# ECONOMIC INSTRUMENTS APPLIED TO THE CONSERVATION AND SUSTAINABLE USE OF FORESTS IN ARGENTINA

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December 2010

#### 1. INTRODUCTION

Economic instruments have progressively been given recognition as a result of the key role they play in the attainment of environmental protection goals. Their main strength lies in their capacity to change the behaviour of economic agents since they aim to affect consumption and production patterns in order to best reflect the environmental costs and benefits.

There are different economic incentives that make it possible to approach the issue of conservation and sustainable use of forests, among which, the following can be mentioned: creation of new markets—particularly carbon bonds—product labelling, taxes and subsidies, payments for environmental services and environmental funds.

The current paper analyses several experiences in the application of economic instruments aimed at the preservation and sustainable use of forests in Argentina—among them, the recently issued Argentine forest certification scheme CerFoAr, and the creation of the *Fondo Nacional para el Enriquecimiento y la Conservación de los Bosques Nativos* (National Fund for the Promotion and Conservation of Native Forests) under the Law of Minimum Standards for the Environmental Protection of Native Forests.

The paper is completed with comments and conclusions related to the challenges that still need to be addressed in order to achieve an effective instrumentation of economic incentives in Argentina, for which it is essential—among other things—to achieve consensus building and a greater awareness among citizens and institutions in regards to the role they are intended to accomplish.

# 2. ECONOMIC INSTRUMENTS APPLIED TO FOREST CONSERVATION IN ARGENTINA

The economic instruments applied in developing countries offer some nuances that are particularly worth highlighting. The following features can be said to be common to these countries: the institutional weakness of regulatory bodies; the overlapping of different government institutions with competence over the same environmental resource; an insufficient level of enforcement of environmental regulations and a limited public interest in environmental issues, among others (Galperín, 1998).

Regarding the latter, Argentina has in recent years seen a change in people's perception of and in the public opinion about environmentally-related issues. Even though this change

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<sup>(\*)</sup> The author would like to thank the comments made by Carlos Galperín on a version prior to the present document.

could still be regarded as "emerging", taking into account the advanced stage of some of the initiatives adopted by other Latin American countries, it can be observed that the current awareness of environmental problems in Argentina is greater than it was 10 or 20 years ago.

Nevertheless, there is still a long way to go in terms of this growing awareness and in regards to the role the public and the institutions are intended to play, especially when taking into account that in many cases these financial incentives require for their implementation an institutional capacity which is not always readily available in developing countries. Thus, a weak or inexistent institutional capacity makes it very difficult to implement an effective and long-term environmental policy.

Within the same line of thought is *Estrategia Nacional de Biodiversidad de la Argentina* (National Strategy of Biodiversity of Argentina) which states that "The lack of public and institutional awareness regarding the importance of the conservation and sustainable use of biological diversity . . . represent major obstacles that need to be reverted . . . since the National Strategy of Biodiversity goals will not be achieved without the understanding and support of the different social sectors" (Secretaría de Ambiente y Desarrollo Sustentable, 2003).

A more detailed analysis of the different experiences in the application of economic instruments aimed at the conservation and sustainable use of forests in Argentina allows us to distinguish the following particular initiatives:

## 2.1. Creation of new markets

For the implementation of market mechanisms for carbon credit trading—mechanisms which are derived from projects under the initiative of a "Clean Development Mechanism" (CDM) and "Emission Reductions derived from Deforestation and Forest Degradation, including conservation activities" (REDD+)—countries are expected to have the necessary institutional framework and capability to make it possible to achieve the goal of reducing emissions derived from forest activities.

In the case of Argentina, none of the 17 CDM projects that had been registered by late July 2010 involved either afforestation or reforestation activities<sup>2</sup>. This, in a context in which the afforestation or reforestation projects within the overall number of CDM projects at a global level are also insignificant (less than 1%).

A case study carried out for the Argentine Patagonia region (Chidiak *et al.*, 2003) identifies a number of necessary conditions for CDM, or other mechanisms, to succeed in contributing to the sustainable development of forests in Patagonia. Among these needs, the following can be highlighted: i) to draw national and regional policies that can jointly minimise the potential negative impacts of large-scale forest plantation of exotic species (for instance, by means of setting guidelines for good management of silviculture practices), ii) a joint federal and provincial articulation to effectively implement forestry projects for carbon capture, iii) that regional authorities contribute to the promotion of small-scale forest plantation projects by the local population, and that they facilitate their clustering to be eventually presented to the CDM or to other mechanisms, and iv) to generate greater knowledge of the potential for carbon capture of native and exotic species other than pine, as well as plantation and native forest management practices that are more effective for carbon capture.

Likewise, when analysing Argentina's native forests within the framework of the REDD process (Alcobé, 2009) the limitations related to the lack of data and land-use management in

<sup>&</sup>lt;sup>2</sup> Based on information from UNFCCC by 27 July 2010 at: <a href="http://cdm.unfccc.int/Projects/projsearch.html">http://cdm.unfccc.int/Projects/projsearch.html</a>.

many provinces are clearly seen as aspects that can affect Argentina's status in a likely REDD mechanism. In spite of these difficulties, the report represents the first approach to an assessment of the carbon dioxide content  $(CO_2)$  of the forests in Argentina. It states that the Parque Chaqueño region, which is one of the most threatened ecorregions due to deforestation and degradation, preserves 50% of the  $CO_2$  content of the Argentine forests. The other Argentine forest region that also plays a key role is that of the Patagonian Andes Forests, having almost 25% of the country's  $CO_2$  content with just 12% of the surface of the Parque Chaqueño.

#### 2.2. Product labelling

Product labelling or eco-labelling is based on standards. Both international and national standards can be found among forest certification schemes. Examples of international standards are the Forest Stewardship Council (FSC) and the Programme for the Endorsement of Forest Certification (PEFC).

Within the steps towards a sustainable use of forests taken by Argentina are the FSC Forest Certification initiative and the active participation in the design of national standards for FSC certification (Secretaría de Ambiente y Desarrollo Sustentable, 2007 a).

By May 2010 the number of FSC certified hectares (ha) in Argentina amounted to 215,480, corresponding to 16 certified forest areas (FSC, 2010). If these figures are compared with the overall number of hectares certified in other countries of the region, like Brazil, Uruguay, Bolivia, Peru or Chile (Table I), it can be observed that Argentina still lags behind in terms of the application of forest certification schemes in relation to the number of hectares destined for plantations (Greenpeace, 2007).

Table I.

FSC certified forest area		
Country	Area in ha	Number of certified lots
Brazil	5,508,522	69
Uruguay	2,621,738	36
Bolivia	1,657,117	17
Peru	673,716	7
Chile	575,303	18
Argentina	215,480	16

Source: FSC (2010).

In terms of traceability or Chain of Custody (CoC) certifications issued by the FSC, Brazil holds a clear leading position in the region with over 400 certificates, while the rest of the aforementioned countries have between 20 and 60 CoC certificates (FSC, 2010).

In relation to the PEFC certification scheme, the *Instituto Argentino de Normalización y Certificación* (IRAM) has been working on the formulation of National Certification Principles, Criteria and Indicators for Native and Cultivated Forests (Secretaría de Ambiente y Desarrollo Sustentable, 2007 a).

In May 2010, the forest-industry value-chain represented by Asociación Forestal Argentina (AFoA), Asociación de Fabricantes de Celulosa y Papel (AFCP), Federación Argentina de la Industria Maderera y Afines (FAIMA), together with the Organismo Argentino de Acreditación (OAA) and Instituto Argentino de Normalización (IRAM) formally introduced

the civil association that will manage the *Sistema de Certificación Argentino* CerFoAr. This system was created in order to have a tool that would guarantee a sustainable management of native and planted forests, as well as to enable access of forest-based goods to the most demanding world markets. As a result, this system aims at guaranteeing traceability from the tree to the end product and certifying good environmental, social and economic practices all along from the forest to the selling point.<sup>3</sup>

CerFoAr takes into account technical and procedural requirements so as to obtain homologation with the PEFC, which will supply it with the international projection needed to make it possible for an Argentine forest company certified with a local seal, validated by PEFC, to make public its commitment to sustainability at an international level.<sup>4</sup>

#### 2.3. Taxes and Subsidies

In Argentina there are some examples of the application of financial aids to lessen the pressure exercised over natural resources, especially soil, water and biodiversity. They have been instrumented by means of tax exemptions and payments to avoid the use of critical areas and incorporate technologies for the conservation and sustainable use of resources.

In this sense, at federal level the Investment Regime for Cultivated Forests, Law 25,080 (1999) and its extension and reform under Law 26,432 (2008) can be highlighted (Box 1).

# Box 1 Investment regime for cultivated forests

This regime grants a set of economic and fiscal benefits for a 10-year period—extended to 10 more years by the 2008 regulation—and it is aimed at: i) promoting new forest ventures, ii) enlarging existing forests, and iii) preserving the biodiversity and sustainability of natural resources.

Even though the main focus of this regime is set on the promotion of investment in forest-industry projects with native and/or exotic timber, every forest or forest-industrial venture must include an environmental impact study to be considered in this regime, and take the necessary steps to ensure forest protection. These measures will be determined by the Secretariat of Agriculture (this law's enforcing authority) which, together with the Secretariat of Environment and Sustainable Development, shall annually review these aspects to guarantee the rational use of resources.

The following are some of the economic and fiscal benefits derived from this regulation:

- Fiscal stability: this regime will be applicable for 30 years from approval of the project and can be extended to a maximum of 50 years.
- Special depreciation regime for Income Tax purposes
- Advanced refund of Value Added Tax for all necessary supplies for the accomplishment of the venture, including service contracting
- Non-refundable economic support to afforestation with traditional species and for the enrichment of native forests

<sup>&</sup>lt;sup>3</sup> In Misiones on line – Argentina tiene su propio sistema de trazabilidad forestal: <a href="http://www.misionesonline.net/noticias/05/05/2010/argentina-tiene-su-propio-sistema-de-trazabilidad-forestal">http://www.misionesonline.net/noticias/05/05/2010/argentina-tiene-su-propio-sistema-de-trazabilidad-forestal</a> (last visit 12 May 2010).

<sup>&</sup>lt;sup>4</sup> In Forestal. Forest-Industry Journal – Presentaron en IRAM el Sistema Argentino de Certificación Forestal: http://www.maderamen.com.ar/forestal/index.php?section=pagina&sub=view&id=6332 (last visit 8 June 2010).

This legal framework seeks to benefit also small producers by means of reimbursement of part of their establishment costs.

Source: SAGPyA - ADI (2001), Ministerio de Agricultura, Leyes 25.080 y 26.432.

At provincial level, the case of the province of Entre Ríos can be pointed out since after the severe impacts its agricultural production suffered as a result of hydric erosion, it established a mechanism of financial stimuli through the Provincial Law of Soil Conservation and Management N° 8318/89. Within the stimuli contemplated by the law, there are special credits for infrastructure expenses and 70% to 100% reductions in the Rural Property Tax for producers who adopt soil conservation practices. The scheme also includes attainment of a Provincial Fund for Conservation to address the financial requirements derived from the implementation of the law. Some of the conservationist practices to be carried out in order to obtain these benefits are structural practices for soil conservation—like terraces with a drainage gradient—and management practices—like direct sowing, minimal labour, and river-bed protection, among others (Tomasini y Longo, 2005, Tomasini y Farall, 2010).

Lastly, incentives aimed at the promotion of conservation activities in private lands in the province of Buenos Aires can also be included. This province has had a regulatory framework for the conservation of private land since 1990, which includes incentives like economic aid and exemption of payment of property tax. However, this legislation has not yet materialised with the creation of a private reserve (Sibileau, 2010).

### 2.4 Payment Schemes for Environmental Services (PES)

No background of long-lasting implementation of PES in forest conservation can be found in Argentina. In this sense, the initiatives examined include two case studies, both derived from the analysis carried out in 2006 by the Secretariat of Environment of Argentina, and the measures taken to implement the Fund for the Promotion and Conservation of Native Forests.

Regarding the first topic, the Secretariat of Environment carried out a case survey in Latin America aimed at establishing the bases for the selection of two case studies for the application of PES schemes in watershed ecosystems with native forests cover in Argentina. The cases proposed correspond to *Futaleufú* watershed (in Chubut) and *Los Pericos-Manantiales* watershed (in Jujuy) (Secretaría de Ambiente y Desarrollo Sustentable, 2007 b).

The second initiative regulates the implementation of the National Fund for the Promotion and Conservation of Native Forests under Law 26,331 of Minimum Standards for the Environmental Protection of Native Forests, which we will deal with in detail in the following section.

#### 2.5 Environmental Funds

In Argentina, we have found initiatives that involve the creation of environmental funds both with private and public resources. An example of the creation of a fund with private contributions is the initiative driven by *Fundación Vida Silvestre Argentina* (FVSA) in 1985 together with Diners Club with the campaign "One purchase=one square metre". People's participation in this campaign made it possible to purchase 2,000 ha of land which enlarged the already existing *Reserva de Vida Silvestre Campos del Tuyú*. This Reserve was donated by FVSA to the National Park Administration in 2008, and in 2009, the National Park *Campos del Tuyú* was created, which was the first of its type to protect the Pampas region, with 3,040 ha.

Regarding the environmental funds constituted by public resources, Argentina has had an incipient experience with the creation of the National Fund for the Promotion and Conservation of Native Forests established under the Law of Minimum Standards of Environmental Protection of Native Forests. This is the first law enacted in Argentina to explicitly consider the assessment of environmental services, and its regulation is still debatable among different sectors of the society, particularly, civil society organizations (Box 2).

# Box 2 Law of Minimum Standards for the Environmental Protection of Native Forests<sup>a</sup>

The Law of Native Forests, which sets minimum standards of environmental protection<sup>5</sup> for the promotion, restoration, conservation and sustainable use of native forests, was passed by late 2007 after an arduous Parlamentary process that included the sustained involvement of civil society organizations, which gathered almost one and a half million signatures to have the bill debated.

In its paragraphs, the Law of Native Forests presents a set of tools among which can be pointed out the **environmental land-use management**<sup>6</sup>, that includes area categorization<sup>7</sup> based on environmental sustainability criteria and which is aimed at promoting forest conservation and regulating land-use change and the agricultural frontier. To that aim, the provincial jurisdictions must elaborate and approve their own set of Land-Use Management of Native Forest as a prerequisite to have access to these funds on a yearly basis.

The other tool on which the law is supported, is the acknowledgment of the **environmental services** provided by the forests that will be sustainably conserved or managed, promoting their conservation by means of payment for environmental services. From an economic point of view, the idea underlying the valuation of environmental services is to compensate their suppliers for the benefits derived from ecosystems.

To this purpose, the law establishes the **National Fund for the Promotion and Conservation of Native Forests** "aimed at compensating the jurisdictions that conserve their native forests for the environmental services offered by them". The law provides that the Fund shall be built on, among other things: i) budgetary assignments specifically allotted (they shall not be lower than 0.3% of the National Budget); ii) 2% of overall export taxes for products derived from agriculture, cattle raising and the forest sector; iii) loans/subsidies specifically granted by national and international institutions; and iv) resources not used in previous fiscal years.

Likewise, the law states that the provinces shall apply 70% of the fund's resources to compensate the public and private holders of land on which native forests are conserved. This compensation must be a non-refundable contribution, paid per hectare, per year and in

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<sup>&</sup>lt;sup>5</sup> By minimal standard it is understood: all regulations granting a uniform or common environmental protection for all the national territory. As a result, the Nation sets the minimum to be accomplished in environmental matters so that the provinces can later establish stricter, though not laxer, regulations than those set at a national level.

<sup>&</sup>lt;sup>6</sup> Law 26,331 defines environmental land-use management as "the regulation that, based on the environmental sustainability criteria established in the Annex to the present law, divides the area of native forests existing in each jurisdiction into zones, in accordance with the different conservation categories."

<sup>&</sup>lt;sup>7</sup> Conservation categories: Category I (red):areas of very high conservation value that do not have to be transformed; Category II (yellow): areas of medium conservation level, that can be subject to the following uses: sustainable use, tourism, collection and scientific research; and Category III (green): areas with low level of conservation value that can be partially or totally transformed, though always within the criteria contemplated by law.

accordance with the forest categorization<sup>8</sup>. In return, holders must elaborate and keep an updated Management and Conservation Plan for Native Forests, to be approved by the relevant enforcing authority in each jurisdiction.

The remaining 30% of the fund's resources will be available to the acting authority at each provincial jurisdiction, who shall devote these resources to the development of a monitoring system for their forests and to the implementation of programmes of technical and financial support.

In this respect, the Law of Native Forests contains the general guidelines for the creation, management and application of the Fund, although it still needs a regulatory decree for its effective implementation. It is precisely the regulation that was intended to set the Fund into motion what generated great expectations, since the Law of Native Forests constitutes a pioneering law in our country regarding to payment for environmental services.

However, the decree finally passed (Decree 91/2009) left aside many of the proposals reached by consensus—disregarding the consultation process carried out in 2008 by the Secretariat of Environment, in which the *Consejo Federal de Medio Ambiente* (Federal Council of the Environment—COFEMA), the provinces, and several environmental organizations<sup>9</sup> took part (and which produced as a result a draft for a regulatory decree agreed by consensus)—, and has left undefined key issues regarding how the regulation and distribution of the Forest Conservation Fund will be instrumented.

Instead, decree 91/2009 leaves the "instrumentation and regulation of the Fund" to a later opportunity, to be agreed by the Secretariat of Environment—as the national acting authority—, and the local authorities—within the COFEMA framework—. The regulatory decree does not make reference either to how the calculation for the distribution of funds should be made, neither does it specify how the national implementing authority will periodically revise the maintenance of the surface of native forests—also leaving to it the decision to carry out this revision or not—.

Likewise, civil society sectors have questioned the amounts allotted from the 2010 Budget for the creation of the Fund for the Conservation of Native Forests, claiming that these are lower than those set forth by Law 26,331. According to the 2010 Budget, the allowances allotted to this Fund could amount up to ARS 300 million (€ 50 million), while estimates based on the Law of Native Forests state that the allotments should have reached approximately ARS 800 million (€ 133 million circa)(FARN, 2009).

This situation is even worse if considering that by Administrative Decision 41/2010 part of the funds corresponding to the allotments for planning, control and management of plans for environmental protection and development for the provinces were re-assigned into other programmes, which amounts to almost a 50% reduction in public funds destined to environmental issues for the year 2010 (FARN, 2010).

In short, these regulations would not be enough to accomplish the launching of the Conservation Fund, from which it could be inferred that there is still some way to go towards the effective implementation of payments for environmental services in Argentina.

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<sup>&</sup>lt;sup>a</sup> This box is based on Quispe Merovich y Lottici (2009).

<sup>&</sup>lt;sup>8</sup> Forests under category I (red) and II (yellow) are granted compensation, although with a different graduation, pursuant to what is established under Law 26,331.

<sup>&</sup>lt;sup>9</sup> Letter prepared by different civil society organizations (*Fundación Vida Silvestre Argentina*, AVINA, FARN, M'Biguá and Greenpeace, among them) addressing the Secretary of Environment and Sustainable Development and COFEMA's President, dated 30 January 2009.

### 3. CONCLUSIONS

Generally speaking, it can be observed that the application of economic instruments for the sustainable conservation and use of forests seems to be still incipient in Argentina. Even though during the last few years there has been a growing interest in the application of novel instruments for the conservation of natural resources, there have also been many challenges regarding their implementation, particularly in terms of the institutional arrangements and the building of consensus among the different sectors involved in environmental issues.

Argentina has lagged slightly behind in the instrumentation of economic incentives compared with other countries in the region like Brazil, Chile, Costa Rica or Peru, which have shown further instruments and experiences. In spite of that, within the initiatives implemented in Argentina, the following can be noted: (i) progress within the framework of the REDD+ process, (ii) FSC forest certification schemes and the recent Argentine certification CerFoAr scheme under PEFC, (iii) the experiences obtained in the application of economic and fiscal benefits and (iv) the creation of the National Fund for the Promotion and Conservation of Native Forests by the Law of Minimum Standards for Environmental Protection of Native Forests.

Regarding this last issue, both progress and set-backs have been observed in the instrumentation of the Fund. The regulation that was supposed to set it into motion left aside many of the proposals agreed upon by consensus, also leaving untreated key issues regarding the instrumentation of the regulation and distribution of the Fund. Further to that, fewer resources from the National Budget than those set forth for by the Law of Native Forests for the creation of the fund have been granted.

Many of the issues that have to do with the quality of our institutions, as well as the recurrent lack of a long-term vision, the difficulties in achieving consensus and a greater environmental awareness—from those holding public office or in private management to citizens in general—, the shortage of data and the lack of adequate land-use management in some provinces in Argentina, are challenges on which it is necessary to continue working in order to create policies that promote sustainable conservation and management practices for the natural resources in our country.

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