

**GOOD PRACTICE NOTE 4—
ENVIRONMENTAL AND NATURAL RESOURCE ASPECTS
OF DEVELOPMENT POLICY LENDING**

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GOOD PRACTICE NOTE 4— ENVIRONMENTAL AND NATURAL RESOURCE ASPECTS OF DEVELOPMENT POLICY LENDING

I. INTRODUCTION

1. Good Practice Note 4 provides guidance on assessing the links between development policy lending and the environment for operational staff designing such operations and environmental staff engaged in their review. While the note presents frameworks for analyzing linkages, there is a body of good practice (presented in Annex 4.A), which should also guide staff in dealing with environmental aspects of development policy lending. This good practice list will be updated in future editions of this note.

2. A key point for staff to consider as operations are designed and reviewed is that adjustment lending has changed considerably in the last two decades. While structural adjustment programs in the 1980s focused on correcting the major macroeconomic distortions that were hindering development, more recent operations, classified in section IV below, have focused on issues such as governance, public sector management and reform of the social sectors, particularly health and education. This in turn changes the potential linkages between policy-based operations and the environment and natural resources.

3. A critical input in the design and analysis of development policy operations is the availability of current and relevant analytic work on the environment and natural resources. Traditional environmental economic and sector work (ESW) has tended toward the measurement of conditions and trends (important information in its own right) or the design of national environmental action plans. The new generation of ESW, with a stronger focus on policies and institutions in client countries, is considered in section III.

4. The environmental and natural resource implications are driven to a large extent by the nature of the operation. For instance, if any investment lending subcomponent—involving a physical investment—is included in a development policy operation, the impact on the environment is more likely.¹ In that case, the operation should be subject to the relevant operational policies for investment lending, and corresponding mitigatory action needs to be undertaken.² Specific policy reforms on the other hand, may have environmental effects that may present many potential benefits and costs to different stakeholders.³ For example, energy price reforms in general promote fuel efficiency with attendant positive environmental effects.

¹ According to OP 4.01, an investment is likely to have significant adverse environmental impacts if (a) the impacts may be irreversible (e.g., lead to loss of a major natural habitat) or diverse, or unprecedented; and/or (b) impact is directly on human populations or environmentally important areas, including wetlands, forests, grasslands, and other natural habitats.

² See OP/BP 10.00 *Investment Lending*.

³ *Environmental effects* means a policy-induced change in human activity that in turn leads to a change in the quantity or quality of an environmental resource (for example, loss of forest cover or habitat, or a change in the concentration of pollutants in air, soil or water). *Significant effects* are environmental changes of sufficient magnitude, duration and intensity as to have non-negligible effects on human welfare.

However, retaining subsidies on diesel could lead to negative environmental effects through excess diesel consumption, with adverse effects on air quality and subsequently on human health. Section V reviews the many positive effects that policies can have for the environment and natural resources, drawing on experience in Europe and Central Asia Region (ECA). Negative environmental effects of development policy lending often occur in the presence of other pre-existing policy, market and institutional failures in the environment, or natural resource sectors. In some instances, they may even exacerbate the existing environmental conditions. Efforts in such cases should be targeted at establishing the proper price signals to guide the use of the environment and natural resources—possibly through environmental charges and/or regulations.

5. The tools at our disposal to analyze the potential linkages between development policy operations and the environment and natural resources are highly imperfect, in part because of the sheer difficulty of the problem. A companion toolkit is under preparation to guide the selection of tools and approaches that can be applied in various instances.⁴

6. While consideration of environment and natural resource issues in the design and review of development policy lending operations is certainly good practice, it is important at the outset to quote what Operational Policy (OP) 8.60 requires in this regard. The policy requires that operational design draw upon relevant analytic work on the environment, as well as requiring that environmental issues be considered under the heading of risks to the operation. However the key paragraph is as follows:

Environmental, Forests and Natural Resource Aspects.⁵ The Bank determines whether specific country policies supported by the operation are likely to cause significant effect on the country's environment, forests and other natural resources. For country policies with likely significant effects, the Bank assesses in the Program Document the borrower's systems for reducing such adverse effects and enhancing positive effects, drawing upon relevant country-level or sectoral environmental analysis (undertaken by the country, the Bank, and third parties). If there are significant gaps in the analysis or shortcomings in the borrower's systems,⁶ the Bank describes in the Program Document how such gaps or shortcomings would be addressed before or during program implementation, as appropriate.

7. The language of policy thus *requires* that as a part of development policy operations, one should do the following:

- Carry out due diligence in “determining likelihood of significant effects” on the environment and natural resources;

⁴ Kirk E. Hamilton and Muthukumara Mani, *Toolkit For Analyzing Environmental and Natural Resource Aspects of Development Policy Lending*, Preliminary draft, ESSD, World Bank, 2004.

⁵ Natural resources include renewable and nonrenewable resources defined as naturally occurring material within the boundaries of human activities.

⁶ Borrower's or country systems broadly refers to the capacity underlying the policy and institutional framework to identify and address environmental problems/priorities in an effective manner taking into account concerns of stakeholders (including the most vulnerable groups). It also embodies processes to adequately monitor and evaluate progress to overcome these problems.

- Assess country systems to determine whether there is appropriate environmental management capacity to handle potential effects; and
- Recommend actions within or outside of operation with emphasis on building required institutional capacity.

Good practice in designing and reviewing development policy operations should embrace the potential positive effects of policy reforms on the environment. This includes suggesting changes to the design of operations in a way which decreases/minimizes negative effects and increases positive effects.

II. FRAMEWORK

8. Linkages between development policy lending and the environment may be positive or negative from an environmental perspective. These linkages often can be complex and differ across countries.⁷ But the essential lesson for policy is simple: safeguarding the environment and resource base—both over the long term and against immediate impact of lending operations—requires measures directly targeted to these ends, serving as a complement to sound macro policies in enabling sustained high quality growth. As a matter of good practice, staff designing and reviewing development policy operations should aim to enhance the positive effects of the operation, assuming that any steps in this direction are germane to the operation, while at the same time taking steps to ensure that any negative effects are dealt with either through change in the design of the development policy operation or through complementary actions in the broader country program. For making this judgment, it is important to view environment as a “development” issue (i.e., the use of natural resources today should not undermine the long-term prospects for development and improved welfare in the future).

9. Development policy lending, whether sectoral or macro scale, is characterized by (a) a focus on policy reforms, rather than physical investments and (b) rapid disbursement. Both of these characteristics influence the treatment of environmental issues at the operational level. For example, the effect of policy reforms on the environment is often felt only indirectly (mostly through changing consumption and production patterns), which may limit our ability to forecast the environmental effect of any specific reform.⁸

10. Policy reforms in developing countries often take place in a context where there are market, policy, and institutional failures.⁹ Under these circumstances there is no guarantee that any individual reform will be welfare-improving overall (because of the existence of

⁷ The literature on adjustment and the environment, however, contains remarkably few quantitative analyses of links between policy-based lending and the environment; see A. Gueorguieva and K. Bolt, *A Critical Review of The Literature on Structural Adjustment and the Environment*, Paper No. 90, Environmental Economics Series, Environment Department, The World Bank, April 2003.

⁸ There is also a high level of contingency of such outcomes on how the reforms are specifically regulated and implemented and on the response of other actors/forces.

⁹ Market failure happens when the prices do not adequately reflect environmental externalities (e.g., pollution); a policy failure is when a government policy fails to achieve the desired objectives resulting in unforeseen environmental effects (e.g., energy subsidy); and an institutional failure occurs when the designated institution is incapable of monitoring and implementing the policies.

these other distortions). So, while as a general proposition we might assume that a policy reform is good for the economy as a whole, including the environment, operational design needs to be sensitive to the effects of distortions in other parts of the economy.

11. Even where the effects of an operation on the environment are likely and significant, there remains the question of whether measures to reduce adverse effects should take place within the operation or in the broader country program. The first approach should generally be to avoid or diminish effects through the design of the operation itself. If there remains a risk of significant effect on the environment, and strengthening country systems can be done in the short time, there is an argument for building short-term actions into the development policy operation. In most other circumstances, particularly where effects are uncertain in magnitude and likely to be lagged, the appropriate place to deal with environmental effects is at the level of the country program. In either case, the program documentation should acknowledge the potential effects and the measures taken to deal with them within or outside the program. Moreover, any growth-linked effects on the environment are likely to appear well beyond the life of the operation. This suggests toward having an explicit monitoring and evaluation strategy to review progress during, as well as beyond, implementation.

12. The broader country program may include assistance by the World Bank or other development partners, in reforming environment/natural resource institutions and the policy framework, as well as in capacity building for ministry staff. Because OP 8.60 stipulates that managing the environmental effects of development policy operations is a responsibility of the borrower, the key issues to be faced in countries undergoing economic restructuring and reform will revolve around the *country systems*.¹⁰

III. ROLE OF KNOWLEDGE AND ANALYTIC WORK

13. Country-level analytical or diagnostic work is a sound basis for ensuring that environmental considerations enter the development planning process at an early stage. Priorities, including the costs of environmental degradation, identified by an existing country-led environmental work, as well as assessments by the World Bank and development partners, are important to inform and deepen understanding of key environmental challenges, particularly in connection with the preparation of Poverty Reduction Strategy Papers (PRSPs) and Country Assistance Strategies (CASs). An assessment of environmental policy, regulatory, and institutional capacity is also essential to gain an understanding of institutional capacity strengths and challenges in order to ensure that environmental implications of lending programs are properly considered, including monitoring of environmental trends with specific attention to resources at risk.

14. In the absence of availability of any structured analytic work, the second best option would be to rely on a number of tested heuristic tools available in the literature.¹¹ The most

¹⁰ Borrower's or country systems broadly refers to the capacity underlying the policy and institutional framework to identify and address environmental problems/priorities in an effective manner taking into account concerns of stakeholders (including the most vulnerable groups). It also embodies processes to adequately monitor and evaluate progress to overcome these problems.

¹¹ Kirk E. Hamilton and Muthukumara Mani, "Toolkit for Analyzing Environmental and Natural Resource Aspects of Development Policy Lending," Preliminary draft, ESSD, World Bank, 2004.

powerful tool in the analyst's toolkit, however, is going to be the availability of current environmental economic and sector work (see Box 4.1).

Box 4.1. Environmental Analytic Work in Support of Development Policy Lending

Appropriate analytic instruments for assessing the effects of development policy operations on the environment include country environmental analysis (CEA) and strategic environmental assessments (SEAs) since development policy lending involves economywide or sectorwide policy programs rather than physical investments.

Country environmental analysis covers countrywide policies and institutions dealing with the environment forests and natural resources. The CEA focuses on the major environment issues in a country; reviews the policy and institutional framework; assesses institutional capacity to implement the framework; and makes recommendations for priority reforms. It does this all at the level of the country or, in large countries such as India, a state. The CEA is a relatively new approach, with five full CEAs having been delivered to the client, including recommendations on which both the World Bank and the country agree.

Strategic environmental assessment concentrates more on policies, plans, and programs within a specific sector. Policy SEA considers the linkages between a given sector (energy, for example) and the environment and natural resources; reviews the policy and institutional framework for dealing with environmental issues within the sector; assesses institutional capacity; and may make recommendations for reforms of policies or institutions. Policy SEA is an evolving tool with few examples of application in the World Bank's work to date.

15. In the absence of any useful analytic work, however, there may be a need to initiate such work, either to study issues linked to the operation or to better understand issues at the level of the country program. In all cases, there is a general set of questions that need to be posed:

- What are the priority environmental problems in a country or a region? Is there a danger of these problems getting exacerbated by ongoing reforms in the country?
- Do the environmental and natural resource management institutions have the capacity to identify environmental priorities, monitor the priority environmental problems, and respond accordingly? Do these institutions have the policy framework and legislative authority to act when problems arise?
- Do governmental organizations have the capacity to respond to environmental problems? Are there conflicting or unclear responsibilities across governmental organizations?

16. The purpose of this screening mechanism is to determine, on a case-by-case basis, whether the particular operation is "likely to cause significant effects on the country's environment and natural resources." If the conclusion of the screening is *negative* (i.e., the program is unlikely to cause significant negative or positive effects on the country's environment), no further action is required. If the conclusion does turn *positive*, then one may have to proceed with the analytic work outlined in Box 4.1. This type of screening could be undertaken at the program preparation/appraisal stage by the environmental specialists in the

program team or the region.¹² Box 4.2 provides useful examples of recent analytic work that has supported capacity and institutions building efforts in the various regions.

17. The Bank considers it important and a matter of good practice in its analytic work to consult and engage the stakeholders in the process of defining country priorities and in identifying and designing appropriate interventions.¹³

IV. TYPOLOGY OF POLICY-BASED OPERATIONS AND POTENTIAL ENVIRONMENT LINKAGES

18. The environmental and natural resource effects of the main policy instruments are often complex and context specific. The nature, even the direction, of these effects is highly sensitive to the structural characteristics of the economy affected. The presence of other market and policy failures often makes it difficult to determine the magnitude of the change, which in turn makes it difficult to forecast the direction of effects. For example, devaluation of the domestic currency, which makes it cheaper for foreigners to purchase domestic goods, will tend to increase the production of tradable goods in the devaluing country. Environmental problems may be worsened insofar as the production of tradables tends to be “dirtier” than that of nontradables (such as many services). Additionally, the devaluation may encourage over-exploitation of tradable resources (such as hardwood), especially in the face of other policy failures (such as uncontrolled illegal logging or excessively low stumpage fees). At the same time, however, it may also lead to an increase in the price of imported fertilizers and pesticides, which will have beneficial effects to the extent that—as is often the case—the pricing of these products does not fully reflect the social damage (in terms of soil degradation and contamination of the food chain) that their use can cause.

19. Table 4.1 presents a breakdown of typical policy-based operations,¹⁴ at both sectoral and macro level, together with the potential links between elements of the reform programs and the environment and natural resources. This can serve as no more than a guide to thinking, however. The initial conditions in a country—the nature of its environmental problems, its resource endowment, the policy and institutional setting—are critical in determining the direction and magnitude of effects of individual reforms on the environment.

V. RISKS AND OPPORTUNITIES IN POLICY-BASED LENDING OPERATIONS

20. The literature on structural adjustment and the environment¹⁵ has attempted to identify the risks that policy-based operations may present to the environment. Many of the concerns in this literature are in fact concerns about the effect of liberalization and giving markets greater sway in developing countries. This literature demonstrates that in general policy reforms represent an opportunity for better management of the environment and natural resources as well.

¹² Each region will have to develop its own procedures to ensure that environment and natural resource aspects are addressed adequately in accordance with OP 8.60.

¹³ See *Good Practice Note 5— Supporting Participation In Development Policy Operations*.

¹⁴ Drawn from recent (2000-2003) policy-based operations.

¹⁵ See the review in Gueorguieva and Bolt, *op. cit.*

Box 4.2. Selected Good Practice Examples of Economic and Sector Work

The following examples demonstrate how environmental analytic work contributes to the broader country programs:

Poland: Complying with EU Environmental Legislation (2000). This report examines the implications for Poland of complying with the European Union's environmental directives and suggested ways to reduce the cost. As a result of the paper, the Ministry of Finance focused on the costs and the need to plan carefully for compliance. The Ministry of Environment also successfully used some recommendations in its negotiations with the EU (e.g., establishing a long transition period for compliance with the urban wastewater directive). The EU financed some of the recommended actions, such as manure management to reduce nitrate pollution and encouraging households to switch from coal for domestic heating to tackle urban air pollution.^a

The Cost of Environmental Degradation in the Middle East and North Africa (2003). Analytic work is underway in MNA (Algeria, Egypt, Jordan, Lebanon, Morocco, Syria, and Tunisia) to assess the cost of environmental degradation. These studies provide decisionmakers with a first order of magnitude of the cost of environmental degradation as a percentage of GDP as regards to the health impacts of urban air pollution and waterborne illnesses, the economic cost of water resources and soil/land degradation, impacts related to waste management, and the cost of coastal zone degradation. The studies rely on existing data and analysis of environmental issues, and apply commonly used methodologies of valuation and quantitative impact assessments to country specific issues in order to arrive at estimates of the cost of degradation. They have so far provided a basis for dialogue in the country programs and in training for ministries, agencies, and interested institutes to incorporate assessments of the costs of environmental degradation in policymaking and environmental management.^b

Poverty-Environment Nexus Study (2002). A major analytic exercise investigating poverty/environment linkages was initiated in Cambodia, Lao PDR, and Vietnam. Poverty data for the three countries was mapped using a Geographical Information System (GIS) and then overlaid with individual environmental variables for visual assessment of spatial associations. The three key environmental indicators chosen included deforestation, access to sanitation, and fragile lands. The data from Lao and Vietnam showed evidence of poverty/environment linkages for fragile soils. By establishing evidence of the vulnerability of poor people to specific environmental problems the study was particularly useful in the preparation of PRSPs and CASs.^c

Causes of Deforestation in the Amazon (2003) aimed at finding coherence and a better understanding of the factors associated with the expansion of deforestation in Brazil and the public policies attempting to arrest it. The findings suggest that, in contrast to the 1970s and 1980s when occupation of Brazilian Amazonia was largely induced by government policies and subsidies, recent deforestation in significant parts of the region is basically caused by medium- and large-scale cattle ranching. However, private benefits from large-scale cattle ranching are largely exclusive, having contributed little to alleviate social and economic inequalities or to environmental sustainability. As a result, while rural income tripled on average from US\$410 in 1970 to US\$1,417 in 1995, this increase did not translate into quality of life improvements for the poorest local population groups. The study compares a number of different scenarios and proposes recommendations for the region.^d

^a G. Hughes and J. Bucknall, *Poland: Complying with EU Environmental Legislation*, World Bank Technical Paper 454, ECA Environmentally and Socially Sustainable Development Series, Washington DC, 2000.

^b For details see www.metap.org.

^c S. Dasgupta, U. Deichmann, C. Meisner, and D. Wheeler, *The Poverty/Environment Nexus in Cambodia and Lao People's Democratic Republic*, World Bank Policy Research Working Paper 2960, Washington, DC, 2003.

^d Sergio Margulis, *Causes of Deforestation of the Brazilian Amazon*, World Bank Working Paper No. 22, Washington, DC, 2004.

Table 4.1. Typical Reforms in Policy-based Operations and Potential Environment Linkages

<i>Sector</i>	<i>Reforms</i>	<i>Potential opportunities to attain environmental benefits</i>	<i>Potential to reduce/manage any negative outcomes</i>
Energy	Pricing, subsidies, ownership, and regulatory issues.	Price-induced reductions in demand and the environmental regulatory regime within the energy sector.	Differential pricing of dirty vs. clean fuels could lead to adverse environmental and health effects.
Agriculture	Land markets; product markets; subsidies; rural finance; input prices; trade taxes; irrigation institutions; and reform of government institutions, such as marketing boards and stabilization funds.	Positive effects on resource management from land market reforms and increasing access to credit.	Manage environmental risks from changes in prices of inputs such as irrigation water, fertilizers and pesticides.
Financial	Privatization, writing down of bad loans, re-capitalization of banking system, and regulatory issues (among many possibilities).	Promotion of responsible and sound investments.	Innovative financial instruments (catastrophe bonds) can help securitize catastrophe risk resulting from climate-induced extreme weather events.
Health, education	Financing, resource allocation, level of access, and effectiveness of expenditures.	Environmental linkages manifest through improvements in environmental health.	
<i>Macro</i>	<i>Reforms</i>	<i>Potential opportunities to attain environmental benefits</i>	<i>Potential to reduce/manage any negative outcomes</i>
Public expenditures, public sector management	Expenditure frameworks; budget transparency; financial management; accountability; priority setting; service delivery efficiency; and the skills, professionalism, and remuneration of the public service.	Priority setting and efficient allocation of public expenditures will benefit the environment.	Protect public environmental expenditure during major fiscal consolidation.
Tax reform	Tax incidence (income, assets, corporations, consumption); tax rates; exemptions; deductions; and the complexity of the tax system.	These reforms are potentially positive for the environment, even more if pollution taxes, taxes on polluting inputs such as energy, and resource royalties are part of the reform program.	
Fiscal federalism/ decentralization	Decentralization reforms aim at increasing the efficiency of service delivery, accountability,	The issues from an environmental management perspective include strengthening budget and	

	effectiveness, capacity, and adequacy of regulatory frameworks at the local level; they may also embrace fiscal decentralization.	capacity at local levels.	
Private sector development	Business climate issues—business taxation, regulation of entry, operation and exit, bankruptcy procedures, protection of property rights, and operation of capital markets.	Attracting businesses into the formal sector may be positive for the environment (since environmental policies are more readily applied).	Ensure adequate monitoring and enforcement of regulatory framework.
Trade reform	Elimination of non-tariff barriers, reduction and simplification of tariff rates, reform of customs procedures, and regulations relating to foreign direct investment.	Increased foreign direct investment can be positive for the environment, through access to cleaner technologies.	Reforms undertaken in the presence of pre-existing market, policy or institutional imperfections in the environment or natural resource sector may lead to adverse effects.

21. Policy-based lending operations can and do have positive effects on the environment. Below are a few cases where these effects have been found to be positive (with an emphasis on the ECA Region where the experience with structural reforms has been particularly broad):

- **Privatization.** In a cross-section analysis of 44 countries from 1987 to 1995, it was found that the higher the share of the private sector in total production, the lower the rate of environmental degradation. Similar correlations are found between a well functioning capital market and the level of foreign direct investment in a country.¹⁶ Hence development policy loans that promote private sector development in this way should, in general, have a beneficial effect on the environment. If, however, this effect is to be maximized, a proper regulatory framework needs to be in place.
- **Land reform and the environment.** A number of studies have noted the positive environmental effects of the establishment of secure tenure and property rights on agricultural land,¹⁷ and the phase-out of collective farming.¹⁸ This is particularly the case in such programs implemented in a number of countries in the ECA Region. These programs were reviewed in some detail and in all cases the environmental effects are considered to have been positive. As in the case of privatization, however, not all reforms will be equally effective as far as the environment is concerned. Reforms that, for one reason or another, result in a

¹⁶ D. Talukdar and C. Meisner, "Does the Private Sector Hurt or Help the Environment? Cross-Country Evidence from Carbon Dioxide Pollution," *World Development* 29(5), 2001, pp 827-840. Environmental degradation is approximated using CO₂ emissions.

¹⁷ *World Development Report 2001/2002: Building Institutions for Markets* (New, York: Oxford University Press for the World Bank, 2002); see Gueorguieva and Bolt *op. cit.*

¹⁸ B. Libert, *The Environmental Heritage of Soviet Agriculture* (Wallingford, UK: CAB International, 1995).

concentration of ownership can result in an increase in landless laborers with adverse consequences for the environment.

- **Water use.** In the ECA Region, the link between the rate of economic reforms and the level of water pollution was investigated. It was discovered that while the use of inputs such as fertilizers and pesticides fell much more than crop production across all countries, the rate of decline in these inputs was notably greater in the fast reforming countries.¹⁹
- **Energy sector reforms.** By and large, a move toward economic pricing of energy has beneficial environmental effects. World Bank studies in Sri Lanka, Poland, and other countries have confirmed this overall conclusion. In the ECA Region, the faster reforming countries (which inevitably implement more rapid increases in their commercial energy prices) reduced their energy intensity more than slower reforming ones and, although overall energy consumption may have increased more in the fast reformers, they were becoming more pollution efficient. Some of the same effect is also achieved when coal subsidies are reduced or phased out, as the consequent shift to other fuels such as oil and gas is less polluting.

22. These desirable effects may, however, be cancelled by an increase in the use of noncommercial fuels (e.g., fuelwood), if the increase in commercial energy becomes unaffordable. The resulting deforestation and higher levels of indoor air pollution are both unwelcome environmental effects.²⁰

23. The key message that comes out of this short review is the fact that, in many policy-based loans and for many key effects, the reforms favor the environment. This does not guarantee that the environment will in fact benefit from the actions, or that it will result in the maximum benefits that could have been realized. That will need extra attention being given to the environmental dimension.

24. In addition to the benefits of typical policy-based loans, there have been special cases where policy reforms have been *specifically* designed to address environmental issues. Two examples of such loans are the Bulgaria Environment and Privatization Support Loan (EPSL) and the Mexico Programmatic Environment Structural Adjustment Loan (EnvSAL). The objective of the Bulgaria EPSL (described in Annex 4.1) was to assist the Government in achieving environmental improvements, supporting the privatization of highly polluting enterprises, and harmonizing national environmental regulations with those of the EU. As a result of the loan, the main effects on the environment are the following:

- **Water.** A number of measures in the loan act to improve the level of water quality in Bulgaria, reflecting the need for improvement in water resource management identified in the CAS. An important area is the issuance of permits to reduce

¹⁹ G. Hughes and M. Lovei, *Economic Reform and Environmental Performance in Transition Countries*, World Bank Technical Paper 446, ECA Pollution Management Series, World Bank, 1999.

²⁰ G. Hughes and M. Lovei, *op.cit.*; and P. Meier, et al., "Energy Sector Policy and the Environment : A Case Study of Sri Lanka," in M. Munasinghe (ed.), *Environmental Impacts of Macroeconomic and Sectoral Policies*, (Washington, D.C. : World Bank, 1996).

pollution and to bring water pollution in line with the EU Integrated Pollution Prevention and Control Directive.

- ***Air pollution.*** Measures to control air pollution including permits and controls on levels of pollution were advocated under this loan, again to bring Bulgaria closer to meeting EU standards.
- ***Regulation.*** Regulation is featured in a number of ways. The creation of integrated permits is important, but one should not ignore the importance of the measures on the last line of the AIM—that of increasing institutional capacity for oversight and increasing compliance.
- ***Privatization.*** The project explicitly included legal changes to address the issue of environmental liability and to develop a program for addressing some of the damages resulting from past pollution.

This loan is an exception in the sense that it was *designed* around a number of environmental improvements. The Government was provided finance for balance of payments support in exchange for undertaking certain changes in environmental regulation. To date it appears to have been successful in that goal.

25. The Mexico Programmatic Environment Structural Adjustment Loan (EnvSAL 1) consists of three operations to support the Government of Mexico's (GOM) efforts to balance socioeconomic development with environmental protection.²¹ The EnvSAL 1 focused on (a) mainstreaming of environmental concerns in key sectoral development agendas, as prioritized by the GOM; and (b) improving the effectiveness and efficiency of local environmental management processes. The key sectors supported by the EnvSAL 1 included water, energy, forestry, and tourism, based on criteria jointly defined with the GOM. Most notably, it supported the approval and implementation of fiscal instruments to promote the payment of municipal water fees and investment in municipal hydraulic works and for revenue generation from the use of national marine-protected areas and corresponding reinvestment in the environmental management of these areas. The program witnessed significant achievements under the first tranche with respect to mainstreaming environmental concerns. One of the more challenging aspects of the program was in trying to achieve interinstitutional coordination, which nonetheless provided valuable lessons for future such operations.

VI. LESSONS FROM EXPERIENCE

26. Section II on framework issues strongly suggests that we should be fairly humble about our ability to forecast with any precision the effects of individual adjustment operations on the environment and natural resources. The accumulated experience of the World Bank on this topic offers a number of practical considerations that we should take into account in this task:

²¹ *Implementation Completion Report*, First Programmatic Environment Structural Adjustment Loan, Report No. 29259, World Bank, 2004.

- ***Feasibility of analysis.*** The fact is that very few OECD countries mandate environmental assessment and analysis of policy reforms and the anecdotal evidence is that there is a high degree of dissatisfaction with the robustness of the analyses performed. There is a lesson here for the sort of issues outlined in this good practice note.
- ***Country program vs. individual operation.*** Given the difficulty associated with predicting the environmental effects of individual operations, a stronger emphasis must be put on the country program. Especially, in countries where there is a large development policy operation in the pipeline, it would be good practice to assess the needs for analytic work and corresponding needs for strengthening country systems in an integrated way as part of the country program.
- ***Measures to deal with environmental risks.*** The tight time frame of most policy-based operations means that it is highly unlikely that complementary actions to deal with environmental risks, if required, can take place within the operation. This implies that such action should often be relegated to parallel or subsidiary operations (by the World Bank or other development partners).
- ***Conditionality.*** Evolving good practice on development policy lending²² strongly suggests that limiting the number of conditions in a loan increases its effectiveness. This will preclude specific environmental conditionality in most instances, but it does not preclude (a) influencing the overall design of an operation, or (b) influencing the design of specific conditions in the loan to be more environmentally benign or beneficial.
- ***Predictability of effects.*** As a general rule, it is more difficult to predict environmental effects of broader macroeconomic policy operations (e.g., trade reform and fiscal reform) than of sectoral operations in environmentally sensitive sectors (e.g., energy and water).
- ***Advanced tools.*** Partial equilibrium analysis or CGE models will generally not be practical or cost-effective in the context of individual operations, but they may constitute a valuable part of any research program in the country.
- ***Costs*** of undertaking analytic work may vary considerably across regions/countries. A comprehensive CEA may cost on average about US\$300,000 depending on the country and the issues covered. A policy SEA on the other hand may cost on average about US\$150,000. Considerable synergies could be exploited and costs minimized if undertaking CEA and SEAs in the same country. Efforts are underway to develop and pilot rapid assessment CEAs and SEAs to help expand the menu of instruments available to support development policy operations. Once tested, these more agile tools may prove useful, given the abbreviated time-frame of development policy lending.

²² See Good Practice Note 1—Designing Development Policy Operations.

- ***Disclosure.*** Development policy lending requires that relevant analytic work be made available to the public as part of the consultation process in line with the Bank's disclosure policy.

SELECTED GOOD PRACTICE EXAMPLES

1. While it is important to present good practice—and it does exist, it is important to note—there is a limit to how much we can generalize from particular instances. Good practice generally reflects the confluence of a number of favorable factors: (a) environmental issues that are large-scale; (b) relatively direct linkages between environmental management and development outcomes; (c) a sound body of analytic work to guide the design of the operation; and (d) a client and country department that is aware of these conditions and is willing to embrace environmental reforms as part of the larger reform program. Selected examples are discussed below.

1. The *Madagascar Structural Adjustment Credit II* (April 1999) features: (a) a description of the natural endowment as a source of wealth in the Country Context section; (b) policy reforms in land tenure in order to permit tourism developments; (c) reforms in the mining sector, including a new Mining Code with transparent granting of concessions and the application of environmental standards; (d) conditions on petroleum sector privatization to deal with environmental cleanup; and (e) reforms in the fishery sector, including the auction of quotas. This wide range of environmental interventions is integral to the wider reform program.

2. The *Bulgaria Environment and Privatization Support Adjustment Loan* (January 2000) presents a comprehensive program for dealing with environmental liability as a companion to the Financial and Enterprise Sector Adjustment Loan II. The loan (a) prescribes amendments to the Privatization Law to clarify the liability of the state for environmental damages resulting from past actions; (b) establishes Environmental Impact Assessment requirements and risk assessment methodologies for privatization; and (c) requires remediation plans and execution agreements as part of the privatization process. Privatized establishments become subject to Bulgarian regulations for environmental management. This loan effectively sets the standard for other countries seeking to deal with issues of environmental liability in privatization.

3. The *Mali Third Structural Adjustment Credit Supplemental Grant* (November 2003) illustrates two of the techniques that can be used to mitigate environmental risks associated with a structural adjustment loan. The original Mali Third Structural Adjustment Credit (SAC III, a FY02 operation) included public sector reform, judged to have no negative environmental impacts; reforms in the cotton production subsector that had the potential to increase production and agrochemical use. Specific measures to address the effects of the cotton sector recovery component were incorporated in the Mali Agricultural Services Project (also a FY02 operation), which included a pest management initiative and rehabilitation of a pesticides residues laboratory. SAC III itself required the preparatory studies for privatization to include (a) environmental audits of the plants to be privatized; (b) integration of the audit results (i.e., environmental restoration cost, environmental and human safety, and liability issues) into the bidding documents; and (c) assessment of the readiness of existing national environmental legislations to deal with the above issues. The documentation for the SAC III Supplemental reported on the following results:

- Recent assessments show no evidence of major expansion of cotton cultivated areas and attendant increase fertilizer/pesticide use, thus environmental risks strictly associated with the SAC III cotton sector program are virtually non-existent;

- However, an Integrated Pest Management implementation plan has been designed under the Agricultural Services Project and is ready for implementation; and
- In the first phase of cotton privatizations, action plans from environmental audits have been integrated into the privatization documents, with implementation to be the responsibility of the purchaser upon conclusion of the sale.

4. The *Indonesia Water Resources Sector Adjustment Loan* (WATSAL, May 1999) provides balance of payments assistance to Indonesia to support a structural adjustment program of policy, institutional, regulatory, legal, and organizational reforms in the management of water resources and the irrigation sector. The project aims (a) to improve the national institutional framework for water resources development and management; (b) to improve the organizational and financial frame work for river basin management; (c) to improve regulatory institutions and implementation instruments for regional water quality management; and (d) to improve irrigation management performance and fiscal sustainability through farmer organization empowerment for participatory irrigation management.

5. Environmental and social sustainability in water resources and irrigation management was a prime goal of the WATSAL. This project is often cited as good practice as it was used to pilot Strategic (Sectoral) Environmental Assessment. The use of the SEA allowed the government and task team to (a) assess the environmental and social benefits and costs associated with policy reforms using risk analysis, and (b) address the issue of transparency and consultations in the project, which were emphasized by the government and often a criticism of past Bank projects. The WATSAL SEA addressed the possible outcomes of the reforms, assessed the risk associated with these reforms, and outlined options to address potential negative effects associated with the program.

6. The *Uganda Poverty Reduction Support Credit* (PRSC2, May 2001) offers programmatic lending to support policy and institutional reforms through a series of annual credits with a rolling three-year reform program based on PRSP. It provides untied budget support and aims to use and strengthen government's own systems and processes. Its broad multisectoral reform program aims to improve (a) delivery of education, health, water, and sanitation; (b) rural development (agricultural research and extension, rural finance, land tenure, natural resource management, rural roads); and (c) public expenditure management and monitoring and evaluation and governance (public service management, public procurement, financial management, legal and judicial reform, and civil society participation). A component on environment added to the reform program under PRSC2 to increase co-ordination and integration of environmental sustainability in government programs, with oversight from a sustainable authority for environmental management. This is expected to contribute toward reducing the level and risk of environmental degradation, including deforestation that is key for sustained growth.

7. Achievements of the program so far include (a) development of overall guidelines for strategic and sectoral environmental assessment; (b) development of sector specific EIA guidelines for road, water supply and sanitation, energy, and mining sectors; and work ongoing on guidelines for agriculture, forestry and wildlife sectors; (c) local government planning manuals adjusted to promote environmentally sustainable planning; (d) guidelines for

environmental screening of sector plans and programs developed for the government budget process; (e) development of several districts environment action plans; and (f) development and implementation of National Forestry Plan.