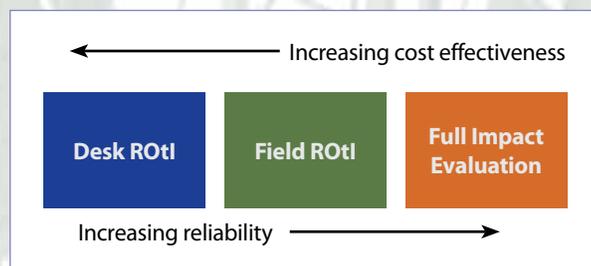
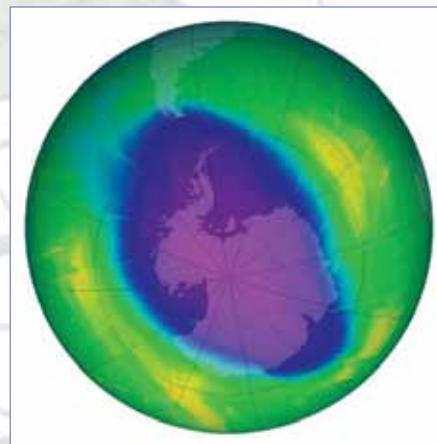


GEF Annual Impact Report 2009

JUNE 2010



GLOBAL ENVIRONMENT FACILITY
EVALUATION OFFICE

**Global Environment Facility
Evaluation Office**

GEF Annual Impact Report 2009

June 2010

(The main findings and recommendations of this evaluation were presented to the GEF Council in October 2009.)

Evaluation Report No. 55

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ISBN-10: 1-933992-27-1

ISBN-13: 978-1-933992-27-3

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Cover photos: Ozone hole at 25 years old, photo National Aeronautics and Space Administration; comparison of three GEF Evaluation Office impact evaluation methods, GEF Evaluation Office; palm tree leaves dry in the sun in the Pacaya-Samiria National Reserve in Iquitos, Peru, photo courtesy Marina Cracco.

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This is the third annual impact report produced by the Evaluation Office of the Global Environment Facility (GEF). The Office presents its impact assessments in a consolidated annual report which covers completed as well as ongoing work.

The *Annual Impact Report 2009* presents four different studies:

- The impact evaluation of GEF assistance for the phaseout of ozone-depleting substances in economies in transition
- A study of the effectiveness of a project design to permit experimental impact evaluation
- An ongoing impact evaluation of a group of biodiversity projects in Peru in collaboration with the Independent Evaluation Group of the World Bank
- An assessment of outcomes and impacts achieved by the entire cohort of projects formally completed in the period of the Fourth Overall Performance Study.

This document brings together several impact evaluation methods applied by the Evaluation Office. They range from a theory of change mixed-method approach, to before and after measures, to an innovative review of outcomes to impacts (ROtI) methodology. The latter uses existing independent evaluative evidence from

project terminal evaluations as well as fieldwork study to assess project results, as well as progress toward long-term environmental change.

The Office also reviewed an experimental evaluation of a GEF project that featured participant and control group design. The review concluded that the experimental project designs potentially provide a powerful tool to test the effectiveness of particular incentives on outcomes and impacts, controlling for other factors. They can be especially useful in the case of innovative instruments when little is known about their effectiveness and the magnitude of effects caused by the project.

A draft of this document was submitted to the GEF Council in October 2009. In response, the Council decided that GEF-5 strategy proposals prepared by the GEF Secretariat should include further investment and capacity development to assist countries with economies in transition to address the remaining threats to the ozone layer. The Council also stated that the GEF Secretariat should incorporate lessons from the positive private sector engagement in the ozone layer depletion focal area into its efforts to engage the private sector in other focal areas.

The GEF Evaluation Office would like to thank all who collaborated with impact assessment work: its staff and consultants, national focal points,

members of the national steering committees, and the GEF Agencies. I would like to thank all those involved for their support and constructive criticism. The Office would also thank numerous individuals that were interviewed for these evaluations.

The Evaluation Office remains fully responsible for the contents of the report.

A handwritten signature in black ink, appearing to read 'Rob D. van den Berg', with a stylized flourish extending to the right.

Rob D. van den Berg
Director, Evaluation Office

Acknowledgments

Annual Impact Report 2009 of the Evaluation Office of the Global Environment Facility (GEF) was prepared on the basis of the work of several teams, including those involved in the Ozone-Depleting Substances Phaseout Impact Evaluation, the review of outcomes to impacts (ROtI) conducted as part of the Fourth Overall Performance Study of the GEF (OPS4), the Review of Experimental Evaluation, and the ongoing Impact Evaluation of Biodiversity Projects in Peru. David Todd, Senior Evaluation Officer of the GEF Evaluation Office, coordinated and provided leadership and technical guidance to ensure that 2009's diverse impact evaluation tasks were delivered on time for OPS4.

Many staff and consultants were responsible for delivering elements of this report: Lee Alexander Risby, Evaluation Officer, led a team of consultants from Touchdown Consulting for the

Ozone-Depleting Substances Phaseout Impact Evaluation; Robert Malpas and Robert Craig of the Conservation Development Centre played an important role in working with the Evaluation Office in developing the ROtI methodology as well as in delivering many of the field ROtIs that were part of OPS4; Jos Vaessen prepared the assessment on the use of experimental evaluation methods in the Regional Integrated Silvopastoral Approaches to Ecosystem Management Project; and Claudio Volonté, Chief Evaluation Officer, and Marina Cracco, consultant, working alongside colleagues from the Independent Evaluation Group of the World Bank, initiated an impact evaluation on GEF biodiversity projects in Peru. In addition, many colleagues in the GEF Evaluation Office were involved in the desk ROtI studies for OPS4. The OPS4 report contains a full listing of the OPS4 team.

Abbreviations

APR	annual performance report	ODS	ozone-depleting substances
CEIT	country with economy in transition	OPS4	Fourth Overall Performance Study
CFC	chlorofluorocarbon	PES	payment for environmental services
CO ₂	carbon dioxide	RISEMP	Regional Integrated Silvopastoral Approaches to Ecosystem Management Project
CO ₂ eq	carbon dioxide equivalent	ROtI	review of outcomes to impacts
EU	European Union	UNDP	United Nations Development Programme
GDP	gross domestic product	UNEG	United Nations Evaluation Group
GEF	Global Environment Facility	UNEP	United Nations Environment Programme
HCFC	hydrochlorofluorocarbon		
IEG	Independent Evaluation Group		
MLF	Multilateral Fund		
ODP	ozone depletion potential		

All dollar amounts are U.S. dollars unless otherwise indicated.

1. Overview of Impact Evaluation Work in 2009

In 2009, the Evaluation Office of the Global Environment Facility (GEF) continued to be very active in the field of impact evaluation. In addition to a number of discrete studies, impact analysis played a fundamental role in the development of the results sections of the Fourth Overall Performance Study of the GEF (OPS4). The year's impact work built on and further developed the methodological approaches that commenced with the full impact evaluations of three protected areas in East Africa, reported on in the *GEF Annual Report on Impact 2007*. Central to the innovative methodological approach was the implementation of a review of outcomes to impacts (ROtI) at the desk and field levels (see chapter 5). The ROtI methodology continued to be widely disseminated in order to subject it to a broad range of assessment and criticism within the evaluation and environmental communities. A methodology handbook was produced by the ROtI team and widely used during the impact analysis work of OPS4 (GEF EO and CDC 2009).

The major product of the year was the impact evaluation of GEF assistance for the phaseout of ozone-depleting substances (ODS) in countries with economies in transition (CEITs); this is described in chapter 2. A study was also undertaken to assess the effectiveness of a project designed to permit experimental impact evaluation, a methodology that has strong support in

parts of the donor and evaluation communities but is relatively rare in the GEF portfolio (see chapter 3). In collaboration with the Independent Evaluation Group (IEG) of the World Bank, work has also begun on an impact evaluation of a set of GEF biodiversity projects; these projects feature a strong role for local communities, particularly indigenous peoples (see chapter 4).

A senior evaluation officer in the GEF Evaluation Office continued to serve on the Steering Committee of the Network of Networks on Impact Evaluation and was a member of the advisory panel for the production of that organization's guidelines on impact evaluation, which were published under the auspices of the IEG in September 2009.

Three papers on the Evaluation Office's impact work were presented at the International Conference on Impact Evaluation in Cairo in January 2009. The same senior evaluation officer also acted as co-chair of the United Nations Evaluation Group (UNEG) Impact Evaluation Task Force and as a member of the overall UNEG Coordinating Committee. At the annual UNEG Evaluation Practice Exchange in Nairobi, a paper was presented on the ROtI methodology. The ROtI methodology was also presented as a training module at the International Programme of Development Evaluation Training jointly held by the World Bank IEG and Carleton University in Ottawa. Lectures on

the approach were also presented in the master's in development management course at the University of Antwerp.

A number of new activities are in their start-up phase. The Evaluation Office will shortly begin to develop an approach paper for the impact evaluation of GEF-supported activities in the international waters focal area, building on the analysis undertaken as part of OPS4. Discussions

continue with the GEF Scientific and Technical Advisory Panel to consider possible areas of collaboration concerning experimental and/or quasi-experimental impact evaluation, drawing on the approaches presented in previous GEF annual impact reports. The data gathered as part of OPS4 present opportunities for further analysis and development of impact analysis, which will be pursued during the coming year.

2. Impact Evaluation of GEF Assistance to ODS Phaseout in CEITs

2.1 Background

The ozone layer is part of the Earth's atmosphere and contains high concentrations of ozone.¹ This layer absorbs approximately 93–99 percent of the sun's high-frequency ultraviolet radiation which, if allowed to pass through, would end life on Earth. Mainly located in the lower stratosphere, the ozone layer is approximately 10–50 kilometers above the Earth's surface.

The ozone layer can be destroyed by free radical catalysts such as nitric oxide, hydroxyl, atomic chlorine, and atomic bromine. While there are natural sources for these ODS (such as volcanic aerosols), the concentrations of chlorine and bromine have increased over the last decades because of the release of large quantities of manufactured organohalogen compounds, especially chlorofluorocarbons (CFCs) and bromofluorocarbons; these have been used primarily in refrigeration, air conditioning, and agricultural treatment products. These are highly stable compounds and are capable of surviving in the stratosphere, where chlorine and bromine radicals are liberated by the action of ultraviolet light. Each radical is then free to catalyze a chain reaction breaking down ozone. A single chlorine atom is able to react with up to 100,000 ozone molecules. The breakdown results

in insufficient ozone molecules being available to absorb ultraviolet radiation.

The environmental effect of ODS was first observed in the mid-1980s over the Antarctic stratosphere, where ozone levels dropped by up to 60–70 percent of their pre-1975 levels. In the mid-latitudes, ozone levels have dropped by approximately 3–6 percent. The consequences of ozone depletion are increased ultraviolet-B radiation reaching the Earth's surface, which in turn leads to increases in health and environmental problems such as skin cancers,² immune system suppression, and cortical cataracts; damage to plants, including crop production, caused by the reduction in photosynthesis; and reduction in the diversity of important marine species such as plankton and phytoplankton. This last also contributes to global warming, as phytoplankton play a significant role in oceanic carbon storage.

It was primarily the impact on human health and crop production of a damaged ozone layer that led to intergovernmental action, culminating in the development of the Vienna Convention for the Protection of the Ozone Layer in 1985 and the

¹ The technical information presented here is drawn from GEF EO (2010).

² A study of people living in Punta Arenas at the southern tip of Chile found a 56 percent increase in malignant melanoma and a 46 percent increase in non-melanoma skin cancers over a period of seven years concurrent with decreased ozone and increased ultraviolet-B levels. See Abarca and Casiccia (2002).

subsequent Montreal Protocol on Substances that Deplete the Ozone Layer in 1987. Both of these global conventions aim to gradually phase out ODS production and consumption.³

Although the GEF is not linked formally to the Montreal Protocol, its ozone layer depletion focal area and subsequent strategic revisions are an operational response to the Montreal Protocol and its adjustment and amendments. The strategic objective of the focal area is to protect human health and the environment by assisting countries in phasing out ODS consumption and production and preventing ODS releases, while enabling alternative technologies and practices according to countries' commitments under the Montreal Protocol. The expected long-term impact of the GEF interventions is to contribute to the return of the ozone layer to pre-1980 ozone levels, which is expected by 2065.

The GEF focuses on providing support to developed countries of the Montreal Protocol, specifically CEITs that are not eligible for funding under the Multilateral Fund of the Montreal Protocol, which targets only developing countries. Since the early 1990s, the GEF has allocated nearly \$183 million to 18 countries through 21 national and 5 regional projects.

The overall objective of this impact evaluation is to evaluate the impact of GEF support in its ozone portfolio of projects on the phaseout of ODS in CEITs. It has five subobjectives:

³ "Consumption" is here defined in accordance with the Montreal Protocol as "production plus imports minus exports of controlled substances" (www.unep.ch/ozone/Ratification_status/montreal_protocol.shtml, Article 1: Definitions).

- To evaluate the impact of GEF ozone portfolio investments in CEITs to reduce ODS **production**
- To evaluate the impact of GEF ozone portfolio investments in CEITs to reduce ODS **consumption**
- To assess the **sustainability** of GEF investments in terms of maintaining ODS phaseout in CEITs
- To assess the extent to which the GEF investments **catalyzed** further changes in the behavior and decisions of stakeholders, in particular those in the private sector
- To compare these parameters with a limited number of projects on the phaseout of ODS in countries funded by the Multilateral Fund

The GEF's ozone layer depletion focal area was selected for a full impact evaluation based on the maturity of its projects, the relatively homogeneous objectives of the projects implemented separately by the World Bank and jointly by the United Nations Development Programme (UNDP) and the United Nations Environment Programme (UNEP), and the availability of quantitative and qualitative data. These factors made it possible to adopt a portfolio-wide impact evaluation approach as opposed to focusing on discrete projects.

2.2 Design and Methodology

The ODS phaseout impact evaluation was developed and implemented by staff from the GEF Evaluation Office and Touchdown Consulting of Brussels.

The evaluation combined three approaches to investigate impact from several perspectives, using a mix of quantitative and qualitative methods of data collection and analysis:

- An overall theory of change approach
- In-depth field case studies to assess whether the theory of change approach had accurately described the process
- Before and after measures of ODS consumption and production in CEITs to conduct an internal comparison among the countries supported and an external comparison with a matched sample of Multilateral Fund countries

The **theory of change approach** was applied early in the evaluation development. It was based on an initial meta-analysis of GEF ODS strategies, project documentation, and available evaluations. The majority of the projects lacked a logframe, as they were developed between 10 and 15 years ago, when logframe analysis was not a GEF requirement. Consultations were held with the GEF Secretariat, GEF Implementing Agency staff, evaluation offices, national government stakeholders, and private businesses. These consultations gave stakeholders an opportunity to provide inputs at an early stage of the process, prior to the theory of change being applied and tested in the field case studies.

In-depth case studies were conducted in four CEITs: Kazakhstan, the Russian Federation, Ukraine, and Uzbekistan. A further 10 field case studies were conducted as part of the parallel UNDP-UNEP terminal evaluations, which addressed similar issues in the other Eastern European, Baltic, and Central Asian countries. Four countries were examined through desk review alone.

In the absence of available control groups for an experimental or quasi-experimental design, **before and after measures** of CEITs' consumption and production were undertaken. In addition, four Multilateral Fund countries were examined to compare ODS consumption and production

and cost-effectiveness with a matched set of CEIT countries.

The evaluation team conducted in-depth interviews using standardized, semi-structured guides and questionnaire surveys with government, research institutes, and private businesses. Quantitative assessment was also conducted to substantiate the internal and external comparisons of ODS consumption phaseout, compared with a business-as-usual approach in which ODS consumption and gross domestic product (GDP) increased together. A cost-effectiveness analysis was undertaken to compare World Bank and UNDP-UNEP project performance.

Several limitations constrained the impact evaluation of ODS phaseout:

- The annual data relating to ODS consumption by CEITs and the MLF comparison group countries were incomplete. Although countries were required under the Montreal Protocol to submit data on consumption of classes of ODS annually, many did not do so every year. Data gaps forced the evaluation to assess only CFCs and halon across CEITs and MLF countries, since annual reporting on these substances was more consistent. This limitation was not serious, because CFCs and halon are among the most ozone depleting of ODS and have been the most commonly produced and consumed ODS.
- A time-series regression analysis would have been a useful tool to explore the impact over time of GEF funding on ODS phaseout. Two main obstacles prevented such an analysis. First, the consumption data were incomplete, as mentioned above; second, only the World Bank could provide information on disbursement of funds on an annual basis. A time-series regression analysis thus was not conducted. Correla-

tion analysis of ODS consumption, GDP, and GEF funding was used as a broad measure of the relationship between funding and change in ODS consumption in CEITs assisted by the GEF.

- Data on GEF funding across CEITs and cofinancing available in the GEF database are not always consistent with data obtained from implementation completion reports of the World Bank and UNDP-UNEP project documents. Where possible, actual disbursements have been used for external and internal comparisons of ODS phaseout activities in the ODS consumption sector.

2.3 Conclusions

Conclusion 1: GEF support for the phaseout of ODS consumption and production in CEITs has made a contribution to global environmental benefits.

The CEITs had a baseline consumption of about 304,000 ozone depletion potential (ODP) tonnes in 1986, amounting to 17 percent of the global total. However, much of this consumption was reduced significantly by the early 1990s because of the poor economic conditions following the collapse of communism. GEF funding was provided at the time CEIT economies were recovering in the mid-1990s and aimed to prevent a return to business as usual with regard to ODS use. Assessment indicated that GEF financing contributed to a decoupling of the relationship between GDP growth and ODS consumption growth.⁴ This was achieved through project interventions that pro-

⁴ *Decoupling* refers to the ability of an economy to grow when environmentally damaging chemicals and technology that are important to the economy are reduced and replaced with environmentally friendly technology.

vided the foundation for the following key impact drivers (also see Conclusions 2–5).

- **Impact Driver 1—Government Commitment to ODS Phaseout:** indicated by the development and implementation of policy and legislation to phase out consumption and promote ODS-free alternatives; government institutional capacity to manage ODS phaseout; government customs and border security measures to curtail illegal trade in ODS; and recycle, reclamation, and reuse programs
 - EU CEITs have, in general, exhibited greater post-project commitment to ODS phaseout than have other CEITs; EU accession has ensured regular updates of legislation and policy to phase out ODS, and the conduct of activities to reduce illegal trade in ODS.
 - Government commitment was weaker in the non-EU CEITs, where several governments—including those of Russia and Ukraine—lacked national ozone units. Ex post policy and legislative updates have not occurred in many countries. Several non-EU CEITs indicated that illegal trade in ODS was a significant challenge to phaseout.
- **Impact Driver 2—Private Enterprise Sustainability and Commitment to ODS Phaseout:** indicated by a company's financial and economic status as a going concern (that is, actively in business) in refrigeration production, the foam/aerosol/solvent industries, or refrigeration and air conditioning servicing; and by ex post private enterprise investments in non-ODS technologies and processes
 - GEF financing enabled businesses to make important technological and production changes that helped them comply with the Montreal Protocol and maintain and/or gain market share, and thus make profits.

- Of the 71 businesses visited and surveyed, 54 were still going concerns as of 2009.

Internal and external comparative analyses revealed the following performance findings.

Internal Comparison: The GEF World Bank projects were more efficient and cost-effective in phasing out ODS consumption than those by UNDP-UNEP. This result was not unexpected, given that the World Bank focus was on CEITs exhibiting the highest ODS consumption and industrial sectors such as refrigeration, aerosol, and foam production. In contrast, UNDP-UNEP operated in countries where the main ODS consumption was in the refrigeration and air conditioning servicing sector. Phaseout in the service sectors is more diffused and challenging given the number of small private enterprises that require technical assistance and investment. UNDP-UNEP operations thus were more costly per ODP tonne (\$37) than the World Bank's (\$12).

External Comparison: GEF operations in the Russian Federation, Ukraine, Kazakhstan, and Uzbekistan were compared to those of the Multilateral Fund in four countries—Brazil, Egypt, Romania, and Cameroon—matched on the basis of GDP and ODS consumption. In general, the GEF operations were less cost-effective than those of the Multilateral Fund (\$14.45 for each ODP kilogram phased out, compared to the Multilateral Fund's \$8.55), because GEF projects did not always adhere to incremental financing. However, in terms of efficiency of expenditure, the GEF averaged 35.31 ODP grams per year per dollar of expenditure, compared to 9.54 for the Multilateral Fund, meaning that the GEF was over three times more efficient at implementing its projects. Differences here are attributed to project approach—mostly single projects for the GEF and multiple projects for the Multilateral Fund.

The CEITs' consumption changed from about 21,000 ODP tonnes in 1996 (1.2 percent of the global baseline) to 1,665 ODP tonnes in 2007 (0.1 percent of the global baseline). The GEF portfolio contributed to the elimination of about 19,260 ODP tonnes of annual consumption and to 1.1 percent of the global benefit to the ozone layer. Russia was the only one of the CEITs still producing ODS at the time funding commenced. Under a special initiative within the project investment, the GEF contributed to the phaseout of nearly 29,000 ODP tonnes of production capacity.

The ODS consumed by the CEITs in 1996 produced approximately 147 million tonnes of carbon dioxide equivalent (CO₂eq) per year, falling to 42 million tonnes of CO₂eq per year in 2007. The GEF portfolio contributed to avoided greenhouse gas emissions equal equivalent to approximately 105 million tonnes of CO₂eq per year, or 1.155 gigatonnes of carbon dioxide. This is equivalent to approximately 10–25 percent of the total carbon dioxide phaseout commitments under the present Kyoto Protocol.

Conclusion 2: Legislative and policy changes supporting ODS phaseout provided a foundation for success and ensured sustainability.

The evaluation found that such measures as legislative and policy changes to restrict ODS import and export, import bans, mandated recovery and recycling of ODS, and ensuring training of technicians in the refrigeration sector played a critical role in signaling to the private sector and individual consumers to move into more environmentally friendly alternative chemicals and technologies. These legislative and policy changes were observed to be most successful in those CEITs that are now part of the EU. EU CEITs tended to have legislation in place before or soon after the beginning of the GEF project intervention, and all of them continued to update their legislation after

joining the EU, which has led to further reductions in ODS and more restrictive measures than those required by the Montreal Protocol.

In contrast, in the non-EU CEITs, legislative and policy changes were slow to develop and implement following many of the projects because the institutional infrastructure needed to carry out such changes was not in place. The lack of legislation and policy led to problems in controlling ODS, particularly in relation to trade and customs controls. This resulted in ODS consumption exceeding Montreal Protocol limits for many years. Since project completion in the non-EU CEITs, institutional capacities have diminished, with insufficient focus on updating legislation to address emerging issues such as the hydrochlorofluorocarbon (HCFC) phaseout which was accelerated in developed countries in 2007 by the parties to the Montreal Protocol.

Conclusion 3: Private sector commitment to ODS phaseout was a critical driver in the success of the GEF investments in CEITs.

The GEF ODS portfolio has been characterized by strong private sector involvement from the early stages of project design through implementation. The umbrella structure of the projects developed by the GEF Implementing Agencies based on targeted subproject investments with the private sector, which provided cofinancing, were efficiently executed and contributed to the rapid phaseout of ODS and implementation of alternative technologies and chemicals. This approach was necessary, given the difference in ODS industrial processes and uses. Highlights of the results achieved by each industrial sector follow.

- **Refrigeration industry:** The evaluation surveyed 22 companies that received support from the GEF and found that 13 were still going concerns in 2009. The companies reported that

GEF financing was relevant and had helped in providing new technologies that enabled conversion to non-ODS production and achievement of phaseout targets. GEF financing had been provided at a time when the market was changing quickly (in the late 1990s and early 2000s), and it had helped companies remain competitive and profitable, as well as in phasing out CFC use. Hence, the investment was good for profits and good for the environment. Several companies, including Nord (Ukraine), Snaigė (Lithuania), and Atlant (Belarus), expanded their operations through internal and acquisition-based growth after the GEF investment. They believed the initial GEF investments allowed them to capture market share, enabling growth and thereby demonstrating a catalytic effect.

- **Foam, aerosol, and solvent industries:** The evaluation surveyed 33 companies, 11 in each of the three industries. Thirty-two had reached their individual ODS phaseout targets, and 26 were going concerns as of 2009. Some reported that the GEF investment had contributed to a quick and timely conversion to non-ODS production technologies, which in turn contributed to improved profitability.
- **Refrigeration and air conditioning servicing sector:** The evaluation surveyed 16 companies, of which 15 were going concerns in 2009. These companies received ODS recycling and recovery equipment through the GEF project; the majority of this equipment was still in use after nearly 10 years. The companies reported that the quantity of recycled and reused ODS was falling as old ODS-based equipment had been replaced with non-ODS alternatives, indicating positive changes in market and consumption patterns. One outstanding threat observed was the stocks of unwanted and decommissioned ODS (CFCs) held by private companies in

drums or other containers, which were at risk of leaking. Over time, this would diminish the global environmental benefit that had accrued as a result of the GEF investment.

Macroanalysis of the results in some of the CEITs showed that financing the phaseout of environmentally damaging technology can be undertaken without damage to the economy of the country. In effect, GDP continued to rise annually as the economies improved, while ODS consumption declined as ODS technology was replaced with non-ODS technology. Consequently, the commercial performance of many of the businesses improved, demonstrating that the conversion to non-ODS technology had been good for business as well as for the environment.

Conclusion 4: Illegal trade threatens to undermine gains in ODS reduction in the non-EU CEITs.

Efforts to combat illegal trade are not yet fully effective, and many of the non-EU CEITs exhibit a lack of technical and legal capacity to curtail such trade. This is particularly true in Kazakhstan, Russia, Tajikistan, Turkmenistan, and Ukraine.

The existence of old CFC-based equipment has created an ongoing demand for illegal imports of CFCs for refrigeration and air conditioning. Interceptions of illegal trade in ODS, most of which is reported to originate in China, have become frequent in countries such as Kazakhstan and Uzbekistan. Illegal trade in ODS was frequently reported by representatives of companies and government customs officers interviewed, which supports similar findings by specialist bodies such as the World Customs Organization.

ODS-containing products such as refrigerators and air conditioning equipment can be imported unknowingly, which increases the demand for ODS that has already been restricted or banned

in the importing country. This is a particular problem when ODS have been used in part of the exported equipment, such as the insulation foam. The specifications usually do not provide information on the use of ODS in the manufacture of the entire product.

The parties to the Montreal Protocol have agreed to three times as many decisions in the last 8 years on ways to combat illegal trade as they had in the previous 12 years of the protocol's existence, which is a measure of the growing concern countries have for illegal trade. ODS trade that is transhipped through one country to another is particularly problematic, as procedures and responsibility for monitoring such shipments are less well defined than for single-country destinations.

Conclusion 5: Halon recovery and banking has been neglected in the non-EU CEITs.

Halon is used in firefighting agents. Its production has ceased globally because of its severe ozone-depleting properties; it destroys about six times more ozone than CFCs. Globally, halon has been decommissioned from many installations where a suitable alternative exists, and the used halon has been stored for firefighting applications where an alternative has yet to be developed. Halon is therefore a global resource that has been managed and conserved in well-sealed storage facilities or banks in many countries.

The EU CEITs had management plans in place for halon for many years, and have been actively decommissioning halon and replacing it with alternatives according to legislative requirements. The quantities decommissioned and banked are reported annually. In the non-EU CEITs, however, there was little evidence of any active management of halon, or of policies and measures that required action to replace halon with alternatives. For example, halon is still used to protect

the majority of the pumping stations on the gas pipeline from Russia to Europe through Ukraine, despite the availability of a non-ODS alternative for this purpose.

Funding had been provided by the GEF for equipment, training of technicians, and management plans in most non-EU CEITs. In many countries, the equipment provided was not being used. In Russia, the halon program was not implemented because the proposed purchase of recovery and banking equipment did not comply with World Bank procurement procedures. Halon use is not currently monitored in most of the non-EU CEITs, and existing databases were reported to be out of date. Failure to invest in halon management and banking is an oversight in the GEF ODS program.

Conclusion 6: In some countries, the national ozone units ceased to function after GEF support ended, and this may prevent measures being put in place to address the remaining threats to the ozone layer.

The EU CEITs in the early and mid-1990s depended on international aid to finance ODS reduction and phaseout programs. This is not the case today, with the improvement of their economies and links to financial programs in the EU that provide sustainable support to address the remaining challenges of ODS phaseout, such as HCFCs, banking, and safe destruction of ODS.

The non-EU CEITs, however, are not in this position. Many of them have continually faced funding shortages that threaten the existence of the national ozone units that were established to manage, reduce, and phase out ODS. Kazakhstan had a unit that was funded by external contracts rather than the central budget; Ukraine and Russia had no identifiable ministry staff who were actively managing policies and measures on ODS; Turkmenistan was also dependent on external funding.

The GEF approved additional financing for some of these CEITs in 2007, but administrative barriers to disbursement have resulted in only one being funded so far. As a result, the national ozone units in the non-EU CEITs reported difficulty in completing the tasks assigned by the GEF Implementing Agencies.

Delays in funding from donors, communication difficulties, and administrative burdens within and among countries have hampered the development and implementation of new programs. This is leading to increased threats or risks to the successful phaseout of the remaining ODS—in particular, HCFCs—and to actions to address the destruction of banks of unwanted ODS stockpiles.

Unwanted CFC stockpiles were reported as a serious problem by many businesses in the non-EU CEITs, as there were no facilities available to destroy them. Prolonged storage in decentralized facilities increased the risk of diminishing benefits, as the substances leak out of storage containers or are dumped by private sector stakeholders. Over time, this will undermine the work that has been performed by servicing companies.

2.4 Recommendations

To the GEF Council

Recommendation 1: The GEF Council should consider further investment and capacity development to assist CEITs in addressing the remaining threats to the ozone layer.

Three threats remain to be mitigated: illegal trade in ODS, phaseout of HCFCs and halon, and lack of destruction facilities for banks of unused CFCs and other ODS. The GEF could consider the following actions, particularly in the non-EU CEITs:

- Investment projects to help the government and private sector recover and recycle HCFCs and

increase the market penetration of non-ODS or low or zero global warming potential alternatives in the refrigeration and foam sectors

- Investment in destruction facilities to provide government and the private sector with appropriate options for safe and cost-effective disposal of obsolete ODS
- Capacity development for national ozone units and customs authorities to function more effectively; this may include further support to update legislation and policy, ODS and non-ODS refrigerant detection equipment, and training and technical assistance to improve enforcement to reduce illegal trade in ODS

These actions would present opportunities for the GEF to attain double global environmental benefits—not only for the ozone layer, but also for the climate—because ODS is both ozone depleting and global warming. Furthermore, destruction of ODS would create synergies with ongoing efforts to safely destroy persistent organic pollutant stockpiles in many of the CEITs. There may be opportunities for the GEF to finance development of joint ODS–persistent organic pollutant destruction facilities.

Recommendation 2: The GEF should learn from the positive private sector engagement in the ozone layer depletion focal area and incorporate similar approaches in its efforts to engage the private sector in other focal areas.

The portfolio of projects assessed as part of the impact evaluation exhibited strong engagement with the private sector, which contributed to the attainment of global environmental benefits and financial benefits to the businesses involved. Such strong performance is not observed in other GEF focal areas. As the GEF is now placing greater emphasis on private sector partnerships going

forward into GEF-5 (fiscal years 2010–14),⁵ it is important that experiences and lessons from the ODS projects are examined and, where possible, incorporated into other focal area operations.

Some lessons for consideration identified by the impact evaluation include the following:

- Undertaking a viability test directed at measuring organizational, economic, and financial sustainability, which provides the foundation for targeted and informed “green” business investments
- Focusing on a wide range of businesses—small, medium, and large, from start-ups to established firms with a proven track record for product innovation and profitability
- Targeting a few specific sectors for green business investments that best align the environmental goals of the GEF and financial (profit) growth possibilities
- Keeping bureaucratic procedures to a minimum, bearing in mind that companies often have to make quick decisions on investments
- Identifying champions who have innovative product ideas and technical and political skills, as the work in the ODS portfolio demonstrated that private enterprise champions were critical in producing good business and environmental results
- Investing in countries with government policies and procedures that actively support green business and the ease of doing business in these countries

⁵ The GEF fiscal year runs from July 1 to June 30.

Recommendations to Non-EU CEITs

Recommendation 3: Non-EU CEITs should consider making improvements in the implementation of legislation, policies, and standards on all aspects of ozone layer protection.

Legislation and policy implementation is essential for phaseout of ODS consumption and for providing the basis for market transformation through the introduction of alternative technologies and chemicals. This is particularly important in non-EU CEITs, which face greater challenges than EU CEITs in phasing out HCFCs and reducing illegal trade in ODS.

Countries could consider drafting new or updating existing legislation and policies on the following aspects of ODS phaseout:

- ODS recovery, recycling, and reporting
- Establishing private enterprise standards and requirements, particularly in sectors such as refrigeration and air conditioning servicing
- Import bans for ODS and ODS-containing equipment, and/or licensing and quotas for ODS imports and exports
- Setting appropriate penalties or deterrents for illegal trade in ODS
- Establishing and promoting the activities of professional refrigeration associations

A critical ingredient for effective implementation of legislation and policy is baseline government funding for national ozone units. Experience from the EU CEITs indicates that post-completion government funding is resulting in continued phaseout of ODS and lowered threats and risk to the ozone layer.

Recommendation 4: Non-EU CEITs' existing efforts to prevent illegal trade need to be further strengthened.

Many approaches could be implemented to combat illegal trade. The most important is to reduce national demand for ODS by encouraging the installation of ODS-free equipment, which removes the servicing demand for ODS by using economic and financial instruments and promoting voluntary commitments in the end user sector. Many countries encouraged businesses to substitute their CFC-based equipment for non-ODS alternatives, thereby reducing demand for CFCs.

Other approaches to reduce the illegal supply of ODS include the following:

- Training and workshops for customs officers and inspectorates on a regular basis to maintain and improve detection capacities
- Implementation of customs codes for all common ODS and blends to enable customs authorities to differentiate legal from illegal trade
- Establishment of send-and-receive communications between countries to monitor all ODS shipments
- Use of specialized equipment to differentiate legal from illegal ODS
- Certified laboratory methods for confirming the nature of the ODS intercepted
- Participation in regional meetings and networks to collate, evaluate, and share intelligence on illegal trade as a basis for agreement on further action
- Raising awareness of illegal trade in ODS among private companies and the general public

These activities need to be supported by legislation that empowers customs officers to take appropriate actions against smugglers and suppliers of illegal ODS.

Recommendation 5: Countries need to take further action to manage and bank halon.

Experiences from countries that have successfully banked and managed halon indicate that the following approaches could be adopted:

- Development of a management plan that includes identification of the quantities of halon installed by location, the quantities that can be replaced by alternatives, and a timetable for decommissioning the installed halon
- Equipment and facilities for recovery and reclamation of halon, with appropriate train-

ing for technicians to ensure safe management

- Accounting and reporting procedures showing quantities decommissioned, reclaimed, stored, and recycled
- Promoting market mechanisms that enable responsible management of the available halon stock

Non-EU CEITs could also considering making more use of UNEP's halon trader Web site (www.halontrader.org/home), which offers the potential to use funds derived from sales of halon to support national halon recovery and banking operations. Further emphasis on development of appropriate legislation and policy is important to provide a stable foundation for halon management plan development and implementation.

3. Review of an Experimental Evaluation of a GEF Project: RISEMP

The Regional Integrated Silvopastoral Approaches to Ecosystem Management Project (RISEMP) was selected as a case study by the GEF Evaluation Office because it is one of the few recently completed GEF conservation projects based on an experimental impact design allowing assessment of both “before and after” and “with and without” impacts. This evaluation analyzes the strengths and weaknesses of the project’s underlying experimental design as implemented at one of its three sites (Nicaragua), where fieldwork was undertaken specifically to explore how this design worked in practice. The full report of the Evaluation Office study is available on the Office’s Web site (GEF EO 2009a).

RISEMP was initiated in 2002. It was a full-size GEF project, designed as an innovative pilot initiative to promote silvopastoral practices through technical assistance and payment for environmental services (PES) generated by these practices. The project was implemented in three countries: Costa Rica, Colombia, and Nicaragua. It was managed by the World Bank and coordinated by CATIE (Tropical Agricultural Research and Higher Education Center), an international research institute in Costa Rica. Country pilot sites were managed by national nongovernmental organizations: CATIE in Costa Rica, CIPAV (Centre for Research on Sustainable Farming Systems) in Colombia, and Nitlapán in Nicaragua. The intended total cost of the project was \$8.72 mil-

lion, of which \$4.77 million was financed by a GEF grant and \$3.95 million through cofinancing from the Livestock, Environment and Development Initiative of the Food and Agriculture Organization of the United Nations and from CATIE, CIPAV, Nitlapán, and other local donors. The project closed in January 2008.

The project’s main development objectives were to demonstrate and measure the effects of the introduction of PES to farmers, based on their adoption of integrated silvopastoral farming systems in degraded pasture lands; and the resulting improvements in ecosystem functioning, global environmental benefits, and local socioeconomic gains deriving from the provision of these services.

There were four primary project components:

- The first component aimed to strengthen local development organizations (especially CATIE, CIPAV, and Nitlapán) to assist farmers in establishing and maintaining improved silvopastoral systems, and in the technical and institutional aspects of such systems.
- The second component entailed developing and implementing an improved monitoring system to provide accurate information and understanding on the potential of intensified silvopastoral systems in providing global environmental services and local socioeconomic benefits.

- The third component focused on creating and implementing a payment mechanism to provide incentives for establishing and maintaining improved silvopastoral systems on farms.
- The fourth component looked to support policy formulation and dissemination, specifically developing a replication strategy, including exploration of potential sustainable financing mechanisms to ensure the project's long-term sustainability.

RISEMP was, in essence, a research and innovation project. Apart from providing incentives to farmers to adopt silvopastoral practices that would generate multiple environmental services, the project was designed to investigate

- the effects of different types of incentives on land use changes and the sustainability of these changes,
- the effects of land use changes in terms of global and local environmental services and local socioeconomic benefits.

Thus, to some extent, the project in itself was about outcome and impact assessment. As part of the project's objectives, the project teams in the three countries, in collaboration with World Bank staff, developed their own system of research and monitoring. The project was based on the experimental mechanism of targeting groups of farmers with different incentives. In principle, this approach would offer a solution to the attribution problem in impact assessment, as differences between otherwise similar groups could then be attributed to the differences in incentives received from the project.

Targeted fieldwork was undertaken to explore the Nicaraguan case in detail. The fieldwork shows how an experimental design that is implemented without the necessary knowledge and institutional

support at the field level can lose its utility. Project staff were not trained or in any way prepared to manage an experimental design and could not be expected to handle the various problems that threatened the design's validity. The analysis shows that the utility of the experimental design in terms of resolving the attribution problem is heavily compromised by several threats to validity.

In all, the experimental framework failed on two of the three group comparisons that were to support rigorous claims on the effects of PES and technical assistance on land use change and corresponding environmental effects. The PES-only versus control group comparison is rendered invalid because of severe problems of selection bias and unintended behavioral responses, especially in the control group. The PES-only versus PES–technical assistance comparison is affected by treatment diffusion related concerns. The two-year-PES versus four-year-PES comparison is quite valid. The data and their subsequent interpretation illustrate the utility of the experimental design in terms of providing reliable evidence on land use behavior under different types of incentives.

The fundamental question of the cost-benefit ratio of using an experimental design should be raised. Implementing such a design involves substantial costs:

- Implementation costs of designing the experiment, selecting the farmers, managing and controlling the quality of the experiment, and so on
- Costs incurred in facing ethical dilemmas or possible resistance from farmers or other stakeholders
- Foregone benefits to farmers (withholding benefits to certain groups of farmers, less outreach provided than would have been the case without an experimental approach)

These costs can only be justified if the experiment is done carefully, thereby delivering its analytic potential. In the Nicaraguan case—and possibly at the other two sites as well—the costs of implementing the experiment without the necessary quality control and supervision clearly outweighed the analytical benefits of conducting the experiment.

Despite the limited utility of the experimental design in Nicaragua and the potential unidentified problems of the design in the other two countries, the logic of experimentation potentially provides a powerful tool to test the effectiveness of particular incentives on outcomes and impacts, controlling for other factors. Experiments can be especially useful in the following cases:

- When knowledge on attribution and effectiveness is important—for example, in the case of innovative instruments, when little is known about their effectiveness (where much evidence exists about the effectiveness of a particular approach or instrument, the benefits of

an experimental design might not outweigh the costs)

- When there is an interest in the magnitude of effects caused by the project

These experiments should only be applied if

- sufficient attention and resources are dedicated to training and quality control of the experimental design in practice;
- attention is paid to possible combinations of experimental approaches with other methods that would be mutually reinforcing and would together allow for a more comprehensive coverage of the outcome and impact dimensions of an intervention (as well as more adequately address questions of both average effects attributable to the intervention and heterogeneity in effects).

4. Impact Evaluation of Biodiversity Projects in Peru

4.1 Background

The GEF Evaluation Office has explored—and has presented to the GEF Council—opportunities where impact evaluations can be supported within the context of ongoing activities in other institutions. Recently, the World Bank IEG approached the Office for such parallel work. The IEG is piloting a country-level evaluation in Peru which includes both an assessment of the World Bank Group’s program outcomes by institution during fiscal year 2003–09 and an integrated assessment of the contribution of the World Bank Group as a whole to the country’s development. The evaluation includes projects cofunded by the GEF and implemented through the World Bank Group. Five completed biodiversity projects were selected for this impact evaluation.

There are several reasons for the GEF Evaluation Office to conduct this particular impact evaluation:

- The evaluation is an opportunity to further develop the ROTI methodology, which has thus far been implemented only at the project level, and explore its use with a cluster of projects. This exercise will be useful for the Office’s upcoming impact evaluation of the GEF’s international waters portfolio.
- All five of the selected projects have a local community component. The Evaluation Office

has determined that more evaluations of the role of local communities, and in particular of indigenous peoples, would be useful.

- The Evaluation Office continues to explore the impact of the GEF on long-term improvements in the socioeconomic condition of local communities and indigenous groups and where such changes are essential to ensure lasting improvement of global environmental benefits.
- Peru has historically been one of the largest recipients of GEF support, particularly in the biodiversity focal area. The GEF has funded a total of 55 projects (completed, under implementation, and approved) in Peru, of which 33 have been nationally implemented; 14 are regional projects, and 8 are global. GEF funding for national projects totals \$90 million with \$402 million in cofinancing.

The Evaluation Office joined the IEG evaluation in August 2009. As with its previously conducted full impact evaluations (on protected areas in East Africa and on ODS in CEITs), the Office is adopting a theory of change approach in the Peru study. This impact evaluation has looked to trace contributions of cause and effect linkages from biodiversity conservation interventions to outcomes, impacts, and global environmental benefits to determine the extent to which projects achieved impact.

4.2 Study Objectives

The objective of the Peru impact evaluation is to assess the impact of the selected group of completed GEF biodiversity projects on the global environment and on local communities' socio-economic conditions. Specifically, the impact study will

- analyze the impacts in biodiversity conservation and sustainable use given local community and indigenous group approaches and the impact on the socioeconomic development (improved livelihoods and poverty alleviation) of local communities and indigenous groups;
- assess the sustainability of GEF biodiversity investments in Peru, including of any replication and scaling-up opportunities that occurred;
- compile general lessons learned about GEF biodiversity funding in Peru;
- test and develop an ROtI methodology applicable to a cluster of projects.

The two key questions explored by the impact evaluation are as follows:

- How relevant has GEF support to Peru been with regard to changes in the socioeconomic conditions of local communities, particularly of indigenous peoples, and their dependence on biological resources?
- What have been the results of GEF support in Peru at the impact level (that is, changes in biodiversity), and what is their sustainability?

4.3 Methodology Overview

The evaluation focuses on completed or mostly completed GEF-funded projects that have been

implemented through the World Bank as a GEF Agency, and within the context of the IEG country-wide evaluation. The selected projects are being assessed through the ROtI analysis individually and as a cluster. Portfolio and literature reviews, stakeholder interviews, and other approaches are also being used.

4.4 Progress to Date and Further Work

The evaluation began with a literature review on the selected projects, identification of key stakeholders, and full discussions with the IEG to establish a common work program. The next step was to visit Peru for extensive interviews with stakeholders and visits to a selected number of project sites. Several other activities are currently under way:

- Refinement of the impact evaluation questions and framework
- Further review of relevant literature (project documents, terminal evaluations, Evaluation Office studies) and other information—specifically on socioeconomic aspects—to increase understanding of the cluster of projects' context and results, and to identify relevant stakeholders from whom to obtain further information
- Preparation of desk ROtI studies of selected projects (individually and as a cluster)

A report on this impact evaluation will become an input to the IEG evaluation. An accompanying methodological piece will be discussed internally in the Office and among other evaluation stakeholders.

5. Review of Progress Toward Impact of the GEF OPS4 Cohort of Projects

A key element of the work of the Fourth Overall Performance Study was an assessment of the results achieved by the cohort of projects covered by the study. This review looked at the outcomes and impacts achieved as well as progress toward long-term environmental change—which had been the ultimate objective of the projects, but which had not been achieved by project completion. Section 3 of the OPS4 report (GEF EO 2009c) provides details of the ROTI methodology and its results for the OPS4 cohort of projects; these are not repeated here. For more information about the actual analytic methods used, see GEF EO and CDC (2009).

5.1 Methodology

The elements of a project’s progress toward impact can be assessed either on the basis of project terminal evaluations conducted by the Implementing Agencies (**desk ROTI**) or, in smaller numbers, through a fieldwork study (**field ROTI**). More than 200 projects—the entire cohort of projects formally completed in the OPS4 period plus a set of projects examined by the **full impact evaluation** of ODS phaseout—were included in a desk ROTI exercise, which was supplemented by 10 field ROTIs.

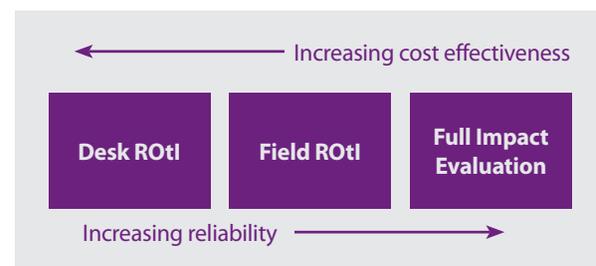
5.2 Desk and Field ROTIs

Two different ROTI methodologies—the desk ROTI and the field ROTI—were designed and

implemented. The desk ROTI was the main methodology used in the OPS4 results evaluation process, and has generated the bulk of the findings. This rapid method enables an understanding of project impacts quickly and cheaply. To confirm the validity of the overall approach, the GEF Evaluation Office undertook a number of field ROTI exercises. These are more costly and time consuming, but produced a more nuanced, in-depth understanding of project impacts than is possible with the desk ROTIs. The relationship between the three types of impact evaluation used by the GEF Evaluation Office is illustrated in figure 5.1.

Figure 5.1

Comparison of the Three GEF Evaluation Office Impact Evaluation Methods



The Desk ROTI

In the desk ROTI, the evaluator chiefly relies on existing project documentation such as the project brief and terminal evaluation. The desk ROTI method is a rapid assessment approach featuring cost and time efficiency; as a result, it sacrifices

some of the quality and quantity of information on the project's outcome-impact pathways that can be achieved with the field-based ROTI. The desk ROTI has the major advantage of enabling a large number of projects to be assessed relatively quickly. Consequently, it provides a good foundation for making summary and comparative conclusions about particular program areas or project types.

The Desk ROTI

- Relies on existing documents such as the project brief and the terminal evaluation
- Rapid assessment approach with cost and time efficiency
- Enables a large number of projects to be assessed relatively quickly

The Field ROTI

With the field ROTI, the evaluator employs a variety of information collection methods, including documentation review, interviews, and working sessions with project stakeholders, as well as visits to project field sites to verify findings. Because the field-based technique relies on the collection of new post-completion information about the project, it allows relatively conclusive evidence to be gathered about the status of achievement of the outcome-impact pathways, including the achievement of intermediate states and the realization of impact drivers and assumptions. This in turn enables in-depth analyses of the project's theory of change, and the reasons why the project has succeeded or failed in its progress toward delivering impacts.

Because the field ROTI is time and cost intensive, it is not easy to replicate in large numbers, and is therefore not suitable for developing broader findings about specific program areas or types of projects within a limited time frame. However, it

could be used for this purpose if employed systematically over a number of years.

The Field ROTI

- Employs interviews and working sessions with project informants, as well as visits to project field sites
- Allows collection of post-project data about the status of intermediate states, impact drivers, and assumptions
- Enables in-depth analysis of the project's theory of change
- Time and cost intensive—not easy to replicate in large numbers

Comparison of ROTI Types

Compared with the desk ROTI, the field ROTI presents several advantages. Fieldwork enables a more nuanced scoring system and permits exploration of whether theories on which the project design was based proved correct and were delivered as intended. With the field ROTI, it is also possible to collect local data on actual impacts achieved and gain basic information relevant to attribution and indirect effects. Over time, the field ROTIs could be developed as a means of calibrating desk ROTI scores.

In summary, the desk ROTI enables a rapid scaling up of proxy information on impacts; the field ROTI provides moderate scaling-up possibilities, with higher data quality; and the full impact evaluation provides detailed and reliable data on a relatively small number of projects. The three methodologies together can provide a much richer knowledge base on impacts than is currently available.

5.3 Progress Toward Impact of the GEF Portfolio of Finished Projects

Ratings were applied to identify projects whose outcomes were making solid progress toward the

intended global environmental benefits, versus projects that currently show little or no progress toward that objective. Projects between these two extremes of the scale have ratings that are promising, but also show that additional action needs to be taken to ensure that their outcomes will proceed toward impact.

Of the 205 rated projects (including those added into the total set from the ODS impact evaluation), 80 intermediate states show solid progress toward impact, 64 need further action, and 61 currently show little or no progress (see GEF EO 2009c, chapter 3.1). In terms of funding, relatively large projects seem to make better progress toward impact and have a higher rate of demonstrating early impact. This reflects not only the availability of resources to execute project activities, but also a typically longer time frame for execution and larger scale of potential impact. The reverse is observed among projects with lower ratings: smaller projects tend to be less likely to demonstrate impact. The reasons for these differences are both general and particular, and are explored in the focal area chapters of section 3 of OPS4 (GEF EO 2009c). Based on these findings, several hypotheses could be tested by the Evaluation Office in its future impact work.

The nature of the impact of GEF-supported projects and interventions needs to be understood in line with the GEF's catalytic nature. The GEF does not intervene on its own, but together with international, national, and local partners. These partners are "catalyzed" through GEF support and continue working toward global environmental benefits after this support has ended. Thus, the GEF contributes to the success of a project, but the impact of the project needs to be attributed to the partners that continue to work on the issues addressed by the project. This is fully discussed in chapter 3.1 of OPS4 (GEF EO 2009c).

5.4 APR and Desk ROTI Ratings

A check was performed to see how the **ROTI ratings on outcomes** complemented the GEF Evaluation Office's annual performance report (APR) **ratings for terminal evaluations on outcomes**. The ratings proved consistent, although they measure different aspects of outcomes. The APR ratings focus on achievement of intended outcomes, whereas the ROTI rates achievement of outcomes and their design elements that would enable progress toward impact. Also, the ratings use different scales, which leads to a slightly lower overall rating score for outcomes in ROTIs versus the APR. Further methodological development should lead to a fuller understanding of the complementarities between the two sets of ratings.

A second check was performed on the **intermediate states** ratings of ROTI versus the ratings for **sustainability** of the APR. This check showed more significant differences than the outcomes comparison, because the perspectives of the ratings are fundamentally different: intermediate states rate the degree to which conditions have been met in order to progress toward global environmental benefits; sustainability is concerned with maintaining gains achieved at the outcome level during the project lifetime. A comparison of the ratings shows this difference is consistent across both successful and less successful projects. The ROTI ratings offer a diagnostic on what is needed to move intermediate states forward to achieve impact.

The ROTI desk reviews were also used to find independent evaluative evidence of having achieved impact by project closing. This rating—which cannot be compared with any APR rating and is new and additional—identifies whether the mechanisms enabling the delivery of impact actually "work."

The following provides an example of what is measured in this rating. In many projects, there is evidence of global environmental benefits at project end. Such projects receive a “plus” rating on impact evidence. These benefits are often relatively small and not yet sustainable; they are often a tiny part of what the project aimed to deliver and may disappear or remain small in the absence of follow-up. However, they do demonstrate that the mechanisms to achieve global benefits at least theoretically “work” in a particular project and have been documented by project closing.

The OPS4 report and the comments provided by the OPS4 Senior Independent Evaluation Advisers (GEF EO 2009c, appendix A) highlight several aspects of the new methodology, which will be further developed in the GEF partnership. Already, a set of evaluative studies are being conducted in Peru (see chapter 4), which will explore the applicability of the ROTI method to a cluster of projects at the national level. The Evaluation Office will also discuss the findings of the OPS4 ROTI exercise with the GEF Secretariat and Agencies to see how lessons learned could be incorporated into focal area strategies and project proposals, and also how to include ROTI aspects in midterm evaluations and supervision. Most importantly, GEF operational focal points could mobilize support from their own and other ministries to enable intermediate states to progress toward impact, and redress situations where intermediate states did not materialize or have not been envisaged.

5.5 Initial Comparisons of Results between Desk and Field ROTIs

As noted, field ROTIs were undertaken for 10 projects in OPS4. These were of projects completed some years previously, so that the progress toward

long-term global environmental benefits could be assessed. Thus, there was no overlap between the desk and field ROTI cohorts, since the latter consisted of projects completed before the OPS4 cohort period. In principle, desk ROTIs could be completed before undertaking field ROTIs to develop a database for comparison of the results given by the two methods. Although this was not undertaken as part of the OPS4 process, it is possible to make a simple comparison between the ratings from the project terminal evaluations and those of the field ROTIs. In the further development of the ROTI methodology, this will be done for all 10 field ROTIs. An initial comparison was made for seven projects.

Because field ROTIs usually occur some years after a project’s terminal evaluation, they reveal to what extent the promise of progress toward global environmental benefits noted by that evaluation—or, where applicable, by a desk ROTI—has actually occurred. Although the set of projects for which field ROTIs were undertaken cannot be seen in any sense as a formal or representative sample, the findings do suggest a tendency that could be tested for reliability by a formal sample of field ROTIs over time. Only one of the seven projects remained on track, fully delivering against the satisfactory terminal evaluation and desk ROTI ratings. The other projects showed a declining level of progress toward long-term impacts (global environmental benefits) when examined through field-level evaluation some years after their terminal evaluation. The reasons for this decline are provided in detail in the field ROTIs, with a very strong emphasis on the inability of governments (in particular) to continue to support and supply necessary activities on a long-term basis; this underscores the importance attached to continued governmental ownership and support highlighted in OPS4.

Appendix. Management Response

This appendix presents the management response to this report, which was presented to the GEF Council in October 2009 as GEF/ME/C.36/Inf.3. Minor editorial corrections have been made.

This is the management response to document GEF/ME/C.36/Inf.3, “Impact Evaluation of GEF Assistance to the Phaseout of Ozone-Depleting Substances in Countries with Economies in Transition,” undertaken by the GEF Evaluation Office. The overall objective of the impact evaluation was to evaluate the impact of GEF financing in the ozone portfolio of projects on the phaseout of ozone-depleting substances (ODS) in countries with economies in transition (CEITs), with the following five subobjectives:

1. To evaluate the impact of GEF ozone portfolio investments in CEITs to reduce ODS production
2. To evaluate the impact of GEF ozone portfolio investments in CEITs to reduce ODS consumption
3. To assess the sustainability of GEF investments in terms of maintaining ODS phaseout in CEITs
4. To assess the extent to which the GEF investments catalyzed further changes in the behavior and decisions of stakeholders, in particular the private sector

5. To compare these parameters with a limited number of projects on the phaseout of ODS in countries funded through the Multilateral Fund

We are in full agreement with the recommendations emerging from the review, and consider them to provide a sound basis for further development of the ozone layer depletion program. Some of the conclusions of the review can be interpreted from slightly different perspectives, however.

Conclusions

Conclusion 1: GEF support for the phaseout of ODS consumption and production in CEITs has made a contribution to global environmental benefits.

We are pleased with this conclusion. We would further note that the GEF interventions have in fact addressed the “high-hanging fruits”—that is, the ODS that were still in production or use after the economic downturn following the collapse of the Soviet Union. We would also emphasize that the potential phaseout is much higher than the actual phaseout, since in decoupling ODS production/consumption from GDP growth, the GEF in fact prevented production and use of ODS in CEITs from reaching the much higher levels of the late 1980s.

Regarding “impact drivers,” we concur with the joint importance of “government commitment” and “private enterprise commitment” as a condition for success. We are also pleased to see that GEF operations have been very efficient in phasing out ODS as measured in amounts phased out per year per dollar. With regard to the reported slightly higher cost-effectiveness than comparable “matched countries,” we think a better explanation, as explained above, is that the GEF was put in the position of having to address the “high-hanging fruits” only in terms of ODS targeted for phaseout.

Conclusion 2: Legislative and policy changes supporting ODS phaseout provided a foundation for success and ensured sustainability.

We fully agree with this conclusion. GEF programs, for example with POPs, continue to address investments for release reduction together with the development of an enabling environment that promotes sustainability.

Conclusion 3: Private sector commitment to ODS phaseout was a critical driver in the success of the GEF investments in CEITs.

We welcome this conclusion. The involvement of the private sector in the ODS program through “efficiently executed” subprojects serves as one example of how the private sector can be successfully mobilized.

Conclusion 4: Illegal trade threatens to undermine gains in ODS reduction in the non-EU CEITs.

We fully agree with this conclusion, and illegal traffic is addressed in the draft GEF-5 strategy for chemicals. In fact, the recent progress in addressing illegal traffic noted by the impact evaluation in such countries as Kazakhstan and Uzbekistan can be attributed at least in part to the support provided by the GEF for institutional strengthening in these countries. We would point out also that

to the extent that the Montreal Protocol allows for the use of ODS, such as CFCs for servicing, there is a legal market for CFCs, and therefore potential for illegal traffic.

Conclusion 5: Halon recovery and banking has been neglected in the non-EU CEITs.

While we would not dispute the conclusion that halon recovery and banking might have been the least effective of the GEF ODS programs, we think the conclusion must be put into context. In general, halon recovery and banking has proven one of the most difficult activities to implement in industrialized and developing countries the world across.

Regarding the example of the Russian Federation cited in the report, the Implementing Agency for the project, the World Bank, points out that the issue was not that of “procurement procedures,” but rather that there were no eligible subprojects for funding, as there was low demand for halons and a lot of available halons, mostly from military installations. Therefore, any halon recovery and banking project would not have been sustainable and would have failed.

We note the limited halon monitoring said to have taken place in the non-EU CEITs, and will address this with the Agencies in the context of the existing institutional strengthening project for the Central Asia CEITs, or in the framework of future GEF-supported projects under consideration to address HCFC phaseout in the CEITs.

Conclusion 6: In some countries, the national ozone units ceased to function after GEF support ended, and this may prevent measures being put in place to address the remaining threats to the ozone layer.

Recognizing this to be an issue, a medium-size project was funded at the beginning of GEF-4 for

the least industrialized of the CEITs in Central Asia and the Caucasus. Reversing the long standing policy that the GEF would not directly support funding for ozone units would require a Council decision.

Regarding the “administrative barriers to disbursement” referred to in the text, the Implementing Agency, UNEP, notes that these were due to a combination of factors, both at the level of enhanced international fiduciary control requirements, and national-level response to these adjustments, and that the situation is now resolved. To date, all country grant agreements have been completed, and disbursements sent through for all but one country.

Recommendations

Recommendation 1: The GEF Council should consider further investment and capacity development to assist CEITs in addressing the remaining threats to the ozone layer.

We fully agree with this recommendation. Continuing support to eligible CEITs to meet Montreal Protocol obligations should continue to be a cornerstone of GEF programs, and it is one of the three objectives proposed for the GEF-5 chemi-

cals strategy. Regarding destruction specifically, we would note that this is not an obligation under the protocol, and that the policy discussions under the protocol have only recently progressed. In view of the costs and uncertainties involved, we believe support should be provided on a pilot basis and in coordination with other GEF programs dealing with hazardous waste, notably POPs and international waters.

The need to continue capacity development is noted, with the caveat mentioned above.

Recommendation 2: The GEF should learn from the positive private sector engagement in the ozone layer depletion focal area and incorporate similar approaches in its efforts to engage the private sector in other focal areas.

We fully agree with this recommendation, although again some context is necessary. There is strong engagement with the private sector because this is where the majority of the ODS consumption/production lies; there is no parallel in any other GEF focal area to this situation. We also agree in general with most of the “lessons for consideration” that are proposed, although their actual applicability would have to be assessed in detail.

References

Publications cited here for the GEF Evaluation Office are available at www.thegef.org/ under Evaluations & Studies and in the online documents database ASK ME.

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GEF Evaluation Office Publications

Number	Title	Year
Evaluation Reports		
54	OPS4: Progress Toward Impact – Fourth Overall Performance Study of the GEF, Full Report	2010
53	OPS4: Progress Toward Impact – Fourth Overall Performance Study of the GEF, Executive Version	2010
52	GEF Country Portfolio Evaluation: Syria (1994–2008)	2009
51	GEF Country Portfolio Evaluation: Egypt (1991–2008)	2009
50	GEF Annual Country Portfolio Evaluation Report 2009	2009
49	GEF Annual Performance Report 2008	2009
48	GEF Annual Impact Report 2008	2009
47	Midterm Review of the Resource Allocation Framework	2009
46	GEF Annual Report on Impact 2007	2009
45	GEF Country Portfolio Evaluation: Cameroon (1992–2007)	2009
44	GEF Annual Country Portfolio Evaluation Report 2008	2008
43	GEF Country Portfolio Evaluation: South Africa (1994–2007)	2008
42	GEF Country Portfolio Evaluation: Madagascar (1994–2007)	2008
41	GEF Country Portfolio Evaluation: Benin (1991–2007)	2008
40	GEF Annual Performance Report 2007	2008
39	Joint Evaluation of the GEF Small Grants Programme	2008
38	GEF Annual Performance Report 2006	2008
37	GEF Country Portfolio Evaluation: Samoa (1992–2007)	2008
36	GEF Country Portfolio Evaluation: The Philippines (1992–2007)	2008
35	Evaluation of the Experience of Executing Agencies under Expanded Opportunities in the GEF	2007
34	Evaluation of Incremental Cost Assessment	2007
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ED-2	GEF Evaluation Office Ethical Guidelines	2008
ED-1	The GEF Evaluation and Monitoring Policy	2006



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