SEEFOR SOUTH-EAST EUROPEAN FORESTRY

ISSN 1847-6481

Original scientific paper

Understanding social conflicts between forestry and nature protection sectors: case study Velebit Mountain

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Abstract

Background and purpose:
The last couple of decades brought significant changes in forest and nature protection policy worldwide. Rising environmental awareness, over-utilization of scarce natural resources and global climate change set high goals for the forest and nature protection policy makers. This paper is about a case study of relations among various stakeholders on Velebit Mountain, a coast-by mountain in Central Croatia. Velebit Mountain is both: a nature protection area and a forest exploitation site, which raises various conflicts between these two sectors and major stakeholders. Purpose of this research was to investigate the relations among various interest groups and coalition parties, their opinions, aspirations and interests and, especially, the way to resolve issues or manage conflicts.

Material and methods:
This case-study research was conducted in form of interviews held with the representatives of each of the defined stakeholder groups within the target area, i.e. Velebit Mountain Nature Park. Interviews consisted of several groups of questions (introductory part, conflicts, conflict management and policy development), while stakeholder groups included "Croatian Forests ltd.", a state-owned company in charge of the management of state forests, Nature Park Velebit, National Park Paklenica, National Park "Northern Velebit", hunters' associations, private forest owners, fishermen associations, representatives of the local administration and mountaineers' associations. The questionnaire consisted of open-ended questions regarding various issues divided into these four groups. The data was analyzed by using the NVivo qualitative data analysis software. Theoretical framework used in this research was Walker and Daniels' Social Conflict Theory (1997, p.13) which describes types of conflicts, ways to address them and typical sources of occurring conflicts.

Results and conclusions:
The results showed which the most salient conflict sources are, what are in stakeholders' opinions the most efficient means to manage them, what the best conflict management strategies would be and which are the best policy development options. As stated by the majority of stakeholders, the most salient conflict sources regard irregularities and lack of harmonization of laws, forest roads and entry gates, poaching and generally illegal hunters' activities, mountain paths and illegal logging. The interviewees stated that the most effective conflict management strategies are meetings, workshops, public debates and dissemination of information. Main policy development means are harmonization and implementation of laws, increased media attention, increased education and public awareness on the issues, public relations and increased cooperation among the stakeholders involved. Qualitative analysis of the coded text showed that the most emphasized aspects of conflicts regarded through the Walker & Daniels' conflict management triangle (1997, p. 22) are procedural (14 363 words), relational (8774 words), substantive (6 971 words) and cultural background (1 063 words). The most abundant aspect of conflicts is procedural, which means that the majority of conflicts pertain to the way issues are addressed. Most interviewees emphasized legislation and non-harmonization of laws as the most accentuated aspect of conflicts, meaning that the most parties have created relationships among themselves, are aware of the problems, but did not generate any concrete measures or ideas on how to manage them. The final conclusion can be made that there are no capacities on higher levels which actually have the executive and judicial power to alter things.

Key words: conflicts, forestry, nature protection, conflict management, legislation, stakeholders, Velebit Mountain.

INTRODUCTION

Until recently, social conflicts barely existed in the Croatian forestry sector. No major studies have been conducted in this field before the transition age. Environmental conflict-based sociological researches have been conducted in the past [1, 2], but seldom observed conflicts in forestry sector as a separate issue. The situation changed dramatically after the fall of Yugoslavia and the war that followed. Although the questions of nature protection, forestry and similar were put aside for the time being, nevertheless they emerged fiercely after the situation has calmed down and the conditions for conflict emergence were fulfilled. These conflicts were greatly encouraged by the global environmental awareness rising [3], increased importance of nature protection and the amount of protected areas and similar, followed by the major social changes such as increased depopulation and mortality rate in rural areas since the end of World War II (source: Croatian National Bureau of Statistics), decay of the agriculture sector and the most important contemporary phenomenon - globalization. The time for changes has come, and it is up to forest policy experts to manage it the best they can. The word "manage" is essential here, since it is the only legitimate way to deal with conflicts - it is a never-ending process of creation of the most suitable policy for conflict management with accentuation on integrative approach which includes all stakeholders in the decision creation [4]. As opposed to resolution or transformation, conflict management is the most suitable and the only applicable approach when it comes to complex conflicts which include multiple parties [5].

Velebit Mountain, a coastal mountain in mid-Croatia, was chosen for this case-study for several reasons

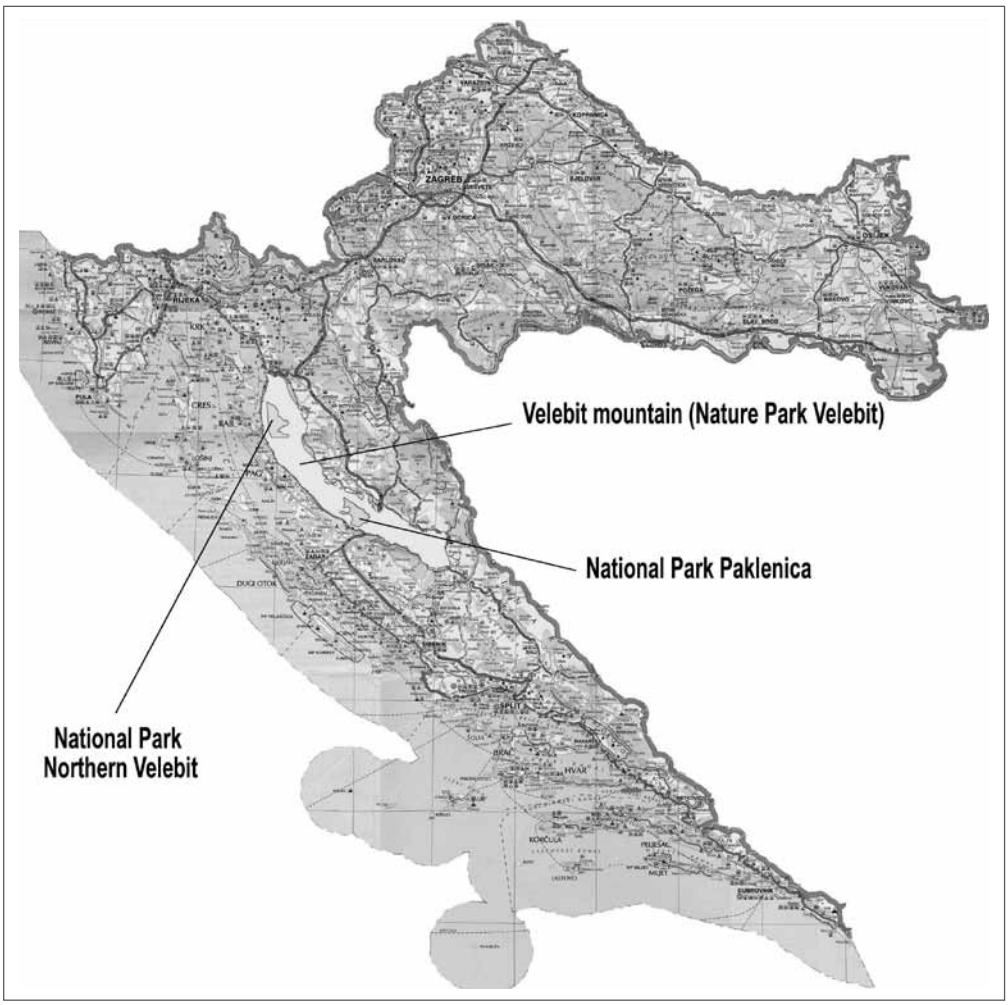

FIGURE 1
Position of Velebit mountain in Croatia

(Figure 1). It is a karst mountain, rich in biodiversity and geomorphologic phenomena, which embeds two national parks within its borders. It was proclaimed a UNESCO site in 1979, and in 1981 a nature park by the Croatian parliament. According to the Croatian legislation on protected areas, commercial activities (i.e. forestry) are allowed in nature parks. This creates a perfect environment for conflict emergence, since there are two parties which are basically in charge of the same area. Although national parks represent a higher protection level where no commercial activities are allowed, they are nevertheless a very important conflicting party. The most important parties involved in conflicts are Nature Park Velebit, public institution in charge of managing the Nature Park Velebit, and Croatian Forests ltd. The majority of other parties are somehow connected with these two, thus forming coalition groups (the national parks, mountaineers, environmental NGOs, hunters), or act as independent entities in the persuasion of their interests (private forest owners, fishermen, local authorities and similar).

The objective of this research was to get a clear, holistic picture of the social conflicts in the study area as well as to suggest future guidelines for policy makers. In its essence, this is an investigative, descriptive, explanatory case-study research. Preliminary insight into conflict relations in the forestry sector on Velebit mountain generated the following hypothesis: "The insufficiencies and problems in the implementation part of the conflict management process on Velebit Mountain are not due to lack of human capacities in the forestry, nature or any other inherent sector - they are, before all, due to lack of capacities in the country's political, decision-making structures".

MATHERIALS AND METHODS

This research was mainly based on Walker and Daniels' theory conflict dimensions triangle [6] broadened by Eeva Hellström's environmental conflicts framework [7]) which suggest that conflict management process consists of four basic elements: conflicts, culture, conflict management and policy development, whilst conflicts and conflict management process manifest in three dimensions: substance, procedure and relationship. These four major categories were used in order to analyze and interpret qualitative data acquired by a series of interviews within the study area. There are a number of reasons why case-study was chosen as the most appropriate research category for this particular purpose. All social research strategies are based upon three conditions:

1. The type of research question,
2. The control an investigator has over actual behavior events and
3. The focus on contemporary as opposed to historical phenomena [8].

Case-study is an in-depth, deep observation of a particular situation on a specific area, and its main goal is to understand complex social phenomena, which is exactly what conflicts are. It is typically oriented to questions "how" and "why", which are the basic questions of an explanatory purpose of a research. The main objective of this work is to describe and explain forestry and nature protection related social conflicts on the respective area.

The research was conducted through a series of interviews with the representatives of the most relevant parties within the study area. The questionnaire on which the interviews were based upon was created by the SPI project[1] working group, and was specifically designed to target the most emphasized sources of conflicts and to inquire on interviewees' stands, attitudes and opinions. The questionnaire was designed from semi-structured, half-opened questions which were divided into four groups:

1. Introductory questions about an interviewee (age, education, gender, specific function within the study area, main actors with whom the interviewee is concerned);
2. Questions on conflicts (regulations and legislation, most important tasks in respective institution, main conflict actors, opinions on human activities, opinions on forest exploitation etc.);
3. Questions on conflict management issues (how are the conflicts managed - dealing with present conflicts, future steps in management, need for conflict management tools, attitude towards conflict actors etc.);
4. Questions which regard forest policy (familiarity with laws, management plans, suggestions for improvement, policy instruments etc.).

Twenty-four interviews were conducted in the period from late August till mid September 2008 and form a majority of data for this research, together with internet forums, texts, news articles and informal conversations with a wide variety of local people with different cultural backgrounds and professions (Table 1).

The data acquired from filled questionnaires were processed with the qualitative data analysis software

1 - SPI - Science-Policy Interface - a regional project started in 2008 and conducted by the EFI and respective institutions in five Western Balkan countries: Albania, Croatia, Bosnia and Herzegovina, Serbia and Macedonia. The project was about comparative research of social conflicts in the forest sector.

TABLE 1
Basic information on the interviewees

STAKEHOLDER GROUP	Age	Education	Years on duty	Specific functions	Gender
PFE "Croatian Forests"	49	Bsc	4	Head of Forest District	M
PFE "Croatian Forests"	42	Bsc	10	Head of Forest District	M
PFE "Croatian Forests"	41	Bsc	3	Head of Forest Office	M
PFE "Croatian Forests"	33	Bsc	3	Head of Forest Office	M
PFE "Croatian Forests"	32	Bsc	2	Head of Forest Office	M
Natural Park Velebit	46	High school	6	Ranger	M
Natural Park Velebit	41	Msc	1	Senor advisor	F
Natural Park Velebit	37	Bsc	1	Head of Natural Park	M
Natural Park Velebit	34	High school	6	Head of Ranger Service	M
Natural Park Velebit	28	Academy	6	Ranger	M
Natural Park Velebit	25	Academy	5	Ranger	M
National Park Paklenica	46	PhD	13	Head of the Conservation Service	M
National Park Paklenica	31	Bsc	3	Head of Natural Park	F
National Park Paklenica	31	Bsc	5	Expert assistant	M
National Park Sj. Velebit	40	Bsc	3	Head of Natural Park	M
National Park Sj. Velebit	30	Bsc	1	Expert assistant	F
Hunters' Associations	47	High school	8	Head of a Hunters Association	M
Hunters' Associations	39	Bsc	3	Head of a Hunters Association	M
Private Forest Owners	56	High school	n/a	Head of a weather station	M
Private Forest Owners	46	High school	n/a	Private Forest Owners	M
Fishermen Associations	49	Bsc	8	Head of a Fishermen Association	M
Local Administration Rep.	55	Bsc	7	Head of the Physical Planning Dep.	M
Environmental NGO	38	Msc	8	Head of the environmental NGO	F
Mountaineers Associations	66	High school	10	Head of the Mountaineers' Society	M

NVivo, a useful tool in categorizing and organizing textual data. Text was coded and divided into multiple categories which were compared, linked, analyzed and organized graphically into models which pointed to contingent trends or phenomena. Nevertheless, the majority of the work was on the researcher, since the interpretation of qualitative data is before all a hermeneutical process [9]. No statistical analysis was conducted, since it is irrelevant in this type of research (qualitative).

Guided by Hellström's theoretical framework [7] about conflict management process, all interviewees' answers were distributed in four major categories - cultural background, substance, procedure and relationship. The answers were than coded and classified, according to which group did the interviewee belong to and what category does the answer fall into. According to Neuman [10], the work of a qualitative data analysis was conducted in five steps:

- Sorting and classifying
- Open coding
- Axial coding
- Selective coding
- Interpreting and elaborating.

The first step was to sort and classify data according to the interviewees' backgrounds, thus forming sets of the research, while each of the interviewees was also labeled with some basic personal data which represents a case of the research (default categories in the NVivo software). The next step in the research was to perform open coding, i.e. to divide all the text into four major categories. These four major groups form primary nodes in the research. The third step was to perform the so-called axial coding, which

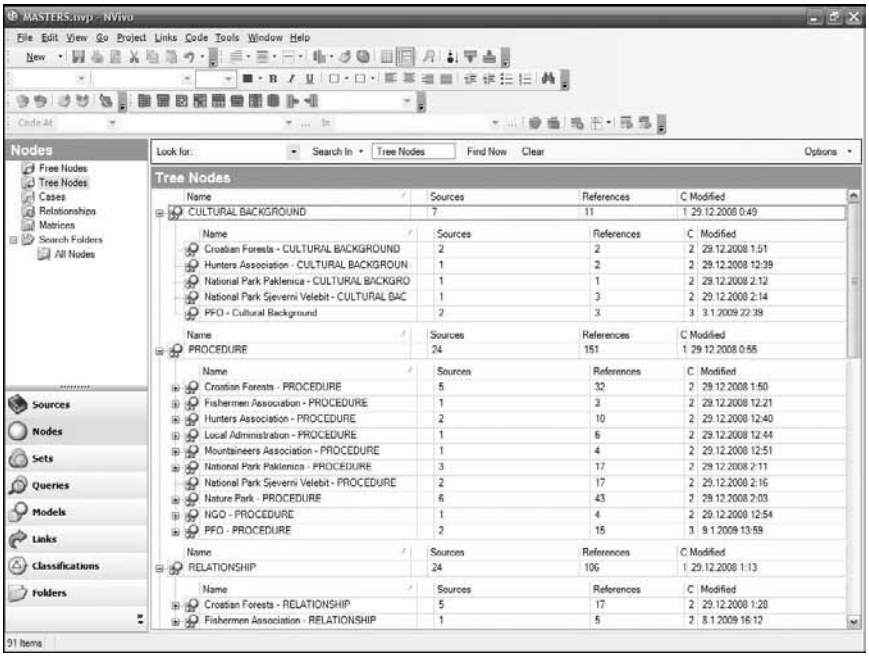

FIGURE 2
Tree nodes in NVivo

actually means to take the second pass through the primary nodes and sort this data according to groups or sets of stakeholders (interviewees). So, each of the primary nodes (cultural background, substance, procedure and relationship) was now divided into sub-categories according to groups of stakeholders. Such division is called tree nodes (Figure 2).

The last step was to perform the third pass over the coded data and seek for specific statements, opinions, attitudes or other verbal elements which illustrate certain themes, issues or topics, i.e. - a conflict. Some basic answers were analyzed as a whole, regardless to what group does a stakeholder belong to (for example, who are the most relevant actors or what is the relevant legislation), while all other groups of questions were analyzed with regard on the stakeholder group that provided them - these answers were additionally compared and analyzed, which provided the final results of the research.

RESULTS AND DISCUSSION

The analysis of interviews showed that there is a distinct difference between the two major conflict actors: Croatian Forests ltd. and Nature Park Velebit accompanied by the two national parks and the "Green Action" environmental NGO. It is indicative that the majority of interviewees from the state forest enterprise do not perceive the situation as one of conflict. The reason for this lies in a shared cultural background of a long tradition and conservative approach towards the forest management, dominant not only on Velebit Mountain but in the whole country. Foresters do not perceive their performance and forest road construction as conflict. Most of the problems Croatian Forests ltd. is dealing with are obtaining various permits and procedures for construction sites (mostly forest roads).

The nature protection coalition, however, emphasizes a number of conflictive and, in their opinion, quite serious issues like illegitimate and inappropriate road construction, overhunting and illegal construction sites (e.g. weekend houses with no construction permits, mountain lodges built with no respect on prescribed construction conditions and adherent permits, illegal quarries etc.).

Other, smaller stakeholders have in most cases joined one of the major parties. Hunters are, due to their common background, closely bound to foresters, while mountaineers stand against the allegedly bad performance of Croatian Forests ltd. within the protected area and are often quite radical in their attitudes (it is important to note that this stakeholder group mainly consists of lame persons, but their opinion is nevertheless accounted for). This attitude makes them the part of the nature protection coalition group [11].

The third group of stakeholders consists of neutral attitudes based on personal opinions and experiences - some PFOs[2] share foresters' traditional, conservative attitudes on forestry, while others pertain more to the nature protection issues and appreciate more the ecological and social functions of forests.

Hunters, mountaineers and PFOs are secondary parties in the conflict management process, while all other stakeholders (fishermen, local government) represent peripheral parties with no direct interest in conflict, but are nevertheless somehow connected with it. Due to too small a size of the sample, no correlation between age, time spent on duty and educational levels of the interviewees could have been investigated - a more comprehensive quantitative research can provide answers to these questions. The qualitative insight in the interviews provided some valuable information nevertheless. The most salient conflicts, as stated by all the interviewees, are laws, forest roads, illegal hunters' activities etc (Figure 3).

two primary parties: foresters strive for intensive forest management and exploitation, whilst environmentalists fight to protect nature from the negative influences those roads could create, i.e. torrents, erosion, habitat splitting etc. Lesser group of conflicts consists of mountain paths, illegal logging and bad performance of some institutions (NP Northern Velebit and various inspections). Peripheral parties' perception of conflicts is the same as that of the major parties, except that their importance is much lesser. Individual opinions of each group clearly show that the irregularities and lack of harmonization among laws affect the nature protection sector much more than the forest one (foresters didn't even mention it).

When it comes to forest roads, conflict perception is ambiguous - while foresters consider forest roads an essential part of their work, nature conservationists are strongly against some of them. It is interesting to notion that the nature conservation

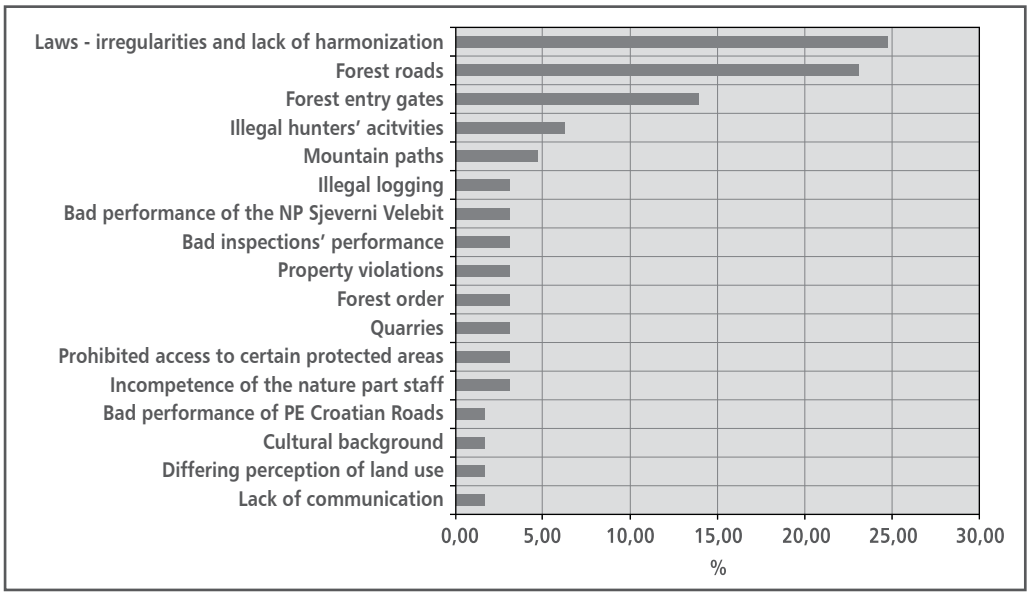

FIGURE 3
The most abundant conflicts as stated by all stakeholders

Most interviewees, regardless to the coalition group they belonged to, stated that the most salient conflicts were irregularities and lack of harmonization among and within laws, then follow forest roads, forest road gates and illegal hunters' activities (n.b. this is not the synonym for poaching). Forest roads seem to be the most conflicting issue between the

coalition is not coherent in their attitudes towards this issue, since Nature Park Velebit is against the closure of roads due to negative impact on tourism, while National Park Northern Velebit strives for the closure of roads for unelaborated reasons. An interesting notion is that the National Park Paklenica, situated on the coastal side of the mountain,

2 - Private forest owners

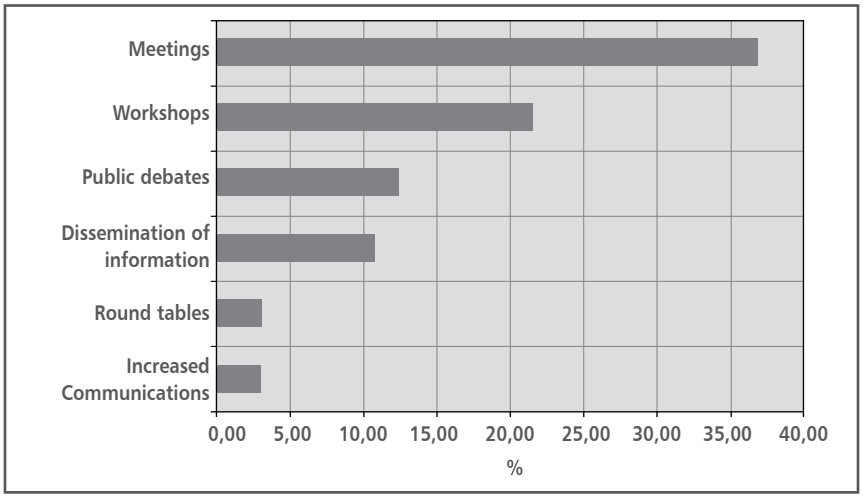

Figure 4
Main conflict management strategies as stated by all stakeholders

did not point out any conflicts with foresters. The reason is that it's mostly covered with degraded forests of flowering ash and pubescent oak where no commercial logging is performed - their main problem is with illegal hunters' activities. Croatian Forests ltd. could almost be considered a secondary party in this matter. Other, peripheral parties' major conflict sources are somehow always connected to the respective legislation (environmental impact assessment, inspections' jurisdictions, unclear articles of some laws etc.). When it comes to conflict management strategies, all interviewees more or less agree on several (Figure 4).

When compared to the latter chart, it is obvious that there are fewer items than in conflict sources - most parties stated more or less the same strategies, which shows that conflict management is either something they are not too familiar with or that their attitudes converge. The most frequent responses were meetings, workshops and public debates, regardless of the party or sector. All parties agree that collaboration is the most effective way of conflict management and that it should consist of meetings, workshops, public debates and increased communication in general. Minor parties at this point either seek a coalition partner, or choose the strategy of evasion or withdrawal [6]. For example, land owners who would rather give away their land instead of having to argue about it. Although it seems that the main conflict management strategy on Velebit Mountain is collaboration, this is not true. If Croatian Forests ltd. wanted to collaborate, it would have declared the existence of conflicts instead of obliterating them in majority of cases. The contemporary conflict management strategy on Velebit is, therefore, competition. If collaboration were at hand, all the conflict management strategies mentioned would have been applied, which is not the case so far.

Regarding policy development means, all parties provided more or less the same, broad answers, stating that they are not exactly sure what does the term mean. Most of the answers overlapped with those on conflict management strategies. The basic difference is that conflict management is the beginning of the Walker and Daniels's conflict management framework comprised of assessment, strategy and implementation [12].

Assessment showed that there are conflicts, some strategy was undertaken, but what clearly lacks in this case is the third part of the cycle - implementation. This actually means that the alleged cycle is not a cycle at all - policy development should have been the consequence of the ending of the first cycle (i.e. policies should have been improved) in order to mitigate conflicts and create pre-conditions for the second cycle of the conflict management framework. Apparently, it never happened. In other words - it is impossible to develop something that does not yet exist. This stage has obviously not been reached when it comes to forestry and nature protection related social conflicts on Velebit Mountain.

The analysis of text frequency among the four categories (cultural background, substance, relationship and procedure) showed that the procedural part of the conflict triangle is the most abundant one:

- cultural background - 1 063 words
- substance - 6 971 words
- relations - 8 774 words
- procedure - 14 363 words.

These figures were derived from the initial coding of the textual data. Procedural aspect of conflicts addresses the way conflicts are managed and decisions made, which means that the majority of conflicts pertain to the way issues are addressed. Most of the interviewees stated non-harmonization and non-implementation of laws as the most important conflict source, and that is the procedural issue - the ways how to address a conflict. Most interviewees stated that they are aware of problems, they did create certain relations among themselves, but most of them did not provide any concrete ideas on how to actually start the conflict management process. The conflict management triangle (substance - relationship - process) is embedded in a wider conflict management framework developed by Hellström [7], which consists of conflicts and their inherent dimensions (substance, relationship and processes), cultural background - an important component of this research, since forestry highly relies on its 250-years long tradition; conflict management strategies which are again connected to the three basic dimensions and, eventually, the whole process results with policy development measures. Policy development measures can be considered as an executive, implementation part of the procedural element in this triangle. The interviews showed that the absence of implementation of the enhanced, developed policy measures in conflict management is what halts the whole process.

CONCLUSIONS

In conclusion, it can be stated that the point of qualitative research is the hermeneutic approach [9] to the text analysis, which means drawing accurate conclusions based on the meaning of the text, i.e. the interviews. The conclusions were drawn by the use of the triangulation method - validation of data from several different sources [13]. Qualitative analysis showed eventually that there is a huge gap in communication between the executive and decision-making bodies within the nature protection sector, although certain changes in policy development have happened (joined supervision of road construction, jurisdiction of issuing permits shifted from government bodies to regional and local administration etc.). Policy development measures have to be initiated from the highest levels (ministries, CEO of Croatian Forests ltd.). It is pointless and useless to create policy development measures if there are no concrete changes afterwards. Apparently, Walker and Daniels's conflict management framework got stucked at the implementation phase. What's essential is the political will to change the situation and manage conflicts, which is lacking at the time.

According to the qualitative analysis of the data and interviews statements, the conclusion is that the preliminary hypothesis - "The insufficiencies and problems in the implementation part of the conflict management process on Velebit Mountain are not due to lack of human capacities in the forestry, nature or any other inherent sector - they are, before all, due to lack of capacities in the country's political, decision-making structures" - is confirmed.

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