

In the Fight to Stop Climate Change, Forests Are a Vital Weapon*

*En la lucha contra el cambio climático,
los bosques son un arma importante*

Aleksandar Stanisavljevic
Egresado de Derecho de la
Universidad de Berna
alexios@gmx.ch

*Quien no conoce el bosque chileno
No conoce este plantea¹.*
Pablo Neruda

ABSTRACT

Forests are an important ally in the fight to stop climate change. Prominently, this point of view is reflected by the recently concluded Paris Agreement. But how does the legal reality of states match this claim? A comparative review of Swiss and Chilean legislative framework aims at providing some clarification².

Key words: Forest Law; Climate Change; Paris Agreement; Switzerland; Chile.

* Este artículo fue elaborado durante mi pasantía en FIMA ente los meses de octubre 2015 y abril 2016.

1 Pablo Neruda, Confieso que he vivido (fragmento). I incidentally came across Neruda's quote and instantly vowed by its force, I decided to use it as a motto to my article. Everyone who did ever enter and experience the Chilean forest will forgive the large portion of national pride embedded in the quote.

2 The narrow and somewhat strange focus on Switzerland and Chile – there are certainly countries of major importance in the fight against climate change – is due to my Swiss nationality and my familiarity with Swiss law and because of my internship with a Chilean NGO. Furthermore, I think that the Swiss legislator enacted a forest law with exemplary character, which could set the forest law standard. At an early stage the legislator recognised the ecological significance of forests and promoted their optimal protection. Yet, there are more reasons justifying a comparison with Swiss legislation. Swiss environmental legislation is (has been) applied subsidiary in Chilean territory. For further information see also: WOESSNER, Bárbara y LILLO, Diego, "Normas suizas de protección ambiental y su aplicación en Chile", Justicia Ambiental, Mayo 2009, N°1, p. 60. Note, the article is not aimed at providing an answer against the background of legal frameworks worldwide but concentrates deliberately on the two countries.

RESUMEN

Los bosques constituyen un gran aliado en la lucha contra el cambio climático, opinión que ha sido confirmada en el reciente Acuerdo de París. Pero, ¿cómo es la realidad jurídica estatal de esta demanda? Un análisis comparativo entre las leyes de bosques suiza y chilena nos brindará más claridad al respecto.

Después de que el proceso de industrialización provocó una disminución de los bosques, en 1876 la legislación suiza estableció una prohibición de su tala. Dicha legislación hoy en día es considerada como un acto pionero y constituye el núcleo central de la ley suiza de bosques.

La Constitución exige que la superficie forestal no sea disminuida, considerando como tal cada superficie que cuente con árboles donde se puedan realizar actividades relacionadas al bosque (funciones de protección, explotación y bienestar). De acuerdo con esta definición, en cualquier lugar y en cualquier momento, una nueva superficie forestal puede nacer. Por tanto, se dice que la legislación suiza incorpora una definición dinámica de la superficie forestal.

La industria maderera es un empleador importante y sus ingresos ascienden a 6 billones de euros anuales. Una peculiaridad suiza es que su industria maderera incorpora plenamente los conceptos de preservación y cuidado del bosque. Como se prohíbe la tala de bosque por la explotación de éste, la industria forestal evolucionó casi como subproducto del mantenimiento de bosques. Junto con el Estado, sus niveles federales y los propietarios, la industria forestal contribuye esencialmente al desarrollo sostenible de los bosques.

En comparación con la legislación suiza, la legislación chilena tiene un ejército de normas y reglamentos. Por eso es considerada compleja y de difícil comprensión. El legislador chileno oscila entre objetivos económicos y ecológicos sin promover clara ni sustancialmente la protección de los bosques. Es más, tímidos intentos por mejorar la conservación forestal fueron neutralizados por acciones económicas desarrolladas paralelamente.

En las primeras versiones de la legislación chilena sobre conservación forestal, los puntos centrales fueron la protección del suelo y de las aguas. Posteriormente, la conservación forestal ha pasado a ser la prioridad de los legisladores, por lo tanto, los impulsos introducidos recientemente por la Ley N° 20.283 sobre recuperación

del bosque nativo y forestal deben ser vistos con buenos ojos. Pero la nueva ley se intimida al momento de garantizar una protección forestal efectiva.

Hoy por hoy, el bosque chileno solo tiene una protección parcial. A modo de ejemplo, sólo especies individuales de árboles están protegidas. La tala de bosques es permitida, así como también la sustitución de bosque nativo. La ley posee muchos vacíos regulatorios, por lo que se puede decir que aún no se ha eliminado el peligro para el patrimonio natural de Chile.

En conclusión, pareciera ser que el bosque suizo está en un mejor punto de partida para poder cumplir con las exigencias generadas por el cambio climático.

Palabras clave: Ley Forestal; Cambio Climático; Acuerdo de París; Suiza; Chile.

PROLOGUE

At the 21st United Nations Climate Change Conference in Paris and following longstanding and difficult negotiations, an agreement was adopted on 12 December 2015. The agreement sets out a global action plan to put the world on track to avoid dangerous climate change by limiting global warming to well below 2°C. On 22 April 2016, a high-level signature ceremony was held at the UN headquarters in New York. A total of 175 countries (among which were also Switzerland and Chile) have put their signature on the document. Following the Friday event, the period for signatures will remain open for one year, so that all parties can sign to validate the Paris Agreement and to ratify it. Article 21 Paris Agreement states that the Agreement shall enter into force on the thirtieth day after the date on which at least 55 Parties to the Convention accounting in total for at least an estimated 55 percent of the total global greenhouse gas emissions have deposited their instruments of ratification, acceptance, approval or accession. It is estimated that this process will be completed by the end of 2017³.

In limiting global warming to well below 2°C forests play a vital role⁴. States are willing to strengthen the functions of forests as CO₂ sinks and to lower carbon emissions resulting from deforestation. Conservation and expansion of forests shall be promoted. For this purpose countries have declared their willingness to mobilise huge financial resources.

In the context of the REDD+ program Germany, Norway and the United Kingdom announced to place at the disposal one billion US \$ per annum as of 2020 and five billion US \$ in total for the period between 2015 – 2020⁵.

However, it should not be forgotten that forests also are worthy of protection in itself and not only in their role as vital weapon against global warming. Forests

3 SRF <<http://www.srf.ch/news/international/historischer-moment-klima-abkommen-unterzeichnet>> (Consulta: 26 de abril de 2016) [En línea].

4 UNFCCC, *Paris Agreement*, Articles 4 (1) and 5 [en línea] <<http://unfccc.int/resource/docs/2015/cop21/eng/l09r01.pdf>> (Consulta: 6 de mayo de 2016).

5 Deforestation is the second leading contributor of carbon emissions worldwide. It is responsible for about 12% of total greenhouse gas emissions. This amounts to an equivalent of 4.3 – 5.5 gigatonnes of CO₂ emissions. In the tropics alone 13 million ha of forest area are deforested per year. In developing countries deforestation causes as much CO₂ emissions as the transport sector, including air traffic. REDD+ (Reductions of Emission from Deforestation and Forest Degradation) program offers an approach to find a solution to this serious issue. The drafting and implementation of the REDD+ program takes place under the auspices of the United Nations Framework Convention on Climate Change (UNFCCC), [en línea] <<http://www.bafu.admin.ch/wald/01152/01169/11759/index.html?lang=de>> (Consulta : 05 de mayo de 2016)

render crucial services on a regional, national and global level. They clean our air, filter our drinking water, protect us from natural hazards, are habitats of animals and plants, supply us with wood and invite us for recreation and relaxation.

But are our forests in a position to cope with this task? That is why we take a closer look at the forest legislations of Switzerland and Chile. What importance is given to forests is best expressed in a country's legal regulations. To answer the main question, it is assumed that out of a sound forest protection follows the forest's potential aid to fight climate change.

The article is divided in four sections. The first one deals with the relation between forest and CO₂ and provides an answer to why forests are so important to climate policy. It is followed by a presentation of the relevant Swiss legal framework. The third section is concerned with the Chilean legal framework. Last but not least, a conclusion is drawn.

I. Forest and CO₂

Ecosystems such as forests, meadows, soils, bogs, lakes or oceans extract CO₂ from the atmosphere and store the carbon as biomass or bind it in the soil or the water. Thus, they play an important role in building up carbon stocks (carbon capture and storage). They contribute in safeguarding a positive greenhouse gas balance, as well as, in the fulfilment of the climate commitments. Their relevance in relation to climate policy cannot be overestimated.

In particular, forest trees resorb huge amounts of carbon during their growth. In fact, the greatest carbon reservoirs in the forest are the soils – the humus contains between 110 and 150 tons of carbon per hectare. In brief, the forest plays a central role in the global carbon cycle⁶.

I.I. Political Dynamite

What role CO₂ sinks will play exactly within the framework of the recently concluded Paris Agreement is yet to be determined. But it is clear, that the strategy of meeting the reduction targets by invoking not only reductions of emissions,

6 Forest and timber <<http://www.bafu.admin.ch/wald/01198/01209/01210/index.html?lang=de>> (Consulta: 21 de abril de 2016) [En línea]

but also the capture and storage of carbon from the atmosphere in terrestrial ecosystems as laid down by the Kyoto Protocol still holds.

It appears to be problematical, that by taking sinks into account, effective climate protection measures could be delayed, if the time is not used to put through measures designed to reduce emissions from the use of fossil fuels. Each ton of carbon extracted from the atmosphere potentially reduces the need on emission reduction. Therefore, this creates a situation of political dynamite. Sinks can replace the reduction of the use of fossil fuels, meaning politics does not concentrate on reducing the world's dependence on fossil fuels⁷. In general terms, it can be said, that the promotion of CO₂ sinks can generate a conflict of goals in light of an intended decarbonised economy.

A low-carbon economy as such is not mentioned in the Paris Agreement. But article 4 (1) Agreement speaks of undertaking rapid reductions of greenhouse gas emissions once the global peaking is reached, so as to achieve balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century.

This means that greenhouse gas emissions between 2050 and 2100 shall fall to zero net. This cannot be done solely by promoting sinks and without reducing the use of fossil fuels. So, with a little of imagination, one can acknowledge that a targeted low-carbon economy is at least implicitly present in the Agreement. However, if it would have been explicitly incorporated into the Agreement, it would have been a powerful message that the age of fossil fuels has definitely reached its end.

II. Forests in the Swiss Confederation

II.1. Facts and Figures

Nowadays, about one third of the national territory is covered with forests (1.3 million hectares). 70% thereof are in public domain and 30% are privately owned⁸.

7 FISCHLIN, A. & FUHRER, J., „Die Klimapolitik bringt die Wissenschaft an ihre Grenzen – die Herausforderung des Kyoto-Protokolls für die Ökologie“, *Neue Zürcher Zeitung* (NZZ), November 2000, Nr. 262, Seite 11. [en línea] <http://www.sysecol2.ethz.ch/publications/pdfs/NZZ_Nov_2000/HauptArtikel.html> [consulta: 29 de abril de 2016]

8 What are CO₂ sinks <<http://www.bafu.admin.ch/wald/01198/01199/index.html?lang=de>> (Consulta: 21 de abril de 2016) [En línea]

Back in the 19th century, huge forest areas were lost due to excessive use by growing industries. Having been cut down to 0.6 million hectares, the Swiss forest area reached its trough by the middle of the 19th century. Entire hillsides and whole landscapes were cleared in order to enlarge agricultural areas and for the use as fuel, charcoal or construction timber. This invasion of nature, led to environmental problems and natural disasters, such as floodings, landslides, erosion, rockfalls etc. These events placed the political authorities under intense pressure, and put decision makers in a tight spot. In 1876, the legislator answered with the enactment of the first Swiss Forest Act. The law's core content was a general ban on clearcutting. In Swiss legal history, it is usually described as a pioneering act. The forest area has recovered since then⁹. In our days, the forest area is expanding whereby forest ingrowth is primarily observed on no longer used farm land. Between 2006 und 2013 a total ingrowth of 2% has been registered¹⁰.

II.II. Legal Basis

The maintenance and protection of the three main functions of the forest, them being a protective, a commercial and a public amenity function, are constitutional duties (Article 77 (1) Federal Constitution (FC)¹¹). Article 77 (2) stipulates that the Confederation shall lay down principles on the protection of forest¹². The responsibility for implementing these provisions lies with the cantons (Swiss administrative federalism).

The following excerpts accentuate some aspects of Swiss forest regime. Of main interest are the Federal Act on Forest¹³ (FAF) and the Ordinance on Forest¹⁴ (OF).

9 Región, SUR SELVA, Naturführer <<http://www.regiun.ch/index.php?id=32>> [En línea] (Consulta: 3 de mayo de 2016).

10 Wald und Holz: Das Wich Tigste in Kürze<<http://www.bafu.admin.ch/wald/15225/index.html?lang=de>>[En línea] (Consulta: 3 de mayo de 2016).

11 FEDERAL CONSTITUTION OF THE SWISS CONFEDERATION (FC), 18 April 1999, SR-Nr. 101. [en línea] <<https://www.admin.ch/opc/en/classified-compilation/19995395/index.html>> (Consulta: 8 de agosto de 2016)

12 FC, Art. 77 (1), Ibid. The Confederation shall ensure that the forests are able to fulfil their protective, commercial and public amenity functions. (2) It shall lay down principles on the protection of the forests.

13 FEDERAL ACT OF FOREST (FAF), 4 October 1991, SR-Nr. 921, [en línea] <<https://www.admin.ch/opc/en/classified-compilation/19910255/index.html>> (Consulta: 8 de Agosto de 2016).

14 ORDINANCE ON FOREST, 30 November 1992, SR-Nr. 921.01, [en línea] <<https://www.admin.ch/opc/en/classified-compilation/19920310/index.html>> (Consulta: 8 de Agosto de 2016).

II.II.I. Dynamic Definition of Forest and its Qualitative Approach

Article 2, FAF defines forest as any area that is covered with forest trees or forest shrubs and can fulfil forest functions. Origin, type of use and land registry designation are not decisive¹⁵.

The legal definition is based on a qualitative conception of what constitutes a forest. What is decisive is the type of vegetation and the fulfilment of forest functions. Quantitative criteria such as area, width and age of land cover, which the cantons may determine within the framework defined by the Federal Council, are merely of a subsidiary importance. If certain thresholds are reached, it is expected for a wood area to count as forest without invoking any further detailed investigation on its forest quality.

Because of its legal definition forest area cannot be laid down spatially once and for all. Rather, a forest area might emerge everywhere and at any time, if the necessary requirements are met and if the owner did not exhaust all possible measures, which he can reasonably be expected to undergo from preventing an area to turn into woodland. As a result, the Swiss forest regime incorporates a dynamic definition of forest¹⁶.

Any area, regardless of its surface, is regarded as forest if it can fulfil forest functions. By the way, it is sufficient that an area fulfils just one single function out of several possible ones. Aside from establishing room for recreation, the public amenity function includes further interests, namely of immission control, water conservation, landscape and nature conservation.

Although the law focuses on protecting the forest as a near-natural community, as stipulated in Article 1 (1b) FAF, the type of forest vegetation it is not decisive for an area to be qualified as forest. The criteria of forest trees and

15 FAF, Art. 2 (1), Op. Cit. (13). Forest is defined as any area that is covered with forest trees or forest shrubs and can fulfil forest functions. Origin, type of use and land registry designation are not decisive. (4) Within the framework defined by the Federal Council, the cantons may determine the width, area and age, from which an area newly colonized by forest shall be defined as forest, and the width and area from which other wooded areas shall be defined as forest. If the wooded area fulfils social or protective functions, in particular, the cantonal criteria are not definitive.

16 HERIBERT RAUSCH, ARNOLD MARTI, ALAIN GRIFFEL, *Umweltrecht – Ein Lehrbuch*, Schulthess Juristische Medien AG,, Rz. 439. [en línea] <https://webvpn.unibe.ch/Doc/ShowDocView/,DanalInfo=swisslex.ch,SSL+d9e4a0c1-47e9-45ed-aae5-cfb1d50d1e91?SP=3%7Czqcxhp&source=book-toc-document-link&edocTitleGuid=2c5d9597-aea3-4ef2-b85c-1564c7663593&ignoreAssetState=False#edoctitle_2c5d9597-aea3-4ef2-b85c-1564c7663593> (Consulta: 21 de abril de 2016).

forest shrubs as set down in 2 (1) FAF include several types of vegetation, be they of artificial or natural growth or even foreign or alien plants. Only pure decorative trees, park trees or ornamental plants may not constitute forest. Moreover, 2 (3) FAF tells us, that isolated groups of trees and shrubs, hedges, avenues, gardens, planted areas, parks and tree plantations established on open ground for short-term use and trees and bushes on check dams and in the immediate foreground of such installations are not defined as forest. On the other side, the forest definition embraces special types of forests, such as alluvial forests and riparian woodland¹⁷.

II.II.II. Quantitative Requirements

Within the framework defined by the Federal Council, the cantons may determine the width, area and age, from which an area newly colonised by forest shall be defined as forest, and the width and area from which other wooded areas shall be defined as forest. If the wooded area fulfils social or protective functions, in particular, the cantonal criteria are not definitive (Article 2 (4) FAF). Following Article 1 (1) OF the parameters shall be defined by the cantons within the ranges:

- a. Area, including an appropriate forest margin: 200-800 m²;
- b. Width, including an appropriate forest margin: 10-12 m;
- c. Age of stands in newly colonised areas: 10-20 years.

In their implementation provisions and in applying their margin of discretion, the cantons have to differentiate on the basis of regional and climatological parameters¹⁸. Pursuant to decisions of the Swiss Federal Court, wooded areas from 500 m² upwards regularly fulfil forest functions and are considered as forests within the meaning of the law. Anyhow, there is the legal reservation of Article 1 (2) OF (in conjunction with Article 2 (4) FAF), that if the stand fulfils particularly important social or protective functions, it is defined as forest, irrespective of its area, its width or its age.

¹⁷ FAF, Art. 2 (2), Op. Cit. (13). Also defined as forest are: a. grazing forests, wooded pastures and chestnut and walnut groves; b. unstocked or unproductive areas of a forest plot, such as clearings, forest roads and other forest structures and installations; c. plots subject to compulsory afforestation. Art. 2 (3) FAF Isolated groups of trees and shrubs, hedges, avenues, gardens, planted areas and parks, tree plantations established on open ground for short-term use and trees and bushes on check dams and in the immediate foreground of such installations are not defined as forest.

¹⁸ RAUSCH, Heribert ET. AL., Op. Cit.(16), Rz. 444.

II.II.III. Principle of Forest Conservation

One of the major objectives of the FAF is defined as the conservation of the forest in its surface and spatial distribution. That is why the forest area should not be reduced¹⁹. Article 5 (1) FAF states explicitly that deforestation is prohibited. As a consequence, deforestation is only permitted in exceptional cases. In order for such permissions to guard their exceptional character, the law sets up a very high barrier (more details below)²⁰.

The general ban on deforestation constitutes an ownership restriction. However, the rejection of a requested deforestation permit does not result in compensations²¹.

Deforestation is defined as the permanent or temporary change of use of forest land (4 (1) FAF)²². Uses that do not constitute deforestation as defined in Article 4, but which endanger or interfere with the functions or management of the forest are unlawful. The cantons may authorise such uses for important reasons (16 (1, 2) FAF)²³.

Clearing forest without authorisation is punishable as an offence (Article 42 (1a) FAF). Article 43 (1e) FAF even states, that any person who wilfully and without authorisation fells individual trees in the forest, shall be liable to a monetary penalty not exceeding 20000 Swiss francs. Moreover, there is an obligation to engage in reforestation or replacement afforestation.

19 FAF, Art. 3, Op. Cit. (13). Forest area should not be reduced.

20 FAF, Art. 5 (1), Ibid. Deforestation is prohibited. (2) In exceptional cases a deforestation permit may be granted if the applicant proves that there are important reasons for the deforestation that outweigh the interest of forest conservation and, furthermore, the following conditions are fulfilled: a. the proposed site must be essential to the works, for which the deforestation is to be carried out; b. the works must essentially fulfil the spatial planning requirements; c. the deforestation does cause any serious threat to the environment. (3) Important reasons do not include financial interests, such as the potentially profitable use of the land or the low-cost acquisition of land for non-forestry purposes. (4) The protection of nature and cultural heritage must be taken into account. (5) A time limit shall be set for deforestation permits.

21 Swiss law differs between the classic formal expropriation, the material expropriation and the expropriation without compensation. The last type especially pursues public interest issues, for example the prevention of threats to public security. Therefore, ownership rights limited by the FAF are not compensated.

22 FAF, Art. 4, Op. Cit. (13). Deforestation is the permanent or temporary change of use of forest land.

23 FAF, Art. 16 (1), Ibid. Uses that do not constitute deforestation as defined in Article 4, but which endanger or interfere with the functions or management of the forest are unlawful. Rights of use in such cases shall be revoked, if necessary by compulsory purchase. The cantons shall enact the necessary provisions. (2) The cantons may authorize such uses for important reasons subject to certain conditions and requirements.

II.II.IV. Deforestation Permit

In exceptional cases a deforestation permit may be granted if the applicant proves that there are important reasons for the deforestation that outweigh the interest of forest conservation, whereby the actual forest condition has no role whatsoever in the balancing of interests. Important reasons do not include financial interests, such as the potentially profitable use of the land or the low-cost acquisition of land for non-forestry purposes (see 5 FAF). Furthermore, the following conditions must be fulfilled:

- a. The proposed site must be essential to the works, for which the deforestation is to be carried out;
- b. The works must essentially fulfil the spatial planning requirements;
- c. The deforestation does not cause any serious threat to the environment.

Last but not least the protection of nature and cultural heritage must be taken into account. Finally, for all deforestation, compensation in kind must be provided in the same region and with species that are predominantly suited to the location²⁴.

Deforestation permits in an overall volume of 170 hectares have been granted in 2012. Two thirds were attributable to corrections of water tables, cables, energy and transport. Deforestations for the purpose of the extraction of raw materials are only of marginal importance²⁵.

II.II.V. Forest Policy

For the purpose of harvesting trees, clearing is not allowed. The wood industry is funded on a sustainable forest management. To put it in an exaggerated nutshell: Sustainable forest management practices promote as a by-product the wood-based industries. Every single tree that shall be felled is previously marked. The selection follows criteria of forest rejuvenation, regeneration and hazard protection.

²⁴ HERIBERT RAUSCH, ET. AL., Op. Cit.(18), Rz. 454/455.

²⁵ Total deforestation statistics 2012. [en línea] <<http://www.bafu.admin.ch/wald/01170/01191/index.html?lang=de>> (Consulta: 26 de abril de 2016).

In 2014 the wood based industries had around 100000 employees and generated a gross value added of 6 billion Swiss francs²⁶.

The Swiss Confederation's Forest Policy 2020 formulates provisions for the optimal coordination of the ecological, economic and social demands on the forest. It ensures sustainable forest management and creates favourable conditions for an efficient and innovative forestry and wood industry. The primary responsibility lies with the federal authorities, however the role of the cantons and other actors (especially forest owners) is not to be underestimated. Close cooperation is practised in relation to other policy and economic sectors. On an international level, Switzerland engages actively in addressing transnational problems.

II.II.VI. Swiss Administrative Federalism²⁷

A Swiss particularity lies in the fact that the federal state does not dispose of an army of officials being occupied and tied up with the implementation of federal law in the cantons.

A significant part of the federal law is being implemented through the federal units itself, the cantons. The federal state depends on the cantons for the implementation of its federal law. This is not seen as a mere administrative act but as crucial element in shaping the relations between the two state levels²⁸.

Proper collaboration and only minimal obstructionism on part of the cantons is practiced in areas where cantonal and federal interests coincide. High problem pressure in many cantons concerning the forest sector leads to high rates of proper implementation of federal law and political acceptance. However, this does not mean the implementation is done in a homogenous way, which is a welcome phenomenon. A variable implementation allows to take into consideration variable climatic realities and stresses local expertise and proximity to citizens. For

26 [En línea] <<http://folio.nzz.ch/2014/august/im-zahlenwald>> (Consulta: 4 de mayo de 2016).

27 Justicia Ambiental Mayo 2009 N°1, Normas suizas de protección ambiental y su aplicación en Chile" de Barbara Woessner y Diego Lillo Goeffreri, p. 60 ff.

28 The Swiss Confederation has developed in a bottom-up fashion. The cantons enjoyed full sovereignty before uniting into a federal state in 1848. During the formation process the cantons ceded some sovereign rights only to the newly formed state and reserved others. This fact is still expressed in the constitution. For the federal state to gain a new task and to establish new areas of responsibility it is necessary to seek authorization by the constitution and approval of the cantons. A task which is not explicitly assigned to the federal state lies automatically within the sovereignty of the cantons. Therefore, "jurisdiction over jurisdiction" lies within the cantons.

example, in the cantons of the alpine region forest management is practised under different conditions as it is in the cantons of the midlands.

Having in mind the wide cantonal margin in respect to the implementation of federal law, the federal supervision provides the necessary corrective thereto. It enables the federal government to ensure that the tasks imposed on the cantons by federal statute are fulfilled and that the implementation of federal law does actually occur.

Forest management is a joint task and a shared responsibility of the Confederation and the cantons. In important parts the FAF contains directly applicable federal law, such as the definition of forest, ban on deforestation and pedestrian and vehicular access to the forest. Substantive cantonal legislation in the aforementioned sectors is not accepted at all or is assigned to them only on the basis of mandatory legislation instructions.

Large scope for autonomous cantonal legislation exists, in particular, in establishing the principles for the forest management “on the ground”. All cantonal laws on forest management have in common that they oblige above all forest owners, i.e. private persons as well as communities. A sovereign forest office with foresters coordinates and ensures the implementation. State and private forest holdings guarantee in collaboration with the forest owners a sustainable forest management.

II.II.VII. Differences to EU policy

Swiss national forest policy particularly aims at promoting the different forest functions. The wood based industries act as a service function to that goal, they are just a means of safeguarding the protective, productive and welfare function.

Because of lack of legal basis there is no forest policy as such in the EU. Rather, EU forest policy is part of the stimulus package “Rural Development Policy”. EU policy primarily aims at regional and rural development. It concentrates on economic aspects and is therefore an economic development measure²⁹.

29 BASLER UND HOFFMANN, Kurzstudie Förstliche Förderung in der EU im Auftrag (damals noch), BUWAL, 2004, 7.4. [en línea] <http://webcache.googleusercontent.com/search?q=cache:2R1ktTpiNRcj:www.bafu.admin.ch/wald/01152/01169/01876/index.html%3Fflang%3Den%26download%3DNHzLpZeg7t,lnp6iONTU042lZ26ln1ad1Izn4Z2qZpnO2YUq2Z26gpjCDeXt5fGym162epYbg2c_jJKbNoKS6A--&cd=1&hl=de&ct=clnk&gl=ch> (Consulta: 4 de mayo de 2016).

III. Forests in Chile – caught (sacrificed?) in the conflict between financial and ecological objectives

III.I. Facts and Figures

In Chile, 17.3 million hectares are covered with forest, which is equal to a fifth of its territory. Out of the total forest area, native forest counts for 80% or 14.2 million hectares. The rest consists of plantations. A Chilean particularity is the geographical distribution of its forests. The major part is located in the south of the country: the tree districts of Aysén, Los Lagos and Magallanes host 75% of the native forest. The ownership is equally divided between the state and private owners³⁰.

The crossing of the river Bío-Bío in the 19th century (colonisation), extensive farming, mining industries (firewood for producing saltpetre) as well as the beginnings of the wood industries caused a disappearance of the forest. For a long time, the forest was predominately regarded as a means promoting economic development only. By and by this position changed. Some tentative indications are to be found in the Decreto Ley 4.363 of 1931 which promotes conservation and protection of soils and water. The foundation of the “Comite pro Defensa de la Flora y Fauna (CODEF)” in 1968 can be regarded as a visible testimony to the changing position. However, with the military takeover in 1973 environmental and forest protection issues received a severe blow. Under the “Chicago-Boys” a neoliberal strategy fixed on unconditional economic growth was adopted and left no room for considerations of environmental issues. The wood based industries were regarded as a key factor to the country’s consolidation and development and so forest policy essentially became industrial policy.

Although the newest law, Law N° 20.283 on “Native Forest Recovery and Forestry Development”, dedicates more space to protection issues, it manoeuvres between financial and ecological objectives and finally fails to prioritise protection issues³¹.

30 MINISTERIO DEL MEDIO AMBIENTE, División de Recursos Naturales Renovables y Biodiversidad, Las Áreas Protegidas de Chile, 2011. [en línea] <http://www.mma.gob.cl/1304/articles-50613_pdf.pdf (29.04.2016); CONAF: <http://www.conaf.cl/nuestros-bosques/bosques-en-chile/> (Consulta : 5 de mayo de 2016).

31 MORENO DEL VALLE, Felipe Antonio, Análisis Histórico-Jurídico de la Regulación del Bosque Nativo en Chile: Orientaciones y Finalidades en la Ley 20.283, Memoria para optar al Grado de licenciado en ciencias jurídicas y sociales, Santiago: Universidad de Chile, 2015, p. 26 ff., [en línea] <<http://repositorio.uchile.cl/bitstream/handle/2250/130039/An%C3%A1lisis-hist%C3%B3rico-jur%C3%ADdico-de-la-regulaci%C3%B3n-del-bosque-nativo-en-Chile.pdf?sequence=1>> (Consulta: 5 de agosto de 2016).

III.II. Legal and Institutional Framework

III.II.I. Los árboles no dejan ver el bosque

First and to put it mildly, I showed difficulty in getting an overview of the relevant legal issues concerning forest. In my opinion, an almost impenetrable and uncontrolled growth of legal norms prevails. To put it in Spanish “Los árboles no dejan ver el bosque”.

In the recent history of Chile, different legal norms have directly or indirectly related to the protection of forests. The first legal norm pertinent to the forest sector with continued relevance to date is Forest Law established by Supreme Decree 4.363 of 1931³². The most significant attribute of this law was the incorporation of prohibitions which are still applied today, which prevents the cutting of native trees and shrubs close to springs or on terrain with an inclination of more than 45%³³.

The second legal norm relevant for the forest sector, is the Decree-Law 701 on Forest Promotion³⁴. It was promulgated in 1974, starting a forestry policy supported on the two main pillars of incentive for forestation and the protection of the forest resources³⁵.

In 1994, Law 19.300³⁶ (Environmental Framework Act) was passed. It provides a general body of legislation to which all environmental legislation could be referred. It regulates the right to live in a pollution-free environment, the protection of the environment, the preservation of nature, and the conservation of the environmental heritage.

32 MINISTERIO DE TIERRAS Y COLONIZACIÓN, Decreto Supremo 4.363, 30 de junio 1931. Publicado en el Diario Oficial el 31 de julio de 1931.

33 CONAF, Forest Reference Emission Level/Forest Reference Level of Native Forests in Chile, 2016, p. 13. [en línea] <http://redd.unfccc.int/files/2016_submission_fre_l_chile_english.pdf> (Consulta: 29 de abril de 2016).

34 MINISTERIO DE AGRICULTURA, Decreto Ley 701, 15 de octubre de 1974. Publicado en el Diario Oficial el 28 de octubre de 1974.

35 CONAF, Op. Cit. (32), p. 14.

36 MINISTERIO SECRETARÍA GENERAL DE LA PRESIDENCIA, Ley 19.300, Ley sobre bases generales del medio ambiente, 1 de marzo de 1994. Publicado en el Diario Oficial el 9 de marzo de 1994.

In 2010, with the amendment introduced by Law 20.417³⁷, the Ministry and the Superintendence of the Environment, the Council of Ministers on Sustainability, the Environmental Assessment Service, and the National System of Information on Environmental Monitoring were created.

At this point, it may be added that in Chile the forest authority is represented by the National Forestry Service (CONAF – Corporación Nacional Forestal) and the Forest Institute (INFOR – Instituto Forestal). Both are dependent subunits of the Ministry of Agriculture.

The most recent law directly having an impact on forests, Law 20.283³⁸ on Recovery of Native Forest and Forest Promotion, was promulgated in 2008, following a 16 years debate. The law aims at preserving the country's remaining native forests and to promote sustainable use of the national forest resources. There is a whole bunch of implementation rules which were enacted following Law 20.283 (list is not complete and only refers to Law 20.283).

- a. Decreto que fija tabla de valores que determina monto máximo de las bonificaciones para las actividades a que se refiere el artículo 22 de la Ley N° 20.283 sobre recuperación del bosque nativo y fomento forestal (23 October 2008).*
- b. Decreto N° 80 – Aprueba Reglamento del Consejo Consultivo del Bosque Nativo (29 August 2008).*
- c. Decreto N° 96 – Reglamento de los Recursos destinados a la Investigación del Bosque Nativo (26 November 2008).*
- d. Decreto N° 95 – Reglamento del Fondo de Conservación, Recuperación y Manejo Sustentable del Bosque Nativo (26 November 2008).*
- e. Decreto N° 93 – Reglamento General de la Ley sobre Recuperación del Bosque Nativo y Fomento Forestal (26 November 2008).*

37 MINISTERIO SECRETARÍA GENERAL DE LA PRESIDENCIA Ley 20.417, Crea el Ministerio, el Servicio de Evaluación Ambiental y la Superintendencia del Medio Ambiente, 12 de enero de 2010, publicado en el Diario Oficial el 26 de enero de 2010.

38 MINISTERIO DE AGRICULTURA, Ley 20.283, Ley sobre recuperación del bosque nativo y fomento forestal, 11 de julio de 2008. Publicado en el Diario Oficial el 30 de julio de 2008.

f. Resolución N° 381 – Aprueba criterios de evaluación técnica y ambiental, de priorización de los terrenos, de focalización y de asignación de las bonificaciones, para la selección de los proyectos correspondientes a los concursos del fondo de conservación, recuperación y manejo sustentable del bosque nativo de la Ley N° 20.283 (29 October 2009).

g. Decreto N° 82 – Reglamento de suelos, aguas y humedales (20 July 2010).

III.II.II. Constitutional Aspects

The Constitution³⁹ grants in its article 19 (8) Chapter II. De Los Derechos y Deberes Constitucionales, everyone's right to live in an environment free of contamination. Furthermore, it states that it is the state's duty to ensure that this right is not affected and nature is preserved. Article 19 (8 (2)) emphasises that the law may provide for limitations and restrictions on selected rights and liberties in order to protect the environment.

III.II.III. Law 19.300

As far as forestry is concerned, the main aspects of Law 19.300 are as follows. It declares that the state will administer a National System of Forest Areas in order to ensure biological diversity, supervise the preservation of nature and conserve environmental heritage. In this sense it reaffirms and enriches a historical function of the Chilean State. Indeed, at the present time the National System of Forest Areas protected by the State (SNASPE – Sistema Nacional de Áreas Silvestres Protegidas del Estado) already covers 14 million hectares. This system is composed of 31 national parks, 43 forestry reserves and 14 national monuments. The areas are owned by the state and administered by CONAF⁴⁰.

The law also declares that the use and exploitation of renewable natural resources shall be carried out in such a way as to ensure their capacity for regeneration and conserve the associated biological diversity. One instrument for regulating the use and exploitation of natural resources in a given area are

39 MINISTERIO SECRETARÍA GENERAL DE LA PRESIDENCIA, Decreto 100, Fija el texto refundido, coordinado y sistematizado de la Constitución Política de la República de Chile, 17 de septiembre de 2005. Publicado en el Diario Oficial el 22 de septiembre de 2005.

40 O'RYAN, Raúl Y FIERRO, Gabriel, International Trade and Sustainability of the Chilean Forestry Sector, p. 24, [en línea] <<http://dii.uchile.cl/progea/publicaciones/forestry%20sector.pdf>> (Consulta: 28 de abril de 2016).

“Management Plans” (planes de manejo), which have to address aspects such as the maintenance of water flows and soil conservation, the maintenance of landscape value and protection of classified species. In addition to management plans, there is a System of Environmental Impact Assessment (SEA – Servicio de Evaluación Ambiental, SEIA – Sistema de Evaluación de Impacto Ambiental).

3.2.4. Decree Law 701

Decree Law 701 was passed in 1974. It modified and complemented the old Forestry Law which had governed the sector in Chile since 1931. One of the most important innovations introduced by this law was that all forestry exploitation in Chile must follow a management plan previously approved by the CONAF, with the obligation to reforest or regenerate the exploited forests.

But its primary goal was generating an internationally competitive forest industry and promoting economic development. It provided public subsidies for three-quarters of the costs of planting and tending trees. There were no property taxes and income taxes have been reduced by 50 percent. It primarily benefitted large-scale operations and attracted private capital. It has been very successful in generating an internationally competitive forest industry⁴¹.

The remuneration incentive for forestation activities under Decree Law 701 expired in 1996, and in 1998 these incentives were extended until 2011. In 2011, the law achieved its last extension until 2012, after which the law no longer held an incentive component. As of 2013, Chile no longer has any legal economic incentives for forestation. It is currently working on developing a new law using a different approach. Projections for the new Law of Promotion propose that by the end of 2016 significant advances in the formulation and parliamentary processing will have taken place⁴².

But the law has also been criticised for its effects on the rural population and native forest ecosystems. Environmental groups have systematically countered the impressive exports obtained through this incentive system with criticism of the resulting environmental costs. Although the law did not allow, in principle, the

41 CLAPP, Roger Alex, “Waiting for the Forest Law: Resource-Led Development and Environmental Politics in Chile”, in: *Latin American Research Review*, Volume 33, N°2, p. 4. [en línea] <<http://www.plataformademocratica.org/Publicacoes/19816.pdf>> (Consulta: 29 de abril de 2016).

42 CONAF, Op. Cit. (32), p. 15.

destruction of native forest for the establishment of forest plantations, there is evidence, that huge areas planted involved forest conversion. Two reasons explain why. First, the law did not distinguish between forest and native forest, so it was easy to replace native trees by foreign species, as both were regarded as forest. Second, the loophole seems to be found in a clause of the decree that gives the CONAF the possibility of approving conversion in areas where the native forest is not suitable for commercial harvesting⁴³.

The prohibitions incorporated under Forest Law 4.363 were guarded. For over a half a century, Chile has been developing regulations and institutions to protect soils and water. However, issues relating the replacement of native forests and the protection of biodiversity were not included among the goals of the public regulatory system. In order to expand the surface area covered by native forests, the Government sent a bill in 1991 to Chilean Congress aiming to encourage the increase, protection and recovery of native forests⁴⁴.

III.II.IV. Law 20.283

The Law 20.283 has been 16 years in the making. Why? The main reason for the delay rests with the Chilean Forest Industry Association (CORMA – Corporación Chilena de la Madera). CORMA has engaged in opposing and slowing down the legislation process from the very beginning. A crucial point of debate has been the ban on conversion of native forests into plantations as foreseen by the draft bill. The political power play led to a compromise. The largely degraded dry forests of no economic value which characterise the landscape from the latitude of 32° north were excluded from the law's protection and promotion measures as xerophytic forests. They are exposed to an especially high pressure on behalf of more profitable forms of land use. However, conversion is not (expressly) prohibited by the law⁴⁵.

43 CASTILLEJA, Guillermo, *Changing Trends in Forest Policy in Latin America: Chile, Nicaragua and Mexico*, [en línea] <<http://www.fao.org/docrep/v1500e/v1500e07.htm>> (Consulta: 29 de abril de 2016).

44 RAÚL O'RYAN, GABRIEL FIERRO, *International Trade and Sustainability of the Chilean Forestry Sector*, p. 25, available at: <http://dii.uchile.cl/progea/publicaciones/forestry%20sector.pdf> (28.04.2016).

45 MÜLLER-USING, Burkhard Y BAVA, Jose, Neue Gesetze zum Erhalt des Naturwaldes in Chile und in Argentinien – Zwei unterschiedliche Wege zu einem gemeinsamen Ziel, in: *Forstarchiv*, N 81, 2010, p. 22. [en línea] <<http://media.repro-mayr.de/08/548108.pdf>> (Consulta: 30 de abril de 2016).

The Law calls for protection, recovery and improvement of native forests; thus ensuring forestry sustainability and environmental policies (article 1). It provides awards to various stake holders including small forest owners to incentivise them to grow native trees which constitutes one of the main improvements compared to Law 701. To this purpose a fund was created (FCRMSBN - Fondo de Conservación, Recuperación y Manejo Sustentable del Bosque Nativo). Another fund aims at promoting and increasing the understanding of forestry ecosystems (FIBN – Fondo de Investigación del Bosque Nativo). Additionally, the law established a permanent forestry cadastre (article 4).

III.II.V.I. Definitions

Article 2 contains a series of definitions, 26 in total, literally starting from Adam and Eve by defining a tree. It then sets out definitions for forest, native forest, native forest to be preserved, native forest to be conserved and protected and native forest of multiple use (bosque, bosque nativo, bosque nativo de preservación, bosque nativo de conservación y protección, bosque nativo de uso multiple) . It further distinguishes between various types of interventions in forests (corta de bosque, corta de cosecha, corta sanitaria, corta no autorizada, quema controlada, incendio forestal).

Let's have a look on some of the definitions.

Bosque: *sitio poblado con formaciones vegetales en las que predominan árboles y que ocupa una superficie de por lo menos 5.000 metros cuadrados, con un ancho mínimo de 40 metros, con cobertura de copa arbórea que supere el 10% de dicha superficie total en condiciones áridas y semiáridas y el 25% en circunstancias más favorables.*

Bosque nativo: *bosque formado por especies autóctonas, provenientes de generación natural, regeneración natural, o plantación bajo dosel con las mismas especies existentes en el área de distribución original, que pueden tener presencia accidental de especies exóticas distribuidas al azar.*

Bosque nativo de preservación: *aquél, cualquiera sea su superficie, que presente o constituya actualmente hábitat de especies vegetales protegidas legalmente o aquellas clasificadas en las categorías de en "peligro de extinción", "vulnerables", "raras", "insuficientemente conocidas" o "fuera de peligro"; o que corresponda a ambientes únicos o representativos de la diversidad biológica natural del país, cuyo manejo sólo*

puede hacerse con el objetivo del resguardo de dicha diversidad.

Bosque nativo de conservación y protección: *aquél, cualquiera sea su superficie, que se encuentre ubicado en pendientes iguales o superiores a 45%, en suelos frágiles, o a menos de doscientos metros de manantiales, cuerpos o cursos de aguas naturales, destinados al resguardo de tales suelos y recursos hídricos.*

The separation between native forest and planted forest is confusing and therefore not operable and practically prevents the devastated or at least degraded native wood lands in Chile from being recovered.

Incomprehension is provoked by this many definitions as the legal consequences of these distinctions are not clearly reflected. It is time to recall the Swiss provisions on the same subject. In Swiss law forest is defined as any area that is covered with forest trees or forest shrubs and can fulfil forest functions. The comparison to Swiss law dramatically shows the complicated approach of the Chilean legislator. Furthermore, the question arises, what happens to areas smaller than 5000 m² and which are not considered as "bosque nativo de preservación" or "bosque nativo de conservación y protección"?

III.II.V.II. Interventions in Forests

Article 5 states that every intervention into native forests has to take place in accordance with a previously approved management plan. Therefore, the approval by CONAF is a basic prerequisite.

Article 3 Decree 93⁴⁶ specifies that the management plans have to consider environment protection norms as established by law and its subsequent enactments. Furthermore and being in conformity with article 22 Decree Law 701, the intervention obliges the interested person to assure the regeneration, reforestation and protection of native forests and xerophytic formations contained in its scope of action.

46 MINISTERIO DE AGRICULTURA, Decreto 93, Reglamento General de la Ley sobre la recuperación del bosque nativo y fomento forestal, 26 de noviembre de 2008. Publicado en el Diario Oficial el 5 de octubre de 2009.

III.II.V.III. Management Plans

Management plans are fundamental environmental management instruments. Introduced by Decree Law 701, the legislator decided to incorporate management plans into the new Law 20.283. Defined in a similar but somewhat different way, according to article 2 N°18 Law 20.283, management plans are understood as *“un instrumento que, reuniendo los requisitos que se establecen en este cuerpo legal, planifica la gestión del patrimonio ecológico o el aprovechamiento sustentable de los recursos forestales de un terreno determinado, resguardando la calidad de las aguas y evitando el deterioro de los suelos.*

Será plan de manejo de preservación cuando tenga como objetivo fundamental resguardar la diversidad biológica, asegurando la mantención de las condiciones que hacen posible la evolución y el desarrollo de las especies y ecosistemas contenidos en el área objeto de su acción.

Será plan de manejo forestal cuando su objetivo sea el aprovechamiento del bosque nativo para la obtención de bienes madereros y no madereros, considerando la multifuncionalidad de los bosques y la diversidad biológica.”

This definition allows to distinguish between various forms of management plans with different aims. However, it is striking, that within one management instrument two contradictory issues are combined. For preservation purposes as well as for production (commercial) purposes there is just one management instrument. The presentation of a management plan is required for intervening into forests whereas exactly the same is required for preserving the same forest.

By revising the register of the approved management plans it became clear that in the past few years an overwhelming majority of these plans were “forestales” and that the “preservaciones” just played a modest role. If the law aimed at developing both measures in a parallel measure, then this intention has proven as a mistake. It also shows that the fund “FCRMSNB” failed to provide incentives for ecological measures so far⁴⁷.

Changes are in need. The “plan de manejo de preservación” was intended to develop ecological activities which do not grant major compensations to its applicant. It basically pushes aside the opportunity to get a good deal. Instead

47 MORENO DEL VALLE, Op. Cit. (30), p. 187.

it promotes activities with no profit and furthermore, the preparation of the management plan and the implementation of the project involves additional costs. On the other hand, the "plan de manejo forestal" is an instrument aiming at developing activities of pretty high profit rate. Therefore, one cannot submit these two types of management plans to the same norms. One has to differentiate between an economic management instrument and an ecological management instrument⁴⁸.

One proposal to improve the instrument is to move it closer to the rural communities and to adapt it to their realities. The management plans as we know them today have been tailored for the forest industry. Interests of little forest owners, on which a grate part of the forest's future rests, have never been invoked in drafting up these instruments⁴⁹.

Article 15 states that clearing of native forest has to be done in conformity with the rules enacted in this body of law without prejudice to the regulations of Law 19.300. The clearing should not interfere with the objectives of safeguarding the quality of the waters, avoiding impairment of soils and the conservation of biological diversity.

Article 16 emphasises that the "plan de manejo forestal" pursuant to article 5 additionally demands that all intended interventions in "bosque nativo de conservación y protección" have to present a sound justification of the clearing techniques as well as of the measures taken in order to protect the soils, the water quality and flow, the conservation of biological diversity and the measures foreseen for preventing forest fires.

In the same way, the management plan has to respect the biological corridors which have been defined by the Ministry of Agriculture.

III.II.V.IV. Prohibitions

Article 17 prohibits every intervention into forests located in the distance of 500 m to glaciers.

48 Ibid.

49 Ibid, p. 128.

Article 19 prohibits the cutting of individual trees of classified species, in conformity with article 37 of Law 19.300 and its regulation, if they are categorised as "in danger of extinction", "vulnerable", "rare", "insufficiently known" and "out of danger" as well as the damaging of their habitats. But this ban only counts for trees being part of a native forest. Planted trees of classified species are excluded from the prohibition. Article 19 contains a long list of exceptions which in the end undermines its protective effect⁵⁰.

The most crucial dissimilarities, the big difference, between the Swiss and Chilean legislation lies within the fact that in Chile clearings are basically allowed. Clearings only are subject to previous approval by CONAF whereas in Switzerland clearings are basically forbidden. They only are granted in exceptional cases (very high barriers). In Chile, absolute protection only exists selectively, namely with regard to forests located near glaciers, classified species and close to springs or on terrain with an inclination of more than 45%.

Developments in Switzerland have shown that only a complete ban on deforestation could effectively protect its forests and generate conditions for its recovery. Doubts as to the efficiency of the Chilean protective measures arise when they are compared to the Swiss approach. Generally, there seems to be a lack of future vision which compromises the survival of the native forest. The law contains prohibitions which are not enough to protect the country's ecological patrimony.

50 Ley 20.283, Artículo 19 : Prohíbese la corta, eliminación, destrucción o descepado de individuos de las especies vegetales nativas clasificadas, de conformidad con el artículo 37 de la ley N° 19.300 y su reglamento, en las categorías de "en peligro de extinción", "vulnerables", "raras", "insuficientemente conocidas" o "fuera de peligro", que formen parte de un bosque nativo, como asimismo la alteración de su hábitat. Esta prohibición no afectará a los individuos de dichas especies plantados por el hombre, a menos que tales plantaciones se hubieren efectuado en cumplimiento de medidas de compensación, reparación o mitigación dispuestas por una resolución de calificación ambiental u otra autoridad competente. Excepcionalmente, podrá intervenir o alterarse el hábitat de los individuos de dichas especies, previa autorización de la Corporación, la que se otorgará por resolución fundada, siempre que tales intervenciones no amenacen la continuidad de la especie a nivel de la cuenca o, excepcionalmente, fuera de ella, que sean imprescindibles y que tengan por objeto la realización de investigaciones científicas, fines sanitarios o estén destinadas a la ejecución de obras o al desarrollo de las actividades señaladas en el inciso cuarto del artículo 7º, siempre que tales obras o actividades sean de interés nacional. Para autorizar las intervenciones a que se refiere el inciso anterior, la Corporación deberá requerir informes de expertos respecto de si la intervención afecta a la continuidad de la especie y sobre las medidas a adoptar para asegurar la continuidad de las mismas. Para llevar adelante la intervención, el solicitante deberá elaborar un plan de manejo de preservación, que deberá considerar, entre otras, las medidas que señale la resolución fundada a que se refiere el inciso segundo precedente. Para calificar el interés nacional, la Corporación podrá solicitar los informes que estime necesarios a otras entidades del Estado.

It is to be regretted that the law did not explicitly prohibit the substitution of native forest with forests as well as the conversion of forest into agricultural land. As for the reasons, we already know why.

Article 33 Reglamento de Decreto Ley 701⁵¹, which opens the door for the conversion of native forest into agricultural land, inter alia states: "*La obligación de reforestar podrá sustituirse por la recuperación para fines agrícolas del terreno explotado extractivamente, siempre que el cambio de uso no sea en detrimento del suelo y se acredite en el plan de manejo que el área a intervenir satisface esos objetivos, señalando específicamente el plazo y las labores agrícolas a ejecutar.*"

In this way the law terminates in accepting the conversion of forests into agricultural lands and allows for the disappearance of forests⁵².

III.II.V.V. Reforestation with other Species

There are valid norms which allow reforestation with species that differ from the primal ones and without distinguishing if these are native or exotic. For example, article 42 of Decreto 193 Reglamento General del Decreto Ley N° 701⁵³.

Artículo 42º.- Sin perjuicio de lo establecido en el artículo 26º del reglamento técnico, la Corporación sólo podrá aprobar planes de manejo que contemplen la reforestación con especies distintas a las cortadas cuando ella no afecte a especies en peligro de extinción, vulnerables, raras o insuficientemente conocidas, de acuerdo a lo establecido en los artículos 41º y 42º de la ley N°19.300.

The norm, to which reference is made and which is to be found in the *Reglamento 259*⁵⁴ states on its behalf:

Artículo 26º: Para los efectos de cumplir con la obligación de reforestar, se podrá cambiar de especie por otra nativa o introducida, previa aprobación de la

51 Reglamento del Decreto Ley 701, Ley sobre fomento forestal, Ministerio de Agricultura, 12 de junio de 1998, publicado en el diario oficial el 29 de septiembre de 1998.

52 MORENO DEL VALLE, Op. Cit. (30), p. 128.

53 MINISTERIO DE AGRICULTURA, Decreto 193, Aprueba Reglamento General del Decreto Ley N° 701, de 1974, sobre fomento forestal, 12 de junio de 1998. Publicado en el Diario Oficial el 29 de septiembre de 1998.

54 MINISTERIO DE AGRICULTURA, Decreto 259, Reglamento del Decreto Ley 701, de 1974, sobre fomento forestal, 1 de septiembre de 1980. Publicado en el Diario Oficial el 30 de octubre de 1980.

Corporación, salvo que el propietario se acoja a lo dispuesto en el inciso primero del artículo 13°.

La justificación deberá fundarse en antecedentes que demuestren experimentalmente que la especie a introducir está adaptada al lugar siempre que con ello no se produzca erosión del terreno⁵⁵.

Both regulations permit the substitution of native forest with other types of forest, namely with exotic species, apart from some exceptions. They could serve as a gate for the replacement of native forest and thus endanger the country's patrimonial forests given the fact that only classified species are protected from being cut down and replaced by other species⁵⁶.

Besides the norms being insufficient to protect the native forest, there is yet another worrying phenomenon. The existing protection norms are not being followed. CONAF had and has a broad mandate but a limited staff, and inspections of private forest are a low priority. Studies in the 90ties found that only a third of the registered management plans were being followed and them serving merely as "permission to cut". Rural inhabitants in the Andean foothills confirm that the regulations are not flouted, but neither are they obeyed⁵⁷.

The laps of time has weakened the significance of the cited studies and there have also been certain improvements, however, this does not change the still existing fundamental problem of non-complying with the norms.

55 MORENO DEL VALLE, Op. Cit. (30), p. 129.

56 Ibid.

57 CLAPP, Op. Cit. (41), p. 4.

Conclusion

The legal position of native forests has undoubtedly been strengthened. It is intended to bring into motion a sustainable management of natural forests, which has been neglected so far. To this purpose, funds are elaborated and provided. However, the new momentum and stimulus that have been provided through Law 20.283 are far too weak and avoid a clear decision in the conflict between commercial and ecological objectives. As long as it is not clearly decided to prioritise ecological objectives, protective measures will not go beyond half-measures at best.

Besides, many contradictions and loopholes exist which additionally jeopardise the law and its overall goals. But it appears to be the most problematic, that clearings are still allowed for wood harvesting. Clearings are a serious interference in forest ecosystems, so serious that even management plans are of little help.

On the other hand, the Swiss example shows, that a forest industry which abstains from clearings and which quasi results as a by-product from a sustainable forest management can compete. Thus, it is justified to ask some questions.

Why should the total forest area of Chile not be absolutely protected (which would imply the end of the artificial distinction between forest and native forest) and why should clearings not be banned once and for all?

4. Overall Conclusion

Finally, my contention would be that the Swiss forest is in a better starting position to carry out the functions which forests are intended to fulfil by the international climate protection policy. But in Switzerland as well as in Chile, further efforts have to be made in order to comply with the goals set out by the Paris Agreement.

Unlike Chile, Swiss legislation already and clearly opted for prioritising ecological interests. For nearly a century, Chilean forest law has been oscillating between economic and ecological objectives, with a tendency of marginalising ecological aspects. A clear decision has not yet been taken. Even though in recent times there has been an increased tendency in addressing ecological issues, words

and deeds did not go hand in hand. The law, as it stands, provides for many loopholes and inconsistencies. However, we must not lose sight of a related aspect.

In order to use forests as a vital weapon in the fight against climate change, forests have to be protected against climate change themselves. Climate change poses new challenges for forests, for which existing laws do not have an answer. The legislator managed to sleepwalk through decisive developments. The consolation: Better late than never.

Above all, what is needed are new ideas and visionary approaches. What forest services are threatened by climate change? How can we actively assist the forest's adaptation to new circumstances? And how should the future of forests look like?

Recibido: 11 de mayo de 2016.

Aprobado: 13 de junio de 2016.