

# Forest owners' attitudes towards the implementation of multi-functional forest management principles in the district of Suceava, Romania

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**Abstract.** The paper explores the importance of formal and informal institutions in setting attitudes of private owners in respect to responsible forest management. Using a qualitative approach, in form of a case study at the level of Suceava County, the study identifies intrinsic values assigned to the forestland leading to attitudes and motivations in the use of the forest resource. The interviewed forest owners have identified the regulatory framework as highly restrictive having as a result various patterns of behaviours from strict compliance with the rules to illegal activities. Several patterns of self-reported attitudes are discussed in respect to relevant forest owners' typologies and lead to deduced hypotheses about the attitudes and behaviour of Romanian forest owners towards multi-functionality. The study concludes that, an assessment of the identified patterns at a larger scale are needed as to adapt the financial, regulatory and informational instruments to the diversity of attitudes in respect to multi-functional forest management in small scale forestry.

**Keywords:** institutions, property rights, multi-functionality, small scale, owners' typologies.

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## Introduction

“The forest legislation has always been a big barrier for our business; some people jumped it, other people crossed below it and some stopped in front of it ... the weak ones stopped!” (forest owner, vice-president of a forest owners association, interviewed in August 2007). As asserted in this statement, the implementation of multi-functionality principles in forest management has several policy implications, which may impede the freedom of choice of forest owners and influences their

attitudes towards the use of the forest resource (Cubbage et al. 2005). In many countries, the policy bodies that attempt to involve privately owned forests in their policy have financial (“carrots”), regulative (“sticks”), and informational (“sermons”) instruments at their disposal (Serbruyns & Luyssaert 2006). Such instruments are dependent upon the existence and enforcement of a set of rules creating the formal institutional framework required to establish, monitor and enforce incentives schemes. In the same time, given long lasting management traditions within the forestry sector in

Europe, informal institutions such as customs and norms of behaviours are important. Thus, forest owners can behave completely differently even though they are exposed to the same formal institutional framework, variations that appear to be institutionally and culturally embedded (Schlüter 2007). Consequently the article provides an exploration of attitudes expressed by forest owners in respect to the existing institutional framework assuring the implementation of multi-purpose forest management principles in the context of Romanian private forestry. The aim of the paper is to explore differences between the *de jure* institutional framework and the *de facto* perception of small-scale forest owners in respect to the implementation of multi-functionality principles in forest management and to draw hypothesis regarding the adaptation of the existing policy instruments to the reality of private forestry.

*De jure*, the core idea of the Romanian forest policy system is the promotion of the same rules of forest management in public and in private forests. Despite the relevant changes in the forest tenure and in the organisational setting of the forestry sector, the policy framework is represented mainly by regulatory means, among which the forest code (Law 48/2008) and additional governmental regulations take a central place. Professional Romanian foresters generally acknowledge responsible management principles such as sustainable yield principle, multi-functionality principle and the ecological based silviculture. Since its formulation in the Romanian forest science (Rucareanu 1967, Giurgiu 1988), the principle of forest multi-functionality has been implemented in technical norms designed to serve the management planning in state forests. In practice, the forest engineer's regular activities are based on 8 volumes of technical norms, covering all the field of forest activities, from forest management planning and forest measurement to afforestation and forest harvesting. Despite the significant changes in the structure of forest tenure, the adaptation of the technical norms to the specificity of private forestry is still pending analysis.

*De facto*, problems such as over cutting, timber theft, lack of forest regeneration, lack of

forest investment etc., appeared early on "newly" private forest estate (Bouriaud & Schmithüsen 2005). Almost half of the first privatized forest land was clear felled or over harvested (120,000 ha), in a short period of time (Nichiforel 2007). Due to failures in managing their forests, private forest owners have been generally perceived as not trustable partners in a forestry system in which, for a long period of time, state foresters were the only one in charge with the sustainable forest management (Irimie & Essmann 2009).

The property rights restoration occurring in the case of Romania offers therefore a perfect context to explore the institutional influence on forest owners' behaviours. Despite its strong theoretical emphasis, empirical evidences of the role of institutions in implementing forest management principles in Romanian private forestry are scarcely available. An analysis of the relationships between forestry culture, societal perspectives towards forests and changing policy has been made by Lawrence & Szabo (2005), focussing on attitudes of foresters and rural residents affected by forest restitutions. A subsequent paper provides a sound approach to understanding the relations between expertise in forestry science and cultural dependent practices (Lawrence 2009). Irimie & Essmann (2009) stressed also the role of incentives and rationales for human actions in the reciprocal relationship between forest property rights and the attitude and conduct of policy actors.

In this context, the paper aims at the identification of perceived attitudes and motivations expressed by small scale forest owners concerning the implementation of sustainable forest management in Romanian private forestry. A subsequent objective aims to describe types of attitudes that have emerged in the management of Romanian small-scale private forests. Key research questions are: (i) what attitudes can be identified in relation to governmental interventions implementing multi-purpose forest management? (ii) how prevailing informal institutions such as values and norms of behaviours are reflected in the management attitudes adopted by forest owners' Nevertheless, the aim of the paper is not to criticise the usefulness of existing regulation and the efficiency

of their implementation. The main emphasis is to provide a better understanding of the different views regarding multi-purpose forest management, and therefore to assist the process of establishing incentives schemes with a greater likelihood of successful implementation.

This article is structured following a classical linear path. First, at the methodological level, the paper explains the socio-empirical methodological foundation of the analysis. Second, the empirical findings are presented introducing the current production practices, the values assigned to the forest and the perceived attitudes with respect to the forest policy framework. Finally, these findings are discussed and assessed in light of similar relevant forest owners' typologies and concluding hypothesis regarding the importance of integrating forest owners' attitudes in decision-making processes are drawn.

## Materials and methods

The research is designed as an explorative study using socio-empirical methods as to reconstruct activities, meanings and values expressed by forest owners from the Suceava region towards the implementation of forest management principles. The exploration of the expressed attitudes was the base for generating hypothesis regarding direction for the adaptation of policy instruments to the peculiarities of the Romanian small-scale private forestry.

Qualitative approaches are appropriately employed where the research explores people's subjective experience and the meanings they attach to those experiences (Devine 2004). Qualitative methods have been less used in forest research, and in order to face criticisms the empirical research relies on a clear research protocol and a database for the analysis as to assure the reliability of the study<sup>1</sup>.

The primary data collection used face-to-face interviews with open-ended questions, structured on the two levels of analysis (Table 1). The intrinsic motivations in the use of

forests have been assessed using questions in respect to the current utilisation of forest amenities and the value one assigns to his/her forest. At the second level of the analysis, questions have been asked in respect to the impact of regulative and financial instruments in enhancing private owners' motivation towards the implementation of responsible forest management practices.

The questionnaire has also integrated two scenarios: one aiming to assess owner's willingness to accept a financial scheme for the strict conservation of their forest and the second aiming to assess perceptions in respect to the management practices to be implemented in the scenario that there will be no legislative framework restricting owners' activities.

The most important element in the purposeful sampling of interviewees was the professional background of forest owners (e.g. two are leaders of private forest associations, three forest owners are administrators of wood processing companies, four work in private or state forest units) given the fact that a fair understanding of the provisions of the existing regulation was tracked. A diverse age categories of interviewees was integrated in the sampling as an important element when analysing attitudes that can be influenced by past experiences related to forest nationalisation, communist mentalities and new European values. As a result, 22 forest owners were approached during August 2007 in Suceava County, 20 accepted the discussion and 17 gave answers for the assessed matters. The average size of the analysed forest holdings is 85 hectares, but the value is influenced by the fact that one property is above 1,000 hectares while the rest are less than 100 hectares. If we exclude the extreme value, the average size of the analysed properties is 25 hectares, thus making the study representative for the situation of small scale farm forestry.

For data analysis the interview transcripts have been introduced into a Microsoft Office Excel worksheet, created with the purpose of facilitating data categorisation. In the next step, statements have been intuitively assigned

<sup>1</sup> The same research protocol has been used with the purpose to identify entrepreneurial rent-seeking practices in Romanian private forestry as response to perceived productive barriers given the structure of property rights (Nichiforel & Schanz, 2009).

**Table 1** The organization of the interview guidelines

Issues targeted	Question topic	Type of question	Deductive categories
Owners' profile	Age, profession, forest characteristics	Structured, closed	
Identifying the impact of intrinsic motivations on forest management	Current utilisations of forest amenities	Structured, open	Wood products NWFPS Protection
	Values assigned to the forest estate	Open	No
	Possible forest utilisations if legal restrictions seize to apply granted	Structured, open	Motivations in the use of productive vs. protective attributes
Identifying the perspectives on extrinsic motivations	(Dis)satisfaction with forest based revenues	Structured, open	Satisfied vs. not satisfied
	(Dis)satisfaction with the regulative framework	Structured, open	Satisfied vs. not satisfied
	Impact in profit due to the forest policy framework	Structured, open	No
	Acceptance of financial schemes	Structured, open	Reasons and expected amount

to categories and subcategories, based on the inductive categorisation method proposed by Mayring (2000) for qualitative content analysis. Next, statements belonging to the same categories and subcategories were clustered and displayed in matrix like data.

Given the goal of the research, the resulting categories reflect the viewpoints of forest owners. Other actors with a stake in forest governance have not been interviewed. Thus, the statements presented must be interpreted as an exploration of the reality and not automatically as facts.

## Results

### Assessing current utilisation of private forest amenities

The current productive practices of the interviewed owners focus, with no exception, on the use of wood products. The main activity producing revenues is the sell of timber on the market, in different assortments: logs are sold to sawmills, while the pulp wood is sold either

to the pulp factory existing in the area or it is used as firewood for household needs.

Only two owners had an additional income from the use of non-timber forest products (NTFPS): one by selling Christmas trees (4.06)<sup>2</sup> and another one by using his exclusion rights as to charge the right to raft logs across his forest, "not much but I asked and I was paid" (11.02). Only one owner is in the position to benefit from subsidies, as 0,5 ha of his forest is located in a strictly protected area; yet he is not interested in accessing the compensation fund blaming the associated bureaucratic hurdles.

The general perception is therefore that the use of NTFPS has no significant potential. Half of the interviewees see limitations in the use of NTFPS due to the small size of their property (between 2 and 80 ha for the interviewed owners), the poor infrastructure for tourism development in the region, and the stand characteristics (1.26; 3.15; 5.05; 8.04; 10.06; 11.07; 15.10; 17.15).

An interesting category that appeared in the analysis characterises attitudes expressed by several forest owners towards the relation

<sup>2</sup> The statements are presented using a coding system in which the digits before the dot define the interviewee and the digits after the dot represent the line in the interview transcript.

between the use of non-wood forest product (NWFP) and the social status a forest owner should have. Thus, some owners consider that it is under their "social status" to use mushrooms or forest fruits as to make money (9.04), this being rather a job for "gypsies" (6.08; 9.04) or for "others" (1.04; 14.05).

### Assessing the values assigned to the forest

Based on the perceived potential in forest utilisation, the interviewees have added various attributes to their forests, which reflect different understandings regarding the social, economic and protective benefits expected from forests. These categories appeared inductively in the analysis and provide an insight into customs and behavioural prescriptions related to forest utilisation.

Forest seen as a business opportunity characterises the motivations of half of the interviewed forest owners, even though they have various understanding of the economic profitability that can result from the use of the forest resource. Thus, five owners perceived the forest as an investment (1; 3; 10; 11; 15). The low value of forestlands on the market and their investments in timber based productive units were the predominant reasons for taking this investment decision by purchasing forests. One owner integrates this opportunity in a plan to "buy forest, cut it, reforest it, and use the money to buy more forest" (3.04). A distinct attitude is to use the forest as a reserve investment, while accessing state forests for logs' procurement:

"In my property, I harvest according to the quota, in state's property I do everything I can. My property is a reserve in case I will not have from where to harvest anymore. Then I will harvest it because this is why I bought it." (1.06)

Forest as a way to assure financial sustainability is perceived as limited when harvesting legally. One interviewee distinguishes between the current value of forests and its potential utilisation, between "forest as a burden" (7.05) and its "green gold" value:

"The forest gives you value; it is not for nothing that we call it "the green gold". You can harvest it rationally and be very rich. But they should let us do it ... to choose the experts to work with. And then I will

use it sustainable, not by cutting the entire hill because I have to bring my wife in Dubai or to buy a Jeep to my son, like some do, even now, without problems!" (7.21)

Forest as a way to improve livelihood is an attribute mentioned by four owners who consider the forest as being essential for their living (2.02; 4.02; 14.04; 16.01). The timber is sold for personal needs; the firewood is used for household needs; mushrooms and berries are used for self-consumption. Additionally, one owner sees the forest as a way to increase his life standard, building a house or buying a car being a way to express his social status (8.23).

Forest as important for its protective functions is a category mentioned only by four forest owners who directly relate their forest to its environmental functions, considering that they are "not for profit against ecosystem equilibrium" (5.16) and that they understand the "importance of forests as to protect the oxygen of our planet" (7.10). Therefore their interest is not to destroy the forest as it prevents natural disasters to happen (6.05, 17.09). Contrarily, three owners see no relation between forests and natural calamities since they "know places where there is forest and catastrophes still happen" (1.21; 9.15; 10.15).

### Assessing the degree of (dis)satisfaction with the current institutional framework

While being able to assign clear values attributes to their forest, owners express more diverse opinions when assessing the benefits obtained from the use of the forest resource. It is to be noticed that no interviewee made extreme statements as being "very satisfied" or "extremely unhappy" with the revenues and that there is a relation between the past harvesting activities<sup>3</sup> and the income satisfaction.

Those owners declaring as being "satisfied" harvested more timber than scheduled in the management plans, either due to storm injuries (8.0; 14.0; 15.0) or because of an intentional over harvest (2.0; 9.0). Only one owner considers that, "having this mix of beech with coniferous and given the prices on the market, I think that owners shouldn't complain" (15.05) but admits that he has the advantage to own old growth forest. All the others interview-

coniferous and given the prices on the market, I think that owners shouldn't complain" (15.05) but admits that he has the advantage to own old growth forest. All the others interviewees are "satisfied" with the revenues only due to the given conditions although they perceive that the forest is not utilised at its full potential (2.01; 8.01; 9.01; 14.03).

The categories "unsatisfied" or "more or less satisfied" represent landowners who based their statements primarily in the frame of the low price of wood on the market, specially when harvesting storm injured timber (3.02; 4.03; 11.02; 13.06). Two owners purposely harvested less timber than the quota waiting for an increase in price, being unsatisfied with the fact that "owners have to find ways to cheat the forest as to benefit from it" (1.02; 17.02).

The two owners having the biggest forest holding in the analysis (80 ha and 1000 ha respectively) declare that they didn't get any benefits yet but expenses. The reason that makes them being uncertain while assessing their satisfaction with the forest-based revenues is the limited integration of forest owners in the elaboration of forest management plans. Therefore, management decisions are solely based on the existing technical norms implemented irrespective to the peculiarities of small-scale forest management.

"I even don't know what revenues I have. I didn't get anything for me! I cut just to cover the expenses. They [Romsilva] decide everything. I have no control. They have the harvesting quotas, I even cannot control if their decisions are justified or not." (12.03)

The perception regarding the current forest policy framework is integrated in the manner forest owners assess the levels of impact of the regulative restrictions in their forest-based business. Furthermore, it seems logical for the legislative impediments to be analysed in the context of the degree of satisfaction with the forest-based revenues.

The multiple barriers towards productive activities perceived by interviewees have as a consequence various degrees of dissatisfaction with the forest policy framework that have been clustered in three main directions:

- a) the highly regulative framework is considered inadequate by the quasi-majority of interviewed forest owners, due to the fact that: (i) it makes no differentiations between public and private duties, forcing the private owners to bear costs that will benefit the larger society (4.13; 7.04; 11.16; 17.06); (ii) the state created a forest law looking at forest owners as "enemies" (7.08) or "offenders" (15.04), its main role being to keep the forest owners "under a permanent threat" (10.25; 13.21); (iii) the forest policy framework is "chaotic" (12.08), many rules are contradictory (1.10) and created in the absence of a proper operational setting (8.08; 14.07; 16.06)
- b) on the contrary, two forest owners out of seventeen favour the whole system of regulations regarding the use of forest resource (3.07; 5.10), perceiving that without it, forest owners will suffer as "the market will be inflated with timber" (3.07).
- c) one owner has a distinct position considering the current forest legislation rather ineffective, allowing free-riding opportunities (9.08).

### **Assessing the acceptance of financial schemes for forest conservation**

Currently the forest code states that if restrictions in harvesting apply given protective functions, compensation are to be pay, representing the average value of the wooden products that cannot be harvested. Based on this legal provision, forest owners have been asked to comment on the scenario of accepting such a financial compensation for the strict conservation of their forest. The results show that owners' expressed evenly divided opinions: (a) eight owners favours subsidies (1.24; 4.21; 3.17; 7.24; 8.24; 12.19; 13.32; 17.24) in the following conditions: (i) the value of subsidy, with various estimates as satisfactory for full conservation, between the value of annual increment meaning 300 €/year/ha (8.21), the income to be made from one hectare of forest approximated at 500 €/an/ha (1.24; 3.17) or a payment of 35 percent, at once, from the total value of the forest at the harvesting age (4.21); (ii) the structure of rights, as some

<sup>3</sup> The past harvesting performance is assessed by the forest owners themselves and is not validated by other sources.

fact that for them the forest is a source of income by the means of wood products (5.18; 9.15; 10.18; 14.18; 15.31; 16.61); (ii) the fear that the state can use such compensatory schemes as a strategy to re-nationalise the forests (2.25; 6.01; 14.18).

### Assessing the perspective on profit-seeking if no legal restrictions apply

In the scenario that no legal restrictions will apply in the use of their forests, the interviewees have asserted different predictions regarding the impact in the forest based profit enhancement, which can be clustered in four categories.

Opportunist profit-seekers, is a category that includes those reactions assessing a significant income improvement possible if all the rights are granted to owners, especially by gaining the possibility of setting different management goals for their forests (2.26; 4.30; 7.25; 8.22; 10.16; 11.31; 12.18; 13.33; 15.16; 17.22). Forests for bio-fuel or firewood production (11.44), silvicultural practices allowing berry production (2.18; 17.15), poplar plantations for pulp production (13.31), shortest cycles for wood production (17.08), a higher intensity in commercial thinning (2.04), the implementation of the coppice system (11.49), and agroforestry practices (2.04) are perceived management opportunities if current legal restrictions are not applied.

Satisfied owners, is a category that includes only one owner who asserts that the existing structure of rights is satisfactory as he understands and trust the legislative framework (5.09). Consequently, an income improvement using different management practices is not targeted, in a different structure of rights.

Illegal profit-seekers, is a category that includes those statements asserting that a change in the regulatory system will make a difference only in term of the legality of the current practices. It is to be mentioned that despite the fact that only one owner admitted to be rather involved in illegal activities, since he harvested "even more than more than the quota" (9.00), many other interviewees have pointed out the existence of "smart guys"<sup>4</sup> who take advantages of the blurry situation in the process of implementation and control of

forest regulation therefore avoiding to comply with the existing management rules.

Self-consumers, is a category that includes the attitude that this scenario brings the advantage of using the forest for self-consumption in a more responsible way (1.22, 3.14; 6.22; 14.28; 16.21). The five owners with such reactions perceive that there is no major income improvement to be achieved by changing the situation. Yet, they see advantages from having the possibility to manage the forest for their needs (6.17; 14.28) while excluding the bureaucratic steps from the management process (1.27; 14.15).

## Discussion

Empirical typologies of forest owners are often used in forest research. The relevant typologies for the context of this research are based on the motivations of owners to own forest land (Kuuluvainen et al. 1996, Karppinen 1998), on owners' attitudes to forest protection (Kline et al. 2000; Ross-Davis et al. 2005), on their attitude toward forest policy (Badola 1998, Boon et al. 2004) or on their acceptance of financial, regulative or informational instruments (Ingemarson et al. 2006, Serbruyns & Luysaert 2006). Nevertheless, two reasons make difficult their comparison with the attitudes identified in this research: (i) what all these typologies have in common is the fact that they are grounded in large surveys that allow statistical correlations of the expressed attitudes and motivations, which offers the scientific background for generalisations; (ii) none of them explicitly integrates the role of informal institutions in the analysed variables.

Given the lack of research in this area in the case of Romanian private forestry, discussing the attitudes and motivations most likely to converge in such typological groups is coherent with the exploratory methodological approach of this study and allows the deduction of hypothetical groups to be assessed at a larger scale.

A first hypothesis arising from the study is that given their socio-economic conditions, landowners from the Romanian case seem to fit within the "classic forest owner" category (Boon et al. 2004), similarly described as "tra-

ditionalist” category (Ingemarson et al. 2006). “Hobby owners” and “indifferent farmers” identified in the case of Denmark (Boon et al. 2004) or “passive owners” identified in the case of Sweden (Ingemarson et al. 2006) did not appear in this local analysis and are likely to be insignificant at the national level.

Regarding the intrinsic motivations for the use of forests, the exploration has identified groups of forest owners acting as self-consumers (satisfied with the current situation and unsatisfied), investors (satisfied and unsatisfied) and protectionists (satisfied). These types generally fit within the typological framework that links ownership objectives and observed harvesting behaviour in the case of Finnish small scale forest owners (Kuuluvainen et al. 1996). Accordingly “self-employed owners” relate their objectives to self-consumption, “recreationists” to protective functions, while “investors” perceive forest as an investment. A fourth category “multi-objective owners” describes present-value maximizing owners that harvest significantly more than other owners, situation occurring in the case of those declared illegal profit-seekers, who harvested more timber than scheduled in the management plans. The deductive hypothesis from this assessment is that in the case of Romanian, the harvesting behaviour in small-scale forestry is influenced to a large extent by present-maximizing attitudes despite the policy focus on multi-functionality. The lack of interest in NTFPS is an expression of a limited entrepreneurial vision in the use of the forest resource, which appears to be influenced by the lack of financial and informational instruments supporting their utilisation.

The attitude towards the legal framework divides owners in free-riders, not affected owners, rather affected owners and very much affected owners, while the assessment of the income improvement, if the legal restrictions cease to exist has revealed important opportunities for profit enhancement resulting from adapting management practices to owners’ needs. Serbruyns & Luyssaert (2006) created a typology that integrates, inter alia, nine attitudes towards forest policy bodies in the case of Flemish private forest owners. Four empirical owners’ types were distinguished, which can similarly be found in the analysed case:

from “satisfied recreational” owners who are the strongest supporters of legal restrictions to “materialistic” owners who seek a good investment by owning forest, even though the quasi-majority fails to accept the mandatory compliance with management plans. Particular attitudes are manifested by those identified as opportunist profit-seekers, who consider limitations to managerial rights as major constraints to their investment plans. The “profit-seeking” owners in the Flemish case believe that forest is a good investment, expecting revenues from speculative transactions with forestlands, thus having no interest in forest management. In spite of the fact that such a motivation is less prominent for the interviewed Romanian owners, it is to be mentioned that many of them revealed the existence of “smart guys” speculating the low value of forestlands on the market. Furthermore, it is to be noticed that, the only specific owner type identified in the analysis, is the illegal profit-seekers category, which at the European level seem to be an attribute particular to some owners from countries in transition (Bouriaud 2005). This translates in the hypothesis that in the Romanian context, the process of implementation and control of the regulatory framework limits entrepreneurial attitudes that can assure the financial sustainability in small-scale forestry while opening the room for short term speculations and illegal activities.

The implementation of instruments intended to finance the sustainable management of private forests, balance examples of achievements and failures. For example, in the Netherlands around 50 percent of the total revenues of private forest enterprises are accounted for by subsidies (Blum & Schanz 2001). Contrarily, in the Flemish case, despite the fact that a wide range of subsidies exists for private forests, only a small number of owners applied for them (Serbruyns & Luyssaert 2006). In the case of Romania, compensatory schemes are in place for forests situated in strictly protected areas. The findings of the research lead to the hypothesis that the forest owners are unenthusiastic in using financial schemes, given the high transaction costs of accessing them, and due to the lack of adequate information. Furthermore, those favouring the implementa-



tion of financial schemes are pessimist about states' possibility to support their efficient implementation.

## Conclusion

Neo-institutional economics (NIE) theory provides the background for an assessment aiming to understand the relation between the existing institutional framework and forest owner's behaviours. Institutions set "the rules of the game" (North 1990) and therefore define the property rights, influence the transaction costs, influence perceptions, interests and values and influence owners' rationality.

In the analysed case, intrinsic motivations such as the values one assigns to its forest, the perception of his/her social status, the understandings of forest related phenomena and the entrepreneurial ability are prevailing elements in taking a certain path of behaviour. Consequently, the regulatory instruments used to implement multi-functionality in private forestry have different degrees of acceptance and compliance. The regulatory bodies have to be aware that many of the private owners consider restrictions in setting management goals as an offence to their ownership status (Nichiforel & Schanz 2009). If it is to believe the Neo-institutional theory such informal institutions (e.g. customs, traditions, behavioural prescriptions, etc.) generally change very slowly and are shaped by the cognitive and cultural background. Therefore, for some groups multi-functionality can be more efficiently achieved if the focus on "sticks" is reduced and a higher emphasis is put on "carrots" or "sermons". The list of identified opportunities for profit enhancement in the scenario that no legal restrictions apply, comes across to some new management goals that can apply in small-scale private forestry.

The transactional costs of enforcing and monitoring the regulatory framework can be substantially reduced if private forest owners are actively integrated as relevant stakeholders during decision-making processes. It is less likely to believe that a system of forest policies not adapted to the reality of private forestry is to be successfully embraced by the quasi-majority of forest owners.

The conclusions of this paper consider that the research has been designed as to meet exploratory scientific objectives and to offer a broad overview of the intrinsic and extrinsic factors most likely to influence owners' attitudes in respect to multi-purpose forest management. As a result, one should rely on the hypothetical typologies identified, and not on their quantification. Hence, the study offers several patterns of attitudes for the purpose of creating a pervasive forest owners' typology, using representative surveys, based on closed questions that allow quantification. Such a survey, can offer a comprehensive relation between the behavioural patterns of forest owners in respect to multi-functionality principles and the type of incentives schemes most likely to shape the responsible management in the Romanian small-scale private forestry.

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## References

- Badola, R., 1998. Attitudes of local people towards conservation and alternatives to forest resources: a case study from the lower Himalayas. *Biodiversity and Conservation* 7: 1245-1259.
- Blum, A., Schanz, H., 2001. From Input-Oriented to Output-Oriented Subsidy Schemes and Beyond. In: Ottitsch, A., Tikkanen, I., Riera, P. (eds.), *Financial Instruments of Forest Policy*, Joensuu EFI Proceedings: European Forest Institute 42: 15-29.
- Boon, T.E., Meilby, H., Thorsen, B.J., 2004. An empirically based typology of private forest owners in Denmark: improving communication between authorities and owners. *Scandinavian Journal of Forest Research* 19: 45-55.
- Bouriaud, L., 2005. Causes of Illegal Logging in Central and Eastern Europe. *Small-scale Forests Economics*.

- Management and Policy 4: 269-292.
- Bouriaud, L., Schmithüsen, F., 2005. Allocation of Property Rights on Forests through Ownership Reform and Forest Policies in Central and Eastern European Countries. *Swiss Forestry Journal* 156: 297-305.
- Cubbage, F., Harou, P., Sills, E., 2005. Policy instruments to enhance multi-functional forest management. *Forest Policy and Economics* 9(7): 833-8519.
- Devine, F., 2004. Qualitative Methods. In: David, M., Gerry, S. (eds.), *Theory and Methodology in Political Science*. Palgrave Macmillan, New York, p. 368.
- Giurgiu, V., 1988. Amenajarea pădurilor cu funcții multiple. [Ed.] Ceres, București.
- Ingemarson, F., Lindhagen, A., Eriksson, L., 2006. A typology of small-scale private forest owners in Sweden. *Scandinavian Journal of Forest Research* 21: 249-259.
- Ioras, F., Abrudan, I., 2006. The Romanian forestry sector: privatisation facts. *International Forestry Review* 8: 361-367.
- Irimie, D.L., Essmann, H.F., 2009. Forest property rights in the frame of public policies and societal change. *Forest Policy and Economics* 11: 95-101.
- Karppinen, H., 1998. Values and objectives of non-industrial private forest owners in Finland. *Silva Fennica* 32: 43-59.
- Kline, J.D., Alig, R.J., Johnson, R.L., 2000. Forest owner incentives to protect riparian habitat. *Ecological Economics* 33: 29-43.
- Kuuluvainen, J., Karppinen, H., Ovaskainen, V., 1996. Landowner objectives and nonindustrial private timber supply. *Forest Science* 42: 300-309.
- Lawrence, A., 2009. Forestry in transition: Imperial legacy and negotiated expertise in Romania and Poland. *Forest Policy and Economics* doi:10.1016/j.forpol.2009.02.003.
- Lawrence, A., Szabo, A., 2005. Forest Restitution in Romania: Challenging the Value System of Foresters and Farmers. In: *European Forests in Ethical Discourse*, Berlin, p. 10.
- Mayring, P., 2000. Qualitative content analysis. In: *Forum: Qualitative social research*.
- Miles, M., Huberman, M., 1994. *Qualitative data analysis, an expanded sourcebook*. SAGE publication, London - Thousand Oaks - New Delhi.
- Nichiforel, G., 2007. Stadiul aplicării legilor retrocedării privitoare la păduri [Current status in forest restitutions]. *Bucovina Forestieră* 15: 21-43.
- Nichiforel, L., Schanz, H., 2009. Property rights distribution and entrepreneurial rent-seeking in Romanian forestry: a perspective of private forest owners. *European Journal of Forest Research* doi:10.1007/s10342-009-0337-8.
- North, D.C., 1990. *Institutions, institutional change and economic performance*. Cambridge University Press, Cambridge.
- Ross-Davis, A.L., Broussard, S.R., Jacobs, D.F., Davis, A.S., 2005. Afforestation Motivations of Private Landowners: An Examination of Hardwood Tree Plantings in Indiana. *Northern Journal of Applied Forestry* 22: 149-153.
- Rucăreanu, N., 1967. Amenajarea pădurilor. [Ed.] Agrosilvică, București.
- Schlüter, A., 2007. Institutional change in the forestry sector. The explanatory potential of New Institutional Economics. *Forest Policy and Economics* 9: 1090-1099.
- Serbruyns, I., Luysaert, S., 2006. Acceptance of sticks, carrots and sermons as policy instruments for directing private forest management. *Forest Policy and Economics* 9: 285- 296.