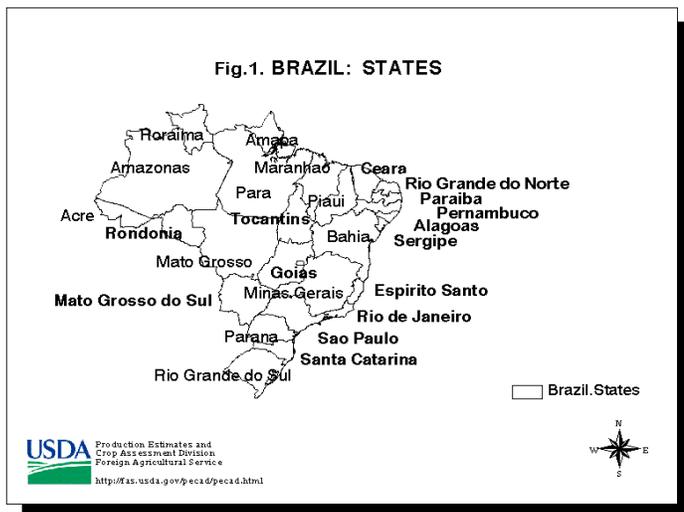


Compensation in Brazil

Redistributing federal taxes for stewardship of protected areas through the ICMS ecológico

“ICMS ecológico” is a tax-revenue proportioning scheme in Brazil designed to effectively protect land for the purpose of improving water quality and biodiversity. “ICMS,” an acronym loosely interpreted as “tax on sale of goods and services”, represents a nationwide program which disperses tax revenue to reward individual Brazilian states for protecting ecosystem services. The project seeks to compensate counties and municipalities for their active stewardship in abstaining from unsustainable exploitation of protected areas. Historically, local communities had been reluctant to set aside these lands or effectively comply with restrictions on their use because it limited possibilities for revenue generation and economic growth.



Source: US Department of Agriculture
(http://www.fas.usda.gov/pecad2/highlights/2000/12/BR_STATES.tif)

How Does the ICMS Ecológico Work?

In a three-tier approach, the federal government pays the states, who are constitutionally required to then pay the municipalities, based in part on their contribution to the overall economy, or their “value added” to Brazil. Many states have taken this distribution process as an opportunity to include the amount of land designated as protected for watershed and/or biodiversity conservation in their “value added” determination (Vogel, 1997). For example, through successful lobbying by local authorities from counties with protected areas, the state of Paraná created an ecological requirement for distribution of a portion of ICMS in 1992. This became known as *ICMS ecológico*, and by 1996 had begun to be emulated by other states (Verissimo et al. 2002). While in the past unsustainable resource extraction from protected lands generated revenue for municipalities, the tax incentives now provided by ICMS have ensured that conservation is what pays. Land users aware of ICMS as a source of income for their communities comply with protection laws and have been effective stewards of resources. Conservation of land is no longer seen as an obstacle to economic development; rather, it is perceived as an integral component to their prosperity (Grieg-Gran, 2000).

What Were the Results?

Successful lobbying by county advocates in a number of states who felt at an economic disadvantage by protected areas within their boundaries resulted in the creation of an ecological criterion for 5% of the total ICMS distribution. Half was designated for counties with protected areas, and the remaining half was set aside for counties with watershed protection areas (Verissimo et al. 2002). This resulted in an increased number of conservation areas (improving ecological services), and compensation for local communities who complied with land use restrictions (Grieg-Gran, 2000).

Each state that adopted the ICMS ecológico shared a number of commonalities. The amount of tax money dispersed was determined by a unique “ecological index” determined for each county, based on the total amount of land registered and legally defined as protected as a proportion of the total area. The state of Paraná diverged from this model slightly by creating a system to evaluate the ecological *quality* of protected areas, and included this measurement in the calculation of their index. This removed protected

areas from the register that were not being adequately managed. Other states followed Paraná's example, showing that an incremental method, starting with a zoning approach and then introducing complexity with some kind of ecological quality evaluation system, is feasible.

How Effective Has ICMS Been?

One immediate impact from ICMS ecológico has been the official demarcation of protected areas in Brazil, leading counties to become more aware of these places. The general perception is that ICMS ecológico is an equitable way to distribute tax funds to promote environmental sustainability (Grieg-Gran, 2000). While not a direct payment to individuals, the local communities do consider it a source of revenue and recognize the need to manage the ecological services in such a way as to maintain the revenue flow.

In Paraná, the area designated for biodiversity conservation increased by a factor of nine according to one international NGO, and the administrators of ICMS claim that the scheme is remarkably cost-effective to implement. One estimate puts program administration as low as \$32,000, though specifics about which activities are included in this estimate are not clear. Additional Brazilian states have also adopted the ICMS ecológico, such as Minas Gerais where, in 1996, \$3.8 million was generated and distributed among 97 municipalities with protected areas. These municipalities represented areas of hydrological importance, and are municipalities with a sewage treatment facility serving at least 50% of the population. ICMS ecológico's effects on water quality appear to have been significant, and water conservation measures in these municipalities has increased by two-thirds (Perrot-Maître, et al, 2001).

Why Did It Work?

The program is replicable in systems where local governments receive funding from the federal level. For a similar scheme to work, it is important to ensure a system for evaluating ecological integrity and ecosystem service criteria for disbursements in order to avoid conservation in name only. In addition, if the criteria for disbursements is based on "value added," an evaluation by the local government must be able to determine if the participation provides greater revenue gains than the opportunity cost of resources left unexploited (Grieg-Gran, 2000).

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This publication is made possible by the generous support of the American people through the United States Agency for International Development (USAID), under the terms of the TransLinks Leader with Associates Cooperative Agreement No.EPP-A-00-06-00014-00 to The Wildlife Conservation Society. TransLinks is a partnership of The Wildlife Conservation Society, The Earth Institute, Enterprise Works/VITA, Forest Trends and The Land Tenure Center. The contents of this document are the responsibility of the authors and do not necessarily reflect the views of USAID or the United States government.

