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CHAPTER 6 Environmental and Social Evaluation and Mitigation

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CHAPTER 6

Environmental and Social Evaluation and Mitigation



The Ciuiabá gas pipeline in eastern Bolivia is seen by many as a threat to the conservation of this pristine forest region (© Hermes Justiniano/ Bolivianature.com).

Multilateral development banks have been harshly criticized for failing to identify and mitigate the environmental and social impacts associated with the projects they finance. Beginning in the 1980s, the World Bank promoted guidelines for its investments that included environmental impact analyses (EIAs) and environmental management plans (World Bank 1991, 2003a). However, this approach has shown serious shortcomings. Traditional EIAs tend to focus on direct impacts in the implementation phase of projects, failing to identify secondary impacts from economic, social, or environmental phenomena associated with the infrastructure investments. Similarly, most EIAs did not consider cumulative impacts or the synergistic impacts of a project when aggregated with other projects. The consequences of any individual project might not be noteworthy, but the secondary, synergistic, and cumulative impacts that emerge amid a combination of projects and market phenomena may cause repercussions far beyond the project's direct impacts (Fogelman 1990). Finally, traditional EIAs have not been able to influence investment decisions made by the development banks because they have been conducted after financial and planning processes have already been set in motion. Viewed cynically, their intent was to meet a regulatory requirement or to manage a specific environmental problem, not to influence the design of a project or the decision to proceed with an investment. The public consultative processes of traditional EIAs were indicative of this inherent flaw: they were conducted after the study was completed to inform civil society, rather than to involve society in decisions about whether to proceed, modify, or reject the planned investment.

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STRATEGIC ENVIRONMENTAL ASSESSMENT

Because of the deficiencies inherent in the traditional EIA, a new evaluation process has been developed to incorporate broader geographic and thematic criteria (Partidário & Clark 2000, Espinoza & Richards 2002). Dubbed Strategic Environmental Assessment (SEA), this approach intends to integrate environmental considerations into decision-making (Partádario 1999). It is meant to evaluate policies, plans, and programs—an expanded focus that encompasses many of the large-scale, complex projects that arose during the 1980s and 1990s, and that characterize IIRSA's current portfolio.

As with an EIA, "environment" in SEA refers to both the natural and the human, or social, environment. One goal of SEAs is to identify accurately the full range of a potential project's direct, indirect, and cumulative impacts on the natural and human environment, so that effective mitigation can be designed and implemented, and to ensure that civil society participates proactively in both the investigation and recommendation phases of the study. Recommendations are organized in an environmental action plan that provides a framework for mitigating negative impacts, enhancing positive impacts, and designing development initiatives that will meet the specific environmental goals identified in the SEA. With these broader assessments and the engagement of society early in the planning and implementation phases to ensure a democratic process, the SEA can foster sustainable development environmentally, socially, and economically. Table 2 lists the main components of an SEA.

The IDB has been a leader in developing the SEA methodology. It financed the first SEA in Bolivia in 1999 preliminary to the construction of the Corridor Puerto Suárez–Santa Cruz (part of the IIRSA Central Inter Oceanic Hub)[81] and later for a northern transportation corridor intended to connect La Paz with Riberalta and Cobija. In Peru, CAF has assumed the responsibility of organizing the SEAs and their environmental action plans.[82] CAF has also made a commitment to incorporate environmental evaluation as an integral part of the planning process at the design phase and has financed the creation of an environmental planning tool that includes multiple databases of environmental and social information for the Andean region.[83]

The IDB also played an important role in coordinating the environmental evaluation and management plans for the *Camisea* pipeline, and although it provided relatively little of the total financing, this leadership effectively reduced the political and environmental risk, making the investment more attractive to private banks.[84]

Despite the positive developments in designing and conducting comprehensive impact assessments, these approaches do not appear to have been applied to IIRSA, nor to many of the projects contemplated in the Brazilian PPA. Essentially, the member governments presented a list of priority projects that were subsequently put on the fast track for future funding. Although IIRSA's Web site states that environmental themes were incorporated in a feasibility analysis during its preparatory stages in 2003 and 2004, the results of this analysis have not been presented to the public. According to the Bank Information Center, a watchdog group that monitors multilateral funding agencies, IIRSA's participating institutions have not indicated how they intend to harmonize their environmental standards (BICECA 2006b). Unfortunately, it appears that CAF and the IDB have not taken full advantage of the resources within their own institutions; for example, a cursory examination of the maps presented on the IIRSA Web site reveals that important protected areas are not shown within their database, including Madidi, Tambopata, and Cordillera Azul. Errors in the public presentation of their projects raise serious questions as to the adequacy of the environmental review process.

In a recent article, Robert Goodland, former director of the World Bank's environmental unit, commented on the deficiencies in the environmental policies of multilateral lending agencies. Among his many recommendations, three are particularly important for IIRSA. First, Goodland identifies the need to expand the scope of environmental analysis so that all loans are evaluated in the context of environmental and social impacts, including structural adjustment loans and short-term loans to manage balance of payment and macroeconomic aspects of national economies.[85] Second, Goodland recommends that all loans be evaluated in the context of global climate change, examining the risk climate change represents to the investment as well as the risk the investment represents to the global climate. Finally, Dr. Goodland suggests that strategic environmental and social evaluation be incorporated as a core element in developing the country assistance strategy, the planning document that establishes the framework for the entire lending portfolio for each multilateral institution (Goodland 2005).

Pressure from civil society will motivate governments and financial agencies to conduct fairly complete environmental and social evaluations for each of the IIRSA transportation corridors, and these will produce management plans that will attempt to limit the direct and indirect environmental impacts. However, a piecemeal approach to environmental evaluation and the formulation of separate management plans will not significantly alter the eventual outcome of global warming, widespread deforestation, and forest degradation. The issue is specifically that of cumulative and synergistic impacts. Taken individually, projects may not seem likely to generate significant adverse impacts and are unfortunately implemented with little real concern for

[81] The original recommendation estimated around $60 million for the Environmental Action Plan, representing approximately 20 percent of the total cost of the highway construction; the plan was eventually financed by the IDB with a budget of $21 million. Implementation experienced a 3-year delay as the IDB and government agencies negotiated over the management of the program. See http://www.snc.gov.bo/obras/corredores/index.html.

[82] Recently, CAF ($10 million) and the Peruvian government ($7million) committed to implementing an environmental action plan for the southern corridor, which included about $1 million for a strategic environmental assessment.

[83] CONDOR was developed by Conservation International (http://www.caf.com/view/index.asp?pageMs=14890&ms=11).

[84] In contrast to CAF and IDB, FONPLATA provides no information on its portal regarding environmental policy.

[85] Recently, the International Monetary Fund (IMF) required that Ecuador proceed on construction of the OCP pipeline to assure long-term economic growth; the OCP will impact Amazonian tropical forest, but the IMF does not engage in environmental evaluation for its loans for macroeconomic measures (pers. comm., Rosanna Andia, Bank Information Center).

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Table 2. Contents of a Strategic Environmental Assessment

Description of policies and programs	A narrative identifying the activities of the policy or program to be implemented, and the environmental impacts that will occur if implemented
Rationale for choosing policies and programs	Identifies activities that could affect the environment
Objectives	Clearly states the objectives of the policy or program, indicating beneficiary groups and geographic target areas
Scope	The geographic scale of the evaluation should be the same or larger than the scope of the policy or program under consideration
Alternatives	Identifies why a given policy or program has been selected
General baseline	Quantitatively and qualitatively describes the area before the implementation of the policy or program
Identification of impacts	Identifies significant positive and negative environmental and social impacts in the context of the previous environmental situation and predicts direct, indirect, and cumulative impacts
Environmental impact assessment	Assesses the positive and negative impacts that the policy or programs will incur, taking into account the country's regulatory framework. Justifies and appraises the policy or program using models and simulations. Identifies environmental conditions, considering worst-case scenarios.
Definition of environmental goals	Defines the environmental goals of the policy or program and identifies an environmental action plan detailing the measures necessary to meet those goals
Environmental action plan for goal achievement	A plan to facilitate compliance with the proposed environmental goals, particularly to mitigate negative impacts and enhance positive impacts. It should assure citizen participation throughout the process and monitor proposed action plans.

Modified from Espinoza & Richards (2002)

avoiding or mitigating negative consequences. When taken as aggregate, however, as discussed in Chapter 2, the various development projects under IIRSA will have major synergistic impacts that can and should be identified and addressed.

According to the guidelines outlined by the IDB, environmental analysis should be conducted at the scale appropriate for the policies, plans, and programs being implemented (Espinoza & Richards 2002). Because IIRSA is a continental-scale initiative, analysis should be conducted at the continental scale to identify cumulative impacts. That evaluation should likewise focus on the synergistic effects of all IIRSA projects in the context of other regional and global development phenomena. Recommendations must also be international in perspective and should incorporate solutions that respond directly to the human behaviors driving ecosystem degradation in the Amazon.

SUSTAINABLE DEVELOPMENT PLANS

One of the most important components of an SEA is the environmental action plan, an instrument that puts forth steps to avoid, mitigate, or compensate for the primary and secondary impacts identified in the evaluation. More importantly, however, this plan is supposed to operate as a sustainable development road map to achieve the goals that the SEA has defined. Environmental action plans are executed by local governments, usually with the financial assistance of the multilateral agency involved in the project.[86] The primary objective of an action plan is to create a legal framework and provide incentives for sustainable development in the region that will be affected by the project. For example, integrated farming systems are promoted in areas identified as suitable for permanent agriculture and agroforestry, whereas sustainable forest management, which includes both timber and nontimber forest products, is promoted on landscapes identified as appropriate for those activities. Key to both sets of recommendations is an agro-ecological zoning study to delimit appropriate land use.

An environmental action plan is intended to mitigate social liabilities in frontier areas by making priority investments in social infrastructure and services while producers are given financial credit to make the recommended investments. Efforts to resolve land tenure conflict and protect indigenous rights figure prominently, as do programs to consolidate protected area systems. The most recent example of an environmental action plan is the Sustainable Development Plan for BR-163, the highway that

[86] Examples include the environmental action plan for the Corridor Puerto Suarez–Santa Cruz and The Sustainable Development Plan for BR-163.

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Text Box 6

Deforestation: It's the Economy

Perhaps the most important lesson learned from the PLANAFLORO project in Rondônia in the 1990s is the recognition that community-based efforts are not enough to achieve sustainable development. Deforestation is almost entirely caused by the actions of individual land-holders, both family and corporate, pursuing economically advantageous production models. This conclusion is succinctly summarized in the "Lessons Learned" chapter of the PLANAFLORO evaluation (World Bank 2003b):

> The objective of the project was to change behavior of private and public agents in the use of the natural resources of tropical rain forests. The project concept did not recognize the strong existing economic and political forces that were (and still are) working in favor of continued expansion of forest clearing—the "political economy" of the frontier states . . . They [the project initiatives] accommodated one part of society ("organized civil society") but not private sector interests, on the basis of a vague strategy of community-driven development, largely without any solid and proven natural resource management technologies that would have reverted the mainstream use (clearing) of rain forests.

connects Cuiabá with Santarém in the Brazilian Amazon. Regardless of the good intentions of governments and financial agencies to identify and mitigate both primary and secondary impacts of infrastructure investments, recent history shows how difficult it is to manage development in the Amazon. In the 1980s and 1990s, the Brazilian government attempted to manage the settlement process via two ambitious projects in the State of Rondônia. The first, known as the PoloNordeste Project, was financed by the World Bank despite an internal due diligence evaluation that identified almost all of the risks that eventually came to plague the project (Redwood 2002). The World Bank was severely criticized for its role in designing and executing the project and eventually agreed to a follow-up natural resource management project, known as PLANAFLORO, which was intended to create a legal framework and incentive structure for sustainable development in Rondônia (Schwartzman 1985).

The experience of PLANAFLORO provides important lessons for attempts to "fix" development in the Amazon. An internal review conducted at the termination of the project revealed it to be a mixed success (World Bank 2003b) (see Text Box 6). On the plus side, investments in health and educational services were deemed adequate, the strengthening of community organizational and civil society was considered to be very good, and investments in improving the physical infrastructure such as water, rural electricity, and road maintenance were considered to have been adequately executed. Another bright spot was that conservation units and indigenous territories were consolidated; the federal government and the State of Rondônia demarcated 4.75 million hectares as protected areas and 4.81 million hectares as indigenous lands, which jointly represents approximately 40 percent of the land surface of the State of Rondônia.[87]

Unfortunately, PLANAFLORO was unable to slow deforestation. Approximately 35 percent of the total surface of Rondônia has now been deforested, which accounts for almost 70 percent of the forest area outside of conservation units and indigenous territories. In practical terms, that means virtually all existing forests outside of protected areas have been degraded due to wildfire and fragmentation. Moreover, there are widespread reports of illegal logging in conservation areas and indigenous reserves (Pedlowski *et al.* 2005), which are also routinely subject to fire.

There is always hope that future efforts to manage development will work better, which is essentially the motivation for the Sustainable Development Plan for BR-163. Noteworthy in that effort is the emphasis on repeating what is known to work, mainly the designation of all currently existing forested landscapes as conservation units or indigenous reserves. The evident goal is to create a girdle around the development corridor and, one hopes, limit deforestation to a narrow corridor adjacent to the highway. Perhaps the most important difference between PLANAFLORO and Plano BR-163 is the participation of federal, state, and municipal governments in its design and implementation.

Unfortunately, the environmental action plans associated with IIRSA investments may also struggle with implementation. In Bolivia, the action plan for the IIRSA transportation corridors between Santa Cruz and Puerto Suárez is plagued by administrative problems, whereas in Peru the SEA is being conducted concurrent with the construction phase of the InterOceanic Corridor. In Ecuador, the new government has proposed a highway to connect Manaus with the Ecuadorean lowlands, and in Colombia, civil unrest and illicit drugs will complicate any organized effort to manage development.

[87] The World Bank project in Rondônia was known as PLANAFLORO (World Bank 2003b); a similar project with similar results (PRODEAGRO) was designed, funded, and implemented in Mato Grosso (World Bank 2003c).

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