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INTERNATIONAL WATERS

The world's water resources are under enormous stress, and the ecosystems, people, and economic development that depend on these resources are facing a precarious future. Global environmental concerns relating to international waters include:

- Degradation of the *quality of transboundary water resources*, caused mainly by pollution from land-based activities (toxic chemicals, nutrients, pathogens, oxygen-demanding wastes, sediment, and debris).
- *Physical habitat degradation* of coastal and near-shore marine areas, lakes, and watercourses (for example, wetlands, mangroves, estuaries, coral reefs), as a result of inappropriate management (for example, land conversion, dredging, coastal construction, and irrigation).
- *Introduction of nonindigenous species* that disrupt aquatic ecosystems and cause toxic and human health effects (untreated ballast water discharges from ships, for example).
- *Excessive exploitation of living and nonliving resources* due to inadequate management and control measures (for example, overfishing, and excessive water withdrawal).

Degradation of freshwater and marine systems, and of surface waters as well as groundwater resources, is causing irreversible environmental effects, hardship for the poor, real losses to the economy, human health concerns, and the need for costly investments to mitigate the damage. Marine and freshwater systems constitute important sources of income and food for a large part of the world's population whose food and water supplies are now at risk. For example, globalization of technological advances in the fishing industry, pollution, and habitat destruction have depleted fish stocks to dangerously low levels and placed food security in jeopardy in many areas. Downstream or transboundary international issues of global significance have yet to be effectively addressed.

The degradation occurring in international waters represents a warning that the carrying capacity of transboundary freshwater basins, coastal areas, and marine ecosystems has been approached in some places and exceeded in others by inappropriate sectoral development policies and projects as well as unwise use of the water resources. A consensus has emerged that a more comprehensive approach to water resources management is needed -- one that is cross-sectoral, integrates ecological and development needs, and is based on holistic analyses of the carrying capacity of the water environment.¹ In this approach, the river basin, groundwater system, coastal area, or large marine ecosystem typically serves as a management unit on which to base changes in the way that sectoral development activities are conducted and how priority environmental interventions are made. In many instances, action programs are needed to restore proper functioning of ecosystems or remedy major human health risks. Such a comprehensive approach that integrates actions across sectors is new to most countries, difficult to implement, and even harder to achieve when actions must be coordinated among countries.

The GEF's objective in the international waters focal area is to contribute primarily as a catalyst to the implementation of a more comprehensive, ecosystem-based approach in managing international waters and their drainage basins as a means to achieve global environmental benefits. The GEF will act as a catalyst to ensure that countries better understand the functioning of their international waters systems, gain an appreciation of how their sectoral activities influence the water environment, and find means for collaborating with neighboring countries to collectively pursue effective solutions. As such, the GEF will primarily fund the transactions costs of these learning processes so that countries may make changes in the ways that human activities are conducted in different sectors and make priority environmental

interventions. The aim is to overcome barriers to action so that the capacity of any particular waterbody to sustainably support human activities is not exceeded.

The term "international waters", as used for the purposes of the GEF Operational Strategy, includes the oceans, large marine ecosystems, enclosed or semi-enclosed seas and estuaries as well as rivers, lakes, groundwater systems, and wetlands with transboundary drainage basins or common borders. The water-related ecosystems associated with these waters are considered integral parts of the systems. The common global hydrologic cycle dynamically links many watersheds, airsheds, estuaries, and coastal and marine waters through transboundary movement of water, pollutants, and living resources.

The international waters area includes numerous international conventions, treaties, and agreements. The architecture of marine agreements is especially complex, and a large number of bilateral and multilateral agreements exist for transboundary freshwater basins.²³ Related conventions and agreements in other areas increase the complexity.⁴ These initiatives provide a new opportunity for cooperating nations to link many different programs and instruments into regional comprehensive approaches to address international waters. Chapters 17 and 18 of *Agenda 21*⁵ broadly capture the spirit of these international agreements and offer particularly valuable guidance to countries. GEF activities undertaken in this focal area will be consistent with *Agenda 21*.

SCOPE AND THE GEF ROLE

The overall strategic thrust of GEF-funded international waters activities is to meet the agreed incremental costs of: (a) assisting groups of countries to better understand the environmental concerns of their international waters and work collaboratively to address them; (b) building the capacity of existing institutions (or, if appropriate, developing the capacity through new institutional arrangements) to utilize a more comprehensive approach for addressing transboundary water-related environmental concerns; and (c) implementing measures that address the priority transboundary environmental concerns. The goal is to assist countries to utilize the full range of technical, economic, financial, regulatory, and institutional measures needed to operationalize sustainable development strategies for international waters.

The GEF will play a catalytic role in assisting countries seeking to leverage cofinancing in association with national funding, development financing, agency funding, and private sector action for different elements of a comprehensive approach for sustainably managing international waters. The "precautionary principle," the "polluter pays principle," and policy reforms are most always included as integral elements of international waters projects and programs to foster incentives to use resource-efficient and clean production methods that will help reduce discharges of toxic substances and sustain global environmental benefits. Both business communities and governments have important roles in developing and implementing pollution prevention programs aimed at reducing or eliminating waste generation. The GEF can assist countries in finding ways to harmonize and overcome technical and financial barriers to waste reduction and build the necessary capacity, including human resources development, to facilitate implementation.

The use of sound science and proven technological innovations can help recipient countries address the imminent threats to international waters. In particular, simulation models and information technology can provide a basis for improving management decisions on complex environmental problems and often provide an opportunity for involving countries' scientific communities in projects. Stakeholder involvement and participation of different sectors in each recipient country also constitute important elements of GEF activities concerning international waters.⁶ Through such stakeholder involvement, needed changes in sectoral activities can be made to reduce the stress on international waters. In addition, use of computer-based information systems and computer networking among stakeholders and government organizations can foster broad involvement in planning and implementing GEF international waters projects and should help to improve the quality, public awareness, and scientific basis of international waters projects. These technological innovations promote transparency among cooperating nations regarding key information, encourage broader participation by stakeholder groups within country and across countries, and provide a basis for evaluation.

Given the broad scope of activities in this focal area and the widespread nature of threats to international waters, the GEF's activities will focus mainly on seriously threatened waterbodies and the

most imminent transboundary threats to their ecosystems. Consequently, the GEF will place priority on addressing the following imminent threats to international waters:

- Control of land-based sources of surface and groundwater pollution that degrade the quality of international waters. Of special emphasis is the prevention of releases of persistent toxic substances and heavy metals that cannot be neutralized by marine and freshwater ecosystems or that accumulate in living organisms. High priority is also placed on abatement of common contaminants such as nutrients, biological contaminants, or sediments that endanger species or threaten ecosystems.
- Prevention and control of land degradation where transboundary environmental concerns result from desertification or deforestation.
- Prevention of physical or ecological degradation, and hydrologic modification, of critical habitats (such as wetlands, shallow waters, and reefs) that sustain biodiversity, provide shelter and nursery areas for the production of fish protein sources, and otherwise are important for restoring and maintaining ecosystems associated with international waters.
- Control of unsustainable use of marine living resources as well as nonliving resources resulting from inadequate management measures such as overfishing, excessive withdrawal of freshwater, and resource extraction.
- Control of ship-based sources of chemical washings and nonindigenous species that can disrupt ecosystems or cause toxic and human health effects.⁷

Taking into account the lessons from pilot phase projects in this focal area, priority will be given to comprehensive approaches to management that emphasize imminent environmental threats and different geographic settings. These broad approaches are regarded as a more effective response than narrow, sector-specific interventions such as traditional ship-waste proposals.

BIOLOGICAL DIVERSITY AND CLIMATE CHANGE

Wherever appropriate, activities in the international waters focal area will be coordinated with those in other GEF focal areas. GEF projects integrating several focal areas have the potential to multiply global benefits from GEF interventions. For example, wetland restoration and protection initiatives can provide benefits for both biodiversity protection and water quality improvement. Biodiversity protection and carbon sequestration have potential linkages and important roles in restoring damaged transboundary basins. Other, more subtle linkages exist; for example, support for energy conservation and efficiency may help reduce the burning of fossil fuels that emit mercury as a by-product. Long-range transport of the mercury contaminates international waters and the biota consumed by humans. Synergies with biodiversity are particularly strong in coastal and marine areas as well as in projects addressing small island developing states and will be reflected in programmatic initiatives (see page xx). Adoption of integrated coastal area management strategies, a common feature in this focal area, can provide benefits for biodiversity protection as well as for the climate change focal area.

LAND DEGRADATION

There are strong and complex linkages among land use policies and practices, land degradation, and the impairment of water-related ecosystems. Land degradation is linked to sediment pollution and salt intrusion in rivers, lakes, and aquifers; vegetation loss; overpumping of ground-water; and salination of soil. Heavy sediment loads damage aquatic and marine biodiversity, make rivers more prone to flooding, and result in damage to cropland and, therefore, lowered food production. Dryland river, lake, and groundwater basins, which are often transboundary in nature, are critical to the well-being of some one billion people who live in areas at risk from desertification.

Improved water management in dryland transboundary basins is fundamental to enhanced food security, reduction of risks of drought or flood, and better environmental management. In dryland regions, improved management of groundwater supplies is essential to support sustainable development. Some

groundwater systems may be dynamically linked to surface waters through indirect recharge processes, while others contain "older" fossil water that must be carefully managed if future generations are to use them. Sustainable development cannot proceed in these transboundary basins without a cooperative, multicountry water resources management strategy that integrates land and water use decisions, determines the environmental capability of the basin to sustainably support different sectoral water uses, places priority on protection of unique aquatic environments and flows needed to sustain them, explores options for reducing water use to sustainable levels, and contains provision for emergency planning to address variable flows. Recent technological developments in satellite technology and remote sensing should help to ensure access to necessary hydrologic information for preparing needed strategies. Improved watershed and catchment management, sustainable land-use/soil conservation systems, reforestation, and vegetative rehabilitation, accompanied by changes in sectoral, social, and economic policies, can help address transboundary water-related environmental concerns.

The comprehensive approach utilized in this focal area encourages integrated land and water management activities that assist countries in making the transition to sustainable development. Activities to prevent land degradation and rehabilitate degraded catchment areas will be included as part of an international waters project if they contribute to the resolution of priority transboundary water-related environmental problems. The emphasis will be on facilitating regional and international cooperation; pilot initiatives with demonstration value; a comprehensive approach that integrates the management of land and surface/groundwater systems; and coordinated land use planning and management, relying on technology-based information systems, information networking, stakeholder involvement, extension services, regulatory frameworks, and incentive systems. The intent is to support actions that are undertaken for international, not just national purposes.

OPERATIONAL PROGRAMS

The GEF will utilize a programmatic approach in targeting its resources to address the imminent threats previously outlined (see page xx) that are transboundary in character. These operational programs will help capture additional programmatic global benefits in a cost-effective manner by linking country-driven needs for international action with the comparative advantage of different Implementing Agencies. Operational programs will be developed to achieve the focal area objectives (see page xx), and as the GEF learns from the initial programs, successive generations will evolve. A comprehensive approach will be followed in designing projects so that complementarities among Implementing Agencies and additional global benefits in multiple focal areas will be achieved.⁸ The operational programs will ensure that a number of different types of international waters geographic settings are addressed;⁹ the land degradation cross-cutting theme and linkages with other focal areas receive attention; and a more complete range of imminent threats is covered. The GEF also will seek a balance between preventive actions and remedial actions necessary to restore impaired uses of international waters; areas facing serious degradation will receive priority attention for technical assistance, institution and capacity building, and investments.

Three operational programs will initially be prepared:

- A waterbody-based operational program
- An integrated land and water multiple focal area operational program
- A contaminant-based operational program

These initial operational programs are described below and are included with their associated indicative activities in the appendix to this chapter to illustrate the types of projects for each program. Although there will inevitably be some overlap among the programs, each has a defining theme and should provide flexibility for truly country-driven initiatives and appropriate Implementing Agency responses to the specific environmental needs.

Waterbody-Based Operational Program.

This operational program involves activities that address the priority transboundary environmental concerns that exist in a specific waterbody, such as a transboundary freshwater drainage basin that is

regionally significant or a large marine ecosystem. The objective is to help groups of countries to work collaboratively in learning about and resolving priority transboundary water-related environmental concerns. GEF support will help overcome barriers to organizational learning and transactions costs of working together in strengthening or developing a regional institutional framework and in addressing sectoral causes of major water resources problems. Institution building plays a crucial role, and specific capacity-strengthening measures are required to assist countries in finding the appropriate institutional and organizational arrangements. A representative number of freshwater basins (both surface and groundwater transboundary basins) as well as large marine ecosystems (or perhaps limited oceanic areas) will be targeted to ensure balanced coverage of a wide range of geographic and climatic settings.

Important characteristics of this operational program are: (a) the focus on addressing specific impairments of the waterbody, such as reducing eutrophication or toxic substances in inland waters; and (b) support for the learning processes for countries to work cooperatively and collectively in addressing imminent threats to their transboundary water resources. An initial GEF-funded activity to formulate a Strategic Action Program (SAP) is usually an appropriate first step to help countries define priority problems, establish country and Implementing Agency commitments to specific actions, and agree on additional interventions for their priority transboundary concerns (see page xx). Following this step, the GEF could fund a capacity-building, technical assistance, or investment project to help harmonize regulatory or policy frameworks, build institutional capacity, or demonstrate implementation of needed interventions.

Integrated Land and Water Multiple Focal Area Operational Program.

These projects involve the integration of land and water resource management as a primary component of addressing the degradation of international waters. They can involve other GEF focal areas as well as the cross-cutting issue of land degradation (desertification and deforestation). Also in this program are international waters projects that address the special conditions and needs of small island developing states (SIDS). These projects are included for two reasons: integrated freshwater basin-coastal area management is essential for a sustainable future for these island states, and this approach can produce benefits in other GEF focal areas, especially biodiversity. Key features of each regional SIDS international waters project are improvements in integrated freshwater basin-coastal area management on each island of the regional groupings of SIDS, a multiple GEF focal area approach, and a coordinated, programmatic approach among Implementing Agencies according to the comparative advantage of each agency.

Some countries may wish to address areas of unique or endangered marine biodiversity in a joint biodiversity/international waters multiple focal area project. Such projects rely on integrated freshwater basin-coastal area management for multiple purposes to address the root causes and sectoral activities that endanger the reefs, wetlands, and mangroves that serve as nursery areas for the ocean's living resources. These multiple focal area projects might be identified as part of the process of developing a SAP. Pristine or unique areas are eligible for these multiple focal area projects (e.g., international waters/biodiversity) if the country or neighboring countries wish to address current and anticipated imminent threats to prevent damage and if real commitments are made to policy changes or needed investments as part of a SAP.

Contaminant-Based Operational Program.

This program will include activities that help to demonstrate ways of overcoming barriers to the adoption of best practices to limit contamination of international waters. A key feature is that there is no requirement that these projects be tied to a particular multicountry collaborative process, as there is for the waterbody-based operational program. However, projects are encouraged where an imminent threat exists. Measures to address both ship-related environmental concerns and globally significant toxic pollutants that might be transported over long distances in the atmosphere, rivers, or ocean currents will be included, and technological advances that prevent releases will be encouraged.

Some projects may include demonstrations and pilot tests of measures to address pollution discharges from land-based sources of marine pollution (particularly persistent organic pollutants); the incremental costs of these measures can also be included in technical assistance or investment projects as part of the waterbody-based operational program. Narrowly focused regional or global projects that can help meet particular technical needs, or improve the use of certain measures by several groups of

international waters projects (and build capacity to undertake the measures), are also included in the program. Targeted technical demonstration and capacity-building projects can help build awareness in recipient countries of international waters concerns as well as best-practice measures, tools for finding solutions, and policies for innovative institutional approaches. For example, priority is placed on demonstrations of economic policy incentives in projects addressing land-based sources of pollution and in transboundary basins (see the appendix).

STRATEGIC ACTION PROGRAMS

To produce global environmental benefits, international waters projects must address transboundary water-related environmental concerns. Where these transboundary concerns, additional needed actions, and incremental costs are not adequately defined, an initial international waters project should be undertaken to formulate an agreed Strategic Action Program (SAP) prior to development of a technical assistance, capacity-building, or investment project. In such cases, SAPs become somewhat analogous to enabling activities in other focal areas. A group of countries would work with one or more Implementing Agencies to first identify the priority transboundary water-related environmental concerns and the sectoral policy causes of the problems experienced by the particular waterbody and then formulate a SAP to outline the actions needed to resolve the priority problems. As described in box 4.1, a SAP would contain needed baseline actions (including country commitments for implementation); actions addressing transboundary issues that would be funded in the baseline or by other means such as bilateral assistance, loans, or through regular Implementing Agency programs; and additional actions needed to resolve the transboundary environmental concerns that have incremental costs that the GEF might fund. A key element of the SAP is the well-defined baseline case of needed interventions so that there is a clear distinction between actions with simply national benefits and those addressing transboundary concerns with their global benefits. Another key element involves the institutional mechanisms chosen at the regional and national levels for implementing the SAP.

PROJECT SELECTION CRITERIA

Country commitment to a comprehensive, cross-sectoral approach is essential for a project to be included in the international waters portfolio. In addition, transboundary environmental concerns must be identified and a clear baseline alternative determined before a technical assistance or investment project is eligible for GEF funding. Given the transboundary nature of SAPs, countries may incur additional transactions costs to participate in their preparation as well as additional costs for removing barriers to action. Such costs may relate to joint planning activities, additional data collection/analysis tasks and coordination efforts among a number of nations. In order to ensure that a diverse portfolio of different types of projects is developed and that the imminent threats to international waters are addressed, the following criteria will be applied:

- The transboundary concern involves one or more of the imminent threats to international waters.
- Severity of the transboundary problem (ecological significance of damage, human health implications, extent of critical habitat, spatial damage).
- Threat of irreversible damage to biodiversity and time scale of reversibility (particularly if threatened or endangered species, such as marine mammals are involved, and if the damage will severely harm the livelihoods of affected populations).
- Leveraging of development assistance, international agency cofunding, or private sector or other country commitments to provide associated financing for priority solutions in the baseline as well as for transboundary concerns.
- Capacity for implementation or plans for inclusion of capacity-building components.
- Degree to which the problems are common to other geographic regions and interventions are replicable.
- Consistency with national environmental planning documents and international legal obligations.

Box 4.1

KEY ELEMENTS OF STRATEGIC ACTION PROGRAMS

Transboundary water-related environmental analysis. The process for cooperatively preparing a Strategic Action Program (SAP) among countries should start with an analysis of priority transboundary environmental problems. Which ones cause actual degradation? What sectoral activities cause the degradation and how serious is it? What are the information gaps, policy distortions, institutional deficiencies? UNEP often provides support in this element, while the UNDP assists with capacity-building needs, and the World Bank with identification of priority investments and policy reforms. Stakeholder analysis and public involvement are essential so that economic and social aspects can be included.

Relationship to national environmental planning and economic development documents. National environmental documents and plans will provide input in preparing this analysis as well as identifying priorities among environmental concerns. The analysis of the causes of degradation and the needs for capacity building should include examination of national economic development plans and sectoral economic policies (which establish reasonable actions for sustainable development).

Establishment of clear priorities. The SAP should establish clear priorities that are endorsed at the highest levels of government and widely disseminated. Priority transboundary concerns should be identified, as well as sectoral interventions (policy changes, program development, regulatory reform, capacity-building investments, and so on) needed to resolve the transboundary problems as well as regional and national institutional mechanisms for implementing elements of the SAP. Coordination of priorities with those identified under the climate change and biodiversity focal areas could be done during the SAP process. The SAP should provide for a balanced program of preventive and remedial actions, support both investment and capacity-building activities, and identify key activities in the following areas:

- Priority preventive and remedial actions
- Cross-cutting issues and linkages to other focal areas
- Institutional strengthening and capacity-building needs
- Stakeholder involvement and public awareness activities
- Program monitoring and evaluation
- Institutional mechanisms for implementation.

Establishment of a realistic baseline. The cooperating countries and the GEF should agree on the baseline environmental commitments (which should be funded domestically or through donors or loans) and what activities are additional for solving the transboundary priority problems. It is important for activities included in the SAP to be realistically costed and consistent with projected availability of domestic and international funding. Donor conferences may be appropriate when the SAP is in the draft stage to facilitate international commitments to action.

Determining agreed incremental costs. The elements of the SAP are strategic in nature and will typically yield domestic as well as agreed global benefits. The activities additional to the baseline scenario could be eligible for GEF funding in accordance with GEF incremental cost guidelines in a subsequent technical assistance (capacity-building) or investment GEF project in the focal area.

APPENDIX

OPERATIONAL PROGRAMS AND INDICATIVE ACTIVITIES: INTERNATIONAL WATERS

The international waters focal area is complex because of the many different types of environmental concerns related to water resources, the variety of geographic situations, the linkages among sectoral activities and the resulting environmental stresses, and the opportunities to multiply benefits through integrated approaches with other GEF focal areas and cross-cutting issues. This focal area relies on cooperation among Implementing Agencies as part of specific projects and as well as a significant commitment from each Implementing Agency to target its regular development assistance programs to the international waters project area along with the GEF. These Implementing Agency commitments to action (including regular agency programs such as capacity building) and individual country commitments to baseline and additional specific actions are often contained in Strategic Action Programs (SAPs) developed with GEF assistance. With this complexity and the need to formulate these commitments, three different types of operational programs are initially proposed to provide flexibility in addressing country-driven needs. The following indicative activities illustrate the operational programs.

WATERBODY-BASED OPERATIONAL PROGRAM

Projects in this program involve activities that address the priority transboundary environmental concerns that exist in a specific waterbody. They typically begin with support to groups of countries for learning to work collectively and cooperatively in identifying the particular transboundary water-related environmental priorities, reviewing capacity-building needs, and developing a SAP for addressing the priorities. Donor conferences may be appropriate when the SAP is in draft form. Following formulation of the SAP with its baseline commitments for domestic action, Implementing Agency regular program commitments, elements funded by other sources, and additional elements for addressing transboundary priorities, the GEF could fund a technical assistance, capacity-building, or investment project (or projects).

Indicative activities

Transboundary freshwater basin projects

Some projects address surface water systems, others address activities related to interactions among surface water and groundwater systems, and a few others address transboundary groundwater systems. Priorities among pollution, habitat degradation, and overexploitation of living resources should first be established jointly by the cooperating countries as part of a SAP. The GEF might then fund the incremental cost of priority elements of the SAP that address the transboundary priorities. This funding could provide cost-shared incentives for leveraging government, private sector, or donor action in implementing priority solutions on the ground. Examples might include: (1) a modest cost share in supporting establishment of an industrial toxics pretreatment program or physical interventions to separate easily treated municipal wastewater from more dangerous industrial wastewater; (2) incremental cost funding for wetland restoration to provide habitats and to mitigate the effects of pollutants before they reach international waters; (3) innovative approaches such as tradable pollution discharge permit systems or offset programs to cost-effectively improve water quality in shared basins; (4) cost-share best management practice installation for nonpoint source control of land-based pollution in degraded, priority watersheds; and (5) building a human resources capability to strengthen institutions. Hotspots of transboundary degradation may be targeted for funding if information is sufficient to characterize the transboundary nature of the problem and the country (or countries) commit to undertaking the needed measures. Single-country versions of SAPs may be appropriate.

Large Marine Ecosystem Projects

International waters projects in this area are among the most complex GEF projects, and each can have a distinctive approach. However, for consistency with the Operational Strategy, groups of countries wishing to cooperate on coastal and marine resources should undertake a SAP development project to fully assess linkages among marine, coastal zone, and freshwater basin waters and their ecosystems to determine priority transboundary environmental issues, root causes of degradation, and the array of measures needed to address them in a SAP. Integrated freshwater basin-coastal area management measures are important for protecting large marine ecosystems. In hotspots of transboundary environmental damage, targeted technical assistance or investment international waters projects are encouraged to address serious problems. If only several of a larger number of riparian countries wish to proceed, formulation of a SAP would be a useful, incremental first step. In addition, cooperating countries may wish to jointly address environmental problems of an oceanic area not included in a large marine ecosystem. Technological advances are being introduced that use information technology and computer simulation to help make critical management decisions for marine resources. In addition, institutional tools such as the Code of Conduct for Responsible Fishing consistent with the United Nations Convention on the Law of the Sea are also becoming available.

INTEGRATED LAND AND WATER MULTIPLE FOCAL AREA OPERATIONAL PROGRAM

These projects involve the integration of land and water resource management as the primary component of addressing the degradation of international waters and often involve multiple GEF focal areas and the cross-cutting issue of land degradation and desertification. Also in this program are international waters projects that address the special concerns of SIDS. These projects are included because integrated freshwater basin-coastal zone management is essential for a sustainable future for these island states and because this approach can produce benefits in multiple GEF focal areas. Biodiversity protection considerations are often important elements of these projects because of inherent linkages between the sectoral activities and the status of biodiversity. In this manner, biodiversity protection issues can be integrated into the thinking of sectoral managers (water resources engineers, for example) to ensure that these managers do their part in protecting aquatic and marine ecosystems; and their knowledge, skills, and attitudes can be developed through training elements of each project. As with the waterbody-based operational program, single country projects may be appropriate if world-class biodiversity or habitat conditions warrant priority.

Indicative activities

Small island developing states

Small island developing states (SIDS) have special conditions and needs that were recently identified for international attention in the Barbados Programme of Action for the Sustainable Development of Small Island Developing States. It is appropriate for the GEF to fund regionally focused programmatic approaches aimed at specific regional groups of SIDS to achieve global environment benefits. A typical GEF SIDS project may include: improvements in integrated freshwater basin-coastal area management on each island of the regional groupings, an approach that targets multiple focal areas of the GEF, and a coordinated approach among the Implementing Agencies, according to the comparative advantage of each. Activities concerning international waters could be targeted at the six major issues that most SIDS have in common (coastal area management and biodiversity, sustainable management of regional fish stocks, tourism development, protection of water supplies, and land and marine-based sources of pollution and vulnerability to climate change). Regional groups of SIDS often share access to marine resources and experience common water-related environmental problems (such as saltwater intrusion into groundwater supplies as a result of rising oceans) that can be addressed through the GEF in the context of altering sectoral activities on each island state to meet sustainable development goals. SIDS share common environmental problems and solutions to those problems that reflect the partnership between their representative regional organizations and the capacity and institutional building needed on

each island state to more comprehensively address these problems. One example is oceanic fisheries that are located near groups of SIDS and the additional measures needed to ensure their sustainable management. This is a complex issue because the fish might travel in a particular portion of oceanic waters during one season but rely on coastal waters and wetlands of the SIDS for reproduction and nursery areas in other seasons. Advances in data collection and analysis systems, use of information technology, and involvement of the scientific community to assist in addressing these issues is central to these regional projects.

Land degradation

A special linkage exists between land degradation in dryland areas and management of both surface and ground water resources in transboundary drainage basins. Rehabilitation of damaged catchments and adoption of sustainable land-use systems will be priorities. In addition, opportunities exist for deriving global environment benefits in other focal areas such as climate change and biodiversity, with reforestation or carbon sequestration projects being an important element of an international waters project designed to address land degradation. Improved watershed and catchment management, sustainable land-use and conservation systems, and changes in sectoral development and economic policies can be essential in addressing transboundary water-related environmental concerns related to land degradation. Especially in arid and semi-arid regions, land degradation can be linked with changes in climate and river flow regimes, which can also result in degraded subsurface water supplies, some of which have transboundary recharge basins. Support for preparation of water resources management strategies by riparian countries for a transboundary dryland basin is a common characteristic of these projects, to allow harmonizing of sectoral water uses among basin countries in an environmentally sustainable manner. Once the root causes pertaining to sectoral uses of water are resolved, and commitments to take action are made, other environmental issues can be addressed.

Multiple Focal Area Projects

GEF projects integrating several focal areas have the potential to multiply global benefits from GEF interventions. For example, wetland restoration and protection initiatives can provide benefits for both biodiversity protection and water quality improvement. Biodiversity protection and carbon sequestration have potential linkages and important roles in restoring damaged transboundary basins. In areas with globally significant biodiversity concerns, especially unique coastal areas, wetlands, and coral reefs, multiple focal areas projects (biodiversity and international waters) might be appropriate for addressing current and anticipated imminent threats in order to prevent environmental damage before it occurs, if country commitments to action are expressed in a SAP. Mechanisms for networking among agencies and institutions with primary interest in different focal areas are essential in this type of program.

CONTAMINANT-BASED OPERATIONAL PROGRAM

Projects in this program help to demonstrate ways of overcoming barriers to adoption of best practices that can address transboundary environmental concerns. Measures for addressing ship-related environmental concerns and for addressing globally significant toxic pollutants that might be transported over long distances in the atmosphere, rivers, or ocean currents are involved in these projects. While some projects include demonstrations and pilot tests of measures to address pollution discharges from land-based sources of marine pollution, many of these measures can also be included in technical assistance or investment projects as part of the waterbody-based operational program. Narrowly focused global or regional projects that can help meet the technical needs of groups of international waters projects or build awareness and capacity are also included in this program. Demonstration projects or project elements that test the use of innovative policies or economic instruments such as tradable pollution reduction allocation systems would be a priority for the GEF.

Indicative activities

Global pollutant projects

Some toxic pollutants that are persistent in nature can be considered as “global pollutants” because they are transported long distances in ocean currents or through the atmosphere before falling to earth. They can accumulate in living organisms and can pose human or ecosystem health risks. Some of these pollutants are associated with certain industrial sectors or processes across the world. Individual international waters cannot be cleaned up through regional action because this would place the countries or enterprises at an economic disadvantage in world markets. Substances such as mercury, dioxin, PCBs, persistent organic pollutants, and some pesticides that can disrupt human endocrine systems might be candidates for global action in global pollutant projects.

Threats related to shipping

Activities related to abatement of pollution from ship-based chemical washings and interventions against the transfer of noxious, nonindigenous species in ballast water are priorities for the GEF because they are virtually unaddressed problems. Although GEF support for oil-related interventions could continue in priority waterbodies designated as part of the International Convention for the Prevention of Pollution from Ships as special areas, the GEF would require that these projects lead to self-financing of capital and operating costs on the polluter-pays principle through full cost recovery schemes and innovative mechanisms for private sector financing. GEF participation could then have a catalytic effect on such self-financing schemes.

Regional or global technical support projects

The complexity of international waters projects raises technical questions about how and what contaminants to monitor, how to analyze complex sets of data, where to get help, how countries can institutionally work together and how to involve the public in decisionmaking. Targeted regional or global capacity-building projects may be necessary to help increase awareness on how to jointly address these contaminant problems. Countries would benefit from an iterative approach if activities took place in one country after another. In addition, these projects may improve the GEF project success rate and the sustainability of interventions by giving personnel the skill, awareness of best practices, and knowledge necessary to solve problems that may be common to countries, regions, and GEF projects. Demonstration or pilot projects may be tested in this operational program.

NOTES

¹ From the Mar del Plata Conference in the 1970s and the Law of the Sea Convention in the 1980s to the Dublin Statement, the Earth Summit, and the Noordwijk (World Coast Conference) Statement in the 1990s, the world's water resources specialists have recognized that a more comprehensive, cross-sectoral approach to managing water resources is needed to achieve sustainable development. Linkages between economic sectors and degradation of the water environment should be identified and preventive measures included in national economic development plans so that the use, conservation, and development of freshwater and marine resources can be sustained for the future.

² The 1982 U.N. Convention on the Law of the Sea (UNCLOS) provides a global framework for the protection and management of the marine environment and its living and nonliving resources and recognizes that global environmental objectives are achieved by actions taken in a region-by-region framework. There also is a network of more specific international legal instruments as well as nine regional seas conventions and their protocols.

³ A large number of bilateral and multilateral agreements and management authorities were established before environmental considerations came to the fore. Sound protection of water resources and the sustainable use of their ecosystems must be incorporated into these institutional arrangements to meet sustainable development goals.

⁴ Conventions and agreements relating to land-based sources of pollution, port reception facilities, coastal dumping, offshore facilities, emergency response, marine fisheries, protected areas designations, hazardous

substance transport and disposal, international trade, endangered species, and the biodiversity, climate change, and desertification conventions all play a role in achieving global protection of international waters. The RAMSAR convention, in particular, is important for identifying wetlands in need of protection. Four new initiatives and their associated action programs also have special linkages. The Barbados Programme of Action for the Sustainable Development of Small Island Developing States, the Intergovernmental Conference to Adopt a Global Programme of Action for the Protection of the Marine Environment from Land-based Activities adopted as the "Washington Programme of Action" in November 1995), the U.N. Convention to Combat Desertification, and the recently negotiated Agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks (with parallel negotiations on a technically oriented Code of Conduct for Responsible Fishing, consistent with UNCLOS) have action programs associated with them.

⁵ United Nations Conference on Environment and Development, Agenda 21 (New York: UNCED, 1992).

⁶ Numerous stakeholders are involved in the design and implementation of international waters projects, and their involvement will differ at each level of planning and administration. Participation of these various stakeholders (including the private sector) within and across countries can improve the quality, effectiveness, and sustainability of projects. However, there is a need to identify the key stakeholders through a stakeholder analysis, as well as the levels at which their involvement will be critical and the means to ensure their effective participation. Linkage through computer-based networks is promising. Interministerial coordination is essential so that actual changes can be made in sectoral activities.

⁷ Nonindigenous species and chemical washings are included because of their potentially devastating effects and lack of action. Spill contingency planning and deballasting for oily waters are well known and might be considered "baseline" interventions. Further action on oil-related marine pollutants should await the lessons of the pilot phase, where over 50 percent of international waters funding was allocated to ship-related projects.

⁸ This comprehensive approach, with its need to modify man's sectoral activities so that the capacity of the water environment to support those activities is not exceeded, relies on joint activities among neighboring nations as well as active interministerial coordination within individual nations to make needed changes in sectoral activities. This comprehensive approach provides the opportunity for countries to link different programs and instruments together as a holistic package through the project to identify and build on complementarities among programs so that they can be targeted to better manage the environment of international waters.

⁹ These settings refer to different types of international waters projects (freshwater basins vs. large marine ecosystems) in different parts of the world to produce a diverse, representative portfolio.