



## Fiscal transfers between state and municipal governments provide incentives for ecosystem services provision: the ICMS-E in Brazil

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**Key Message:** Ecological fiscal transfers are an innovative instrument that can act as an incentive to municipalities for biodiversity conservation and the provision of ecosystem services.

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### What is the problem?

It is difficult for municipalities to generate income from conservation and related ecosystem services. Environmental protection is often established at higher levels of government and although protection is identified as beneficial to the well-being of people beyond municipal boundaries, the associated costs (in terms of land-use restrictions) are often borne by local actors (Ring, 2008). The designation of protected areas for biodiversity or water conservation, for example, often faces opposition at local levels due to the restricted use of the area (Ring, 2008). For example, 90% of Piraquara, a municipality in the State of Paraná, Brazil, is designated as a watershed protection area to guarantee the supply of water to the Curitiba metropolitan region. The rest of the territory is a protected area for biodiversity conservation (May et al., 2002). Although there is an increasing use of instruments to reward private landowners in these situations, such as payment for ecosystem services schemes, little attention has been given to the public sector (Ring 2008).

### What was done to solve the problem?

Since early 1990's, more than half of Brazilian States established an innovative fiscal instrument: the ICMS Ecológico (TNC, 2010). The ICMS (Imposto sobre Circulação de Mercadorias e Serviços) is a tax on goods and services, similar to the value-added taxes in other countries. The ICMS Ecológico, on the other hand, is an ecological fiscal transfer mechanism established by States to take environmental indicators into account when sharing ICMS revenue with local governments (Ring, 2008). Basically, local governments are compensated for land-use restrictions associated with conservation and the provision of ecosystem services (such as protected areas and watershed protection) by providing them with financial incentives for conservation (Grieg-Gran, 2000; May et al., 2002).

Some amendments to current state laws were necessary for implementation, including adding environmental indicators to the existent set of criteria for revenue sharing. This was possible because the Brazilian constitution allows each state to partly define its own criteria for 25% of the state ICMS revenue they are required to share with municipalities (Grieg-

Gran, 2000; Ring, 2008). Indicators are largely related to land use restrictions, such as protected areas within a municipality, but some States incorporated also indicators related to environmental public services, such as degree of sanitation and of adequate waste disposal in the municipality. Protected area coverage is, however, a commonly used indicator (Ring, 2008).

The example of Paraná, a State located in Southern Brazil, is presented here. It amended its constitution in 1989 to enable the adoption and regulation of the use of the ecological fiscal transfers. After making the necessary legal changes, 5% of the municipal tax share started to be allocated based on biodiversity conservation areas (2.5%) and watershed protection areas (2.5%). This represents resources of about US\$ 70 million in 2009 (TNC, 2010).

The fiscal transfers to municipalities are determined by indices. In the case of protected areas for biodiversity conservation these indices consider the size of the protected area, the size of the municipality and the protected area's management category (for more information, see Loureiro, 2002 and Ring, 2008). Paraná has also decided to add a protected area "quality index" to the calculation. This is expressed by a score ranging from 0 to 1 (Loureiro, 2002). The score, assessed by officers of the state environmental agency (IAP), is based on variables such as biological quality (fauna and flora); quality of water resources; quality of planning, implementation and maintenance; and support to producers and local communities. The watershed protection index (responsible for the other half of the ICMS-E resources) takes into account the proportion of the municipal area designated for water protection and quality ([www.suderhsa.pr.gov.br](http://www.suderhsa.pr.gov.br)).

The number of municipalities benefiting from the biodiversity conservation part of the index increased by 179% from 1992 to 2000. 113 new municipalities qualified for the program during this period due to the designation of new protected areas (Loureiro, 2002). The extent of conservation area also increased by 165% during the same period – an increase of more than one million hectares of protected areas (May et al., 2002).

### **What was necessary for developing and implementing the instrument?**

During late 1980s and the beginning of the 1990s, coordination among municipalities in Paraná was essential for garnering technical and political support from legislators and state agencies. This led to a consensus about the fairness of the demands from local governments and triggered the evaluation of possible resources for financial compensation (Loureiro, 2002; May et al., 2002). Another step for successful implementation was the institutionalization of the ecological fiscal transfer system, especially in terms of administrative responsibility to the Paraná Environmental Institute (Instituto Ambiental do Paraná – IAP). The institutional capacity of IAP to deal with biodiversity conservation issues was strengthened by this process – as it needed improved conditions to manage the changes (Loureiro, 2002).

### **What other factors were important for a successful policy uptake?**

There was a danger for the ecological fiscal transfer (ICMS-E) system to become an uncritical instrument: a justification for different tax revenue sharing with no incremental improvement to environmental conditions (Loureiro, 2002). In the case of Paraná, the initial implementation of the scheme led to further change. It led to the adoption of the quality index which is sensitive to the efforts of municipalities towards protected area establishment and maintenance. The instrument, therefore, has acted as an incentive rather than just compensation and allows each municipality to influence outcomes according to their own conservation decisions and actions (Loureiro, 2002).

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