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Orchestrating Forest Policy in Italy: Mission Impossible?

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Abstract: In the Italian political and economic agenda the forest sector occupies a marginal role. The forest sector in Italy is characterized by a high institutional fragmentation and centralized decision-making processes dominated by Public Forest Administrations. Public participation in forest policy processes has been implemented since the 1990s at national, regional and local levels in several cases. However, today no significant changes have been observed in the overall governance of the forest sector and stakeholders' involvement in Italian forest policy decision-making is still rather limited. The aims of this paper are to describe the state of forest-related participatory processes in Italy at various levels (national, regional and local) and identify which factors and actors hinder or support the establishment and implementation of participatory forest-related processes in the country. The forest-related participatory processes are analyzed adopting a qualitative-based approach and interpreting interactive, complex and non-linear participatory processes through the lens of panarchy theory.

Keywords: panarchy theory; national forest policy framework; stakeholders; participatory forums; interviews survey

1. Introduction

In Italy, forest policy issues are not included in public debates. The forest sector has a marginal role in the political and economic agenda due to its low contribution to GDP [1,2]. Forests and forest-related issues are interconnected with other more important sectors, such as agriculture, rural development, biodiversity conservation, climate change and tourism, but even the role of these sectors in national economic growth and societal challenges has been systematically underestimated or disregarded in spite of their collective importance to the nation. The only reasons for forests becoming visible to public opinion are forest fires during summer.

This situation is due to various factors. First of all, the highly fragmented institutional framework, with 21 regional or provincial public authorities (regions or autonomous provinces) which includes forest sector tasks, has remained decentralized since the 1970s. Decentralization has produced a strong fragmentation in the national forest system: According to the different socio-economic

and environmental conditions, there is a heterogeneous framework of regional forest policies with priorities and issues that vary from region to region [3]. Secondly, there is no single national political institution that efficiently coordinates and links international, national, and regional sectoral policies. Three Ministries are directly involved in the forest sector—"Agriculture, Food and Forestry Policies", "Environment and Protection of Land and Sea", "Culture and Tourism", plus the Ministry for "Economic Development" (for the relevance of the timber industry, which is mainly based on imports). Often, overlaps and unclear distribution of roles and responsibilities among these Ministries result in conflicts between vision statements and incongruence among policies. Recently, in accordance with Law no. 124/2015, the National Forest Service, an important historical institution specialized in protection of the national forestry heritage, environment, landscape and territory, has been merged into another national unit, a national police force that is military in nature (*Arma dei Carabinieri*), not focused on the forest sector. This has created additional conflicts without significantly solving the problem of fragmentation, because the local offices and units are basically maintained even if the hierarchical structure is changed. Recently, a new national Forest Law that tries to address the sector as a whole was approved in 2018 (Law No. 34/2018). Lastly, there is an absence of national private and public forest owners' associations, which are large enough to be considered representative of the whole sector. Only a few and highly fragmented forest-related groups of interest can be identified as organized stakeholders, with an almost complete absence of active private owners.

Public participation in forest policy processes might help to understand and deal with the social and ecological complexity that characterizes the Italian forest sector [4,5]. Participation—in its simpler form of "stakeholders consultation"—has been implemented in Italy in several cases, at national, regional and local levels, since the first experiences connected with the introduction of forest certification mechanisms in the country after 1995 [3]. In the last 20 years, there have been several initiatives based on participation, at various levels, with different drivers such as some European rules (e.g., EC Regulations 1698/2005 and 1305/2013 on the Rural Development Programme for 2007–2013 and 2014–2020, respectively; Agenda 21 Local Programmes; Nature 2000 network), some voluntary market-based policy instruments (e.g., the development of Sustainable Forest Management standards and procedures for forest certification schemes; the development and implementation of schemes for Payments for Ecosystem Services and network- and non-timber forest products based territorial marketing initiatives), and some specific local factors (e.g., the existence of community-based ancient institutions in mountainous areas). However, all the above-mentioned factors create a difficult context for effective and successful participation. They contribute to maintaining the status quo, limiting entrepreneurial innovation and retaining latent conflicts, thus ultimately leading to still centralized decision-making processes dominated by forest public administrations, while other stakeholders seem to have minor roles [3].

Italy suffers from a large number of ineffective and failing participatory processes in the forest sector [3], one of the reasons being the high fragmentation of participatory forums that can be an effect of the fragmentation of the institutional framework, and consequently of objectives and means but also actors and interests. Italian participatory forums often overlap, replicate efforts, and do not interact or create synergies with one another. As a consequence, despite the various participatory-oriented initiatives launched in the country, no significant changes can be observed in the overall governance of the sector.

Starting from these considerations, the aims of this paper are to describe the state of forest-related participatory processes in Italy at various levels (national, regional and local), to provide elements for understanding whether "orchestrating" forest policy [6] in such a context is a "mission impossible" and, regardless, to make recommendations as to what actions could be done in the future that could result in effective national-level forest policy and processes. Crucial guiding questions are: (i) which factors are able to hinder or support the establishment and implementation of effective participatory forest-related processes involving scientists, stakeholders and the general public in the country; and (ii) whether we

have (or not) learned lessons from participatory-oriented experiences in the Italian forest sector in the last 20 years that can now be used to orchestrate policy making.

These questions are particularly challenging if we consider the emerging and stimulating societal changes that participatory forest policy and decision-making processes should take into account at global (e.g., the increasing use of new communication instruments to exchange information, such as social networks and massive open science initiatives) and domestic (e.g., the complex, multi-level and inefficient institutional and legal framework, the absence of organized interested groups, the neglected economic role of forests) levels. Deliberative politics are generative, i.e., they create and animate actors and organizations, define problems and knowledge, and form new institutions for collective action [7], but the processes for reaching these outputs are definitely not linear [8]. This is especially true today, where we must consider the growing complexity of interactive decision-making processes which involve not only policy makers, experts and scientists and other target stakeholders (e.g., forest owners and their associations), but where also the general public is gaining a new role, not only in decision-taking, but also in knowledge co- constructing (e.g., mass-science initiatives).

Concepts of Forest Policy Participatory Processes

To meet our aim of describing participatory processes in Italy, a background on concepts of these processes is needed. Participation is defined by the Food and Agriculture Organization (FAO) of the United Nations [9] as various forms of direct public involvement where people, individually or through organized groups, can exchange information, express opinions and articulate interests, and have the potential to influence decisions or the outcome of specific forestry issues. For the World Bank [10], participation is a process through which stakeholders influence and share control over development initiatives, and the decisions and resources that affect them.

In the last decades, the role of public participation in the development and implementation of forest policy has been recognized at international level. In the 1990s, the Intergovernmental Panel on Forests [11] recommended the development of National Forest Programmes (NFPs) through a participatory process using appropriate mechanisms to involve all interested parties [12,13]. Subsequently, the first EU Forestry Strategy (1998) stressed the relevance of collaboration with all stakeholders in the implementation of international commitments, principles and recommendations through national or sub-national forest programmes, while the new EU Forestry Strategy (2013) emphasized the role of stakeholders to address the three dimensions of sustainable development (social, economic and environmental) in an integrated way.

Recently, in the forest sector new competences and demands are being asked of decision makers, due to the new forest functions that have progressively appeared alongside timber production (i.e., nature conservation, climate change mitigation, protection against natural hazards, recreational use of forests), in order to satisfy the needs of post-modern society [14,15]. The international debate on sustainable development recognizes the importance for forest policies to promote the consideration of the "full value" of forests [16]. An important element in this new approach to policy definition is the shift from a one-dimensional target related to forest productivity to multifunctionality [17].

In this framework, participatory policy processes are a necessity, because the definition of a forest-related policy must take into account a wide range of information related to various settings, involving local communities, adjusting and implementing decisions across different levels with a continuous interplay between top-down and bottom-up governance [18], promoting exchange of knowledge and collaborative learning about problems and their solutions [19], and approaching decisions that are both legitimate and sustainable [20]. Despite these fundamental characteristics, the specific aims of participation may differ according to historical period and the geographical and socioeconomic context [5]. Nevertheless until lately only a few national or regional contexts exist where the participation process for the development of forest policies followed a rigorous procedure and there is still no agreement on a unique, appropriate participation process [21].

2. Materials and Methods

Because participatory-oriented decision-making processes in forestry are systems characterized by a very high degree of complexity, and by multidimensional and non-linear processes and structures [7], we adopt a framework for this study that combines panarchy theory and participatory processes. First, panarchy theory is described. The panarchy model differs from the more static view of traditional hierarchy and "controlled top-down rationalist procedures" [22], so it seems particularly useful for understanding complex multi-level, multi-actor and multi-sector and non-linear decision-making processes typical of participatory forums. The situation in Italy is then described, followed by results based on the use of the panarchy model as a qualitative-based predictive analytical tool to grasp at what stage of development a forum is in, as well as what actions could be used to improve the participatory process.

2.1. Our Framework: Combining Panarchy Theory and Forest Policy Participatory Processes

Panarchy is a model of linked, hierarchically arranged adaptive cycles representing the cross-scale dynamic interactions among the levels of a complex self-organizing system [8]. Panarchy considers the interplay between change and persistence, evaluating both the spatial and time scales [7,8]. Originating from ecological sciences, in its applications to social sciences this theory has been defined as a metaphor used to describe four commonly occurring phases of change in complex systems [8], as a framework to understand the institutional and organizational change needed to enhance resilience [23], to underline discontinuities in urban and regional economic systems [24], and to identify legal reforms that allow for resilience-based governance [25,26]. We argue that panarchy can also be used to interpret forest-related participatory policy making processes and policy changes. Specifically, the four recurrent phases of the adaptive cycle described by panarchy [7] can be used as a qualitative-based predictive analytical tool, to understand how a participatory forum is evolving, its stage of development and, above all, what can be done in advance to prevent failures or reduce problems. The four recurrent phases (identified as r, k, Ω and α in the general theory) are described hereafter as adjusted to forest-related participatory processes. Panarchy theory phases and their complex dynamic interactions are represented in Figure 1.

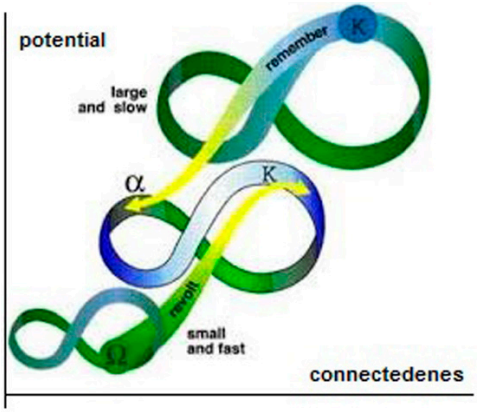

Figure 1. Panarchy theory: phases and dynamic cross-scale interactions. Source: Shannon 2015 [8].

2.1.1. Phase 1: Growth (r)

The first phase is considered not only a growth phase, but also an exploitation phase, where a rapid increase of system components (resources) and scramble competition occurs. It can be assimilated to the first, enthusiastic phase of participatory processes, where human and financial resources are allocated to support the launch and future expected management of the participatory policy initiative. During this phase, a large number of stakeholders are contacted and activated to become involved, preparatory meetings are organized to set the scene, and plans for further development are made. The policy process is typically rapid and quite flexible, many different solutions are still possible, and participants'

perception of the potential of their own and others' participation is still open and positive. To be effective, participatory processes should optimize this phase, taking the maximum advantages from the initial enthusiasm (e.g., using the phase to build reciprocal trust between participants as well as between participants and the governance system [27,28], and consolidate relationships that are crucial for collaboration).

2.1.2. Phase 2: Conservation (k)

The second phase, Conservation, typically lasts longer than the first phase: Growth rates are slower, context limits and potential appear. Besides, resources start to be conserved and tend to be bound up in the system's structure, which becomes more rigid. In our field of application, it corresponds to the phase where policy problems are debated, latent conflicts may first become visible, discussions are long and contribute to slowing the process. Furthermore, resources are being progressively reduced and soon become scarce, the system becomes more rigid, with fixed and strict deadlines and appear the first signs of stakeholders becoming demotivated and/or disappointed. In participatory processes, options for preventing the problems connected to this phase include, for example, allocating enough resources (time, funds) [28,29] for long discussions to be satisfactorily completed and defining a clear step-by-step plan where discussions are followed by taking intermediate decisions.

2.1.3. Phase 3: Release (Ω)

The phase of Release is a rapid phase of collapse or creative destruction, where tightly bound resources become increasingly fragile and are finally dispersed. In our field of application, it corresponds to a stage in which one or more stakeholders decide to leave the process (e.g., being dissatisfied by the results or procedures, or not feeling involved enough) and the process itself seems to have failed. Energy, efforts and time voluntarily dedicated to the process by single participants become scarce, while financial resources allocated for supporting participation are almost finished and cannot be quickly re-instated. In order to prevent potential problems connected to this phase from arising, the previous phases have to be kept as short as possible, and accurately and professionally managed. At the same time enough resources have to be allocated from the beginning. In other words, the organizers should be aware that a good participatory process needs time, qualified soft-skills and money [29–31].

2.1.4. Phase 4: Reorganization (α)

In this last phase, the system innovates and re-structures itself, with two possible solutions: (i) persistence of the original regime, or (ii) a shift to a new one with a different set of processes and structures. In the first case, the participatory process is abandoned and the decision-making procedures remain the same as usual, as defined in the previous regime, often based on a predominant role of the public forest authority, which in the end takes a rational-based decision by primarily engaging experts and scientists, and only marginally considering ideas and proposals expressed by non-experts or the general public. In the second case, the participatory initiative continues but with new procedures, new power distribution among those stakeholders who remained onboard, and with re-defined objectives and preferably with new resources allocated.

Adaptive cycles have the potential to affect both smaller and larger scales. Consequently, the theory emphasizes "cross-scale linkages whereby processes at one scale affect those at other scales to influence the overall dynamics of the system" [7]. This means that, sometimes, small-scale variables and bottom-up processes, which act faster than larger-scale processes, can control and determine the overall system dynamics. Cross-scale or multi-level interactions between more timely policy processes occurring at lower levels (i.e., local, where policies are implemented through projects) and more slower processes occurring at higher and larger hierarchical levels (i.e., national or global, where policies are conceptualized and designed as guiding principles) have been mentioned in the

literature [32,33]. In general, many authors have highlighted that participatory processes are more effective at local level [31,34]. Two other principles of panarchy, Remember and Revolt, are connected with scale and cross-scale issues [7]. The first one, Remember, is based on the idea that larger scale socio-ecological systems regulate lower levels by providing institutional arrangements for resilience i.e., forms of memory that encourage reorganization around the same structures and processes rather than a new set. In our field of application, this principle can be understood as the conservative attitude of forest public administrations, resisting changes [35] and external influences. The second principle, Revolt, is based on the idea that smaller scale socio-ecological systems foster change, experimentation and institutional revolution. In our field of application, it can be interpreted as the chance of inducing institutional revolution typical of pioneers, innovators and bottom-up promoters of new concepts and initiatives (e.g., Rametsteiner 2002 [36] in relation to Sustainable Forest Management (SFM) standards setting processes).

2.2. The Italian Context

The complexity of panarchy adaptive cycles and their phases is exacerbated by their application to the Italian forest context, which is characterized by variegated ecological, economic and social conditions throughout the country (see Table 1).

In this context, several participatory processes have been implemented, with different results, over the spatial and administrative scales [37].

Table 1. Key concepts to understand the forest sector in Italy.

Key Concept	Description
Forest cover	From the National Forestry Inventory data, the area covered by forests is 10.9 M ha (more than 30% of the total land) and has increased by 0.6 M ha since 2005. 95% of forest is distributed in the mountains and hilly areas, mainly the Alps and Apennines. The majority of forest area is under coppice regime (41.8%), especially in Central and Southern Italy, while high forests of coniferous and broadleaves (36.1%) are predominant in the North. The percentage of "not defined" forest types is significant (20.8%).
Property regime	More than 63.5% of forest area is private, 32.4% is public and 4.1% is not qualified. There are positive forms of management association in some areas, but at national scale forest firms are managed by forest-owners. Results of the Census 2011 have counted 328,358 forest firms and the forest area included in the firms is 2.9 M ha, with an average size of 8.9 ha. A few bigger firms (>100 ha), 3.7%, manage the largest amount of forest (64.7%) with an average firm of more than 150 ha; while the largest number of firms (<100 ha), 96.4%, manage only 35.3% of forest area, with an average of less than 3 ha/firm. The most relevant figure, however, is the amount of forest not included in active forest firms i.e., 3 M ha.
Forest management	It is developed according to the rules dictated by the regional forest code and regional forest laws. Frequently firms in the North manage forest according to the Forest Plan forecasts, and thanks to the support of EU funds; the firms adopting a forest plan are increasing even in the other regions and especially for public property.
Production	In the period 2010–2014 average timber production was in the range 7–6 M m^3/year. This is mainly for energy use (63.7%), while 31.9% is classified as roundwood. Other (non-timber) forest products (NTFPs), chestnuts, mushrooms, strawberries and plants for food are gathered. A large amount is for self-consumption, but companies that use NTFPs for economic activities are increasing.
Forestry economic performance	The added value of the forest sector has been estimated as €1.2–1.5 million in the last 5-years, with a contribution to the total value of national economic activity of ca. 0.05% while its contribution to GDP at national level is 0.09%.

2.3. Survey Methodology and Analytical Matrix

A qualitative-based research approach has been adopted in the present research. The survey methodology was developed with a 3-step approach including: (i) semi-structured interviews with policy makers, experts and stakeholders; (ii) identification and description of explicatory case studies; and (iii) definition of a set of criteria for assessing the success level of selected case studies' participatory processes.

2.3.1. Semi-Structured Interviews

A set of semi-structured interviews was conducted to find out the main participatory-based arenas/forums dealing with forest-related policies in Italy. The interviews were held from March to June 2015. A total of 7 interviewees were selected subjectively by the authors and included: (i) professors and researchers at universities or research institutes (n = 2); (ii) public decision makers (n = 3); (iii) professionals of private associations and representatives of NGOs (n = 2). An attempt to have a higher number of respondents was made but without success. The main reason for this is the limited number of experts and other types of actors directly dealing with forest policy issues in Italy, so that the 7 selected interviewees constitute a rather representative sample [38].

A list of questions suitable for a face-to-face interview was drawn up and pre-tested. It comprised 13 questions (11 open-ended and 2 closed-ended questions), which were chosen to keep the structure simple. In the 2 closed-ended questions the respondents had to choose from a list of pre-set responses or from a ranking scale with n options. Themes included: (i) position and number of years interviewees had been involved in their organizations; (ii) experience and personal participation concerning forest-related participative forums and decision making processes in Italy; (iii) main forms of participation used in the processes; and (iv) own opinion and level of satisfaction with the results of the participatory forums and processes. All the interviews were conducted by the authors through a face-to-face meeting and lasted from 20 to 40 min. The order in which questions were asked remained the same, and the questions were read together by the interviewer and interviewees. For each question, there was discussion and an exchange of information, useful to obtain explanations for responses and interpret the results [38].

2.3.2. Case Studies Selection

On the basis of interview results, a list of case studies of forest and forest-related participatory forums and processes in Italy was identified. These participatory processes, mentioned as the most relevant by respondents, have been categorized by level (national, regional or local) and described in terms of period, name, story (in brief), main promoter(s) and managers, and participants (Table 2). While the list at national level is almost complete, the table is not exhaustive for all the forums launched and managed at regional and local levels throughout the country. To create a full catalogue of all existing processes at these two administrative levels is out of the scope of this study.

Four cases were selected from the listed forums and included in the study: Two developed at national level and were reported by all respondents as the most relevant and successful, and two reported by key-informants at local/regional level. These four participatory forums have been described as "explanatory" cases according to Yin (2009) [39]: (1) the Framework Program for the Forest Sector (PQSF); (2) the Table on Forest-Wood Chain; (3) the partnership for the process of building the Model Forest "Montagna Fiorentina" in Tuscany (Central Italy), and (4) the formulation of regional regulation of the forest sector in Piedmont (Northern Italy).

The case studies analysis has been integrated through the direct knowledge of and observations by the paper's authors. Some of them have more than 30 years of direct experience with forest policy processes in the country, some are currently involved in forest policy reforms at national level, and others have published papers on participatory-oriented processes in forestry in Italy [3,5,38,40–46].

Table 2. Examples of forest-related participatory forums in Italy, at different levels.

Political Level	Period	Participative Forums or Decision-Making Processes	Description/Policy Field/Goals	Responsible for Launching and/or Managing the Forum/Process
National	1996–ongoing	State-Regions Conference-Forest Division	To coordinate state and regions debate on various forest policy issues: Law contents, emergency plans for pests and diseases management, market strategies, forest management and policy reforms guidelines.	Italian government
	1996–2000	National Working Group on Sustainable Forest Management (SFM) standards for Northern Italy (Milano Forum)	To develop a commonly agreed set of SFM standards to guide forest management and create a basis for forest certification implementation in Northern Italy, with no references to any specific forest certification scheme.	Department of Land, Environment, Agriculture and Forestry (TESAF)-University of Padova, Department DEIAFA-University of Turin
	2001–ongoing	Forest Stewardship Council (FSC)-Italy working group on SFM standards for the Italian Alpine regions	To develop, approve and periodically update with stakeholders participation a set of national standards for SFM consistent with the international set of FSC Principles and Criteria.	FSC-Italy (National Secretariat)
		Programme for the Endorsement of Forest Certification (PEFC)-Italy working group on SFM national standards	To develop and approve with stakeholders participation a set of standards for SFM consistent with the Pan-European set of Criteria and Indicators specific to the Italian context for PEFC forest certification processes.	PEFC-Italy (National Secretariat)
	2002–ongoing	Scientific Committee of Services Consortium wood-cork (CONLEGNO)	To promote the quality of companies and their products in timber and related sectors. To promote the provision of services related to stages of production of the member's undertakings.	CONLEGNO Monitoring Organization (National Committee)
	2003–2005	National Working Group on SFM standards for Apennine and Mediterranean forests (SAM)	To develop a commonly agreed set of SFM standards to guide forest management and create a basis for forest certification in Central and Southern Italy, with no references to any specific forest certification scheme.	Italian Academy of Forest Sciences
	2007–2009	Framework Program for the Forest Sector (PQSF)	To identify general strategies and policy guidelines for the forest sector. No funds or other resources have been allocated for implementation.	Ministry of Agriculture, Food and Forestry Policies
	2012–ongoing	Table on Forest-Wood chain	To define new tools, strategies and networks to increase the supply of domestic timber. The table is structured into working groups, including key forest sector stakeholders. Other sectors and interests (e.g., environmentalists) not involved.	Ministry of Agriculture, Food and Forestry Policies. The National Rural Network manages the process
	2007–ongoing	Carbon Monitoring Nucleon	To provide updated information on forest carbon sequestration/stocks, and develop common guidelines for monitoring, forest carbon investments, etc.	National Institute of Agricultural Economics (INEA) (now transformed into CREA)

Table 2. *Cont.*

Political Level	Period	Participative Forums or Decision-Making Processes	Description/Policy Field/Goals	Responsible for Launching and/or Managing the Forum/Process
Regional	2005–2006	Rural Development Plans (RDP) 2007–2013	The RDPs at regional level were developed by adopting a participatory approach, as formally required by the EU rules.	Regional Administrations (e.g., Veneto, Piedmont)
	2012–ongoing	Sub-sectoral forum on poplar plantations	To develop strategies for improving the production of timber from poplar plantations in Northern Italian regions. In this sense, it is an interregional initiative.	Ministry of Agriculture, Food and Forestry Policies through Consulta Nazionale Pioppo, jointly with the National Research Council in Agriculture and Poplar Plantation Owners Association
	2014–ongoing	Regulations for implementing the new regional forest law in Piedmont (approved in 2009)	To define specific rules and regulations for a recently approved forest reform in Piedmont.	Regional Administration (Piedmont)
Local	2010 (2 months)	Regulation on harvesting allocation in the Monte Rosa Foreste Association	To decide how to allocate harvesting on public stands to private logging companies on the basis of public rules.	Monte Rosa Foreste Association
	2009–2012	Partnership for the process of building the Model Forest "Montagna Fiorentina"	To improve the integration and sustainability of forest and land management, increasing the cohesion and awareness of the network of all the social-economic components that directly or indirectly belong to that territory.	Tuscany Region in coordination with Mediterranean Model Forest Network secretariat. Union of Municipalities Valdisieve Valdarno (Florence) is the manager

2.3.3. Set of Criteria for Assessing the Level of Success of Participatory Processes

The success of a participatory process is a multi-dimensional concept strictly linked to the local policy and governance context, and it depends on the motivation and perspective adopted in the approach [28,46].

The set of success criteria adopted in the present study was selected by the authors from a previous research conducted for the evaluation of the success of a participatory process in the framework of forest planning. Among the criteria reported by De Meo et al. (2017) [46], and based on the information collected with the interviews, two criteria suitable for the present study were selected: inclusiveness and transparency. An additional criterion specifically introduced in this study is representativeness. In the present case, particular attention was paid to both the normative and substantive rationale. From the normative perspective, people's empowerment deriving from participation is a measure of success; from the substantive one, success derives from the inclusion of a multiplicity of concerns and values [47,48].

Representativeness (criterion 1) depends on the stakeholders involved in the participatory process and their capacity to be representative of their specific interests. The identification, characterization and analytical categorization of stakeholders in order to determine the extent of their future involvement in the decision making process is typically realized with a stakeholder analysis [49,50]. In this study, the level of representativeness in each case study was assessed through a stakeholder analysis based on two steps: in the first, the involvement of three macro-categories of social actors (citizens, organized groups of interest, and scientists) was assessed; in the second step, for the different organized groups of interest, their involvement was assessed.

Inclusiveness (criterion 2) is the degree of involvement in the decision-making process of the different categories of stakeholders willing to participate. This characteristic of the participatory process is strictly linked to the power of stakeholders to influence the final decisions. In this study, the inclusiveness of the participatory process was assessed using four participation methods with an increasing level of inclusiveness: participation as information; participation as consultation; participation as advocacy; participation as decision-making. For each case study the corresponding level of participation was indicated using the information provided by respondents.

The transparency of the process (criterion 3) is the possibility for participants to understand what is going on and how decisions are made [46–48,51] and it refers to stakeholder satisfaction, in the sense as to whether the outcomes and process are accepted [47]. In our survey, a specific question assessed transparency through respondents' satisfaction with the results of the participatory-oriented forums and processes. Respondents were asked to assess their satisfaction using a 5-point Likert scale format (from 1 not at all satisfied to 5 extremely satisfied).

3. Results and Discussion

3.1. Key-Examples of Forest-Related Participatory Processes in Italy

The results of the survey show that only a few participatory forums are still ongoing in Italy, active in the medium-long period and able to influence policy making. Four of them—two at national level and two at sub-national level (Figure 2)—are those analyzed for the purposes of this study.

The two national forums—i.e., the PQSF and the Table on Forest Wood Chain—were both launched by the Ministry of Agriculture, Food and Forestry Policies and deal with overall forest policy at the national level. The main goal of the PQSF 2007–2009 was to provide a general, modern framework to enhance forestry activities in the country and innovate the sector. This forum is typically an institutional forum, with public institutions as the main targets.

The second forum is more specifically oriented towards enhancement of the forest-wood chain, creating new networks among actors and is known as the Table on Forest-Wood Chain. This Table, launched in 2012, is still ongoing and targets stakeholders in the forest-wood chain.

In both national forums, the participatory process was not open and only invited representatives of most relevant stakeholder categories were consulted and allowed to take part in discussions, but the final decisions were taken through a centralized process conducted by the ministry in collaboration with the regional authorities, through the so-called State-Regions Conference. Invited stakeholders were representatives of forest owners associations, farmers unions, scientists, chartered foresters, officials representative of the regional public forest services nominated by the State-Regions Conference, environmental non-governmental organizations (NGOs), pulp and paper companies, forest workers unions and cooperatives. Stakeholders were invited to some meetings and took part in consultation sessions where a discussion took place about a document that had been prepared by a steering committee composed of a restricted number of actors (representatives of the ministry, regions and professional organizations). Participation of scientists in these forums was not particularly relevant for problems such as lack of time and limited interest and no advanced tools were used to increase participation, such as scenarios building or online survey.

A specific aspect of the forum for the PQSF is that a draft version of the program was shared and discussed by a wide audience of interested stakeholders during a forum with open access to documents; this aspect of the PQSF development is crucial, as it represents a model of governance in which a participatory decision making approach is developed.

For the development of the third forum analyzed in our study, regional regulation of the forest sector in Piedmont Region, an ad hoc committee was created approximately 10 years ago as a permanent consultation body with relevant stakeholders, a large variety of stakeholder categories are involved in this committee, including academics/scientists, harvesting companies associations, public officials, environmentalists, etc. The committee typically meets 2–4 times per year, for stakeholders' consultation on specific issues (e.g., the regional forest plan and its environmental impacts assessment procedures). The committee is quite effective and, in the last 10 years, all decisions taken at regional level in the forest sector have been consistent with the recommendations emerging from such consultations, without significant conflicts between the public authority in charge of the decisions and the stakeholders participating in the forum. On the basis of the committee's work, the implementation rules of several important pieces of legislation have been approved, the most relevant example being approval of the regional forest regulation.

The fourth forum is the partnership for the process of building the Model Forest "Montagna Fiorentina", in Tuscany Region. This Model Forest is a non-profit association that aims to improve the integration and sustainability of forest and land management, increasing the cohesion and awareness of the network of all the social-economic components of the Tuscany Region territory. The partnership for the process of building the Model Forest "Montagna Fiorentina" included among its partners local authorities, associations, companies and citizens, under the responsibility of the Tuscany Region in coordination with the Mediterranean Model Forest Network secretariat (Junta Castilla y Leon and the Canadian Government). The foundation process of the Model Forest began in 2009 when the Tuscany Region joined the Mediterranean Model Forest Network. The participatory process was officially launched in December 2010, and continued with public meetings open to various groups focusing on the different forestry aspects. The participation process was considered very satisfactory, primarily by reason of the relationships established among local citizens, decision makers and scientists through interaction.

Figure 2. Location of participatory forums at sub-national level.

3.2. Factors Influencing the Effectiveness of Forest-Related Participatory Processes in Italy

This part of the analysis refers to our first guiding question, i.e., which factors hinder or support effective participatory forest-related processes in the country.

3.2.1. High Fragmentation of Forums

A first factor evidenced in our study is the high fragmentation of participatory forums. Forums often overlap one another, different authorities start different processes thus replicating efforts, and forums neither interact nor create synergies. As a consequence, many processes stopped after 2–3 years, with no significant results. In several cases, during the processes, stakeholders lost their motivation: without any resources available, their interest decreased and they had the perception of not having influenced any decision. These dynamics seem aligned with the release phase of panarchy that leads in the end to a failing reorganization scenario, where the participatory process is abandoned and decision-making does not change. Respondents also reported that highly fragmented interests and knowledge (e.g., different fields of expertise of invited scientists) led in several cases to long discussions, without being able to agree on a common point of view. In some cases, each participant was trying to defend his/her interests, and was not aware of the others. This is consistent with the conservation phase of the panarchy model, where competition appears and the system becomes more rigid. These dynamics, observed in a number of meetings, contributed to the extreme fragmentation of the forums, in terms of both actors and interests, which were unable to aggregate around a few common components. Being fragmented forums, neither coordinated nor structured around key points of common interest, they probably do not represent components of the same system, they are disconnected and not able to positively influence one another. In other words, the stakeholders did not adopt collaborative approaches in their dialogues or corrective actions to prevent failures (e.g., by pre-defining an agreed timetable for decisions to be taken after discussion sessions).

However, concerning national forums, the State-Regions Conference is reported to have positive results in increasing the capacity of the regional forest administrations to aggregate around common goals and advocate with respect to the European Commission and its rules and programmes. Even if not effective in guaranteeing stakeholders and scientists' participation in forest policy

making in terms of inclusiveness—they were consulted (see Table 3), but did not take part in any decision–the conference has an important role in increasing interactiveness of the process, stimulating a constructive long-lasting face-to-face interaction [52,53] and enforcing the horizontal coordination among organizations while respecting the autonomy of each region. In this sense, the cross-scale linkages and influences of one scale on the others described by Allen et al. 2014 [8] appear quite evident.

Table 3. Qualitative-based evaluation of stakeholders' participation in forest-related policy processes in selected cases studied in Italy.

Criteria		National Level		Local Level	
		Forum 1	**Forum 2**	**Forum 3**	**Forum 4**
1. Representativeness	**Stakeholders**				
	State authorities (i.e., Ministries)	X	X	X	
	Regional authorities	X	X	X	X
	Local authorities	X	X	X	X
	Scientists/experts	X	X	X	X
	Tourist associations	X			X
	Forest owner associations	X	X	X	X
	Private timber enterprises	X	X	X	X
	Farmers associations	X	X	X	X
	Hunting associations	X			X
	Citizens				
2. Inclusiveness	**Levels**				
	Information				
	Consultation	X	X		
	Advocacy				
	Decision-making			-	X
3. Transparency	**Levels**				
	Very high				X
	High			X	
	No opinion				
	Low	X	X		
	Very low				

3.2.2. Lack of Clear Rules

Different respondents, depending on their direct experience on public forums, reported that another obstacle during the forums' development is the lack of clear rules of the functioning of the process. In some, it was not clear who would have to make the final decision, how to solve internal conflicts in the group, how to use a voting system, etc. This is a clear lack of transparency if transparency means that throughout the entire process "established channels for continuous dialogue and information sharing" exist and "timely response to information requests" [54] is provided. Without these kinds of rules, predominant participants were those most active, more able to talk and discuss what is introduced in the system. However, vagueness and ambiguity of rules may also follow an inverse phenomenon, i.e., they restrict oligarchy [55]. One reason for vagueness of rules functioning in favor of predominant actors in our case studies can be that predominant actors are often the public administrations, which organize participatory forums by *de facto* maintaining control on decision-making and thus unconsciously guiding the process itself. However, this issue remains unclear and should be further explored in future research. The level of transparency assessed through respondents' interviews, as expected, varies a lot with the forum. However, as shown in Table 3, higher transparency levels were reported for local-level processes (forums 3 and 4) and lower for those at national level (forums 1 and 2). Transparency often being mentioned as key element for the effectiveness of participatory processes [56], it might be argued that the forums act faster and better at local level—leading to faster dynamics of changes—because the "rules of the game" are more clearly stated at this more local level, rather than at a higher level. Indeed, this is consistent with the empirical findings of Maier et al. (2014) [31] who stated that "more effective (and less polarized) participation

processes will likely take place at the local level, as opposed to the state policy level", and Hogl et al. (2012, p. 301) [34] who found implementation at national level, compared to sub-national levels, more difficult due to "hierarchical steering, sectoral isolationism and expert-centered decision-making".

3.2.3. Lack of Representativeness of Interests

Another commonly mentioned factor is the lack of representativeness of interests. Again, greater concerns are related to national-level processes, while those at local level seem to be able to have a higher capacity of involving stakeholders representative of different interests. Lack of representation of interests was evidenced especially for forest owners, and this is probably due to the fact that there is no nationally recognized association of forest owners. This is a very well known problem in Italy, and reported as a key issue by most of the interviewees. Being aware of this problem, a challenge during the participatory processes is to give all groups of stakeholders the chance to be heard and to represent different interests appropriately [5].

Concerning processes accessibility (see Table 3), interviewees reported that in both national forums the participatory process is based on draft documents circulated among participants, while changes are discussed during the meetings. Most of the outputs are non-binding documents and guidelines that might be used to address forest-management practices. Accessibility of the participatory forums, in terms of provision of adequate tools and resources [57], is not satisfactory because no advanced approaches or tools suitable to facilitate and support the participatory process have been used to increase the level of participation.

3.3. Lessons Learned (or Not) for Orchestrating Forest Policy in Italy

When analyzing the content of the interviews in depth, interesting aspects emerged concerning participatory forums and process development. One is related to the level of stakeholder satisfaction. A generally good level of satisfaction about participatory forums was highlighted by policy makers, while both scientists and other stakeholders were less positive in their evaluations even if they were aware that efforts made up to now have to be appreciated. For example, interviewees' perceptions include statements such as "Significant advancements have been made", "Public administrations made unexpected efforts", "There are some positive signals that they will finally listen to us", and "We cannot do better with the present conditions". However, there is a common perception that, even if we are on the right track and there are some good signs for the future, policy makers are still lacking experience in organizing effective participation forums. The different perception of the quality of participatory forums, higher for policy makers (public administrations) than for the other stakeholders involved can be interpreted in two ways. It can be a mirror of the remember principle of panarchy, being resistant to changes [35]; or a sign of limited awareness of the importance of having professional arrangements to be able to adopt more effective processes. In both cases, the result is that participatory forums are mainly naïvely organized in Italy.

Reasons for difficulties are assumed to include elements such as low inter-sectoral knowledge exchange (isolated sectors, not taking advantage of others' experience), and lack of empirical evidence of more effective results of participatory-based decisions with respect to hierarchical-based. It is hard to overcome the fragmented, obsolete and rigid legal-institutional context that is typical of the hierarchy: Some pre-existing conditions, especially at national level, are not easily changed. In panarchy, adaptive cycles can be dominated by higher or lower levels, not necessarily by higher levels as in a hierarchy: In other words, conditions can arise that trigger bottom-up change in the system [25]. However, positive experiences of these dynamics in some specific fields of interest (e.g., forest certification forums) are not easily replicable, and for other types of forest activities (e.g., protection of public goods or provision of ecosystem services) there is not a clear economic value combined with ecological and social interests. Underlying causes are the following: (i) it takes a long time to change the core policy beliefs of Public Authorities, which often do not recognize the value of participation needs and follow the Remember principle of panarchy, i.e., they maintain a conservative approach; (ii) no

investments have been made in improving management of participatory processes—such as contracts for professionally qualified facilitators, training for the staff of organizations in charge of arranging and managing participation—thus no innovation to support the revolt principle of panarchy has been introduced; (iii) hidden lobbies (including those of different groups in the academic world) have greater influence than formally involved representatives, and this is one reason why stakeholders become demotivated.

Another lesson is that "the public" is not involved at all. Only organized stakeholders (even if not well represented or with problems of representativeness) are typically invited to forest-related forums. There is increasing potential for citizens to be involved, especially thanks to the various technological instruments that would allow even non-experts to participate in forestry issues. However, despite an increasing number of initiatives oriented towards the active involvement and cooperation of citizens with scientists in collecting, delivering, validating and sharing information to support decision making (for example, used in monitoring biodiversity), citizens' science initiatives are still marginally implemented in Italy. This situation does not create appropriate conditions for innovation derived from lower levels (bottom-up) to influence higher levels of decision making, thus further reducing the possibility for the revolt principle of panarchy to happen and induce changes.

Moreover, participatory processes are showing more clearly the problems connected with the lack of coordination at national level, lack of representativeness of key stakeholders and lack of general guiding strategies for the forest sector, with still confused and overlapping tasks among institutions at various levels, duplication of negotiation and discussion efforts, unclear and unique positions and visions, etc. (Figure 3). In the country forest policy is treated as a marginal part of the agricultural sector or more in general rural development, and as a marginal part of the environmental sector. This is demonstrated by the fact that the Ministry of Environment also has responsibility for biodiversity-related issues in forests and protected areas. All forest-related tasks are delegated to regions, the regional forest policies of which are not coordinated with each other. Thus, even in the case that forest actors would be able to aggregate themselves around common interests and lobbies at national level, they would not have a clear institution to refer to, when advocating for policy reforms. They simply do not know exactly which officials and offices they should contact to ask for changes, as tasks and responsibilities for forests remain highly fragmented.

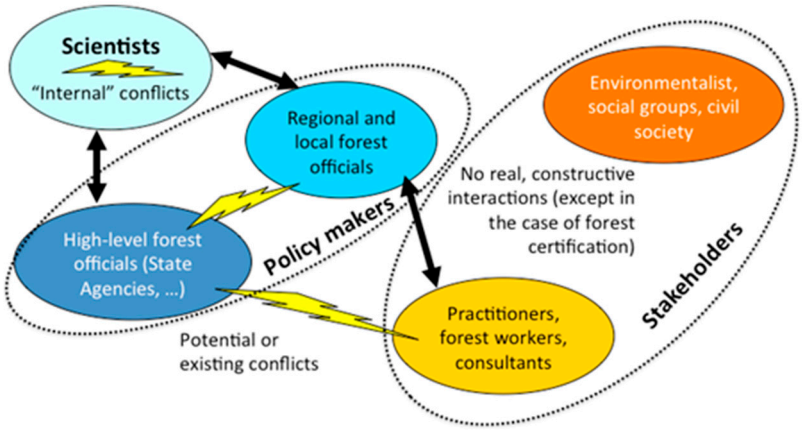

Figure 3. Relations between scientists, policy makers and stakeholders in Italian forest policy.

A final lesson emerged from some interviewees belonging to the group of scientists, is that the main conflicts among stakeholders are perceived not to be those, as normally expected, between forest owners and environmental organizations [58]. Rather, the main conflicts are those between the central state authority and the regional ones. But not all interviewees agreed on this. Indeed, some of them—belonging to the group of policy makers—reported that there is a high level of collaboration and coordination among the different administrative levels, thanks to the continuous

and constructive activity of the State-Regions Conference. One interviewee even declared that in his opinion the participation process of the national Table on Forest-Wood Chain was a process of co-decision. The reason for these different perceptions, as well as other aspects (e.g., the reason why predominant participants take advantage of vagueness of rules instead of restricting oligarchy [55]), remain unclear and need further investigations. Moreover, our considerations about the state-of-the-art of forest-related participatory processes in Italy might become more robust if other participatory forums are analyzed and other stakeholders interviewed (thus increasing the empirical evidence based on case studies).

4. Conclusions

In conclusion, we can affirm that most of the experiences of public participation in forestry in Italy so far can be categorized as naïve experiences, not managed in a professional way, with a lack of knowledge and skills on how to arrange effective participation and so unable to keep stakeholders motivated and satisfied. There is still a clearly predominant role of the public administration (representatives of the policy makers), while scientists and stakeholders have a marginal role. This is reflected by the different levels of satisfaction with participation in forest-related forums: higher for public administrations, lower for scientists and other stakeholders. Hierarchy is still predominant, rather than panarchy—intended as a nested set of adaptive cycles that can be driven by bottom-up approaches to policy making. This reduces the options for an orchestration to be adopted among forest-related sectors and actors for introducing changes and policy reforms in forestry in the country. Because of the long-lasting but mostly ineffective implementation of forest participation in Italy, most of the analyzed participatory processes are in the intermediate phases of panarchy dynamics, i.e., in the conservation or release phases, with no corrective actions undertaken to change the situation. Moreover, they are significantly affected by the Remember principle, which tends to maintain the status quo with the attitude of forest public administrations to adopt a conservative approach. However, regional and local forest-related participatory forums seem to act faster and better than national ones, thus providing options for improvement to be transferred from lower to higher levels. What is probably still missing in the country are appropriate and wide mechanisms of connectivity between lower (regional) and higher (national) levels. In some way, participatory processes in forest-related issues in Italy are showing more clearly the problems connected with a lack of coordination at national level, a lack of representativeness and guiding strategies for the forest sector, with still confused and overlapping tasks among institutions at various levels, duplication of negotiation and discussion efforts, no clear and unique position and vision, etc. Having been unable to learn from past failures and introduce significant changes in decision-making processes, above all at national level, orchestrating forest policy in Italy remains a "mission impossible". It is likely that, before discussing orchestrating scientists, policy makers and stakeholders, a new common vision of what forests are should be built. From this common vision could start a new dialogue among institutions, actors and public opinion, moving towards a reorganization phase and, finally, predominance of the Revolt principle of panarchy.

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