



Using Strategic Environmental Assessments for Environmental Mainstreaming in the Water and Sanitation Sector — The Cases of Argentina and Colombia

Ernesto Sanchez-Triana and Santiago Enriquez

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Integration of environmental considerations into development planning has been carried out through project level environmental impact assessments (EIA), typically after many critical policy level decisions have already been made. Strategic environmental assessment (SEA)—an analytical and participatory process to include environmental considerations into policies, plans, and programs (Ahmed et al 2005) can be used to shift the discussion upstream to the point at which policies are made. Such an SEA process, referred to here as institution-centered SEAs,¹ can thus be a means of incorporating environmental considerations into policies and influencing decisions at an early stage of development. This is particularly challenging because policy making is a complex process characterized by uncertainty and by interactions among multiple stakeholders with competing interests. SEAs are, consequently, not predominantly technical tools; they are open processes that bring together a variety of stakeholders to make decisions on how to balance social, economic, and environmental goals.

This *Note* offers strategic guidance on the advantages and difficulties of conducting institution-centered SEAs as an integral element of the Bank's dialogue with its clients. It takes as case studies the SEAs carried out during the preparation of Bank-supported water and sanitation sector (WSS) reforms in Argentina and Colombia.²

BACKGROUND AND CONTENT OF THE SEAs

Because the Argentina Water Sector Reform Project (see box 1) was expected to have both beneficial and adverse environmental impacts, the Bank's operational policies required that an environmental assessment be conducted. However, focusing primarily on the environmental impacts of the public works to be financed by the project was inadequate, since the specifications of the works were still unknown. In addition, the government recognized that a institution-based SEA could help address priorities in the water supply and sanitation sector and provide critical input for determining the types of public works that the project would fund. Accordingly, in 1997 the Ministry of Economy (the main counterpart government agency) hired a team of consultants to prepare a institution-centered SEA, at a cost of \$25,000, to be completed in three months.³

In Colombia, too, in the context of the Bank supported Water sector reform project, the government faced a similar dilemma. Learning from the Argentinean experience, in 1999 the Department of National Planning, the Ministry of Environment, and the Ministry of Development also agreed to undertake a policy-based SEA to address the linkages between the environment and the WSS.

Goals and Methodology

In both cases, the SEAs had similar goals and methodology (see Table). These are elaborated below.

Identifying Sector Priorities

In both countries, in order to determine which issues bore the greatest economic costs and need urgent action in the water and sanitation sector, three different externalities—market failures calling for government action—were estimated:

1. *Efficiency of water use.* Water use efficiency was evaluated by quantifying and valuing water losses, estimating nonpayment for water consumption to calculate utilities' forgone income and

BOX 1

OBJECTIVES OF THE ARGENTINA AND COLOMBIA WATER SECTOR REFORM PROJECTS

The objective of the Argentina Water Sector Reform project was to support water sector reform in select cities by introducing private sector participation in the operation and management of water utilities; adopting appropriate regulatory frameworks, institutionalizing tariff policies and increasing investments in public works to better reach poor consumers (World Bank 1999). Similarly, the Colombia Water Sector Reform Assistance Project was to support water sector reform by facilitating private sector participation in the management and operation of water utilities and financially creating sustainable utilities. It included financing investments in water sector, and sanitation infrastructure (World Bank 2001).

Table

Main Components of the SEAs in Argentina and Colombia

Goal	Methodology
Identify sector priorities	Use quantitative methods to assess the severity of sector priorities and provide reliable information for decision making, focusing on the key issues that are relevant for policy makers.
Incorporate the perspectives of multiple stakeholders	Request input from local water authorities, water operators, nongovernmental organizations, academic institutions, and other relevant actors. Ensure the participation of vulnerable groups, which tend to be most severely affected by environmental degradation but rarely have a voice in policy making.
Assess institutional weaknesses	Evaluate the specific institutional factors in the country that are associated with sector priorities or impede responses to them. Map stakeholders to identify actors that may oppose recommended reforms.
Mainstream environment into policies	On the basis of the first three components, redefine sector policies to address sector priorities, taking into account the needs of the most vulnerable groups.
Provide for continuous policy improvement	Define the monitoring arrangements needed in order to adjust policies in response to experience, new information, or changes in stakeholder preferences.

appraise the economic incentives for efficient consumption. In addition, evidence of conflicts among water users arising from inefficient use of a scarce resource and increasing reliance by water users on distant water sources was gathered.

2. *Water quality.* Using the human capital approach, the economic costs of waterborne diseases was calculated. In addition, evidence of the impacts of water pollution on economic activities and natural habitats was compiled.
3. *Environmental impacts associated with civil works.* The consultants examined the effects the works would have on noise, odors, traffic congestion, and air pollution, among other indicators. These impacts were estimated qualitatively on the basis of their intensity, duration, and geographic scope.

In Argentina, inefficient water use (associated with leaks, failure to measure water use, nonpayment, and the absence of institutional mechanisms for allocating water among users) was the most severe problem, with water losses estimated at 53 percent of water production. In Colombia water pollution stemming from untreated wastewater and inadequate solid waste disposal was identified as the most serious challenge because of its impacts on human health. Among these were diarrheal illnesses that cost an estimated \$315 million to \$400 million per year.

The main obstacles in identifying sector priorities were data gaps and inconsistencies in available information and demonstrated the need to establish information-gathering systems that would support policy adjustments in the future.

Incorporating the Perspectives of Multiple Stakeholders

In Argentina interviews were conducted with low income communities in three different cities. Input was solicited from local government authorities, water operators, non-governmental organizations, and professional associations (see box 2). In Colombia the agencies involved organized two nationwide workshops, the first, to collect input on the scope of the SEA, and the second, to request comments on an advanced draft of the report. Government agencies, private utility operators, academics, and nongovernmental organizations were also consulted to build consensus around the SEA. This process provided additional support for the SEA's suggestion that priority be given to investment in the expansion of water and adequate coverage to areas without access to safe water or sanitation. In addition, the consultants held interviews with several local investors and found that the legal uncertainty generated by environmental regulations was a barrier to private investment in the sector.

Assessing Institutional Weaknesses

The institutional assessment in Argentina examined whether the appropriate regulatory instruments for addressing sector priorities were in place and whether they defined concrete goals, distributed responsibilities clearly, and contemplated appropriate enforcement mechanisms. The SEA also looked at whether the relevant agencies' resources for fulfilling their obligations were adequate, as well as at their political and legal constraints. The assessment found (a) a fragmented institutional framework and, as a result, an absence of effective regulations for controlling water pollution; (b) jurisdictional overlaps, coordination problems that impeded the definition and enforcement of water property rights; and (c) neglect of environmental considerations by WSS authorities and utility operators.

In Colombia, the SEA focused primarily on the effects of environmental regulations on the expansion of basic services. Three regulatory instruments were identified as obstacles to private investment in the sector: the environmental impact assessment (EIA), water pollution charges, and *Decree 1594*, which set standards for discharges to water bodies. The analysis revealed, for example, that water pollution regulations targeted pollutants that had no significant effect on human health. Further, it showed that compliance with *Decree 1594* was extremely costly, as it required the construction of secondary wastewater treatment plants.

BOX 2 ISSUES EMERGING FROM STAKEHOLDER CONSULTATION IN ARGENTINA

The consultations highlighted the lack of a national strategy for providing basic services to the poor. For instance, concession contracts between water utilities and municipalities set tariff schemes that did not permit the recovery of the cost of new connections, and thus utilities had no incentive to expand services to poor areas that were without water or sewerage coverage. In other areas poor households could not afford the lump payment of connection fees that utilities demanded. Collection of water fees was as low as 5 percent in some localities, where utilities typically depended on public subsidies to cover operational deficits. Since it was mostly the non-poor households with connections, such transfers were regressive. Finally, lack of metering systems meant that water tariffs were based on residence location rather than on actual consumption. Consequently, in localities where poor and non-poor homes were not clearly segregated, poor households that did have access to water services had to pay tariffs similar to those for non-poor households.

Source: Alcaraz, Sanchez-Triana, and Calcagno 1997.

Yet this effort to build plants had no significant effect in reducing waterborne diseases.

Mainstreaming Environment in Policies

The SEA in Argentina identified a number of issues associated with inefficient water use and pollution that could be dealt through policy reforms: (a) the establishment of water use and pollution charges to internalize the costs of negative externalities in water users' decisions and (b) financial schemes that allowed low-income households to pay their connection fees in installments. The SEA also outlined an organization-strengthening program for utilities, based on the adoption of environmental management systems (EMSs). Other recommendations were to award an annual prize to the utility with the best environmental performance, to strengthen the Secretariat of Water Resources by creating an environmental unit that would function as an intersectoral coordination mechanism for environmental mainstreaming, and to implement an environmental sectoral information system for measuring the impact of the recommended policies.

In Colombia, the policy recommendations focused on reducing regulatory barriers to the expansion of water and sanitation coverage. For example, the SEA recommended giving priority to policy reforms such as modifying pollution charges and *Decree 1594* so as to help attract private investment, proposed a mechanism for ensuring greater transparency in implementing EIA regulations and establish an environmental unit within the Ministry of Development that could mainstream environmental considerations at the highest decision-making levels.

Provide for continuous policy improvement

Policy reform and institutional strengthening cannot be rapid, linear processes; they entail establishing relevant indicators and the associated information-gathering systems, monitoring and evaluating the entities' progress toward meeting the goals, and subsequently remedying ineffective institutional performance or adopting a new set of goals. Learning within organizations is key in this context, since they must deliberately adjust their goals or policy instruments in response to experience or new information. Moreover, if institutional weak-

nesses are to be addressed, accountability needs to be strengthened so that entities and individuals can be held responsible if they fail to meet a set of clearly defined performance- and outcome-based goals. In both cases the SEA recognized that because of the limited information available for making sector decisions and the inherent complexities of policy reform, the sector's main problems were unlikely to be solved in the short run. The SEA recommendations therefore included the establishment of an environmental sectoral information system that would help assess whether environmental priorities were being met and would provide a basis for evaluation of progress and continuous improvements in policies.

OUTCOMES OF THE SEA PROCESS

Conducting SEAs during the earliest stages of project preparation allowed the incorporation of environmental considerations in the final design of both projects. The execution of an SEA did not impose any more constraints on project preparation than would any other type of assessment that would comply with the Bank's safeguards. Indeed, the SEA added value by shifting policy makers' attention from the narrow issue of the environmental impacts of individual projects to a broader concern with sector-level priorities and environmental management issues that could only be addressed through policy reforms. Implementation of the SEA recommendations has been slow, due to the inherent difficulties of policy reform. Nevertheless, in both countries the SEA has become the basis for a broader, continuing policy dialogue between the Bank and the country in the water and sanitation sector, and sector and environmental authorities plan to implement pending recommendations in the medium term.

CONCLUSIONS

The cases of Argentina and Colombia illustrate the potential of SEAs to incorporate environmental considerations at the policy level. If a traditional EIA had been conducted during the preparation of the WSS reform projects in these countries, it

would likely have focused on the negative impacts of specific projects. By contrast, the policy-based SEAs provided an opportunity for addressing the most significant environmental impacts in the water and sanitation sector by identifying a package of environmental policy reforms that should serve as an integral element in strengthening the sector. Despite these advantages, policy-based SEAs must contend with inherent difficulties linked with policy and institutional reform.

NOTES

1. SEA refers to a range of approaches from those that are impact centered to those that focus on assessing institutional and governance issues linked with policy reforms. For a longer discussion see SEA toolkit at www.worldbank.org/sea.
2. This case was presented at the IAIA Conference at Prague, Czech Republic, 26-30 September 2005, and also stems from World Bank (2005).
3. Dollar amounts are current U.S. dollars.

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Authors

Ernesto Sanchez-Triana is a Senior Environmental Engineer in LCSEN at the Bank; and Santiago Enriquez is a Consultant with the Environment Department at the Bank.

Reviewers

This Note was reviewed by Adriana Jordanova Damianova, Lead Environmental Specialist, SASES; Claudia W. Sadoff, Lead Economist, ARD; and Pete J. Kolsky, Senior water and sanitation specialist, EWDWS — all of the Bank.

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THE WORLD BANK
Environment Department
1818 H Street, N.W.
Washington, D.C. 20433 USA
Tel: 202 473 1000
Fax: 202 477 0565
E-mail: eadvisor@worldbank.org
Web: <<[www.worldbank.org/
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