Lesson learning and trans-boundary waters: a look at the Global Environment Facility’s international waters program

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Abstract

The Global Environment Facility (GEF) aims to assist countries in better understanding the functioning of their international water systems and developing an appreciation of how sectoral activities have an impact on the environment. By funding the transaction costs of the learning processes necessary to gain a better understanding of these ecosystems, the GEF hopes countries will collaborate with their neighbors to reach effective solutions collectively. This paper explores lessons learned from GEF efforts concerning trans-boundary water resources. It investigates GEF efforts in (1) creating a shared vision, (2) involving the public and private sectors, (3) coordinating program activities, (4) building governance institutions and capacity, and (5) improving the ecosystem. These lessons reveal relative success in creating a shared vision and building governance institutions and capacity for trans-boundary waters but uncovers significant obstacles in the other areas.

Keywords: Cooperation; Global environment facility; Regional water projects; Transboundary waters

1. Introduction

A National Geographic caption succinctly summarized the state of our globe’s water: “Not enough, not clean enough” (Montaigne, 2002: 20). In developing countries the future is bleakest. As water shortages threaten agricultural production across Africa, arsenic contamination poses a serious public health threat in Bangladesh and West Bengal. In central Asia the Aral Sea is dying. China’s Yellow River has run dry.

These problems are exacerbated by the nature of the resource itself. Water ignores political borders. Some 263 of the world’s rivers are shared by two or more countries. These international watersheds account for 60% of the world’s freshwater supply and are home to 40% of the world’s people (Postel & Wolf, 2001: 63). Asia, Africa and Latin America each have 60% of their land area as part of trans-boundary river basins.


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Twenty-three countries in Africa alone have at least three-fourths of their area in portions of trans-boundary basins. The greatest challenge facing those who share these trans-boundary waters is the creation of shared solutions to the current problems.

In 1977 at the United Nations (UN) Water Conference at Mar del Plata, the international community acknowledged the critical role of water in environmental management. At the 1992 Conference on Environment and Development (UNCED) in Rio de Janeiro, member countries endorsed policies that stress integrated water resources management based on the perception of water as an integral part of the ecosystem and as a social and economic good. Specifically, Agenda 21 called for integrated water management, capacity-building and scientific and technological means to address both marine and freshwater environments. More recently, participants at the 2002 World Summit on Sustainable Development in Johannesburg urged continued dialogue and cooperation on international waters. World Water Forums also raise awareness about water issues and promote global collaboration.

Multiple factors explain the increased international cooperation and attention to water resources in the past twenty-five years. These include: increasing pressure on water resources, changes in official government assistance, evolving public and private sector roles and strengthening interest in partnerships. The benefits of cooperation are becoming increasingly recognized. Cooperation enables better management of ecosystems, leads to increased food and energy production, lightens regional tensions and paves the way for greater cooperation between states in other areas. As Priscoli notes, "Increased interdependence through water sharing plans and infrastructure networks can be seen as increases of our flexibility and capacity to respond to exigencies of nature and reduce our vulnerability to events such as droughts and floods and thereby increase security." (Priscoli, 1998: 623). Once cooperative water regimes are established through treaty, we know they tend to be resilient over time, even when conflict is waged over other issues.

An organization that has emerged as being vital to this international environmental movement has been the Global Environment Facility (GEF). Since gaining credibility from the international community during the UNCED meetings, the GEF has become the largest multilateral source of aid specifically for the global environment. During its first decade of existence, the 1990s, the GEF allocated US$4.2 billion to finance more than 1,000 projects in 160 developing countries and countries with transitional economies. Including co-financing, almost US$1 billion has been invested specifically for water-related projects. In the fragmented and diffuse environment of international water resource management, the GEF has come to be a "major facilitator" of the implementation and increased adoption of international waters laws, action plans and regional environmental protection agreements.

This paper investigates the lessons learned from the GEF’s efforts concerning trans-boundary waters. First, we provide a brief background of the GEF. Then we explore the GEF’s International Waters Program with a keen look at its regional waters portfolio. Next, we analyze GEF-led regional projects to assess lessons learned concerning trans-boundary waters. Finally, we draw several conclusions based on this study and call for future research.

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2. The Global Environment Facility

The Global Environment Facility is a multilateral financial mechanism that promotes international cooperation for the protection of the global environment. Recipient countries\(^2\) receive funding for projects and activities in six focal areas: climate change, biodiversity, ozone layer, persistent organic pollutants, land degradation and international waters. The GEF grew out of a concern for global environmental problems in the 1980s, particularly a growing awareness of trans-boundary environmental problems and recognition that efforts to improve matters would be costly (Sjöberg, 1994: 3).

Established by a World Bank resolution in 1991, the GEF entered a three-year pilot program to test approaches and resolve competing governance schemes. European donor government representatives initiated GEF in the World Bank as a means to pre-empt alternatives for a more ambitious and decentralized “green fund” (Chatterjee & Finger, 1994). Nonetheless, calls for restructuring the newly created GEF came from developing countries and environmentalists at the 1992 United Nations Conference on Environment and Development in Rio. Critics found GEF’s decision making to be neither transparent nor scientific (Bowles & Prickett, 1994). An independent analysis of the GEF’s pilot phase echoed similar criticisms (Global Environment Facility, 1994) and the GEF was accepted on the condition that it be restructured in line with the recommendations of the independent evaluation. A restructured and refinanced (with US$2 billion) GEF emerged in 1994 more transparent, accessible and responsive to developing countries and non-governmental organizations (NGOs) concerns\(^3\). The GEF is the primary financial mechanism for the world’s newest international environmental treaties, the United Nations Conventions on Climate Change, Biodiversity, Desertification and Persistent Organic Pollutants.

GEF project implementation is characterized by a tripartite management structure. Three agencies, the United Nations Development Programme (UNDP), the United Nations Environmental Programme (UNEP) and the World Bank, work in concert to provide a delivery system for global environmental projects by working with client country governments, intergovernmental organizations, other United Nations agencies, private and academic sectors and NGOs to develop global environmental projects. UNDP manages capacity building projects and undertakes smaller projects where it can utilize its technical expertise on the ground and build upon its already strong connection with recipient countries. UNEP focuses on regional priority setting and action planning and provides guidance through a Scientific and Technical Advisory Panel (STAP). The World Bank is in charge of the GEF Trust Fund and implements GEF projects that typically complement its regular loan making programs.

Because the GEF is concerned with only generating global environmental benefits, it finances only a portion of the cost of eligible projects. Co-funding is expected to cover the “national” benefits of the project. As such, it complements traditional development assistance by covering the additional costs or agreed incremental costs incurred when a development project also targets global environmental objectives. Incremental costs are calculated by subtracting the costs of any national or local benefit from the total cost of the project to identify the cost of creating global environmental benefits which the

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\(^2\) Recipient countries are parties to specific environmental agreements or which qualify for technical assistance grants from the United Nations Development Programme or loans from the World Bank.

\(^3\) See Sjöberg (1999) for a detailed evolution of the GEF from its incarnation as a pilot facility through restructuring and replenishment, to its establishment as a permanent instrument (1991–1994).
recipient would otherwise have no incentive to fund. As one observer noted, “GEF assistance is not
development ‘aid’ in the traditional sense, but the payment, by a certain group of donors, for the import
of environmental services (cleaner air, biodiversity protection, etc.) provided by the South” (Jordan,
1995: 306). The incremental cost principles have been criticized for creating an “unhealthy and
methodologically questionable separation of global and local benefits” and undermining a “sense of
ownership in the project country” (Horta, 1998: 3). A recent investigation of the GEF by non-
governmental organizations also noted that projects which emphasize low cost technologies or
indigenous knowledge create global and local benefits that do not necessarily fit into the incremental cost
formulae (Horta et al., 2002).

Despite such concerns, the GEF was replenished with some US$2.92 billion for the 2003–06 cycle, its
largest financial allocation to date. In September 2005, the GEF announced that it will adopt a major
reform program that will change the way it provides grants for developing countries. Its new “resource
allocation framework” is designed to link the award of GEF resources better to a country’s potential to
generate global environmental benefits, including transparency and performance (Global Environment
Facility, 2005a).

There is a rich literature contesting the GEF’s political and institutional basis (Jordan, 1994, 1995;
Silard, 1995; Fairman, 1996; Sharma, 1996; Walcoff, 1998; Streck, 2001). Three commonly heard
concerns include: (1) an unnecessarily tight linkage between the GEF and the World Bank (Horta et al.,
2002), (2) power imbalances between the North and South (Gutpa, 1995) and (3) constraints on the
interaction of non-governmental organizations with the GEF (Reed, 1993; Young, 1999). Wells provides
an analysis of pilot-phase biodiversity projects, revealing questionable commitment to local
participation and minor roles for local and national developing countries NGOs (Wells, 1994). Young
and Boehmer-Christiansen find similar concerns with GEF’s climate change efforts, including concerns
about the incremental cost paradigm, transparency and the World Bank’s participation (Young &
Boehmer-Christiansen, 1997, 1998). Gerlak and Parisi’s research in GEF’s initial four focal areas
(biodiversity, climate change, ozone and international waters) echo similar concerns regarding
incremental costs and the underutilization of NGOs and local peoples (Gerlak & Parisi, 1999: 645–652).

3. International waters and the Global Environment Facility

The GEF defines its role in international waters as a “catalyst [to the] implementation of a more
comprehensive, ecosystem-based approach to managing international waters and their drainage basins
as a means to achieve global environmental benefits” (Global Environment Facility, 1996: 49). In doing
so, it aims to assist countries in better understanding the functioning of their international water systems
and developing an appreciation of how sectoral activities impact the environment. By funding the
transaction costs of the learning processes necessary to gain a better understanding of these ecosystems,
the GEF hopes countries will collaborate with their neighbors to reach effective solutions collectively. In
an effort to define “international waters” \(^4\), the GEF operational strategy focuses on “trans-boundary”

\(^4\) International waters are defined as oceans, large marine ecosystems, enclosed or semi-enclosed seas and estuaries, rivers,
lakes, groundwater systems and wetlands with trans-boundary drainage basins or common borders.
water resources, addressing pollution and water management through a participatory stakeholder process.

Since the GEF does not function as the financial mechanism for any global convention or international agreement relating to water, it exhibits a higher degree of autonomous decision making in this focal area (Dolzer, 1998: 2). Its priorities and areas for intervention derive from the GEF’s Operational Strategy which is to: (1) assist groups of countries to understand better environmental issues associated with international waters and to work collaboratively to address them, (2) build the capacity of existing or new institutions to utilize a more comprehensive approach for addressing trans-boundary water-related environmental concerns and (3) implement measures that address priority trans-boundary environmental concerns (Global Environment Facility, 1996: 48). The main environmental concerns for GEF international waters projects include: (1) degradation of the quality of trans-boundary water resources, (2) physical habitat degradation, (3) introductions of non-indigenous species and (4) excessive exploitation of living and non-living resources (Global Environment Facility, 1996: 47).

Its international waters focal area is organized into three operational programs (OPs). These include:

1 Waterbody-based operational program (OP8). These projects seek to help groups of countries work collaboratively to learn about and to resolve priority trans-boundary water-related environmental concerns. Projects include both freshwater and large marine ecosystems, with a focus on seriously threatened water bodies and the most imminent threats to their ecosystems, including pollution, wetland loss, over-fishing and excessive water withdrawal. Projects in this operational program seek to assist countries in making changes in sectoral policies and activities, and engaging in remedial actions.

2 Integrated land and water multiple focal area operational program (OP9). These projects aim to integrate land and water resource management as a primary component of addressing the degradation of international waters from desertification and deforestation. Projects in this operational program often involve determining what sectoral changes are necessary to achieve sustainable development in the basin. The focus here is on preventive area-wide measures rather than remedial highly capital-intensive measures.

3 Contaminant-based operational programme (OP10). These projects are intended to help demonstrate ways of overcoming barriers to the adoption of best practices that limit the release of contaminants in international waters. They often involve innovative technology and demonstration projects designed to measure contaminants, manage and reduce toxic pollutants and mitigate hazardous effects of ship waste and ballast water. Projects in this operational program do not have to be tied to a particular multi-country collaborative process (Global Environment Facility, 1997a).

From 1991 through 2004, GEF funding for total international waters projects was US$780 million. Another US$400 million is anticipated over the next four years to address critical global water issues (El-Ashry, 2003: 2). International waters projects are divided into country-specific, global and regional projects (Table 1).

Table 1. Division of international waters projects by project scope.

<table>
<thead>
<tr>
<th>Country-specific projects</th>
<th>Global projects</th>
<th>Regional projects</th>
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<tbody>
<tr>
<td>21</td>
<td>13</td>
<td>64</td>
</tr>
<tr>
<td>US$146 m</td>
<td>US$59 m</td>
<td>US$575 m</td>
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Source: GEF (2002a); GEF (2005b). This includes “approved” projects only.
3.1. Country-specific water projects

With regard to country-specific projects, GEF approved 21 projects, totaling some US$146 million from 1991–2004. Europe and central Asia account for almost half of these projects, with the World Bank as the primary implementing agency. Projects include agricultural research (Georgia) and pollution (Romania), as well as an engineered wetland project on Egypt’s Lake Manzala and a coastal contamination project in Argentina. Two recent and highly touted projects in Brazil focus on integrated management of the Pantanal and Sao Francisco Rivers. Many of the country-specific projects serve to support regional efforts, particularly in the Danube River basin where at least eight country-specific projects help to support broader efforts in the region.

3.2. Global water projects

There are thirteen global projects totaling some US$59 million in the GEF’s International Waters portfolio. Pilot-phase global projects included the Regional Oceans Training Program and the Planning and Management of Heavily Contaminated Bays and Coastal Areas, both implemented by UNDP. Current projects involve the reduction of environmental impact from tropical shrimp trawling through to management and technological changes and the first-ever mercury contamination project addressing cleaner gold mining and extraction technologies. The Global Ballast Water Management Programme is one of the more notable projects. It has successfully taken a highly technical problem, the global transport of invasive alien species by ship’s ballast water and made it a global priority. On the other hand, the Global International Waters Assessment Project has faced considerable implementation delays. Intended to provide an authoritative scientific basis for policymaking on international waters, like the IPCC has for climate change, the project seeks to help scientific communities in developing countries to assess and plan for management of their water resources. The project has faced technical difficulties in developing universal methodologies and it has experienced great delays in establishing a global network.

3.3. Regional water projects

Regional water projects make up 65% of total GEF projects in the international waters portfolio and account for 74% of the international waters financial allocation. There are currently 64 approved regional projects in the international waters focal area from 1991 through 2004. Total GEF allocation of regional waters projects is approximately US$575 million with an additional US$1.87 billion in leveraging from additional funding sources. The leveraging ration is currently 1:2, with a total portfolio exceeding US$2 billion (Global Environment Facility, 2004: 1). More than 80% of regional projects are OP 8 (waterbody-based operational program) and OP 9 (integrated land and water multiple focal area operational program) as opposed to the contaminant-based operational programme (OP10). The vast majority of projects are in Africa and Europe/Central Asia (see Figure 1). Some 12 current projects alone are in the Danube and Black Sea region, totaling US$94 million in GEF investment. UNDP is the implementing agency for almost half of all the regional projects (see Figure 2). Increasingly, regional projects will involve more than one implementing agency. The GEF expects some 20% of new projects
to be co-implemented (Global Environment Facility, 2004: 3). GEF’s Task Force on International Waters serves as a vehicle to share the international waters portfolio and to discuss strategic policies. The task force meets quarterly to coordinate regional projects at the portfolio level.

GEF’s regional waters portfolio covers almost all of Africa. Large marine ecosystem projects cover the entire Atlantic coast and its marine ecosystems with an emphasis on fisheries and land-based sources of trans-boundary pollution and habitat protection. There are freshwater projects in arid and semi-arid West Africa designed to ease conflict and facilitate integrated land and water management and to protect ecosystems and biodiversity there. The Limpopo, Maputo and Okarango basins are targets of GEF projects. In eastern Africa there are existing projects along the Nile River, Red Sea and Gulf of Aden, Lake Manzala, Lake Victoria and Lake Tanganyika (Merla, 2002: 5–6).

Executing agencies, or those organizations contracted actually to carry out projects on the ground, vary from the Organization of American States to the International Maritime Organization, to more regionally based entities such as the Executive Committee of the Interstate Council for the Aral Sea Basin. The UN Office for Project Services is a common executing agency, particularly for UNDP projects. The largest individual project is US$36 million for the Lake Victoria Environmental Management project. The smallest project is a US$0.600 million award for the Protection of the North West Sahara Aquifer System and related humid zones and ecosystems. Large marine ecosystems and trans-boundary river basins are most commonly targeted for action, as displayed in Table 2. Increasingly trans-boundary groundwater systems are being targeted for GEF project funding.

Fig. 1. Geographical distribution of GEF regional water projects. Source: GEF (2002a); GEF (2005b).

Fig. 2. Agency implementation of GEF regional water projects. Source: GEF (2002a); GEF (2005b).
Only 15 international waters projects have been completed thus far, as displayed in Table 3. The first 12 projects in the table represent completed regional projects.

3.4. Shifts in program focus

The focus of the international waters projects has not been static. Initially, the primary emphasis was on problems of pollution in marine ecosystems. Six of the 12 pilot phase (1991–94) projects (totaling US$117 million) were demonstration projects dealing with ship-related contamination. The emphasis was on remediation measures and contingency planning with a Caribbean geographic bias. However, finding...
that “the major threat to international waters originates predominantly from land-based activities”,
international projects increasingly addressed land-based pollution sources (UNDP, UNEP and the World
Bank, 1994: 72). The three operational programs established by the revised 1997 International Waters
Operational Strategy refocused projects in this focal area, paving the way for a more diagnostic and
priority-setting approach. GEF has indicated a shift to more action-oriented, on-the-ground projects,
moving toward innovative demonstration and replicable schemes (Global Environment Facility, 2002b:
18–19). A recent review of GEF’s International Water Program noted a move toward “projects that
combine strategic planning with demonstration projects to maintain stakeholders interest and articulate
the adaptive management process” (Global Environment Facility, 2004: 19).

Increasingly, GEF-led international waters projects are incorporating the concept of integrated water
resources management (IWRM). Most scholars and practitioners today recognize integrated
management as the best approach to resource management (White, 1998; Revenga et al., 1998; UN,
2003). Incorporating environmental, economic and social considerations based on the principle of
sustainability, this approach involves broad stakeholder participation and capacity building (Young
et al., 1994: 45; Jaspars, 2003). There are plans underway for GEF to partner the Global Water
Partnership in a series of national level integrated water resources management and water use efficiency
pilot projects. The pilot projects will begin in Africa and serve as a vehicle to promote integration of
global environmental issues, such as trans-boundary waters, land degradation, biodiversity, climate
change and persistent organic pollutants into IWRM processes (Hudson, 2005).

Initially international waters projects were slow to develop because of lack of tie to an existing
convention. In recent years, there has been an explosion in international waters projects. Thirty-nine, or
60%, of the regional water projects have been approved since 2000. In particular, large marine
ecosystems are the target of several upcoming regional projects5.

4. Lesson learning and regional water projects

Given the importance of trans-boundary waters and their emphasis in GEF’s project portfolio, it is
important to assess the lessons learned thus far. Our search for lessons is driven by a desire to find solutions to
the pressing management dilemmas that trans-boundary waters pose. Lesson drawing is concerned with
whether programs are fungible, or capable of being put into effect in more than one place (Rose, 1993). In an
effort to uncover water management lessons from the GEF’s 13-year history with trans-boundary waters, we
must look across time and space. This investigation relies on agency reports and documents as well as
independent analyses conducted by practitioners and scholars. It is supplemented by interviews with GEF
GW international waters program officials. It is not intended to provide a thorough analysis of each project but
rather an overall assessment of GEF efforts in trans-boundary waters. It asks, what lessons can be learned
from the GEF’s regional waters projects? By relying on Miles and Underdals’ effectiveness measures, we
look at both lessons in human behavior and changes in the bio-physical environment (Miles et al., 2002).
This assessment examines GEF efforts concerning trans-boundary waters in (1) creating a shared vision, (2)
involving the public and private sectors, (3) coordinating program activities, (4) building governance
institutions and capacity and (5) improving the ecosystem.

5 This includes the large marine ecosystems of sub-Saharan Africa, East Asia, Bay of Bengal, Canary Current, Humboldt
Current, Agulhas and Somali Current and the Gulf of Mexico.
4.1. Creating a shared vision

For OP 8 and OP 9 regional projects, the GEF follows a Trans-boundary Diagnostic Analysis (TDA) – Strategic Action Program (SAP) phased approach. The creation and dissemination of scientific knowledge is at the heart of this approach. The TDA provides an analysis of major threats within a basin, examining the root causes of conflict or degradation and revealing the relevant social issues. Collaborating nations then create inter-ministerial technical teams, which assemble information on water-related environmental problems in their part of a particular basin or ecosystem. They share this information with neighboring countries in a multi-national committee setting. The TDA then forms the basis for a SAP of actions to address the priorities. Such actions may consist of policy, institutional and/or legal reforms at both the national and multi-country levels. Implementation of a SAP involves integrating the regional priority actions into national development plans. This often involves pilot activities within the region.

GEF’s TDA–SAP process creates a shared vision of resource management in regions involving trans-boundary waters. The process produces scientific knowledge in countries where often no prior environmental research or monitoring exists. In doing so, this works to create epistemic communities, or networks of knowledge-based experts with shared beliefs (Haas, 1992). In the Danube Basin, the TDA–SAP process helped to support networks of scientists. Hydrologists met regularly to discuss technical problems related to real time forecasting and water quality issues. Similar activities were conducted by meteorologists (Nachtnebel, 2000: 125).

In addition to helping to create scientific knowledge, the TDA–SAP process brings awareness to pertinent environmental problems in need of state action and establishes a good understanding of the ecosystem functions and processes. It also builds a sense of trust among the participating individuals and helps to minimize sovereignty issues. For example, the SAP for the Nile Basin marked the first time in history such a substantive document has achieved approval of all nine riparian countries (Uitto & Duda, 2002: 376). The intention is that this joint effort early on may then “lead to more formal and sustainable legal frameworks among nations in order to keep the initiative moving after the GEF project” (Duda & LaRoche, 1997: 135).

Of course, there is a danger that the process can be too date driven with too little emphasis on how the data can actually be transformed into information necessary to inform decision making. A recent mid-term evaluation report in the East Asian Seas project suggests this may be an emerging problem in that region (Ganapin et al., 2003: 17). Similarly, it is critical that participating organizations recognize and commit to the priorities outlined in the SAP. Recent activities in the Bermejo River project illustrate that this does not always occur (Ollila et al., 2000: 24). A recent analysis of GEF’s International Waters Program noted weak analyses, inconsistencies in reporting and a lack of input from social scientists in the TDA–SAP process (Global Environment Facility, 2004: 65). It is not uncommon for projects to make a poor distinction between local and global benefits, fail to identify the root causes of trans-boundary problems, or fail to incorporate stakeholders adequately (Global Environment Facility, 2004: 2). GEF hopes to overcome many of these issues with the release of their new course manual designed to serve as a practical guide for those involved in the TDA–SAP process. Despite these concerns, it seems that overall GEF-led regional projects have made significant steps forward in creating a shared vision of the water resource regionally through the use of the TDA–SAP process.

6 The manual outlines the principles and objectives of the TDA–SAP process and provides a detailed description of the stages of the process. See Global Environment Facility, 2005c.
4.2. Involving private and public sectors

Public participation is most obvious in the drafting of GEF project proposals and the TDA–SAP design process. Through workshops and seminars the public is informed and consulted. Pilot projects often target some of the poorest communities for participation. In some regions, the GEF has sought to coordinate non-governmental activity better. And in some instances, new institutions are formed to facilitate more meaningful and coordinated stakeholder participation.

The newly formed Batangas Bay Region Environmental Protection Council in the East Asian Seas project coordinates stakeholder participation as it oversees the formulation, adoption and implementation of a strategic environmental management plan for the bay. The Council includes environmental NGOs as well as industry and local government representatives (Global Environment Facility, 1998). Public–private partnerships are a key component in the East Asian Seas project. Oil pollution emergency response training, a local coastal zone management program and an electronic highway project in the East Asian Seas region all have significant private sector funding components.

In both the Danube and Black Sea regions, regional NGO networks were intentionally coordinated and funded as a means of ensuring greater public participation. Pilot project efforts in Hungary and Slovenia designed to help NGOs and government officials establish a better system of public information access yielded improved results (Greenspan et al., 2002). The Black Sea NGO Network has faced great difficulties, however. With little precedent for NGO activity in the Black Sea region, NGOs face communication and transportation barriers and a lack of public support or understanding (Genckaya, 1999). In the Lake Victoria region, poverty and illiteracy continue to hinder environmental knowledge and effective project implementation despite attention to public participation (Canter & Ndegwa, 2002).

An independent evaluation of the GEF’s Pilot Phase noted a lack of adequate involvement of affected local communities in designing and implementing GEF projects (Global Environment Facility, 1994:68). GEF’s Project Implementation Review found that international waters projects had “mixed experiences” with engaging stakeholders. They found that periodically consulting participants about project activities was simply not enough (Global Environment Facility, 1997b: 17). GEF’s most recent performance review found greater involvement of international NGOs and academia than national and local NGOs in GEF projects (Porter et al., 1998: 26–30). There are concerns that private sector entities have not yet been well integrated into GEF projects (De Chazournes, 2003: 18) nor are local governments, municipalities and cities (Ollila et al., 2000: 31). Implementing agency officials agree that a common lesson learned across international waters projects is that very broad public participation can help build regulatory success and legitimacy (Global Environment Facility, 2000). Tools for public participation are in the highest demand (Global Environment Facility, 2002c)7. Most recently, GEF has worked with the Washington DC-based Environmental Law Institute to develop a collection of training materials and to deliver a series of regional workshops on public participation in international waters management (Global Environment Facility, 2005d).

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7 Some two-thirds of agency officials surveyed at the 2002 GEF International Waters Conference noted that tools for public participation were in the highest demand.
4.3. Coordinating program activities

GEF’s institutional design involves many agencies – relying on the requisite strengths of the GEF’s three core implementing agencies: UNDP, UNEP and the World Bank. Coordination is further challenged by project activity at multiple levels including multi-country, regional, national, intersectoral and local. Some scholars have suggested that cooperation is less likely to occur the larger the number of actors (Dietz et al., 2002: 23). Resolution of interagency conflict and integration between agencies is a major element of agency work in the GEF’s international waters program (Hudson, 2003). In addition, since the GEF relies on the incremental cost paradigm, requiring recipient countries to demonstrate other financial investments, grant support is contingent upon leveraging additional funds. As such, it is imperative that there is good coordination with donors (Ollila et al., 2000). Indeed information sharing and coordination of information are critical components of successful water policy implementation (Dinar, 1998) and regional waters projects in GEF’s portfolio face great obstacles in this regard.

There is poor coordination in the Black Sea region and virtually non-existent communication between the Danube River and Black Sea projects. Analysts also point to poor communication between implementing agencies in the Rio de la Plata region (Global Environment Facility, 2004: 28). Both the 2000 and 2004 Water Program Studies called for improved coordination and interagency advisory function. Such improvements have not yet been realized.

In 1998 the UN Development Programme launched the International Waters Learning Exchange and Resources Network (IW:LEARN), a web-based system to assist GEF participants in improved communication and the transfer of knowledge concerning international water projects. IW:LEARN offers distance learning opportunities and serves as a clearinghouse for GEF project documents. Biennial International Waters Conferences (2000, 2002 and 2005) also serve to bring participants together to share experiences and begin the development of best practices in international waters management. There are high costs to this approach, including appropriate technological access and transportation costs. It remains to be seen if such a network can improve the coordination of institutional practices or decision making. In a survey of implementing and executing agency officials involved in regional international waters projects, a majority of respondents (some 76%) noted deficiencies in communication and coordination that restricted the effectiveness of GEF interventions. They pointed to a lack of communication among UN agencies and competition between agencies which hindered project implementation. In particular, they highlighted a lack of exchange of lessons learned between GEF projects (Bewers, 2000: 7–9).

4.4. Building governance institutions and capacity

GEF international waters projects aim to strengthen regional governance by promoting and strengthening regional governance bodies and conventions regulating trans-boundary waters. In a few isolated instances, including the Danube River, Black Sea, Caspian Sea and Lake Tanganyika, GEF international water projects have helped to create new regional governing bodies. Because GEF efforts in the Danube basin represent some of their most mature and well-funded projects, there is considerably

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8 See IW:LEARN materials at http://www.iwlearn.org
more research on the institutional governance arrangements of this region (West, 1999; McGlade, 2002; Mee, 2002; Gerlak, 2004a, 2004b). GEF-led projects in the Danube-Black Sea region are considered to be some of the more successful projects in terms of increasing concern, enhancing the contractual environment and building national capacity (Gerlak, 2004c).

GEF activities serve to strengthen country compliance with existing global and regional treaties. GEF regional water projects most commonly support the Global Program of Action for the Protection of the Marine Environment from Land-Based Activities, the Convention on Biological Diversity and the Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar) (Merla, 2002: 11). There is an interplay and synergy between regional conventions, global treaties and GEF projects. “Where freshwater scarcity represents the major trans-boundary threat to ecosystems, the interplay of the Ramsar, international watercourses and desertification conventions has provided a basis for the design of a number of GEF projects, such as the Okavango and the Niger basin projects.” (Merla, 2002: 12).

Through inter-ministerial committees, GEF projects seek to coordinate relevant government stakeholders at the national level. Such committees bring together government representatives from the multiple and competing sectors and are critical in enhancing reforms in different sectors. Project officials highlight the need for inter-ministerial coordination, particularly from the finance minister in GEF-led IW projects (Global Environment Facility, 2002a). One analysis assessing GEF’s international waters program found that half of the projects had arranged for inter-ministerial committees or other groups to cope with issues dispersed among several ministries (Ollila et al., 2000: 31).

Of course, the mere existence of such bodies does not guarantee successful project implementation. While inter-ministerial committees have been performing effectively in Germany and Austria, they do not represent a high priority in the other 12 countries in the Danube River Basin (United Nations Development Programme and Global Environment Facility, 2003). The lack of a multi-sectoral or inter-ministerial coordinating body in the Aral Sea was one of the many reasons for project failure in that region (Bewers & Uitto, 2002: 22). There is poor inter-ministerial coordination in the Black Sea projects (Global Environment Facility, 2004: 31). Similarly, a lack of capacity among the region’s governments to carry out their policy initiatives in the Lake Victoria region, largely owing to financial constraints, is likely to hinder project implementation there (Canter & Ndegwa, 2002). Much of the recent analysis confirms John Pernetta’s assessment that initial GEF-led waters projects found little effort in building capacity on a system-wide basis in terms of strengthening government organizational frameworks and processes (Pernetta, 1998).

4.5. Improving the ecosystem

The GEF achieved some success with ship waste projects during the early years of its International Waters Program. In particular, there have been reductions in stress on the marine environment in the Southwestern Mediterranean Sea and China (Bewers & Uitto, 2002: 13). There is less indication of ecosystem improvements in GEF’s regional water projects. Analysis of the GEF’s international waters focal area found that from the perspective of performance indicators, most of the impacts were related to

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9 A failure to coordinate the participants, lack of country ownership and a lack of commitment to joint action are some of many reasons for project failure in the Aral Sea region. See Uitto & Duda, 2002: 374.
processes with modest improvements in the environmental status indicators for ecosystem quality (Global Environment Facility, 2002c).

According to the GEF, “For projects in damaged trans-boundary systems, years may go by before a sufficient number of countries have implemented sufficient stress reduction measures (on-the-ground measures implemented by collaborating countries) to enable a change to be detected in the trans-boundary water environment.” (Duda, 2002: 8). “The programs focused on international collaboration put primary emphasis, at least in the first phase of development, on creation of institutional mechanisms and diagnosis of the problem and less investment activities to correct problems” (Porter et al., 1998: 83).

In the most mature case studies, like the Danube and Black Sea projects, the evidence of ecological improvement, like water quality and fish catches, is anecdotal and we await clear and consistent evidence of environmental improvements (Mee, 2002). In the Lake Victoria region, while there were early reports of hyacinth control, some suggest the problem is re-emerging (Canter & Ndegwa, 2002: 54). Indeed it is difficult to navigate between the anecdotes and the hard facts regarding specific ecological indicators. Ultimately, given the emphasis on “process” in GEF’s international waters program, changes in the biophysical environment may be slow coming. Andrew Hudson, Principal Technical Advisor with UNDP–GEF’s International Waters Program, suggests that there may be a 20–30 year time frame in these larger ecosystems for environmental impacts to be revealed (Hudson, 2003). For now, while there has been some stress reduction in marine projects (Global Environment Facility, 2002c), there have been mostly process level successes in GEF-led water projects.

5. Conclusions

This paper explores GEF efforts concerning trans-boundary waters. It traces shifts in the mission of GEF’s International Waters Program toward more action-oriented, on-the-ground innovative demonstration and replicable projects. In particular, it analyzes regional projects in GEF’s portfolio to explore lessons learned in the management of trans-boundary waters.

First, it finds that GEF-led projects have made significant strides in creating a shared vision for shared waters. The TDA–SAP process brings awareness to regional environmental issues, creates and transfers scientific knowledge and promotes integrated water resources management, an approach that many now consider the ideal approach to resource management (White, 1998; Revenga et al., 1998; UNESCO, 2003). Of course, there is the potential danger that TDA–SAP process will be regarded as a bureaucratic hoop rather than an element of an adaptive management strategy. Because adaptive management requires that the TDA–SAP be visited periodically to examine new information, set new targets and adjust strategies (Global Environment Facility, 2004: 64), participants in the Black Sea region will soon undertake a new TDA and revised SAP. This will provide a perfect opportunity for stakeholders to examine if strategies can be successfully adjusted and revised. Second, this study finds that the GEF continues to face significant obstacles in involving the public and private sectors in its water projects. While public involvement is likely to differ from country to country based on political climate, history of public involvement and economic conditions, this is an issue that continues to emerge in program reports and project case studies. Since GEF regional projects still face public involvement obstacles, it is an issue worthy of attention at the highest institutional levels. Third, this analysis suggests there is a greater need to coordinate program activities in water projects. While it is often difficult to convince funding agencies and institutions of the need for better interproject and interagency coordination, GEF-led
projects are increasingly expected to be co-implemented. Since project implementation is expected to become challenging and complex, it is critical that there are sufficient mechanisms for coordination. While the Task Force on International Waters helps coordinate at the project conception and design level, there is no formal mechanism to coordinate implementation activities within or across projects. Fourth, GEF projects help to build governance institutions and capacity in relation to trans-boundary waters. The establishment of inter-ministerial committees is central to integrated water management at the country level. While such committees were found to be in place in approximately half of the projects, their effectiveness is still to be determined. Fifth, this research finds mostly process improvements with no real ecological improvements demonstrated. Ultimately, the GEF’s ability to improve ecosystem conditions will serve as the true test of its success.

Overall, GEF-led water projects demonstrate most success in creating a shared vision and building governance institutions and capacity. There is the danger that GEF’s International Water Program will become too project oriented. Projects in the Danube-Black Sea region reveal a strong programmatic approach to trans-boundary water management and efforts in this region serve as a model for other regions. Despite this lesson, activities in Latin America’s Rio de la Plata region remain quite fragmented. There is a UNDP project covering only part of the large marine ecosystem, while a complementary series of World Bank–GEF and regular program projects, a UNDP–GEF biodiversity project and International Development Bank projects address the remaining areas (Ollila et al., 2000: 24). As a result, there are great challenges to coordinating efforts in this region (Bewers & Uitto, 2002: 19). GEF’s own thematic review of multi-country projects found that the GEF could play a more proactive role in promoting regional implementation and leadership through programmatic approaches.

GEF-led activities are ripe for policy analysis and research. It poses interesting questions about the ability of countries successfully to design, manage and sustain joint management arrangements in relation to trans-boundary waters. In particular, further research is needed on the creation of NGO networks and public participation mechanisms in GEF-led water projects. The interplay and coordination between institutions involved (including the multilateral, country and local levels) must also be further explored.

References


