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Effects of national forest governance structures on the
adoption of EU Forestry Strategy: an analysis in selected
Mediterranean countries.

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ACRONYM LIST

CBD - Convention on Biological Diversity

EU - European Union

ERDF - European Regional Development Fund

ESF - European Social Fund

EAFRD - European Agricultural Fund for Rural Development

EMFF - European Maritime and Fisheries Fund

FAO - Food and Agriculture Organization

FLEGT - Forest Law Enforcement, Governance and Trade

IPF - Intergovernmental Panel on Forests

ITTA - International Tropical Timber Agreement

NFI - National Forest Inventory

NFM - National Forest Monitoring System

NFS - National Forest Strategy

NGO - Non-Governmental Organization

MCPFE - Ministerial Conference on the Protection of Forests in Europe

RDP - Rural Development Program

REDD - Reducing Emissions from Deforestation and Forest Degradation

RUEM - European Union regulation on wood and wood products

SLMS - Satellite Land Monitoring Systems

UNFF - United Nations Forum on Forests

UNFCCC - United Nations Convention on Climate Change

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ABSTRACT

None of the EU Treaties makes provisions for a forestry policy common to all EU Member States. Despite that, through programs as EU Forestry Strategy, European Union provides support for these states to develop their national forest policies taking into account legislation, land tenure rights and forest sector reality of each country. Since many EU Member States have different structural types of forest governance, the present study aimed to analyze forest governance structure in some Mediterranean countries (Portugal, Spain and Italy), comparing their different structures and highlighting their effects in relation to EU forestry strategy adoption. Using content analysis as main method, secondary data was collected through literature review on scientific literature, institutional documents and institutional web sites. To check the alignment of the national and regional forest-related policies with EU Forestry Strategy and its adoption, main forest-related policies and evaluation reports of each country have been selected and analyzed. Among analyzed countries, Portugal presents a more centralized forest governance structure. Normative structure in Spain Presents more advantages than in Italy and Portugal. All three countries have their national and regional forest-related policies aligned with EU Forestry Strategy. However, since analysis carried out in this research was a desk/based analysis, further studies, based on empirical evidences, are recommended for verify EU Forestry Strategy adoption in practice.

Key-words: Forestry, Forest Governance, EU Forestry Strategy, Mediterranean region.

1. INTRODUCTION

According to European Community Treaty of 25 March 1957 and Treaty on European Union of 07 February 1992, EU competences have primacy over national competences. However, based on the proportionality and subsidiarity principles, no action from Community should exceed what is necessary to achieve the purpose of the Treaty and, Member States are authorized to take actions that are not within EC's exclusive competence. Nevertheless, it is necessary to point out that none of the Treaties makes provisions for a forestry policy common to all EU Member States (Kokko et al., 2006). Despite that, European Union provides support for these states to develop their national forest policies based on sustainability pillars. Member States are responsible for formulating its national forest policies taking into account legislation, land tenure rights and forest sector reality of each country (Ragonnaud, 2017).

EU Forestry Strategy aims at the sustainable, multifunctional and efficient use of forest resources and is a document containing guidelines that should be taken into account when formulating forest policies at national level (Ragonnaud, 2017). Nevertheless, it is known that economic, social and environmental role forests play is related to forest characteristics, ecosystem services, land tenure and how forest resources are managed, among others. All these factors vary from one country to another and even within the same country at different levels (Kokko et al., 2006). In some EU countries, for example, territorial extension covers two or more biogeographical regions, which in turn, have very peculiar characteristics and therefore require management systems appropriate to these realities (Nature 2000).

Furthermore, the importance given to forest resources exert influence on law formulations, forest policies and also on political system (Bauer, Kniivila & Schmithusen, 2004), including forest governance structure. Since many EU Member States have different structural types of forest governance (Dobšinská, Rathke & Weber, 2015), could these

structures have any influence on EU Forestry Strategy adoption? What are the advantages and disadvantages of these governance structures in relation to policy implementations?

The present study aimed to analyze forest governance structure in some Mediterranean countries, comparing these structures and highlighting their effects in relation to EU Forestry Strategy adoption.

2. THEORETICAL FRAMEWORK

2.1 POLITICAL SYSTEM

Nation-state is a modern form of political system and its territorial organization may be divided in two classical categories: Federal system or Unitary system (Caramani, 2017). Federal system preserve central government sovereignty, but share authority and responsibilities with autonomous states (provincial or regional government) and municipalities (local government). The main characteristic of this system is a non-centralization with division of power through a rigid constitution (Colfer & Capistrano, 2008).

According Newton and Deth (2010), decentralized federal systems have importante role when a country is geographically large and/or presents different social groups concentrated in particular regions. However, these same authors stress that due growing internal integration and facing an increasingly globalized world, federal systems are becoming more and more centralized. Examples of federal countries in Europe are Austria, Belgium, Germany and Switzerland (Caramani, 2017; Newton & Deth, 2010).

In unitary systems, national government concentrates legislative, executive and administrative power in one single unit, not sharing any constitutional authority with local governments. In this type of system any degree of decentralization depends on the agreement of the central power. Therefore, central government can creates, reforms or extinguishes regional or local government units, since they are created for administrative purposes and their existence are not protected by constitution (Caramani, 2017; Newton & Deth, 2010).

Unitary system is best suited in small countries with few cultural differences and strong national unit. In Europe, countries as Greece, Ireland, Luxembourg, Sweden, Finland, The Netherlands, Denmark, Portugal, France, Italy, UK and Spain are exemples of unitary

systems. Nevertheless, it is important to stress that Spain, France and Italy have been incurred in strong devolution process, being classified by some authors as intermediate between federal and unitary systems (Caramani, 2017; Newton & Deth, 2010). According to Newton and Deth (2010, p. 114), “devolution occurs where higher levels of government grant decision-making powers to lower levels while maintaining their constitutionally subordinate status.”

In short, both federal and unitary systems may present different degrees of centralization and decentralization. Therefore, the challenge lies in “deciding exactly what and how much to centralise and decentralise in practice” (Newton & Deth, 2010, p. 117).

2.2. EU FORESTRY STRATEGY

Based on a non-legally binding Council Resolution, the EU Forestry Strategy is oriented at implementing international commitments, aiming sustainable, multifunctional and efficient use of forest resources and global forest responsibility. It provides a framework to improve sustainable forest management, competitiveness of the forest sector, rural development, forest protection and promote better coordination and communication with and between Member states. The EU Forestry Strategy contributes to the achievement of the Europe 2020 Strategy objectives and targets, presenting eight priority areas of action and their respective strategies. These priority areas are (EC, 2013):

- Supporting rural and urban communities;
- Fostering competitiveness and sustainability of the EU’s Forest-based Industries, bio-energy and the wider green economy;
- Forests in changing climate;
- Protecting forests and enhancing ecosystem services;
- Improving knowledge base;

- Researches and technology transfer based on forest;
- Fostering coordination and communication and
- Forests from a global perspective.

2.3 FOREST GOVERNANCE STRUCTURES

There is no a simple and unique definition for the term governance. Interactions between public administration, private sector, and civil society at different levels are very complex and, governance may has different meanings for different actors and organizations. However is widely agreed that a good governance should be built on the principles of sustainability, accountability, transparency, efficiency, effectiveness, participation and capacity in order to achieve social, economic and environmental positive outcomes (FAO/PROFOR, 2011; Secco et al., 2014).

Therefore, forest governance is a mechanism to manage forest resources and include decision-makin processes, legislation, involvement of private and public institutions and stakeholder participation at different levels.

Normative, institutional/administrative and instrumental/programmatic structures act as support for forest governance development and present a certain degree of centralization and decentralization that can exert influence on adoption and implementation of forest policies at national, regional and local levels (Colfer & Capistrano, 2008).

Among the programmatic and instrumental framework are the budget and financing programs and forest plans, programs and strategies, which are developed within a policy cycle involving 3 phases: Policy formulation; Policy implementation and Policy enforcement (FAO/PROFOR, 2011; Krott, 2005). In the following subsections an overview will be presented in each one of these phases and its main governance componentes.

2.3.1 Forest Policy Formulation

Usually, forest policies are not formulated from a zero point, but rather from an analysis of the current situation and review of existing policies, legislations and institutions. This analysis makes possible identify the main forest related issues and to establish priorities, providing forestry sector development objectives. If changes are necessary, they should be made taking into account civil society's needs and national development (FAO, 2010).

An agreement on the expected and realistic results, approaches, strategies and distribution of roles, responsibilities and costs should be pursued, even during the policy formulation phase, in order to facilitate implementation and ensure greater transparency and accountability. A useful tool for this purpose is the National Forest Programme, supported by EU Forest Strategy and aiming international commitments implementation at national and sub-national levels (Pulzl & Rametsteiner, 2002). After consensus has been reached by key stakeholders involved in the formulation process, a forest policy statement should be drafted, validated, reviewed and officially endorsed by the highest government authority responsible for forestry issues (FAO, 2010).

Actors

Identify main actors, their capacity, influence, representation and responsibilities and engage key stakeholders in active participation in decision-making process is one primordial step to achieve good governance. Stakeholders are individuals, groups or institutions that can affect and/or be affected by organization actions, and this include indigenous peoples, community groups, landowners, policy makers, government agencies, social and environmental NGOs, national parks, industry, educational institutions, financial institutions, sponsors and others (FAO, 2011; IMFN, 2008). Furthermore, according Rametsteiner (2009), when stakeholders are involved in the formulation process of policie initiatives, they are more

willing to accept and adhere to such policies.

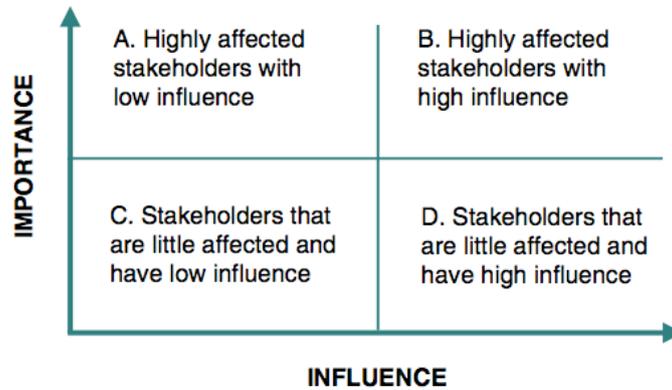
Power distribution

Power distribution is connected with participation level, since some stakeholders have capacity to strongly influence policy formulation and implementation, being necessary determining who participates in key decisions. Participation levels include information, consultation, deliberation and decision-making, being that only the last two are considered as active participation. One way to determine who should be engaged is by identifying the stakeholders' influence capacity and in what degree they are affected by policies (FAO, 2010).

Representatives that make up the working groups or committees in the process of policy formulation must be people connected to the forestry sector or who carry out some kind of activity that has an impact on forests and its resources. In a steering committee, in addition to legal, administrative and technical support by experts, the presence of key ministers and other high-level government representatives involving other sectors ensures greater participation and credibility in decision-making process. Nevertheless, a real representativeness and legitimacy of policy will only be achieved if it also include the participation of those who have low influence capacity on decision-making but are the most affected by policies, as exemplified in Figure 1 (FAO, 2010).

Figure 1. Identifying key stakeholders

Stakeholder analysis matrix: who should be involved?



Source: FAO, 2010, p. 30.

Type of network

The information flow and the knowledge exchange that feed the ongoing dialogue on forests is closely related to the type of interactions between government, public agencies, private sectors, institutions and civil society at national, sub-national and local level (Secco et al., 2014). This continuous forest dialogue is critical during all process of formulation, implementation and enforcement of policies in order to keep the forest policies always updated in relation to environmental, social, economic and political changes. Therefore, in addition to identifying the main actors and stakeholders, it is also essential to identify the type of relationship between them (FAO, 2010).

A primary tool to identify these interaction types is the Policy Network Analysis (Arts, 2011). Policy network may be interpreted as a type of interest intermediation between State and Organizations across a multilevel and multi-sectoral context, and/or as a governance form that mobilize political resources dispersed between public and private actors (Galey & Youngs, 2014).

Network types can be classified based on number and types of members, integration

between actors, relational characteristics, participation level, institutional strength, scope of policy-making, among others (Galey & Youngs, 2014). Based on member type, integration between members and resource distributions, Rhodes (1986; 1988, cited in Galey & Youngs, 2014, p. 11), distinguished five network types: Policy communities (highly integrated); Professional networks; Inter-governmental networks; Producer networks and Issue networks (loosely integrated).

Social contexto

Social, political and environmental context play a huge role in policy formulation. However, in this work, greater attention will be given to social factors, since the atual civil society conditions and concerns have increased the role it plays in policy making process. In this way, some situations require special attention, such as the existence of forest state (public, private, indigenous, communities), how resources are allocated, land use, land tenure and property rights, among others (FAO, 2014). Teyer (2010) mentions that even actors who did not participate in the policy formulation process can exert influence on their results, depending on the rights and resources they have.

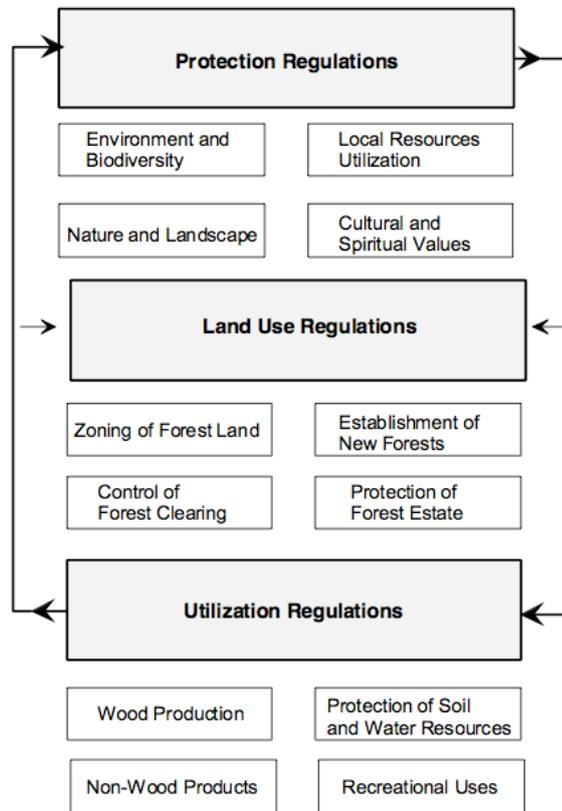
Legal framework

Another important step in policy formulation is identify and analyse the role of institutions and its arrangements that regulate forest sector. A useful tool for this can be Institutional policy analysis (Arts, 2011). North (1991, p. 97) consider institutions as “humanly devised constraints that structure political, economic and social interaction” and divide them in two categories: informal (such as customs, traditions and codes of conduct) and formal (such as constitutions, laws, property rights, government agencies, NGOs, etc.), being the last one officially established often by government.

As public institutions, usually hosted by agriculture or environment ministry, forest administrations are responsible for official matter related to forests and forestry sector. They also coordinate forest agencies in national and subnational level, being that government agencies must present clear and mutually supportive mandates (Dobšínská, Rathke & Weber, 2015; FAO, 2011). While some institutions provide human and technical capacities, others, such as laws, provide regulatory and fiscal instruments that determine rights, responsibilities and authority limits of public and private institutions (FAO, 2010).

Since laws are the result of policy making process, policy changes imply a need for revision, amendment or even changes in legislation and formulation of new laws. Forest laws are enacted by legislative authority and trend to be more focused on timber production. However, in order to meet the call for a sustainable, multifunctional and efficient management of forest resources, it is necessary to make provisions that include all goods and services offered by forests, besides providing regulations regarding access, protection, land use and utilization of natural resources, as shown in Figure 2 (FAO, 2005).

Figure 2. Regulatory Framework



Source: FAO, 2005.

2.3.2 Forest Policy Implementation

Action plans, programs or strategies to implement forest policies must be prepared during the policy formulation process. Implementation also require flexible strategies for a better ajustment to changes, compliance and commitment with policy conditions. The commitment of all major government sections to these actions and the alignment of institutional framework with the new policy are keys to achieve the expected results, avoid financial waste and political and social frustrations (FAO, 2001; FAO, 2010).

Actors

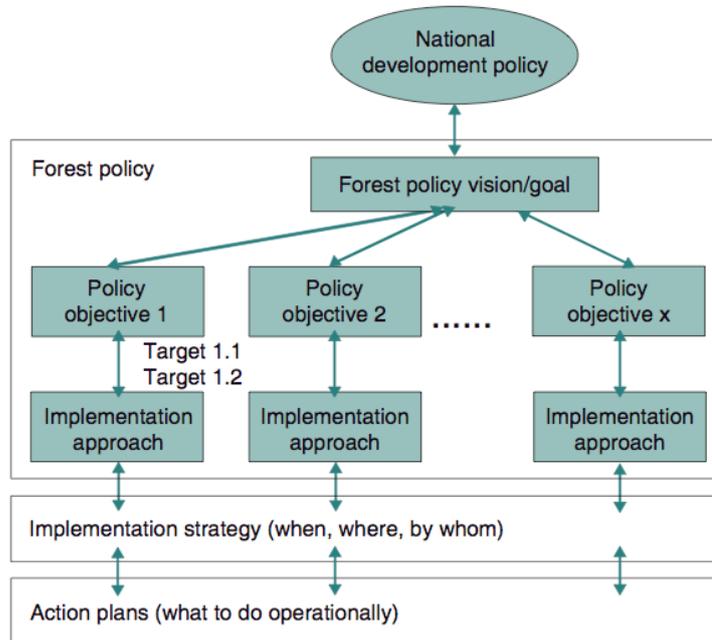
The main actors and their roles and responsibilities in the implementation process

should be identified and clearly described still in the formulation of the forest policy to avoid misunderstandings and failures during this phase, and also, ensure greater transparency and accountability (FAO, 2010). Among these actors are those who will coordinate implementation activities, such as forest administration, governmental agencies and forest managers. Forest enterprises also play a importante role in implementation adapting their activities in compliance to policy goals and current forest laws and regulations. Other important actors are funders, donnors and sponsors that provide financial support and incentives. Information agencies contribute to policy dissemination and awareness of civil society reaching out people who did not participate in decision-making process but can influence their results (FAO, 2010; Teyer, 2010).

Policy contentes

From vision, principles and goals established in the program, especific objectives are created in relation to thematic areas (i.e., forest concession, plantation, reforestation...). Therefore, it is required to identify and clearly describe what actions and measures should be undertaken, when and where, and who will be responsible for each of them (Figure 3). However, to avoid failure and reach expected outcomes, objectives must be tangible and compatible with country's reality, taking into account national development objectives and civil society needs (FAO, 2010).

Figure 3. Structural example of a forest policy statement



Source: FAO, 2010.

Institutional framework

Public forest administration is the main institution responsible for forest policy implementation, supervision and control. It conducts its tasks through regional and local administrations based on a top down decision process, what mean that each objective set by national administration is implemented on a regional and local level (Krott, 2005). Information is other important instrument due its strong capacity to influence social and economic actions. It affects people's decisions and actions throught public awareness and power by means of advisory services, forest education and public relation mesures, such as publicity, forest reports among others (Krott, 2005). Economic values, as money, goods and services, are also used to regulate forest owners, forest industry and general public actions throught State compensation and financial support. Regulatory taxation can be also used to promote changes in forest sector behavior. Thus, costs and benefits influence also support policy implementation (Krott, 2005; FAO, 2010).

Practices

Action Plan is the practical tool for operational procedures, identifying and describing the actual steps to be taken to achieve the strategic plan objectives. According to these objectives and their respective strategies, action plan should describe a list of activities, actors, responsibilities, needed resources, costs, timeframe and expected difficulties to reach them. In order to avoid waste time and resources, the action plan need to be realistic and should be evaluated in relation to its completeness, clarity, sufficiency, resources and flexibility (FAO, 2010; EC, 2015).

Regulatory/compulsory laws

Forest maintenance and sustainability is guaranteed through regulations and prohibitions. Forest regulations are normative acts, usually based on forest law, which formally intervene in forest sector in order to organize activities and influence social, environmental and economic actions (Krott, 2005). Regulatory instruments determine guidelines that may be issued hierarchically or non-hierarchical and individual or general orientation, these criteria define different types of regulatory instruments (Krott, 2005):

- Behavioral Control through Forest Law (control is hierarchical and individual, enforced by sanction threats);
- Control through Supply Management (is individual and not hierarchical, enforcement by concerned together with legal experts and courts);
- Organizational Control (general and hierarchical, enforced based on forest owner capacity to take action on his own account) and
- Process control (general and not hierarchical, enforced based on capacity of concerned parties at solve mutual conflicts).

Voluntary-based

Voluntary-based approach is an increasing option to support policy development and implementation, being used by public authorities in order to reach policy objectives, mainly due the limits of command and control systems and decrease of government regulatory activities (Carey & Guttentstein, 2008; Gunningham & Sinclair, 2002). Gunningham and Sinclair (2002) divide voluntary-based approach in four types: Public voluntary schemes (commitments between public body and individual firms); Negotiated agreements (commitments between public authority and industry); Unilateral commitments (industry acting independently without public authority involvement) and Private agreements (negotiation among stakeholders). The same authors highlight that, in forest sector, certification “can be either public voluntary schemes (if they are designed by governments or by third parties), or unilateral commitments, when designed by business itself” (Gunningham & Sinclair, 2002, p. 3).

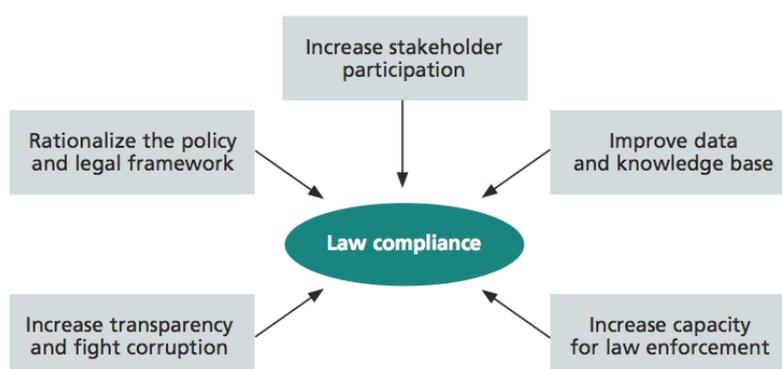
According Rametsteiner (2009, p. 150), forest certification improve forest management at regional and local level, being also “a major global private initiative to strengthen accountability and transparency”. As voluntary-based approach, in addition to contributing to forest governance processes, certification is also an instrument that promotes competitiveness and sustainability of the forest-based industries (EC, 2013).

2.3.3 Forest Policy Enforcement

Forest policy enforcement requires that institutions, laws and regulations related to the forestry sector are aligned with the goals and strategies established during the policy formulation phase. Identifying key actors and their roles and responsibilities, as well as providing training and resources required for forest law enforcement activities (Figure 4), improve forest resource administration and inter-institutional links, establish partnerships

between the public and private sectors for forest law enforcement, ensuring land tenure and forest property rights, improve cross-sectoral linkages and make provisions to address corruption are essential measures for effective policy implementation (FAO, 2005; FAO, 2010; Rametsteiner, 2009).

Figure 4. Elements to promote legality in forest sector



Source: FAO, 2005.

Nowadays, there are several international initiatives related to forest law enforcement and other issues concerning to forestry sector, among them: Forest Law Enforcement, Governance and Trade - FLEGT (aiming to exclude illegal timber from international markets); Programme on Reducing Emissions from Deforestation and Forest Degradation (REDD+) and Ministerial Conference on the Protection of Forests in Europe (MCPFE). However, since many of these initiatives have been created inside the international market context, forest law enforcement and forest governance improvement should be promoted mainly at national, regional and local level in order to address forest problems related to internal market (FAO, 2005).

Actors (controllers)

Controllers monitor the activities of users, producers and funders, ensuring compliance with laws and regulations. Governmental institutions, legislative bodies, enforcement agencies and forest administration play a important role in forest activity control, because they act as regulators and are responsible for apply administrative penalties and sanctions concerned to ilegal activities. However, for an effective control system, there must be efficient mechanisms of communication, cooperation, and coordination among these actors (FAO, 2001).

Incentives/sanctions

Policies that aim in sustainable forest management result in additional cost both for public or private sector. Therefore, there is a need to provide financial incentives, mainly when goods and services provide by forest do not have an attractive comercial value for forest owners, such as soil conservation, biodiversity, air and water quality, among others (Fraser, 2002). Mechanisms used to ensure policy enforcement may include fiscal incentives (financial support and tax relief), non-fiscal incentives (technical assistance, information, training, promotion, market), conditions (requirements as conditions of access) and disincentives (penalties for illegal activities) (Carey & Guttenstein, 2008). Incentives or sanctions are policy instruments used for motivate or demotivate actions, being that sanctions and penalties are legally established by legal instruments such as statutes, decrees and laws (Enters, Durst & Brown, 2004; FAO, 2001).

Patrolling system

Patrolling inhibits illegal actions and facilitates detection of non-compliance. Patrols can be divide in field patrols (vehicles, boats, planes, on foot or by remote sensing) and office

patrols (inspections of documents, reports, activity records and other materials) (FAO, 2001). In addition to official patrolling systems, as park rangers, forest service, environmental agents, among others, the activities carried out on communal forests should be also patrolled in a mutual control, by local communities, indigenous people and all stakeholders directly affected by forest policies.

Actors (internal auditors, external auditors)

Data collection, data analysis, audits and reports require capacity building and thus, clear identification and description of key actors, their roles, competencies and responsibilities. Data collection can be carried out by governmental agencies, such as forestry department, non-governmental ones, such as consultants and others external expertises, and also by private sector. In both monitoring and evaluation activities, in addition to verifying which and how activities are being carried out, as established by the policy, internal auditors also prepare the way for an external audit, helping identify existing data, information gaps and potential problems during the implementation process. Identify and solve these problems as soon as possible contributes to keep activities aligned with the objectives and expected results. In turn, external audit (conducted by a third party), helps to ensure greater transparency and credibility to the monitoring system (FAO, 2012).

Monitoring and evaluation

Monitoring should be a continuous and systematic process based on data collection and analysis related to the activities deployed during the implementation phase. The main objective of monitoring activity is to obtain quality information in order to identify and correct possible problems that may arise during the operational phase, avoiding deviations from the established objectives (FAO, 2011). This information can be also used as a base for

policy evaluation, where the result of policy implementation is assessed, identifying and describing its impacts and analyzing the costs and benefits thereof, in order to determine its success or failure. Evaluation may be internal (self-evaluation) or external (third party), ex-ante (performed before implementation), mid-term (during implementation) and ex-post (performed after implementation) (Secco et al., 2014).

In addition to criteria and indicators, which normally provide objective information (Krott, 2005; FAO, 2011), another important tool for monitoring and evaluate forest policies is the National Forest Monitoring System (NFM), often used to monitor REED+ activities (reduction on deforestation and forest degradation, sustainable forest management, forest conservation and forest carbon stock enhancement), but also for forest law enforcement, governance and trade (FLEGT) and others programs. NFM is based on three technical pillars that include Satellite Land Monitoring Systems (SLMS), National Forest Inventory (NFI) and National greenhouse gas (GHG) Inventory (FAO, 2013; FAO, 2014).

However, since most of criterias and indicators or others similar systems used for monitoring and evaluate forest governance and policies are developed for global and national assessments, and due the significant effect of local governance on regional and national forest governance, Secco et al. (2014) developed a set of indicators, based on core governance principles, aiming local governance assessment.

3. OBJECTIVES

Since many EU Member States have different structural types of forest governance, the present study has as main objective to analyze forest governance structure in some Mediterranean countries (Portugal, Spain and Italy), by emphasizing normative, administrative and programmatic structures and highlighting their effects in relation to EU forestry strategy adoption. Specific objectives are:

- ✓ To compare similarities and contrasts between forest governance in selected countries;
- ✓ To highlight the advantages and disadvantages related to forest governance structure in relation to policy implementations;
- ✓ Identify whether these types of structures have any effect on EU Forest Strategy adoption.

4. LIMITATIONS

This study is not focused on a detailed forest policies analysis of each mentioned countries, but rather on the forest sector governmental structure at national level. Therefore, these forest policies are not described in detail in this work. Forest policy documents and the National Forest Programs or similar programs are analyzed with the main purpose of verifying whether EU Forest Strategy have been incorporated into them, and if they are being adopted at national, regional and/or local level.

The availability or absence of well-formulated documents, containing relevant and up-to-date information, mainly in relation to forest policies and their evaluation reports, may exert influence on this research results.

5. METHODOLOGY

Forest governance structural analysis was carried out using Portugal, Spain and Italy as case-studies due their localization, presence of forests and woodlands with Mediterranean characteristics and because they are countries presenting political unitary systems with different degree of decentralization, in addition to be partner countries of MEDfOR Master Programme and provide documents in languages understood by author.

Using content analysis as main method, secondary data was collected through literature review on scientific literature, institutional documents and institutional web sites. Since EU Forestry Strategy is not a legally binding document, and each country is responsible for drawing up its forestry policies according its local reality, to verify the alignment of the national and regional forest-related policies with EU Forestry Strategy and its adoption, main forest-related policies and evaluation reports of each country have been selected and analysed.

In addition, a criteria was created in order to check the alignment of the national and regional policies with EU Forestry Strategy. In this criteria, for each one of the eight EU Forestry Strategy priority areas, main national and/or regional forest-related policies should present at least one strategic intervention, as showed in Table 1:

Table 1. Criteria used to verify forest-related policy alignment with EU Forest Strategy

EU Forestry Strategy (priority areas)	Main national and/or regional forestry policies (examples of strategic intervention)
1. Supporting rural and urban communities	1. To promote social inclusion, poverty reduction and economic development in rural areas
2. Fostering competitiveness and sustainability of the EU's Forest-based Industries, bio-energy and the wider green economy	1. To promote transformation and commercialization of forest products 2. Respond to market demands for supply of certified products
3. Forests in changing climate	1. To flourish new areas, promote forest expansion and strengthen forest role in protecting environment
4. Protecting forests and enhancing ecosystem services	1. Improve and contribute to the stability of the forest and its resistance to harmful abiotic and biotic agents
5. Improving knowledge base	1. Foster knowledge about forest through forest inventories and scientific research

6. Researches and technology transfer based on forest	1. Foster knowledge transfer and innovation in the forestry sector in rural areas
7. Fostering coordination and communication	1. Ensure the existence of coordination mechanisms at political level and in technical bodies
8. Forests from a global perspective	1. Signatory in forest-related international commitments (FLEGT; REDD+)

6. RESULTS: CASE STUDIES IN SELECTED MEDITERRANEAN COUNTRIES

6.1 PORTUGAL

Portugal has a territorial extension of approximately 92,212 km² and is divided into five continental administrative regions (North, Center, Lisbon and Tagus Valley, Alentejo and Algarve) and two autonomous regions (Azores and Madeira archipelagos), as shown in Figure 05. It is also subdivided in 29 districts/islands, 308 counties and 3091 parishes (DGT, 2016). Each of these continental regions are administered by the Regional Coordination and Development Commissions, which “are peripheral services of the direct administration of State, endowed with administrative and financial autonomy” (Decree-Law n.º 228/2012, of 25th October, Article 1º, paragraph 1).

Figure 5. Portugal Regions



Source: Adapted from: <http://www.guiadeviaje.net/portugal/mapa.html>

According to the 6º National Forest Inventory (IFN6), carried out on continental area and with base year in 2010, forest cover represents 35,4% of the territorial extension of

Portugal, followed by grassland and pastures (32%), agriculture (24%) and other uses (9%). The predominant forest species are eucalyptus (*Eucalyptus sp.*), cork oak (*Quercus suber*) and maritime pine (*Pinus pinaster*), that occupy 72% of the total continental forests. Since in recent years the wild pine areas have suffered a strong reduction, being replaced over the past two decades by eucalyptus, grassland and pastures (ICNF, 2013; Pereira, 2016).

In Madeira region, forest cover is about 34,406 ha (43% of the total area), being Eucalyptus (*Eucalyptus sp.*), maritime pine (*Pinus pinaster*) and acacia (*Acacia sp.*) the predominant species (IFRAM2, 2015).

Forest land in Azores cover approximately 74,000 ha (32% of the total area), and its predominant species are *Pittosporum undulatum*, *Cryptomeria japonica*, *Acacia melanoxylon*, *Eucalyptus globulus* and *Morella Faya* (DRRF, 2014; ICNF, 2014).

Land tenure and property rights exert great influence on forest policies in Portugal. The property regime in this country is divided into public forests, communal forests and private forests, being that more than 93% of forests land are private. In the mainland, North and Center regions are quite fragmented, presenting a large number of forest owners. While the southern region features large landowners (Coelho, 2003). In Madeira region, 40% of forest land are public and 60% are private properties. Azores region presents 24% of public forest and 76% of private (ICNF, 2014).

Forestry sector generates approximately 100 thousand direct jobs distributed mainly in the sawmill, pulp, paper and board production, cork production and wood panels, and other non-wood products, such as chestnut and pine nut. In 2001, the continental forest presented an estimated value of about 1,3 billion euros relative to the total annual economic output. The total economic value extracted from continental forests (344 euros/ha/year) is above the values of other Mediterranean countries, including France (292 euros/ha/year) and Spain (90 euros/ha/year) (ICNF, 2014).

6.1.1 Forest governance structure

In addition to State, private owners and industries, NGO's and several associations and cooperatives representing different interests, are among the main actors in Portuguese forestry sector. As previously mentioned, the vast majority of private owners own small properties located mainly in the North and Center regions, which have the highest number of properties without cadastre. This lack of cadastral information impairs the knowledge of these areas, attribution of responsibilities and policies and plans formulations that would meet the needs of these numerous landowners. Hence the importance of associations and cooperatives for forest resources valorisation and forest sector development in rural areas (ICNF, 2014). In addition helping to reduce problems related to smallholder, forest associativism also contribute to the representativeness of small producers in forest policies formulation process and also to the operationalization of some components of plans and programs during the implementation phase.

In Portugal, Forest Producers' Organizations (OPF's) are divided in four types: national, regional, municipal and complementary, being that municipal is the predominant type and most of these organization are concentrated in North and Central regions (ICNF, 2014). The associative movement also benefited hunters, non-cultivated land management communities, companies, industries, sector agents, among others, being that hunter associations were promoted through specific legislation (ICNF, 2014).

Portugal has a long history of forestry policies and legislation, therefore, this document will only present the main forest policies and legislative acts that are still in force (Table 2). Concerning forest policies and legal system, in Portugal laws are drafted by Republic Assembly, decrees-laws by Government and the regional legislative decrees are issued by Autonomous Regions Legislative Assemblies. Therefore, forest legislation that

supports forest policies in Portugal comes, mostly, from Government through minister responsible for forestry sector, currently, Minister of Agriculture, Forestry and Rural Development (MAFDR). However, plans, programs and strategies for forestry sector, elaborated at national level, are approved (or rejected) by Council of Ministers. Forest plans, programs and strategies at regional and local level are defined by Regional Government (Azores and Madeira islands) and bodies with forest authority functions (Assembleia da Republica, n.d.).

More recently, Portuguese Government has initiated a forest reform process, approving 12 legislative acts, of which 10 have already been approved by Legislative Assembly. To the present time of this writing, among the 10 approved acts, 7 have been promulgated by the republic president, published in Republic Diary and are already in force. Others legislative acts approved by Legislative Assembly, which until present moment, have not yet been promulgated and published are: Revision of Legal Regime of Afforestation and Reforestation Actions; Creation of Simplified Cadastral Information System and Revision of Decree-Law that structures Forest Fire Protection System (MAFDR, 2017).

Table 2. Main forest-related policies and legislation in Portugal

Main forestry-related policies and legislation in Portugal		
Legislative Acts	Summary	Amendments
Law n° 68 of 09/04/1993	Public use of uncultivated lands *	Law n° 89/97, of 30th July; Law n° 72/2014, of 2nd September and Rectification n° 46/2014 of 29th October;
Law n° 33 of 08/17/1996	Forest policy basic law *	_____
DL n° 63 of 03/22/2004	Permanent Forest Fund *	_____
DL n° 127 of 08/05/2005	Forest Intervention Zones (Mainland)	DL n° 15/2009, of 14th January; DL n° 2/2011, of 6th January; DL n° 27/2014, of 18th February and DL n° 67/2017, of 12th June.
Council of Ministers Resolution n° 5 of 01/18/2006	Strategic Guidelines for Recovery of Burned Areas *	_____

DL n° 124 of 06/28/2006	National Forest Fire Defense System (Mainland)	DL no. 15/2009, of 14th January; DL no. 17/2009, of 14th January; DL no. 114/2011, of 30th November and DL n.º 83/2014, of 23th May.
Council of Ministers Resolution n° 65 of 05/26/2006	National Forest Fire Protection Plan*	_____
Council of Ministers Resolution n° 114 of 09/15/2006	National Forest Strategy *	Updated by Council of Ministries Resolution n° 6- B/2015, signed on 11th December 2014
DL n° 16 of 01/14/2009	Legal regime of Regional Forest Plans; Forest Management Plans and Specific Forest Intervention Plans*	DL n° 114/2010, of 22th October; DL n° 27/2014, of 18th February and DL n° 65/2017, of 12th June.
Council of Ministers Resolution n° 24 of 04/01/2010	National Strategy for Adaptation to Climate Change *	_____
DL n° 96 of 07/19/2013	Legal regime for afforestation and reforestation actions (Mainland)	Approved Revision
Council of Ministers Resolution n° 28 of 04/07/2014	Operational Program of Forest Health (Mainland)	_____
DL n° 66 of 06/12/2017	Forest Management Entities N*	_____
Law n° 8 of 01/19/2017	Sapper Forest Teams (?)	_____
DL n° 64 of 06/12/2017,	Forest Biomass Power Stations (Mainland)	_____
Council of Ministers Resolution n° 83 of 12/15/2016	Pilot Plan - Peneda-Gerês National Park (Mainland)	_____
Council of Ministers Resolution n° 59 of 05/08/2017	National Controlled Fire Program (Mainland)	_____

*: It applies to entire national territory, including autonomous regions. Source: ICNF, n.d.

Concerning forest policies, National Forest Strategy (NFS), Regional Plan of Territorial Planning (PROT) and Rural Development Program (RDP) are among the main forest policies in Portugal. NFS provides a guide for other planning formulation and the last two ones make possible their concretization. National Forest Strategy presents a matrix containing the intervention lines, objectives, targets, responsible entities, financing instruments and indicators. Its intervention lines are (ENF, 2006):

- Minimizing fire risk and biotic agents;
- Territory specialization;
- Improving productivity through sustainable forest management;
- Reducing market risk and increasing product value;
- General improvement of the sector efficiency and competitiveness;
- Policy instruments rationalization and simplification.

Portugal is also a signatory to several international agreements, among them are: Ministerial Conferences for Forest Protection in Europe (FOREST EUROPE); United Nations Convention to Combat Desertification; United Nations Forum on Forests (UNFF); International Tropical Timber Agreement (ITTA) and European Union regulation on wood and wood products (RUEM). This reveals country's commitment with global forest policies. (Sarmiento, 2012).

In relation to public agencies, Nature and Forests Conservation Institute (ICNF) is a public institution of indirect State administration, which, currently, exercises national forest authority functions, supporting formulation and promoting implementation and enforcement of national forest policies in mainland. Included in its central service are Department of Public Area Management and Forest Protection (DGAPPF) and Department of Forest Management and Production (DGPF). DGAPPF is composed by Division of Forest Defense and Public Area Valorization and Forestry Phytosanitary and Arboretum Protected Division. DGPF is divided in Forestry Management Division and Forest Production Support and Wild Resource Valorization Division. There are also five decentralized services named as Nature and Forests Conservation Department (DCNF), acting in each continental administrative regions. DCNF in North and Center regions presents 5 division: Administrative and Financial Support Division (DAAF); Operational Management and Inspection Division (DGOF); Operational Management and Valorization Division (DGOV); Project Licensing and

Evaluation Division (DLAP) and Project Planning and Evaluation Division (DPAP). In Lisbon and Tagus Valley and Alentejo, DCNF is divided in the same previous divisions, less Operational Management and Valorization Division (DGOV), while the Algarve department has only 3 divisions (DAAF, DGOF and DLAP) (ICNF, n.d.).

In Madeira's Autonomous Region, Institute of Forests and Nature Conservation (IFCN) is the public institution, subordinated to the Regional Secretariat of Environment and Natural Resources (SRARN), responsible for promoting implementation and coordination of policies defined by the Regional Government, also exerting monitoring activities and ensuring the management and certification of forest areas (SRARN, 2017).

Regional Government in Azores performs its tasks of forestry scope through Regional Direction of Forest Resources (DRRF), service linked to the Regional Secretariat of Agriculture and Forests (SRAF) and responsible for defining and implement forest policies, in addition to overseeing forestry exploitation activities (DRRF, n.d.).

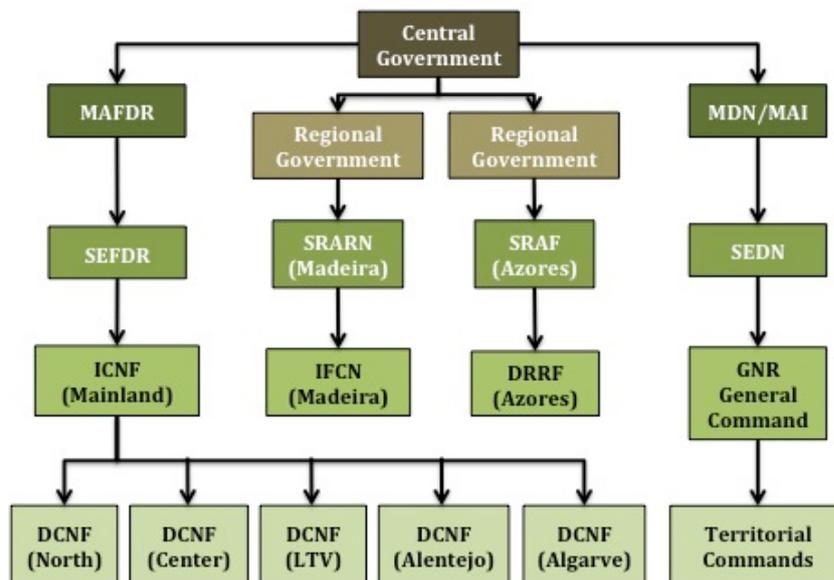
Despite the role played by these institutions (mainly in the operational field), it is also possible to perceive a certain level of decentralization in relation to local government (municipalities), which performs intervention in matters related to municipal management plans, forest fire protection, fire brigades, among others (ICNF, 2014).

Another essential support for forest policy implementation is funding. In Portugal, in addition to the State budget, financial instruments are available through the Permanent Forest Fund (FFP) and Portugal 2020. The last one is a partnership agreement between Portugal and European Commission, which replace the Strategic Framework for National Reference and bring together 5 European Fund: ERDF (European Regional Development Fund), Cohesion Fund, ESF (European Social Fund), EAFRD (European Agricultural Fund for Rural Development) and EMFF (European Maritime and Fisheries Fund) (Portugal 2020, n.d.).

Concerning enforcement, since forest legislation plays a supporting role in forest policie formulation and implementation, law compliance also ensures their enforcement. In Portugal, Republican National Guard (GNR) is a military institution, subordinated to Minister of National Defense (MDN) and Minister of Internal Affairs (MAI), responsible for ensuring compliance with legislation, also in forestry and environmental fields, preventing and investigating illegal activities throughout the national territory, including the autonomous regions. The GNR has Territorial Commands, directly subordinated to the General Command, that operate in all country’s districts (GNR, 2017).

The organizational chart in Figure 6 presents a simplified institutional and administrative structure of forest governance in Portugal.

Figure 6. Simplified administrative structure in Portugal



Source: ICNF, n.d.

6.1.2 EU Forestry Strategy adoption

National Forest Strategy, atualized version (Council of Ministries Resolution n° 6-B/2015, of 11th December 2014) also include autonomously Regional Forest Strategies of Madeira and Azores regions. Together with RDP 2014-2020 and its measures related to forestry, these policies encompasses all 8 EU Forest Strategy priorities areas, even at regional level.

Since this atual version of National Forest Strategy is in force and its evaluation was not carried out yet, the overview analysis about implementation has been made based on the previous version (Council of Ministers Resolution n° 114/2006, of 15th September) and also on ex-post evaluation of previous Rural Development Program 2007-2013 (Table 3).

Table 3. Main forest-related policies at regional level

Portugal Mainland and Autonomous Regions Forest-related Programs					
Communities	Policies	Vigency	Evaluation type/year	Revision/ Atualization	Responsibility
Mainland	ENF 2006;	24 years	Mid-term 2010	Atualized 2014	Nature and Forests Conservation Institute (ICNF)/ General
	RDP 2007-2013	7 years	Ex-post 2016	RDP 2014-2020	Directorate for Agriculture and Rural Development (DGADR)
Madeira A.R.	RFSM 2006;	24 years	Mid-term 2010	Atualized 2014	Institute of Forests and Nature Conservation (IFCN)/
	RDP 2007-2013	7 years	Mid-term 2015	RDP 2014-2020	Regional Secretariat for Agriculture and Fisheries (SRAP)
Azores A.R.	RFSA 2006;	24 years	Mid-term 2010	Atualized 2014	Regional Direction of Forest Resources (DRRF)/ Regional
	RDP 2007-2013	7 years	Mid-term 2013	RDP 2014-2020	Secretariat for Agriculture and Environment (SRAA)

Source: ENF, 2006; ENF, 2014; Proder, 2016; Proderam, 2016 and Prorural, 2014.

In 2010, a study was carried out to evaluate National Forest Strategy implementation based on its intervention lines, strategic objectives adequacy, set of indicators and the Strategy evaluation system. The mentioned study concluded that, despite the intervention

lines adequacy, evaluation results showed a poor level of planned actions execution. It also points out some external factors that could have affected its implementation, as well as possible causes inherent to Strategy itself (IESE, 2012; ICNF, 2013). Among external factors presented were:

- Forestry sector structural problems, including land tenure and property rights;
- Uncertainties in financing the main forestry sector interventions;
- Network problems, with low formal articulation between forest sector stakeholders;
- Compatibility conditions between NFS and PROT plan;
- Monitoring problems resulting from National Forest Resources Information System partial implementation.

Inherent to the Strategy itself, possible causes of the weak action executions are:

- Unsatisfactory multi sector coordination in key operational areas (eg., coordination between Environment, Finance and Economy Ministry);
- Unsatisfactory identification of actors' responsibilities;
- Reduced public participation in monitoring implementation;
- Absence of Action Plans (by filiere).

Regarding RDP, only mainland presented an ex-post evaluation, in which program financial execution was 99,6%. Autonomous regions of Madeira and Azores presented continuous evaluations carried out at the end of the program that showed a good execution level (94,7% and 78,7% respectively).

7.1 SPAIN

Spain has a territory of approximately 505,370 km², and according its Constitution (Spanish Constitution of 1978, article n° 137), it is organized in Autonomous Communities (17), Provinces (50) and Municipalities (8.122), as well as 2 Autonomous Cities located in

African extreme north continent (Ceuta and Melilla).

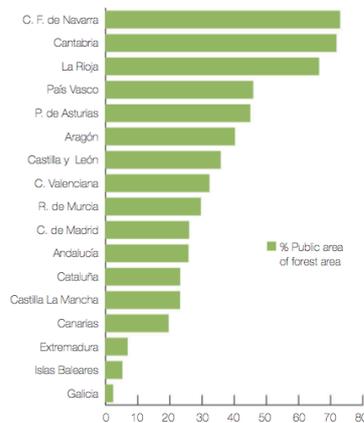
Figure 7. Spanish Autonomous Communities



Source: http://www.sos-emergencias.es/sos_en_espa~na/espa~na.htm

According to the 4^o National Forest Inventory preliminary results, forests cover approximately 55% of the Spanish territory, being that about 70% of this area is private land and about 27% are public land. However, there is a great difference in relation to forest land ownership among Autonomous Communities, as shown in Figure 8 (MAGRAMA, 2012).

Figure 8. Public forest land in Spain



Source: MAGRAMA, 2012

In Spain forests, the main tree species are: *Pinus pinaster*, *Pinus sylvestris*, *Eucalyptus* sp., *Pinus halepensis*, *Fagus sylvatica*, *Pinus nigra*, *Quercus ilex*, *Quercus pyrenaica*, *Quercus pubescens*, *Pinus radiata*, *Quercus robur* and *Quercus petraea* (MAGRAMA, 2012).

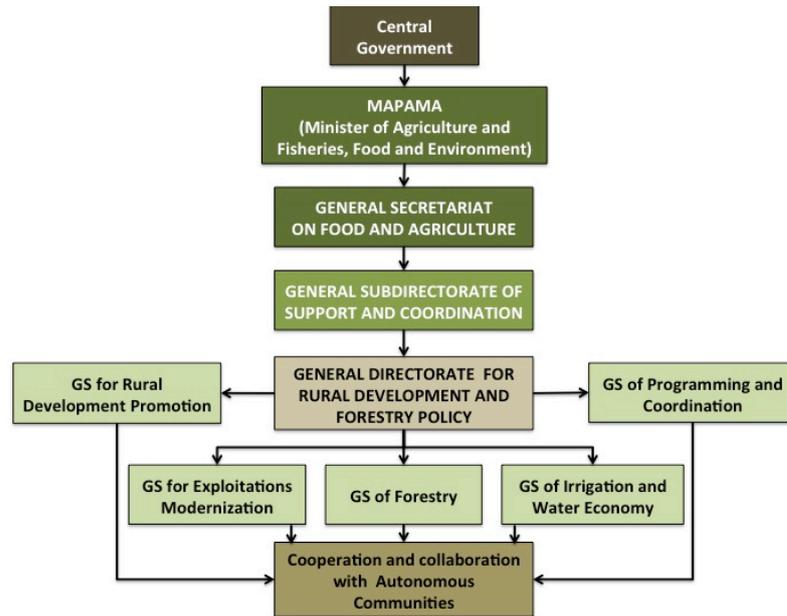
Regarding socioeconomic benefits, in 2009 forestry sector generated a value of 6.635 million, contributing with 0,63% of the national GDP (Gross Domestic Product). In 2013, approximately 135.600 jobs was generated for this sector (MAGRAMA, 2014).

7.1.1 Forest governance structure

Despite being a country with an unitary political system, autonomous communities in Spain have a significant degree of decentralization related to several sectors, including forestry, where there was a transfer of administrative competence and management of forest land from the central administration to the autonomous communities (MMA, 2002).

The highest authority in the sector is the Minister of Agriculture and Fisheries, Food and Environment (MAPAMA), his Ministry was created in November 2016 to replace the Ministry of Agriculture, Food and Environment - MAGRAMA (MAPAMA, n.d.).

Figure 9. Simplified administrative structure in Spain



Source: MAPAMA, n.d

Unlike Portugal, whose Ministry of Agriculture, Forestry and Rural Development makes a separation between forestry and rural development, in Spain, Ministry of Agriculture and Fisheries, Food and Environment does not have a specific activity area for Forestry, and policies for this sector are inserted in activity areas related to rural development (MAPAMA, n.d.).

Spanish forest policy is based on the National Forest Program (NFP) framework, provided by the Intergovernmental Panel on Forests (IPF), and can be divided into three instrument types: Legislative Instruments; Forest Planning Instruments and Implementation Instruments (MAPAMA, n.d.).

Forestry Law 43/2003, of November 21 (amended by Law 10/2006, of 29 April and Law 21/2015, of 20 July) provides basis for forest planning and forest law formulation by Autonomous Communities (Table 4). With exception of Canary Islands, Extremadura and

autonomous cities of Ceuta and Melilla, all other Autonomous Communities have their own forest laws (MAPAMA, n.d.).

Table 4. Main forest related legislation in Spain

Main forestry-related legislation in Spain		
Legislative Act	Summary	Amendments
Law n° 43/2003, of 21th November	Basic Forest Law	Law 10/2006, of 29 April and Law 21/2015, of 20 July
Royal Decree n° 1088/2015, of 4th December	Ensure legality of wood and wood products commercialization.	---

Source: MAPAMA, n.d.

As planning instruments are: Spanish Forest Strategy; Spanish Forest Plan (being that all Autonomous Communities have their own forest plan, less Ceuta and Melila cities); Forest Resources Management Plans (PORF), prepared and approved also by Autonomous Communities; Spanish strategy for development of energy use of residual forest biomass and Forestry Sector Socioeconomic Activation Plan (MAPAMA, n.d.). All Autonomous Communities have also their RDP approved for 2014-2020 period.

As one of the main forest plans, Spanish Forest Strategy, is a national strategy created in 1999 and with review supposed every 10 years. Its objectives and strategies are developed through Spanish Forest Plan, created in 2002 and projected until 2032 with the purpose of supporting strategic actions developed by Communities, acting as a complement and establishing coordination mechanisms and procedures that facilitate these policie implementations, without, however, replacing autonomous actions. Its intervention lines were divided into eight axes, that in turn, were grouped into three blocks (MMA, 2002):

A – Actions on territory

- A. 1. Vegetation cover restoration and extension of the wooded area;
- A. 2. Sustainable Forest Management;

A. 3. Forest defense and protection of forest public heritage;

A. 4. Biodiversity conservation and sustainable use of forest resources

B – Actions of socio-economic and cultural nature

B. 1. Forest product industries promotion

B. 2. Forest culture; Forest social value

B. 3. Forestry information and research

C – Actions of institutional and administrative nature

C. 1. Coordination instruments and foreign forestry policy

Spanish Forest Plan presents a generic description of actors, their responsibilities and a table of indicators, targets and timeframe only for some action lines, related mostly to interventions on territory. No further details are given about costs, financing instruments and bodies or entities responsible for carrying out each activity, since forest policies for Communities are formulated at regional level (MMA, 2002).

Concerning implementation, currently, Forestry Committee is the body responsible for coordination between State General Administration (AGE) and Autonomous Communities regarding forest policy matters. In turn, State Council of Natural Patrimony and Biodiversidad acts as advisory and public participation body (MAPAMA, n.d.). According Spanish Rural Development Network (REDR, n.d.), Local Action Groups (GAL) or Rural Development Groups (GDR) also contribute with the development of the programs at regional and local level.

Funding for forestry policies implementation in Autonomous Communities comes from central government, regional governments and European funds, especially those for rural development (MAPAMA, n.d.).

Concerning enforcement, forest agents are civil servants subordinate to Autonomous Communities and perform police functions, inspection, surveillance, investigation and other activities related to compliance with forest legislation (AEAFMA, n.d.).

7.1.2 EU Forestry Strategy adoption

The set of Spanish forest policies at national and also regional level cover all eight EU Forest Strategy priority areas. However, some of these regional plans do not provide more detailed planning concern implementation activities and how monitoring and evaluation will be carried out. Others plans include activities costs and the expected investment to carry them out, using a comparison between the amount already invested and the amount predicted in order to monitor and evaluate activities execution. Some plans mention the use of Pan-European Criteria and Indicators for monitoring and evaluation procedure (MAPAMA, n.d; MMA, 1999; 2002).

Most Autônômus forestry plans have a long-term horizon and make reference to periodic reviews and evaluations. However, so far this writing, it was possible to find only five revised plans (Andalusia, Castilla La Mancha, Community of Madrid, Extremadura and Murcia Region) and two evaluation reports (Principality of Asturias and Murcia Region).

Asturian Forest Plan has a duration of 60 years, however, to facilitate its operationalization, it was divided into four phases of 15 years. In 2013 was carried out an evaluation based on the financial execution for 2001-2015 period. Missing two years to complete this period, the plan had already achieved an implementation rate of 94,44%.

The new Murcia Forest Plan is ongoing and a mid-term evaluation for the previous one (2003-2013) was carried out based in 2003-2007 period. This previous plan was composed for several programs, which were evaluated and the results for each one were presented in a report revision containing also the financial execution by program. However,

that report does not present a general implementation rate, as some of these programs exceeded the predicted costs while others did not reach the expected level of implementation for the period under review.

Regarding RDP implementation, until this writing, only Aragon RDP ex-post evaluation was found and its degree of financial execution was 99,28%.

In Spanish Communities, forestry are hosted by diferents entities, and some of these entities, responsible for forestry plan implementation, have already been extinguished and it was not possible to identify the current responsible body for plans that are still in force (Table 5).

Table 5. Main forest-related policies at regional level

Autonomous Communities Forest -related Programs					
Communities	Policies	Vigency	Evaluation type/year	Revision and Atualization	Responsibility
Andalusia	PFA 1989	60 years	---	3 revisions	Environment and Spatial
	RDP 2007-2013	7 years	Mid-term 2010	performed	Planning Counseling
Aragon	RDP 2007-2013	7 years	Ex-post 2016	Plan formulation in progress	Department of Rural and Sustainable Development
Canary Islands	PFC 1999	28 years	---	---	Function transfer in forestry matter to municipalities
	RDP 2007-2013	7 years	---	---	
Cantabria	PFC 2005	15 years	---	---	EXTINCT – Counseling of Livestock, Agriculture and Fisheries
	RDP 2007-2013	7 years	---	---	
Castilla La Mancha	PCMN 1994	60 years	---	1 revision performed	EXTINCT – Natural Environment General Directorate of Agriculture and Environment Counseling
	RDP 2007-2013	7 years	---	---	
Castile and Leon	PFCL 2001	26 years	---	---	Development and Environment Counseling
	RDP 2007-2013	7 years	---	---	
Catalonia	PGPFC 2014	10 years	---	---	Department of Agriculture, Livestock, Fisheries and Food
	RDP 2007-2013	7 years	---	---	
Madrid Community	PFCM 2000	20 years	---	1 revision performed	Environment, Local Administration and Land Management Counseling
	RDP 2007-2013	7 years	---	---	

Navarre Community	PFN 1999	30 years	---	---	General Directorate for Environment and Spatial Planning
	RDP 2007-2013	7 years	---	---	
Valencia Community	PATFOR 2013	---	---	---	Land Management Counseling
	RDP 2007-2013	7 years	---	---	
Extremadura	PEFE 2000	30 years	---	1 revision	Natural Environment General Directorate
	RDP 2007-2013	7 years	Mid-term 2010	performed	
Galicia	PFG 1992	40 years	---	Ongoing review	General Directorate of Forestry and Natural Environment
	RDP 2007-2013	7 years	---	---	
Balearic Islands	PFIB 2014	20 years	---	---	General Directorate for Natural Environment, Environmental Education and Climate Change
	RDP 2007-2013	7 years	---	---	
La Rioja	PECMN 2004	20 years	---	---	EXTINT – Tourism, Environment and Territorial Policy Counseling
	RDP 2007-2013	7 years	---	---	
Basque Country	PFV 1994	36 years	---	---	Economic Development and Infrastructures Department
	RDP 2007-2013	7 years	Mid-term 2010	---	
Asturias Principality	PFPA 2001	60 years	Mid-term 2013	---	Livestock Farming and Regional Natural Resources Counseling
	RDP 2007-2013	7 years	---	---	
Murcia Region	EFRM 2003	10 years	Mid-term	1 revision performed	General Directorate of Natural Environment
	RDP 2007-2013	7 years	---	New plan in progress	
Ceuta		---	---	---	---
Melilla		---	---	---	---

Source: Red Rural Nacional España, 2017 and Regional Forest Plans.

8.1 ITALY

Italy is an unitary country administratively divided into 21 Regions, 14 Metropolitan Cities, 110 Provinces and 8.103 Communes. Despite that, its regions are autonomous entities, with their own powers, functions and statutes (Italian Constitution, Article 114), being that five of these regions (Aosta Valley, Trentino - Alto Adige, Friuli - Venezia Giulia, Sicily and Sardinia) have a special status with a distinct autonomy from the others (Figure 10) (INFC, 2005).

Figure 10. Italy Regions



Source: <http://www.tricepage.be/nl/onze-wijnen>

Its territorial extension is approximately 30.132,845 ha, of which 10.467,533 ha (35%) is covered by forests, which in turn are divided in Woods (83,7%) and other wooded lands (16,3%). Almost 81% of forest cover is available for silviculture practices and more than 86% of the forests have some type of planning, being that for Arboriculture, 43,5% of these lands have planning. In Italian forest main tree species are *Quercus pubescens*, *Quercus robur*, *Fagus sp.*, *Quercus cerris*, *Quercus farnetto*, *Quercus trojana*, *Quercus macrolepis*, *Castanea sativa*, *Carpinus betulus* and *Ostrya carpinifolia* (INFC, 2005; PQSF, 2008).

As for land ownership, 32,4% of the forest cover is public, and 63,5% is private, with Trentino district having the largest area of public property (72,2%) and Liguria (82,3%), Emilia Romagna (82,0%) and Tuscany (80,0%) districts with the largest areas of private forests (INFC, 2005).

The amount of wood extracted annually corresponds to less than 1/3 (9.000.000 m³) of the annual wood increment (37.200.000 m³) and 60% is used at energy production, being that

70% of wood used in transformation industry is imported. However, despite showing insufficient supply of raw material, Italian forestry sector consists in more than 125.000 companies and generate around 720.000 jobs, being the largest exporter of finished products in the world, having wood furniture industry as the main transformation industry of the sector (ANEA, 2014).

8.1.1 Forest governance structure

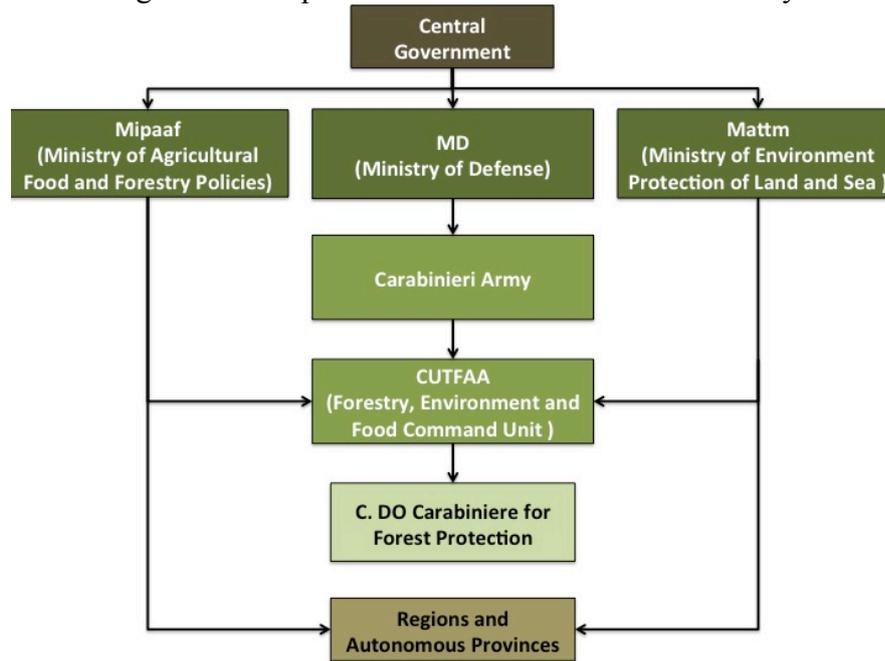
Regarding institution responsibilities and roles, according Italian Constitution Title V, Central Government is responsible for environmental protection and Autonomous Regions and Provinces are responsible for forest matters, having legislative and normative powers and being also responsible for promoting regional forest inventory and elaboration and implementation of Regional Forest Plans (PQSF, 2008).

Since forestry activities are regions exclusive competences, Ministry of Agricultural Food and Forestry Policies (Mipaaf) acts as a guide and coordinator, in addition to representing Italian forestry policies internationally (Figure 11). Another ministry involved with forest sector is Ministry of Environment Protection of Land and Sea (Mattm), which, among other functions, is responsible for sustainable forest management, biodiversity conservation, land management in protected areas and forest fire prevention planning in state protected areas, in addition to be committed with implementation of activities related to European conventions and programs, such as UN Convention on Climate Change (UNFCCC), UN Convention on Biological Diversity, Ministerial Conference on Protection of Forests in Europe (MCPFE), FLEGT Program, among others (PQSF, 2008).

Both of these ministries worked in partnership with State Forest Corps (CFS). However, in 2016, Legislative Decree n° 177/2016, of 19th August dissolved State Forest Corps and transferred its attributions to Carabinieri Army, an institution with autonomous

location within the Ministry of Defense, which through Forestry, Environment and Food Command Unit (CUTFAA), coordinate monitoring activities, surveillance and control, in addition to be responsible for conducting the National Forest Inventory (MD, n.d.; PQSF, 2008).

Figure 11. Simplified administrative structure in Italy



Source: MD, n.d.; PQSF, 2008.

Due large fragmentation of land ownership, low profitability of silvicultural activities and the high cost of managing small forest lands, forest associations, cooperatives and consortia play an important role in management of public and private assets in Italy, as they boost the sector's economy by increasing integration among operators, improving competitiveness and reducing production costs, as well as ensuring greater protection of forest patrimony. Through voluntary consortia land owners may to formulate and implement forest management plans, have access to sustainable forest management certification, public funding and others benefits. In Italy, main fundings for forestry policies comes from European

Agricultural Fund for Rural Development (EAFRD) and from national and regional resources (PQSF, 2008).

In the legal and regulatory field, main forest legislative instruments, at national level, are showed in Table 6. Currently, each of the 21 regions has its own forestry laws and regulations, presence of Maximum Requirements and Forest Police (PMPF) planning and Forest Fire Plan. However, recently Council of Ministers approved Mipaaf legislative decrees, between them, forest legislation reform with creation of the new National Forest Law, which, among other provisions, outlines innovative criteria of programming and forest planning (Mipaaf, 2017).

Table 6. Main forest-related legislation in Italy.

Main forestry-related legislation in Italy		
Legislative Act	Summary	Amendments
Royal Decree Law n° 3267/1923, of 30th December	Maximum Requirements and Forest Police	---
Law 353/2000, of 21th November	Framework law on forest fires	---
Legislative Decree n° 227/2001, of 18th May	Forestry guidelines	Law n° 35/2012, of 4th April
Ministerial Decree 2005, of 16th June	Forestry planning guidelines	---
Law n° 296/2006, of 27th December	Financial Law	---
Legislative Decree n° 177/2016, of 19th August	Provisions on police function rationalization and State Forestry Corps absorption	---

Source: MD, n.d.; PQSF, 2008.

In the forestry policie scope, National Framework Program for Forestry Sector (PQSF), provided by Legislative Decree n° 227/2001, of 18th May, acts as a national strategy guideline for regions developing their own forest policies. PQSF priority objectives are (PQSF, 2008):

A. Develop innovative and efficient forest economy;

- B. Protecting territory and environment;
- C. Guaranteed benefits for public and social interests;
- D. Promote coordination and communication.

In addition to the PQSF, Italian forestry planning is also carried out at regional, territorial and ownership level through Regional Forest Plans (RFP's), Territorial Forest Plans (PFT's) and Forest Settlement Plans (PFA's). Regions that do not have a RFP develop their forestry strategies within forest-related programming such as Rural Development Programs (RDP) and management plans at local level. However, concerning RFP, from the 16 programs found, 6 have already its vigency expired and 5 do not make any reference regarding program vigency (Table 5).

8.1.2 EU Forestry Strategy adoption

The set of national and regional programs covers all eight priority areas of the EU Forestry Strategy, even in regions that do not have an RFP, thanks to measures and actions related to forestry sector inside the RDP's. However, respecting implementation, no evaluation report was found for any of the forestry programs. As for RDP 2007-2013, only Lazio, Piedmont and Tuscany regions presented an ex-post evaluation, with financial execution level of 100%, 99% and 88,6% respectively (Table 7).

Table 7. Main forest-related policies at regional level

Autonomous Regions and Provinces Forest-related Programs					
Communities	Policies	Vigency	Evaluation type/year	Revision/ Update	Responsibility
Piedmont	PFR 2017	10 years	---	---	Piedmont Forests Sector
	RDP 2007-2013	7 years	Ex-post 2015	---	
Valle d'Aosta	RDP 2007-2013	7 years	---	---	Forestry Department and Natural Resources
Lombardy	RDP 2007-2013	7 years	---	---	Provincial government responsible for planning

A.P. of Bolzano	PFP 2011	---	---	---	Forests Department
	RDP 2007-2013	7 years	Mid-term 2010	---	
A.P. of Trento	RDP 2007-2013	7 years	---	---	Forests and Wildlife Dep.
Veneto	Dgr n. 2224 of 20/12/2011	---	---	---	Regional Forest Services
	RDP 2007-2013	7 years	---	---	
Friuli V. Giulia	RDP 2007-2013	7 years	Mid-term 2010	---	Environmental Protection, Sustainability and Natural Resource Management
Liguria	PFR 2006	5 years	---	---	Agriculture and Civil Protection Department
	RDP 2007-2013	7 years	---	---	
Emilia Romagna	PFR 2016	6 years	---	---	Parks and Forestry Service
	RDP 2007-2013	7 years	---	---	
Tuscany	PRAF 2012	4 years	---	---	Agriculture and Forest
	RDP 2007-2013	7 years	Ex-post 2015	---	
Umbria	PFR 2009	10 years	---	---	Service Forests, mountains, naturalistic systems, fauna.
	RDP 2007-2013	7 years	Mid-term 2010	---	
Marche	PFR 2005	---	---	---	Agriculture, Rural Development and Fisheries - Forest
	RDP 2007-2013	7 years	---	---	
Lazio	PFR 2009	6 years	---	---	Forests and Ecosystem Services
	RDP 2007-2013	7 years	Ex-post 2016	---	
Abruzzo	RDP 2007-2013	6 years	---	---	Rural Development Agriculture
Molise	PFR 2015	---	---	---	Agriculture and Forest - Forest Planning Management Officer
	RDP 2007-2013	7 years	---	---	
Campania	PFG 2009	5 years	---	---	General Directorate for Agricultural, Food and Forestry Policies
	RDP 2007-2013	7 years	Mid-term 2010	---	
Puglia	PFR 2005	15 years	---	Update	Forest and natural resource management
	RDP 2007-2013	7 years	---	2014	

Basilicata	PFR 2013	10 years	---	---	Forestry and Land Protection Office - Agriculture and Rural Development Department
	RDP 2007-2013	7 years	---	---	
Calabria	PFR 2007	6 years	---	New plan in progress	Agriculture and Agri-Food Resources Dep
	RDP 2007-2013	7 years	---	---	
Sicily	PFR 2009	5 years	---	---	Regional Department of Agriculture, Rural Development and Mediterranean Fisheries
	RDP 2007-2013	7 years	---	---	
Sardinia	PFAR 2007	---	---	---	Regional Forest Agency
	RDP 2007-2013	7 years	---	---	

Source: Rete Rurale Nazionale Italia, 2017 and Regional Forest Plans.

10. DISCUSSION

10.1 NORMATIVE STRUCTURE

In the normative scope, all these three countries have a basic forest law that assists in formulation of laws, regulations and forestry policies at regional and local level. Nonetheless, Portugal presents a more complex and centralized legislative framework, with a great amount of laws and regulations at national level that often appear inadequate to some regions realities, as an example, the controversial DL n ° 96 of 07/19/2013, on afforestation and reforestation actions, also known as eucalyptus law. This law dispensed prior authorization for plantations in areas with less than 2 ha, requiring only prior communication. However, according Coelho (2003), Portugal presents a highly fragmented land structure and most properties have less than 2 ha, mainly in the northern and central regions, where there are the highest incidences of fires (ICNF, 2014).

Despite having a more simplified and decentralized regulatory framework than Portugal, according PQSF (2008), Italy also presents an “inadequate system of laws, plans and organizational models at national, regional and local level” as being one of the forestry sector weakness points. In other hand, Spain has an unique Forestry Law that serves as basis for forest laws formulation at regional level. However, a more simplified legislative system is no guarantee that it is aligned with forestry policies or meet sector needs. In 2015 Spanish forestry law was reformed, eliminating the 30-year limit needed to reclassify burned land. For many environmentalists, this changes will further increase the number of fires, since during the last two decades more than 60% of fires in Spain were intentional (DGB, 2005).

Therefore, a complex and inadequate legislative framework hinder law compliance, increases bureaucracy for forest operators, discourages investment in forest sector, inhibits smallholders participation and “threatening the credibility of public institutions”, hindering

implementation and enforcement of policy measures (PQSF, 2008; ENF, 2014, p.88).

10.2 INSTITUTIONAL AND ADMINISTRATIVE STRUCTURE

Concerning administrative field, central government of both Spain and Italy transferred responsibility for forestry issues to regional governments. Regional government, for its part, operates through secretariats and departments responsible for developing, implementing and strengthening forest policies at regional level. In Spain, Canary Islands regional government transferred its functions in forestry matter to municipalities.

In Portugal, administrative decentralization occurs only in relation to Madeira and Azores autonomous regions. Despite the existence of decentralized services (DCNF) operating in each of the five continental administrative regions, ICNF is the national forest authority responsible for formulation, implementation and enforcement of national forestry policies for whole mainland.

Administrative decentralization can reduce costs and bureaucracies by facilitating decision-making process (World Bank Group, n.d.), but according Colfer and Capistrano (2008) it must be accompanied by adequate authority, revenues and accountability mechanisms, besides decentralization of other government functions, such as fiscal and political functions, otherwise it can also hamper coordination, communication, implementation and monitoring activities (World Bank Group, n.d.), in addition to loss of control by central government.

Some advantages and disadvantages related to forest governance structure in Portugal, Spain and Italy are showed in Table 8.

Tableau 8. Pros and Cons related to forest governance structure in Portugal, Spain and Italy.

Structures	Pros	Cons
Normative	- Reduce costs and bureaucracies (ES)	- Increase bureaucracy (PT, IT)
Simplified	- More consistence (ES)	- Discourage investment (PT, IT)
Complex	- Better compliance (ES) - Encourage smallholders particip. (ES)	- Inhibit smallholders particip. (PT, IT) - Threat public adm. credibility (PT, IT)
Administrative	- Reduce costs & bureaucracies (ES, IT)	- Hinder commun. & coord. (ES, IT)
Centralized	- Facilitating decision-making process (ES,IT)	- Hinder control (ES, IT)
Decentralized	- Better commun. & coord. (PT)	- Hinder transpar. & accountab. (ES, IT)
Programmatic	- Reduce time & costs (ES, IT)	- Increase time & costs (PT)
National level	- Facilitate decision-making process (ES, IT)	- Hinder decision-making process (PT)
Regional level	- Increase participation (ES, IT) - Better suited to regional needs and realities (ES, IT)	- Decrease participation (PT) - Less suited to regional needs and realities (PT)

Source: PQSF, 2008; Colfer & Capistrano, 2008; ICNF, 2014 and Secco et al., 2014.

10.3 INSTRUMENTAL AND PROGRAMMATIC STRUCTURE

Regarding instrumental and programmatic structure, Portugal, Spain and Italy have a National Forest Inventory (NFI) with periodicity of ten years and continuously fed by data coming from Regional Forest Inventories. According (Vibrans, Gasper & Müller 2012, p. 6), such updating knowledge concerning forest reality is fundamental to develop clear, consistent and realistic forest policies, because it “allows adoption of concrete measures for its implementation.”

These three countries also have a National Forestry Program or similar ones. Nonetheless, in Portugal only autonomous region of Madeira and Azores have their respective regional forestry plans, since mainland regions are embedded in National Forestry Program. In Spain all regions have a regional forest plan in force or in formulation process, as is the case of Aragon and Murcia regions. In Italy, regions that don't have regional forestry plans develop their strategies within Rural Development Programs.

All three countries have their national and regional forest-related policies aligned with

EU Forestry Strategy, being that measures about Forest in changing climate and Protecting forests and enhancing ecosystem services are more frequent and measures related to Fostering coordination and communication are less frequent and less clearly integrated in national policies.

11. CONCLUSION AND RECOMMENDATIONS

Portugal has a more centralized governance structure than other analyzed countries. Spain governance structure presents more advantages than Portugal and Italy, mainly related to normative structure. In turn, Portugal presents more disadvantages, specially related to normative and programmatic structure.

All these countries have their national and regional forest-related policies aligned with EU Forestry Strategy. However, since analysis carried out in this research was a desk-based analysis, further studies, based on empirical evidences, are recommended, for verify EU Forestry Strategy adoption in practice. Highlighting that all analyzed countries recently initiated a forestry reform.

Normative, administrative and programmatic structures in selected countries can exerts influence on EU Forestry Strategy adoption if it is not aligned with forest-related policies.

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