

FOREST CONSERVATION IN ARGENTINA: EARLY ANALYSIS OF THE FOREST LAW
IMPLEMENTATION IN THE CHACO ECOREGION

by

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Abstract

Argentina is a federal republic, where livestock and agriculture have shown spectacular development due to commodity-oriented policies and land-use change, resulting in a consequent loss of native forests. In this context, in 2007, the Argentinean government enacted National Law 26.331 of Minimum Standards for the Environmental Protection of Native Forests (Forest Law) whose objectives are, among others, to promote the conservation of native forests through land-use planning. This process has been developed in different ways in the provinces of the country. This research is focused on the Provinces of Salta, Santiago del Estero and Córdoba in northern Argentina - Chaco Ecoregion. These provinces have shown high deforestation rates and some conflicts with the Forest Law's administration.

The analysis focuses on the Forest Law implementation, and is undertaken considering the extent to which objectives have been met so far, and the main forces, factors or drivers affecting the Law's implementation in the three provinces. The evaluation of the Law is focused on its outputs (budget and deforestation rates). Impacts on forest conservation, local economy or social benefits (outcomes) are not analyzed since it is too early to evaluate them.

This research is based on secondary data analysis, available public data from governmental and non-governmental institutions, unpublished data requested of institution representatives, and through the analysis of unpublished valuable information gathered in the course of interviews conducted by myself, for a non-academic study.

The results show that local implementation of the Forest Law is highly affected by external forces. Despite the fact that some provinces have followed the guidelines provided by the regulation, the Forest Law has not been effective so far, since high deforestation rates still occur. However, many forest conservation projects have benefited from the law, which could have long-term visible effects. The problems related to its effective implementation are not related to the Forest Law itself, but to the inconsistency of the Provincial Forest Laws with the national regulation, the degree in which the Provincial Forest Laws reflect the participatory process that originated them, and with their control and monitoring.

Preface

This research required the approval of University of British Columbia Behavioural Research Ethics Board. Unpublished data gathered through interviews in the framework of a consultancy was used for this research. The interviews were carried out in May 2011, by the Chilean NGO Forestales por el Bosque Nativo. A procedure for using this unpublished information was approved on May 22, 2012, as a behavioural study of minimal risk; certificate ID:H12 - 00961.

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List of Acronyms, abbreviations and translations

Acronym, Initials or General Name	Original Name	Translation
Governmental Institutions		
APN	Administración de Parques Nacionales	National Parks Administration
-	Autoridad (Nacional/Local) de Aplicación (de la Ley 26.331)	(National/Local) Enforcement Authority (of Law 26.331)
COFEMA	Consejo Federal de Medio Ambiente	Environmental Federal Council
COTBN	Comisión de Ordenamiento Territorial de Bosques Nativos (Córdoba)	Commission for Native Forests-use planning
-	Dirección de Bosques	Forests Division
-	Dirección de Producción Forestal (del MAGYP)	Forests Production Division (of MAGYP)
INTA	Instituto Nacional de Tecnología Agropecuaria	National Institute of Agriculture and Livestock Technology
MAGyP	Ministerio de Agricultura, Ganadería y Pesca	Ministry of Agriculture, Cattle and Fisheries
SA y DS	Secretaría de ambiente y Desarrollo Sustentable de la Nación	National Secretariat of Environment and Sustainable Development
SNAP	Sistema Nacional de Áreas Protegidas	National System of Protected Areas
-	Subsecretaría de Planificación y Política Ambiental	Sub Secretariat of Planning and Environmental Policy
-	Consejo Provincial de Bosques (Santiago del Estero)	Provincial Forests Council (Santiago del Estero)
-	División General de Bosques y Fauna (Santiago del Estero)	General Division of Forests and Fauna (Santiago del Estero)
First Provincial Forest Law	Ley 6.841 de Conservación y Uso Múltiple de las Áreas Forestales de la Provincia de Santiago del Estero (Ley Provincial de Bosques)	Law 6.841 of Conservation and Multiple Use of Forests of The Province of Santiago del Estero (Provincial Forest Law)
-	Mesa Provincial de Tierra de Santiago del Estero	Provincial Table of Land of Santiago del Estero
-	Ministerio de Producción, Recursos Naturales, Forestación y Tierras (Santiago del Estero)	Ministry of Production, Natural Resources, Forestation and Land (Santiago del Estero)

Acronym, Initials or General Name	Original Name	Translation
-	Ministerio de Ambiente y Producción Sustentable (Salta)	Ministry of Environment and Sustainable Production (Salta)
-	Secretaría/Ministerio de Medio Ambiente y Desarrollo Sustentable de la Provincia de Salta	Secretariat/Ministry of Environment and Sustainable Development of the Province of Salta
-	Secretaría de Política Ambiental (Salta)	Secretariat of Environmental Policy (Salta)
-	Secretaría de Ambiente (Córdoba)	Environmental Secretariat of the Province of Córdoba
Non Governmental Institutions		
ASOCIANA	Acompañamiento Social de la Iglesia Anglicana del Norte Argentino	Social Accompaniment of the Anglican Church of Northern Argentina
CARTEZ	Confederación de Asociaciones Rurales de la Tercera Zona	Confederation of Rural Associations of the Third Zone
CEDHA	Centro de Derechos Humanos y Ambiente (Córdoba)	Centre for Human Rights and Environment (Córdoba)
FARN	Fundación Ambiente y Recursos Naturales	Natural Resources and Environment Foundation
FUNDESNOA	Fundación para el Desarrollo Sostenible del Noroeste Argentino	Foundation for Sustainable Development of Northwest Argentina
FUNAM	Fundación para la Defensa del Ambiente	Environmental Defense Foundation
	Mesa de Tierra del Norte de Salta	Land Roundtable of Northern Salta
PRADE	Práctica Alternativa del Derecho	Alternative Law Practice

Acronym, Initials or General Name	Original Name	Translation
Legislation, regulation and programs		
-	Censo Nacional Agropecuario	National Agricultural and Livestock Census
-	Estudio de Impacto Ambiental Acumulado	Cumulative Environmental Assessment Study
-	Fondo Nacional para el Enriquecimiento y la Conservación de los Bosques Nativos	National Fund for Native Forests Enrichment and Conservation
-	Ley 25.831 Régimen de Libre Acceso a la Información Pública Ambiental	Law 25.831 of Free Access to Public Environmental Information
Forest Law	Ley 26.331 de Presupuestos Mínimos de Protección Ambiental de los Bosques Nativos (Ley de Bosques)	Law 26.331 of Minimum Standards for the Environmental Protection of Native Forests (Forest Law)
-	Ordenamiento territorial de los bosques nativos	Native forests land-use planning
-	Ordenamiento Territorial de los Bosques Nativos (Mapa)	Native Forests Land-use Plan
-	Programa Experimental de Manejo y Conservación de los Bosques Nativos	Experimental Program of Native Forests Management and Conservation
-	Programa Nacional de Protección de los Bosques Nativos	National Program of Native Forests Protection

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that she gave me; and to René, for his love.*

Chapter 1: Introduction

Argentina has had spectacular development in livestock and agriculture over recent decades, due to commodity-oriented policies and land-use changes. This has resulted in a consequent loss of native forests. It was in this context, in 2007, that the Argentinean government enacted National Law 26.331 of Minimum Standards for the Environmental Protection of Native Forests (Forest Law); the objectives of this law are, among others, to promote the conservation of native forests through land-use planning. This process has been developed in different ways, with diverse stakeholders and different timing depending on provincial contexts.

The objective of this research is to analyze the process of native forest land-use planning and its results under the Forest Law in three Provinces of the Argentinean Chaco Ecoregion: Salta, Santiago del Estero and Córdoba in northern Argentina. These provinces have shown high deforestation rates and some conflicts with the Forest Law's administration. This research also seeks to analyze the framework of the Forest Law, focusing on the process of native forest-use planning, and the performance of the implementing institutions in the provinces. Finally, this research tries to characterize the political, social and economic context of each studied province and its relation to the implementation of the Forest Law. The hypothesis set out is: because the national Law's framework allows high discretion in its interpretation, the economic, social and political context of each province has influenced the implementation of the Law in these provinces thus far.

1.1 The Argentinean context

The Argentine Nation adopted a federal republican representative form of government. Under this model each province enacts its own constitution under the republican, representative system, in accordance with the principles, declarations, and guarantees of the National Constitution (Constitución de la Nación Argentina, 1853). The Argentine Nation is composed of 23 provinces and the autonomous city of Buenos Aires.

In 2010 Argentina exported US \$83,950M; its main exports were soybeans and soybean products (25%), automotive industry products (13%), cereals (11%), and those from the petrochemical industry (9%) (INDEC, 2012). Argentina is the third largest producer and exporter of soybeans in the world, after Brazil and the United States (USDA, 2012). In 2006-2007 it accounted for 20% of global production, and was the first soybean oil and soybean meal exporter (INTA, 2009a).

The provinces studied in this research (Córdoba, Santiago del Estero, and Salta) rely on different economic activities, but in each agriculture is very important. Indeed, Córdoba is the second province in the country in agriculture production. In 2011, total national exports reached US\$ \$83,950; Córdoba contributed 13% of this, with Salta contributing 1,6% and Santiago del Estero 1,3%. In each province, soybean products represented 38, 15 and 33% respectively (INDEC, 2012).

1.2 Forests and the Chaco Ecoregion in Argentina

Argentina consists of many different ecosystems. One of these is the Chaco Ecoregion. The “Great Chaco” covers around 1,000,000 km² and is the second largest forest area in the Americas after the Amazonia (SA y DS, 2007a). The Chaco Ecoregion covers the centre of northern Argentina, western Paraguay, south-eastern Bolivia and a small part of south-eastern Brazil (SA y DS (Secretaría de Ambiente y Desarrollo Sustentable de la Nación), 2007a), spanning from 15° to 35° South Latitude (Carnevale *et al*, 2009). In Argentina, it covers 674,959 km² (SA y DS, 2007a).

A summary of the native forest surface in Argentina is presented in Table 1, and a map of forests in the country is presented in Figure 1.

Table 1. Native forests surface of 3 Argentinean provinces of the Chaco Ecoregion in 2008.

Province	Total native forests (ha)	Territory (ha)	% of forests		
			In relation to provincial territory (%)	In relation to the Argentinean Chaco Ecoregion territory covered by native forests (%)	In relation to national territory covered by native forests (%)
Córdoba	2,342,357	16,532,100	14.17	11.0	5.82
Salta	7,241,039	15,548,800	46.57	34.0	17.99
Santiago del Estero	6,472,349	13,635,100	47.47	30,4	16.08
Chaco Ecoregion	21,278,396*	67,536,299	-	100	52,9
Country	40,242,925	278,020,000	-	-	100.00

Source: Own elaboration, based on SA y DS (2008a) and SA y DS (2007). *According to Primer Inventario Nacional de Bosques Nativos (SA y DS (Secretaría de Ambiente y Desarrollo Sustentable de la Nación), 2007a). Surface of native forests was considered as forest lands (Tierras forestales).

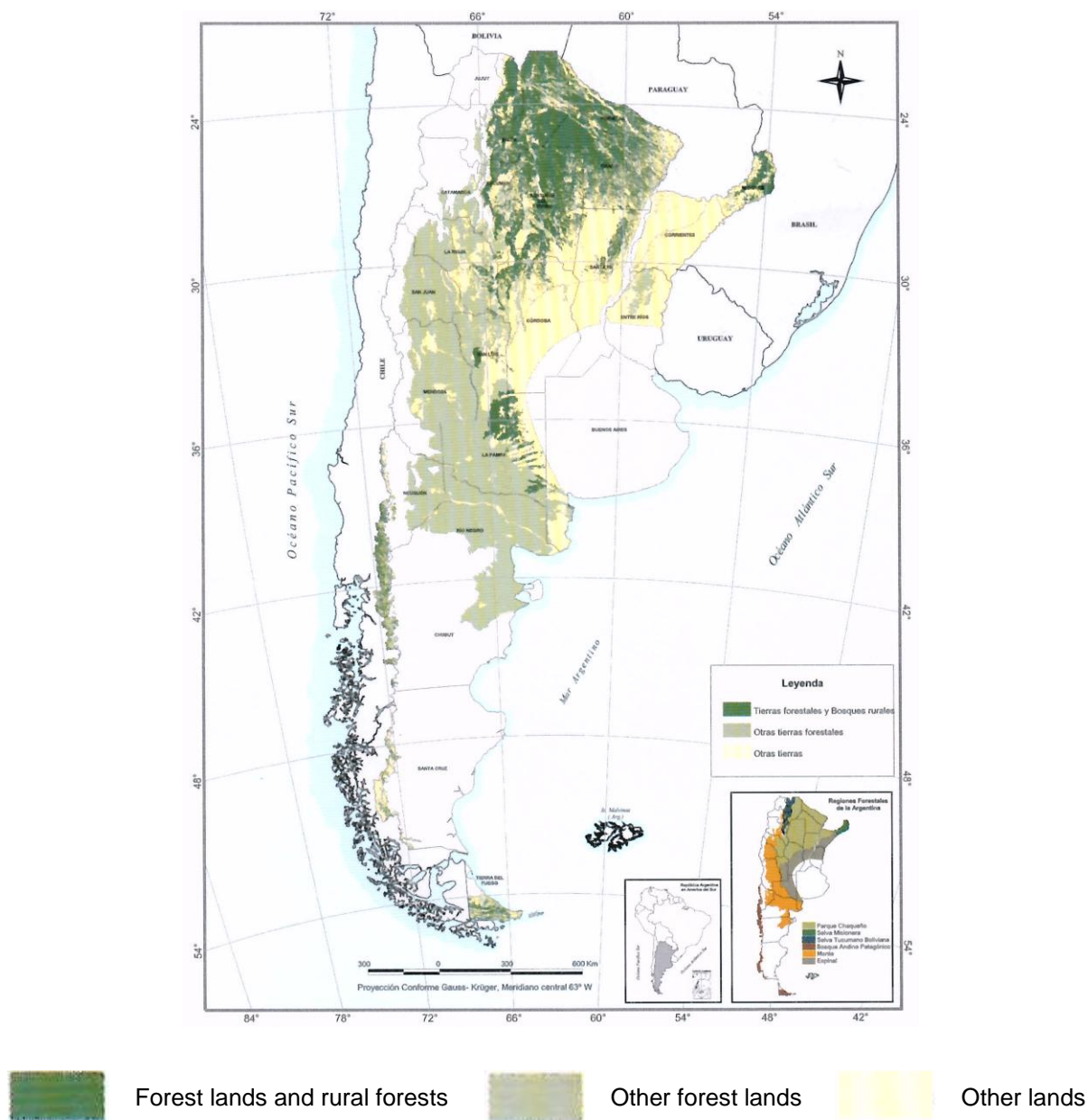


Figure 1. Map of Forests in Argentina.

Source: Unidad de manejo del Sistema de Evaluación Forestal (UMSEF) – Dirección De Bosques. Primer Inventario Nacional de Bosques Nativos, año 1998-2001. Edición diciembre 2002.

Forestry is not an important economic activity in Argentina, nor in other areas of the Chaco Ecoregion. In 2009 the Great Chaco produced only ~3.3 tons of wood; Santiago del Estero produced 19% of this, while Salta and Córdoba only 3 and 1% respectively. Of forest products harvested from the forest, firewood is the most common accounting for ~2.8tons of total forest products, as shown in Table 2.

Table 2. Main wood-based products (in tons) in three provinces of the Chaco Ecoregion in 2009.

Province	Round wood	Firewood	Other products
Córdoba	-	37,488	-
Salta	11,607	92,688	996
Santiago del Estero	38,013	595,055	16,987
Total Chaco Ecoregion	477,010	2,821,420	49,722

Source: Own elaboration, based on Regiones Forestales, producción primaria (SA y DS, 2009).

The Chaco ecosystem has been highly pressured by significant expansion of agricultural boundaries, resulting in high rates of deforestation (Gasparri & Grau, 2009). This pressure continues today. According to SA y DS - Secretaría de Ambiente y Desarrollo Sustentable de la Nación (2008), deforestation in the Chaco Ecoregion reached 136,000 ha during the period of total prohibition of forest elimination established by the Forest Law. The main reason for this forest loss was land-use change to agricultural activities (Gasparri & Grau, 2009). In the period previous to the enactment of the Forest Law, deforestation was higher compared to the periods between 1998 - 2002 and 2002 - 2006. Between 2007 and 2008 the deforestation rate decreased compared to the previous period, but it was greater than the rate registered in 1998 - 2002, as shown in Table 3.

Table 3. Annual rate of deforestation and deforested surface for different periods in the Chaco Ecoregion.

Period	Deforested surface (ha)	Annual rate of deforestation (%)
1998-2002	432,827	-0.98
2002-2006	806,027	-1.93
2006-2007	316,943	-3.21
2007-2008	136,081	-1.41
1998-2008	1,691,878	-1.63

Source: Pérdida de Bosque Nativo en el Norte de Argentina. Diciembre de 2007 - Octubre de 2008 (SA y DS (Secretaría de Ambiente y Desarrollo Sustentable de la Nación), 2008).

Facing this scenario, in 2007 the Argentinean government enacted the National Law 26.331 of Minimum Standards for the Environmental Protection of Native Forests (Forest Law) whose objectives include the promotion of forest conservation through land-use planning, focusing on native forests, the tightening of regulations regarding agriculture boundary expansion and any other types of land-use changes, and the promotion of activities of conservation, restoration, improvement, and sustainable management of native forests.

1.3 Policy-making theory

1.3.1 Policy in federal systems

Federalism is a form of vertical diffusion of authority among levels of government (Harrison & Sundstrom, 2010) that many argue makes the political system more responsive to the needs of a diverse population. It encourages policy experimentation and innovation, and also provides greater opportunities for citizen participation (Adolino & Blake, 2001). In a federal country, where sub-national governments play a relevant role, their course of action and inaction defines policy implementation. In some policy areas, governments distinguish themselves from one another more by their implementation methods than by their policy content (Diez & Franceschet, 2011).

The implications of federalism for environmental policy likely depend on the salience of environmental issues with the electorate (Harrison & Sundstrom, 2010). Lundqvist (1974) argued that the highly technical and standards-based nature of environmental policies makes their development and implementation difficult in a federal system as the structure of a federal system may interfere with technical connections between federal and provincial governments; the first setting standards, and the second implementing and monitoring. McBeath & Rosenberg (2006) pointed out that federalism alone is not associated with large differences in environmental policy outcomes but, in combination with other factors, such as electoral institutions, political culture, and corporatist structure, federalism tends to correlate poorly with strong environmental outcomes.

1.3.2 Policy-making model

Adolino & Blake (2001) described a 5 Stage Model of Policy Making: (I) agenda-setting, or how issues come up for active and serious consideration by policy-makers; (II) Policy formulation, how policy alternatives and stakeholder input are evaluated; (III) Decision-making by authoritative actors, (IV) Policy implementation, putting decisions into place in the real world; and (V) Policy monitoring and evaluation. These stages are parts of a continuous path, so it is difficult and even unfruitful to establish clear limits between them. Nevertheless, each policy implementation stage, along with its specific identifying features, is described in detail below as these constitute the focus of this research.

According to Mazmanian & Sabatier (1983), to implement a policy is to deliver the specific objectives that are set forth in constitutionally adopted public policies. Consequently, policy implementation refers to “those events and activities that occur after the issuing of authoritative public policy directives, which include both the effort to administer and the substantive impacts on people and events” (Mazmanian & Sabatier, 1983).

Adolino & Blake (2001) stated that policy implementation is complex because government policy decisions leave room for interpretation by the executive branch, and because there are a broad number of participants that might attempt to change the course of policy. Moreover, there is an important role of cultural and economic influences, political strategies, and actions of political parties and interest groups. The authors pointed out that, generally speaking, the bigger the size of an interest group membership and its financial resources, the greater its chances of being influential (or effective).

Implementation literature is often grouped into methodological approaches:

Top-down: these studies are concerned with how the implementation process is structured to accomplish policy objectives (Hasenfeld & Brock, 1991).

Bottom-up: implementation is viewed from the perspective of organizations and actors responsible for putting a policy into practice (Hasenfeld & Brock, 1991).

Iterative: assumes a recurring flow between policy-making and implementation activities (Hasenfeld & Brock, 1991).

The Mazmanian and Sabatier framework for implementation analysis has the advantage of being comprehensive, combining “top-down” and “bottom-up” concerns, although the model predominantly promotes central control (Ryan, 1996). Mazmanian & Sabatier (1983) defined three critical issues in policy implementation:

1. The relationship between formulation and implementation: this involves three basic stages of formulation, implementation, and reformulation.
2. Criteria and focus of program evaluation: when the focus of the analysis is the policy outcome, it is carried out with a long-term perspective, where the ultimate objective of a policy is evaluated. If the focus of the analysis is on policy outputs, the analysis is based on the

implementation of the agency's decisions, the compliance of target groups within those decisions and the actual impacts (both intended and unintended) of those outputs.

3. Perspective: the analysis can be conducted from the center, periphery or target groups' perspective. The "center" refers to the initial policy maker and attends to the extent to which official policy objectives have been met as well as reasons for attainment or nonattainment. The "periphery" perspective refers to that of field-level implementing officials; this focus is on "the manner in which local implementing officials and institutions respond to the disruptions in their environment caused by the efforts of outside officials to achieve a new policy". The "target group" perspective relates to private actors at whom the policy program is directed.

According to Elmore (1987), a theory of implementation needs to "focus on the interaction between policy-making, policy instruments, and the organizational systems that respond to them." Hasenfeld & Brock (1991) identified the following units of analysis for a policy implementation stage:

Policy instruments: technical design, incentives, resources, legal authority and enforcement capabilities (Elmore, 1987 and Van Horn & Van Meter, 1977).

Interorganizational network: this includes both vertical relationships between federal, state, and local agencies, as well as horizontal relationships among organizations participating in implementation at the local level.

Intraorganizational structure and processes of the implementing agency.

Individual actors: especially their interests, beliefs and motivations.

Hasenfeld & Brock (1991) also suggested that a theory of implementation needs to identify the forces that drive the implementation process. The following list examines five of these driving forces which refer to explanations offered for observed patterns and consequences of implementation:

Pursuit of rationality: Sabatier & Mazmanian (1980) referred to this as the ability of the statute to structure the implementation process.

Organization (policy environment fit): policy implementation is a “function of the organization’s ability to develop structures and processes that fit in the institutional, economic, and dominant patterns of service provision in the policy environment” (Goggin, 1987).

Bureaucratic discretion and adaptation (Brodin, 1986; Edwards, 1987): implementation is controlled by the amount of discretion exercised by bureaucrats who are in charge of service delivery. These bureaucrats usually “use their discretion to maintain existing organizational routines” (Weatherley & Lipsky, 1977).

Power relations among contending interest groups Bardach (1980): “the core of politics is the conflict of interests” (Levin & Fennan, 1986). For Hasenfeld & Brock (1991), this is the predominant driving force; top-down studies emphasize rationality, while bottom-up studies concentrate on bureaucratic processes.

Leadership and competence: implementation is a function of leadership quantities, interpersonal skills, and the competence of implementers (Nakamura & Smallwood, 1980). In this regard, Steinberg (2001) underscores that “in developing countries, interpersonal bonds of trust often provide the glue that institutions cannot. The social networks that environmental leaders rely on are personal, reciprocal and non contractual; they are less material-based and less vertical”.

Related to these forces of implementation, McBeath & Rosenberg (2006) stressed the importance of economic and human resources, legitimacy (recognition of most people that they have a rightful political system), and the degree of transparency vs. corruption in governance.

Mazmanian & Sabatier (1983) identified and characterized three groups of variables which affect the achievement of legal objectives in the policy implementation process:

1. Tractability of the problem: problems are more tractable if the requisite technology exists, the measurement of the problem is inexpensive, and the amount of behavioural change is modest, among other factors.
2. The ability of the statute to favorably structure the implementation process: the authors stressed that “a carefully drafted statute can substantially affect the extent to which its objectives are attained.” In this context, the authors highlighted that precision and clear ranking of legal objectives, initial allocation of financial resources, hierarchical integration within and among implementing institutions, decision rules of implementing agencies, commitment of

officials to statutory objectives, and formal access by outsiders characterized by opportunities for participation are especially relevant.

3. Non-statutory variables affecting implementation: these refer to the effect of political variables on the balance of support for statutory objectives. These variables involve socioeconomic conditions and technology, public support, attitudes and resources of constituency groups, support from sovereigns and commitment and leadership skills of implementing officials (Mazmanian & Sabatier, 1983).

Mazmanian & Sabatier (1983) synthesized these variables into six conditions of effective policy implementation:

1. Policy objectives are clear and consistent.
2. The policy incorporates a sound theory identifying factors and causal linkages affecting policy objectives, and provides implementing officials sufficient jurisdiction to at least potentially reach the desired goals.
3. The policy structures implementation so that implementing officials and target groups will perform as desired.
4. Leaders of implementing agencies show adequate skills and commitment.
5. The policy is supported by constituency groups and key legislators or chief executives.
6. Policy objectives are not undermined over time by changing scenarios.

Hasenfeld & Brock (1991) proposed a political economy model of implementation consisting of six components: policy output, policy-making, policy instruments, critical actors, driving forces, and service delivery systems. They highlighted that it is expected that when conflicting problems or solutions become coupled, they generate contradictory or ambiguous policy instruments. Consequently, the more diverse and contentious the politics, the less stable and coherent the policy instruments will be (Nakamura, 1987).

The authors also stated that when resources are viewed as unstable and unpredictable, stakeholders are likely to minimize their participation and implementing agencies will be reluctant to commit their own resources to the program. At the same time, the greater the number of stakeholders, the more complex an implementation process becomes because of

diverse interests (O'Toole Jr. & Montjoy, 1984). In addition, the more that stakeholders are organized, the greater their capability to influence the implementation process (Hasenfeld & Brock, 1991).

There are a variety of models proposed by different authors for policy implementation analysis. Ryan (1996) made a comparison of several of these models, and found some commonalities among them. She stated that each model contains variables which refer to the impact of policy formulation on implementation, highlighting clarity and consistency of policy, or program directives, as key to policy impact. At the same time, appropriate programs require structures, as well as adequate resources to control them. In this regard, Ryan underlined the need for a coherent delivery system. Hasenfeld & Brock (1991) proposed a policy implementation analysis scheme through three interrelated components: the technical core, the interorganizational network, and control or monitoring mechanisms. Mazmanian and Sabatier propose that this is achieved by hierarchical integration, while Hasenfeld and Brock draw attention to the consistency of the system's design and the concentration of authority (Ryan, 1996). Another commonality found by Ryan (1996) among several models of policy implementation is the relationship between implementing actors and politics; she states: "conflict between implementing actors is likely to result in implementing agencies pursuing different objectives; disharmony is likely to result in poor implementation outcomes." Finally, external environmental factors affect implementation. Hasenfeld and Brock refer to this as the "the degree of turbulence in the policy making environment," while Mazmanian and Sabatier consider the impact of conflicting or discontinuous socio-economic conditions (Ryan, 1996).

1.4 Methodology

This research was conducted in three northern Argentina Provinces in the Chaco Ecoregion: Santiago del Estero, Salta, and Córdoba. The criteria used to select these provinces were twofold: these provinces have shown high deforestation rates in the last decade and have had some conflicts with Forest Law administration.

1.4.1 Objective

The objective of this research is to analyze the process of native forest land-use planning and its results under Argentinean Law 26.331 (Forest Law) in three Provinces of the Argentinean Chaco Ecoregion.

1.4.2 Specific tasks

This research objective included two specific tasks:

To analyze the framework of the Forest Law focused on the process of native forest land-use planning, and the performance of the implementing institutions in the studied provinces.

To characterize the political, social, and economic context of each studied province and its relation with the implementation of the Forest Law.

1.4.3 Questions

The research questions were stated as follows:

How have different actors (stakeholders) participated in the implementation of the Forest Law and what are their political capabilities?

How has the economic/political context influenced the implementation of the Law thus far in each studied province?

To what extent are the policy outputs of the implementation process consistent with the objectives described in the Forest Law in the three provinces?

What are the principal factors/forces affecting the extent of goal attainment?

1.4.4 Hypothesis

Because the national Forest Law's framework allows for high discretion in its interpretation, the economic, social and political context has influenced the implementation of the Law thus far.

1.4.5 Variables

To explain the differences in the native forest land-use planning process and the Native Forests Land-use Plan (the result of the process) implementation among the three analyzed provinces I will use the following independent variables, grouped into three categories. These categories are based on the conceptual framework of the implementation process proposed by Mazmanian & Sabatier (1983).

1. Problem variables: forests' conservation as a manageable challenge

Deforestation indicators (based on available data collected before and after the implementation of the Forest Law): deforestation rates, land-use change permissions, illegal harvest.

2. Statutory variables: features of the Forest Law and the provincial associated regulation

Precision and clarity of legal objectives

Implementing institutions: characteristics, performance and roles

Commitment and leadership of implementing officials

Opportunities for participation by actors outside implementing agencies

3. Non statutory variables: Socio economic environment

Principal economic activities

Influence of powerful groups or individuals in the native forests land-use planning

Stakeholders: their identification and characterization

To get the attributes for all the variables, I will rely on a combination of published documents, unpublished data, and personal interviews:

Published data: a) Forest Law (administration, approved Native Forests Land-use Plans, funds allocated), deforestation rates, economic activities (recorded in public reports); b) news and campaigns from NGO`s and governmental web sites; c) public declarations or agreements; d) minutes and official documents from different sources, where available.

Unpublished data: a) Information requested from public agencies (appealing to Law 25.831 of Free Access to Public Environmental Information) related to non-updated/unpublished information about the Law 26.331 and its provincial associated regulations (administration, approved Native Forests Land-use Plans, funds allocated, current and future related programs, budget and others), and illegal harvesting or land-use change, where available. b) Information gathered during a consultancy that I carried out in Argentina for the Chilean Non-Governmental Organization "Forestales por el Bosque Nativo", in May 2011. I conducted 15 interviews with academics, NGOs and public agency representatives. They were informed that the information provided was going to be used for the reports of a consultant. This information will be used

according to the procedures established by the Tri-Council Policy Statement about Ethical Conduct for Research Involving Humans.

1.4.6 Analysis

The analysis of policy implementation will be mainly based on the framework described by Mazmanian & Sabatier (1983). This framework is relatively simpler than others (for example Hasenfeld and Brock's) and requires less complex analysis. In this case, where a simple implementation structure is required, the Mazmanian and Sabatier's model appears to be the most appropriate.

According to Ryan (1996), the advantages of the Mazmanian and Sabatier framework are that it is comprehensive and combines "top-down" and "bottom-up" concerns, although it predominantly promotes central control. Their model has a legalistic approach which, in the opinion of Ryan (1996), "emphasizes state control of policy and programmes but concedes a crucial role for active supporters of programmes. This might include stakeholders, and implementing bureaucrats which are incorporated into their model with respect to their political and management skills."

Mazmanian and Sabatier posed six conditions for effective policy implementation. For the present analysis, I will consider 5 of these. The second condition refers to the extent to which programs incorporate adequate causal (cause and effect) theory. This is not considered as it is not within the scope of this research to analyze the causal theory of the Provincial Forest Laws (all of them were developed following a superior and binding mandate that came from the enactment of the national Forest Law). These authors also analyze program implementation through attributes that describe whether the conditions for effective implementation were reached, and to what extent. These attributes (low, moderate, high and neutral) were presented by the authors in cross tables: conditions v/s periods of implementation of a specific program; conditions v/s policy area; conditions v/s geographical area; conditions v/s different specific programs, and others. In this case, I will develop a cross table of 5 conditions vs. the Provincial Forest Law in the three studied provinces.

Ryan (1996) analyzed three recent models of program implementation proposed by Winter (1990), Hasenfeld and Brock (1991), and Mazmanian and Sabatier (1983). She found that the crucial implementation variables proposed by these authors can be grouped into four categories: causal theory developed during policy formulation and its directives; clarity and

consistency of policy; the necessity for structures which create an integrated and harmonious implementation process; relationships between implementing actors and politics; and external "environmental" factors of implementation. All of these variables are considered in the present research.

The analysis will be undertaken from the point of view of the "center" (the initial policy maker), and also the "periphery" (field-level implementing officials). It is not examined from the perspective of target groups which are the beneficiaries of the Provincial Forest Laws.

In summary, I pose the following analysis topics: directives, administrative implementation structure, skills and perspectives of implementing officials, political environment, and socioeconomic conditions. The analysis of these topics will be applied to the implementation of the Forest Law through the provincial regulations (Provincial Forest Laws) in the three analyzed provinces. Each of these topics, in turn, has sub categories, defined according to their relevance and available information. These topics for analysis are based off the work of three key authors. Primary among these is the framework developed by Mazmanian & Sabatier (1983) for policy implementation analysis, which focuses on six conditions for effective policy implementation. Secondly, the analyses conducted by Ryan (1996) regarding critical issues in policy implementation from the perspective of different authors has informed my analysis framework. Finally, the questions McBeath & Rosenberg's (2006) developed to organize their study "Comparative Environmental Politics," have also informed this study.

For the overall analysis, I will assign a descriptive attribute to every sub-category which characterizes the effect of a given topic in the effective Forest Law implementation. The more effective the issue to the implementation of the Forest Law through the provincial regulations, the higher the category will be ranked. The descriptive attributes will be "high", "moderate" or "low"; "neutral" will be applied when the factor plays little or no role in implementation effort, and "undetermined" will be applied when there is not enough information or the analysis is not suitable.

Directives: this topic was defined based on Mazmanian & Sabatier, 1983: condition 1 for effective implementation; Elmore, 1987: policy instruments as unit of analysis; and Hasenfeld & Brock, 1991: Policy instruments as a component of a political economy model of implementation. It is composed of:

Clarity and consistency of the statute directives:

I will focus the analysis on the Forest Law goals and directives (the national regulation); whether the objectives are precise (unambiguous) or ranked by priority, and whether the directives provide guidance on how goals are to be achieved. I will also analyze whether the Provincial Forest Laws are consistent with the Law's goals and directives. Hence, in the general analysis, I will assign the attribute "high" if the Forest Law states precise objectives and directives for its goals attainment. At the same time, for the analysis of the provinces, the attribute "high" will correspond to a Provincial Forest Law that has precise and ranked objectives and guidance to achieve their goals, in accordance with the national law.

Discretion of the Provincial Forest Law:

I will analyze if the national legislation provides precise and/or clearly ranked instructions to officials and other actors in order to implement the legislation, and the consistency of the provincial Forest Laws with the national instructions. The attribute "high" will determine clear instructions which are conducive of effective implementation of legal objectives.

Administrative implementation structure: based on Mazmanian & Sabatier, 1983: condition 3 for effective implementation; Elmore ,1987: intraorganizational structure and organization/ policy environment fit and bureaucratic discretion as units of analysis, and Hasenfeld & Brock, 1991: critical actors as a component of a political economy model of implementation. Through this analysis it will be addressed whether there are adequate implementing institutions, in terms of institutional capacity and closeness to forest conservation issues.

Adequate structures for the Forest Law implementation at the provincial level:

I will determine if the recruitment of implementing agencies is adequate, in terms of their profile (policy orientation consistent with the statute) and experience related to forests. I will also analyze whether their decision rules are conducive of accomplishing Provincial Forest Law goals. The attribute "high" will be assigned when the institution in charge of the implementation of the Provincial Forest Law has an orientation consistent with the legislation, has experience related to forests (or was created specifically for the implementation of the law), if its jurisdiction over the law's administration is in accordance to the Forest Law directives, and if their decisions have been conducive of forest conservation.

Control and monitoring of Forest Law compliance:

I will analyze, based on available deforestation data, whether each province has been successful in the control and monitoring of their regulations; whether important efforts have been made for improved control and monitoring (for example through the use of new technological tools), and whether they have been provided with financial resources for these purposes.

Skills and perspective of implementing officials: based on Mazmanian & Sabatier, 1983: condition 4 for effective implementation; Elmore, 1987: individual actors as unit of analysis, and Hasenfeld & Brock (1991): leadership as driving force. This topic addresses whether the implementing officials are committed to attaining statutory objectives, and whether they have the necessary skills to carry out their work. It also considers whether there are any external forces that could slow down or hinder their performance

Officials' skills and commitment:

I will analyze whether implementers were not merely neutral but sufficiently persistent to develop the new regulations and its procedures. I will also determine whether the implementers have a background in managerial skills in forest management or conservation policies, and if they have used available resources for the attainment of the Provincial Forest Law goals. Hence, in the overall analysis, the attribute "high" corresponds to the case in which implementing officials have pushed for the development of a provincial regulation in accordance with the national law, and if they have previous experience in forest conservation.

External forces slowing down official's performance:

I will explore whether external authoritarian, unilateral decisions, or even corruption interfere the implementer's performance. Consequently, the attribute "high" describes a situation in which no external forces hinder an official's performance.

Political environment: this topic refers to the existence of powerful groups influencing political decisions (based on Mazmanian & Sabatier, 1983: condition 5 for effective implementation, Hasenfeld & Brock (1991): power relations as driving force and Hasenfeld & Brock (1991): driving forces as a component of a political economy model of implementation).

Powerful political groups influencing political decisions:

I will find out whether political groups or individuals have had enough power to significantly modify the orientation of the Provincial Forest Laws. In the general analysis, if there are powerful politicians, their performance will be considered “high” if their influence has contributed to attaining the objectives set by the national law through its provincial legislation.

Socioeconomic conditions: I will analyze whether the socioeconomic context of each province has been an obstacle or a support in attaining the statute goals (based on Mazmanian & Sabatier, 1983: condition 6 for effective implementation, and non statutory variables affecting implementation, and Hasenfeld & Brock (1991): organization/policy environment fit as driving force).

Political and social stability:

I will characterize the political and social stability of each of the provinces. The existence of conflicting economic policies due to alternation of power during the last decade, and the occurrence of major social conflicts will be considered as signs of an unstable political environment. Political and social stability will be considered “high” when political and social factors have contributed to the development of provincial regulations in accordance with the national Forest Law.

Pressure from economic groups:

I will analyze whether economic groups have influenced the development of Provincial Forest Laws through lobbying, corruption, or other informal mechanisms. This attribute will be considered “high” If there are powerful economic groups that have strongly biased the orientation of Provincial Forest Laws towards the effective implementation of national Forest Law goals.

Pressure from environmentalists:

I will find out if there are, or have been in the past, active and organized environmentalists pushing for the effective implementation of the national Forest Law through Provincial Forest Laws. The performance of such groups will be rated “high” for the general analysis depending on their influence towards attainment of national Forest Law goals.

First outputs: in addition to the conditions described above, I will consider the first “concrete” outputs of the Forest Law, including the results of the implementation processes at the provincial level. These outputs include compliance with the directives set in the Forest Law regarding timelines and *modus operandis*, decreases in deforestation rates, and funds allocated to the provinces from the national Forest Law. In the general analysis, I will show a comparative table with these features for each of the analyzed provinces. This table is based on Hasenfeld & Brock (1991): “policy output and policy instruments”, as a component of a political economy model of implementation.

Chapter 2: Law 26.331 of Minimum Standards for the Environmental Protection of Native Forests

2.1 Land and forests administration

Each province has its own policies regarding natural resource management and use. Article 124 of the National Constitution states that provinces control natural resources within their territories, including land and forests.

2.1.1 Land ownership

Most of the Argentinean territory is privately owned (FARN, 2011). Currently, the debate surrounding land tenure in Argentina focuses on foreign acquisition of land, as no specific regulation of this currently exists.

According to the Natural Resources and Environment Foundation - FARN (2011), there has been an evident increase of land acquired by foreign parties over the last few years. This has triggered a debate regarding how to govern these. In April 2011, the executive branch of the national government sent a bill to the National Congress titled “Protection of National Dominion Over Property, Possession and Tenure of Rural Lands.” In addition to this, there are currently seventeen bills that tackle the issue of the increasing foreign ownership of land currently in front of the National Congress. The bill sent by the executive branch aims to limit foreign possession, and to accurately determine how many of Argentina’s 206 million rural hectares are currently owned by foreigners (FARN, 2011).

FARN (2011) highlighted that the agriculture and livestock-based model has promoted mega-mining and a sustained advance of agricultural boundaries, with consequent deforestation. Hence, they have stated that the main obstacle to forest conservation is not in fact foreign acquisition and ownership of land, but the existing extraction model. Soy crop land coverage increased by 56% in only ten years; from 10 million hectares in 2001 to 19 million hectares in 2010 (FARN, 2011). The foundation also underscored that regulating land purchase by foreigners will not combat current rural inequities. According to the National Institute of Agriculture and Livestock Technology (INTA, 2012), 2% of agricultural and livestock operations parties control 50% of the land, while 57% of small farms work just 3% of the land.

After the National Constitution reform in 1994, communal ownership of aboriginal land became a right. Despite this, most aboriginal communities occupying territories do not have a legal property certificate (“Property Title”) (Soumoulou, 2008; Soumoulou, n.d.). Further, Soumoulou (2008) examines how Argentinean Civil Code defines ‘Possession’ (Tenencia), ‘Ownership’ (Posesión), and ‘Dominion’ (Dominio). Possession indicates holding land without ownership. Ownership refers to the land as well as to owner actions (there is a Property Certificate called Título de Propiedad). Dominion is a “condition for which something is under the willingness and action of a person” (Soumoulou, 2008). These tools are the only legal way to defend property rights for communities facing eviction attempts from “owners” seeking business opportunities through the expansion of agricultural boundaries to capitalize on high grain prices internationally (Soumoulou, 2008).

2.2.2 Forest administration

At the federal level, the National Secretariat of Environment and Sustainable Development - SA y DS (Secretaría de Ambiente y Desarrollo Sustentable de la Nación) is responsible for forest conservation through the Sub Secretariat of Planning and Environmental Policy. The Forests Division (Dirección de Bosques) is the national authority in charge of administration of the Forest Law and lies under this Sub Secretariat, along with other divisions related to land planning, soil conservation, and the environment (SA y DS, 2012a). Not all the agencies have a seat in all provinces.

The National Secretariat is responsible for, among other things, coordination and articulation of environmental policies as well as the performance of agencies executing their environmental policies (SA y DS, 2012a). The Secretariat also ensures the existence of administrative resources for the Environmental Federal Council - COFEMA.

COFEMA is a federal governmental institution created in 2002 under Law 25.675 (General Environmental Law). This law established minimum standards for sustainable development, environmental management, and protection of biodiversity in Argentina and was the first of a series of such “Minimum Standards” regulations. According to Article 41 of the National Constitution, Laws of Minimum Standards are applicable across Argentina, mandatory, and impose necessary conditions to ensure environmental protection (“Ley General del Ambiente. Bien jurídicamente protegido”, 2002).

COFEMA is composed of one representative from each province in the country. Its functions and obligations with respect to native forests are established by the General Environmental Law, as well as by the Forest Law. One of its key functions is to regulate the National Fund for Native Forests Conservation and Enrichment (created under the Forest Law) and to participate, in conjunction with SA y DS, in actions that attempt to achieve cohesion between conservation goals (established under native forest land-use planning regulations laid out in the national Forest Law) in provinces sharing eco-regions (SA y DS, 2012a). The Council is comprised of technical commissions composed of its members focusing on particular aspects of environmental management; one of these is the Native Forests Commission (SA y DS, 2012a).

At the federal level, the Ministry of Agriculture, Cattle and Fisheries (Ministerio de Agricultura, Ganadería y Pesca), a part of the Forests Production Division, oversees forest production. Its main function is the execution of Law 25.080, which promotes reforestation and afforestation, and describes the management of forest productivity issues (MAGyP, 2012). The Ministry's activities focus on reforestation and forest industry activities as they relate to exotic species, but it also participates in native forest issues through a variety of its agencies and programs. As an example, the National Agriculture and Livestock Technology Institute - INTA (Instituto Nacional de Tecnología Agropecuaria) is a decentralized agency (in that it defines its own administration and guidelines) focused on agriculture issues, but it also investigates and develops technology innovation for forest management (INTA, 2012).

The National Parks Administration (Administración de Parques Nacionales) is the national public agency overseeing the National System of Protected Areas (Sistema Nacional de Áreas Protegidas) (Ministerio de Turismo de la Nación, 2012). This Administration is a part of the Ministry of Tourism and manages Parks, Reserves, Monuments, Landscapes and other protected areas, under public / private / mixed and Municipal / Provincial / Federal regimes (Ministerio de Turismo de la Nación, 2012). 8.19% of Argentina's land area is included within the System of Protected Areas (SA y DS, 2012b).

2.2 Overview of the Forest Law

The enactment of a National Law setting "Minimum Standards" implies a mandatory reordering of provincial legislation in order to implement the superior nationally set standards. Law 26.331 (known as the "Forest Law") mandates that every province must develop a Land-use Plan regarding the use of native forests (Native Forests Land-use Plan). The Law was sanctioned on November 2007, and its regulation was approved in February, 2009. Since then

each province has undertaken this process through a variety of procedures, and involving different actors. To date Native Forests Land-use Plans have been developed in 19 of the country's 24 provinces¹.

2.3 Origin of the Forest Law

The Forest Law came about as a result of a variety of forces acting together to protect the country's natural ecosystems. These forces were a reaction to the agricultural expansion that threatened forests, scientific evidence of native forest loss, and the occurrence of environmental disasters associated with deforestation. Some key actors pushing for greater forest protection included political leaders that made the necessity of forest conservation a part of the public agenda as well as environmental organizations. The context in which these forces gained momentum and eventually brought about the institution of the Forest Law is described in the following sections.

2.3.1 Agricultural expansion

According to Gasparri & Grau (2009), recent agricultural expansion in the Chaco Ecoregion is largely driven by agribusiness companies oriented to the global grain markets; they work as scale economies and administer large properties. In southern South America, deforestation of dry forests is strongly linked to trends in the national and international economy (Grau & Aide, 2008).

According to Grau *et al* (2005), large-scale soybean production in Argentina began in the 1980s; it increased from less than a million hectares in 1970 to more than 13 million hectares by 2003. By 2005, Argentina was the third largest soybean producer with 15% of the world production (Grau *et al*, 2005). This increase of agribusiness activities has occurred at the expense of native forest and rangeland conservation (Viglizzo *et al*, 2011). Indeed, Gasparri & Grau (2009) pointed out that the highly favorable exchange rate for exports, as well as rising commodity prices worldwide, have greatly stimulated soybean production (and, as a consequence, deforestation) in Argentina. Further, Kaiowitz & Smith (2001) remarked that, in addition to climate factors, agriculture expansion can be influenced by socioeconomic changes of global and local origin, technological change, and management practices. They also highlighted that new varieties of soybean (some of them transgenic) are increasing crop yields,

¹ Information provided by Forest Division, Buenos Aires. Personal communication; July, 2012.

making soybean production extremely profitable. Pérez *et al.* (2002) explain that deforestation in Argentina accelerated significantly after 1997, despite the economic crisis, because of these new transgenic cultivars which increased crop yields and reduced production costs.

2.3.2 Available data

The First National Inventory of Native Forests (1998 - 2007), conducted by the Forest Division of the Sustainable Development and Environment Secretariat (SA y DS), quantified Argentina's native forest condition in detail for the first time. This laid the technical foundations for the estimation of deforestation rates². Previous to this Inventory only minimal information was available from partial scientific data, (e.g. Grau *et al.*, 2005) non-scientific data provided by NGOs (e.g. Greenpeace and Natural Resources and Environment Foundation - FARN), and information reported by communities themselves³.

2.3.3 Political leaders

In August 2003 Miguel Bonasso was elected as National Deputy, representing the Democratic Revolution Party. When the Bill of Forests Protection (later known as the “Forest Law”) was introduced to Congress, Bonasso was the President of the Natural Resources and Human Environment Conservation Commission, where the bill was first discussed. Deputy Bonasso presented the Law and was soon identified as the main proponent of the bill^{4,5}. Media called the bill the “Bonasso Law”, despite the fact that initial proposals had come from NGO’s like FARN, Vida Silvestre, and Greenpeace. Other political forces also influenced the enactment of the Forest Law, but these were less important in terms of media coverage than Deputy Bonasso.

2.3.4 Political and economic forces

When the bill was discussed in the Senate, the discussion became more complex as a result of the existing Senate composition (three representatives from each province and the

2 Eduardo Manghi, from Forest Division, Buenos Aires. Personal communication; May, 2011.

3 Bernardo Voloj, from FARN, Buenos Aires. Personal communication; May, 2011.

4 Emiliano Ezcurra, from Banco de Bosques, Buenos Aires. Personal communication; May, 2011.

5 Lorenzo Langhben, from University of Buenos Aires – CLACSO. Personal communication; May, 2011.

autonomous city of Buenos Aires). Competing interests between provinces became evident. During this stage, the bill was discussed in five different committees². Some provinces began to oppose the Law since they felt that it could threaten their economic development. Northern provinces proposed the idea of a fund that could compensate provinces for forest conservation measures; this fund became a crucial part of the Forest Law⁶.

By April 2007, an alternative bill was proposed by senators from the Provinces of Salta and Formosa, and supported by a conglomerate of companies from the Provinces of Salta and Jujuy (located in northern Argentina). The discussion of this alternative bill delayed the Congress in its ratification of the Forest Law; during this time permit applications for deforestation activities increased significantly⁴.

2.3.5 The case of General Pizarro, Salta Province

In May 2004, the government of Salta enacted Law 7.274, which converted a piece of land in the Anta District (General Pizarro) that had been a Provincial Natural Protected Area into a non-protected area. This triggered a major social conflict as the aboriginal community *Wichí Eben Ezer* that had relied on the area's resources for survival was displaced. The affected area reached approximately 16,000 hectares while another 5,000 were in dispute with the neighboring Province of Jujuy (Greenpeace, 2006). This protected area was important due to its natural richness and because of its setting in an agricultural zone⁷.

After 18 months of protests and judicial processes, the national government agreed with the Province of Salta to convert the area to a new National Park and to give 800 hectares to the *Wichí* community (Greenpeace, 2006). Still, illegal deforestation in the area persisted.

At the beginning of 2006, Greenpeace published a report on deforestation in the Province of Salta. In April of that year a large flood affected more than 10,000 people and the NGO made a clear connection between the deforestation and magnitude of floods. The case was highly covered by the media, raising the call for a Law that would protect native forests⁵.

6 Hernán Giardini, from Greenpeace, Buenos Aires. Personal communication; May, 2011.

7 Ana Álvarez, from ASOCIANA, Tartagal - Salta. Personal communication (Buenos Aires); May 2011.

2.3.6 Environmental non-governmental organizations influence

Between 2004 and 2007 a variety of campaigns for forest protection were launched by Environmental Non-Governmental Organizations (ENGOS). Some of these were sparked by deforestation in northern Argentina, while others arose out of disputes surrounding the release of particular protected areas⁴. Terms like “loss of biodiversity” and “land-use change” became common in lay language, but not well understood. The ENGOS acknowledged the need for a clear and unique message in order to be effective³.

In 2007 ENGOS and other civil society organizations launched a campaign for a forest protection law with the goal of collecting one million signatures. The campaign developed at the time of Argentina’s presidential elections, which increased its media coverage and public interest^{5,8}. The initiative was led by Greenpeace, and grouped together approximately 35 other supporting organizations on a common website where people could sign the petition. Street outreach was also implemented to gather signatures. “A million signatures” was set as a symbolic goal of the initiative, but also represented the number of signatures required to force Congress to discuss the issue (according to the Law that implements Article 39 of National Constitution: Law 24.747 of Popular Initiative, Article 4). More than a million signatures were collected in 2 months⁵. This campaign was also crucial in making the “native forests issue” of public concern; even famous actors and soccer clubs were involved. It was also an important precedent for further regulation of the Forest Law⁵.

2.4 Characteristics of the Forest Law

The Forest Law establishes minimum standards for the enrichment, restoration, conservation, sustainable use, and management of native forests and the environmental services they provide to society. It also establishes a system of criteria for the distribution of funds for environmental services provided by forests and economic incentives for conservation and restoration.

The Conservation Categories for native forests (Article 9 of Law 26.331) are as follows:

Category I (red): areas of high conservation value that must not change.

⁸ Andrés Abecasis, from AVINA Foundation, Córdoba. Personal communication; May 2011.

Category II (yellow): medium conservation value areas which may be degraded but, through restoration, can have high conservation value and may be subject to sustainable tourism, collection and scientific research.

Category III (green): areas of low conservation value that can be partially or wholly converted to other land uses, within the criteria of the Law.

The categorization of land into different conservation values has several consequences for land owners and users. For example, an Environmental Impact Assessment is mandatory to petition for a land-use change permit (category III). This Impact Assessment requires complex administrative steps. As a second example, Category I lands receive greater funds than Category II. However, the latter could result in higher incomes for owners since incentives delivered by the Forest Law could be increased by the development of profitable activities compatible with forests conservation. Also, an owner of a “Category II land” could be interested in developing activities unrelated to forest conservation (land-use change), but under this ruling is forced to maintain existing forests. This may create conflicts regarding property rights.

2.4.1 Objectives of the law

The objectives of this Act are (Article 3) the following:

Promote forest conservation through native forest land-use planning and the regulation of agricultural and livestock expansion, as well as any other changes in land-use;

Implement necessary measures to regulate and control the decrease of existing native forest surfaces, with the aim of achieving lasting forest surface area;

Improve and maintain ecological processes and cultural rights in native forests that benefit society;

Implement precautionary and preventive principles so that native forests are maintained when current techniques cannot fully calculate their environmental benefits, or the environmental damages that would result from their absence;

Encourage enrichment, conservation, restoration, improvement and sustainable native forest management activities.

2.4.2 Criteria

The Act establishes 10 criteria for environmental sustainability for Native Forest Land-use Plans. These are briefly described as: (1) Minimum size of habitat necessary to ensure survival of existing plant and animals communities, (2) Links to other natural communities in order to preserve full ecological gradients, (3) Links with existing protected areas and regional integration, (4) Existence of outstanding biological values, (5) Connectivity between ecoregions, (6) Conservation conditions, which involve analysis of past uses and their consequences, (7) Forest potential, including existing availability of forest resources or future production capacity, (8) Potential for agricultural sustainability, (9) Watershed conservation potential and (10) Valuing of indigenous and peasant communities in order to promote their survival and maintain their culture.

2.4.3 Penalties for non-compliance

The Act, in Article 29, establishes that penalties for non-compliance will be determined by each jurisdiction, and will be equal or superior to: (a) a warning, (b) a fine between \$300 - \$10,000 basic wages and (c) suspension or revocation of authorizations. The sanctions will be governed according to the correspondent administrative procedure, depending on the infraction.

2.4.4 Implementing institutions

Application of the Law falls to the Enforcement Authorities of each province. The National Authority of Law Enforcement is part of the Forests Division (Dirección de Bosques), of the National Ministry of Environment and Sustainable Development. Each province has its own Enforcement Authority which may be the Provincial Forests Division or the public agency designated by that province.

2.4.5 Native forest land-use planning

In Article 4 of the Forest Law, native forest land-use planning is defined as “a standard that, based on the environmental sustainability criteria set out in the Annex to this Act, zone native forests surface in each jurisdiction, according to the different categories of conservation.

The Forest Law set one year as the maximum period granted to each province to develop a Native Forests Land-use Plan for their territory through a participatory process. Between the enactment of the Forest Law and the implementation of the Native Forest Land-use Plan, land

conversion was forbidden (Articles 7 and 8 of the Forest Law). Native Forests Land-use Plans must be developed according to the ten sustainability criteria set out in the Forest Law (described above), and in accordance with three Conservation Categories. After that one year period, provinces that have not developed their Native Forest Land-use Plan are not permitted to undertake clearing or any other type of use and exploitation of native forests.

The National Authority of Enforcement will provide, upon request of the authorities in each province, technical, economic and financial assistance for the planning process. Each province must also regularly update the Native Forests Land-use Plan for their territory.

2.4.6 Funds allocation

There are 3 types of funds for forest protection and sustainable management: National Fund for Native Forests Enrichment and Conservation, the National Program of Native Forests Protection, both of which were established in the Forest Law, and the Experimental Program of Native Forests Management and Conservation (Resolution of the Ministry of Environment and Sustainable Development, No. 256, 2009). These funds are meant to supplement the Forest Law, which states that, pending the establishment of a regular annual distribution of the National Fund for Native Forests Enrichment and Conservation, "it is considered appropriate to implement a pilot project aimed to promote the implementation of management and conservation plans for such sites."

2.4.6.1 National Fund for Native Forests Enrichment and Conservation

This fund (F) compensates jurisdictions that maintain native forests for the environmental services they provide. The fund amount is calculated as:

$$F: P + R + S + D + Se + A + O$$

Where:

P = the Fund's annual budget which shall not be less than 0.3% of national budget

R = 2% of taxes on certain exports

S = loans and / or grants from national and international organizations

D = donations and legacies

Se = products from the sale of publications or other services related to forestry;

A = unused resources from previous years

O = other contribution for compliance of programs

The Fund is to be distributed annually among jurisdictions that have developed and approved their native forests land-use plans. The National Authority of Enforcement, together with the enforcement authorities of each of province that have declared they have forests in their territory, annually determine the amounts paid through the fund, taking into consideration the following factors:

The percentage of native forest area declared by each jurisdiction;

The relation of native forest coverage to total territory of each province

The Conservation Categories declared. A higher amount *per* hectare corresponds to category I than to category II.

70% of the fund is to be used to compensate landowners (public or private) who preserve native forests according to their conservation status. The remaining 30% will go to the Authority of Enforcement of each jurisdiction and for institutional strengthening for two items: 1) any activity for monitoring the implementation of the law and 2) programs of technical and financial assistance for the sustainability of activities developed by small producers and peasant/indigenous communities.

The Forest Law was sanctioned in December 2007; within a year of the passing of the Law, the provinces were required to develop their Native Forests Land-use Plans. So far, 19 of the 24 provinces of Argentina have sanctioned their Native Forest Land-use Plan through a provincial law: Catamarca, Chaco, Chubut, Córdoba, Corrientes, Formosa, Jujuy, La Pampa, Mendoza, Misiones, Neuquén, Río Negro, Salta, San Juan, San Luis, Santa Cruz, Santiago del Estero, Tierra del Fuego and Tucumán. The provinces of Córdoba, Corrientes, and Neuquén do not have accredited Plans yet. Santa Fe sanctioned its Plan by provincial decree¹.

The National Fund for Native Forests Enrichment and Conservation began distribution at the end of 2010 due to delays on its ruling. The first two provinces approved to receive funds were Santiago del Estero and Salta. Córdoba, the third analyzed province in this research, is still unable to receive monies from this Fund.

According to the Forest Law (Article 31) the annual budget for the National Fund for Native Forests Enrichment and Conservation shall not be less than 0.3% of the national budget plus 2% of taxes on certain commodity-based exports, plus other incomes. Argentina's 2010 national budget was approximately US\$ 71,000 million¹ (ARG\$ 273,129 million); thus the budget for the National Fund for Native Forests Enrichment and Conservation should not be less than ~US \$213 million⁹ (representing 0.3% of the national budget, and not considering other incomes). However, the budget was established as approximately US \$80.52 million for Law 26.331 (Congreso de la Nación Argentina, 2009).

By February 2011 eight provinces collectively received around US\$ 24.9 million (ARG\$ 97.6 million) for projects approved up to that point (including monies allocated for provinces that had already approved their Native Forests Land-use Plans for the 2010 cycle). Santiago received 36,2% of that amount, while Salta received 28,7%. Together these two provinces accounted for nearly 65% of the funds distributed (SA y DS, 2011).

For 2011, the same amount of money was approved for the National Fund for Native Forests Enrichment and Conservation (about US\$ 76.2 million¹⁰, equivalent to ARG\$300 million). In November 2010, several organizations led by Greenpeace sent a letter to the national deputy chamber claiming that higher funds be made available in accordance with the 0.3% defined by the Forest Law. They also made public their support to Salta, Tierra del Fuego and Santa Fe governors, who were also claiming for the total budget established by law (Greenpeace, 2010). On December 26th of 2010, the cabinet leader published the Administrative Decision 926/2010 that stated the budget for the National Fund for Native Forests Enrichment and Conservation for the following year as approximately US\$ 56.6 million¹⁰. The following day, they annulled that resolution¹¹. In February 2011 the cabinet leader decided to move funds to finance other programs. Greenpeace (2011) reported that an important proportion of the budget was destined to finance the "Soccer for all" Program. Finally, the available budget for 2011 was made the same as in 2010.

⁹ Average value for 2009: 1 US\$ = 3.73 \$ARG (CEI, 2012).

¹⁰ Average value for 2010: 1 US\$ = 3.92 \$ARG (CEI, 2012).

¹¹ In press: "Un día asignan y al otro quitan \$251 millones para los bosques", published on January 30th, 2011. Clarín newspaper. On line [http://www.clarin.com/politica/dia-asignan-quitan-millones-bosques_0_418158266.html] visited in August 2012.

The General Budget for the National Administration for 2012 is approximately US \$122,932 million¹; (~ARG\$ 506,576 million). Article 16 states an available budget for the Forest Law Fund of US \$64,9 million¹ (ARG 267,5 million) (Congreso de la Nación Argentina, 2011). According to the Forest Law, the Fund for Native Forests Enrichment and Conservation should be at least US\$ 368.8 million, again, representing 0.3% of the national budget. This means that the current amount allocated to the Fund is almost seven times lower than mandated according to law. Many NGOs have already begun to advocate that the full budget be made available to the Fund (FVSA, 2012).

The first call for applications for the National Fund for Native Forests Enrichment and Conservation prioritized applications from organizations. Since the implementation of the Forest Law was only beginning, there was little knowledge about how to proceed in each of the diverse provinces. As a result of this lack of experience, pre-existing organizations were thought to be able to perform conservation activities better¹.

By 2012, about US \$60 million (ARG\$ 245.5 million) have been assigned to 16 provinces (that includes only 2010 and 2011 cycles). Data on funded projects for 2012 is not yet available. In addition, no systematized information exists regarding the forest surface conserved as a result of project deliverables. The number of projects that have received funds, by province and type of executor, is presented in the following chart.

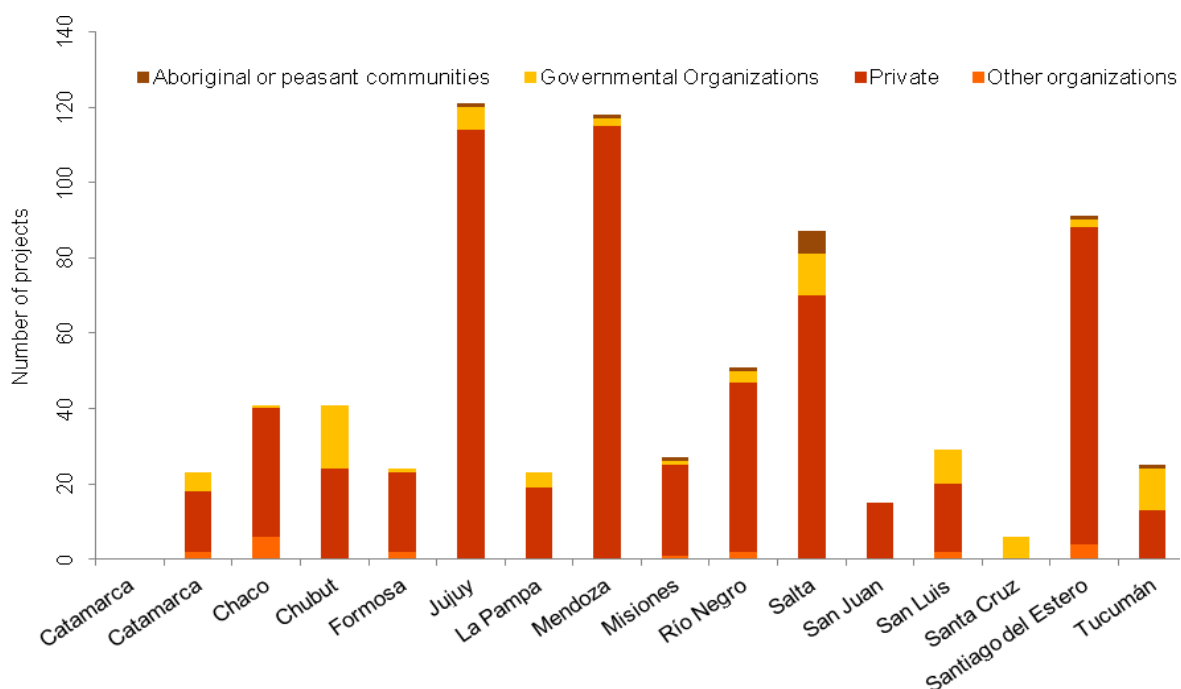


Figure 2. Projects funded in 2011, by executor and jurisdiction*.

* Corresponds to jurisdictions that have accredited their Native Forest Land-use Plans.

Source: Forest Division; Land - Planning Unit, according to provincial data (translated and reconstructed from data base provided by Forest Division, on August 6th, 2012).

Chapter 3: The Province of Salta and the implementation of Law 26.331

The Province of Salta convened an Executive Unit to discuss its native forests land-use planning process. Different maps were presented during the discussions, and finally, the resulting of the Native Forest Land-use Plan was passed as provincial Law 7.543 in December 2008. This Law did not include a map and represented important differences from the original proposal. The Native Forest Land-use Plan (the map) was developed by a private organization and was influenced significantly by interested parties and external forces. It was passed as Decree 2.785 in June 2009.

Salta was one of the first provinces that executed the Forest Law through the ratification of a provincial Native Forest Land-use Plan. To date, Salta receives more than 17% of the National Fund for Native Forest Enrichment and Conservation allotments. Nevertheless, high deforestation rates persist in the province, and no public, systematized information from governmental sources exists for adequate monitoring of forests.

3.1 Socio economic context

Salta is a Province that borders Bolivia, Chile and Paraguay, as well as the provinces of Jujuy (to the North), Formosa (Northeast), Chaco (Southeast), and Santiago del Estero, Tucumán and Catamarca (to the South) (Figure 3). Salta covers 155,488 Km² and has a population of 1.2 million inhabitants (MECON, 2011a; Presidencia de la Nación Argentina, 2012).

In 2006, the primary sector contributed 57.3%, followed by secondary and tertiary sectors with 21.8 and 21.0% of the provincial GDP (CFIRED, 2012a). The Province of Salta produced 1.5% of national exports in 2010. Its main export products that year were soybeans, petrochemical industry products, white beans, and tobacco, representing 15.5%, 14.5%, 10.0% and 9.7% of the provincial production, respectively (MECON, 2011a).



Figure 3. Location of the Province of Salta.

Source: IGN (Instituto Geográfico Nacional de la República Argentina), 2012b.

The province constitutes an ecological ecotone, which contributes to its high environmental value. In some areas of the province rainfall conditions are favorable to agriculture; this has prompted the expansion of agricultural boundaries in Salta over the last two decades (Buliubasich & González, 2009). The most dynamic zone of the province in terms of economic activities is the central area, where agriculture flourishes (CFIRED, 2012a). According to the National Agricultural and Livestock Census (INDEC, 2003a), there were 2.8 million hectares in production as of 2002 for the primary sector. Soy crops covered 637,000 hectares in 2010 (INTA, 2010).

In 2010 the largest employment sector in Salta was the service sector, which represented 38.6%, followed by the agriculture, fishing and livestock sector, which provided 20.7% of jobs in the province. The literacy rate was 96.9%, and 12.1% of population were under poverty line in 2010. Its Human Development Index in 2009 was 0.82 (MECON, 2011b).

3.2 Deforestation rates

In response to the high international prices of agricultural commodities, particularly soybeans, and technological changes (genetically modified soybean cultivars), the Province of Salta has

experienced rapid expansion of industrial agriculture, contributing to a major push for land-use change in the Chaco Ecoregion (Gasparri & Grau, 2009; Seghezzo *et al*, 2011). Indeed, in 1972 all sites of Salta showed more than 75% of forest coverage; by 2007 only one of twenty-three departmental regions remained above this value (Gasparri & Grau, 2009). Due to the success of soybean crops, deforestation became profitable in zones that had previously had low economic value. In turn, agricultural expansion contributed to the advance of cattle ranching to more marginal zones as conversion of lands former ranching land to agricultural uses put pressure on ranching activities (Langbehn, 2012).

De Ecónomo & Leake (2008) reported on deforestation rates in the Province of Salta between 2004 and 2007, prior to the enactment of the Forest Law. Their report compiled all land-use change requests for areas equal to or greater than 300 hectares, and therefore does not consider smaller areas of land-use change, nor illegal logging or deforestation activities. Their report was modeled after the monitoring framework of the NGO ASOCIANA, and is presented in Table 4.

Table 4. Public hearings and affected surface *per year*, in the Province of Salta.

Year	Public hearings convened for land-use change requests	Annual Total (has)	Percentage of total	Average <i>per</i> hearing (has)
2004*	38	129,257	16	3,402
2005	58	165,241	20	2,849
2006	28	77,612	10	2,772
2007**	71	435,399	54	6,132
Total	195	807,509	100	3,789

* Between 22/09/2004 and 31/12/2004.

**According to data provided by Deputy Bonasso (published in *Crítica la Argentina* Newspaper, March 6, 2008), during 2007 the provincial government approved deforestation for 478,204 hectares. This sum includes areas smaller than 300 hectares.

Source: De Ecónomo & Leake (2008) (translated).

As Table 4 shows, in 2007 the request for deforestation, in terms of surface, was higher than the sum of the previous three years. Further, the highest level of requests was registered during the final quarter of that year, as presented in Figure 4.

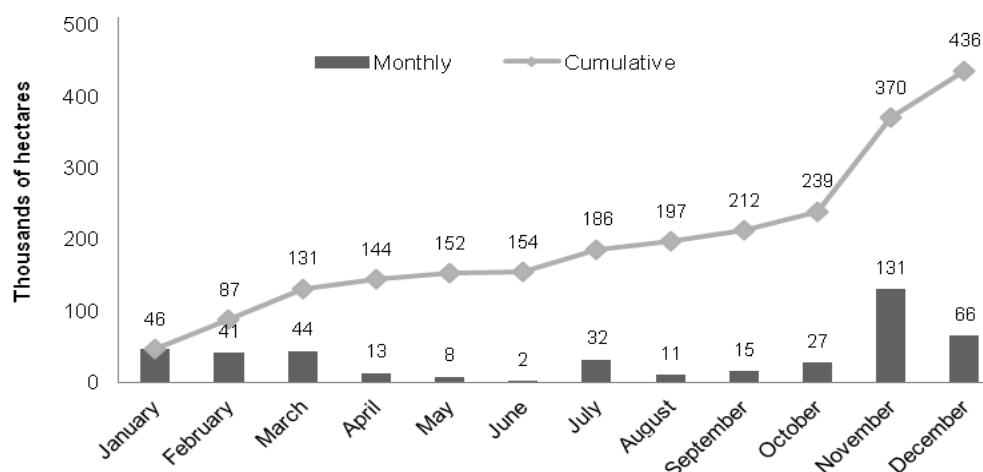


Figure 4. Deforestation permits applications in the Province of Salta in 2007 (monthly surface).

Source: De Ecónomo & Leake (2008) (edited and translated).

According to the report, permit requests for land-use changes were primarily made for range livestock (62.1%) and agricultural activities (36.8%). The remainder were requested for grasslands and forestation, as shown in Figure 5.

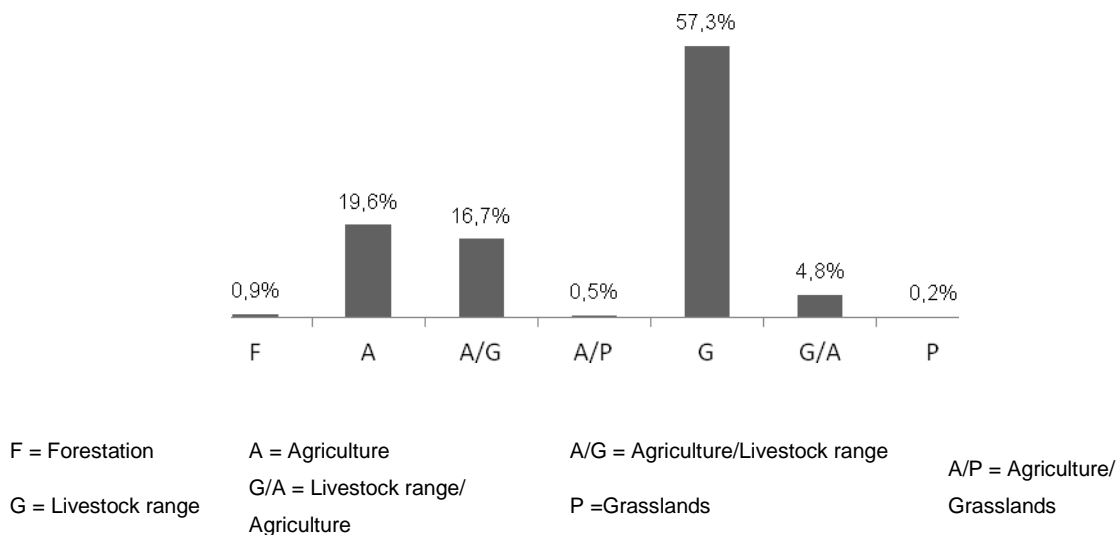


Figure 5. Purpose (activities) for land-use change requests during 2004 - 2008, in the Province of Salta.

Source: Own elaboration, from De Ecónomo & Leake (2008).

The NGO Guyra Paraguay has been monitoring deforestation in the Chaco Ecoregion in Bolivia, Paraguay and Argentina since June 2010. The following chart, adapted from their data, shows deforestation in the Province of Salta over the last two years (since the enactment of the Forest Law).

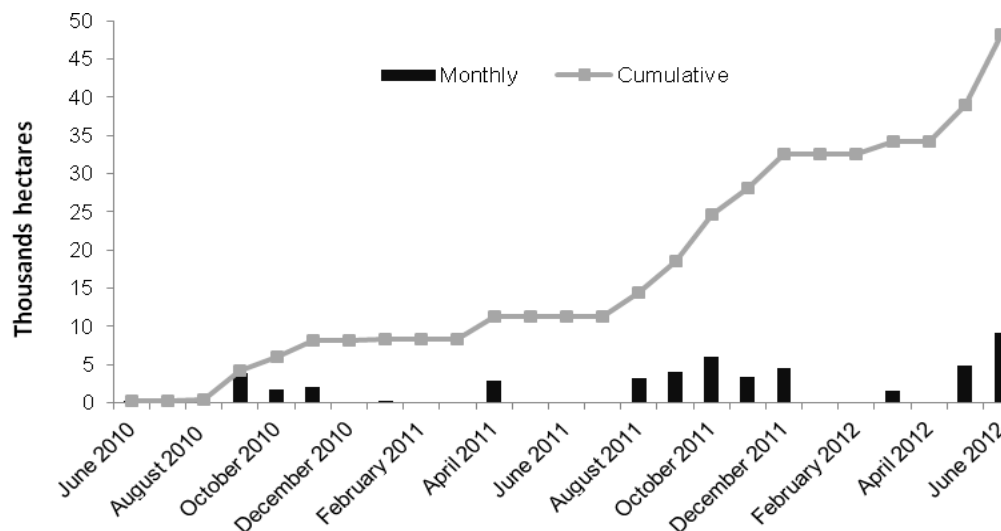


Figure 6. Deforestation in the Province of Salta, after the Forest Law enforcement.

Source: Own elaboration based on Guyra Paraguay, Monthly Technical Reports 2010, 2011 and 2012 (Fundación Guyra Paraguay, 2012).

Deforestation rates registered by NGO Guyra Paraguay seem to be far lower than historical rates. However, these results cannot be directly compared with previous data as information is lacking for several months and the NGO only monitors the Chaco Ecoregion (the province covers more than one Ecoregion), and because different studies use different methodology approaches. At any rate, the main point is that high deforestation rates continue even after the Forest Law enforcement. It is also notable that there is no available public information, from formal governmental sources.

Despite intensive land conversion processes, the Province of Salta still has over 6 million hectares of native subtropical forests (Seghezzo *et al*, 2011).

3.3 Political context and stakeholders

According to Langbehn (2012), the institutional and political environment of Salta is relatively steady as compared with other provinces. Public denouncement over evictions related to

deforestation have been constant, but have not been severe enough to challenge the legitimacy of governmental institutions (Langbehn, 2012).

It is worth pointing out that between 1995 and 2007 governor Romero, owner of the main provincial newspaper, promoted an economic model based on businesses development in which agribusiness played an important role (Langbehn, 2012). In 2007 Governor Urtubey was elected, and in his inaugural speech in December of that year declared that his future administration would end “the irresponsible and illegal festival of clearing authorizations” but, at the same time, he made clear that “Salta must produce more, intensify industrial activity and sustain the development of mining operations”, and promised loans to improve the competitiveness of agricultural activities (Seghezzo *et al*, 2011).

3.3.1 Relevant governmental institutions

There are two government institutions in the Province of Salta that have particular relevance to the execution of the Forest Law in Salta. These are:

The Ministry of Environment and Sustainable Production of the Province of Salta (Former Secretariat, under Romero`s government, later renamed the Ministry of Environment and Sustainable Development under Urtubey`s administration) is the highest ranked institution in the province regarding provincial environmental policy, agriculture and livestock activities, as well as all activities related to natural resources and energy (Gobierno de la Provincia de Salta, 2012a).

The Native Forest Agency (formerly the Forest Agency), located under the Ministry of Environment and Sustainable Development of the Environmental Secretariat (formerly the Environmental Policy Secretariat), is the agency in charge of administration of the Forest Law. This agency receives, processes, and enables applications to the Forest Law funds (Gobierno de la Provincia de Salta, 2012b). The Local Authority of Enforcement for Forest Law Implementation is the Ministry of Environment and Sustainable Production of the province¹.

¹ Information provided by Dirección de Bosques, Buenos Aires. Personal communication; August, 2011.

3.3.2 Relevant non-governmental institutions

In Salta, similar to other provinces, there is not a particularly active civil society, at least not from the environmental perspective². Civil society organizes mainly around land-use and property rights issues⁴. The most relevant non-governmental organizations in the province, grouped according to their scope and purpose, are the following:

Agricultural trade organizations: some of these include the Sociedad Rural de Salta (Rural Society of Salta, which belongs to Argentinean Rural Society), Prograno, Asociación de Productores de Legumbres NOA. These organizations wield great influence in the provincial administration³ due to their close links through economic or family relations with politicians⁴. In addition to these are wood trade organizations (e.g. Centro de Obreros de Orán, APROFICSA).

According to SRS (2012), Rural Society of Salta conducted several meetings with national legislators, the governor of the Province, and the Minister of Economic Development of Salta province, to discuss their concerns as well as further planning of actions at sub-national level. They also actively participated in providing technical information that could support property rights and the unconstitutionality of some measures related to the Native Forest Land-use Plan (Forest Law). The organization also assigned representatives to the Executive Unit convened by the Environmental Policy Secretariat for the implementation of the Forest Law, who “participated from the beginning in trying to revert the contradictions of the ruling of the Provincial Forest Law” (SRS, 2012).

Community-based organizations:

These organizations include small “criollos” farmers and indigenous peoples. According to Seghezzo *et al.* (2011), “criollos” (local inhabitants of predominantly European descent) and indigenous people are the most affected populations by the land use conversion processes. *Criollos* depend on small-scale, intensive cattle ranching on public and private lands, while indigenous communities carry out different forms of agriculture, hunting, gathering and production of non-timber forest products (Seghezzo *et al.*, 2011; de Ecónomo & Leake, 2008).

2 Lorenzo Langhben, from University of Buenos Aires – CLACSO. Personal communication; May 2011.

3 Emiliano Ezcurra, from Banco de Bosques, Buenos Aires. Personal communication; May, 2011.

The concentration of land in a few large-scale agricultural firms (Van Dam, 2008) reduces available resources for *criollos* and indigenous communities, and increases potential land tenure conflicts among them (Seghezzo *et al*, 2011). In this was indigenous and *criollo* populations had been actively against deforestation and eviction, but have been met with little success (Langbehn, 2012). Nevertheless, the union between indigenous and *criollos* has been strategic; in someways it has modified the perspective of both groups about how to effectively claim their rights (Álvarez, 2010). Only 3 provinces (of 23) have populations of hunting and gathering indigenous peoples over 23,000 (De Ecónomo *et al.*, 2008). Indigenous communities in Salta are very diverse; they speak different languages, making collaboration and self-coordination efforts more difficult as compared to other provinces⁴.

Rural development NGOs mostly support indigenous communities and “fill the gaps” in the work of organizations linked to Catholic and Anglican churches (FUNDAPAZ, Civil Association Tepeyac and ASOCIANA respectively) (Langbehn, 2012). Mesa de Tierra del Norte de Salta plays an important role; it is a third degree organization, grouping together fifteen organizations of small *criollos* and indigenous farmers, plus four “accompanying” institutions (ASOCIANA, FUNDAPAZ, Civil Asociation Tepeyac and Indigenous Pastoral of Nueva Orán Bishopric) (Álvarez, 2010).

Environmental NGOs (or those related to environmental issues):

These organizations consist of local NGOs and national and international environmental NGOs.

Local NGOs: FUNDESNOA (Fundación para el Desarrollo Sostenible del Noroeste Argentino - Foundation for Sustainable Development of Northwest Argentina) is an especially relevant organization in this category. Its objectives are, among others, to raise awareness of environmental care, seek corporate social responsibility, and a sustained development model (FUNDESNOA, 2012). This organization is comprised of fifteen big companies (one of them being “Ledesma”, which develops activities in eight provinces and produces 20% of Argentinean sugar). Another relevant NGO is ProYungas (also financed by big companies), which has a more conservationist profile⁴; it was this organization that finally developed the Native Forest Land-use Plan of the province.

National/international ENGOS: FARN (Fundación Ambiente y Recursos Naturales - Natural Resources and Environment Foundation, is a non-profit organization that promotes sustainable

development through policy, law, and the institutional organization of society (FARN, 2012). Greenpeace, and the Fundación Vida Silvestre Argentina (the locally run office of the World Wildlife Fund - WWF) all play relevant roles in regards to environmental conservation.

Academia:

The National University of Salta has a say in environmental issues as a research expert, but also plays a political role (Langbehn, 2012).

3.4 Implementation of the Forest Law in Salta

3.4.1 Previous legislation

Law 7.070 was the most relevant legislation related to forests prior to the Forest Law in the Province of Salta. This environmental protection law was sanctioned in 1999, and laid out mechanisms for Social and Environmental Impact Assessments, specifying restrictions regarding hydrological resources, flora and fauna, atmosphere, soil use and conservation, landscape, wild protected areas, biodiversity, and waste products. The law also considered funds for environmental protection (Legislatura de la Provincia de Salta, 2000). According to Langbehn (2012), despite deforestation rates similar to other provinces like Santiago del Estero, there was greater compliance with legislation in the Province of Salta. However, adequate resources and political will for the monitoring and implementation of this law did not exist⁴.

3.4.2 Local implementation and first outputs of the Forest Law

A relevant precedent for the provincial implementation of the Forest Law was the appointment of Catalina Buliubasich, an academic from the National University of Salta, as Environmental Policy Secretariat Director (under the Ministry of Environment and Sustainable Development). In February 2008 (three months after the Forest law enactment) Buliubasich received a request from NGOs (with whom she had good relationships) to investigate 18 deforestation permits previously approved. She revoked approvals granted to three of them, when communities denounced that they were being affected by resulting deforestation activities. After this incident Buliubasich was “invited” to resign from her position. The subsequent Director carried out actions restoring these permits, resulting in the deforestation of 30 thousand hectares^{4,5}.

4 Ana Álvarez, from ASOCIANA, Tartagal - Salta. Personal communication (Buenos Aires); May, 2011.

In early 2008 the Environmental Policy Secretariat of Salta convened an “Executive Unit” composed of representatives of the provincial government, as well as from the Administration of National Parks and INTA (Seghezzo *et al*, 2011), the Geological and Mining Division, and representatives of Catholic University of Salta and National University of Salta. In September 2008 several *wichí* communities made known their position regarding land-use so as to be considered by those who were developing the native forest land-use planning⁴. The assembly was well attended and covered by local media. Different maps were presented during the process, owing to conflicts regarding areas considered of low conservation value, as these lands are a primary source of agricultural commodities (Seghezzo *et al*, 2011). A final map was discarded by the provincial executive branch, due to lobbying from land-owners and producers who realized that their properties would fall into Conservation Categories I or II, of high or medium conservation value (Seghezzo *et al*, 2011).

A proposal of a law regulating native forest use was sent to the provincial legislature (local Parliament) without a map, and was modified and approved within two weeks, by December 16th of that year (Legislatura de la Provincia de Salta, 2008). This Law (Provincial Forest Law 7.543) was more permissive of deforestation than the one originally discussed by the Executive Unit⁴ (Seghezzo *et al*, 2011). Nevertheless, it was not as permissive as one that had been proposed by the son of the biggest, by far, soybean producer of the province, Senator Alfredo Olmedo. He was a member of the commission that discussed the bill, and had proposed a map with up to 5 million hectares suitable for deforestation; this map was not taken into account by the government (Langbehn, 2012; Seghezzo *et al*, 2011).

3.4.2.1 Native forest land-use planning (Law 7.543)

The Provincial Forest Law (Law 7.543) is intended to “promote the rational use, conservation and sustainable management and development of native forests, harmonizing economic, social and environmental development of the Province of Salta, for the benefit of present and future generations” (Legislatura de la Provincia de Salta, 2008). It bases the forest land-use planning on the ten environmental criteria established in the national regulation (Forest Law), and added criteria about land slopes, which has important implications for land classification into Conservation Categories. It also states that permits approved prior to the existing provincial law shall continue to be in effect for up to three years. This contradicts the Forest Law, which states

5 In press: “Salta, polémica renuncia de la Secretaria de Ambiente, published on May 31st, 2008 in “Clarín newspaper. On line [<http://edant.clarin.com/diario/2008/05/31/sociedad/s-01683880.htm>] visited on May 20th, 2012.

that prior permits that fall into Categories II and III must amend their activities to be in agreement with the Forest Law (Article 41). The Provincial Forest Law established that a Native Forest Land-use Plan had to be developed during the following 60 days under the provincial government responsibility.

3.4.2.2 Native Forest Land-use Plan (Decree 2.785)

In December 2008 (the same month in which the Provincial Forest Law was passed), eleven representatives of peasants and indigenous communities from the organization “Mesa de la Tierra de Orán” (a part of the rural NGO Mesa de Tierra del Norte de Salta) appealed as affected parties for legal protection regarding to deforestation. In response, on December 29, the National Supreme Court of Justice suspended land-use change permits approved during the last quarter of 2007 in a large fraction of the territory. During the same period, the National University of Salta claimed the unconstitutionality of Provincial Forest Law before the National Supreme Court of Justice.

In February 2009, nine days before a public hearing regarding deforestation in the Province of Salta, the “Tartagal disaster” occurred (see Box 1). Facing this scenario, the National Supreme Court of Justice suspended all deforestation (land-use change) permits that authorized deforestation in process in the area (Decree 2.789, enacted on July 2009). The Court also asked for a Cumulative Environmental Assessment Study of past deforestation to determine social and environmental impacts prior to any new permits being granted (Seghezzo *et al*, 2011). This constituted an unprecedented move in Argentina. Selective logging was also forbidden, causing some conflicts with peasants, indigenous communities, and timber business. This situation was used by big agribusiness to pit communities against environmental organizations⁴.

In this context, the development of the Native Forest Land-use Plan was delayed. The provincial government hired the NGO “ProYungas” to develop a Native Forest Map, according to what local communities had proposed during past meetings as well as Executive Unit discussions from 2008⁴. “Arguably this map extended the area under Conservation Category III by about 1 million hectares” as a result of the agricultural lobby (Seghezzo *et al*, 2011). In June 2009 the Decree 2.785, containing the Native Forest Land-use Plan, was passed. The map had been developed more in accordance with the legal protection requirement appealed by Mesa de la Tierra de Orán than with the Provincial Forest Law and was widely disowned by the agricultural business in Salta province⁴. Just days after this, Decree 2.789, suspending

deforestation in indigenous territories, was also passed (FUNDAPAZ, 2012). It is important to mention that a Decree has lower legal ranking than a Law, and so is easier to modify.

The final map (decree 2.785) defined the following surfaces for each Conservation Category (Table 5):

Table 5. Surface under three Conservation Categories defined on the Forest Law, in the Province of Salta.

Conservation Category	Description	Surface (ha)	% of forests surface	% of provincial territory
Category I (red)	Areas of high conservation value that must not change.	1,294,778	16	8.3
Category II (yellow)	Medium conservation value areas, which may be degraded but, through restoration, can have a high conservation value and may be converted partially or wholly, within the criteria of the law.	5,393,018	65	34.7
Category III (green)	Areas of low conservation value that can be partially or wholly converted, within the criteria of the Law.	1,592,336	19	10.2
Forests		8,280,132	100	53.3
No Forests		7,268,668	0	46.7

Source: Own elaboration based on provincial Decree 2.785/2009 and National Law 26.331.

Decree 2.785 (Native Forest Land-use Plan) included mechanisms to eventually recategorize areas, “after a relatively simple and potentially arbitrary administrative procedure in which public participation was no longer required” (Seghezzo *et al*, 2011). Seghezzo *et al*. stressed that “it seems unlikely that private actors would submit applications to transform their farms into high conservation value areas (Category I) from which no commercial revenues can be expected.”

Box 1. Tartagal disaster.

Approximately one year after approval of the Forest Law, a similar campaign to the one that had pushed for the Forest Law was launched as a means of hurrying the Forest Law ruling. Without this regulation, the funds allocation would have been unworkable. This campaign was led by ENGOs and consisted of getting people to call members of the executive branch. During the campaign, in February 2009, the “Tartagal disaster” occurred, a large flood in a city of the province Tartagal (a city of about 55,000 inhabitants, according to INDEC (2001). In 2006 (one year prior to the Forest Law approval) Greenpeace reported that floods in northern Argentina were connected to and aggravated by deforestation. Because of heavy rain falls, hundreds of logs were dragged away, forming a dike that finally broke, flooding the city. The media widely covered the disaster, linking the Greenpeace report to the origin of the disaster in the current economic model⁶; “It was a perfect story for media: theoretical and empirical evidence, and something or someone to blame”⁷.

3.4.2.3 Funds allocation

Salta was the second province that approved a Native Forest Land-use Plan approved, and so in 2010 was eligible to receive funding from the National Fund for Native Forests Enrichment and Conservation, under the Forest Law. Salta Province has received 17.3% of the total funds allocated to date (total funding is about US\$ 60 million ~ ARG\$ 245.5 million).

3.4.2.4 Reduction of deforestation rates

Suspension of deforestation and logging was in force in the province of Salta until December 13th, 2011 (FUNDAPAZ, 2012). By mid-2011, Mesa de Tierras del Norte de Salta reported deforestation of around 10,000 hectares, in open violation of the Supreme Court ruling (Seghezzo *et al*, 2011). In May 2012, Mesa de Tierra del Norte de Salta declared in a public statement that as of September 2011 at least 33,500 hectares had been deforested since the sentence of National Supreme Court of Justice. During the first third of 2012 public hearings were convened to address the issue of 19,544 hectares for land-use change permits; 63% of them were defined as high (I) or medium (II) Conservation Categories (red or yellow zones in

6 In press: Opinion of an academic of the University of Buenos Aires, published on March 7th, 2009 in “Página12” newspaper. On line [<http://www.pagina12.com.ar/diario/sociedad/3-121106-2009-03-07.html>] visited on May 20th, 2012.

7 Hernán Giardini, from Greenpeace, Buenos Aires. Personal communication; May, 2011.

the Native Forest Map; Decree 2.785). In absence of formal sources regarding current deforestation rates, it is hard to determine accurately if there has been a reduction of deforestation rates after the Forest Law implementation in this province.

3.5 General analysis

The Forest Law implementation in the Province of Salta can be analyzed through its provincial regulations: Law 7.543 (Provincial Forest Law) and Native Forest Land-use Plan.

Directives: the Provincial Forest Law` objectives are clear; they focus on forests and sustainability, and are consistent with the objectives stated in the national Forest Law. The provincial law also provides instructions to officials on provincial implementation which are consistent with the superior regulation. Nevertheless, the objectives are probably too wide for a detailed evaluation of their attainment. At the same time, current provincial legislation allows prior deforestation permits to continue, contradicting the national and Provincial Forest Law principles.

The Provincial Forest Law uses the same criteria as the Forest Law to define Conservation Areas, adding specifications regarding slopes. That is legally permitted, since the Forest Law establishes minimum (not unique) standards. This new criteria created some conflict with conservationists as, based on those specifications, some areas that conservationists would classify as Category I (red), fell into Categories II or III (yellow or green).

Administrative implementation structure: the Provincial Forest Law and its associated decree have multiple veto points, both in their genesis and implementation, since the provincial executive and legislative branches have high decision-making power. This is similar to other provinces, though in the case of Salta lobbying has had a crucial role.

Public agencies were created under the new provincial government in order to raise environmental issues and administer the Forest Law. This should work in favor of the law's adequate implementation. However, in just a short period of time, and even during the same administration, these institutions have changed; new ones have been created and others have changed their direction. It is beyond the scope of this analysis to determine if these changes were fortuitous or were made in favor or against forest conservation, but it is clear that the institutional instability does not help to attain Forest Law objectives. Hence, even if

implementing officials upheld the Provincial Forest Law and the Native Forest Land-use Plan, there are other driving forces that could affect the attainment of the law's goals.

Monitoring is also a key criteria in determining how successful the law's implementation process has been. Adequate monitoring will depend on how many resources the province can get from the approved projects; keeping in mind that 30% of the budget that comes from the Forest Law goes to monitoring of the Law's implementation and to assisting minorities who are exempt from the Forest Law regulations, at the provincial level. To date, no information has been updated regarding deforestation rates from public sources. Some NGOs are currently providing data regarding land-use changes which demonstrate that deforestation rates remain high after the implementation of the Provincial Forest Law.

Skills and perspectives of implementing officials: the development of a new administration for environmental issues with higher authority than typical, as well as the creation of a specific agency for the Forest Law administration, assume the existence of skilled and committed officials. At the start of this new administration, a Catalina Buliubasich was appointed Secretary of an investigation regarding the validity of some deforestation permits, where big agribusiness was involved. After cancelling three deforestation permits she was removed from her position due to external pressures from powerful sectors. This reveals the importance of the bureaucratic discretion and adaptation of implementers in light of the capacity of external powers like lobbying and corruption to influence decision-making.

Political environment: following from the way that the provincial legislation process occurred, and according to what the Forest Law states, sub-national governments have the most relevant role in implementation of the Forest Law. Salta's current governor seems to be more willing to consider environmental criteria for province development than the previous one, but his performance in Forest Law implementation process is arguable. His ambivalent inaugural speech and continued performance suggests that maintenance of public support is his primary concern over conservation goals.

The legislature has great power in the decision-making process, as was evident during the development process of the Provincial Forest Law; representatives of powerful economic sectors that have seats in the provincial legislature have a great power of influence (although not of dominance). Their influence resulted in the approval of a Provincial Forest Law that included a map with important differences from the proposal agreed to through the participatory process.

Socio economic conditions: the previous province administration lasted around 12 years, and had been largely supported by big business sectors. During that period, agribusiness development was a top priority, partially explaining why the governor maintained his position for so long. The current governor seems to follow similar policies. Commodities production, which is highly vulnerable to global market conditions, is the main cause of land-use change in the Province of Salta, as in other provinces of the Chaco Ecoregion, and the recent socioeconomic context has not been favourable to forest conservation.

Prior to enactment of the Forest Law uncertainty regarding political changes from the upcoming elections, along with the coming implementation of the Forest Law that could make obtaining land-use change permits more difficult, triggered extremely high volume in land-use change requests and approvals (De Ecónomo *et al.*, 2008; Langbehn, 2012). These grants conflicted with the subsequent Forest Law implementation. In addition, economic groups influenced the development of the Provincial Forest Law in its final stages through lobbying, making the final approved regulation significantly different from that of the participatory process.

The Tartagal disaster and the resulting decision of the National Supreme Court of Justice to suspend land-use change permits also changed the history of events. Indeed, Seghezzo *et al.* (2011) stated that, besides the enactment of the Forest Law, the intervention of the Supreme Court was essential to significantly reduce deforestation in the province. Actions carried out by some community-based organizations and members of academia in order to suspend deforestation permits and claim the unconstitutionality of the Provincial Forest Law have been influential in the effective implementation of the Forest Law.

First outputs: so far, Salta has been the beneficiary of more than 17% of the National Fund for Native Forests Enrichment and Conservation. From this strict point of view, the province has been successful in its implementation of the Forest Law; however, deforestation rates remain high (based on information provided by NGOs). It has to be kept in mind that 30% of the budget that comes from the National Fund for Native Forests Enrichment and Conservation should be allocated to control and monitoring, among other activities. Considering this important budget increase, there is a clear weakness in control and monitoring activities. Indeed, no public information from governmental sources exists regarding deforestation rates following the Forest Law implementation; there sole source of information is from independent organizations.

The Forest Law states that participation is mandatory when planning for native forest land-use. Local authorities were consistent with that mandate when developing a local legislation for

the Forest Law implementation, but the legislature and the executive branch modified the original proposal. This perspective could be debatable, but there remains an objective fact: the Native Forest Land-use Plan was developed in an arbitrary fashion, as it was developed by a unique organization (independent of the methodology or processes this organization followed to develop the map). Moreover, the decree that contains the Native Forest Land-use Plan has lower legal hierarchy than the law that provides its guidelines and its modification, and is potentially highly discretionary. This fact could work against the Forest Law's objectives, since there are external factors (mainly economic) affecting its implementation and, as Seghezzeo *et al.* (2011) pointed out, there is no obligation of a participatory process.

Chapter 4: The Province of Santiago del Estero and the implementation of Law 26.331

In 2008 the Province of Santiago del Estero carried out, through a Provincial Forest Council, the development of a provincial law for forest protection through a Provincial Forest Council. This occurred just before the national Forest Law enactment. The same council then worked to harmonize the existing legislation with the Forest Law. Following a participatory process, the province's Forest Land-use Plan was sanctioned by decree in December 2008 and ratified by Law 6.942 in April 2009. This provincial Native Forest Land-use Plan contains stricter criteria than the national Forest Law in order to protect forests. Santiago del Estero, together with Salta, were the only provinces to meet the national Forest Law's deadline for the development of provincial Forest Land-use Plans.

The Province of Santiago del Estero has received around 17% of the total funds delivered by the National Fund for Native Forests Enrichment and Conservation, under the Forest Law. However, high deforestation rates continue in a climate of inadequate control and monitoring.

4.1 Socio economic context



Figure 7. Location of the Province of Santiago del Estero.

Source: IGN (Instituto Geográfico Nacional de la República Argentina), 2012b.

Santiago del Estero borders the Provinces of Salta to the north, Chaco to the northeast, Santa Fe to the southeast, Córdoba to the south, and Catamarca and Tucumán to the West (Presidencia de la Nación Argentina, 2012). According to MECON (2011), as of 2010 data, the province has a land area of 136,351 Km² and a population of 874,006 inhabitants.

In terms of US millions of dollars, its main exports in 2010 were soybeans (278), maize (84.1), sorghum (23.2) and cotton products (30.2), representing about 60%, 18%, 5% and 6.5% of total province exports (MECON, 2011c). According to CFIRE (2012b), the primary sector contributed 15.4% to the provincial PGB, while secondary and tertiary sectors 17.2% and 67.4% respectively.

INDEC (2003) reported that total surface exploitation in 2002 for the primary sector was about 631.4 thousand hectares. 25.4% corresponded to forests and farming; three quarters of that percentage corresponded to forests (natural or planted) and one quarter was agricultural crops. In 2009, only soybean cultivars reached 823,305 hectares (INTA, 2010). According to Barembaum & Anastasio (2005), in the Province of Santiago del Estero ownership

concentration registered between 1988 and 2002 was far lower than the national rate. Indeed, the number of “agricultural exploitations” decreased 1%, while at national level it decreased 21%. At the same time, there was a noticeable increase of agricultural surface area indicating fewer properties of greater size.

In 2010, the literacy rate of the province was 96%, while 15.8% of population were under the poverty line. Its Human Development Index in 2009 was 0.78 (MECON, 2011c).

4.2 Deforestation rates

Between 1998 and 2002 approximately 306 thousand hectares were deforested in Santiago del Estero; in that period, the annual deforestation rate was 1.18% (Manghi *et al*, 2004). From the period of 2002 to 2006, about 515.2 thousand hectares were deforested, and the annual deforestation rate had increased to 2.17% (SA y DS, 2007b).

The following figure shows deforested surface area over the decade of 2000 for the Province of Santiago del Estero.

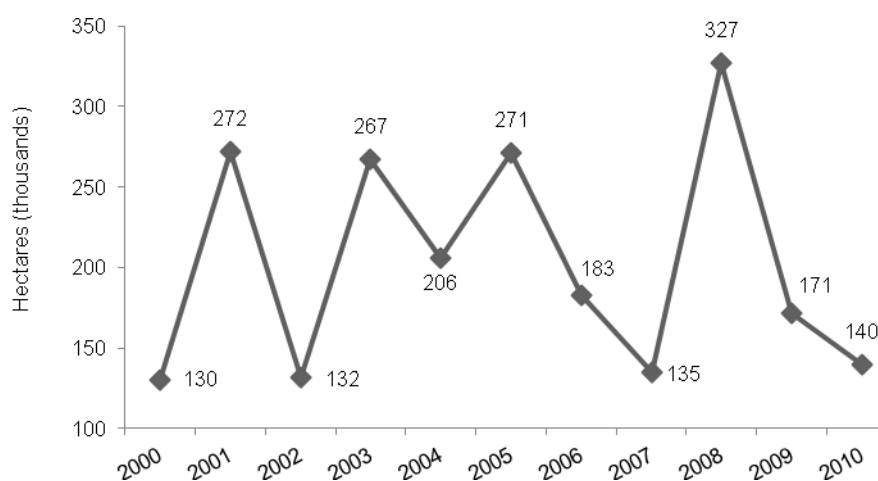


Figure 8. Annual deforested surface in the Province of Santiago del Estero.

Source: Own elaboration based on Araujo (2011a); Araujo (2011b).

According to the Director of the Provincial Forest Division, Publio Araujo (2011b), in 2010 the cause of 41% of the deforested surface area was fires, while the other 59% resulted from agricultural activities. Araujo also stated that for the second consecutive year (2008 - 2009 and

2009 - 2010), the deforested annual area reduced by 20% compared to the previous year. Not including fires, the reduction rate was 48%. However, the author concluded that for 2010, there was a 140 thousand hectares expansion of agricultural activities, indicating that burned land was later used for agricultural proposes.

The analysis of deforested surface was based on satellite imagery, so it is possible to compare authorized deforestation data with real deforestation. Considering only the land-use changes due agriculture, legally deforested surface in 2010 accounted for only 73% of real deforestation (Araujo, 2011b).

The NGO Guyra Paraguay has been monitoring deforestation in the Chaco Ecoregion in Bolivia, Paraguay and Argentina since June 2010. The following chart shows deforestation over the last two years (Forest Law in force) in the Province of Santiago del Estero.

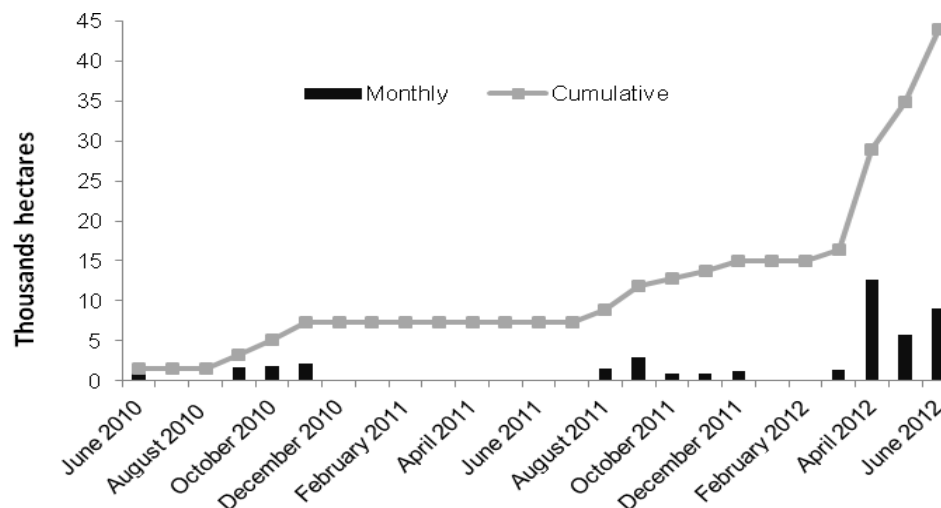


Figure 9. Deforestation in the Province of Santiago del Estero, after the Forest Law enforcement.

Source: Own elaboration based on Guyra Paraguay, Monthly Technical Reports 2010, 2011 and 2012 (Fundación Guyra Paraguay, 2012).

Deforestation rates registered in 2010 by Guyra Paraguay seem to be far lower than official rates registered by Araujo (2011b); however, Guyra Paraguay only monitored the second half of that year. In 2011, Guyra Paraguay also registered considerably lower deforestation rates than previous years registered by Araujo (2011b). In 2012 there is an important increase of about 30

thousand hectares, in the period January-June alone. Differences in results may be explained by the use of different monitoring methodologies.

4.3 Political context and stakeholders

Santiago del Estero has had a relatively unstable political environment. It had two federal interventions, one in 1993, related to salaries and employment, and another in 2004, related to inefficiency and corruption of the judicial branch (Langbehn, 2012).

Before 2004, the Carlos Juárez administration was considered a kind of dictatorship as its power relied heavily on social control¹. Juárez was first elected in 1948 and for more than half a century directed the province via both formal and informal mechanisms. People received rights over lands as political favors or through bribes; often these lands were used as guarantees for banking debts as owners were not really interested in making them productive. As recipients of these land grants failed to pay their debts, the lands were then auctioned at very low prices¹ and were bought by others interested in repeating the process. Peasants continued to occupy these lands even as they changed hands numerous times. With the introduction of soybean crops, especially transgenic strains, the land became highly valuable¹ resulting in the present day large-scale conflicts over property rights and tenure in Santiago del Estero.

Federal auditor Pablo Lanusse proposed a bill for forest protection designed to address the high rates of deforestation. A team made up of professionals from the National University of Santiago del Estero and Catholic University of Santiago del Estero were in charge of developing the bill, and involved other organizations in the process (Langbehn, 2012). In 2005, Gerardo Zamora took office as governor of the province, and a new legislature was constituted; Zamora was reelected in 2008 and is the current governor as of this writing. Langbehn (2012) stated that Zamora has a “dialogue” style, and pointed out that the new administration continued a participatory process through a Provincial Forest Council, which took on the mission of the development of the First Provincial Law, previous to the enactment and even discussion of the Forest Law.

¹ Andrés Abecasis, from AVINA Foundation, Córdoba. Personal Communication; May, 2011.

4.3.1 Relevant governmental institutions

Several governmental institutions relevant to the implementation of the Forest Law exist in Santiago del Estero. A few are discussed below.

The Ministry of Production, Natural Resources, Forestation and Land is the highest ranked institution regarding livestock, forests and agriculture. It covers a wide range of issues through its divisions, including: Forests and Fauna, Land, Cooperative action, Mining, geology and soils, Industry and market, and the General Division of regional development. The Ministry was created in 2005 after the second federal intervention in the province (Gobierno de la Provincia de Santiago del Estero, 2012).

The General Division of Forests and Fauna was first named the General Division of Soil Conservation, Forests, Fauna, Environment and Forestation (Decree 206 of 2004); in 2005 it was renamed the Environment and Forest Resources Division (Decree 091 of 2005) and finally to General Division of Forests and Fauna (Decree 1.240 of 2008). This name change was largely due to its increasingly specific and delimited functions. Currently, this division is responsible for natural resources planning based in forests areas, and maintenance of the conditions of sustainable use (Law 6.841, 2007). This division is the Authority of Enforcement of Provincial Forest Law (Law 6.841, enacted prior to the federal Forest Law) and of the national Forest Law.

4.3.2 Relevant non-governmental institutions

Relevant non-governmental organizations in Santiago del Estero can be grouped into two main categories - those that are community-based, and those from academia.

Community-based organizations:

A key community-based organization in the province is Movimiento Campesino Santiago del Estero - MOCASE (Peasant Movement of Santiago del Estero). The principal conflict among peasants is land tenure, since a majority of peasants have no property titles. The first precedents of peasant struggle were in 1960, but it was an event in 1985, in which 400 families who had occupied 12,000 hectares were evicted from their lands, that triggered the formal creation of MOCASE. This organization reached national scope in 1998 when another intent of eviction occurred. National media covered the situation, and set the forest destruction and peasant eviction on the public agenda. The movement began to evidence internal

disagreements regarding autonomy from social governmental programs, self administration, articulation with other organizations and others. Currently, there are two “MOCASES.” “MOCASE - PSA” has a bureaucratic and centralized administration, focusing on local - level performance, and operates more closely with the state and government. Its administrative structure and leadership style makes PSA more visible and susceptible to governmental initiatives. MOCASE - Vía Campesina”, which in 2005 gathered together 9,000 people, receives international cooperation, has a decentralized structure and performs at both the national and international level, collaborating with other organizations. Despite their differences, since 2005, they acted as a unique organization, confronting policy “attacks” (Durand, 2006). According to Obschatko, Foti, & Román (2007), there are currently about 17,000 peasant families in the province.

Academia:

National University of Santiago del Estero has a Faculty of Forestry in which academics have played a crucial role regarding forest protection, both before and after the Forest Law. These academics have led processes and had a relatively high level of legitimacy (Langbehn, 2012). Inside this same University many others take a confrontational position with regards to the Forest Law. The Colegio de Agrónomos (Agronomist Union) voiced different opinions regarding Forest Law implementation, even going so far as to develop an alternative proposal of the province’s Native Forests-use Plan.

4.3.3 Relevant alliances

According to (Langbehn, 2012), Rural Development NGOs, as well as some priests, have also played an important role in forest issues. The influence of national and international NGOs is also notable. Indeed, in 2004, MOCASE, Greenpeace, the National University of Santiago del Estero, and other organizations together led a request for a moratorium of six months on the granting of deforestation permits, following a massive rally promoting the motto “not even one more hectare.”² This alliance of organizations also asked for land tenure regularization and for land-use planning. Their request was accepted, and granting of new deforestation permits was

2 In press: Public declaration “Santiago del Estero: se acaba el monte, es tiempo de actuar”, published on May 19th, 2004. On line [<http://www.rel-uita.org/agricultura/ambiente/ggr-se-acaba-el-monte.htm>] visited on June 10th, 2012.

suspended for six months³. This constituted an important precedent for the development of the Forest Law⁴.

In November of 2011, a peasant was killed when he resisted displacement from his land. The media reported that this murder was a consequence of advancing deforestation, as forests provide the primary resources for peasants and indigenous communities subsistence, therefore, “to allow deforestation implies allowing their displacement”⁵. Immediately, Governor Zamora placed a six-month moratorium on deforestation permits. In May of 2012, ten environmental and civil society organizations, together with local land related organizations grouped together to form the Provincial Table of Land of Santiago del Ester, and asked the Governor and Minister of Production to extend the moratorium and forbid further evictions, in order to review existing land-use change permits and land tenure regularization (Mesa Provincial de Tierras, 2012).

4.4 Implementation of the Forest Law

4.4.1 Previous legislation

According to Langbehn (2012), Santiago del Estero worked on a provincial law for forests protection prior to the Forest Law, assuming that a national law would not interfere with the sub-national regulation, based on consensus and participation (REDAF, 2008). Law 6.841 of Conservation and Multiple Use of Forests of the Province of Santiago del Estero (First Provincial Forest Law) was enacted in January 2007, almost a year before the national Forest Law. The law was sparked by the 2004 federal intervention in the province which triggered discussion regarding the necessity of a law for forest protection from uncontrolled agriculture boundary expansion through technical regulations for forest management, and the necessity of unifying the forest uses under a single regulation (REDAF, 2008). More than 40 institutions (public agencies, NGOs, producer’s associations and others) participated in the law formulation (INTA, 2009b).

3 In press: Public declaration “Declaración moratoria a los desmontes en la Provincia”, published on June 19th, 2004. On line [http://argentina.indymedia.org/news/2004/06/203899_comment.php] visited on June 10th, 2012.

4 Hernán Giardini, from Greenpeace. Personal communication; May, 2011.

5 In press: “Campesino muerto por el avance del desmonte”, published on November 21st, 2001. On line [http://www.santiagoinfo.com.ar/index.php?option=com_content&view=article&id=1829:campesino-muerto-por-el-avance-del-desmonte&catid=31:general&Itemid=46] visited on June 10th, 2012.

REDAF (2008) described the following steps which were part of the discussion of the First Provincial Forest Law: 1) zoning and general concepts, 2) base document drafting, 3) discussion, modification and consensus reaching, 4) delivering of a proposal to the provincial executive, 5) provincial legislature analysis and 6) enactment.

The First Provincial Forest Law aims to plan goods and services production from natural resources in forest areas. It categorizes forests into 11 zones, depending of their use and ecological value. The zoning must be reviewed every two years through a process of public participation in agreement with the Provincial Forest Council (Law 6.841, 2007). The First Provincial Forest Law created the Provincial Forest Council composed of representatives from the following entities: the Ministry of Production, Natural Resources, Forestation and Land, Faculties of Forestry and Agriculture and Agribusiness of The National University of Santiago del Estero, INTA, Catholic University of Santiago del Estero, and the Agriculture and Engineering Professional Council (Consejo Profesional de Ingeniería y Agricultura). The Provincial Forest Council has jurisdiction over productive projects and conflictive situations, and gives advice to the governmental agency in charge of the Provincial Forest Law application (Law 6.841, 2007). This Council would later be in charge of the harmonization of the First Provincial Forest Law when the national Forest Law was enacted in December 2007.

4.4.2 Local implementation and first outputs of the Forest Law

During the first half of 2008 the Provincial Forest Council carried out a process of harmonization of existing and new forest management regulations. At that time, the national Forest Law had been enacted, but not yet implemented. According to REDAF (2009) this process followed the following steps: 1) discussion of Native Forest Land-use Plans and the reaching of consensus within the Provincial Forest Council, 2) harmonization with the Provincial Forest Law, 3) submission of the Plan to public consultation in regional workshops, 4) improvement of the proposal and 5) submission to a public hearing. Ten workshops were developed, and a subsequent public hearing was held in November of that year. The observations which emerged during the public hearing were processed with the same criteria as those derived from the workshops (REDAF, 2009a).

Langbehn (2012) highlighted that the initial Land-use Plan draft was submitted to various associations and organizations in an informal fashion. The following formal consultation occurred in response to the claim of organizations like MOCASE and other NGOs, based on the Forest Law's requirements of participation. According to Langbehn (2012), there was some

concern that the participatory process could mean uncontrollable situations or that the proposed Land-use Plan could be rejected. But none of these occurred, even despite the fact that diverse organizations not directly related to forest management concerns (such as educational and religious organizations) participated in the consultation process. Although there were important disagreements within the Council, the final solutions were supported by the majority of members (Langbehn, 2012). Indeed, agronomists have a productive vision, while the foresters focus on forests and peasant communities⁶. In September 2008, the Agronomists Union presented their own proposal for the Native Forest Land-use Plan that was submitted to the Provincial Forest Council (Kunst, Nellem, & Renolfi, 2008). Their map had a significantly higher “green surface” (indicating areas in which deforestation was allowable) than the approved map. Finally, the decree that established the Native Forest Land-use Plan (Decree 1.830/ 2008) was sanctioned in December of 2008, and ratified by law (Provincial Law 6.942) in April 2009.

In April 2009, when Santiago del Estero’s Native Forest Land-use Plan was ratified by law (Second Provincial Forest Law), a new Director of the General Division of Forests and Fauna was appointed. Publio Araujo was a former member of Provincial Forest Council, and was and is still a professor at the National University of Santiago del Estero, teaching forest land-use planning at the Faculty of Forestry. He began a vigorous campaign to reduce illegal deforestation, including high fines and seizure of machinery used for clear cutting. According to his perspective the results from that campaign were tangible, but not sufficient (Langbehn, 2012). Araujo stated that “a new law without strong institutions is an applicable law; a new law without political will is an inexistent law” (Araujo, 2011a).

4.4.2.1 Native Forests Land-use Plan (Law 6.942)

As stated by INTA (2009), the definition of native forests in the Forest Law is more general than the one defined by the province, since the Forest Law does not apply to deforested lands. At the same time, the provincial regulation considers more technical details regarding the concept of forests (INTA, 2009b).

The Native Forests Land-use Plan approved by the legislature estimates that three quarters of the surface covered by forests can be managed in a sustainable way, and the rest belongs to Conservation Categories I and III, as shown in Table 6.

⁶ Pablo Álvarez, from PRADE Civil Association, Santiago del Estero. Personal communication; May, 2011.

Table 6. Surface under three Conservation Categories defined on the Forest Law, in the Province of Santiago del Estero.

Conservation Category	Description	Surface (ha)	% of forests surface	% of provincial territory
Category I (red)	Areas of high conservation value that must not change.	1,046,172	14	7.7
Category II (yellow)	Medium conservation value areas, which may be degraded but, through restoration, can have a high conservation value and may be converted partially or wholly, within the criteria of the law.	5,645,784	74	41.3
Category III (green)	Areas of low conservation value that can be partially or wholly converted, within the criteria of the Law.	952,493	12	6.9
Forests		7,644,499	100	55.9
No Forests		6,026,551	0	44.1

Source: Own elaboration based on Provincial Decree 1,830/2008 and National Law 26.331.

4.4.2.2 Funds allocation

In 2011 Araujo estimated that the public agency had increased its budget by around 1,000% since the implementation of the Forest Law in the province. He argued that a big problem is that the administrative structure for funds allocation is the same as it was previous to this increase, and so does not have the capacity to execute the increased funds coming from the Forest Law. He stated: “that is a pending issue; we have to think of how to strengthen our institution, but also how to improve the money track”⁷.

Santiago del Estero was the first province that had an approved Native Forest Land-use Plan, and was eligible to receive funds from National Fund for Native Forests Enrichment and Conservation under the Forest Law in 2010. So far, Santiago del Estero has received 16.9% of total funds allocated (total funds are around US\$ 60 million ~ ARG\$ 245.5 million)⁸.

⁷ Publio Araujo, Director of the General Division of Forests and Fauna, Santiago del Estero. Personal communication; May, 2011.

⁸ Information provided by Forest Division, Buenos Aires. Personal communication; August, 2012.

4.4.2.3 Reduction of deforestation rates

In 2008, around 327 thousand hectares were deforested, representing the highest annual figure of the entire decade (Araujo, 2011b). Moreover Langbehn (2012) found that illegal deforestation in 2008 was eleven times higher than authorized deforestation. As in the case of Salta, deforestation may have increased during this time in anticipation of the implementation of more stringent legislation. This deforestation occurred due to lack of control and administrative procedures; as an example, deforestation permits were granted by three separate public agencies with no information exchange between them (Langbehn, 2012). REDAF (2009b) pointed out that in 2009, despite the implementation of new legislation, and the application of fines, the goal of the Forest Law had not been reached from the point of view of forest recovery in deforested areas and also considering inefficient control and monitoring.

The Director of the General Division of Forests and Fauna stated that in 2009 there was an important decrease of deforestation due to the enforcement of the Forest Law in the province and the application of fines. He attributed these results to a series of factors in addition to the legislation, and especially to the fact that media has been used as an important mechanism against illegal harvesting⁷.

With respect to the payment of fines, by 2011 there were several judicial processes, and in most of the cases the dispute was resolved by applying preventive measures. Seizure of machinery and land are used as guarantees for fine payments⁷.

4.5 General analysis

Directives: Decree 1.830 of 2008 (further ratified by Law) is a strict Native Forest Land-use Map, in accordance with what is stated in the Forest Law. It does not pose new or complementary objectives to the Forest Law, or to the First Provincial Forest Law. It is clear in terms of surface categorization, and clearly shows the categorized areas, so it is easy to compare real deforestation through satellite imagery. This decree establishes precise directions in case of needing forest-planning modifications, and forces any subsequent analysis to be conducted within the framework and guidelines of the previous First Provincial Forest Law.

Administrative implementation structure: the higher governmental institution that has authority over forests is in charge of the administration of the Forest Law. Unlike other provinces, in Santiago del Estero there is a single agency in charge of native and planted

forests², and it is the same agency that has been in charge of forests during the last years (despite its name change from the Environment and Forest Resources Division to the General Division of Forests and Fauna). This Division has not undergone important transformations regarding forests issues; it is the same enforcement institution for the First Provincial Forest Law of 2005 and the current Provincial Forest Law. This agency still has problems related to bureaucracy and lack of human resources⁸. Considering this, weak control and monitoring are fundamental aspects that must be improved to achieve compliance with the Forest Law. The new incomes generated by the Forest Law should allow the Division of Forests and Fauna to get better technologies and have a larger and more efficient professional staff for forest protection.

Finally, the continuity of a working group and officials through the Provincial Forests Council, allowed for the continuity of processes (first, the province zoning for the Provincial Forest Law and then, the native forest land-use planning for the national Forest Law). It is clear that previous experience and learning made the Forest Law implementation follow a manageable course, without imbalances of power (there has been no veto power exercised so far, and the executive and legislative branches have performed according to the participatory process results).

Skills and perspective of implementing officials: the Director of the General Division of Forests and Fauna, former Director of Environment and Forest Resources Division (appointed in 2005 by Decree 091), and member of the Provincial Forests Council, is also a forester and professor. His commitment to forests protection and his trajectory is well known among people related to forests and environmental management. There are some tensions between peasants grouped in MOCASE and implementing officials, and also between agronomists, but not so strong as to invalidate the Director's legitimacy. In addition to this representative, there are other committed and stable leaders that have pushed for forests protection: some forestry academics from the National University of Santiago del Estero have been key actors setting the agenda and pushing for permanent forest conservation⁶.

Political environment: the provincial legislature has been sensitive to popular opinion, and has played a role more as an observer rather than as a political actor in regards to the passing of the Provincial Forest Law. There were no powerful political groups highly pressuring and influencing the Native Forest Land-use Plan discussions. The current governor did not intervene in the process using his veto power and in addition, prior to the implementation of the Forest Law in the province, placed moratoriums for deforestation permits in response to requests from

different organizations. Hence, there have been no powerful political groups influencing decisions about the formulation of the Provincial Forest Law in this province.

Socio economic conditions: despite an unstable political environment in the province, and since the 2004 intervention, forest issues have developed under a relatively clear guideline in favor of their protection. Unfortunately, some problems like property rights and land tenure remain big obstacles to forest protection. Current governor Zamora, who was re-elected in 2008, has a “dialogue style”, which may be the reason why he kept his office.

Santiago del Estero bases its exports in commodities production. There has been a long tradition of agribusiness, especially of soybeans in recent years, which has contributed to high deforestation rates, especially prior to the enactment of the Forest Law. Nevertheless, there have not been pressures from economic group (at least not evident through lobbying or other mechanisms) in order to modify the Provincial Forest Law to make it more flexible to agricultural endeavors.

Environmentalists, identified in community-based organizations, academics, and ENGOs, have been actively pushing for forest conservation and actively participated in the formulation of the Provincial Forest Law.

First outputs: deforestation has continued at high rates since enforcement of the Forest Law began, despite the efforts of implementing officials and institutions. So far there is a lack of accurate information regarding deforested areas, which is evident when analyzing the very different results reached by the NGO Guyra Paraguay and the Forest Division through its Director Publio Araujo over the last months. With this data, it is hard to accurately determine how effective the Forest Law has been in the province, in terms of outputs. In 2009 and 2010 (post implementation of the Forest Law) there was a reduction of deforestation compared to 2008 (which was the peak of the decade), but when held in comparison with previous years this decrease is not that remarkable. In 2010, almost 60% of deforestation was caused by agricultural activities, while the rest were related to fires, many of which were also started for agricultural proposes.

The Province of Santiago del Estero was the first province to receive funds from the National Fund for Native Forests Enrichment and Conservation; so far it has received about 17% of the total funds since the Forest Law implementation. This could be seen as a great success for the province. Nevertheless, the 30% of the funding that should be destined to institutional strength

(which involves control and monitoring) is not working. Considering that lack of information regarding deforestation remains a major gap, it seems that funds allocation does not consider monitoring (or spread of results) as a priority, or there is poor capacity of governmental institutions to administer the budget.

Participation is the strength of this statute, which was developed considering different and even opposite visions, but with no critical disagreements. The decree indeed remarks how the participation mandate of the Forest Law was executed in the province, through the Provincial Forests Council (through the proposal of an initial draft and finally weighted all the observations) and further participation of indigenous and peasant communities, and general society through regional workshops and a public hearing. In the opinion of Langbehn (2012), the participatory process in Santiago del Estero was viewed with moderate skepticism, but did not experience strong rejection; the Native Forests Land-use Plan is legitimized or, at least, not severely criticized. Langbehn (2012) found that this participatory process could be understood as similar to others in other provinces, but a remarkable difference lies in the political environment of Santiago del Estero. The author highlighted that the “forest issue” was set in agenda several years prior to the Forest Law, and there already existed an environment of negotiation between stakeholders regarding forest management decisions. There were also known and stable leaders on forests issues.

Chapter 5: The Province of Córdoba and the implementation of Law 26.331

One year after the enactment of the national Forest Law the Commission for Native Forests Land-use Planning was created. It was composed of public and private stakeholders, and carried out a participatory process to develop provincial legislation for the Forest Law implementation. The Legislature discussed this proposal, and one other presented by a confederation of agribusinesses. This situation created a conflict. Finally, the Legislature sanctioned a different Plan, through Law 9.814 in August 2010.

Currently, there is a request in the National Supreme Court to declare this law unconstitutional. Since the Forest Land-use Plan has not yet been accredited, the Province of Córdoba is not eligible to receive funds from the national Fund for Native Forests Enrichment and Conservation under the Forest Law.

5.1 Socio economic context



Figure 10. Location of the Province of Córdoba.

Source: IGN (Instituto Geográfico Nacional de la República Argentina), 2012b.

According to MECON (2011), Córdoba is a province of 165,321 km²; it has a population of 3,308,876 inhabitants. As shown in Figure 10, it borders the Provinces of Catamarca and Santiago del Estero to the north, Santa Fe to the east, Buenos Aires to the southeast, La Pampa to the south, and La Rioja and San Luis on its western edge (Presidencia de la Nación Argentina, 2012).

Córdoba represented 8% of the national GDP by 2005; in 2010 its main exports, in terms of \$US millions, were soybean pellets, soybeans, maize and soy oil, representing around 19%, 15%, 11% and 9% of total provincial exports respectively (MECON, 2011b).

According to CFIRE (2012a), by 2006 the primary sector represented 11.4% of the provincial GDP, while the secondary 24.8% and the tertiary 63.8% respectively.

INDEC (2003) stated that the total exploitation surface for the primary sector was about 9,369 thousand hectares in 2002. Almost 80% of this surface corresponded to planted areas; 21% of that land was as natural or planted forests, and the remaining 79% was used for agricultural crops.

MECON (2011) pointed out that in 2010 the main employment provider in the province was the services sector, followed by market and industry. The population living below the poverty line by the second semester of the same year was 7.5%; literacy reached was 98.5% and the Human Development Index was 0.85 in 2009 (MECON, 2011b).

5.2 Deforestation rates

Bono *et al* (2004) stated that in 2004 about 7.4 million hectares were used for agricultural crops, where around 2 million of those were soybean. They found that deforestation in the Province of Córdoba, for the period of 1998 - 2002, reached almost 123 thousand hectares, which meant an annual deforestation rate of 2.9%. This was higher than the rates found in the provinces of Salta and Santiago del Estero, which were 1.18% and 0.69% for this same period (Bono *et al*, 2004). In 2006, 885 thousand hectares of forests remained, and around 94 thousand were deforested between 2002 and 2006, with an annual rate of 2.52% for this time period (Secretaría de Ambiente de la Provincia de Córdoba, 2009).

According to the “Terms of References for Native Forests Management”, published in the official new source of the Province of Córdoba in 2011, the main causes of forest disappearance are unsustainable exploitation, expansion of agricultural boundaries, forest fires,

and urbanization. Among these, land-use change for agricultural purposes and fires are underscored as the most relevant by Zak *et al* (2008). In addition, there are underlying causes like macroeconomic policies and demographic growth (Legislatura de la Provincia de Córdoba, 2011). Between 1999 and 2002, 20 thousand hectares per year were affected by fires. In 2003 alone, 50 thousand hectares were burned (Bono *et al*, 2004).

COTBN (2009) highlighted that originally the province had more than 12 million hectares of forests. When the national Forest Law was passed, it had just 594 thousand hectares left. If all the forests paths are counted (with an average size of 2,5 hectares), forests cover 10% of the territory (COTBN, 2009). On paper, 3.6 million hectares are protected under the Protected Areas System, but the real situation is that the truly protected surface was only about 30 thousand hectares by 2009, as a high percent of the supposedly protected land had been deforested and no budget exists for the maintenance of protected lands (Burkart, 2009; COTBN, 2009).

5.3 Political context and stakeholders

Prior to the enactment of the Forest Law in 2007, Governor José Manuel de la Sota, whose policies were characterized by low taxes, was in position for eight years (two consecutive four year terms). De la Sota supported the campaign of the following Governor, Juan Schiaretti, who was elected in 2007. He was accused of election fraud by his main contender, and there were massive protests against de la Sota and Schiaretti. Finally, and after recounting votes, he was declared the winner, by only 1.1% of the ballot (about 17.700 votes)¹.

Argentinean economic activity during the last decade has been dominated by heavy spending on public works, a favorable exchange rate that boosted exports, and subsidies covering food, energy and transport (Calvo & Murillo, 2012). According to Calvo & Murillo (2012), the provinces of Buenos Aires, Santa Fe and Córdoba, are together one of the world's richest crop-growing and livestock-raising regions, and were a main beneficiary of the agro-export boom registered during the last decade. The agricultural exports fees also fueled generous federal social spending. By March 2008 (three months after enactment of the Forest Law), when the price of main agricultural exports were skyrocketing, Argentinean President Kirchner adjusted

1 In press "Ganó Schiaretti y Juez denunció fraude", published on September 4th, 2011 in "La Nación" newspaper. On line [<http://www.lanacion.com.ar/940708-gano-schiaretti-y-juez-denuncio-fraude>]; "Schiaretti le ganó a Juez en Córdoba", published on October 18th, in "Diario de Cuyo" newspaper. On line [http://www.diariodecuyo.com.ar/home/new_noticia.php?noticia_id=247312] visited on July 23th, 2012.

agricultural exports fees, making them vary according to type and price of the commodity being exported; in some cases, as in soybeans, this fee became quite steep (Calvo & Murillo, 2012). As a consequence, a dispute broke out between the Kirchner administration and agricultural producers in Argentina. There were lockouts and roadblocks across large swaths of countryside. The authorities reacted aggressively and refused to negotiate and, because of that, some agricultural province lawmakers who were administration allies, began to break ranks (Calvo & Murillo, 2012). Due to agribusiness pressure the new taxes regime lasted only four months. During that period, Governor Schiaretti distanced himself from President Kirchner. In this context, it is important to highlight that the autonomous city of Buenos Aires (a different jurisdiction of the Province of Buenos Aires, but in the same territory) and the city of Córdoba are the most important provinces of the country, and among the richest, and have high political and economic relevance at the national level.

In August 2011, in new elections, former Governor de la Sota was re-elected with around 43% of votes². His triumph means the continuity of the same party (Peronismo) for four consecutive mandates.

De la Sota and other candidates were interviewed by the provincial newspaper “La voz del interior” in July 2011, and asked about what strategies they proposed to foster the agriculture sector and Forest Law implementation. De la Sota answered that the main challenge is to reach, in four years, 60% of industrialization for soybean and maize, doubling existing levels. Regarding the Forest Law, he proposed a group composed of different sectors that could balance all aspects that could emerge from the law’s application³. Hence, he was pretty clear defining goals for the agricultural sector, but ambiguous regarding forests.

This scenario shows a continuity of policies and politics in the Province of Córdoba, which has allowed for a high and sustained growth of agribusiness sector during the last years.

2 In press: “Resultados elecciones Córdoba 2011: De la Sota ganó elecciones a gobernador”, published on August 7th, 2011. On line [<http://www.argentinaelecciones.com/noticia-resultados-elecciones-gobernador-cordoba-1118.html>]; “Arrasó De la Sota; surge en el PJ otro referente nacional”, published on August 8th, 2011. On line [<http://www.lanacion.com.ar/1395974-arraso-de-la-sota-surge-en-el-pj-otro-referente-nacional>] visited on July 23th, 2012.

3 In press: “Córdoba: candidatos detrás del voto del agro”, published on July 8th, 2011. On line [<http://redaf.org.ar/noticias/?p=4137#more-4137>], visited on July 24th, 2012.

5.3.1 Relevant governmental institutions

The following institutions are particularly relevant to the Forest Law application in Córdoba:

The Environmental Secretariat of the Province of Córdoba, which belongs to the Ministry of Water, Environment and Energy, is the highest ranked institution on environmental issues. It has nine Divisions; one of those is Protected Areas, Forests and Forestation. This Division is responsible for native forests management, control of forest legislation compliance and for the development of programs for forests improvement (Gobierno de la Provincia de Córdoba, 2012). The Environmental Secretariat is also the Authority of Enforcement for the Forest Law implementation.

The Environment Córdoba Agency was created by Law 8.789 in September of 1999, and was the precedent of the current Environmental Secretariat. Darío Sbarato was designated as Secretariat, for the current government, but resigned in May 2012, apparently over differences of opinion with the Minister⁴. Media have reported that Sbarato prepared a Decree that modified some articles of the Provincial Forest Law, in order to make the Forest Law applicable in the province, making the province eligible to receive funds for forest conservation (this would increase the provincial budget for forest conservation by about 33 times). The current Minister never signed that Decree, while the Provincial Forest Law continues to await treatment from the Supreme Court⁴. The current Secretariat was also designated by the current governor.

The Legislature of Córdoba: it consists of a single-chamber parliament and has a relative majority of the ruling party, having 43 of the 70 seats since the 2011 elections. Previously, they had 36 seats, which also represented a relative majority in the chamber⁵. These proportions have been crucial for the passage of laws.

4 In press. "Puja en Ambiente de la provincial terminó con una renuncia", published on May 27th, 2012. On line [<http://www.lavoz.com.ar/noticias/politica/puja-ambiente-provincia-termino-con-renuncia>]; "Bocco es el Nuevo Secretario de Ambiente", published on June 19th, 2012. On line [<http://noticias-ambientales-cordoba.blogspot.ca/2012/06/bocco-es-el-nuevo-secretario-de.html>], visited on July 23th, 2012.

5 In press "Legislatura: el Delasotismo consiguió amplia mayoría", published on August 8th, 2011. On line [<http://www.lavoz.com.ar/noticias/politica/legislatura-delasotismo-consiguio-amplia-mayoria>], visited on July 23th, 2012.

5.3.2 Relevant non-governmental institutions

Non-governmental institutions with significant relevance to the Forest Law in Córdoba include agricultural trade organizations, environmental NGOS, and academia.

Agricultural trade organizations:

The Confederation of Rural Associations of the Third Zone - CARTEZ is a non-profit organization; it was created in 1940 and consists of eight large rural societies and a Livestock Centre in the provinces of Córdoba, San Luis, La Rioja and Catamarca (CARTEZ, 2012). At the national level, CARTEZ is represented by the Argentinean Rural Confederations (CRA), which is composed of more than 300 rural associations (CARTEZ, 2012). They have a strong organization, continuously publishing reports, news and opinions about agricultural taxes, some specific commodities and general policies that affect agricultural enterprises. CARTEZ also publishes public statements when there is a hot topic that affects them and participates in the organization of annual congresses for the CRA youth. They have high lobbying power, as will be explained in the native forest land-use planning process.

Environmental NGOs (or related to environmental issues):

NGOs FUNAM, CEDHA, Ecosistemas Argentinos, Grupo Escalera, along with other local NGOs, are members of the Commission for Native Forests Land-use Planning, and have a relevant role for the Forest Law implementation.

Academia:

The National University of Córdoba, National University of Río Cuarto, and National University of Villa María were active members of the commission that was in charge of developing a Native Forests Plan, under the Forest Law. Dr. Alicia Barchuk, an academic of the National University of Córdoba, was the Commission representative.

5.4 Implementation of the Forest Law

5.4.1 Previous legislation

Law 9.219 was published in March 2005. It completely banned deforestation in public and private lands for 10 years in the whole province (deforestation was defined as total elimination

of native forests and subsequent land-use change). It established fines and other sanctions, as well as an obligation to reforest (Legislatura de la Provincia de Córdoba, 2005). The Authority of Enforcement for this law is the same entity in charge of the Forest Law implementation (Environmental Secretariat, former Environment Córdoba Agency). Despite this regulation, deforestation has continued⁶.

Law 8.751 was published in May 1999 and regulates fire management. It banned use of fire except under authorization of the Authority of Enforcement, and established sanctions for non-compliance. Despite this regulation, fires remain a major problem as stated in the “Terms of References for Native Forests Management”, published in the gazette of the Province of Córdoba in 2011. Between 1999 and 2003 alone, more than 130 thousand hectares were illegally burned (Bono *et al*, 2004). In August 2009, fires affected 100 thousand hectares, and by October of the same year, the surface reached 300 thousand hectares (COTBN, 2009).

5.4.2 Local implementation and first outputs of the Forest Law

5.4.2.1 Native forest land-use planning (Law 9.814)

In June 2008 (six months after the enactment of the Forest Law), the executive branch designated the Environmental Secretariat as the Authority of Enforcement of the Forest Law. This agency designed the process of development for a Native Forest Land-use Plan as a sequence of 5 steps: formulation, issuing, execution, evaluation, and modification. It created the Executing Unit, which created the Commission for Native Forest Land-use Planning (COTBN). The COTBN was created one year after the enactment of the Forest Law, when the deadline for the provinces to develop their Native Forest Land-use Plans was expiring (Barchuk *et al*, 2010). This commission was composed of public and private stakeholders, and was definitely established by November 2008 (The Access Initiative, 2012). By 2009, the COTBN was composed of six governmental representatives, three universities representatives, nine NGOs, one productive organization, and two professional unions. CARTEZ (Confederation of Rural Associations of the Third Zone) voluntarily marginalized its participation and called for the dissolution of the commission (COTBN, 2009).

6 In press” Tala ilegal: decomisan en Córdoba 5 veces más leña que en 2007”, published on August 29th, 2008. On line [http://archivo.lavoz.com.ar/08/08/29/secciones/regionales/nota.asp?nota_id=235294]. Visited on August 11th, 2012.

The COTBN carried out seven public workshops in different regions in the seven main watersheds of the province; they identified socially, environmentally and economically relevant elements, as well as different interests in each region. In May 2009 there was a public hearing in which the bill for a Native Forests Land-use Plan was submitted (COTBN, 2009). Two weeks later, the COTBN formally presented the results. Following this the Environmental Secretariat had to send these results to the Legislature, as an executive initiative. The Environment Secretariat questioned the scope and power of the COTBN, and kept the bill for five months (The Access Initiative, 2012).

In October 2009, the Environmental Secretariat presented two different bills: the one that had been elaborated through the participatory process of the COTBN, and another one developed by CARTEZ. The Commission of Ecological Issues of the Legislature treated both bills, even though the COTBN asked that their bill be discussed as the only legitimate proposal (The Access Initiative, 2012).

For seven months, the provincial government, producers, peasants, academics, researchers, NGOs and other citizens attended the meetings of the Commission of Ecological Issues. In July 2010, eight legislators, supported by COTBN, presented the bill elaborated by the Commission of Ecological Issues. Nine days later, in a legislature session that lasted eight hours, a different project was presented by other legislators as a result of the lobby of the agribusiness (The Access Initiative, 2012). Despite the fact that some legislators were reading this “new” bill for the very first time, it was approved, and passed as Law 9.814 (Provincial Forest Law). Its content is the result of an agreement of the majority blocks of legislature. It has been opposed by the three universities and other organizations that made up the COTBN (COTBN, 2009).

5.4.2.2 Native Forest Land-use Plan

The following section describes each of the three Native Forest Land-use Plans presented to the legislature in Córdoba.

COTBN proposal:

The Map that resulted from the participatory process carried out by the COTBN considers the Forest Law as a minimum standard, and adds deforested areas that have the potential to be recovered under Category II (conservation value areas). It also states that native forest land-use planning is a dynamic process that should be continuously reviewed as vegetation coverage and land-use change. The COTBN proposal also presented a series of activities regarding

deforestation and use of native trees, reforestation and afforestation, livestock ranging, use of non-wood resources and tourism, allowed (or not) for the three Conservation Categories (COTBN, 2009).

CARTEZ proposal:

According to CEDHA (2009), the bill proposed by CARTEZ has several points that make it unconstitutional. They explained that they misunderstood and wrongly applied the concept of ecosystem services; they also made some modifications to the Conservation Categories defined in the Forest Law. In this regard, CARTEZ proposed for Category I (high value conservation areas) the “development of sustainable uses without significant alterations”, when the Forest Law states that high conservation value areas are not to be exploited. Regarding Category II (sustainable use), CARTEZ included some activities that would necessarily mean land-use change (something the national Forest Law only permits for Category III areas). It has to be said that the Forest Law is a law of “minimum standards,” meaning that it has to be applied in all implementing territories and provinces, though each implementing area may also add restrictions, benefits, or other caveats. CEDHA (2009) also pointed out that this proposal was made without public participation and does not provide mechanisms for future participation regarding the law’s implementation. In addition to these issues, CEDHA (2009) underscored that there are other issues that should be reconsidered. For example, the CARTEZ proposal designated the Ministry of Agriculture, Livestock and Food as the enforcement authority, when the Environmental Secretariat is the agency that has main jurisdiction over forests and is the current Authority of Enforcement for forests legislation.

Current Native Forest Plan

The Provincial Forest Law was sanctioned in August 2010, and its ruling was published in February 2011. However, it is not yet in force since there are legal challenges in the courts claiming that this law is unconstitutional.

In September 2010, the Superior Council of National University of Río Cuarto requested a declaration of unconstitutionality for the Provincial Forest Law from the National Supreme Court.

At the same time, they prepared a report for the National Ombudsman (*Defensoría del Pueblo de la Nación*)⁷.

In December 2011, the National Ombudsman published a report regarding the Provincial Forest Law of Córdoba. The report stated that the law does not make explicit how the ten criteria set out in the national Forest Law were applied to define the Conservation Categories proposed in the provincial legislation. Further, the provincial law fails to address three key points: 1) the provincial law fosters productive activities in forests of high conservation value (indeed, the Ombudsman's report concluded that Córdoba is the only province that allows agricultural and livestock activities in forests of high conservation value); 2) the Provincial Forest Law allows for forests of high conservation value to be downgraded to lower Conservation Categories; and 3) the Provincial Forest Law does not take into account the opinions that emerged from the participatory planning process. The National Ombudsman recommended correspondent modifications to the Provincial Forest Law in order to make it concordant with the national Forest Law (Defensor del Pueblo de la Nación, 2011). As of August 2012, the National Supreme Court has yet to decide the constitutionality of the Córdoba's Forest Law⁸.

This law is more permissive than Law 9.219 enacted in 2005, which totally prohibited deforestation until 2015, since the new legislations (based on the national Forest Law) allows land-use change. Some of its primary features include the following: It applies only to current forests, and not to already deforested lands; it designated the Environmental Secretariat as the enforcement authority; it creates an advisory council with similar features to the COTBN; it establishes several non-binding participatory mechanisms; and it establishes some fines for noncompliance, similar to those of Law 9.219 (Law 9.814, 2010).

According to COTBN (2009), there are several gaps and inconsistencies between the Forest Law and its current provincial implementation, as there are between the COTBN proposal and the current Native Forests Land-use Plan. Current legislation does not consider the ecological emergency that the province is experiencing (with more than 12 million hectares already deforested due to fires and land-use change, and with a continuing annual deforestation rate of 6% during the decade of 2000). Further, the current legislation allows land-use changes in

7 Defensoría del Pueblo is an independent and autonomous organism, which has jurisdiction over federal issues; its main authority is designated by the Congress for 5 years. It is in charge of defense of right, grants and interests of citizens according to current legislation and it also controls public administrative functions. It can investigate and propose modification of legislations (www.dpn.gob.ar).

8 Information provided by COTBN. Personal communication; August 5th, 2012.

Conservation Categories I and II (contrary to the Forest Law). These definitions are “bellowing” the minimum standards established by the Forest Law. It also does not take into account the necessity to connect protected areas. The same authors underlined that the current legislation eliminates the possibility of recovering deforested areas, and omits the specifications contained in the Forest Law regarding slopes and streams protection. Finally, it is ambiguous regarding “sustainable use,” as it mostly favors land-use changes for big business, fostering conflicts regarding land tenure in peasant and indigenous communities (COTBN, 2009).

The following table shows the difference of surface for the three Conservation Categories. It must be kept in mind that current legislation allows for land areas to downgrade Conservation Category under certain specifications.

Table 7. Comparison between Native Forests Land-use Plan proposed by the Commission for Native Forest Land-use Planning (COTBN) and the current Law 9.814 (Provincial Forest Law) in the Province of Córdoba.

Conservation Category	Description	COTBN proposal		Current Law 9.814		% of difference in relation to provincial territory
		Surface (ha)	% of provincial territory	Surface (ha)	% of provincial territory	
Category I (red)	Areas of high conservation value	3,931,951	23.7	1,863,743	11.2	-12.5
Category II (yellow)	Medium conservation value areas,	2,830,166	17.1	3,936,715	23.8	+6.7
Category III (green)	Areas of low conservation value	8,832,940	53.4	9,696,945	58.6	+5.2
Other areas		962,700	5.8	1,060,354	6.4	+0.6
Total		16,557,757	100	16,557,757	100	--

Source: Own elaboration based on Law 9.814 (2010) and COTBN (2009).

5.4.2.2 Funds allocation

Since conflicts related to Forest Law implementation continue, and its Native Forest Land-use Plan has not already been accredited, Córdoba is not eligible to receive funds from the National Fund for Native Forests Enrichment and Conservation⁹. Similar to other provinces, Córdoba only receives funds for the forests-use planning, despite the Environmental Secretariat expected funds for 2012.

5.4.2.3 Reduction of deforestation rates

According to monthly reports of the NGO Asociación Guyra Paraguay, between June 2011 and December 2012 there has been no relevant deforestation in the Córdoba province. However, in 2012 about 3,500 hectares have been deforested; 3,200 of them in June alone (though no official figures are available for this yet). Since the Forest Law has not been implemented in the province, there are no changes in deforestation rates directly attributable to this legislation. Indirectly, the possibility of having a regulation with greater restrictions to land-use change, and that could likely bring more effective control, may be impacting the high deforestation rates recently observed.

5.5 General analysis

Directives: the local implementation of the Forest Law through Law 9.814 is not consistent with the national regulation. It has the same objective, which is the Forest Land-use Plan, but redefines concepts already defined in the national Forest Law (including Conservation Categories and other technical components), making the provincial law incompatible, and thus likely inapplicable from a legal point of view. It is not the aim of this research to discuss the reasons for the development of this dead letter legislation, but in light of these events, it seems clear that having a strong regulation regarding forests and land-use change is not the most convenient scenario for agribusiness. It may be argued that the delayed and confusing provincial Native Forest Land-use Plan development process was deliberate in order to gain time for converting forests into agricultural crops (either directly, or through fires). However, previous legislation in the province was stricter regarding native-forest conservation (this previous legislation was compatible with the Forest Law, since the national regulation establishes only minimum standards, and provinces are able to develop more restrictive laws).

⁹ Information provided by Forest Division. Personal Communication; July, 2012.

However, this previous legislation was not effective in stopping deforestation, which has to do with lack of resources and, ultimately, political decisions.

Administrative implementation structure: the Provincial Forest Law designated for its enforcement authority the same entity that was in charge of developing the forests legislation; it also has a specific division for forests issues. The current agency does not have enough resources for control or monitoring, though the continuity of its work should be a benefit for the effective implementation of the Provincial Forest Law.

The allocation of funds for control and monitoring is key to stopping deforestation. The local implementation of the Forest Law maybe not mean a real change in terms of prescriptions for forest management since there was a previous law that totally forbade deforestation, but it will increase the public budget for control and monitoring of forest use practices. Indeed, the Environmental Secretariat was expecting funds that would significantly increase its budget for this year. Hence, one reason agribusiness sectors, in addition to some legislators, may have presented an unconstitutional bill could have been to delay the possibility of strengthening effective controls through an increased control and monitoring budget.

Skills and perspective of implementing officials: as there is a specific agency with relatively long experience in forests issues in the province, there should be skilled implementing officials for the Forest Law implementation. Nevertheless, there are other forces influencing their behavior. The reasons the last Environmental Secretariat resigned from his position are not clear, though media reports claim that it had to do with his intention to take action in order to implement the Provincial Forest Law through a Decree. In light of the events, the commitment of the Executive with forests conservation is arguable, and there is a high capacity of external powers like lobbying and corruption to influence decision-making.

Political environment: despite the fact that during the 2007 elections there were strong movements questioning the legitimacy of the ballot, the same political party, with consistent policies and broad support, has remained in power. The current governor, who was also the former governor during two consecutive periods just after the Forest Law enactment, seems not to have a clear policy regarding forest conservation, even though a law totally prohibiting deforestation was enacted during his administration. Since that law has not been effective, and there are insufficient resources for its monitoring and control, political decisions are key factors affecting forest related policies.

The Provincial Forest Law (Law 9.814) had multiple veto points on its genesis, since the legislature has high discretionary power where lobbying has a relevant role. It is also notable that the executive branch could have the power to make modifications to the Provincial Forest Law through a Decree (which is an exception stated in the National Constitution, only for national jurisdictions and following a process that involves the National Congress for specific situations).

Socio economic conditions: the Province of Córdoba bases its exports in commodities production; indeed it is part of the richest crop-growing and livestock region in the world, together with Buenos Aires and Santa Fe. The continuity of politics and policies for at least four electoral periods has provided stability for the materialization of clear guidelines regarding livestock and agriculture sectors. Hence, it is not surprising that powerful business groups have great powers of influence in the region. Their influence is so great that it has reached the point of passage of a law favorable to them, despite the different results of a participatory process for the development of the Provincial Forest Law.

It is remarkable that the Province of Córdoba has no important peasant organizations (compared to indigenous organizations in Salta or peasant movements in Santiago del Estero), nor academic faculties of forestry, but it does have relevant local NGOs and a broader academic world that advocate for forest conservation. These groups have had a relevant role pushing for the development of the Provincial Forest Law and for stopping its implementation until it is consistent with the national Forest Law, and with the participatory process that should originate the Native Forest Land-use Plan.

First outputs: in terms of budget and conservation projects, the Forest Law has not been implemented, so its first outputs are not yet measurable.

Deforestation rates are a major problem in the province, but also already deforested lands, since the province has lost more than 12 million hectares of forests. Therefore, legislation regarding forests should consider the protection of the current native vegetation as well as the recovery of already deforested areas.

The current legislation does not meet the national Forest Law directives; it was not conceived from a participatory process nor establishes participatory mechanisms for future implementation. In order to comply with the changes recommended by the National

Ombudsman in December 2011, the participatory process developed by COTBN, and the further process followed by the Commission of Ecological Issues, have to be taken into account.

Chapter 6: Analysis

6.1 Analysis of the implementation process

The Forest Law implementation has occurred in different fashions in the each of the provinces of Argentina. Jurisdictions are in charge of managing their own natural resources, and each province, as well as the autonomous city, has different governmental agencies administrating the Law, all of them coordinated by a national council (Federal Council of Environment). Also, there are different socio-economic contexts that explain political dynamics, which affect the Forest Law implementation.

Based essentially on the framework developed by Mazmanian & Sabatier (1983) regarding six conditions for effective policy implementation, I pose the following comparative table (Table 8), for the Forest Law implementation through the Provincial Forests Laws: Law 7.543 and the Native Forest Land-use Plan for the Province of Salta; Law 6.942 for the Province of Santiago del Estero; and Law 9.814 for the Province of Córdoba.

The attributes “high”, “moderate”, “low,” and “neutral are used to characterize the effect of a given topic or condition in the effective Forest Law implementation. Hence, “high” refers to a condition that strongly determines effective implementation, while “low” means that the condition strongly prevents the attainment of Forest Law goals.

Table 8. Extent to which the Provincial Forest Law in three Argentinean provinces meet conditions for the Forest Law (national Law 26.331) effective implementation.

	Province		
	Salta	Santiago del Estero	Córdoba
Directives			
Clarity and consistency of the Provincial Forest Law directives	Moderate	High	Low
Discretion of the Provincial Forest Law	Moderate	Neutral	Moderate
Administrative Implementation Structure			
Adequate structures for the Forest Law implementation	Low	High	Moderate
Control and monitoring of the Forest Law compliance	Low	Low / Moderate	Undetermined
Skills and Perspective of implementing Officials			
Officials skills and commitment	Mixed (it has a huge impact on implementation effectiveness, but it plays in favour or against depending on the official in charge)		Undetermined
External forces slowing down officials performance	Low	Neutral	Low

	Province		
	Salta	Santiago del Estero	Córdoba
Political Environment			
Powerful political groups influencing political decisions	Low	Neutral	Low
Socio economic conditions			
Political and social stability	Low	Moderate	Low
Economic groups' pressure	Low	Moderate when developing a Provincial Forest Law and Low regarding its implementation.	Low
Environmentalists' pressure	High	High	Moderate / High (environmentalist were not successful in the development of the Provincial Forest Law, but they have been successful, so far, blocking its implementation)
Overall rating of implementation effectiveness	Minimal to adequate	Adequate to substantial	Minimal

High: A strong asset in effective implementation of the Forest Law objectives.

Moderate: Conducive to effective implementation; although some problems.

Low: Notable obstacle to effective implementation.

Neutral: Factor played little or no role in implementation effort.

Source: Own elaboration, based on Mazmanian & Sabatier (1983).

Directives

The Forest Law clearly defines 5 objectives. The first one is explicit about forest land-use planning and land-use change: “promote conservation through native forest land-use planning and regulation of the expansion of agricultural and livestock frontier, and any other changes in land-use”. The second objective refers to the regulation and control of forest decrease. The remaining are somewhat wider than these first objectives, but are also necessary to actually achieve forest conservation.

The Forest Law mandates the native forests land-use planning through a participatory process. It defines deadlines and consequences in cases of non-compliance, as well as measures while the process is occurring in different jurisdictions. It also clearly defines three Conservation Categories and 10 environmental criteria for the Native Forests Land-use Plans. It clearly states that the National Fund for Forest Enrichment and Conservation will be distributed annually among jurisdictions that have developed and approved their Native Forests Land-use Plans by a provincial law. Moreover, the national law determines what factors will be taken into account in order to define the amounts paid to each jurisdiction, and states that 70% of the fund will be used to compensate landowners while the remaining 30% will go to support any activity for monitoring the implementation of the law, and to assist minorities.

The application of the Forest Law falls within the Authorities of Enforcement. The regulation establishes a national agency in charge of the law enforcement, and allows the provinces to define their own Authority of Enforcement. All of them are coordinated by a Council, which has representatives from the different jurisdictions.

Hence, the national regulation is clear in terms of its objectives and directives to attain them. It allows low discretion on its interpretation. As it defines minimum standards, the discretion could occur in a second stage, if the provinces decide to raise the standards within their territories. The minimum standards are clear in terms of technical design and timing, and they are mandatory for all jurisdictions.

In terms of procedures and bureaucracy, the national Forest Law allows for some discretion. It clearly defines a general purpose, as well as directives for the use of distributed funds, but no specific directives like eligible projects, detail of the use of funds, deadlines for the use and report of funds expenditure, etc. exist. Hence, the national law largely grants discretion to

provinces regarding administrative procedures, but its fundamental foundations and instructions remain consistent and mandatory across all provinces.

Salta

Clarity and consistency of the Provincial Forest Law directives: MODERATE

The province of Salta bases its Native Forest Land-use Plan on the 10 environmental criteria established in the Forest Law (it also adds some technical criteria that allow a high percent of territory categorized as medium or low Conservation Categories, which is opposed by environmentalists). This province also allows deforestation permits to be approved prior to the Provincial Forest Law coming into effect, which is inconsistent with the national Forest Law. In addition, there is some inconsistency between the current law and the current Native Forest Land-use Plan (Map approved by Decree).

Discretion of the Provincial Forest Law: MODERATE

The Provincial Forest Law is in accordance with the Forest Law in terms of directives, which are clear and allow for little discretion in interpretation. The Forest Land-use Plan (map) was passed as a Decree; it includes procedures to recategorize areas with no public participation required. Further modifications of the map must be in accordance with the Provincial Forest Law but, since public participation is no longer required, and since it has lower legal rank, discretion will play a crucial role.

Santiago del Estero

Clarity and consistency of the Provincial Forest Law directives: HIGH

The Provincial Forest Law is clear and consistent with previous and current legislation. This province developed legislation even more restrictive than the minimum standards posed by the Forest Law. Hence, if the Provincial Forest Law is effectively implemented, the national Forest Law's goals should be met.

Discretion of the Provincial Forest Law: NEUTRAL

The Provincial Forest Law allows for little discretion in its interpretation. It is clear and provides details about criteria and processes for the current zoning, and also clearly identifies

the zones under the three Conservation Categories. Its legal rank implies the necessity of a participatory process for its eventual modification.

Córdoba

Clarity and consistency of the Provincial Forest Law directives: LOW

The Provincial Forest Law set clear objectives but redefines characteristics of the Conservation Categories that are already defined by the national regulation. These new definitions make the Forest Law's goals nearly unattainable.

Discretion of the Provincial Forest Law: MODERATE

The Provincial Forest Law establishes some non-binding participatory mechanisms for future modifications. Hence, it is not a fact that consensus opinions will be reflected. Since the provincial law originated from a mandate of a national regulation of minimum standards, it should be the result of a participatory process in order to be constitutional. This is not the case in Córdoba. The legislation by itself does not allow a high degree of discretion; the main problem related to its implementation has to do with inconsistencies with the national Forest Law.

Administrative implementation structure:

Salta

Adequate structures for the Forest Law implementation: LOW

Salta has assigned a specific agency in charge of the Forest Law's administration. However, there have been several institutional changes in terms of their focus and orientation during the last years. That instability works against effective implementation of the Provincial Forest Law.

Control and monitoring of the Forest Law compliance: LOW

This province has dramatically increased its budget for control and monitoring of the Provincial Forest Law. However, there is lack of official and public information regarding deforestation rates, especially post-Forest Law. Regulation mandates the continuous update of native forests inventory, but, in light of the difficulties of Forest Law implementation, this issue has not been a priority. Political decisions seem to work against control and monitoring actions.

Santiago del Estero

Adequate structures for the Forest Law implementation: HIGH

Santiago del Estero's governmental institution in charge of forest issues is quite new, but also appears to be strong. In addition, the province has a long history of academic research regarding forest management. Its active civil society is also crucial for forest governance.

Control and monitoring of the Forest Law compliance: LOW /MODERATE

The agency in charge of the Provincial Forest Law administration dramatically increased its budget due to the high number of projects currently receiving benefits from the Forest Law (keeping in mind that 30% of the funds for projects go to that public agency for control, monitoring and other activities). Important efforts have been made for monitoring land-use change, even using media as a tool for social control, by the Provincial Forest Division. Its Director reported a decrease of deforestation rates after the Provincial Forest Law implementation. Nevertheless, deforestation rates remain high and updated information is not easily attainable.

Córdoba

Adequate structures for the Forest Law implementation: MODERATE

Currently, there are structures already defined for the Forest Law administration, which are the same that have been in charge of forests management and forest legislation compliance. The authority of enforcement convened different stakeholders for the development of the participatory process in order to discuss the Provincial Forest Law in accordance to the Forest Law directives. Nevertheless, it did not meet the deadline set by the national regulation for this process. It is not possible to judge their capacity since the Provincial Forest Law has yet to be implemented.

Control and monitoring of the Forest Law compliance: UNDETERMINED

Since the Provincial Forest Law has not been implemented, it is not possible to assess the performance of the implementation structure in regard to control and monitoring of the Forest Law. However, there is a lack of resources for control and monitoring of the current forest legislation, which probably will remain the case for the Forest Law. Compliance with forest legislation seems to be highly determined by political decisions.

Skills and perspective of implementing officials:

Steinberg (2001) posited that in developing countries interpersonal bonds fill weaknesses of institutions, and there is also a lack of institutional continuity in regard to policymaking. For better or worse, forest related agencies have permanently changed in these provinces; hence the course of actions is more attributable to implementers (officials, academics, and politicians) than to institutional guidelines. Also, Nakamura & Smallwood (1980) pointed out that implementation is a function of the leadership qualities, interpersonal skills, and competence of the implementers. In the analyzed cases, it is certain up to the point in which external powerful interests affects or even impede an implementing official's performance.

Salta

Officials' skills and commitment: MIXED

Since the officials of the Authority of Enforcement have changed over time, and have had differing trajectories and closeness to forest conservation, their impact on the effective Provincial Forest Law implementation has also varied. The Governor did not use his veto power to avoid the passage of the Provincial Forest Law, which was not in total agreement with the participatory process that had originated it. He also did not veto the Native Forest Land-use Plan, which was more in line with that process.

External Forces slowing down officials' performance: LOW

When an official committed to forest conservation revoked some deforestation permits already approved, she was soon removed from office. This happened prior to the enforcement of the Provincial Forest Law. The province's current administration remains the same as in that time (the current governor has been in position since 2007). Hence, despite the existence of

committed officials, external forces could slow down their performance, as has already been seen.

Santiago del Estero

Officials' skills and commitment: HIGH

The Forest Division Director is a skilled and committed professional. At the same time, there are skilled academics (belonging to Faculty of Forestry of National University of Santiago del Estero) that have been constantly pushing for forest protection.

External Forces slowing down officials' performance: NEUTRAL

There have been no relevant external forces affecting official's performance, at least none known.

Córdoba

Officials' skills and commitment: UNDETERMINED

An organized and well developed participatory process was carried out by the Commission for Native Forests Land-use Planning, convened and led by the executive branch. Nevertheless, the Provincial Forest Law is not yet in force, waiting for the decision of the national Supreme Court regarding its constitutionality. It is difficult to tell if there are officials committed to the attainment of its goals, of whether they have pushed for its effective implementation.

External Forces slowing down officials' performance: LOW

Although a commission followed the directives of the Forest Law, they were not able to pass their proposal for a Provincial Forest Law since external forces in the provincial legislature were more powerful; finally a different bill was passed.

Political Environment:

Salta and Córdoba

Powerful political groups influencing political decisions: LOW

Since the Forest Law's implementation is mandatory in order to get the funds that it provides, and to legally change land-use, the provinces have developed their Provincial Forests Laws independently of the fundamental reasons to do it, as in the cases of Salta and Córdoba.

Levin & Fennan (1986) stated that "the core of politics is the conflict of interests." In the Provinces of Córdoba and Salta, that statement is evident: sovereigns perform in favor of agricultural business; some legislators show evident conflict of interest as some of them represent big agribusiness that see forest conservation as an impediment to agricultural and livestock endeavors. However, their conflicts of interests are not an obstacle to perform as politicians. As Seghezzo *et al.* (2011) pointed out, political and economical interests tend to ignore or override both technical elements and social concerns.

Santiago del Estero

Powerful political groups influencing political decisions: NEUTRAL

In this case, there is a recent experience for forest protection through legislation, which clearly created a favorable environment for its harmonization with the Forest Law. The scenario for forest protection became favorable with the intervention in 2004, and former governors just continued along this path. There are no relevant sovereigns or political groups supporting or pushing against the Provincial Forest Law development and implementation.

Socio-economic conditions:

Salta

Political and social stability: LOW

The Province of Salta shows relative political stability when compared to other provinces. Successive governments have been pro-agribusinesses; this, compounded by the non-existence of a very active civil society (in regards to forest issues), has played in favour of land-use change.

Economic groups' pressure: LOW

Economic groups have been successful in Salta through lobbying; they could modify a consensus-based bill in order to make it more permissive of forest conversion.

Environmentalists' pressure: HIGH

Environmentalists in Salta have had great influence in pushing for the Forest Law ruling, and also successfully asking for the suspension of provincial deforestation permits.

Santiago del Estero

Political and social stability: MODERATE

Contrary to what might be expected, the turbulent social environment in Santiago del Estero served as an opportunity to legislate in favour of forest protection. Nevertheless, legislation by itself is not enough to protect forests, since high deforestation rates continue, due to persistent lack of control and monitoring of Forest Law compliance.

Economic groups' pressure: MODERATE

In this case, economic groups did not have a relevant role in the development of provincial legislation for forest protection. According to Langbehn (2012), this occurs because many of them perform illegally, and continue to lack capacity for control and monitoring (so that illegal actions are taken as normal).

Environmentalists' pressure: HIGH

Environmental groups were active and effective during the Provincial Forest Law discussions and asked, successfully, for moratoriums to land-use change permits in certain situations.

Córdoba

Political and social stability: LOW

In this province, the continuity of politicians and policies over four electoral periods allowed for the consolidation of agricultural sector while forests disappeared.

Economic groups' pressure: LOW

Their influence in this province was so high that they achieved the approval of “their law”, through their representatives (or the representatives of their interests) in the legislature. In this regard, McBeath & Rosenberg (2006) underlined the importance of recognition of most people that they have a rightful political system and the degree of transparency versus corruption in governance. It is beyond the scope of this research to investigate corruption and transparency in the provinces, but the events shows that in the Provinces of Salta and Córdoba there has been a different degree of corruption in the processes of development of the Provincial Forest Laws.

Environmentalists' pressure: MODERATE / HIGH

Environmentalists' movements have effective in postponing the implementation of the Provincial Forest Law through the request of the intervention of the National Supreme Court of Justice (the final decision has not yet been made). They were also active during the Provincial Forest Law formulation.

6.2 Analysis of the outputs

The following table shows the first outputs of the Forest Law implementation in the analyzed provinces.

Table 9. First outputs of the Forest Law (national Law 26.331) in the Provinces of Salta, Santiago del Estero and Córdoba.

	Province		
	Salta	Santiago del Estero	Córdoba
Provincial implementation of the Forest Law	In place	In place	Not in place (awaiting the decision of the National Supreme Court of Justice)
Meet the deadline of 1 year established by the Forest Law for the development of the native forests-use planning	Yes (plus 6 months for the Map approval)	Yes	No 2 ½ years

	Province		
	Salta	Santiago del Estero	Córdoba
Development of a participatory process for the provincial implementation of the Forest Law	Yes	Yes	Yes
Consistency of the provincial legislation with the participatory process	Consistent, with important exceptions	Consistent	Inconsistent
Consistency of the provincial legislation with the Forest Law	Consistent, with exceptions	Consistent	Inconsistent
% of forests allocated for :			
High Conservation Value	16	14	Not able to compare*
Medium Conservation Value (sustainable management)	65	74	Not able to compare*
Low Conservation Value (allow land-use change)	19	12	Not able to compare*
Funds allocated (National Fund for Native Forests Enrichment and Conservation)	17.3%	16.9%	0%
Information about deforestation rates	Informal sources	Informal and formal sources	Informal and insufficient sources
Deforestation rates after implementation of the Forest Law	High	High	Undetermined

* Figures related to the total territory, not to the total amount of forests.

Source: Own elaboration.

The provinces of Santiago del Estero and Salta were the first in the country to develop a Native Forest Land-use Plan according to the requirements of the Forest Law. They were also the only provinces that met the deadline for the Plan creation as established by the national regulation. The Province of Córdoba has not been able to fully implement the Forest Law, since

there is request that the province's Forest Law, developed more than a year after national mandated deadline, be declared unconstitutional by the Supreme Court of Justice.

Both provinces of Salta and Córdoba followed a participatory process convened by the Local Authority of Enforcement. However, the executive and legislative branches had the final decisions regarding the legislation. In both cases the current regulations are more permissive of land-use change than the ones previously agreed to through the participatory process. In the case of Salta, the Legislature modified the original proposal, while Córdoba approved a regulation that was not based on public participation at all. In the case of Santiago del Estero, there was also a participatory process; when the proposal was presented, the legislature and the executive branch performed more of an administrative, rather than a political, role, so that the current legislation is indeed the result of a participatory process.

It is difficult to compare the percentage of forests potentially protected as a result of the Provincial Forests laws since the availability of native forests vary among provinces. In the case of Salta province, there is a high percent of forests allocated for sustainable use and protected areas, which represent around 35% and 8% of the territory, and about 65% and 16% of the existing forests, respectively. However, it can not be said that these figures mean real conservation, since illegal deforestation remains high, and the Native Forest Land-use Map, approved by decree, includes mechanisms to recategorize areas. This is similar to the situation of the province of Santiago del Estero, where only 12% of the forests could be converted into other uses. Here, the current legislation ensures forest protection, but illegal land-use change and fires attempt to derail the legislation's goals. In the case of the province of Córdoba, figures regarding the percentage of forests protected under the Provincial Law are not available. However, apart from the amount of forests conserved, the crucial issue is that the current legislation allows for activities that could mean land-use change in categories other than those of low conservation value (indeed, Córdoba is the only province that allows agricultural and livestock activities in forests of high conservation value), and permits forests of high conservation value to be downgraded to lower conservation category. Hence, facing the current scenario, the Provincial Forest Law in Córdoba hardly illuminates what amount of forest may be effectively protected.

Santiago del Estero and Salta are the provinces that have received most funds from National Fund for Native Forests Enrichment and Conservation. Both provinces are third and fourth in number of projects funded, with remarkable participation of governmental organizations, as well as peasant/indigenous organizations in the case of Salta. Although information regarding

surface managed using these funds is not yet available, it is clear that those provinces have been relatively successful in receiving these funds. As Córdoba has not accredited its Native Forest Land-use Plan, it is not eligible to receive funds from the National Fund for Native Forests Enrichment and Conservation.

The first outputs of the Forest Law indicate that provinces are interested in forest conservation projects. That means that, thus far, uncertainty about total funds available each year is not a crucial factor affecting Forest Law implementation. This is not consistent with Nakamura (1987), who highlighted that when the resources are viewed as unstable and unpredictable, stakeholders are likely to minimize their participation. Likely it is assumed that some “adjustments” will occur while the Forest Law is fully implemented, and the availability of a certain amount of funding is seen as a better scenario than the existing *status quo*.

There is a dearth of information regarding deforestation rates. For the province of Salta there is no public information available for deforestation rates after the Forest Law enactment; information provided by independent organizations shows high deforestation rates, especially for the current year. In the case of Santiago del Estero, there is public information available, but not easily achievable, or it is very general. For the Province of Córdoba, there is no public information available regarding pre- or post-Forest Law deforestation rates, and the partial information provided by an independent organization suggests that there has not been high deforestation between the middle of 2011 to mid-2012, though there was a deforestation peak in June of 2012 of approximately 3,200 hectares. The Forest Law totally forbids deforestation until the provinces developed their Native Forest Land-use Plan (Córdoba has yet to do this). Moreover, Córdoba maintains a law, enforced in 2005, that totally banned deforestation in private and public lands for 10 years. Hence, there is no compliance with prior legislation regarding forests and deforestation may even be increasing in anticipation of a National Supreme Court ruling regarding the validity of the Provincial Forest Law.

Salta and Santiago del Estero also lack of transparency regarding the use of public funds. So far both provinces have received large amounts of funds from the National Fund for Native Forests Enrichment and Conservation. 30% of these funds should go to the Authority of Enforcement of each jurisdiction and for institutional strengthening, for two items: 1) any activity for monitoring the implementation of the law and 2) programs to assist minorities who are exempted from the law. In light of the lack of information regarding deforestation and the insufficient actions for monitoring compliance with the legislation, it is worth asking how these funds are actually being spent.

Chapter 7: Conclusions and recommendations

This thesis set out to analyze the process of the development of provincial Native Forest Land-use Plans and its results under the Forest Law in the provinces of Salta, Santiago del Estero, and Córdoba, in the Argentinean Chaco Ecoregion. This objective was met by the analysis of the implementation of Forest Law in each province, and the characterization of the political, social, and economic context of each province and its relation with the Forest Law implementation.

A major finding is that the national Forest Law allows little discretion for its implementation through the Provincial Forest Laws. It contains clear and consistent objectives and criteria, and clear guidelines and framework for its implementation at sub-national levels, all of them mandatory. The problems related to its effective implementation are not related to the Forest Law itself, but to the inconsistency of Provincial Forest Laws with the national regulation, the degree to which Provincial Forest Laws reflect the participatory processes that originated them, and their control and monitoring.

Harrison & Sundstrom (2010), and Lundqvist (1974) argued that environmental policy development and implementation is difficult in a federal system, because its structure may interfere with the technical connection between federal and provincial governments. In this case there is no “interference” since the Forest Law only fixes minimum standards. The provinces decide whether to develop stricter legislation in their application of the national law. Hence, there is some flexibility in its implementation, but not a high degree of discretion. The Forest Law has a higher “rank” (is a superior law), which means no contradiction with past and current forests legislation.

The analyzed provinces have different structures for the Forest Law implementation, and their effectiveness is related to the continuity of their orientation over time, their internal administrative procedures, and the absence of external forces slowing down officials’ performance. Currently, administrative and bureaucratic procedures are working against Forest Law implementation. There is a lack of capacity among implementing institutions to make the necessary adjustments in order to administer this new law; weak control and monitoring of forest legislation in the three analyzed provinces is a common issue. Despite the fact that Santiago del Estero and Salta provinces have received important amounts of funds for control and monitoring, the actions oriented to these are insufficient and ineffective. The Province of Córdoba also shows the same problem. It has not yet implemented the Forest Law, but had

already banned deforestation, another mandate that went unfulfilled due to the same weak control and monitoring. Hence, control and monitoring actions are determined by available resources in combination with the capacity for their effective management and political decisions.

The political environment and dynamics vary among in the analyzed provinces. Each one has a story that determines their current characteristics. Illegality, lack of transparency, and corruption are common issues among the studied provinces.

Sub-national governments play the most relevant role when implementing the Forest Law, since the executive and legislative branches have high veto and decision-making power. In the situation of the Province of Salta, both branches have intervened, greatly modifying the original bill. In Córdoba province, both have ignored the participatory process that is mandatory, according to the Forest Law, and completely replaced the original proposal. In this regard, the influence of powerful groups on political decisions is a commonality in two of the analyzed provinces. In these jurisdictions, the agribusinesses are a major factor, since they are very important for the local economy. Some important legislators of the provincial legislatures are also big agroindustrial actors. Hence, there is an evident conflict of interest when they legislate regarding forests, which are seen as an obstacle for agricultural endeavours. In the provinces of Salta and Córdoba, legislators from agribusiness sectors (understood as political groups) and also the agribusiness sector lobbying (understood as economic groups' pressure) worked against the participatory processes that originated the Provincial Forest Laws. The Province of Santiago del Estero has not shown great influence from political groups on the development of the Provincial Law. In this case, the economic groups' pressure is observed in the breach of the Provincial Forest Law through high illegal deforestation rates, which can also be observed in the Province of Salta and, to a lesser extent, in Córdoba (based on the limited available information about deforestation rates).

In regards to the first concrete outputs of the Forest Law at the sub-national level, it has been implemented in two of the three analyzed provinces, and in 19 of the 24 provinces that make up the country. But only two provinces (Salta and Santiago del Estero) met the deadlines established by the national regulation. Hence, some points of the Forest Law could not be applied, owing to the current reality. After almost 5 years from the Forest Law enactment, there are still conflicts regarding its enforcement at the sub-national level. In light of the events it is unlikely that all the jurisdictions are capable of regularly updating the Native Forests Land-use Plan within their territories, at least at the first stage, as required by the Forest Law.

The instability and uncertainty associated with the availability of funds for native forests enrichment and conservation has not discouraged applications of conservation projects to the Forest Law's funds. Nevertheless, there are a growing number of projects funded by the Forest Law, so it is likely that funds availability will become an issue, beyond the claim of environmental and political individuals or groups.

The Forest Law is not a solution in itself for protecting forests against deforestation, nor is previous legislation in the provinces. All the analyzed provinces already had regulations that protected forests, even regulations that totally forbade land-use changes; nevertheless, illegal deforestation continues to occur. Hence, it is not just a matter of developing more rules to achieve effective forest protection; it is also a matter of compliance with the current legislation. An important characteristic of the Forest Law is that it considers 30% of the Fund for Native Forest Enrichment and Conservation for, among other things, monitoring the implementation of the Law. So far, the effects of this high increase in resources have not been seen due to a lack of transparency and the likely inappropriate administration of these funds. Nevertheless, it poses the opportunity for real and effective control and monitoring. This portion of the funding could be an important contributing factor explaining why the Law's implementation has been so controversial in some provinces.

The development of new or better legislation will not be effective if corruption and illegal activity persist. If transparency in the administration of public funds, especially by public agencies increases, the civil society will be able to better control the performance of institutions and officials. According to how the Forest Law originated there is enough evidence to state that social pressures at national and sub-national level can be effective making legislative, judicial, and executive branches perform in favour of forest conservation.

There is a necessity of improving the amount, quality and access to information regarding deforestation in order to make the impacts of the Forest Law traceable. There is also a necessity of improving the amount, quality and access to information regarding Forest Law administration and the spending of public funds, in order to foster social control. Hence, society should pressure (as it is doing for the availability of the total amount of funds from the Forest Law) for systematized, comparable, trustworthy, continuously updated, and easily accessible information regarding deforestation rates, public agencies income and expenditures, and actions and results of monitoring. To achieve this there are a variety tools that could be utilized: different types of campaigns, media coverage, lobbying, sending letters to the congress and the like. In addition, there are also legal actions that could be undertaken, such as intervention of

the Supreme Courts of Justice, and the use of the national Law 25.831 of free access to public environmental information, which applies to the whole Argentinean territory.

It is also necessary to have better coordination among provinces and the city of Buenos Aires for the creation and delivery of information, and also for coordinated monitoring actions. The Environmental Federal Council - COFEMA has this function, among other things. Adjustments of its capacities and priorities are likely required.

Finally, there is a necessity of to create and strengthen alliances between public and private organizations, with regards to control and monitoring. There are several independent organizations that are continuously providing data about deforestation, but the use of different methodologies among them, and between them and the government, makes it hard to develop precise figures. Their actions have been crucial to establishing “the forest issue” on the public agenda, and these alliances have also triggered meaningful changes around them.

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Appendix A Native Forests Land-use Plan of the Province of Córdoba



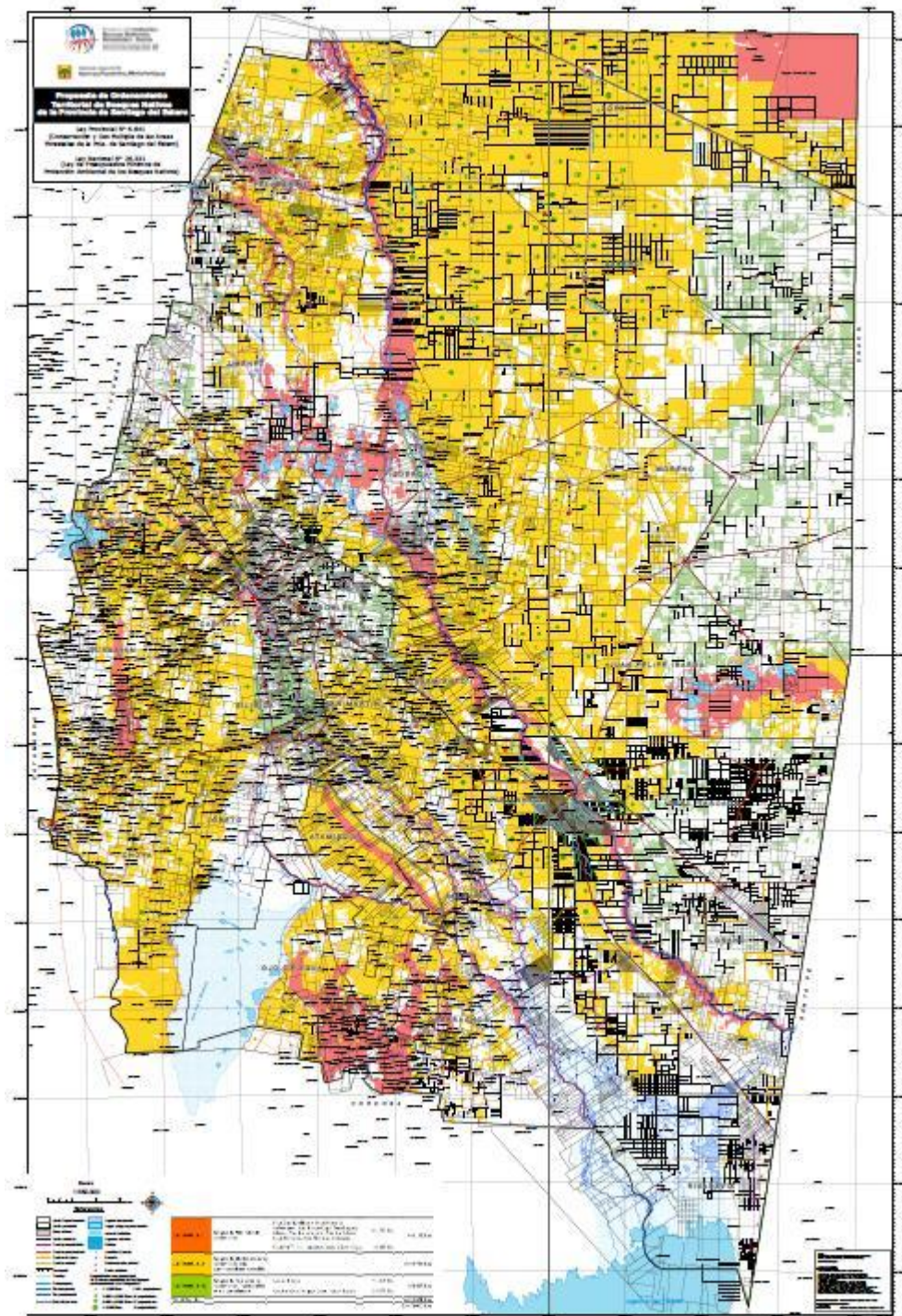
108

Appendix B: Native Forests Land-use Plan of the Province of Santiago del Estero (details and map)



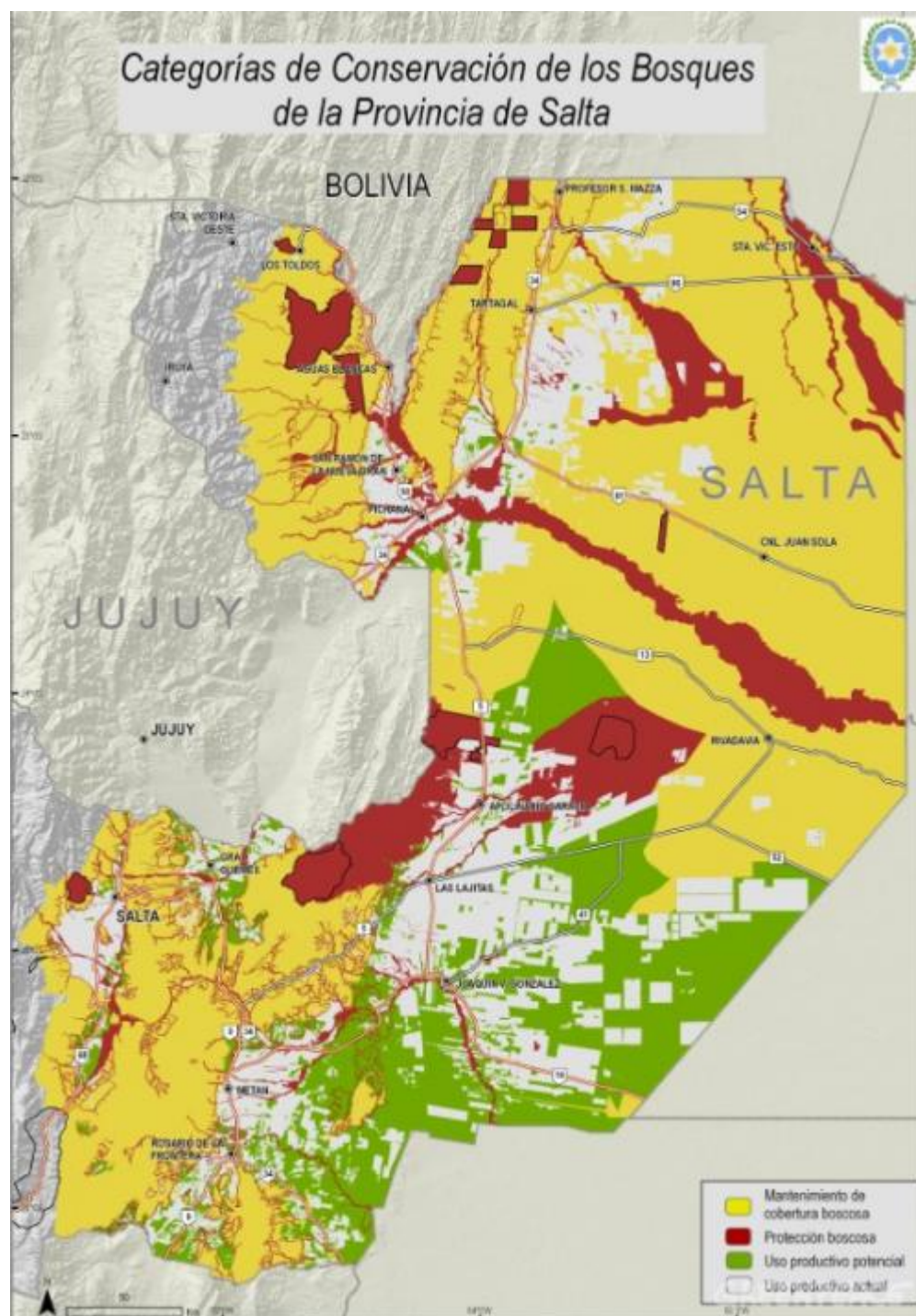
Categoría I	Bosques de Alto valor de conservación	Zona Emb. Río Hondo, Sierras de Ambasrgasta, Zona Parque Copo, Zona Lagunas Saladas, Zona Río Albisgasta, Zona Río Salado, Zona Río Dulce, Zona Sierras de Guasayán.	861.727 Has.	1.046.172 Has.
		Zonas buffer ríos, Lagunas saladas, salinas y lagos	184.445 Has.	
Categoría II	Bosques de Mediano valor de conservación para aprovechamiento sostenible			5.645.784 Has.
Categoría III	Bosques de Bajo valor de conservación transformable total o parcialmente	Área de Bosque	741.818 Has.	
		Área transformable para producción de forraje	210.675 Has.	952.493 Has.
No Bosque				6.026.551 Has.
				13.671.000 Has.

Native Forests Land-use Plan of the Province of Santiago del Estero



Source: Legislatura de la Provincia de Santiago del Estero (2008).

Appendix C: Native Forests Land-use Plan of the Province of Salta



Source: Legislatura de la Provincia de Salta (2008).