

Latin America and the Caribbean

In 2006, disputes continued over nature conservation and economic development issues. While global demand for biofuels may lead to the transformation of large tracts of natural areas, innovative schemes have been initiated to reconcile economic growth with environmental concerns.

NATURE CONSERVATION VS ECONOMIC DEVELOPMENT

Intense use and export of natural resources have dominated the economies of the Latin America and the Caribbean (LAC) region. Pressures on natural resources depend not only on national needs and consumption patterns, but also on demands from global markets.

In 1992, practically all LAC countries embraced the environmental agreements from the Rio Declaration and their subsequent protocols, aiming for the protection and sustainable management of natural capital (ECLAC 2001) (Box 1). However, over the last few years internal

Botnia's pulp mill under construction in Uruguay.

Source: Metsa Botnia



social and external economic pressures have forced some governments to shift their emphasis and efforts from nature conservation to large revenue-generating projects. Recent examples demonstrate how this shift can lead to conflicts between nature conservation and economic development, pitting local communities against corporate interests and sometimes one country against another.

Pulp mills on the Uruguay River

The planned construction of two pulp mills on the banks of the Uruguay River, the natural border between Argentina and Uruguay, led to acute tension between the two countries. Two companies, the Finnish Metsa Botnia and the Empresa Nacional de Celulosa España (ENCE), were building the region's largest cellulose processing plants in Fray Bentos, Uruguay, promising to create much-needed jobs in a country still recovering from the 2002 economic crisis.

Civil opposition started in Gualaguaychú, an Argentinean town across the river. Argentineans claim that these plants will cause significant environmental and health impacts, despite the approval of Metsa Botnia's Environmental Impact Assessment (EIA) by Uruguayan environmental authorities and other reports, all concluding that the plants will be using the best available technology and that there will be no significant environmental impacts.

The conflict escalated when local Argentinians erected blockades leading to bridges linking the countries. Argentina complained to the International Court of Justice (ICJ) accusing Uruguay of violating the bilateral Treaty on the Uruguay River. The Court denied Argentina's request for the construction of the cellulose plants to be halted. In turn, Uruguay presented a claim against Argentina at the Mercado Común del Sur (MERCOSUR) tribunal and at the ICJ for the bridge blockade.

In September 2006, ENCE cancelled its project in Fray Bentos. The Metsa Botnia project continued, as did the Argentinian protests (Williams and Forstein 2006).

Pascua-Lama: conflict over gold-mining

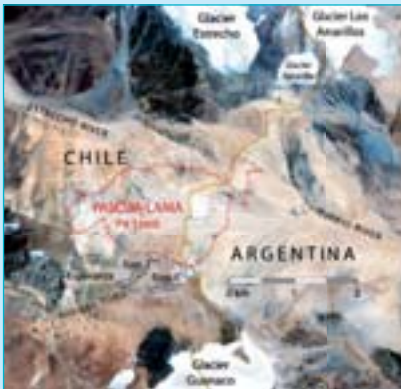
The Pascua-Lama mining project involves open-pit mining in the high Andes Mountains (Figure 1). Located on the Chilean-Argentinean border, approximately 150 kilometres southeast of Vallenar, Chile, Pascua-Lama has stimulated controversy and public protest in Chile and internationally (Universidad de Chile 2005). The mineral fields contain vast deposits of gold and silver, with 75 per cent of the fields in Chile and 25 per cent in Argentina. The mining and processing of ore proposed by the Barrick Gold Corporation will straddle the two countries. With a planned investment of US\$1.5 billion over an initial 20-year period, the project would create some 5 500 jobs during construction and 1 660 jobs during full production (Barrick 2006).

The fields lie close to two glaciers that feed the rivers of Chile's Huasco Province. Critics of the project claim that it will involve the removal of these glaciers, disrupting the water supply of the 70 000 farmers in the Huasco valley (Gonzalez 2006, MineWeb 2005). They say that mining operations will release cyanide and other contaminants into the valley's rivers and that the project represents only temporary economic benefits for the zone. In November 2005, a petition was presented to the Chilean government by a coalition of environmentalist groups.

The Barrick Gold Corporation maintained that the project was environmentally sound in terms of water treatment and that only five hectares of 'ice reserves' would be directly removed by its operations. In addition to stimulating the local economy, the project would also support development projects (Torres 2006).

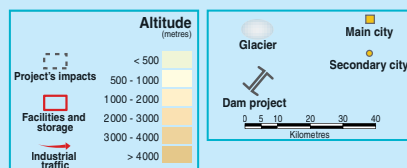
In Chile, an environmental impact assessment of the project was approved by the regional environment authority, Comisión Regional del Medio Ambiente (COREMA), in 2001. Since then, the project inspired extensive public debate, was suspended a few times, and was subject to several modifications before it was finally approved in 2006 by the Chilean national environment commission, CONAMA (Minería Chilena 2006).

Figure 1. Pascua-Lama mining project



The Pascua-Lama mining project will use open pit techniques at altitudes over 3 000 metres with facilities built at the base of vital glaciers that supply water to lowland farms as well as to Vallenar, a city of more than 40 000 inhabitants in the Atacama desert.

Source: GRID/Geneva



Box 1: Deforestation on the retreat

After decades of rampant deforestation, reports suggest that the overall forest decline in Latin America and the Caribbean may be slowing. In 2000-2005 net forests area loss in the LAC region was running at an average of 4.74 million hectares per year—37 per cent of the global total for countries with a net loss of forest area. The vast majority of these losses occurred in South America, where Brazil alone accounted for over 70 per cent of the regional total.

However, recent studies suggest that forests are recovering in Puerto Rico and the Dominican Republic. In El Salvador, a survey of all types of forest and woodlands revealed that land with more than 25 per cent tree cover expanded from 72 per cent of the country's total area in 1992 to 93 per cent in 2001.

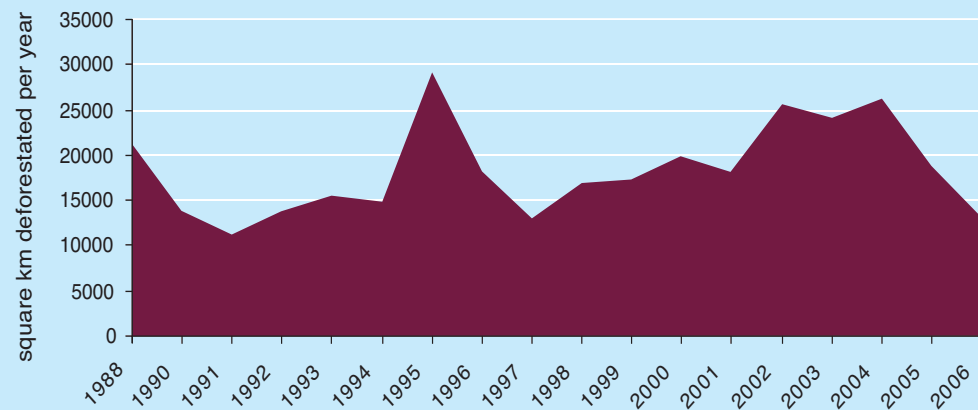
In 2004 the Brazilian government put in place the Amazonia Protection Programme, which includes measures for detailed monitoring and improved law-enforcement against illegal loggers and land developers. Thanks to the programme, deforestation in Amazonia has decreased substantially—from 2.6 million hectares in 2004 to 1.9 million hectares in 2005. Preliminary results for 2006 indicate a further reduction to 1.3 million hectares.

Until 2004, Paraguay had one of the highest deforestation rates in the world. In November of that year, the Paraguayan Congress passed the Zero Deforestation Law, prohibiting the conversion of forested areas in the Upper Parana Atlantic Forest. Implementation of the law has reduced the deforestation rate in Paraguay's Eastern Region by 85 per cent. The Zero Deforestation Law has resulted in lawsuits and convictions against landowners for punishable acts of deforestation.

In December of 2006 the governor of Brazil's Pará state signed decrees for the creation of seven new conservation areas in the Amazon, including the largest strictly protected area ever created in a tropical forest, the 4.25 million hectare Estação Ecológica Grão-Pará. The seven new protected areas total about 15 million hectares. Two are under strict protection allowing only conservation and research—these two alone may house 54 per cent of all animal and plant species found in Amazonia. The other five are designated for sustainable use, where activities such as timber and non-timber forest product extraction, ecotourism, and controlled mining will be permitted to supply the needs of local communities.

Sources: Aide and Grau 2004, Conservation International 2006a and 2006b, Derivi 2006, FAO 2006a, Forests.org 2002, GEO Data Portal 2006, Government do Pará 2006, Hecht and others 2006, INPE 2006, Laurence and others 2001, WWF 2006

Deforestation rates in the Brazilian Amazon 1988-2006 km²



Source: INPE 2006

In its resolution, CONAMA set strict measures to eliminate, mitigate, or prevent the negative environmental impacts that the project might cause. It stresses that the glaciers must not be removed in any way and that any pollutants dumped into water courses must not exceed national emission and quality

standards. The company has also negotiated with the Huasco Valley's farmers and reached agreements on compensation related to the Valley's water supply. The Barrick Gold Corporation resumed operations in September 2006, with mining scheduled to begin in 2009.

BIOFUELS AND THE ENVIRONMENT

In 2006 a sharp increase in oil prices once more brought attention to energy security. Several Latin American and Caribbean countries—Argentina, Bolivia, Colombia, Ecuador, Mexico, Trinidad and Tobago, and Venezuela—are net oil exporters and they benefit from high prices. However, projections show that demand for oil will continue to increase, regardless of price. This will induce further pressure for oil exploration and development, with all their environmental consequences. It will also increase the attraction of alternative energy sources (IEA 2006).

In the face of high oil prices, many developing countries have discovered a new product for their crop-

South America's Cerrado is an expansive and diverse landscape of forest, wetlands, savanna, and hills. It is a biodiversity hotspot that is shrinking in the push for sugarcane and soybean production to produce biofuels.

Source: Jacques Jangoux / Still Pictures



based economies: biofuels. In Brazil alone, projections estimate that in the next eight years the national and international combined demand for sugar cane and ethanol will grow from 354 to 553 million metric tons (Ministério da Agricultura 2006a). By 2030 the Brazilian government expects to produce about 120 million metric tons (petroleum equivalent), double the current total (Ministério da Agricultura 2006b).

Ironically, the pursuit of markets in 'environmentally sound' biofuels may lead to the destruction of large tracts of natural habitat. The area planted to sugar cane and soy (for ethanol and biodiesel, respectively) will need to increase. Governments in the region are already concerned about sugar cane plantations' severe effect on the environment (PNUMA/MARENA/OEA 2005, Guzman 2004).

In terms of biodiesel production, estimates indicate that Brazil would need 58 million hectares dedicated to soybean production to fully replace the diesel used currently. Ten million hectares of the Cerrado, one of the world's biodiversity hotspots, have already been planted to soy in the past 15 years, more than tripling the plantation area since 1990 (Kink and Machado 2005). Potentially the Cerrado has 90 million hectares available for biodiesel crops (Crestana 2005). The expansion of this agricultural frontier has already transformed 50 per cent of the Cerrado ecosystem into pasture and cash crops and taken more than 1.25 million hectares of forest between 2003 and 2004 in the state of Mato Grosso alone (Kink and Machado 2005, Schlesinger 2006). In Amazonia, the advance of soybean plantations poses an enormous threat (Fearnside 2005, Soares-Filho 2006) (See Feature Focus section).

Regional and global institutions are already weighing the potential negative impacts of biofuel development (Rios Roca 2006, FAO 2006b). Aspects under consideration include competition for land between fuel crops and food crops, excessive use of agrochemicals, concentration of production in a few large agribusiness enterprises, and lack of benefits for rural workers. These problems stimulated the Brazilian government to launch the "Social Fuel Label", a certification granted by the Ministry of Agrarian Development to biofuel producers who maintain standards that promote social inclusion and regional development.



Filling stations for cars fueled by alcohol are a common sight in Sao Paulo.

Source: Ron Gilling / Still Pictures

CONCLUSION

Protection of natural capital continues to improve in the region of Latin America and the Caribbean (**Box 2**). However, the challenges of balancing economic development with nature conservation will continue. In the long term view they do not have to be opposite forces but may be complementary, considering that natural capital sets the limits to economic growth and human development.

The environmental dimension needs to be mainstreamed into economic and social decision making. The pursuit of sustainable development involves evaluating the true economic cost of environmental degradation in terms of ecosystem service loss and building this into taxation and pricing policies and into national accounting systems.

Box 2 : Transforming Dominica into an organic island

The Commonwealth of Dominica is a small Caribbean island-state. Historically, Dominica relied on agriculture as the mainstay of the economy, particularly banana crop production for export. The spread of monocropping reduced crop diversity, increased vulnerability to natural disasters and fluctuations in international markets, and created dependence on food imports.

In an attempt to address effects of the declining banana industry and to diversify economically, Dominica explored the potential for a viable ecotourism industry. In 2004, the island became the first Caribbean country to obtain GreenGlobe21 certification as an ecotourism destination.

Since then, Dominicans recognized that low-impact, environmentally sound tourism could fit neatly with organic agriculture and that these two complement the concept of wellness or health maintenance. This trio could provide an ideal mix for sustainable use of Dominica's natural resources—and for a particular type of up-market holiday.

Dominica plans to embark on a 10-year programme of action to establish the country as an 'Organic Island' and wellness tourism destination, combining ecotourism, agrotourism, and health tourism opportunities into a high-end image of an unspoiled country. The concept is based on implementing organic production and marketing systems that are sustainable and that do not require excessive consumption of natural resources.

Among the main objectives of this strategic development are to:

- Establish a sound and sustainable basis for economic and social development;
- Reverse declining agricultural sector employment and increase other employment opportunities;
- Reverse the trend in decreasing agricultural revenue by establishing Dominica as a world leader in the production of organic agricultural products;
- Address pressing environmental and natural resource management issues through sustainable agricultural practices;
- Establish an agricultural export market based on products that are free from genetically modified organisms;
- Improve rural development through the establishment of improved land management practices supporting organic production.

Source: Government of Dominica 2006



Dominica wants to reposition itself as an island for ecotourism, health maintenance, and organic agriculture. Source: Schafer & Hill/Still Pictures

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