

## 12. How Has a Debt-for-Nature Swap Worked in Practice?: Bolivia

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### Introduction

In recent years concern over the growing environmental problems of developing countries has intensified. At the same time, the international debt crisis has captured the world's attention, although in many countries the crisis has receded for now. These two developments have been argued to have three main interconnections. The debt crisis (1) means LDCs cannot afford to import cleaner technologies, (2) creates a force for very high discount rates, or a very short term time horizon, as foreign exchange earnings must be raised quickly to service debts, and (3) this in turn encourages a shift from manufactures diversification to intensive natural resource extraction, that is often worse in total environmental impact than industry, especially when it degrades rain forests.

A Debt-for-Nature Swap is intended to address both problems simultaneously, by reducing debt in exchange for ensuring greater protection of valuable environmental assets, usually rain forests. Bolivia's 1987 Debt-for-Nature Swap agreement was the pioneer in this mechanism, and so will be the subject of this case study.

The Debt-for-Nature Swap is a financial mechanism first created by international conservationists to protect endangered rain forest areas in a manner consistent with development goals. A conservation group is responsible for purchasing and retiring a portion of a country's international debt, thus contributing to the country's development. In exchange, the LDC government agrees to allocate local monies, usually by issuing conservation bonds, for local conservation activities, such as to maintain a preserve purchased by the conservation group. Thus, the exchange is analogous with debt-for-equity swaps because the LDC is able to exchange debt denominated in foreign exchange (that it does not control) for obligations denominated in local currency. Thus, from the debtor country's point of view, the swap represents a much greater improvement than switching one form of debt for another might first suggest. Conservation bonds are financial instruments designed to ensure that the commitment of national currency does not cause inflation in the debtor country. Usually, care is taken to ensure that indigenous peoples using the designated areas for economic activities have their livelihoods protected.

### The 1987 Bolivia Debt-for-Nature Swap

In July 1987, Conservation International (CI), originally an offshoot of the World Wildlife Fund, made headlines when it announced the first Debt-for-Nature Swap. A \$100,000 grant donated to CI enabled them to purchase \$650,000 of Bolivia's debt on the secondary market, offered at a huge—approximately 85%—discount at that time. (Note that most discounts on international debt instruments are no longer nearly this large.) CI then canceled this debt in exchange for the Bolivian government's agreement to raise legal protection on the Beni biosphere reserve to the maximum extent allowed by Bolivian law. In addition, Bolivia was to establish a multiple use conservation buffer zone around the reserve, together totaling 2.7 million acres. In addition, the government established an endowment fund in the amount of \$250,000 worth of local currency to cover operating costs of managing the reserve.

Clearly, Bolivia gains by the greater environmental enforcement, and to the extent that environmental problems, such as global warming and loss of biodiversity, spill over international boundaries, so do other countries. Economic benefits to Bolivia include the cancellation of \$650,000 of hard currency debt.

The Beni biosphere reserve encompasses a large part of the Amazonian region in northern Bolivia. With approximately 330,000 acres at the headwaters of the Amazon, the reserve was set up by the National Academy of Sciences in 1982 as a model sanctuary to protect the region's unique flora and fauna, as well as its native peoples. It supports 13 of Bolivia's 18 designated endangered species and is believed to harbor more species of birds than all of North America. It represents about 10% of Bolivia's remaining Amazon areas.

The buffer zone stipulated by the agreement, the Chimane Forest Reserve, is an area of 2,870,651 acres (over 7 million hectares) available for environmentally sustainable economic use by local populations, including the Chimane Indians, as well as for carefully managed agricultural and forestry development. The approximately 250 families of the nomadic Chimane Indians will retain rights to their traditional hunting and fishing grounds. Approximately 800,000 acres of this area is also devoted to the Yacuma Regional Park, which includes ranches and natural habitat, and the CORDEBENI Hydrological Basin, a watershed that is the source of major rivers in the area. Unlike the remainder of the Chimane Forest reserve, the Beni reserve area at the core will be maintained undisturbed for research, and the Hydrological Basin is to be protected from logging to prevent erosion.

This case study will examine the motives and actions of the major parties to the agreement,

and factors that might affect the direct and indirect, or transaction, costs of their participation.

### Conservation International

The debt-for-nature swap contract stipulated that CI would serve as an official advisor to the Bolivian government in the design and planning of the Beni biosphere region, as well as work with wildlife management and the monitoring of the protected areas. In 1987, CI was responsible for providing technical, financial, scientific, and administrative support to the area. This role included start-up funding, institutional development, training, and the coordination of international assistance for the protected areas.

During the first stages of the project, Maria Teresa Ortiz, the principal architect behind CI conservation efforts in the area, set up the Bolivian Interinstitutional Technical Commission. This committee was composed of regional and national government and nongovernmental organizations (NGOs). The Commission was responsible for local programs for environmental education, termed sustainable socioeconomic systems, as well as wildlife and forestry management. In addition to regional planning, CI planned to involve government and nongovernmental agencies at the national level in such areas as environmental law, technical training, institution building, and conservation planning. Representatives of the different organizations were to meet every two months to discuss the project's progress. CI worked with an impressive array of experts including individual organizations (The Nature Conservancy, WWF), government agencies (the Ministry of Agricultural and Peasant Affairs, USAID), the Environmental League (LIDEMA), the Beni Forestry Service, the National Conservation Data Center, the National Institute of Ecology, and other scientific and academic organizations, including the National Academy of Sciences, the International Tropical Timber Organization (ITTO), and Stanford University Center for Conservation. Although their input was initially through the medium of CI, many of these groups later played a more direct role in sustaining the agreement.

Among other things, CI helped develop forest inventories, prepare operations manuals and recruit and train personnel for the Beni Forestry Service. CI also used funds to leverage financial support for ITTO, which granted \$1.2 million to the government of Bolivia to continue forestry work with CI. CI asked loggers to use only 10% of the area per year. The forest management system of logging with replanting, called "permanent production," was introduced.

Biological research was also part of the program. Funds for research and training scholarships for scientists were provided by CI, and the group further implemented six research

projects concerning resource use by the Chimane Indians, primate biology, and soil classification and use. CI also played a role in general environmental education, establishing training models for rural communities on environmental education that included workshops on health, horticulture, and the conservation of resources. They helped LIDEMA sponsor a journalists' seminar to communicate the importance of conservation and development.

The benefits to CI in deciding to enter the agreement are clear. Perhaps most important, it received a direct role in administering some of the natural systems over which it was most concerned. Certainly, it acquired more funding than it otherwise would have, and strongly raised its profile in the international environmental community. It is not clear, however, that CI fully appreciated the logistical difficulties of implementing and maintaining the program, including problems of how to respond when parts of the agreement were not honored by either private and public sectors.

### The Bolivian Government

In contrast to CI, the Bolivian government played a minimal role in the first few years following the swap. The government's initial task was to agree to the implementation of the exchange and to issue bonds in the amount of \$250,000 to cover costs of protecting the Beni area. The bonds are held by the Central Bank of Bolivia, and are set up as an endowment; some \$25,000 to \$30,000 per year is allocated for administrative costs. Victor Paz Estenssoro, the Bolivian president in 1987, agreed to implement CI's idea and authorized the Ministry of Agricultural and Peasant Affairs, along with CI's national affiliate, to administer the funds.

Secondly, the original contract specified that the government would establish and recognize the Chimane Forest of Permanent Production, the Yacuma Regional Park, and the CORDEBENI Hydrological Basin watershed area. The contract also stipulated that the Bolivian government was to establish appropriate legal mechanisms needed to administer the Debt-for-Nature transaction. All new projects and programs required the approval of Bolivia's Ministry of Planning and Coordination as well as the Ministry of Agricultural and Peasant Affairs.

The decision to enter into this agreement could not have been an easy one for the Bolivian government, or any sovereign state, even one very committed to environmental protection. There is the danger that the government could appear to be surrendering its sovereignty and prerogatives to foreigners, even though CI had a local affiliate and was largely staffed by Latin Americans. As a result, many governments may enter these agreements only under the duress of large debt

burdens. Once the debt is retired, there is some incentive to renege on the agreement, at least on the part of later governments, that may come to power, in part, on the argument that sovereignty has been compromised.

### Private Logging Companies

Although the dominant economic activity in the area is cattle ranching, the mahogany lumber business provides a lucrative alternative for the local population; thus lumber companies are directly involved in the Beni project. In order to manage the reserve forest in a sustainable way, the Bolivian government has attempted to curb logging activity by allocating forest concessions to certain companies. Because lumbering in Bolivia traditionally included very little replanting, companies have seen uncontrolled deforestation due to increasing logging activity. This may benefit some individual companies but is inefficient from the standpoint of the logging industry as a whole. This provides an incentive for the loggers to participate as a group. There may also be concern that an alternative plan might be even more restrictive.

### Indigenous Population

Some 80 Indian communities are found in the Beni area, including the Chimane. They have claimed the land for centuries and have managed to maintain their homes despite their vulnerability to exploitation. The agreement had intended to safeguard their traditional territories from logging and colonization already threatening their way of life. CI initially underestimated the extent of their involvement, but the indigenous population has clearly come to play an important role. The consent of the Chimanes, along with the other tribes, is an integral factor in the sustainability and success of project implementation. Their interest in participation is very strong. Although they may not like outside interference in the management of their lands, they clearly realize that the arrangement is far better for them than any other conceivable outcome. By participating, they also raise their profile internationally, giving them some added measure of protection from the abuses often experienced by indigenous peoples.

### Further Developments

Organizations such as CI have a much smaller direct role in recent debt for nature swaps than before. Independent, national trust funds are now typically established, with representatives from government, the private sector, and often international donors. These funds are channeled to qualified local private and public conservation organizations; the setting of priorities and financial

decision making is localized. Many accept funds from other sources in addition to debt-for-nature swaps.

Accordingly, in Bolivia, although the goals of the program have not changed, the institutions involved have changed significantly since the original agreement. In recent years, the institutions of the Bolivian government have become more formalized, and consequently, so has the agreement itself.

In 1990, with the support from the Nature Conservancy, Bolivia established a precedent setting trust fund called the National Fund for the Environment (FONAMA). The fund will guarantee the regular infusion of capital to carry out projects of a growing community of local NGOs and the newly created General Secretariat of the Environment (SENMA). The Fund's administering board consists of the new Special Minister of the Environment, the National Counsel for the Protection of Biodiversity, and three NGOs, including the Bolivian Indigenous Peoples Federation.

In 1987, CI was responsible for funding as well as providing technical, scientific, and administrative support. Now that FONAMA has taken the lead financial role, CI is still a source of funding, but their involvement has been limited to technical training in the field. Funding now goes through FONAMA, and SENMA and local NGOs allocate the resources according to their priorities.

Thus, at least one enduring achievement of the agreement is the regular infusion of financial resources to the Beni region. The creation of FONAMA has helped institutionalize environmental activities in Bolivia and has helped attract larger funds from environmental organizations as well as commercial banks such as J. P. Morgan. But enforcement problems have not been solved.

### Unresolved Problems

Despite improvements, problems continue to prevent full implementation of the agreement. Local logging companies still have failed to comply with the rules set by the agreement, and the majority of replanting has not succeeded. Because most companies have not improved their technology, methods of extraction continue to be very inefficient and wasteful. Most companies operating in the Chimane have not fulfilled the legal requirements that allows their work in the area, such as reporting on inventories and management plans.

The Debt-for-Nature Swap has been very costly to negotiate. Considerable human resources went into both sides of the negotiations, and have not been calculated in the costs of the project. In the future, agreements will have to be arrived at that are less costly in government, environmental staff, and paid legal time. Moreover, monitoring and enforcement have been expensive, and not cost effective. Little has been known about the regions affected, and thus information costs have contributed to the high costs for all parties involved. Finally, training of those who will work in the new institutions can also be expensive. Some way will have to be found to reduce these very substantial transaction costs if the Debt-for-Nature Swap is to prove an enduring institution.

The contract also stipulated that CI, with the approval of the Ministry of Agricultural and Peasant Affairs, name a local institution as a counterpart in order to facilitate the project's programs and represent CI's interests in the region. This, however, has not been implemented.

Forestry officials are trying to address some of the remaining problems. Timber companies will have to submit forestry plans before new contracts are approved. Trees that may or may not be cut down are to be marked. But again, the Chimane Permanent Production Region is a large, remote forest. It is not yet clear that forestry officials can do a better job of enforcement under the new rules than the old. Even if the logging industry associations agree to rules, there is the potential for free riding by companies that benefit by others' compliance, but do not comply themselves. Moreover, as in most developing countries, corruption remains a serious problem in Bolivia. Policemen and officials are said to be easily coerced, and bribes are still considered an integral part of business practice.

We have seen that there have been very large costs associated with setting up the Debt-For-Nature swap, including legal fees, negotiating time, enforcement expenditures, and other such transaction costs. One key to expanding and maintaining these agreements will be to create institutions capable of lowering these costs and helping to close the gap between policy and performance.

The increasing organization and assertiveness of the indigenous peoples of the area is in some ways the most encouraging development. These residents have a vested interest in maintaining the ecological integrity of the region. Moreover, although they have not systematized their information scientifically, in many cases residents have the practical knowledge of the workings of the ecology of the area that other parties lack. Thus, involving indigenous peoples, in addition to its inherent fairness, may be an effective means of lowering the full costs of effectively negotiating and

implementing such agreements. Perhaps this is the development worth watching most carefully in this and other debt-for-nature agreements in coming years.

## Sources

The case study is largely based on interviews in the field in Bolivia and with Conservation International officials in Washington, DC, conducted by Eva Canoutas.

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