sequestration opportunities:

- (a) Dry and wasteland rehabilitation and afforestation of suitable lands (grow and store),
- (b) Sustainable ecosystem management systems aiming to maximize carbon sequestration benefits,
- (c) Plantations of fast growing biomass plants where economic uses, e.g. as biofuel or construction material exist (grow and harvest),

¹² PDF grants may be available for relevant feasibility studies.

- (d) Enhancement of carbon sequestration capacities in agricultural and forest ecosystems (e.g. sequestration in soils through zero tillage, or enhanced biomass cover).

21. Stakeholders are encouraged to consider other innovative sequestration opportunities that would promise a good likelihood of success in strategically influencing carbon sequestration trends and encouraging replication.

ROLE OF COLLABORATIVE ARRANGEMENTS AND STRATEGIC PARTNERSHIPS

22. Developing long term collaborative frameworks with GEF Implementing Agencies and selected executing partners will be instrumental to the success of the proposed program. The GEF would seek strategic partnerships with interested public and private entities willing to provide long term co-financing for the implementation of sustainable interventions. In accordance with relevant provisions of the GEF instrument partners may include local, regional international and bilateral public and private entities. Each would be expected to have an excellent track record in developing and managing viable interventions (operational principle 8).

PUBLIC INVOLVEMENT

23. GEF principles on public involvement¹³ approved by Council in 1996 will guide design and implementation of GEF interventions in the carbon sequestration programming area. The GEF will encourage local stakeholders to take the lead in designing and implementing relevant interventions and provide for consultation with, and as appropriate the participation of, beneficiaries and other affected groups. Project proposals will clarify the conditions of cooperation and transparent mechanisms to ensure active stakeholder participation in project planning, implementation, and monitoring. Responsibility for assuring public involvement will rest within the country. Implementing Agencies would provide support as needed (operational principle 7).

TARGETED RESEARCH

24. Targeted research activities would be supported in accordance with agreed GEF principles.¹⁴ An area of particular interest in this context is applied research to verify operational feasibility, cost effectiveness, and viability of innovative carbon sequestration approaches in specific ecosystem types based on outcomes of existing scientific studies, which should already have provided basic evidence and support further targeted research.

PROPOSED RESOURCE ALLOCATIONS

25. GEF resources will be made available to meet the incremental costs of activities in this operational program. In applying approved policies on incremental costs, the GEF may also cover perceived incremental costs associated with commercial investments through contingent

¹³ *Public Involvement in GEF financed Projects*, GEF, 1996

¹⁴ *Principles for GEF Support of Targeted Research*, GEF, 1998.

financing arrangements.¹⁵ Proposed annual GEF allocations would rise to about US\$ 200 million annually by the end of the next decade. Annual carbon off-sets triggered by GEF interventions in this programming area are expected to exceed 100 million tonnes of carbon by that time.¹⁶

¹⁵ A comprehensive study on options to provide contingent loans and grants in full conformity with GEF incremental cost policies has been commissioned under the GEF PRINCE Program. It is available at the GEF Secretariat.

¹⁶ This assumes availability of financial resources to allow projected portfolio development and sufficient absorption capacities on the ground.

ANNEX A.
PROPOSED PROGRAMMATIC APPROACH TOWARDS CARBON SEQUESTRATION (SUMMARY)

	Verifiable Indicators	Means of Verification	Risks
<p>Program Objective: Strategically promoting viable carbon sequestration opportunities that help to reduce the risk of climate change by sustainably enhancing carbon sinks</p>	<p>Intervention Impact: Sustainable enhancement of carbon sinks in a country, region, or market over the medium term at least incremental costs</p>	<p>Expected changes in carbon sequestration of targeted ecosystems over at least one decade compared to the same period before</p>	<p>See below</p>
<p>Intervention Purpose: To assist clients in efforts to address impediments to the enhancement of carbon sinks, including:</p> <ul style="list-style-type: none"> • Lack of attention/awareness • Perceived incremental costs • Initial Transaction costs • Access to capital and know-how • Lack of incentives, • Market imperfections • Institutional and regulatory gaps 	<p>Degree of constraint removal to be measured with constraint-specific indicators, e.g. Awareness Enhancement: Number of policy and/or business (investment) decisions effectively influenced</p>	<p>To be customized to specific intervention purposes, e.g. Monitoring of relevant public and private sector decision making processes in the target region over at least one decade</p>	<ul style="list-style-type: none"> • Underestimation of constraints • Difficulties to recognize constraints • New impediments may emerge with future policy and/or market developments
<p>Deliverables Provision of services that help to address impediments, including:</p> <ul style="list-style-type: none"> • Information services to facilitate widespread replication of viable sequestration opportunities • Services to improve access to commercial finance by addressing perceived incremental costs and viability related uncertainties • Advisory services to support relevant business and policy decisions • Capacity building to provide necessary skills and know-how 	<p>Progress in setting-up and delivering relevant services, including:</p> <ul style="list-style-type: none"> • Council approval • Endorsement • Start of operations • Delivery milestones • Project Completion <p><i>Effectiveness:</i></p> <ul style="list-style-type: none"> • E.g. number of client-specific advisory sessions • Sustained availability of service after project completion 	<p>Customized benchmarks for lead-times between approval and:</p> <ul style="list-style-type: none"> • Endorsement • Project start • Monitoring of project implementation schedule; comparison of milestones with actual progress • Monitoring of service delivery • Ex-post monitoring of service availability 	<p>Risks primarily relate to:</p> <ul style="list-style-type: none"> • Implementing Agency and counterpart delivery capacities and interests • Client processing and absorption capacities, as well as • Changing policy and market environments
<p>GEF Actions:</p> <ul style="list-style-type: none"> • To provide incremental cost grants for non-recoverable advisory and capacity building expenditures • To cover perceived incremental investment costs with contingent financing instruments 	<p>Costs: Annual GEF allocations Would raise from zero to about \$ 200 Million annually over the next decade</p>	<ul style="list-style-type: none"> • Business plan • Annual budget projections • Actual annual work program allocations • Actual commitments 	<ul style="list-style-type: none"> • Insufficient resources due to competition between programs • Replenishment • Insufficient absorption and/or delivery capacity

ANNEX: B
ANSWERS TO FREQUENTLY ASKED QUESTIONS:

Q: Are there any restrictions concerning the eligibility of specific types of carbon sinks?

A: No. Any sink of sufficient size to enable highly cost effective carbon sequestration activities and to encourage widespread replication would be eligible in principle. What matters is not whether the sink is in a forest, marine, agricultural, or agroforestry ecosystem, but the cost effectiveness and sustainability of proposed interventions in view of projected medium and long term economic and carbon sequestration impact/benefits. It is up to the project proponents to provide reasonable evidence supporting impact/viability claims in accordance with the principles noted in paragraph 14.

Q: The current elements paper does not include a list of specific activities eligible for GEF financing. Will such a list be included in the program itself?

A: The intent of the program is not to prescribe specific activities for GEF support as this may prevent innovative thinking. Any activity that may help to achieve a sustainable sequestration and other desired global and domestic benefits at high cost effectiveness (see paragraph 14) may benefit from GEF support. A list of services typically needed to address constraints to carbon sequestration is provided in paragraph 13. The final program will provide examples illustrating how these services could be used innovatively to design & implement specific sequestration projects.

Q: Which criteria will guide the GEF in assessing projects that offer multiple benefits and/or synergism with other programming areas, particular biodiversity?

A: Projected impacts promising the most significant global benefits would determine which GEF operational program would be applied. Relevant program criteria and principles would be used to determine eligible incremental costs. Project proposals claiming to address objectives of multiple programs not providing sufficient evidence to justify a GEF intervention under at least one program would normally not be eligible.

Q: If the objective is to conserve specific ecosystems, which program criteria would apply?

A: The natural starting point for the assessment of relevant requests would be criteria for GEF support in the biodiversity area (see paragraph 7). However, if there weren't sufficient biodiversity benefits expected to justify a GEF intervention, then sequestration criteria could be applied. Information necessary to justify a project under the carbon sequestration program is outlined below.

Q: What information should be provided to support relevant proposals?

A: Requests for GEF assistance in the carbon sequestration area should contain the following information:

- A clear definition of the target region(s) or market(s) for the proposed project. The system boundary for the project should be described with appropriate quantitative indicators, i.e. number and size of targeted ecosystems where sequestration impact would be likely over the medium term. This would include ecosystems used for demonstrations but also all other systems in the same country, region, or market, where the replication of desired sequestration benefits is likely/foreseen.
- Estimated carbon sequestration in the target system over the last decade (baseline).
- Projected carbon sequestration in the target system over the medium term, related costs, domestic benefits, and risks (alternative).

Q: What are other important questions to be addressed in a project proposal?

A: The following additional information should be provided:

- A characterization of the nature and size of the impediments hampering the implementation of viable sequestration opportunities (see paragraph 12).
- Services/activities needed to address problems hindering utilization of viable sequestration opportunities.
- Costs and benefits of these activities/services and projected leverage, i.e. financial flows into viable carbon sequestration measures, triggered by the removal of impediments.
- Risk factors that may influence the achievement of projected economic and sequestration benefits, as well as steps proposed to address/manage these risks.
- Dissemination provisions that will assure replication of best practice.
- Progress and impact monitoring plan, including milestones and benchmarks for projected sequestration benefits (replication trends).
- An accurate domestic cost-benefit analysis over at least one growth cycle will be needed to justify the viability of proposed interventions.

Q: How will viability be defined in the context of this program?

A: A viable intervention will have a very good potential to support itself after the completion of the GEF project, so that no further external financing would be needed. This may be achieved by generation of sufficient income; by a local commitment to establish a permanent budget assuring continued coverage of operating cost; or by development of sufficient in-kind incentives to attract continued stakeholder interest in maintaining relevant sequestration activities.

Q: Would the GEF offer support for afforestation of an area that had been recently deforested?

A: This would depend on the specific situation. If the cause was an unintended fire, then there might be good reasons for GEF support. However, if the deforestation was motivated by domestic interest than it should be in the local interest to take appropriate afforestation measures also.

Q: Is it possible to utilize GEF criteria for climate change short term interventions to justify a carbon sequestration proposal?

A: Criteria for support of short term interventions offer a wide range of options to obtain GEF assistance for carbon sequestration projects with modest incremental costs. Such projects would normally be targeted at specific sites. This may include support for so called "grow and store" approaches - which often incur incremental costs below the threshold of \$10 per tonne of carbon avoided. The GEF would offer contingent financing for nearly commercial projects incurring perceived incremental costs up to the agreed threshold. This is to leverage mainstream investments in carbon sequestration opportunities.

Q: Are tree planting activities eligible for GEF assistance under this program?

A: Yes. There are two basic options to apply for tree planting activities:

If the intent is to grow trees on a specific site for later conservation as a long term carbon sink (grow and store), then the project might be eligible for a GEF grant of up to \$10 per tonne of carbon to be sequestered in accordance with criteria for the support of short term interventions in the Climate Change focal area.

If the project is to demonstrate sustainable forestry (perpetual rotations) and to promote widespread replication, then the GEF may help to secure the resources needed for relevant activities by providing finance in accordance with criteria outlined in paragraph 13.

Q: Sequestration of GHG in sinks other than ecosystems appears to be not explicitly covered by the program. Are there opportunities to obtain GEF support for other sequestration activities, such as injection of GHG in underground reservoirs?

A: The program scope is consistent with related FCCC provisions. GEF programming in the carbon sequestration area responds to relevant FCCC commitments and follows its definitions (see paragraph 4). Support for activities to sequester GHG by other means, e.g. by injection in geological formations, can be obtained in accordance with GEF short term criteria (see paragraph 6). Furthermore OP #7 and the proposed OP#11 promote the commercialization of technologies that could make best use of hydrogen extracted from decarbonized fossil fuels. The best known technology example in this context are fuel cell applications. Connected to electrical engines in mobile applications, or to combined cycle heat and power generators in stationary uses, they achieve impressive mitigation results due to their superior efficiency. The greenhouse gas (GHG) mitigation impact of fuel cell and other hydrogen based energy applications can be further enhanced by injecting the carbon dioxide byproducts of fuel decarbonization into geological reservoirs and not releasing them into the atmosphere. The prospects of sequestration by fuel decarbonization and carbon underground storage largely depend on further progress in the commercial introduction of technologies that use decarbonized fuels. Taking into account that commercialization of relevant technologies is already supported under OP #7 and would be supported under the proposed OP #11. GEF will maintain flexibility and consider promoting these technologies beyond the scope of current programs if evaluation results would support such extensions.

Q: In view of the complexity of the carbon cycle above and below ground and possible leakage if not all aspects are taken into account there will be significant margins of error assessing sequestration benefits. How will these uncertainties be addressed in GEF project reviews and related monitoring efforts?

A: Taking into account that the primary GEF goal is to trigger strategic medium and long term changes in ecosystem management patterns and to promote carbon sequestration not just on a specific site but in larger target systems such countries, regions or markets, site specific short term considerations will play only a secondary role in relevant GEF assessments. More important will be to provide significant evidence that carbon sequestration trends are being influenced favorably and sustainably.