

# Nature Forest in society

## The changing role of forestry in Europe: perspectives for rural development

K.F. Wiersum and B.H.M. Elands



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# **The changing role of forestry in Europe: perspectives for rural development**

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'Nature Forest in Society' is the online discussion paper series of the Forest and Nature Conservation Policy (FNP) Group at Wageningen University. This issue is dedicated to the proceedings of the International Policy Research Symposium 'The changing role of forestry in Europe, between urbanisation and rural development' which was held in Wageningen in November 2001. This symposium was co-organised by the FNP group in co-operation with several other Dutch and international research groups. This report focuses specifically on the presentations on initial results of the EU/FAIR funded research project 'Multifunctional forestry as a means to rural development' (Multifor.RD) which is co-ordinated by the FNP group. By publishing these proceedings in the FNP discussion paper series, it is hoped that interested persons can have easy (electronic) access into the ongoing Multifor.RD research activities and that this will stimulate interest in and discussions on the methods and approaches as well as results of this project. For more information on the Multifor.RD project see <http://www.dow.wau.nl/multifor> or contact the editors of this volume directly.

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EU/FAIR  
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## Foreword

### *Forests are praised by people in rural areas?*

Forests are highly valued by European citizens. While in the past they were mainly appreciated for their productive potential and contribution to employment and income generation, at present they are increasingly valued for their amenity, environmental and nature values. Also their role in creating a sense of place is prominent. Because of their multifunctional character, during recent years the potential role of forestry in rural development is gaining political cloud. However, rural development is a multi-faceted process and its interpretation depends on location-specific conditions. Consequently, although the role of forestry for rural development is acknowledged, still quite different opinions on the precise role of forests in the future of the countryside may exist.

### *EU/FAIR research project: Multifor.RD*

In order to gain a better understanding of the nature and distribution of opinions on the exact role of forestry in the context of rural development, in February 1999 a EU/FAIR funded research project on '*Multifunctional forestry as a means to rural development, establishing criteria for region-specific strategies for balancing public demands and forest owners' objectives*' (Multifor.RD) was started. Its aim was to assess how the dynamics in ruralisation and urbanisation impact on the role of forestry for rural development. These dynamics induce two major trends of thinking regarding the role of forestry. At the one hand forestry is considered to contribute to economic vitality and liveability in rural areas by providing production and income earning opportunities. At the other hand forestry should contribute towards the restructuring of rural areas by enhancing nature and recreation values as requested by an urbanising society. In order to assess how such perspectives are distributed over different types of rural areas ranging from remote areas to rural areas subject to peri-urbanisation a series of comparative case-studies were carried out in nine European countries, i.e. Austria, Denmark, France, Germany, Greece, Hungary, Ireland, the Netherlands and Spain.

### *Symposium*

#### *The changing role of forestry in Europe; between urbanisation and rural development*

The preliminary results of this research project were presented at an International Policy Research Symposium on '*The changing role of forestry in Europe; between urbanisation and rural development*' which was held in Wageningen the Netherlands, from November 11-14, 2001. The objective of this symposium was to provide innovative perspectives on the role of forestry within the context of changing rural conditions and increasing urbanisation, and of how these new developments affect the design and conditions of forest management. The symposium was organised by the Wageningen University and Research Centre in co-operation with the Multifor.RD project as well as the EU/COST Action E12 Urban Forests and Trees. The symposium was held under auspices of the IUFRO Division 6 on Social, Economic, Information and Policy Sciences. The symposium offered not only an excellent opportunity to present the preliminary research results with fellow scientists, but also to discuss the policy implications of the study with forest policy makers.

### *Proceedings Multifor.RD session*

The symposium consisted of three components, i.e. plenary sessions, parallel sessions on specific research subjects, and excursions. The input of the Multifor.RD programme consisted of a general presentation on the European level results at the plenary session, and of the organisation of a specific Multifor.RD parallel session. During this session various presentations on the European level and country specific results were given. Also a forum discussion on the scientific merits and policy implications of the research findings was held. In these proceedings the different Multifor.RD activities during the symposium are included. The results of the other symposium activities are reported in separate proceedings.

Freerk Wiersum and Birgit Elands  
Multifor.RD Project Co-ordinators

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## **Part 1      European results**





# The integrated Multifor.RD research approach

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## Abstract

The EU/FAIR funded research project 'Multifor.RD' aimed at making a comparative European study about the nature and dynamics of landowners' and inhabitants' attitudes towards forests and forestry, and at developing criteria for distinguishing regional-specific strategies for multifunctional forestry to serve rural development. The study consisted of a series of comparative case studies in nine European countries; in each country the study focused on two case study areas. A common research methodology was developed consisting of five research phases: (i) a descriptive characterisation of the selected case study areas, (ii) a qualitative survey to assess the nature and variety of perspectives on the role of forestry in rural development, (iii) a follow-up quantitative survey to assess the distribution of these perspectives within the various rural areas and different categories of local people, (iv) a synthesis of research findings, which were finally used (v) to identify policy recommendations for more effective integration of forestry in rural development. The analysis focused especially on the identification of how area-specific characteristics, such as regional differences, differences between established and newly emerging forest areas and differences between countries, as well as to person-specific characteristics, such as differences between community inhabitants and landowners, impact on the perceived present and future roles of forests. In developing the research process, special attention has been given to the comparability of the research results, to the up-scaling of results obtained at case study area level to the trans-European level as well as to the assignment and operationalisation of the emic perspectives as collected in the qualitative survey into etic concepts to be used in the quantitative survey.

**Keywords:** rural conditions, rural development, research methodology, comparative research

## 1. Introduction

Within Europe at present, many rural areas are subject to a dynamic change. In many places the importance of agricultural production is declining, while environmental and landscape functions are increasingly valued. The changing role of the, until recently, traditional activities has modified the content and form of development in rural areas. Rural development is now considered to signify the strengthening of the liveability in rural areas by means of improving or restructuring the landscape identity, economic viability and quality of the biophysical environment. Forests are increasingly considered as an important component of rural areas, because they provide both economic values through wood and non-wood production and manufacturing, as well as social values for recreation and tourism, landscape amenity, biological diversity, environmental protection and cultural heritage. Forestry can contribute towards rural development by either improving or innovating production processes or by providing an ecological infrastructure for an attractive rural landscape (Slee and Wiersum, 2001). However, an important barrier to the development of policies to optimise the role of forestry in rural development is the great regional variation in both rural and forestry conditions and hence, the possible

roles forestry could play in rural development. Due to the diversity in functions of forests, within different European regions, quite variable perspectives on the role of forestry regarding rural development exist (Koch and Rasmussen, 1998) but still there is little insight on the various perspectives and their distribution over various regions.

In 1999 an EU/FAIR funded research project 'Multifor.RD' was started to assess the variety of local perceptions and attitudes with respect to the role of forestry in rural development (Elands, 2000; Papageorgiou et al., 2000). This project 'Multifor.RD aims at *making a comparative European study about the nature and dynamics of landowners' and public's attitudes towards forests and forestry, and at developing criteria for distinguishing regional-specific strategies for multifunctional forestry to serve rural development*. This three and a half year research project, which is a descendant from the COST Action E3 'Forestry in the Context of Rural Development', Working group 1 'Public perceptions and attitudes' (Koch and Rasmussen, 1998; Terrasson, 1998; Wiersum, 1998), is financed by the European Commission under the FAIR Programme and started in February 1999. Research institutes and universities within eleven countries (France (FR), Ireland (EI), the Netherlands (NL), Hungary (HU), Greece (GR), Denmark (DK), Spain (ES), Austria (AU), Germany (DE), Finland, and Switzerland) are involved in the project, with the latter two acting as consulting partners.

The study consisted of a series of comparative case studies in nine European countries. In this paper the common research methodology will be presented. The research results are presented in the other papers in this bundle. First the scientific background as well as the research hypotheses will be dealt with. Section 3 provides the outline of the chosen research methodology. In the following sections the main research steps and the methods involved will be discussed. Section 4 deals with the description and classification of the selected case study areas. Section 5 examines the exploration of the diversity of mental models of representation people have of the study area and the role forests play in it by means of a qualitative survey. The distribution of these representations within and between the study areas as well as between landowners and community inhabitants and other relevant categories of people by means of a quantitative survey is discussed in section 6. Section 7 handles the synthesis of research findings, and finally, the identification of regional-specific policy implications for multifunctional forestry to serve rural development by means of an integrative interpretation of the different research findings is discussed in section 8. In the last section some conclusions will be drawn about the experiences gained in using such an integrated research approach.

## **2. Forests as potential contributors to rural development: the scientific background of the project**

### *Problem statement*

According to the European Commission (1997) about 80% of the territory of the European Union can be called "rural". These rural areas include a variety of cultures, landscapes and economic activities that shape a patchwork of rural identities. Originally, the interaction between man and nature was driven by the presence of agricultural and other natural resource production processes. In the last decades, however, a further diversification of rural identity occurred as a result of the impact of urbanisation in rural areas. Rural areas in Europe are quite heterogeneous as a function of differences in socio-economic, demographic and biophysical conditions. The influence of the above conditions formulates a particular dynamic in a given locality, which influences the course of development that is likely to occur. Consequently a variety of rural conditions with specific development options are present.

Originally farmers predominantly inhabited rural areas and people employed in related primary production activities. But in many rural areas this situation is rapidly changing as a result of the advent of the secondary and tertiary sector. Increasingly, people in rural areas are not necessarily employed anymore in the primary sector; they even may commute to their urban-based income-generating activities. The perspectives of the people employed in such non-traditional rural activities on rural development are often rather different than those of the primary producers. In many cases these people value rural areas for their landscape and amenity functions rather than for their rural production functions. (Elands and Wiersum, 2001). Consequently, opinions on the desired futures of rural areas may vary between various population groups within a specific region.

The starting *hypotheses* of the Multifor.RD project were therefore:

- There are differences in perspectives on the role of forestry in rural development in a range from remote rural areas to semi-urbanised areas;
- There are differences in perspectives on the role of forestry in rural development between forest and farm landowners and community inhabitants.

### *Conceptualisation of rurality*

For the subsequent operationalisation of these hypotheses into a harmonised research methodology a major conceptual issue to be considered was how to define rurality. In the past, various attempts have been undertaken to define the various rural conditions in Europe. At least two main approaches may be distinguished, i.e. an approach in which rural areas are defined as spatial entities and an approach in which rural areas are defined as social representations (Halfacree, 1993).

Within the first approach three definition types can be distinguished. First of all, within the descriptive definition, rural areas have a specific geographic location and can be described according to socio-spatial characteristics, such as 'population density' and 'land use. This approach is focused primarily on the selection of the most appropriate observable and measurable spatial descriptors for the rural environment (Halfacree, 1993; Elands, 2001). For instance, the OECD definition of rurality is based on criteria such as the population density. Alternatively, rural areas may also be considered as spatial areas determined by specific socio-cultural conditions. The criteria used in this approach relate to a specific way of life inherent in rural areas. For example, Glück (1998) recognised 5 types of rural areas: remote rural areas, areas dominated by agriculture, rural areas used for mass tourism, rural areas with a diversified economic structure and areas close to agglomeration centres. Yet another approach considers rural areas as 'constructed' spaces with a specific relationship between spatial and sociological characteristics. In this approach, rural pockets may exist within urban areas or within rural areas people with a predominant urban lifestyle may live.

In the second main approach towards defining rural areas as social representations, these areas are considered as spaces which are given meaning by being talked about, and which thus are experienced as being rural (Halfacree, 1993; Frouws, 1998). Thus, the content of rurality is represented through the words and concepts of the people living there during their everyday talk.

### *Consequences for the conceptualisation of rural development*

In analogy to the differentiation of various approaches towards defining rural areas, also two main approaches towards defining rural development can be distinguished (Elands and Wiersum, 2001). In the first place, rural development can be interpreted as referring to desired future situation as represented by specific socio-economic conditions or socio-cultural lifestyles. In many cases for policy purposes

descriptive parameters, such as an increase in production, (regional or household) income, or labour opportunities, are used. Increasingly also parameters, such as strengthening of liveability, good socio-cultural infrastructure, or attractive landscape for housing and leisure activities, are mentioned. An important consideration may also be, whether development is endogenously or exogenously based; this distinction refers to a major socio-cultural dimension of development (Elands and Wiersum, 2001). In most policy discussions amongst decision-makers, administrators and professional people the aforementioned interpretations prevail. In the second place, rural development can be considered as a social representation of the desired future; the term is given meaning by people expressing their concerns about problematic present conditions and desired futures (see also Jones, 1995).

In the Multifor.RD study a concentrated effort was made to combine the descriptive approach and social representation approach. At the one hand, it was considered that as the project focused on ascertaining *local perceptions* and *attitudes* towards forestry for rural development, it would be logically to take individual meanings as a starting point. At the other hand, it was considered that the research was expected to result in the identification of *criteria* for *region-specific strategies* for balancing public demands and landowners' objectives. The research findings should therefore be analysed within the context of rural areas, that can be described objectively with respect to socio-economic conditions.

### **3. General methodological approach**

#### *Comparative research with multiple aims*

As the project concerned a comparative trans-European research, in developing the overall research approach special attention was given to the question of how to achieve effective comparability and harmonisation of information, and how to assure consistency in data analysis. According to Bennett (1996) the benefits from a comparative analysis of case studies which focus on clarifying regional characteristics and on providing guidelines for policy formulation are threefold. They provide:

- *descriptive information*. By looking 'abroad', culturally determined generalisations can be avoided.
- *causal relations*. By comparing e.g. social perspectives on the present and potential role of forestry in rural areas in different national settings, a better understanding of the range of social, economic, cultural and institutional variables that account for any variation can be obtained.
- *evaluative information on policy implications*. A better understanding of the different circumstances under which a particular problem has emerged, can give an insight in the conditions in which they might be transplanted from one country to another.

The Multifor.RD project aimed at all three types of results. In order to accomplish these multiple aims, a lot of attention has been given to the development of an integrated research approach applicable in a cross-cultural context.

#### *Research approaches and steps*

This research is about the interaction of people with their environment. The aim is to find out what perceptions and attitudes landowners, inhabitants, recreationists, government administrators, politicians, representatives of non-governmental organisations and all other groups of people with an interest in the area have about local forests in order to give the European Commission information to develop region-specific forest policies. In order to create an arena in which both the subjective interpretations of people as well as objective characterisations of rural areas coincide in a comparative European context, it was necessary to develop a common methodology. Therefore, the descriptive definition approach and the social representations approach were combined in an integrated research

design. The descriptive definition approach enabled the researchers to collect location-specific information of the case study areas. For the social representations approach a phased process towards using qualitative and quantitative research methods was developed. At first, insights about the mental models of representation that people have of each study area and the role that forests play in it, were collected through a qualitative approach with data being gathered by means of in-depth interviews. This information was subsequently used (i) to assess the distribution of these perspectives and opinions regarding the role of forestry in rural development by means of a quantitative survey and (ii) to ascertain the causal relations between these opinions and socio-economic criteria from the descriptive definition approach. These data were subsequently upgraded into more systematic information to allow trans-European comparison of data leading to the identification of causal factors explaining differences in the role of forestry for rural development under different conditions. Finally, an evaluation of the policy repercussions was accomplished by comparing the opinions of community members and local politicians and decision makers at the one hand, and by comparing the country-level and European level outcomes of study with the prevailing (inter)national forest policies at the other hand.

To summarise, the research is set up from different approaches and involves five steps:

*Descriptive approach*

- step 1: selection and descriptive characterisation of rural areas. Method: desk research

*Social representations approach*

- step 2: nature and variety of perspectives on the role of forestry on rural development. Method: qualitative interviews
- step 3: distribution of perspectives on the role of forestry on rural development. Method: quantitative survey

*Synthesis approach*

- step 4: synthesis of research findings. Method: crosschecking of research findings
- step 5: definition of research implications for development region-specific forest policies. Method: literature review of national and European policy.

*Use of conceptual models and step-wise analysis*

As rural and forestry conditions within Europe are very diverse, the findings in the various countries are highly context specific. Consequently, to be able to do comparative research at the trans-European level, it is required to assure a certain amount of unanimity on concepts and standpoints out of which can be compared (Bennett, 1996). This was achieved on the one hand by structuring the concepts in each research phase and on the other hand by applying a step-wise analytical process. Within each research phase a conceptual model has been constructed that formed the input for the data collection. Dependent on the selected method this model acted as a rough guide for the fieldwork or a more fixed framework with a common developed instrument. The analysis of each research phase consisted of two phases: stepwise spatial up-scaling of the analysis and linking up to the research objectives. In the first phase, the analysis was executed across three different spatial levels:

- in order to stay as close as possible to the location-specific conditions the start of the analysis took place at the case study area level;
- next, in each country a national analysis was made by comparing the results of the two individual case studies. This analysis focused on assessing major similarities and differences between the two case studies.
- finally, using data from both the case study analyses and country analyses a comparative European analysis was made aiming at ascertaining the main criteria and indicators which can be used to assess the role of forests on rural development.

In the second phase, the analysis was focused on a country-level and European level answering the research questions with respect to multifunctional forestry and its role in rural development.

#### **4. Selection and characterisation of case study areas**

##### *Selection of case study areas*

In each of the 9 participating countries two study areas were selected with different rural and forestry conditions, i.e. one traditional forest area and one area with recent afforestation. These research areas mostly consisted of the smallest administrative districts ('communities') in a country; they ranged from 65 to 346 km<sup>2</sup> in size. The selection of these areas was based on the consideration that the areas should illustrate the variety of rural conditions found in Europe rather to represent prior-identified 'typical' conditions at either national or European scale. The case-study areas cover a large range in rurality and forestry conditions within Europe. For instance, the population density ranges from 2 to 318 persons/km<sup>2</sup> and forest cover from 3 to 82%. The selection of the case study areas in each country was made by the research group involved; in several cases areas were selected where prior research had already taken place. Such a familiarity with several research locations facilitated efficient data collection and interpretation.

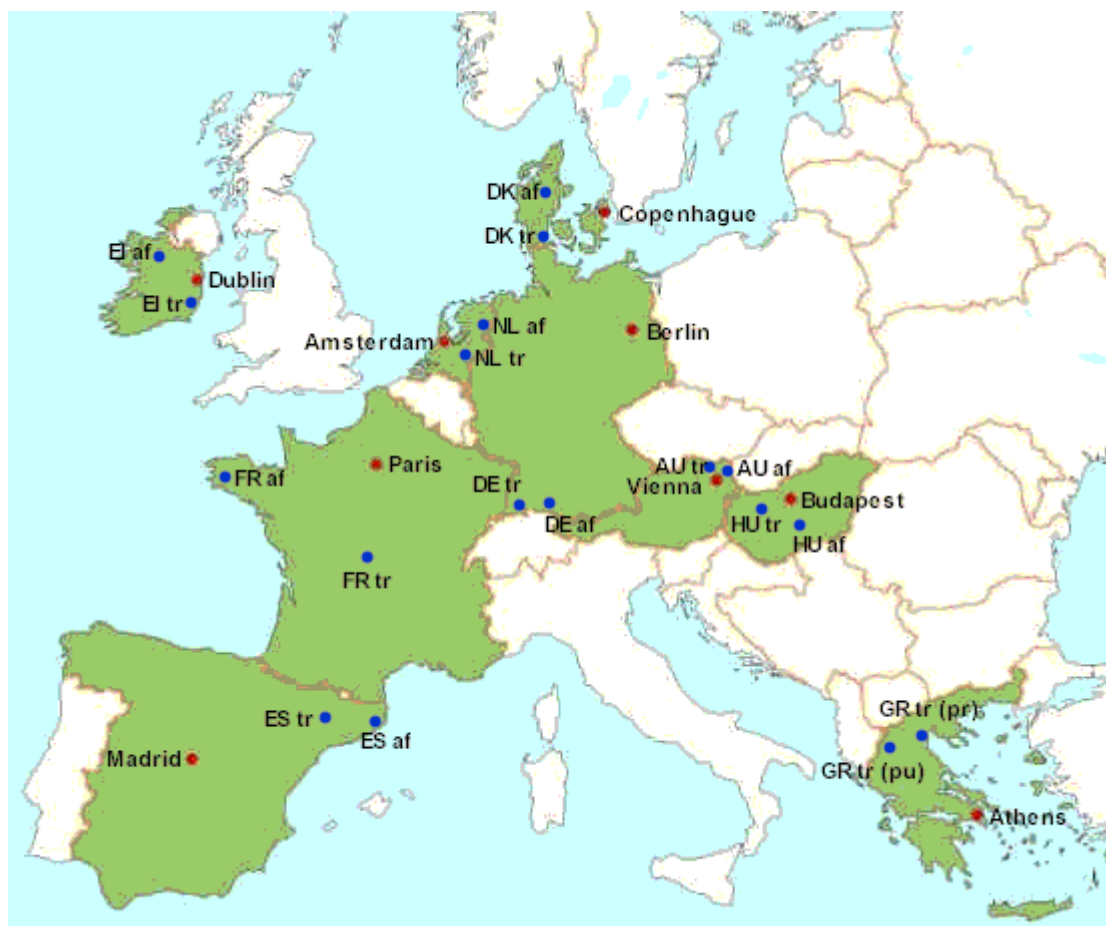


Figure 1: Location of the 18 research areas within 9 countries in Europe (tr=traditional forest area, af=afforestation area, pu=public owned forests, pr=private owned forests)

### *Descriptive definition approach*

In order to classify these areas in a comparative way, a set of descriptive parameters representing major rural and forestry conditions was used. A list of descriptors was composed to provide information on demographic, land use, and economic conditions and trends of the areas. As a basis a list previously developed by the Forest Resources for Work Opportunities and Regional Development (FORWARD) project was used (Niskanen and Lin, 2001). This list was further adopted. Firstly, rather than absolute figures relative figures were identified as being most appropriate (e.g. rather than expressing forest area in hectares it was expressed in % of land area). In the second place, the list was extended by not only including information on wood production, but also on other forest functions such as recreation, forest grazing, etc. In the third place, the data to be collected were categorised into two types, i.e. the rural conditions and the rural trends (Table 1) (Hoggart et al., 1995; Klundert et al., 1994).

*Table 1: Development of descriptive parameters*

	<b>Conditions</b>	<b>Trends</b>
<b>Rurality</b> <ul style="list-style-type: none"><li>• Demographic</li><li>• Land use</li><li>• Employment</li></ul>	Rurality condition descriptors	Rurality trend descriptors
<b>Forestry</b> <ul style="list-style-type: none"><li>• Demographic</li><li>• Land use</li><li>• Employment</li></ul>	Forestry condition descriptors	Forestry trend descriptors

### *Data collection*

Two aspects of the collected data should be considered: the availability of the data and the reliability of the data. The *availability of the data* appeared to be a major problem due to the following causes:

- first of all, each country did not have the same access to (national) official statistical sources. Notably there was a lack of information on the economic spin-off of forests in respect to employment and income generation in forest-derived activities such as recreation and tourism or housing estate development.<sup>1</sup>
- not all the descriptors are measured in each country, which implies that some descriptors are covered well by the countries, some descriptors have partial missing values, and other descriptors have a lot of missing values. We have asked the different partners to estimate the missing values but this was not possible for several descriptors as there was a complete lack of decision criteria to make a profound estimation;

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<sup>1</sup> This lack of statistical information on the non-traditional and indirect financial benefits of forests and prevalence of only statistical information on the traditional forest and timber sector is a major hindrance towards making an integrated assessment of the multifunctional role of forestry for rural development. Consequently, the existing comparative European studies on forest related perspectives on regional development (Hyttinen et al., 2002; Selby and Petäjistö, 2002) are only based on information of the traditional forestry sector, and neglect the important forest-derived economic impacts in other economic sectors.

- as this project focuses on the local level, the statistical data should refer to the localities involved. This causes extra problems as the available data often relates to the national and/or regional level. The *reliability of the data* was a second major problem. This problem occurred mainly due to different interpretations of the descriptors. Forestry as a land use form is understood by some national statistic sources as all land planted with trees, whereas in other sources certain categories of land covered by trees may be considered as grazing area. These diverging interpretations of some basic concepts have been discussed and solved as much as possible.

### *Data analysis*

The analysis consisted of statistical analysis combined with qualitative interpretation. The set of descriptors that have been used for the statistical hierarchical cluster analysis were: population density, distance to cities, share of active population, share of forest, agriculture, wilderness and build-up land and share of employment in primary, secondary and tertiary sector (De Deugd and Elands, 2001). These descriptors all belong to the *rurality condition descriptors*. Initially, the cluster analysis classified the rural areas in three main categories: rural areas with urban characteristics, rural areas with a diversified economic structure, and rural areas dominated by agriculture. Additional qualitative interpretation by means of *forestry conditions* as well as *rurality* and *forestry trends* has led to a subdivision of the latter category.

### *A typology of rural areas*

On the basis of this joint analysis a final categorisation of the case study areas was made. This categorisation was crosschecked by the area differentiation as identified from the comparative results of the qualitative survey (see section 5). The following five types of rural areas were finally distinguished (De Deugd and Elands, 2001):

1. *rural areas with urban characteristics*. In these areas agricultural practices are in decline while urban related development is growing. In this category, areas are confronted with a decline in the primary sector and trends in employment shift towards tertiary sector. The study areas included in this group are densely populated and are located in close proximity to urban centres. A sizeable part of the land is forest but the economic contribution of forestry to local livelihood is reduced.
2. *diversified rural areas*. The main land use is agriculture; forest land does not occupy a significant part of the rural territory. These areas have a diversified economic structure and a strong employment shift towards secondary and tertiary sector can be observed.
3. *growth areas depending on agriculture*. The areas are located favourably in relation to urban centres. They have not suffered from depopulation over the last decades; moreover, the population is still increasing.
4. *decline areas dependent on agriculture*. The economic viability of these areas is dependent on agricultural practices. The population density is low and the areas are situated relatively far from cities. In the past they have suffered from depopulation.
5. *remote areas*. These areas are dependent on agriculture, are remote, mountainous and sparsely populated. They are still suffering from depopulation.

Table 2 shows the distribution of study areas in five categories of rural areas that emerged from this study and the descriptors used for the classification.



Table 2: Typology of rural areas, and distribution of rural areas according to spatial and socio-economic descriptors (modified from De Deugd and Elands, 2001)

Type of rural area	Characteristics	Case study areas
Rural area with urban characteristics	High population density (at least 70 to over 300 persons/km <sup>2</sup> ) Forest forms important part of land-use Significant tertiary sector	Ede (NL) Haderslev (DK) Staufen (DE) Torroella de Montgri (ES)
Diversified rural area	Medium population density (50 – 80 persons/km <sup>2</sup> , only Stadskanaal higher) Agriculture main form of land-use Equally developed secondary and tertiary sector	Hvorslev (DK) Kerekegyháza (HU) Konitsa (GR) Stadskanaal (NL) Wicklow (EI)
Growth area dependent on agriculture	Medium population density (50-60 persons/km <sup>2</sup> ) Both forest and agricultural land-use Dominance of primary sector, but growing importance of tertiary sector	Pfullendorf (DE) Weinviertel (AU)
Decline area dependent on agriculture	Low-medium population density (20-70 persons/km <sup>2</sup> ) Both forest and agricultural land-use Important, but stagnating tertiary sector	Kolindros (GR) Leitrim (EI) Monts d'Arrée (FR) Szentgál (HU) Waldviertel (AU)
Remote area	Very low population (less than 10 persons/km <sup>2</sup> ) Dominance of forest land-use Dominance of primary sector	Navès (ES) Plateau de Millevaches (FR)

## 5. Nature and variety of perspectives on the role of forestry on rural development: qualitative survey

### *A phenomenological approach*

In 6 countries (Denmark, France, Greece, Hungary, Ireland and the Netherlands) in the two case-study areas a qualitative survey was undertaken to get insight into the variety of social representations regarding the role of forestry in rural development in each locality. According to the theory of social representations it is vital to make clear *"how people understand, explain and articulate the complexity of stimuli and experiences emanating from the social and physical environment in which they are immersed"* (Halfacree, 1993). It is important to emphasise the social character of a representation, which evolves within social practices in given time and space. Therefore, social representation is a dynamic concept, but it has a certain persistence that gives it a long-term continuity (Frouws, 1998). Such social representations are expressed through discourses. A discourse consists of a set of arguments which people use to communicate their understanding and explanations about the meaning of certain phenomena in their everyday lives. In order to get insight in local discourses on uses, experiences and values that local people attribute to forests in their rural areas a phenomenological approach was used as basis for the interviews. Walmsley and Lewis (1993) define phenomenology as *"the precise and accurate description and account of the phenomena we encounter in the world, without the distorting influence of a priori and unclarified assumptions"*. Four basic principles upon which phenomenology is based can be distinguished (Le Floch et al., 1999; Schutz, 1971). The first one is the idea that reality is a construction. Secondly, people are not independent of the world they live in; there

exists no objective reality, because in order to “know” our world, we attribute a meaning to it (Schutz, 1971). Besides, according to Schutz (1971), each of us observe only certain aspects of the real world; relevance is not inherent in nature as such (i.e. some things are relevant to us, others are not). The construction of reality, or the attribution of meanings, is not an individual process, but is fundamentally socially determined: it is the social construction of reality. Schutz thus refers to the “intersubjective world”, and not to the “subjective (or individual) world”.

Much attention was given to a consistent use of the phenomenological approach within the scope of a comparative study. At the one hand, as discussed above, a basic consideration of this approach is that the construction of reality is a fundamentally intersubjective and contextually determined phenomenon (Schutz, 1971). At the other hand, a basic consideration of the Multifor.RD research was the aim to make a comparative analysis between areas on opinions on forestry and rural development. Consequently, the phenomenological approach should be implemented in such a way, that basically subjective meanings could objectively be compared. The reconciliation of these two requirements was accomplished through a careful process with two major features:

- joint development of a conceptual frame which assured identical approach to data collection in the various research areas;
- a phased approach to data analysis in a process of gradual up-scaling in a reiterative process of comparative analysis and checking results for consistency with the primary data.

In order to assure that the common research approach was consistently followed in the various research teams, a training meeting was held to acquaint researchers with how to conduct the interviews and consistently analyse the results.

### *Conceptual frame*

To assure commonality in a phenomenological interview approach, a conceptual framework for general guidance of the interviews and a detailed research protocol was developed (Le Floch et al., 1999). The conceptual framework (Figure 2) consisted of a simple descriptive model illustrating the various aspects to be considered in the study. This model served as a guide to the interviews by providing a systematic framework for the principal research questions, which were formulated as follows:

- what general impressions do people have of the rural area they live in?
- are forests of any significance (personal or otherwise) to the actors using the area?
- how are forests and forestry experienced within the area, how did forests develop in the past, and how do people perceive that forests will develop in the future?
- what meanings and values do actors attribute to forests?

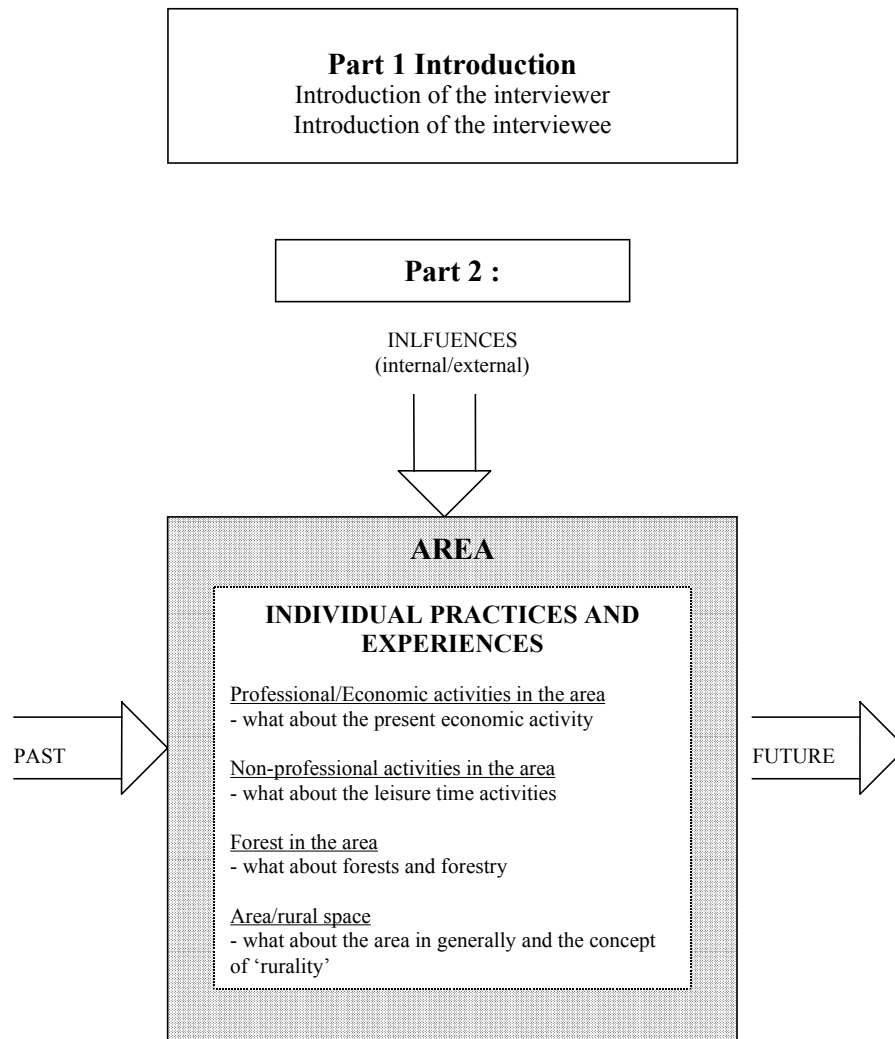


Figure 2: Conceptual model serving as general reference for the qualitative interviews

### Data collection

The conceptual model and research questions served as a reference for assisting the interviewers in checking whether all relevant aspects were covered during the interviews. The questions were focussed upon in guided open interviews, in which respondents were allowed to follow as much as possible their own train-of-thoughts and to express their own opinions. The use of the phenomenological principles during the in-depth interviews had several implications. This approach presumes that the interview proceeds from pure consciousness without presupposing an existing world. Next, the interview is a co-construction (the discourse is itself reflexive). The objects of inquiry cannot be specified a priori: the researcher sets the stage and the interviewee makes the script. It is important to recognize that all meanings or values are legitimate. The interviewer must have an empathic attitude. Finally, the interview starts from the daily experience in order to let the interviewee settle in his/her own world of reference (Le Floch et al. 1999, Walmsley and Lewis, 1993). These principles were followed as much as possible for conducting the qualitative surveys in all study areas. In six countries around 30 interviews were conducted in each case study with respondents representing three main actor groups:

- producers, including actors having an economic and productive land use activity in the area;
- consumers, consisting of inhabitants not related to land use activities as well as recreationists and tourists; and

- decision makers/interest groups, comprising actors that are involved in policy making at a local or regional level.

These three actor groups were discerned in order to comprehend what different categories of actors do, think and feel about forests in their locality. The survey research was conducted in parallel in the six countries from December 1999 to April 2000. In the other three participating countries (Austria, Germany, Spain) this qualitative survey was subsequently repeated, but only amongst government officials and local administrators.

### *Data analysis*

As a consequence of the use of the phenomenological approach for conducting the qualitative survey the study findings in the various countries are highly context specific. As discussed earlier, comparative analysis requires a certain amount of unanimity on concepts out of which can be compared. To accomplish this, the analysis of the interviews was carefully phased. The initial phase of analysis was done interview by interview. First of all, a content analysis was performed in which the main subjects of the interview were identified. Besides, the qualifications of the subjects and the used oppositions and associations to structure the discourse were noted. Finally, a transverse analysis of all the interviews on the different discourse subjects was performed. In the second phase, a country-level analysis focused on assessing major similarities and differences between the two research areas. In this within-country comparison the principle research questions formed the main focus of attention. In the final phase, using data from both the case-study analyses and country analyses a comparative European analysis was made. This analysis, performed by the research co-ordination team in co-operation with the project members, proceeded in a reiterative process of systematic comparison and checking for consistency of interpretations:

- first of all, a rapid assessment was made of the main emerging discourses regarding forestry and rural development;
- next a more detailed comparison was made on the basis of the principles as laid down in the original conceptual scheme for analysis. These two types of initial assessment were performed by separate researchers;
- thirdly, in a joint discussion of all research groups the results of both the rapid and the more detailed and systematic assessments were compared and inconsistencies and unclear aspects checked. On the basis of the results of this comparison the initial draft tables were modified and amended. The discussion has led to two main results:
  1. the development of a typology of prevailing discourses in rural areas in Europe
  2. the development of a categorisation of main criteria and indicators on the role of forestry for rural development.

### *Dominant discourses on forestry and rural development*

The results of the qualitative survey were used to identify the dominant representations of the people in the research areas regarding the nature of the area and the role of the forests therein. Through the identification and comparison of the main emerging features of these representations four different regions with different perspectives on the role of forestry in rural development could be distinguished (Elands et al., 2001):

- areas dominated by forestry (Plateau de Millevaches, Konitsa);
- areas dominated by agricultural production processes and highly-valued rural identity (Monts d'Arrée, South Leitrim);
- rural areas exposed to urban impacts (Szentgál, Kolindros, East Wicklow, Kerekegyháza);
- peri-urban (fringe) areas with mixed economic structure (Hvorslev, Haderslev, Stadskanaal, Ede).

This categorisation was subsequently crosschecked with the categorisation derived from the descriptive characterisation of the study areas. As discussed already in paragraph 4 the combined information was used to develop the final area categorisation.

### *The contribution of forests to the quality of life in rural area: criteria and indicators*

The results of the qualitative survey also indicated that the problem of rural areas as perceived by people has everything to do with the quality of life in the area, the benefits and disbenefits of living in a rural area. This quality of life can be examined for the locality in general as well as in respect of the question how forestry and forests contribute to the quality of life in the locality.

*Table 3: Criteria and indicators used to illustrate the impacts of forest on the quality of life (adapted from Papageorgiou et al., 2000)*

<b>CRITERIA and indicators</b>	<b>Interpretation</b>
<b>COMMUNITY BENEFITS</b>	
<i>Recreation potential</i>	It examines the potential of forested land to be used for recreation purposes.
Community cohesion	It measures the impact of forest on community bonds and social interactions between community members (e.g. neighbourhood isolations as a result of blocking views).
Quality of living environment	It assesses the implication of forest in creating an attractive environment for living in terms of personal sense of well being
Social equity and autonomy	It measures how forest practices affect the self-governance and self-determination of local communities.
<b>ECONOMIC WELFARE</b>	
Income from goods and services	It measures the income withdrawn from forestry out of the production of (non-) timber products (direct use) as well as services such as tourism and recreation (indirect use).
Employment creation	It examines the potential of new forests in providing employment opportunities either at a primary production level or at trade, manufacturing and tourism.
Economic sustainability	It assesses the possibilities and opportunities of forest resources to sustain the livelihood of community members in the long run (development and distribution of economic sources and the local control over the economy)
<b>LANDSCAPE IDENTITY</b>	
Aesthetic quality	It is referred to people's emotional reactions on forests as part of the rural landscape as regards to aesthetics, visual quality attributes
Image/uniqueness	Openness versus enclosure, landscape diversity, sensitivity and rate of change.
Cultural and historical associations	It assesses how forest impacts the image and the uniqueness of the landscape
	It examines the impact of forest on local culture and history marked in the landscape (heritage, traditions, narratives, archaeological values, static versus dynamic landscape).
<b>ENVIRONMENTAL AND NATURE QUALITY</b>	
Impact on natural resources	It examines the ecological implication of forestry on environmental parameters including soil, water, air etc.
Contribution to biodiversity	It examines the role of forested areas to enhance the ecological integrity of forest resources and provide habitat to a variety of floral and faunal species.

From the results from the interviews it was deduced that the quality of life can be assessed by means of four criteria, which can be both positively and negatively valued by people (adapted from Papageorgiou et al., 2000):

- *community benefits*: this criterion deals with the impacts of forests on personal and community values to sustain the well being of community members (e.g. respect for their distinctive rural lifestyle);
- *economic welfare*: this criterion is related to the possible impact of forests on daily existence and livelihood and welfare of the locality;
- *landscape identity*: this criterion examines the implications of forests on landscape aesthetics, the image and the cultural-historic values of the landscape;
- *environmental and nature quality*: this criterion is about the impact of forests on the environment and on nature areas.

These criteria were further sub-divided in specific indicators. See Table 3.

## **6. Distribution of perspectives on the role of forestry on rural development: quantitative survey**

### *From qualitative survey to quantitative survey*

The results obtained during the qualitative survey were used to develop a quantitative survey to investigate the distribution of perceptions and attitudes in a more systematic manner. Much attention was given to the discussion how the results of the qualitative survey could best be used for developing a questionnaire for comparative quantitative survey, and how the internal coherence of the subsequent phases of the research would best be assured. Two major questions received considerable attention:

- how should the research move from the qualitative-oriented phenomenological approach to a quantitative comparative approach? In the phenomenological approach social constructivist terms such as meanings, experience, constructs and relevance play an important role, whereas in a quantitative comparative analysis behaviourist terms such as perceptions, attitudes and opinions are central. In other words, whereas the qualitative survey primarily focused on emic properties, the quantitative survey should primarily be based on etic properties.
- can the results of the qualitative survey from the various countries be used to construct one common questionnaire for all research areas? Or are the differences between research areas so large, that the contextual differences would be unduly affected by up-scaling of the results of the qualitative survey to a common questionnaire at European scale.

### *From emic to etic phenomena*

In order to allow a consistent transformation from emic (locally constructed meanings) to etic (systematically defined meanings) properties as a basic focus of research two main activities were carried out (Elands et al., 2000). In the first place a theoretical exploration of the key words in the research (i.e. rurality, rural development, and multifunctional forestry) was made. In the second place, the results of the qualitative surveys in respect to the prevailing discourses and the criteria and indicators were integrated. The results of the theoretical considerations as well as the empirical results of the qualitative survey allowed the research team to develop a common analytical framework indicating conceptual linkages between forestry and rural development. Two main issues were identified:

- the perceived quality of life in the area, and the role of forests in it,
- social values and the degree of attachment to the rural area.

These issues were further elaborated in a set of key terms: i.e. attitudes, values, attachment, experiential practices, management practices, and socio-demographic and economic characteristics. These key terms formed the basis for the construction of a conceptual model for the quantitative survey

(Figure 3). This analytical model served as a means to consistently link the various phases of research and to systematically redirect the research from a focus on emic phenomena to a focus on etic phenomena rather than as a representation of a detailed theoretical construction. Nonetheless, the theoretical considerations, which were used in its construction, assisted in giving the model a robust theoretical underpinning.

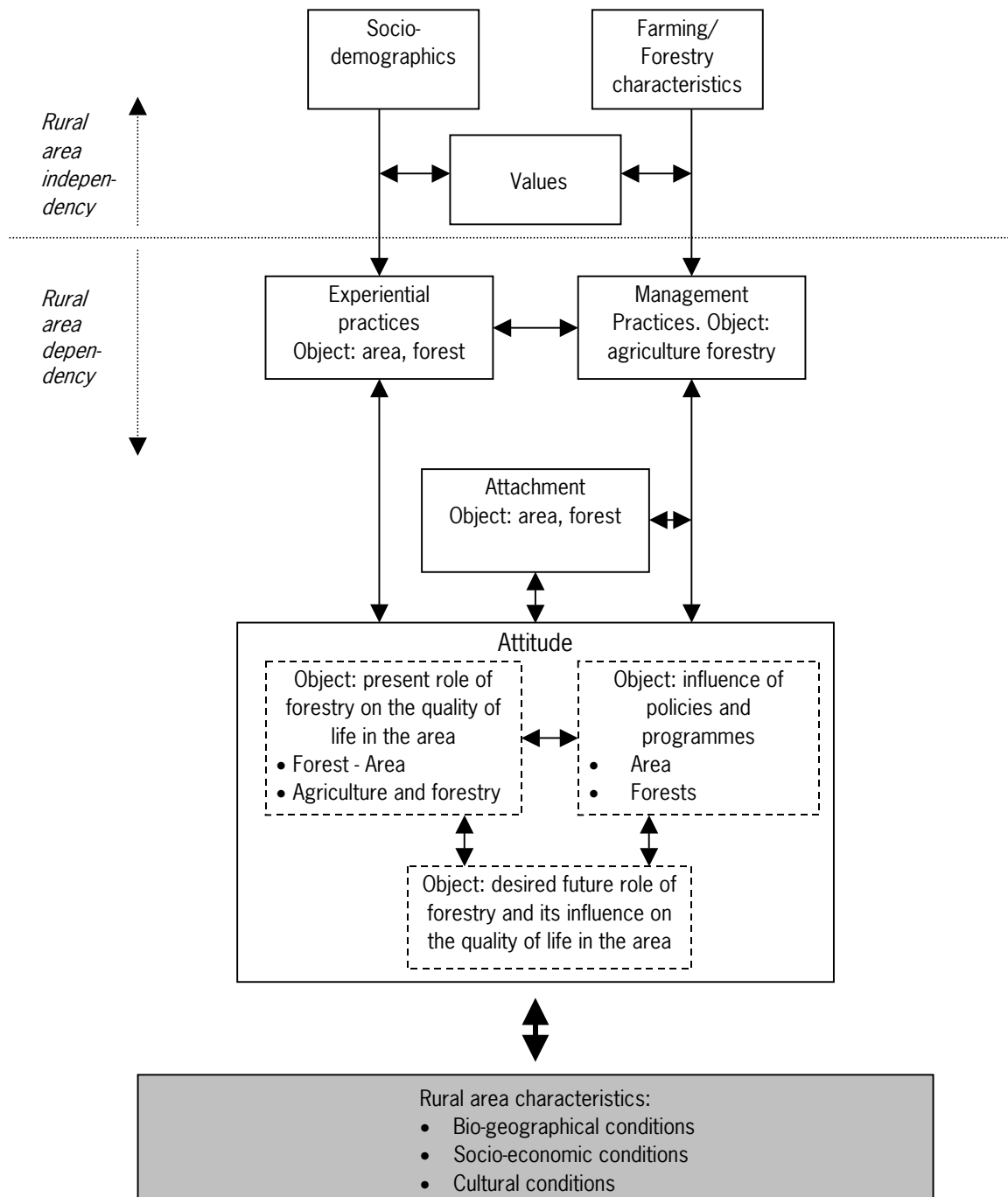


Figure 3: Conceptual model for quantitative survey

### *Up-scaling of level of research*

A second point of discussion in considering how to proceed consistently from the qualitative survey to the quantitative survey concerned the question of what would be the best approach in the process of up-scaling from case-study area level to European level. At the one hand, it was considered that the graduated approach used in the collection and analysis of the qualitative data would provide an optimal opportunity to verify quantitatively area and country-specific concerns in the survey. The results of country-specific surveys could subsequently be analysed at in a comparative descriptive way at European level. At the other hand, it was considered that the aim of the quantitative survey was primarily to obtain information on causal relations and policy implications at European level rather than more systematic descriptive information. In order to accomplish this aim, it would be essential to use a common questionnaire in all research areas, as such an approach would allow the collection of information which could be statistically compared at a European level. Thus, rather than a graduated approach as used in the qualitative survey, the quantitative survey should be based on a common approach.

After careful consideration it was decided that in view of the research aim, it would be most logical to develop a common questionnaire in order to optimise the possibility to make a trans-European comparative study. Whenever relevant, each research team could add country-specific questions to the common questionnaire. However, in France it was considered that the perspectives on forestry and rural conditions were so specific, that the use of the common European questionnaire would not be effective. Moreover, using a country-specific questionnaire would allow adjustment of the research optimally to the ongoing policy discussions in this country about the need to readjust the forestry policies.

### *Data collection*

On the basis of the analytical model a detailed common questionnaire was prepared in a reiterative process with all the research teams. The conceptual development of the common questionnaire has been elaborated in the Survey Manual (Elands et al., 2000), in which also the process for selection of samples (definition of population, sampling frames, sample design and sample size), the protocol for data entry and analysis in a harmonised data base as well as reliability and validity issues of doing cross-cultural research (especially problems in relation to language differences) are stipulated.

The quantitative survey targeted two population groups, namely community inhabitants and landowners. The population of community inhabitants was defined as consisting of people living inside the case study area, but who were not landowners. The landowners were defined as consisting of people owning agricultural and/or forested land in the locality. They do not need necessarily to live in the area itself. In case of long term tenancy, state (forest) ownership, community owned land or other forms of joint land owning (e.g. nature associations, monasteries), the managers of such lands were included in the category of landowner. The survey design consisted of a postal questionnaire method. As the expected response rate was estimated to be not very high and variable from country to country, considerable effort was invested in encouragement measures. Such measures varied between the various countries; they included a letter emphasising the relevance of the study to the future development of the locality and a lottery ticket or a voucher. Also, a careful reminder procedure was set up and implemented.

Special attention has also been given to the validity of the questionnaire in relation to the variety in languages and cultures. Two types of bias had to be avoided, construct and method bias. The former is the dissimilarity of concepts across cultures. The latter refers to dissimilarities of samples frames, of acquaintance with instruments, of knowledge of administrative aspects of doing research and of



translation (Van de Vijver and Tanzer, 1997; van de Vijver, 1998). To avoid such biases, in all countries a pilot-survey was held. After translation and crosschecking of the translated texts with the original English text, in each of the countries between 10 to 30 trial interviews were held. In general it appeared that the questions and scoring tools worked well and that only minor clarification was required.

The survey research was conducted in parallel in all countries from February to April 2001. The response rate varied from 25% in Spain to 82% in Hungary. In general, the response rate was about 50%, which is reasonably high for this type of cross-cultural research<sup>2</sup>. The respondent numbers of both target groups are indicated in Table 4. In addition, using a locally adapted questionnaire, in France 90 inhabitants and 199 landowners in Plateau de Millevaches (remote area) and 117 inhabitants and 196 landowners in Monts d'Arrée (decline area dependent on agriculture) responded to the survey. The overall sample size consists of more than 7,000 respondents.

*Table 4: Number and percentage of respondents per case study area*

<b>Case Study Area</b>		<b>Community inhabitants</b>		<b>Landowners</b>		<b>Total</b>
		<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>	<b>N</b>
<b>Rural area with urban characteristics</b>	Ede (NL) – traditional	255	63	152	37	407
	Haderslev (DK) – traditional	359	58	256	42	615
	Staufen (DE) – traditional	293	86	48	14	341
	Torroella de Montgri (ES) – afforestation	194	59	136	41	330
<b>Diversified rural area</b>	Hvorslev (DK) – afforestation	354	59	242	41	596
	Kerekegyháza (HU) – afforestation	144	36	260	64	404
	Konitsa (GR) – traditional	319	85	56	15	375
	Stadskanaal (NL) – afforestation	261	60	175	40	436
	Wicklow (EI) – traditional	476	91	46	9	522
<b>Growth area dependent on agriculture</b>	Pfullendorf (DE) – afforestation	155	58	111	42	266
	Weinviertel (AU) – afforestation	423	74	147	26	570
<b>Decline area dependent on agriculture</b>	Kolindros (GR) – traditional	277	57	207	43	484
	Leitrim (EI) – afforestation	413	75	136	25	549
	Szentgál (HU) – traditional	229	59	161	41	390
	Waldviertel (AU) – traditional	437	68	203	32	640
<b>Remote area</b>	Navès (ES) – traditional	49	41	70	59	119
<b>Total</b>		4638	66	2406	34	7044

### *Data analysis*

The results of the quantitative survey were analysed in a dual approach. In the first place, each country team prepared a descriptive statistical analysis of each of the case-study areas and compared the results of the two areas per country. In the second place, on the basis of the overall European database

<sup>2</sup> This reasonably high response rate might be explained by the favourable reaction to the subject of the survey. This positive attitude was also reflected by many follow-up telephone calls to the research teams and the inclusion of positive comments and even poems with the returned questionnaires.

a more detailed comparative statistical analysis was made. In order to check the reliability and consistency of research findings, the results of both types of analysis were crosschecked.

For the comparative European analysis some corrections were made to allow for differences in sampling rates. The sample sizes of both community inhabitants and landowners do not necessarily reflect the real distribution of both target groups. A first weighting factor has therefore been developed and used in order to correct for over- and under-sampling. Further, the completion of a pre-determined number of questionnaires was not equally successful in the diverse case study areas (sample sizes ranged from 119 to 640 respondents). This can strongly influence results. Therefore, to correct for dissimilar sample sizes, a second weighting factor was constructed. It turned out that the weighting of the target groups did not change the results substantially. The weighting for the different sample sizes in case study areas, however, did indeed influence results -depending on the specific question from marginal to substantial- and was applied where necessary.

In the European level analysis, apart from descriptive statistics, also multivariate analysis techniques were used to assess differences in respect of respondent characteristics as well as of area characteristics were expected as well. In order to account for possible differences between countries and types of areas in terms of rurality and forest history, the following groupings of areas were established: *country* (k=8), *rural typology* (k=5), *traditional* versus *afforestation* (k=2) and *Euro-zones* (k=3). The 'rural typology' has been derived from a classification of the case study areas based on a list of parameters (see section 4). The 'Euro-zone' refers to a geographical grouping of the countries into three European zones: Atlantic (DK, EI, NL), Central European (AU, DE, HU) and Mediterranean (ES, GR).

## **7. Research synthesis**

The synthesis of the various types of research data consisted of two activities. In the first place, at case study, country and European level the results of the qualitative and the quantitative surveys were compared. In the annex an example of the outcome such comparison is given. This comparison indicated that the results supported each other with the qualitative results being illustrative and illuminating and the quantitative results providing objectivity and statistical weight. Without the quantitative research, the conclusions of the qualitative interviews could be open to criticism on the basis of being non-representative and/or subjectively interpreted. And without the qualitative survey the quantitative survey might have been based on ill-founded (political) assumptions rather than on the experiences of local inhabitants. And the final comparison of the research results allowed the checking of consistency in data interpretation.

In the second place, the results of the qualitative surveys provided valuable information for specific contextualisation of the results of the quantitative survey. In the absence of the results of the qualitative interviews the results of the quantitative survey could not have been assessed rigorously. Thus, the combined information of both surveys provided added understanding and insights, which would not have been obtained by the results of the individual surveys.

These insights were of special significance in considering the results of the research in connection with the need to identify at European level region-specific characteristics which significantly impact on the role of forestry in rural development. From the synthetic analysis it was concluded that the research findings could be interpreted in relation to three main types of conditions:

- specific case area conditions: in several cases local stories on specific recent events influencing forestry, such as the process of land privatisation in Hungary, the heavy storm damage in France, or local protestations over the establishment of a nature park in Denmark coloured the data.
- forest history in respect to whether forest were a well-established or relative newly emerging landscape element in the study areas and to the nature of the national forestry institutions (forestry legislation, prevalent pattern of forest ownership)
- geographic conditions in respect to the rurality conditions and the culturally determined general land-use traditions in various European regions.

Although several location and country specific conditions impact on the rural development role of forestry, on the basis of both theoretical considerations and the combined evaluation of the qualitative and quantitative data, it was decided that the rural area typology could effectively be used as the major framework for presentation of research results. The rural area typology provides a good framework for defining objective region-specific forest policies.

## **8. Identification of policy implications**

The last phase of the research consisted of the evaluation of the research findings in the context of policy implications. Also for this research phase a dual process was used in which within-country evaluation and evaluation at European level proceeded in a simultaneous process. At first a common checklist of items to be considered in the evaluation was prepared. On the basis of this list, each country team formulated country-specific draft conclusions. These were discussed with the national advisory groups and/or to forest policy organisations. The draft and later final conclusions formed a basis for the identification of conclusions at European level. A second basis for European-level conclusions consisted of a separate study on the European forest policy process (both at the level of the European Union and at the level of the Pan-European Conference on the Protection of Forests) as well as a study comparing the results of the quantitative survey with specific forestry regulations of the EU. The initial results of the overall study were also presented at an International Forest Policy Research symposium. During this symposium not only the research results, but also its policy implications were discussed with forest policy makers and forest policy researchers. In addition also a special project workshop was held to compare and harmonise the gradually emerging conclusions of both country-level and European-level evaluations.

## **9. Conclusion**

During the Multifor.RD research process two main challenges had to be faced:

- how to systematically proceed from qualitative to quantitative data collection?
- how to consistently analyse case-study data in a trans-European context?

The challenges were addressed through an integrated approach in which two types of analysis were used interactively. In the first place a gradual up-scaling of case study information was achieved through a step-wise analysis going from case study level to country level and subsequently to European level. The individual country teams made these analyses. In the second place, the co-ordination team made a comparative analysis of the combined data base. In each phase of the research these two types of analyses proceeded simultaneously and their results were crosschecked in joint team meetings (Table 5). As a result of this reiterative dual approach a repeated and focused evaluation of the transversal consistency and reliability of different types of research data could be made. By comparing the results

of the qualitative and quantitative surveys also an analysis of the internal consistency and reliability of research findings at the case-study level was made. And finally the integrated approach allowed an optimal assessment of the case area, country and regional specific contexts of the results of the surveys. This enabled the identification of both theoretically founded and empirically based region-specific characteristics of the rural development role of forestry, which can be objectively applied for policy formulations.

*Table 5: Interactive dual approach to data analysis*

	<b>Gradual up-scaling through step-wise analysis</b>	<b>Comparative analysis at European level</b>	<b>Results and evaluation</b>
<b>Characterisation research areas</b>	Comparative characterisation of case areas on basis of results qualitative survey	Statistical analysis of case area descriptors	Comparison of results Final distinction of five rurality classes
<b>Analysis of qualitative survey</b>	Country-level comparison of results of content analysis of case area data	Identification of across-country general issues	Crosscheck on consistency in data interpretation. Identification of key parameters as basis for quantitative survey
<b>Analysis of quantitative survey</b>	Case-level check on consistency of results of both qualitative and quantitative surveys. Country-level comparison of descriptive statistics of case-area data	Statistical analysis of combined European data base	Crosscheck on consistency and reliability of data interpretation on country and European level
<b>Synthesis</b>	Case-study area comparison of results of qualitative and quantitative survey followed by country-level check on consistency in data interpretation	Specific contextualisation of case area data with results of qualitative survey	Final interpretation of overall research results
<b>Identification of policy implications</b>	Identification of policy implications at national level by focusing on national forest policy debate	Identification of policy implications at European level by focusing on European-level forest policy debate	Crosschecking of issues. Identification of implications regarding forest policy processes in general

This integrated research approach required intensive and concentrated teamwork in order to ensure that data collection was done in a similar manner as well as to crosscheck information. Rather than the originally planned four project workshop, five general and two special workshops were held. These workshops were rotated over the participant countries. Whenever possible, they were held in the case-study areas or combined with field visits. This allowed the members of the research team to get a 'flavour' of the specific conditions in each case area. It provided a team-level understanding about the wide range of forestry and rural conditions involved in the study. Consequently it enabled an experience-based discussion during the joint comparisons of research data.

The excellent team spirit in the research group and the dedication of all research partners made it possible to adjust the original project plan and to actively participate in the gradually evolving integrated research strategy.

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## Appendix

### Use of qualitative research to interpret findings from quantitative surveys

(from T. O'Leary, A. McCormack and A. Ní Dhubháin, 2002. Multifor.RD National Synthesis Report Ireland). The number of crosses ('+') broadly indicates the relative level of agreement of both study areas with the indicator statement

	Quantitative study		
Indicator	East Wicklow	South Leitrim	Interpreted or qualified by qualitative findings
<b>Relation with the area</b>			
Strength of connection to locality	++	+++	Sense of community spirit in EW being diluted by increasing numbers of outsiders.
Attachment to locality	++	+++	Strong attachment in SL appears to be a function of community spirit and neighbourliness.
Involvement in local organisations	+	++	New people moving into EW don't always gel with the locals.
Frequency of recreation in countryside	++	+	People in EW engage more in countryside recreation due to pressure of urban pace of life.
Definition of the area as 'rural'	+++	+++	<u>Qualification:</u> Qualitative findings would suggest SL is much more rural than EW.
Importance of farming to locality	++	+++	Farm management in EW increasingly put under scrutiny by locals, especially newcomers.
Importance of forests to locality	++	+	EW commonly regarded as the home of forestry in Ireland.
Degree of urban influences	+++	+	The influence of Dublin city to life in EW emerged very strongly in most interviews.
Quality of nature and landscape	+++	++	<u>Qualification:</u> Qualitative interviews suggest that nature quality in SL is much higher than EW.
Quality of services available	++	+	If not available directly in the rural area, EW benefits from close proximity to Dublin.
Sense of over-development	++	+	Development of rural housing by wealthy city dwellers regarded as problematic in EW.
<b>Relation with forests</b>			
Participation in forest recreation	+++	+	Forests in EW are more suited to recreation, there is more open access and many live within easy reach of a good forest.
Proximity of residence to forest	++	+	See above point regarding proximity.
Attachment to forests	+++	+	Sense of public ownership of local forests is strong in EW, along with better recreation potential.
Support for access to private forests	+	+	<u>Qualification:</u> This issue did not emerge in the qualitative interviews.
Perception that local forest area is "high"	++	+	Reflects the situation as exists in reality.
Perception of local forest area as too high	+	+	Despite all the negativity qualitative interviews in SL few complained of too many forests.
Perception of local forest area as too low	+	++	<u>Qualification:</u> Many of the qualitative interviews in SL would contradict this finding.
Perceived number of forest threats	++	+	<u>Qualification:</u> Number of threats did not emerge as an issue in the qualitative interviews.
Perceived threat by over-harvesting	+++	++	Adverse visual impact arising from clear felling featured frequently in EW.
Perceived threat by poor management	++	+++	Sense in SL by many that forests are planted and then abandoned with no management.
Forests contribution to quality of life	+++	+	Overall sentiment in SL that forests are replacing people and thus threatening cultural identity.
Proportion of 'adversary' landowners	+	+++	Some farmers in SL use bullying and intimidation to influence prospective planters.

<b>Farming and Forestry Practices</b>			
Positive outlook for farming	++	++	Different forces of change in both areas, urbanisation a threat in EW, low incomes in SL.
Ambition to expand size of holding	+	+++	Ambition to expand holdings an obsession of some farmers in SL. Land too expensive in EW.
Consideration of planting land	++	+	Many farmers in SL not facing up to reality that farming is a struggle and that planting may help.
Land too productive to plant	+++	+	Land in EW has potentially high real estate value. General acceptance that SL land is poor, especially due to waterlogging.
No intention to plant due to high forest cover	+++	+++	<u>Qualification:</u> This did not emerge as an issue in the qualitative interviews in SL.
Have never thought of planting	+	++	<u>Qualification:</u> The possibility of planting is very topical in SL and emerged in many interviews.
Importance of wood income in forest mgmt.	++	+	Owners in SL have little confidence in making money from their forest.
Importance of biodiversity in forest mgmt.	++	+++	Landowners in SL especially anxious that local water quality is not adversely affected by forests.
Import. of nature/landscape in forest mgmt.	+++	+++	Farmers found to be highly appreciative of nature and landscape in both areas.
Attachment to own forest	++	++	<u>Qualification:</u> Interviews would suggest lower level of attachment in SL.
<b>Forest Policies and Programmes</b>			
Agree 'forestry' respects locals	++	+	In the past, forestry in SL driven predominantly by outside developers – legacy prevails.
Agree there is sufficient forest consultation	+	+	<u>Qualification:</u> Interviews in EW gave no hint of low consultation, unless it concerns harvesting.
Support grants for planting land	+++	++	Afforestation grants in SL regarded as competition for farming.
Support grants for landscape enhancement	+++	+++	All communities would want to enhance their local landscape.
Support public access to private forests	++	++	<u>Qualification:</u> This did not emerge as an issue in the qualitative interviews.
Forestry and farming are competing	+	++	Farming is on its knees in SL and struggling to survive. New forests curtail 'farm' expansion.
Perception that afforestation is grant-driven	++	+++	Suspicion in SL that attractive grants are provided to entice people out of farming.
Too many regulations govern forestry	+	++	Landowners in SL complain about not being allowed to plant broadleaves.
Afforestation grants are sufficient	++	++	No one complained about poor financial incentives for planting land.
Awareness of afforestation schemes	+++	+++	Farmers are facing difficult times and most are aware of all the possibilities for their business.
<b>Future for the area</b>			
Wish for increased economic activity	++	+++	Overriding perception in SL that it has been 'left on the shelf' for too long and needs investment.
Desire for increase in 'softer aspects' of life	+++	++	EW has a very strong economic footing, but rurality is starting to dwindle. Vice versa in SL.
Desire for more forests in the future	+	+	Different in both areas. Already plenty of forests in EW, forests in SL detract from quality of life.
Priority of nature/landscape for future forests	+++	++	<u>Qualification:</u> Interviews suggest landscape more important in EW and nature in SL.
Priority of economy in future forests	++	++	EW want to continue to enjoy current benefits, in SL forests have yet to deliver economically.



# **The Myth of Forests; A reflection of the variety of rural identities in Europe and the role of forests in it<sup>1</sup>**

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## **Abstract**

Rural Europe is presently undergoing rapid transformations. The traditionally important socio-economic role of agriculture is decreasing and is no longer the central pillar of the countryside. Consequently, given that a major part of the European Union consists of rural areas, considerable attention needs to be given to a European policy on rural development. New functions, such as forestry, will replace the formerly dominant role of agriculture. However, there are different opinions about how forestry can best serve rural development. This is among other things dependent on the perceived quality of life in rural areas and the different interests of actor groups. Recently a trans-European survey was completed, involving sixteen diverse areas in eight European countries aimed at assessing perspectives on forestry and rural development among community inhabitants and landowners. The results reveal that the perceived quality of life differs from the extent to which respondents view their area as 'marginalised' and 'bland & viable'. The perceived quality of life, in combination with the degree of forestry tradition as well as experiences with forestry practices, heavily influences whether people think forests are harmful, beneficial or have the locality nothing to offer. Five forest opinion groups are identified, varying from 'adversaries', people who hardly see a single benefit, to 'enthusiasts', people who love forests in every respect. It is concluded that the distribution of these opinion groups varies significantly between countries and between traditional / afforestation areas, and less between community inhabitants and landowners. Most people do not regard forestry as a major future development option, principally due to negative association with, for example, employment opportunities, industrial activities and strength of bond & friendship between neighbours.

**Keywords:** forestry, rural development, marginalisation, Europe, attitudes, forest opinion groups

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## **1. The Multifor.RD research project: an introduction**

The principle research objective of the 'Multifor.RD' project is to make a comparative European study about the nature and dynamics of the landowners' and public's attitudes towards forests and forestry, and at developing criteria for distinguishing regional-specific strategies for multifunctional forestry to serve rural development. This three and a half year research project is financed by the European Commission under the FAIR Programme and commenced in February 1999. Research institutes and universities within eleven countries (*France, Ireland, Netherlands, Hungary, Greece, Denmark, Spain, Austria, Germany, Finland, and Switzerland*) are involved in the project, with the latter two acting as consulting partners. The Forestry and Nature Conservation Policy group of Wageningen University in the Netherlands is responsible for project co-ordination. The theoretical framework and empirical results, which will be discussed in this paper, are developed within the framework of this EC/FAIR research project.

The research consists of four phases (see also Wiersum and Elands, 2002). In the first phase, each of the nine partner countries has selected two rural areas as a basis for all research activities: one traditional forest area and one afforestation area. Both case study areas are described according to a predefined set of parameters. Secondly, in-depth interviews are carried out with representatives of three actor groups (producers, consumers and decision makers/interest groups). Thirdly, on the basis of the qualitative survey results and literature search, a quantitative survey amongst landowners and community inhabitants was implemented. In the final research phase, on the basis of all research results, policy recommendations for the future development of forests within rural Europe are made. In this paper, we will highlight some of the main results of the quantitative survey.

## **2. The quantitative survey: concepts, respondents and analysis**

The survey was aimed at understanding the varied roles that forests play within rural areas, to be understood from the values system of community inhabitants and landowners, their impressions regarding quality of life and their attachment to the locality and to the forests. Apart from that, insight into the management practices of both farmers and foresters and their ideas with respect to afforestation, forest management and forest and land use policy can steer us in the formulation of recommendations for future forestry and rural development policy in Europe.

In total, 7044 people within 8 European countries<sup>2</sup> have been surveyed in the period between February and April of 2001 (see Table 1). Two thirds of these respondents are community inhabitants (66%, N=4638) and the remaining one third are landowners (34%, N=2406). The latter group can be divided into the following three categories:

- foresters, landowners with only forest land (3%, N=209);
- farmers, landowners with only farming land (13%, N=938);
- forest-farmers, landowners with both forest and farming land (18%, N=1259).

Research involving 16 diverse rural areas is inherently complex, requiring analysis at a number of different levels: the starting point of which is at the level of the case study area, followed by some sort of grouping of areas, and completed by an analysis at the 'European' level. At the first level (individual

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<sup>2</sup> The French research team used a different questionnaire to that of the others and thus their results could not be incorporated into the common SPSS data file for analysis and interpretation.

case study area), the sample sizes of both *community inhabitants* and *landowners* do not necessarily reflect the real distribution of both target groups. A first weighting factor has therefore been developed and used in order to correct for over- and under-sampling. It appears that the weighting of the target groups does not change the results substantially; therefore, it has not been used in the main analyses<sup>3</sup>.

*Table 1: The case study areas classified into types of rural areas (K=16; N=7,044)*

<b>Rural area typology</b>	<i>Case study area</i>
Rural area with urban characteristics	<b>Haderslev</b> (DK, N=615), <b>Staufen</b> (DE, N=641), <b>Ede</b> (NL, N=407), Torroella di Montgri (ES, N=330)
Diversified rural area	Hvorslev (DK, N=596), <b>Konitsa</b> (GR-pu, N=375), Kerekegyháza (HU, N=404), <b>Wicklow</b> (EI, N=522) Stadskanaal (NL, N=436)
Growth area dependent on agriculture	Weinviertel (AU, N=570), Pfullendorf (DE, N=266)
Decline area dependent on agriculture	<b>Waldviertel</b> (AU, N=640), <b>Kolindros</b> (GR-pr, N=484), <b>Szentgál</b> (HU, N=390), Leitrim (EI, N=549)
<i>Remote area</i>	<b>Navès</b> (ES, N=119)
<i>Traditional forest areas are printed bold</i>	

At the second level where case study areas are grouped, the different sample sizes (ranging from 119 to 640 respondents) can heavily influence the results. As a clear frame of reference for the selection of the case study areas within each country and within Europe is lacking, each area should be equally dealt with in the analysis. To correct for dissimilar sample sizes a second weighting factor was constructed. This second weighting factor did influence the results –varying from question to question- from marginal to substantial. The following groupings of areas were established: *country* (k=8), *rural area typology* (k=5), *Euro-zones* (k=3) and *traditional* versus *afforestation* (k=2). Concerning the level of country, it should be noted that results pertain only to the two areas as they were not selected as representative for specific country conditions, but rather for diverse forestry conditions in Europe. The rural areas typology has been derived from the first research phase, the description of the case study areas according to a list of parameters. A cluster analysis classified the areas into: (i) rural areas with urban characteristics, (ii) diversified rural areas, (iii) growth areas depending on the agricultural sector, (iv) decline areas depending on the agricultural sector, and (v) remote areas (De Deugd and Elands, 2001). The remote area class consists of only one case study area, whereas the diversified class consists of five case study areas (see Table 1). The Euro-zones is a grouping of the countries into three European zones: Atlantic (Denmark, Ireland and the Netherlands), Central European (Austria, Germany and Hungary) and Mediterranean (Greece and Spain). These classifications have been used for the analysis.

The results at the European level give a basic insight into the general ideas of the residents of rural areas in eight European countries. Although the selection of the areas is to a certain extent arbitrarily, the broad variety is to a large extent covered. Aside from north Scandinavia and Eastern Europe, the participating countries are spread north and south (Denmark and Greece), east and west (Hungary and Ireland) and otherwise throughout.

<sup>3</sup> The only differences, though small, can be found in the more urbanised case study areas. High population densities and people that are no longer connected to land use activities, but are more consumers of rural space can display different ideas with respect to forests in the development of the locality than land owners.

### 3. The 'Gist' of Rural Areas in Europe

The classification of rural areas according to 'objective' criteria, as has been done in the first phase of the project, does not necessarily reflect the identity of the area as perceived by its inhabitants and landowners. The respondents<sup>4</sup> have been asked to indicate whether they think their area is mainly rural or urban (see Table 1 Appendix). It can be noted that the majority of the people think their area is rural. However, in some areas a reasonable group of people consider their area is mainly urban. Although these are all areas classified as 'with urban characteristics', it is remarkable that although the Dutch study areas are by far the most densely populated and the most industrialised, Danish and Spanish people perceive urbanity more. This reflects that the concept of rural identity is also constructed within the framework of a country, it is a relative concept.

The area self-identity gives us some ideas about the character of rural areas, but not about the quality of life in these areas. Quality of life in the community can be valued on different aspects that are related to the living conditions, community feelings, landscape identity, economic welfare and environment and nature quality. A set of items measuring the quality of life in the locality was therefore included in the questionnaire<sup>5</sup> and a factor analysis applied to determine the underlying dimensions of this set of items. In total, five *Quality of Life dimensions* have been extracted (see Table 2 Appendix):

- *over-development*: in this dimension people are concerned about a strong growth in built-up and industrial areas, in crime and in visiting tourists. Apart from this, conflicts are being perceived between different uses of land;
- *nature and landscape quality*: this dimension focuses on the appreciation of nature and landscape. The variety of nature and wildlife, the beauty of a landscape that is characteristically different from other places and the fact that a lot of forests are present are the core issues;
- *rurality*: aspects that were traditionally linked to rural societies, as opposed to urban life, build up this dimension. A closely knit community, a strong sense of history and tradition, a very sparse population, peace and quite with low traffic and unpolluted air, water and soil are the items belonging to this dimension;
- *services*: this dimension deals with a high quality of facilities and living conditions, such as very good overall services, plenty of opportunities for recreation and sports and an attractive setting for houses;
- *weak economy and top down development*: few employment opportunities and a prevalence of low incomes define the weak economy. The fact that there is no involvement of locals in how the area is developed is linked to this weak economy.

The Quality of Life dimensions reflect the perceived problems in and strengths of these areas. In general, it can be concluded that the idea of 'over-development' is rejected by most respondents, that they endorse the 'attractiveness' of nature and landscape, that they consider the area to be 'rural' with enough 'services', and that the 'economy is weak' and 'top down developed' (see Table 3 Appendix). However, it can be concluded that the more urbanised an area gets, the more it is confronted with 'over-development', the less rurality is experienced and the more the economy is considered to be strong. The reverse is also true: the more remote an area, the stronger the rejection on over-development as well as the agreement on the weak economy. Apart from the rural area typology, country is an important

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<sup>4</sup> Only 3% of all respondents do not live in the locality itself. This means that all landowners are also community inhabitants. If the group of landowners needs to be distinguished from the community inhabitants, it will be explicitly stated.

<sup>5</sup> The following scale has been used for these items: 1=strongly disagree, 2=disagree, 3=neither disagree nor agree, 4=agree, 5=totally agree.

explanatory variable. On the dimensions 'rurality' and 'nature and landscape quality', for example, both Hungary and the Netherlands score low, whereas the other Germanic countries, and the Mediterranean countries score relatively high.

Forests are explicitly correlated to the dimension 'nature and landscape quality'. People associate forests mainly as an element of the natural environment and less as an economic activity or a carrier of services. In general, the 'nature and landscape quality' dimension is highly appreciated by the respondents (average value 3.9). However, it is much more strongly emphasised in traditional forest areas than in afforestation areas.

Having established the perspectives that operate evidently in the minds of the respondents regarding the aspects of local quality of life, a next question is how these Quality of Life dimensions unite or differentiate individual Multifor.RD study areas. Although it is possible that the two areas in every country represent this country, a more realistic expectation is that areas may differ as much within countries as between countries. Furthermore, some areas within and across countries may unite on the basis of one particular view on quality of life, while other areas unite on the basis of another view.

The statistical test called 'discriminant' analysis may help us to answer this question. This procedure searches for those combinations of quality of life dimensions, which differentiate areas best with regard to their diversely perceived characteristics (Table 2) (Hair et al., 1995). Five discriminant functions are distinguished<sup>6</sup>.

By and large the most important difference between areas, accounting for almost half of the variance between areas on the Quality of Life dimensions, is constituted by the question to what extent the respondents view their area as '*marginalised*'<sup>7</sup> or not. The acceptance of qualifications as 'weak economy and top down development', and the rejection of the qualification of 'over-development' for the area characterise this discriminant function.

*Table 2: Discriminant functions for case study areas (K=16), and the contribution of Quality of Life factorial dimensions to it (standardised canonical discriminant function coefficients)*

Contributing Quality of Life factors	Discriminant function				
	Margi- nality	Bland & viable	Stress	Eden	Shrinking
Over-development	<b>-.813</b>	.068	.293	<b>.410</b>	<b>.410</b>
Nature and landscape quality	.093	<b>-.817</b>	<b>.522</b>	.126	-.218
Rurality	.379	.110	-.227	<b>.875</b>	-.225
Services	-.016	<b>.641</b>	<b>.648</b>	-.034	<b>-.433</b>
Weak economy-top down development	<b>.803</b>	.130	.363	.037	<b>.554</b>
% of Variance	47.7	23.3	13.9	12.3	2.8

<sup>6</sup> Within SPSS the calculation of discriminant functions stops 'automatically' as soon as Wilks Lambda (the within-group sum of squares divided by the total sum of squares) is bigger than 1, as after this point another discriminant function has no effect at all.

<sup>7</sup> Marginalisation can be defined from different viewpoints. It is often referring to agricultural practices. According to Bethe and Bolsius (1995), who have studied marginalisation in a European context, it means: the change in agricultural land use from a more profitable to a less profitable one.

The second discriminant function, accounting for 23% of the variance between areas on Quality of Life dimensions, entitled by the researchers as '*bland & viable*', accepts 'services', but rejects equally strong 'nature and landscape' quality' as characteristics of the area. The third discriminant function combines high scores both on 'services' and 'nature and landscape quality'. It refers to areas with a lot of potential, however development is still lacking. Therefore, these areas have been entitled '*stress*'. The fourth discriminant function is named as '*Eder*' for its strong rooting in 'rurality', combined with the much lower importance of 'over-development'. The fifth and last discriminant function, because of the negligible size, will not be further dealt with.

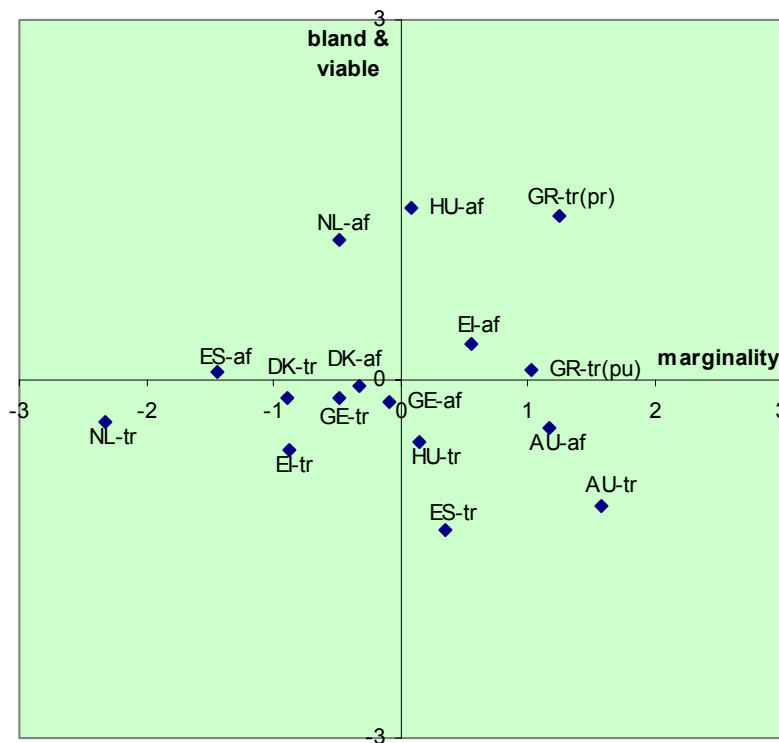


Figure 1: Means on 'Marginality' and 'Bland & Viable' discriminant functions for case study areas (group centroids, K=16)

In Figure 1 all the case study areas are positioned according to their relative group means on the most explanatory discriminant functions 'marginality' and 'bland & viable' (see also Table 4 Appendix). It should be kept in mind, of course, that this discriminant analysis only presents *relative* scores regarding the positions of the areas on dimensions<sup>8</sup>. On the marginalisation function, the inhabitants of the two Austrian and the two Greek areas define their area as predominantly marginal. Inhabitants of the Dutch traditional forest area and the Spanish afforestation area (both rural areas with urban characteristics), on the other hand, predominantly reject the idea. However, Table 3 of the Appendix shows that, apart from the Dutch traditional forest area, the idea of over-development is generally rejected, as no other area has a mean higher than 3.0, which is the mid-point of the scale. As for the weak economy, the picture is

<sup>8</sup> Figure 1 constitutes relative positions of areas to each other; it is necessary to check on the mean scores on the original scales. Discriminant function 'marginality': over-development 2.6 and weak economy 3.3; discriminant function 'bland & viable': services 3.4 and nature & landscape quality 3.9.

rather the reverse: this qualification is generally accepted. The Greek area Kolindros and the Hungarian and Dutch afforestation areas accept the 'bland & viable' function in contrast to the Austrian and Spanish traditional forest areas, which reject it (i.e. they relatively feel the quality of nature and landscape is high but the level of services is poor).

It is possible to compare groups of areas on the basis of variables such as country and forest tradition. It appears that the marginality function is strongly correlated to the rurality-urbanity continuum, which means that increasing marginalisation is associated with increasing remoteness of rural areas. At the same time the 'bland & viable' function is best correlated to the forest tradition in a specific area<sup>9</sup>. The unattractive landscape aspect, in particular, is more associated with afforestation areas than traditional forest areas.

It can be concluded that there exist a strong variety of rural identities in Europe. First of all, it is clear that there exists no objective concept of rurality; it always needs to be considered within the perspective of for example a country. This especially accounts for those areas with urban characteristics, such as high population densities, location of towns, the degree of industrialisation and the importance of the tertiary sector. It appeared that people from rural areas define their area in terms of '*marginalisation*', the degree of under- and over-development combined with the degree of weak- and strong economy and '*bland & viable*', the degree of available services combined with nature and landscape quality. These discriminant functions are a reflection of the present day perceived strengths and weaknesses of an area. Rural development should be based upon these strengths and weaknesses. If forestry should play a role in rural development, it cannot be developed independently of the self-definition of rural areas.

#### **4. The contested role of forests in rural areas**

Within Agenda 2000 forestry measures play an important role in establishing a viable and sustainable future for rural Europe. They can contribute to the local economy, to the creation of an attractive environment for living, working and recreation, to the maintenance of biodiversity and protection of our natural resources, and to the creation of characteristically different landscapes. The European respondents have been asked to value a list of twelve characteristics concerning the impacts of forests to quality of life, between 'totally disagree' and 'totally agree'.

In general, it can be concluded that the residents of all case study areas are very positive about the forests in their locality (see Table 5 Appendix). Forests contribute in particular to the landscape identity of the area and the environmental and nature quality. People tend to be more ambiguous with respect to the economic benefits of the forests and the opportunities they offer for leisure and recreation. To a smaller extent people don't see that forests contribute to a characteristically different landscape and that they have cultural and historical value. Moreover, one in five respondents doubt the contribution of forests to biodiversity purposes. On the basis of these figures, we can argue that the role of forests on a local level is contested.

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<sup>9</sup> marginality \* rural area typology: Pearson  $r = 0.558$  (sig. 2-tailed = 0.000).

bland & viable \* traditional/afforestation areas: Pearson  $r = 0.234$  (sig. 2-tailed = 0.000).

This contested role became even more obvious after a factor analysis was carried out (see Table 6 Appendix). The role of forests in constituting quality of life in the locality, as measured by the items put in the list, can be expressed in three *Forest Impact dimensions*:

- *forests are beneficial*: they provide good incomes and employment for local people, create a landscape which is characteristically different from other places, are of important historical or cultural value, protect our air, water and soil, and improve the attractiveness of living. On the average this dimension is valued at 3.6<sup>10</sup>. One in ten respondents disagree with this dimension (< 2.7)
- *forests are harmful*: forests are here against the wishes of local people, create a sense of isolation between neighbours, deteriorate the beauty of the landscape, and are a threat for other land use activities such as farming. On the average people disagree with it (value 2.0). Only 5% of all the respondents agree with this dimension (>3.3).
- *forests have nothing to offer*: they are very poor in terms of the variety of plants and animals and they provide very few opportunities for recreation and sports. People tend to disagree with this statement somewhat (value 2.6), however, more than 20% of all the respondents agree with this dimension (>3.5).

### *Area level in general*

Although it can be observed that forests are highly appreciated for their contribution to the local area in general, we can see that some people do not like forests in every perspective. Especially, their supposed contribution to recreation and biodiversity is questioned by more than 20% of the European residents. The way forests are experienced in each case study area is very different (see Table 7 Appendix). Table 2 shows that the German areas, the Austrian areas, the Mediterranean traditional forest areas (Greece, Spain) are judged positively (above the average), whereas the Atlantic afforestation areas of Ireland and the Netherlands perceive their local forests less positively. These facts prove that there is a wide variety in the way forests contribute to the local quality of life (as perceived by its residents).

*Table 3: Attitudes on local Forest Impact dimensions (1=strongly disagree, 5 =strongly agree)*

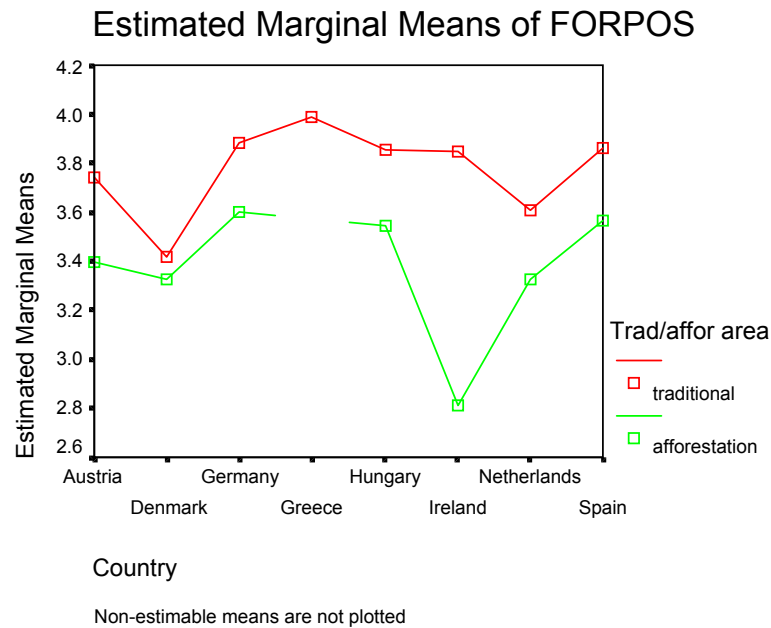
<b>Forest Impact</b>	<b>All</b>	<b>Case study area</b>	<b>Target (ci/lo)</b>	<b>Trad/aff area</b>	<b>Country</b>	<b>Rural area type</b>	<b>Eurozone</b>
Forests are harmful	2.0	We, St, Pf -- Sk, Le ++	ci o lo o	tfa - aa +	DE - AU -- EI/NL ++	remote, urban -- diversified, prim. sector decline +	Atlantic ++ Mediterranean o Central --
Forests are beneficial	3.6	Kn, Wi, St ++ Le -- Hv -	ci o lo o	tfa + aa -	DE + GR ++ EI/NL -	remote + prim. sector growth -	Atlantic - Mediterranean o Central +
Forests have nothing to offer	2.6	Wa, We, Na, Ha, Hv -- Le, Ke, St, Pf ++	n.s.	tfa - aa +	AU/DK -- DE/EI ++	remote -- prim. sector decline +	Atlantic o Mediterranean o Central o

*"o" means at maximum 0.1 difference with the average response*  
*"+" or "-" means > 0.1 and =< 0.4 higher or lower than the average response*  
*"++" or "--" means > 0.4 higher or lower than the average response*  
*weighted for sample size (except for case study area), n.s. = not significant*

<sup>10</sup> The following scale has been used for these items: 1=strongly disagree, 2=disagree, 3=neither disagree nor agree, 4=agree, 5=totally agree.



It gets more interesting as soon as some area classifications are taken into consideration, the results of which are also depicted in Table 2. It is striking that the negative aspects of forests are mostly felt in the Atlantic countries and in the afforestation areas, whereas the beneficial perception of forestry is expressed especially in the Germanic and Mediterranean countries and in the traditional forest areas. It seems that the shorter the forest history of an area the less benefits are perceived by the locals. The longer the forestry tradition, the more positive forestry is received (see Figure 2).



*Figure 2: The opinions of the respondents in the case study areas on the Forest Impact dimension 'forests are beneficial' (FORPOS) per country and traditional/ afforestation type (no weighting for correcting sample size applied)*

Another remarkable observation is that especially primary sector areas that are in decline are less enthusiastic about the local forests than any other area. If we correct this observation for the influence of traditional and afforestation areas, it can be concluded that this decrease in enthusiasm only accounts for the afforestation areas (Figure 3).

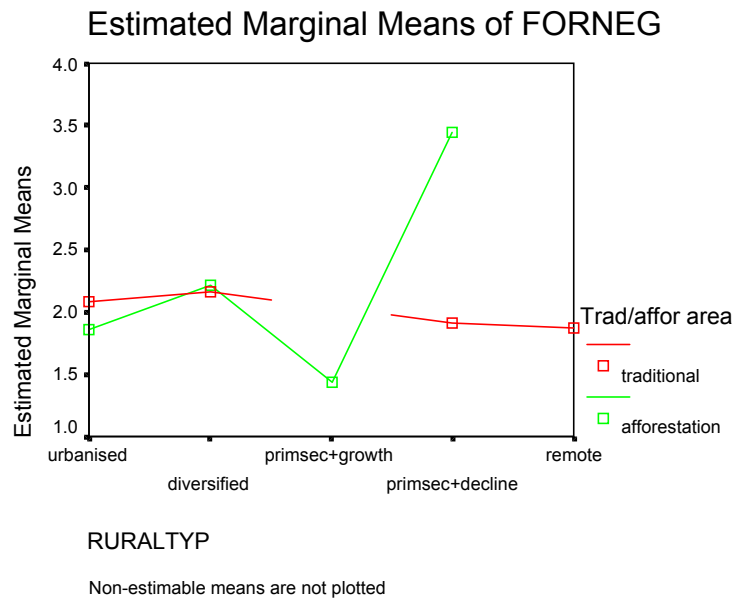


Figure 3: The opinions of the respondents in the case study areas on the Forest Impact dimension 'forests are harmful' (FORNEG) per rural area type and traditional/afforestation type (no weighting for correcting sample size applied)

In the traditional forest areas, no matter what rural area type, people disagree that forests are harmful for the locality. In afforestation areas, people's opinions are not so constant. It is conspicuous that the decline areas are the most negative about forests. It might be that the new forests do not provide enough economic prosperity according to the local people. On the contrary, they are sometimes being developed by outsiders and locals feel they loose control over their own community. To them, afforestation induces further decline.

#### *Traditional versus afforestation areas*

A discriminant analysis was firstly performed to detect to what extent the three local Forest Impact dimensions would predict the differences between the traditional and afforestation areas (without allowing differences between countries to enter into the analysis). The analysis shows that the difference between the area types is predominantly predicted by the beneficial valuation of forests, rather than by negative, or neutral valuations (see Table 8 Appendix). The explained variance, though, is rather small (10%), which indicates that people in the two area types vary much more on the local Forest Impact dimensions than can be accounted for by the difference between a 'traditional' and an 'afforestation' forestry relationship alone.

#### *Case study area level*

Again, the question arises how the local Forest Impact factorial dimensions unite or differentiate the case study areas in all countries. Table 4 depicts the outcome of a discriminant analysis in which the Forest Impact dimensions are used to predict the differences between all individual areas (K=16). Three discriminant functions emerge, which reflect the three Forest Impact dimensions, as revealed in the factor analysis (see Table 6 Appendix). Apparently, all three Forest Impact dimensions appeal to considerable numbers of people in some areas, but not in others. It is conspicuous, however, that the harmful rather than the beneficial aspects of forests foremost differentiate areas. Moreover, even the

neutral evaluation accounts for more variance between the areas than the beneficial aspects. Apparently, resistance in European regions against forestry will be more explicitly expressed than support for forestry.

*Table 4: Discriminant functions for case study areas (K=16), and the contribution of Forest Impact factorial dimensions to it (standardised canonical discriminant function coefficients)*

<b>Contributing Forest Impact factors</b>	<b>Discriminant function</b>		
	<b>Forests are harmful</b>	<b>2 Forests have nothing to offer</b>	<b>3 Forests are beneficial</b>
Forests are harmful	.937	.264	.256
Forests are beneficial	-.337	-.059	.944
Forests have nothing to offer	-.339	.944	-.031
<i>% of Variance</i>	<i>58.0</i>	<i>23.8</i>	<i>18.8</i>

Looking now at the positions of different areas within countries on the discriminant functions of Figure 4 (see Table 9 Appendix), it can be observed that both German areas most strongly reject negative valuations, in contrast to the Irish Leitrim (afforestation) area which most strongly accepts it<sup>11</sup>.

In this respect Leitrim is in sharp contrast to the traditional Irish area. Also, the respondents in the Dutch and Danish afforestation areas perceive more negative aspects of forests than other areas. Furthermore, Leitrim again stands out alone on the highest acceptance of the neutral discriminant function, followed by both German areas, which is remarkable as they previously opposed Leitrim on the negative function. The two Danish areas reject this negative function, which means that the Danish inhabitants think their forests do offer sufficient things.

The discriminant function 'forests are harmful' is best explained by Eurozone: the Central European countries reject this harmfulness the most, followed by the Mediterranean countries, the Atlantic countries accept it relatively the most. The discriminant function 'forests have nothing to offer' is best explained by the distinction in traditional and afforestation areas: the respondents of traditional forest areas disagreeing more than the ones of afforestation areas.

<sup>11</sup> Figure 4 constitutes relative positions of areas to each other; it is necessary to check on the mean scores on the original scales. As both discriminant functions cover largely the original forest quality dimensions, the mean values are: forests are harmful 2.0 and forests have nothing to offer 2.6

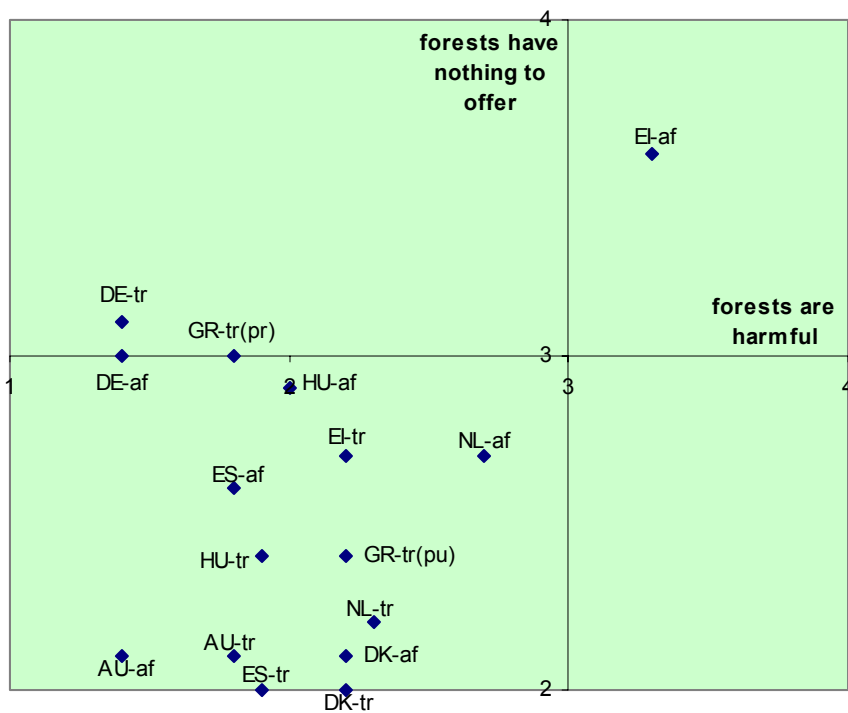


Figure 4: Means on 'forests are harmful' and 'forests have nothing to offer' discriminant functions for case study areas (group centroids,  $K=16$ )

## 5. Varied perspectives of different community groups on the role of forestry

So far, the results about the attitudes towards forests have been analysed at the area level. In general, there are few differences in opinions between both target groups, i.e. landowners and community inhabitants (Figure 5). As a rule, inhabitants always agree more on the positive aspects and disagree more on the negative aspects of forests than landowners do. In two types of areas the differences are relatively big. First of all, the more urbanised an area gets the stronger the distinction in opinions between consumers and producers. In the more rural areas there is a strong connection between those people who own land and the inhabitants; a majority of the inhabitants is landowner as well or at least is close family or friend to a landowner. Secondly, in declining rural areas farmers are opposing the foresters, feeling the threat of the afforestation and/or management practices. They consider afforestation, either in the form of an increase of nature and wildlife areas or an increase in forest plantations, as a degradation of land use.

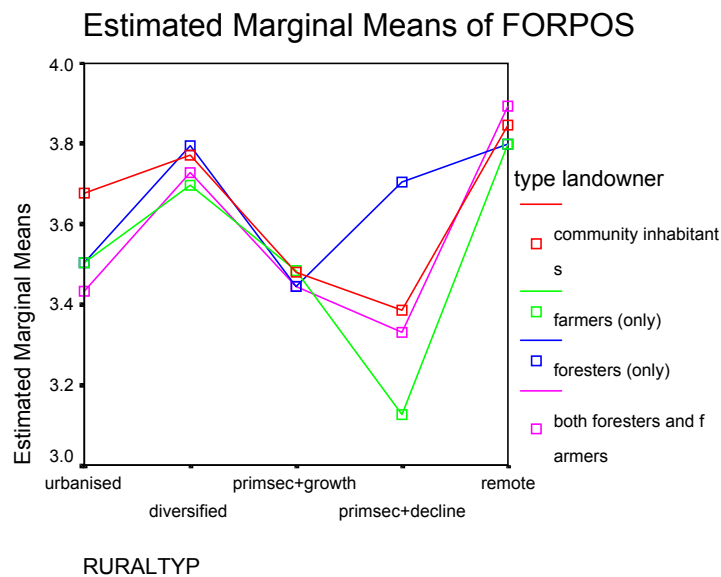


Figure 5: The opinions of the respondents in the case study areas on the Forest Impact dimension 'forests are beneficial' (FORPOS) per rural area type and inhabitant/landowner type (no weighting for correcting sample size applied)

It is possible to analyse the position of respondents as regards the different viewpoints in a more detailed way. To this end a cluster analysis has been performed on the local Forest Impact factors<sup>12</sup>. Five forest opinion groups could be identified (see Figure 6 and Table 10 Appendix; names are given by the researchers on the basis of the scoring pattern on factors):

- the '*enthusiasts*', (28%, N=1846). These residents embrace forests in their locality. They cannot mention one negative aspect about them.
- the '*moderate enthusiasts*', (24%, N=1581). This group is mostly positive about forests, although they are conscious of the low economic profits. In addition, they doubt whether forests have a lot to offer in terms of recreational opportunities and biodiversity.
- the '*positive realists*', (23%, N=1493). This group also rejects the economic importance of the forests. They have a neutral attitude with respect to the landscape benefits of forests: they don't see the immediate contribution of forests to the creation of a characteristically different landscape and don't agree with that they are of cultural and historical value. They disagree that forests have nothing to offer.
- the '*sceptics*', 14% (N=927): this group is aware of the benefits of the forests, even the economic benefits are considered to be important. However, they observe that forests can be a threat for other land use activities, can cause feelings of isolation and can deteriorate the landscape. They doubt whether the forests are planted according to the wishes of the local people. They neither agree nor disagree with the dimension 'forest have nothing to offer'.
- the '*adversaries*', 10% of the respondents (N=664): these people dislike the forests in almost every aspect: they do not contribute to an attractive living environment, they do not fit in the landscape, and they do not provide any economic benefits. The only thing that forests bring is places for outdoor recreation.

<sup>12</sup> First of all, a hierarchical cluster analysis has been done on a random sample of cases. On the basis of the dendrogram five clusters could be identified. Secondly, a K-means cluster analysis (quickcluster analysis) has been performed for five clusters.

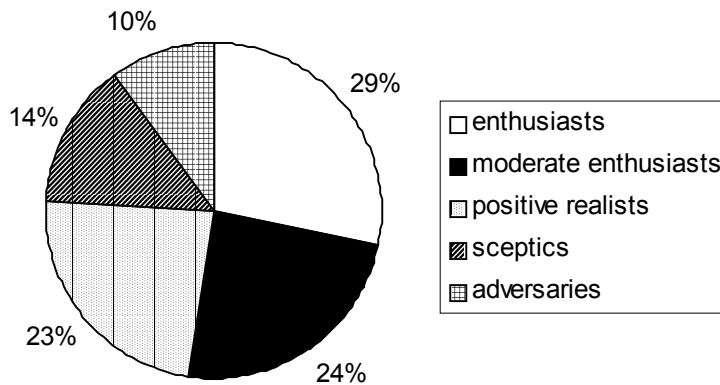


Figure 6: The five Forest Opinion Groups (N=6511)

It can be concluded that not everyone is of the opinion that forests contribute positively towards the quality of life in the area. The notion that forests are perceived by all as being positive and beneficial is, therefore, a myth. Some strong relations exist between the distribution of these five forest opinion groups and the area groupings and target groups:

- At the area level (see Table 11 Appendix), it can be concluded that three areas have more than 10% of adversaries, these are the afforestation areas of Denmark, Ireland and the Netherlands (13%, 59% and 20% respectively). On the contrary, the enthusiasts can be found especially in the traditional forest areas of Spain (64%), Greece (Konitsa: 51%), Ireland (43%) and Austria (39%). Especially the inhabitants of German areas are more modest in expressing their enthusiasm: they have high percentages on the moderate enthusiasts (about 80%). The Austrian and both Danish areas have a more positive realistic attitude towards the forests (about 45%).
- In all countries, except for Denmark, Ireland and the Netherlands, more than 50% of the people belong to the (moderate) enthusiasts. The enthusiasts can be especially found in the Mediterranean zone. The adversaries, on the contrary, can be found in the Atlantic countries, especially in the afforestation areas.
- People from traditional forest areas are more positive than people from afforestation areas. The latter areas have relatively high proportion of 'positive realists' people, who appreciate the new land use; however, they stay realistic with regard to the benefits forests really bring to their locality in socio-economic terms.
- It is striking that the group adversaries is relatively large in declining areas dominated by the primary sector (18%). Uncertainty about the future felt mostly by farmers in combination with commercial foresters 'planting their land', as is the case in the Irish afforestation area, might cause feelings of alienation and isolation.
- Landowners tend to be less enthusiastic than community inhabitants are. This is due to the negative attitude to forests of farmers without forest land. 60% of the foresters belong to the (moderate) enthusiasts. There is hardly any difference between the exclusively foresters and those foresters who own farming land as well.

## 6. The contribution of forests to quality of life of rural areas

Having examined separately (a) the quality of life aspects of rural areas as defined by its inhabitants and (b) the way the local forests are valued by the same inhabitants, it is useful to consider next the level of agreement or conflict that exists between these two aspects. Again, a discriminant analysis has been used in which the five quality of life factors and the three forest impact factors are brought together. Table 5 gives the contribution of each factor in explaining the differences between the sixteen case study areas. The first four discriminant functions, explaining 87% of the variance, are presented in it.

Table 5: Discriminant functions for case study areas (K=16), and the contribution of Quality of Life and Forest Impact factorial dimensions to it (standardised canonical discriminant function coefficients)

Contributing Quality of Life and Forest Impact factors	Discriminant function			
	Marginality	Forests are harmful for rurality	Forests have nothing to offer in bland & viable areas	Beneficial role of forests only moderately sustains quality of life
Over-development	<b>-.810</b>	-.163	.029	.378
Nature and landscape quality	.074	-.157	<b>-.670</b>	.248
Rurality	.341	<b>.403</b>	-.010	.149
Services	-.011	-.198	<b>.624</b>	.385
Weak economy-top down development	<b>.796</b>	.036	-.016	.326
Forests are harmful	-.029	<b>.775</b>	.075	.260
Forests are beneficial	.121	-.344	-.060	<b>.434</b>
Forests have nothing to offer	.103	-.295	<b>.438</b>	-.119
% of Variance	33.4	24.1	18.2	11.0

It is evident that the first discriminant function covers entirely the '*marginality*' function that emerges when only Quality of Life factors were included (Table 2). To a smaller extent '*rurality*' is also still important. In the second function, called '*forests are harmful for rurality*', rurality operates now much more prominently than in the quality of life analysis, where it constituted on its own the 'Eden' association. The cause of 'upward promotion' of rurality in the second function is, as can be seen in Table 5, the influence of 'forests harmful'. Apparently, rurality becomes only just prominent in the context of forest evaluation. And, what is even more conspicuous, it is the harmful association of forests that brings rurality to the front. As far as forestry is concerned, areas differ most in the way inhabitants feel rurality is threatened by forestry, and not supported by it. The third function is being called '*forests have nothing to offer in bland and viable areas*'. It combines, again, almost exactly the Quality of Life discriminant function 'bland & viable' with the Forest Impact discriminant function 'forests have nothing to offer'. This suggests that a low nature and landscape quality, in the context of a good level of services, is linked to the fact that forests have nothing to offer in terms of biodiversity and recreation opportunities. A beneficial evaluation of forests at last comes only in the fourth position in the prediction structure of area differences. This function is being called '*beneficial role of forests sustains quality of life moderately*'. Although moderate associations with several quality of life factors do emerge, there are no strong connections with any of the quality of life aspects (all loadings below +/- .40). Over-development and services are of moderate importance.

Figure 7 depicts the relative importance of two discriminant functions in each case study area with respect to the extent to which an area is marginalised and forests are being perceived as harmful for rural live<sup>13</sup>.

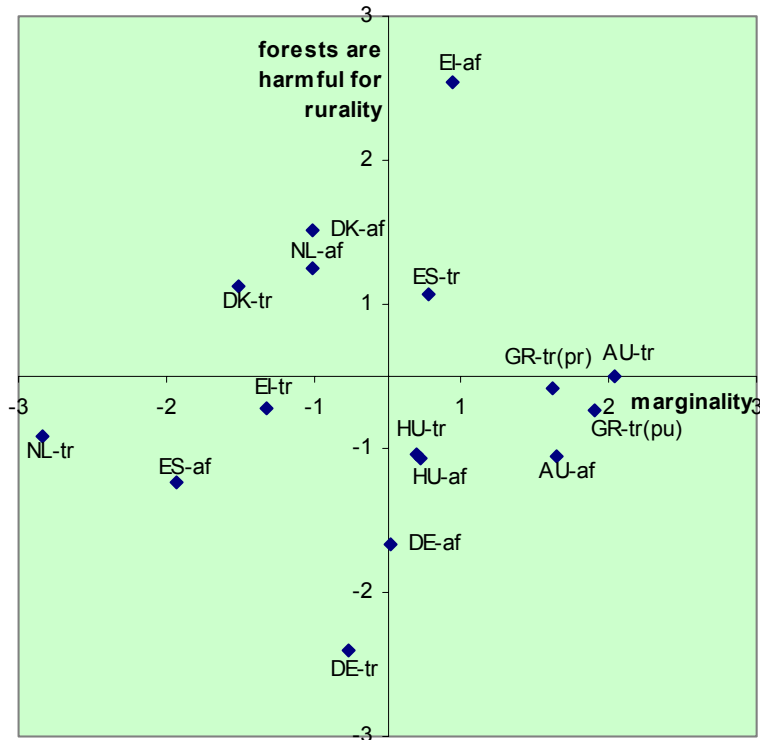


Figure 7: Means on 'marginality' and 'forests are harmful for rurality' discriminant functions for case study areas (group centroids, K=16)

Considering the positions of the different areas on the discriminant functions of Figure 7 (see Table 12 Appendix), it can be learned that, apart from the conclusions that have already been drawn in section 3, the Eurozone explains the differences in the 'forests are harmful for rurality'. Especially the Atlantic countries accept this function (especially the Danish and Irish afforestation area), whereas the Germanic countries disagree the most. The Mediterranean areas are positioned in between.

In the third function, inhabitants of areas do not think that the forests have a lot to offer to them in terms of nature and landscape quality, biodiversity and recreation for local people. The Greek traditional private forest area and both Hungarian and Dutch afforestation areas accept this idea, with this attitude opposing the Spanish and Austrian traditional areas. The Greek private afforestation area Konitsa agrees the most with the fact that the 'beneficial role of forests sustains quality of life moderately'. The Austrian afforestation area rejects this idea.

<sup>13</sup> Figure 6 constitutes relative positions of areas to each other; it is necessary to check on the mean scores on the original scales. Discriminant function marginality: over-development 2.6 and weak economy 3.3; forests are harmful for rurality: forests are harmful 2.0 and rurality 3.5



## 7. The role of forests in the future of rural areas

Rural development is about possible future perspectives for rural areas. However, the ways in which a rural locality should develop is highly dependent on the commitment of the people who have an interest in it. The respondents have been asked what kind of future they would prefer their locality to develop to. They could tick at maximum three future alternatives (see Table 6).

*Table 6: Most preferred future in order of decreasing importance (% that ticked option; N = 6949)*

In this locality in the future there could be an increase in...	Europe (weighted)	
	N	%
1. Employment opportunities	3380	49
2. Organic farming	2875	41
3. The availability of services	2318	33
4. Numbers of visiting tourists	2007	29
5. Scenic beauty of landscape	1770	26
6. The amount of nature and wildlife areas	1698	24
7. Strength of bond / friendship between neighbours	1665	24
8. Industrial activities	1624	23
9. Intensive factory farming	1590	23
10. The amount of forests	1354	20
11. Built-up areas	828	12

It can be concluded that the most preferred future options should aim at an increase in employment opportunities and organic farming. Secondly, an increase in services and visiting tourists is considered to be important as well. It is also clear that the respondents do not frequently mention 'an increase in the amount of forests'<sup>14</sup>. Taken the entire survey population, a number of significant relationships as regards the future forest situation can be identified ( $P < 0.001$ ,  $N=6949$ ):

- first, landowners prefer slightly more often an increase in the amount of forests than community inhabitants (23% versus 18%) (Cramer's V 0.06). The latter group prefers nature and wildlife areas more than the former group (28% versus 19%) (Cramer's V 0.09);
- people in afforestation areas prefer forests slightly more than traditional forest areas (23% versus 17%) (Cramer's V 0.07);
- next, inhabitants from Hungary and the Netherlands prefer more forests than the other countries do (39% and 30% respectively) (Cramer's V 0.23);
- residents from diversified areas ask much more frequently for more forests in the future (28%) than residents from the other rural areas. Residents from rural areas with urban characteristics prefer more often an increase in nature and wildlife areas (37%) and scenic beauty of landscape than an increase in forests (see Table 7).

<sup>14</sup> For more information on local people's wishes for more forests and landowners' intentions to afforest, we refer to the paper of O'Leary and Elands (2002).

Table 7: Most preferred future per rural type of area (% that ticked option; N=6949)

Rural area type	In this locality in the future there could be an increase in...		
	The amount of forests	The amount of nature and wildlife areas	Scenic beauty of landscape
Rural area with urban characteristics	18	37	33
Diversified rural area	28	24	21
Growth area dependent on agriculture	13	23	28
Decline area dependent on agriculture	14	16	24
Remote area	17	17	19
Cramer's V (P < 0.001)	0.16	0.17	0.08

It is useful to analyse what kind of future options people think could be developed jointly. On the basis of a cluster analysis six groups of respondents indicating their preferred future developments could be identified<sup>15</sup>: (i) *secondary sector economy development* (industrial activities, employment opportunities, availability of services) (25%), (ii) *tourist development* (number of visiting tourists) (20%), (iii) *agro-business development* (intensive factory farming, employment) (14%), (iv) *organic-economy development* (organic farming, employment) important (13%), (v) *ecological development* (organic farming, amount of nature, landscape scenery, and to a smaller extent forests) (19%), and (vi) *traditional development* (services and in friendship between neighbours and strength of bond) (10%). Only in the ecological development preference forests are being included as a future option.

Once more, it can be observed that forests as a future option does hardly emerge in the clustered future options. In order to see to what future options 'forests' are correlated, calculations have been made at both European and individual area levels. In general, we can conclude that a wish for an increase in the amount of forests is:

- positively correlated with the amount of nature and wildlife and to a smaller extent with organic farming;
- negatively correlated with several future options, of which the most important are: an increase in employment opportunities, industrial activities, visiting tourists, intensive factory farming, services and strength of bond & friendship between neighbours.

Forests are thus primarily associated with environmental and ecological functions and not with economic functions. Besides, people do not connect forests to strong community feelings. If the people who prefer an increase in 'the amount of forests' (20% of the total sample) are examined more in detail, it can be concluded that they do associate it with several future options, apart from 'organic farming' and 'nature and wildlife' (39% and 34% of the people who prefer a future with more forest respectively), 'employment' and 'landscape' (both 28% of the people who prefer a future with more forest respectively). Only a small proportion of the European sample (about 6%) wishes a future in which forests and economy are jointly, not necessarily integrated, developed.

#### *The influence of 'marginality' and 'bland & viable' on future developments*

Having established the future development preferences of these European respondents, it is interesting to consider to what extent the area qualifications 'marginality' and 'bland viability' influence the way the area should develop in the future. It can be concluded that, on the basis of Pearson correlation, the

<sup>15</sup> As the variables are stochastic dependent (scale-ticking alternatives), this has its repercussions on the results of the cluster analysis.

more an area is defined as marginal, the more people prefer an increase of employment opportunities, number of visiting tourists, intensive factory farming, and the less an increase in nature and wildlife areas and the amount of forests. The reverse is true as well. The more prosperous (urbanised) an area gets, the more local communities wish an increase in nature and wildlife areas and forests. People from 'bland viability' areas -these are the less well landscaped ones-, on the contrary, desire more forests, intensive factory farming, industrial activities and less organic farming and availability of services as future developments.

## **8. Conclusion**

This paper has made clear that rural Europe is highly diversified. First of all, the concept of rural is not easy to define; as people give it meaning within their own frame of reference, it cannot be based only on objective criteria. The developed quality of life dimensions indicate how people define the rural quality of life. Inhabitants from rural areas define their localities in terms of marginalisation, the degree of over- and underdevelopment and strong and weak economy, and bland viability, the degree of available services combined with nature and landscape quality. The marginalisation dimension is best reflected by the rural area typology, the bland viability dimension by the forest tradition (traditional, afforestation). These dimensions are a reflection of the present day perceived strengths and weaknesses of an area. Rural development should be based upon these strengths and weaknesses.

If forestry should play a role in rural development, it cannot be developed independently of the self-definition of rural areas. It can be concluded that forests are perceived mostly within the perspective of nature and landscape quality and less as an economic activity or carrier of services. Future forest policy at a European level, therefore, should continue to focus attention on the non-material benefits of forests for rural areas. At the same time, however, it must be remembered that afforestation programmes are mostly aimed at reducing agricultural production and enhancing the (economic) quality of life in rural areas. It is ironic, therefore, to say the least, that forestry is regarded in some locations as a threat to rurality and of little economic importance to many. Policy makers should take a very close look at those areas where forests are perceived to a threat and identify means to reassure local anxiety and tension.

Many rural inhabitants are very positive about their local forests. However, apart from the beneficial role of forests, people also see disadvantages. The myth that everyone loves forests is found to be just that – a myth. The disadvantages are concerned with landscape identity, respect for local voices, threat for other land uses, few recreation opportunities and not much biodiversity. In general, people from afforestation areas, Atlantic countries, farmers, and rural areas that are in decline are more negative about forests than people from traditional forest areas, Germanic and Mediterranean countries and urbanised and remote areas. It seems that the longer the forest history of an area, the more benefits are perceived by the local people. A majority of the respondents is (moderate) enthusiastic about local forests, however, there are some groups who either observe the forests more from a realistic point of view, from a sceptic point of view, or who are really against it. The latter group is significant in afforestation areas. This means that the development of new forests is not welcomed per definition. As indicated above, in rural locations where forests are perceived as harmful or of little use, forestry policies and strategies should pay particular attention to the needs and expectations of local communities and let local people participate in afforestation policy.

With regards to a future increase in the amount of forests in the locality, local communities do not prioritise this option. Employment and land use activities, such as organic farming, are considered to be much more important. Forests are only being mentioned within an ecological development perspective,

which means together with nature and wildlife areas and scenic beauty of landscape. Only 6% of the respondents expressed a wish for a future in which forests and economy are jointly, not necessarily integrated, developed. This more nature and landscape quality discourse operates mainly within rural areas with urban characteristics (typology of rural areas) and areas that define themselves as prosperous ('not-marginal') and to a smaller extent in diversified rural areas and growth rural areas. This implies that future forest policy should concentrate on an integrated development of forests within nature and landscape. In particular, those areas near to urban centres and those that are functioning as regional centres have a quest for these type of forests, in turn rendering 'forestry' increasingly an urban forestry issue than a rural forestry one. This finding gives credence and support for programmes and measures where forests are developed explicitly in response to the needs of an increasingly an urban society.

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## Appendix

Table 1: Rural or urban identity of the area (%) (N=7044)

Rural area typology	Country- traditional/ afforestation area	Name case study area	Urban	Rural
Rural area with urban characteristics	DK-tr*	Haderslev (Hv)	66	34
	DE-tr	Staufen (St)	4	96
	NL-tr	Ede (Ed)	10	90
	ES- af	Torroella di Montgri (To)	33	67
Diversified rural area	DK-af	Hvorslev (Hv)	2	98
	GR-tr (public forest)	Konitsa (Kn)	6	94
	HU-af	Kerekegyháza (Ke)	5	95
	EL-tr	Wicklow (Wi)	6	94
	NL-af	Stadskanaal (Sk)	8	92
Growth area dependent on agriculture	AU-af	Weinviertel (We)	1	99
	DE-af	Pfullendorf (Pf)	3	97
Decline area dependent on agriculture	AU-tr	Waldviertel (Wa)	3	97
	GR-tr (private forest)	Kolindros (Ko)	1	99
	HU-tr	Szentgál (Sz)	-	100
	EL-af	Leitrim (Le)	6	94
Remote area	ES-tr	Navès (Na)	-	100

\* tr = traditional forest area, af = afforestation area  
 If weighted for distribution 'community inhabitants/landowners' three areas show different figures (more than 1% difference). Ede goes from 10% to 12%, Torroella from 33% to 30% and Haderslev even from 66% to 77%.

Table 2: Factor analysis components 'quality of life' (only scores higher than 0.20 are included)

	Overdevelop- ment	Nature and landscape quality	Rurality	Services	Weak economy and top down development
Too much industrial development	0.72				-0.21
Conflict between different uses of land	0.69				
Too much crime	0.61				-0.22
Too many visiting tourists	0.59			0.26	
Too many houses built-recent past	0.53			0.34	
A lot of forests		0.79			
Rich variety of nature & wildlife		0.74	0.22		
Beautiful landscape scenery		0.70			
Characteristically different		0.54		0.32	
Closely knit community			0.69		
Very sparse population			0.63	-0.40	0.21
Strong sense of history & tradition			0.58	0.32	
Peace and quiet with low traffic	-0.35		0.50		
Unpolluted air, water and soil	-0.21	0.29	0.44	0.24	
Very good overall services				0.72	
Very attractive setting for houses		0.20		0.59	
Plenty opportunities for recreation & sports			0.23	0.57	-0.21
Very few employment opportunities					0.75
Prevalence of low incomes			0.24		0.71
No involvement of locals area developed	0.26				0.63
% of variance (total 52%)	16.9	13.3	9.6	6.6	5.4

Table 3: Means of areas on Quality of Life dimensions (K=16) (1= strongly disagree, 5 = strongly agree). Areas are ordered according to rural area typology

Case study area	Quality of Life dimension				
	Over-development	Nature and landscape quality	Rurality	Services	Weak economy and top down development
DK-tr (Haderslev)	2.7	3.9	3.5	3.6	3.0
DE-tr (Staufen)	2.6	4.3	3.4	<b>3.9</b>	<b>2.8</b>
NL-tr (Ede)	<b>3.4</b>	4.0	<b>2.9</b>	3.7	<b>2.8</b>
ES-af (Torroella de Montgri)	3.1	3.9	3.2	3.5	<b>2.8</b>
DK-af (Hvorslev)	2.5	3.7	3.6	3.5	3.1
GR-tr-pu (Konitsa)	2.9	<b>4.5</b>	<b>4.1</b>	<b>3.9</b>	<b>4.1</b>
HU-af (Kerekegyháza)	2.6	<b>3.2</b>	3.1	3.5	3.5
EL-tr (Wicklow)	2.7	4.1	3.2	3.4	3.1
NL-af (Stadskanaal)	2.7	3.3	3.3	3.8	3.3
AU-af (Weinviertel)	<b>1.9</b>	3.9	3.4	3.0	3.6
DE-af (Pfullendorf)	2.4	3.9	3.5	3.4	3.0
AU-tr (Waldviertel)	<b>1.9</b>	4.4	3.8	3.1	3.9
GR-tr-pr (Kolindros)	2.3	3.8	3.9	3.8	3.6
HU-tr (Szentgál)	2.4	4.0	3.1	3.0	3.5
EL-af (Leitrim)	2.3	3.6	3.9	3.2	3.5
ES-tr (Navès)	2.5	4.3	<b>4.1</b>	<b>2.8</b>	3.5
Total (weighted sample size)	2.6	3.9	3.5	3.4	3.3
$Eta^2$	.33	.25	.28	.14	.23

Table 4: Means (group Centroids) of areas on discriminant functions (K=16). Areas are ordered according to rural area typology

Case study area	Discriminant function				
	Marginality	Bland & viable	Stress	Eden	Shrinking
DK-tr (Haderslev)	<b>-0.88</b>	-0.16	-0.38	0.34	-0.16
DE-tr (Staufen)	-0.49	-0.17	<b>0.79</b>	-0.45	-0.67
NL-tr (Ede)	<b>-2.32</b>	-0.36	0.61	-0.06	0.27
ES-af (Torroella de Montgri)	<b>-1.44</b>	0.06	0.29	0.07	0.07
DK-af (Hvorslev)	-0.33	-0.05	<b>-0.76</b>	0.49	-0.14
GR-tr-pu (Konitsa)	<b>1.03</b>	0.07	<b>1.48</b>	<b>1.10</b>	0.27
HU-af (Kerekegyháza)	0.09	<b>1.43</b>	-0.08	-0.69	0.35
EL-tr (Wicklow)	<b>-0.87</b>	-0.59	0.14	-0.18	-0.04
NL-af (Stadskanaal)	-.047	<b>1.17</b>	-0.31	-0.05	0.19
AU-af (Weinviertel)	<b>1.17</b>	-.040	-0.28	<b>-0.83</b>	0.04
DE-af (Pfullendorf)	-0.09	-0.20	-0.27	-0.09	-0.28
AU-tr (Waldviertel)	<b>1.59</b>	<b>-1.07</b>	0.07	-0.04	0.09
GR-tr-pr (Kolindros)	<b>1.25</b>	<b>1.35</b>	0.51	0.14	-0.34
HU-tr (Szentgál)	0.15	-0.52	0.08	<b>-0.82</b>	0.20
EL-af (Leitrim)	0.56	0.29	<b>-0.77</b>	0.59	0.02
ES-tr (Navès)	0.35	<b>-1.27</b>	-0.57	<b>1.21</b>	0.36
Unstandardised canonical discriminant functions evaluated at group means The bold printed figures do either strongly accept the discriminant function or strongly reject it (negative value). It are all relative figures.					

Table 5: Opinions on the role of forestry in the locality (%; N=6511) (1=strongly disagree, 5=strongly agree; non-weighted for sample size)

<b>Forests in this locality....</b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Neutral</b>	<b>Agree</b>	<b>Strongly agree</b>
<i>Community benefits</i>					
Significantly improve the attractiveness of living here	2	6	12	43	37
Are here against the wishes of local people	38	37	18	5	2
Create a sense of isolation between neighbours	29	40	20	8	3
Provide very few opportunities for recreation and sports	19	33	18	22	8
<i>Economic welfare</i>					
Are a threat for other land use activities such as farming	25	37	21	11	6
Provide good employment for local people	6	28	31	27	8
Provide good incomes for local people	8	30	33	23	6
<i>Landscape identity</i>					
Deteriorate the beauty of the landscape	51	33	8	5	3
Have created a landscape characteristic different	2	11	21	43	23
Are of important historical or cultural value	4	14	26	39	17
<i>Environmental And Nature Quality</i>					
Protect our air, water and soil	1	3	7	40	49
Are very poor in terms of the variety of plants and animals	23	36	19	17	5

Table 6: Factor analysis components 'local Forest Impact dimensions' (loadings of items included in the compound scores are marked in bold; only scores higher than 0.20 are included)

	<b>Forests are harmful</b>	<b>Forests are beneficial</b>	<b>Forests have nothing to offer</b>
<i>Forests in this locality....</i>			
Are here against the wishes of local people	0.82		
Create a sense of isolation between neighbours	0.80		
Deteriorate the beauty of the landscape	0.76		0.28
Are a threat for other land use activities such as farming	0.74		
Provide good employment for local people		0.78	
Provide good incomes for local people	0.28	0.73	
Are of important historical or cultural value		0.69	
Have created a landscape characteristic different	-0.29	0.67	
Significantly improve the attractiveness of living here	-0.40	0.61	
Protect our air, water and soil	-0.45	0.56	
Provide very few opportunities for recreation and sports			0.85
Are very poor in terms of the variety of plants and animals	0.38		0.70
<i>% of variance (total 62%)</i>	<i>33.6</i>	<i>18.9</i>	<i>9.4</i>

Table 7: Means of areas on local forest quality dimensions (1= strongly disagree, 5 = strongly agree). Areas are ordered according to Eurozone

Case study area	Forests are harmful	Forests are beneficial	Forests have nothing to offer
DK-tr (Haderslev)	2.2	3.4	<b>2.0</b>
DK-af (Hvorslev)	2.2	3.3	2.1
NL-tr (Ede)	2.3	3.6	2.2
NL-af (Stadskanaal)	2.7	3.4	2.7
EL-tr (Wicklow)	2.2	3.9	2.7
EL-af (Leitrim)	<b>3.3</b>	<b>2.9</b>	<b>3.6</b>
GR-tr-pu (Konitsa)	2.2	<b>4.3</b>	2.4
GR-tr-pr (Kolindros)	2.0	3.8	2.9
ES-tr (Navès)	1.9	3.9	2.0
ES-af (Torroella de Montgri)	1.8	3.6	2.6
DE-tr (Staufen)	<b>1.4</b>	3.9	3.1
DE-af (Pfullendorf)	<b>1.4</b>	3.6	3.0
AU-tr (Waldviertel)	1.8	3.7	2.1
AU-af (Weinviertel)	<b>1.4</b>	3.4	2.1
HU-tr (Szentgál)	1.9	3.8	2.4
HU-af (Kerekegyháza)	1.8	3.5	3.0
Total (weighted for sample size)	2.0	3.6	2.6
<i>Eta</i> <sup>2</sup>	.32	.22	.23

Table 8: Discriminant function for traditional versus afforestation areas ( $K=2$ ), and the contribution of local forest quality dimensions to it (standardised canonical discriminant function coefficients)

	<b>Discriminant function</b>
<b>Discriminating Q13 factor variables</b>	<b>Forest valuation</b>
Forests are harmful	-.152
Forests are beneficial	.953
Forests have nothing to offer	-.304
<b>Discriminated case study areas</b>	<b>Means (un standardised group centroids) on dimension 1</b>
Traditional	.312
Afforestation	-.389



Table 9: Means (unstandardised group centroids) of areas on discriminant functions ( $K=16$ ). The bold printed figures do either strongly accept the discriminant function or strongly reject it. It are all relative figures. Areas are ordered according to Eurozone

Case study area	Discriminant function		
	Forest are harmful	Forests have nothing to offer	Forests are beneficial
DK-tr (Haderslev)	0.65	-0.65	-0.19
DK-af (Hvorslev)	<b>0.76</b>	-0.63	-0.32
NL-tr (Ede)	0.38	-0.37	0.12
NL-af (Stadskanaal)	<b>0.82</b>	0.19	-0.07
EL-tr (Wicklow)	0.15	0.09	0.63
EL-af (Leitrim)	<b>1.73</b>	<b>1.19</b>	-0.32
GR-tr-pu (Konitsa)	-0.03	-0.11	<b>1.34</b>
GR-tr-pr (Kolindros)	-0.46	0.46	0.23
ES-tr (Navès)	-0.08	-0.62	0.34
ES-af (Torroella de Montgri)	-0.44	0.03	-0.21
DE-tr (Staufen)	<b>-1.66</b>	0.66	0.07
DE-af (Pfullendorf)	<b>-1.45</b>	0.54	-0.42
AU-tr (Waldviertel)	-0.27	-0.41	0.08
AU-af (Weinviertel)	<b>-0.82</b>	-0.40	<b>-0.77</b>
HU-tr (Szentgál)	-0.32	-0.12	0.29
HU-af (Kerekegyháza)	-0.58	0.49	-0.25

Table 10: Mean scores on the local forest quality dimensions of the forest opinion groups ( $N=6511$ )

Forest Opinion Groups	N	%	Forests are harmful	Forests are beneficial	Forests have nothing to offer
The enthusiasts	1846	28	1.9	4.1	1.7
The moderate enthusiasts	1581	24	1.5	3.6	3.2
The positive realists	1493	23	1.8	3.1	1.9
The sceptics	927	14	2.9	4.1	3.3
The adversaries	664	10	3.5	2.7	3.5

Table 11: The distribution of the forest opinion groups in each area (%;  $N=6511$ , Cramer's  $V$  0.40 ( $P < 0.001$ ). Areas are ordered according to Eurozone

Case study area	Forest Opinion Groups				
	Enthusiasts	Moderate enthusiasts	Positive realists	Sceptics	Adversaries
DK-tr (Haderslev)	34	4	44	8	10
DK-af (Hvorslev)	29	3	50	5	13
NL-tr (Ede)	41	8	28	16	7
NL-af (Stadskanaal)	23	10	23	24	20
EL-tr (Wicklow)	42	15	9	28	6
EL-af (Leitrim)	9	6	8	18	59
GR-tr-pu (Konitsa)	51	10	5	33	1
GR-tr-pr (Kolindros)	25	38	11	22	4
ES-tr (Navès)	64	8	16	8	4
ES-af (Torroella de Montgri)	24	33	29	11	3
DE-tr (Staufen)	6	82	3	8	1
DE-af (Pfullendorf)	4	78	10	7	1
AU-tr (Waldviertel)	39	19	25	11	6
AU-af (Weinviertel)	17	34	44	3	2
HU-tr (Szentgál)	41	25	16	14	4
HU-af (Kerekegyháza)	17	54	14	12	3

Table 12: Means (unstandardised group centroids) of areas on discriminant functions (K=16). The bold printed figures do either strongly accept the discriminant function or strongly reject it. It are all relative figures. Areas are ordered according to rural area typology.

<i>Case study area</i>	Discriminant function			
	Mar- ginality	Forests are harmful for rurality	Forests have nothing to offer in bland & viable areas	Beneficial role of forests sustains quality of life moderately
DK-tr (Haderslev)	<b>-1.01</b>	0.63	-0.40	-0.13
DE-tr (Staufen)	-0.27	<b>-1.90</b>	0.42	-0.04
NL-tr (Ede)	<b>-2.34</b>	-0.41	-0.36	0.49
ES-af (Torroella de Montgri)	<b>-1.43</b>	-0.74	0.17	0.03
DK-af (Hvorslev)	-0.51	<b>1.01</b>	-0.37	-0.34
GR-tr-pu (Konitsa)	<b>1.12</b>	-0.09	-0.22	<b>2.04</b>
HU-af (Kerekegyháza)	0.22	-0.57	<b>1.49</b>	-0.32
EL-tr (Wicklow)	<b>-0.82</b>	-0.22	-0.42	0.27
NL-af (Stadskanaal)	-0.51	<b>0.75</b>	<b>1.06</b>	0.00
AU-af (Weinviertel)	<b>1.14</b>	-0.55	-0.48	<b>-0.98</b>
DE-af (Pfullendorf)	0.02	<b>-1.17</b>	0.20	-0.71
AU-tr (Waldviertel)	<b>1.54</b>	0.00	<b>-1.21</b>	-0.02
GR-tr-pr (Kolindros)	<b>1.40</b>	-0.23	<b>1.33</b>	0.45
HU-tr (Szentgál)	0.20	-0.54	-0.45	-0.15
EL-af (Leitrim)	0.44	<b>2.04</b>	0.64	-0.19
ES-tr (Navès)	0.28	0.57	<b>-1.58</b>	0.22

# **Anyone for more forests?**

## **Current perspectives and future expectations on afforestation and forest functions across Europe<sup>1</sup>**

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### **Abstract**

A number of policy measures have been introduced in Europe over the last decade in order to stimulate an expansion of the forest area through afforestation of agricultural land and to promote an increasing awareness of the potential multifunctionality of forests in terms of their contribution towards rural development. Concerning such policy measures, however, there has been no comprehensive attitudinal study to examine perspectives and future expectations of the general public as well as farmers and forest owners on afforestation. Results of a trans-European survey just completed in sixteen diverse European case study areas indicate that the demand for additional forests ranges from grave apprehension to emphatic support. They illustrate that little interest is shown towards the economic contribution of forests to rural areas by either the general public or forest owners. The results of the survey could contribute towards the development of regional specific forestry strategies which best reflect the demands of local communities.

**Keywords:** afforestation, forest functions, rural development, Europe, attitudes

## **1. Introduction**

### **1.1 Afforestation and forest functions: general policy framework**

The last decade or so has seen the introduction of a number of policy measures, which aim to increase the forest area in Europe. Forest expansion is an explicit and central objective of Agenda 21 in order to *"enhance the protection, sustainable management and conservation of all forests, and the greening of degraded areas, through forest rehabilitation, afforestation, reforestation and other rehabilitative means"* (UNCED, 1992). An important instrument to promote afforestation on agricultural land at a European level is EC regulation 2080/92. According to the European Commission, the aim of this regulation is to

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control agricultural production, encourage development of forestry activities on farms and improve existing woodland farms to enhance the incomes of persons employed by farming (Council Regulation (EEC) 2080/92). While expansion of the forest area in Europe continues to this day to be a core objective of CAP reforms such as those mentioned, as yet no comprehensive study has been carried out to establish the level of support, or otherwise, for such measures. Do local communities wholeheartedly support the policy of afforestation, or are they content with the present area of forests in their locality? Indeed, it is worth considering whether there are some areas in Europe where locals are apprehensive or even highly critical of this policy. Added to this must be a consideration of the attitudes and perceptions of those who are ultimately responsible for implementing afforestation policies and measures on the ground, i.e. the landowners. Are farmers contemplating afforestation of their lands and, if not, what are perceived to be the major constraints? Answers to these and others questions relating to European afforestation policies are provided in this paper.

In addition to the pragmatic objective of increasing forest cover in Europe, there has been a shift in the understanding and appreciation of the diverse roles that forests can play in rural areas. Forests in Europe contribute significantly to the livelihood and welfare of many, but their role is evolving as a consequence of ongoing changes in the socio-economic structure of rural areas. Consequently, while most attention in the past was focused on output of forest products to fulfil the economic demands of local populations, at present an increasing emphasis is given to sustaining and enhancing their ecological integrity and environmental functions, in restoring forest cover and establishing forest resources as places for recreation and amenity services (Lisbon, 1998). Regulation 1610/89 is an accompanying measure under the frame of the CAP, aiming to promote the economic, ecological and social functions of forests within the operational programmes for rural and less-developed regions (objectives 5b and 1) (Council regulation (EEC) 1610/89). More recently, the European Parliament approved a resolution on the *European Union's Forestry strategy* (Com, 1998). This strategy is based on "the recognition of the diversity of Europe's forests, their multifunctional role and the need for ecological, economic and social sustainability". Despite such platitudes to the multifunctional role of forests, however, great emphasis is still placed upon timber production within the EU, highlighting that "*EU forest-based industries must assure a secure and competitive raw material supply*".

As discussed above concerning afforestation policies, there has been little consultation with local communities at a trans-European level regarding the relative importance of various forest functions and uses. What priority do community inhabitants place on the environmental contributions of forests? What level of importance is attached to financial aspects of forests by forest owners? These questions too were the subject of the Multifor.RD surveys and an insight into trends across Europe is provided below. This article will thus attempt firstly to establish the level of support or otherwise for afforestation throughout Europe, secondly, to explore the preferred functions of forests as perceived by both local communities generally as well as forest owners and, thirdly, in response to the above, to outline the basis for regional specific forestry strategies which are best suited to local conditions.

## **1.2 The Multifor.RD research project: an introduction**

The principle research objective of a project entitled Multifor.RD is to make a comparative European study about the nature and dynamics of landowners' and public's attitudes towards forests and forestry, and at developing criteria for distinguishing regional-specific strategies for multifunctional forestry to serve rural development. This three and a half year research project is financed by the European Commission under the FAIR Programme and commenced in February 1999. Research institutes and universities within eleven countries (*France, Ireland, Netherlands, Hungary, Greece, Denmark, Spain,*

*Austria, Germany, Finland, and Switzerland*) are involved in the project, with the latter two acting as consulting partners. The Forestry and Nature Conservation Policy group of Wageningen University in the Netherlands is responsible for project co-ordination. The theoretical framework and empirical results are developed within the framework of this EC/FAIR research project.

Each of the nine partner countries selected two rural areas as a basis for the research: one traditional forest area and one afforestation area. The research consists of four phases (see also Wiersum and Elands, 2002). In the first phase both case study areas were described according to a predefined set of parameters. Secondly, in a phase involving qualitative surveys, in-depth interviews were carried out with representatives of three actor groups (producers, consumers and decision makers/interest groups). Thirdly, on the basis of the qualitative survey results and literature search, a quantitative research phase was initiated, involving completion of questionnaires by both community inhabitants and landowners. In the final research phase, on the basis of a synthesis of the results of the different methods being used, policy recommendations for the future development of forests within rural Europe will be made. In this paper, we will highlight some of the main results of the quantitative survey.

### **1.3 The quantitative survey: concepts, respondents and analysis**

The survey was aimed at understanding the varied roles that forests play within rural areas, to be understood from the values system of community inhabitants and land owners, their impressions regarding quality of life and their attachment to the locality and to their forests. Apart from that, insight into the management practices of both farmers and foresters and their ideas with respect to afforestation, forest management and forest and land use policy can steer us in the formulation of recommendations for future forestry and rural development policy in Europe.

In total, 7044 people within 8 European countries<sup>2</sup> were surveyed in the period between February and April of 2001. Two thirds of these respondents are community inhabitant (66%, N=4638) and the remaining one third are landowners (34%, N=2406). The latter group can be divided into the following three categories:

- foresters, land owners with only forest land (3%, N=209);
- farmers, land owners with only farming land (13%, N=938);
- and forest-farmers, land owners with both forest and farming land (18%, N=1259).

Table A1 in the Appendix provides an overview of the different types of respondents (community inhabitants, foresters, farmers and forest-farmers) interviewed in each case study area.

Research involving 16 diverse rural areas is inherently complex, requiring analysis at a number of different levels, the starting point of which is at the level of the case study area, followed by some sort of grouping of areas, and completed by an analysis at the 'European' level. At the first level (individual case study area), the sample sizes of both *community inhabitants* and *landowners* do not necessarily reflect the real distribution of both target groups. A first weighting factor has therefore been developed and used in order to correct for over- and under-sampling. It appears that the weighting of the target groups does hardly change the results; therefore, it has not been used<sup>3</sup>.

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<sup>2</sup> The French research team used a different questionnaire to that of the others and thus their results could not be incorporated into the common SPSS data file for analysis and interpretation.

<sup>3</sup> The only differences, though small, could be found in the more urbanised case study areas. High population densities and people that are no longer connected to land use activities, but are more consumers of rural space can display different ideas with respect to forests in the development of the locality than land owners.

At the second level where case study areas are grouped, the different sample sizes (ranging from 119 to 640 respondents) can heavily influence the results. Therefore, to correct for dissimilar sample sizes, a second weighting factor was constructed. This second weighting factor did influence the results – varying from question to question- from marginal to substantial. The following groupings of areas were established: *country* (k=8), *rural area typology* (k=5), *Euro-zones* (k=3) and *traditional* versus *afforestation* (k=2). Concerning the level of country, it should be noted that results pertain only to the two areas, as they were not selected as representative for specific country conditions, but rather for diverse forestry conditions in Europe. The rural areas typology has been derived from the first research phase, the description of the case study areas according to a list of parameters (De Deugd and Elands, 2001). A cluster analysis classified the areas into: (i) rural areas with urban characteristics, (ii) diversified rural areas, (iii) growth areas depending on the agricultural sector, (iv) decline areas depending on the agricultural sector, and (v) remote areas. The remote area class consists of only one case study area, whereas the diversified class consists of five case study areas. The Euro-zones is a grouping of the countries into three European zones: Atlantic (Denmark, Ireland and the Netherlands), Central European (Austria, Germany and Hungary) and Mediterranean (Greece and Spain).

Presentation of the results at the European level gives a basic insight into the general ideas of the residents of rural areas in eight European countries. Although the selection of the areas is to a certain extent arbitrary, the broad variety is by and large covered. Aside from north Scandinavia, the participating countries are spread north and south (Denmark and Greece), east and west (Hungary and Ireland) and otherwise throughout.

## **2. Afforestation: current impressions and future demand**

### **2.1 General opinions regarding the amount of forests in rural areas**

Respondents in the Multifor.RD study were asked to give their impression about the amount of forests in their locality. Taking both community inhabitants and landowners collectively and weighting for case study area sample sizes<sup>4</sup>, 20% have the impression there are too few forests, 72% feel the current forest area is OK as it is and the remaining 8% say there are too many forests. The case study areas, which are most inclined to feel there is too little forestry in their locality, are the afforestation areas of the Netherlands and Hungary (approximately 60% each). The next two highest areas in this respect are also afforestation areas in both Denmark and Spain (approximately one third of both populations). In fact, as can be seen from Table A2 in the Appendix, afforestation areas generally are significantly more likely to feel there are too few forests than traditional forest areas are ( $P < 0.001$ ). As might be expected in the above four areas, the percentage of people who feel there is too much forestry is very low (maximum 2%). Four case study areas are relatively high in the proportion of respondents who feel there are too many forests (18% to 37%), namely both areas in Greece, the traditional forestry area in Austria and the afforestation area in Ireland. In the above Austrian area, there is currently a campaign underway called “more sunshine for our villages”, highlighting local concern about the perceived encroachment of forests upon residential areas. At the rural area type level, diversified locations are those which most feel there are too few forests (35%), followed by urbanised areas. The area type which most feels there are too many forests is primary sector in decline (16%).

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<sup>4</sup> Weighting for case study area sample sizes has been performed throughout where results are presented collectively for both community inhabitants and landowners, irrespective of the level at which analysis is performed (ie. total sample, country, rural area type, Euro-zone and traditional / afforestation areas).

Given that afforestation would result in an increase in the amount of forests in rural areas, it is worth focusing upon those respondents who feel the existing level of cover is either too little or too much. A number of significant relationships can be identified concerning those who feel there are too few forests in their locality ( $P < 0.001$ ,  $N = 6,215$ , weighted), namely that they are:

- more strongly attached to their local forests (Cramer's  $V = 0.20$ );
- more likely to wish for an expansion of the forest area in the future (Cramer's  $V = 0.28$ );
- less likely to think forests contribute negatively towards quality of life (Cramer's  $V = 0.22$ );
- less likely to agree there is too much outside pressure to develop forests (Cramer's  $V = 0.17$ );
- less likely to feel there should be strict rules on planting and management of forests (Cramer's  $V = 0.16$ ); and
- less likely to mistrust the local authorities' land use policies (Cramer's  $V = 0.08$ ).

It should be emphasised that the converse of the above relationships is true for those who feel the amount of forests is too much ( $P < 0.001$ ).

### *Demand for additional forests in rural areas*

When asked would people like to see more forests in their locality in the future, 20% indicated their approval. The authors of this paper report elsewhere in some detail the motives behind the wish, or otherwise, for more forests in rural areas (Elands and O'Leary, 2002). In general, we can conclude that a wish for an increase in the amount of forests is only positively correlated with a demand for more nature and wildlife and, to a smaller extent, more organic farming (case study area level). It is negatively correlated with several future options, of which the most important are: employment opportunities, industrial activities, visiting tourists, intensive factory farming, services and strong bonds/friendship. The extent of agreement between wishes of locals for more forests and the intentions of landowners to engage in afforestation will be explored in the section below.

## **2.2 The landowners' perspective**

This paper will next consider the position of those who are responsible for afforestation on the ground, i.e. landowners<sup>5</sup>. Firstly, the prospects for farming throughout Europe are considered in order to explore the current mood among landowners regarding the perceived future viability of their enterprise. In this context, the role of afforestation in farm development is thereafter examined in an attempt to identify those locations where expansion of forests is most likely or otherwise. Lastly, those landowners who have no intention of engaging in afforestation will be considered in order to identify constraints upon expansion of forests in Europe.

### *Prospects for the future of farming*

When asked to describe the future prospects of their farming enterprise, 19% of landowners chose 'progressive', 57% chose 'stable' and 24% chose 'declining'. Given that the CAP reforms were devised to reduce the level of agricultural output in Europe, it is interesting that approximately one quarter of the landowners interviewed in this study feel future prospects for their enterprise are declining. The country in which landowners are most optimistic concerning future prospects (i.e. high proportion of progressive

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<sup>5</sup> The reader is reminded that 'landowners' include foresters, farmers and forest-farmers, as defined earlier. Weighting is applied for all analysis depending upon whether reporting pertains (a) just to farmers and forest-farmers or (b) just to foresters and forest-farmers. The first group, (exclusively) farmers, consists of 2197 respondents, the second group, (exclusively) foresters consists of 1476 respondents.

and low proportion of declining) is Spain<sup>6</sup>, whereas the most pessimistic farmers (i.e. low progressive and high declining) are located in Greece, Germany and the Netherlands. In terms of rural area type, the most optimistic landowners are located in the remote area<sup>7</sup>, whereas those in primary sector areas in decline are most pessimistic. In between are the three more urbanised and growth areas, between which there is very little difference. There is no significant difference between traditional and afforestation areas nor between Euro-zones regarding impressions of future farming prospects.

A number of explanatory variables were discovered to be significantly related ( $P < 0.001$ ) to perceived future prospects for farming at the European level, whereby the level of optimism was found to increase with an increase in the following:

- *farm size* - 12% of those with 12.5 hectares or less feel that future prospects are progressive, compared to 34% of those with 35 hectares or over (Cramer's  $V = 0.17$ );
- *youth* – 30% of those aged 35 and under feel that prospects are progressive, compared to 15% of those aged over 55 years (Cramer's  $V = 0.12$ );
- *level of educational attainment* – 14% of those with just primary school education feel future prospects are progressive, compared to 26% of those with university qualifications (Cramer's  $V = 0.09$ ); and
- *farm type* – 14% of those with only grassland expect prospects to be progressive, compared to 24% of those with tillage land (Cramer's  $V = 0.10$ ). Related to this, it is worth noting there is no significant difference between those who own forests and those who do not.

### *Role of afforestation in farmers' future plans*

Having established that there are mixed views among landowners regarding future prospects for their enterprise, it is useful to consider next what is the likelihood of them engaging in afforestation. In this context, farmers and forest-farmers were asked to consider a number of varied 'development' options for their enterprise and select those most appropriate given their individual circumstances. At the European level, the development options which are most favoured is to buy additional land (32%) and / or rent additional land (31%). This finding supports the suggestion earlier that farmers with smaller holdings are more pessimistic about the future. An increase in size of holding, therefore, is the top priority of landowners in Europe.

One of the development options presented was the planting of land with forests, and approximately 18% of respondents say they are considering afforestation over the next five years. The country in which the highest proportion indicated the possibility of planting is Hungary (30%), compared to both the Netherlands and Spain where afforestation is least likely (<10%). Those in afforestation areas are more likely to plant land (21%) than those in traditional areas (17%), albeit this trend is reversed in both Austria and Ireland. Those in Central Europe (22%) are more likely to plant than those in either Atlantic (19%) or the Mediterranean (11%) and the most likely rural area type to witness afforestation is diversified (21%), followed by primary sector areas in decline (20%). Less than 5% of farmers in the remote area intend to plant. Referring again to the entire survey population, it is interesting to note that the prospect of afforestation is significantly more likely (Cramer's  $V = 0.21$ ,  $P < 0.001$ ) among farmers who already own forests (25%) compared to those who do not (9%). Perhaps those who own forests have found it to be a worthwhile experience (whether from an emotional, economic and / or environment perspective), compared to those who have little or no experience of forestry and who thus may be more reluctant to participate in afforestation schemes. Farmers who have not already planted land may view afforestation

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<sup>6</sup> The Spanish research team suggest that the reason for the apparent optimism is that farmers who experienced decline have already left the rural areas

<sup>7</sup> It should be noted that the remote area type includes only one case study area



as a sign of incompetence, being forced to turn away from farming, and thus may be less likely to plant their land in the future. Furthermore, afforestation is a more likely initiative among landowners who feel that farming prospects are unstable (Cramer's  $V=0.14$ ,  $P<0.001$ ). Between 23% and 26% of farmers who say that future prospects are either progressive or declining indicated their consideration to plant, compared to 14% of those who feel that farming prospects are stable. Neither farm size nor farm type (tillage versus grassland) are significantly related to intentions to plant land with trees. Lastly, it appears that the percentage cover of forests in the case study areas has little influence over planting intentions, with the exception of the tradition area in Spain, where over 80% of the surface area is forest and less than 5% of farmers intend to plant.

### *Identification of constraints upon future afforestation*

While 18% of farmers indicated they are considering planting land, the remaining majority of 82% appear to have no intention of doing so. The motivations of these farmers are worth considering, in order to identify the main constraints upon future afforestation in Europe. Landowners with no forests were given nine varied reasons influencing their intention not to plant land with forests (Table 1). The most frequently recorded reason at the European level is that the idea of planting simply never occurred to them (43%), followed by the impression that their holding is too small or dispersed (34%) or that the land is too productive (32%). Approximately one quarter of respondents ticked the options 'not financially attractive', 'enough forests in the locality already' and 'don't know enough about forests'.

*Table 1: Primary motivations for not planting by landowners at the European level (N=778)*

<b>Reasons for not planting land</b>	<b>% applicable</b>
I never thought about it	43
My property is small and / or dispersed	34
My land is too productive for trees	32
It is not financially attractive	27
There is enough forest already in this locality	27
I don't know enough about forestry	22
I will let my children decide about the best land use	15
I don't like trees / forests	7
I am not allowed according to local regulations	5

Considerable variation exists between different case study areas. For example, in the traditional forest areas the top reason for not planting is never thought of it and the second reason is there is already enough forests. In afforestation areas, on the other hand, the top main reason for not planting is that the land is too productive, whereas the second most frequent reason is that planting is not financially attractive. Considering briefly the rural area types, a number of patterns can be discerned. The reasons land is too productive and not financially attractive, for example, increase in frequency with increasing level of urbanisation. Landowners in urban areas are likely to have more financially rewarding alternative uses for their land than planting trees, such as residential or commercial development opportunities.

Factor analysis carried out on the nine reasons for not planting identified the following five factors explaining some 65% of the variance<sup>8</sup> (see Table A3 in the Appendix):

- *uneconomic* – farmers feel that their land is too productive and that afforestation is not financially attractive (most prevalent in the Dutch afforestation area (where land has a very high development value) and two Danish areas);
- *unaware* – farmers with sizeable properties never thought of planting and feel they know little of forestry (most prevalent in the Greek Konitsa area and both Austrian areas);
- *low confidence* – farmers would prefer to let their children make any decisions regarding planting land, as they have smaller properties and don't know enough about forestry (most prevalent in the Hungarian traditional area and the Irish afforestation area);
- *dislike* – farmers do not like trees and feel there are enough forests in the locality already (most prevalent in the two case study areas in Ireland and in the traditional area in Austria); and
- *prohibited* – farmers, particularly those with larger properties, feel they are not allowed to plant according to local regulations (of minor relevance for both Greek areas as well as the Danish traditional area).

## 2.3 Level of agreement between landowners' afforestation plans and the aspiration of community inhabitants for additional forests

Having examined separately (a) the wishes of all respondents concerning future expansion of forests in their locality and (b) the likelihood of landowners planting forests on their land, it is useful to consider next the level of agreement or conflict that exists specifically between the two stakeholder groups of community inhabitants and farmers / forester-farmers. As will be seen below, in some case study areas there is close agreement between landowners' afforestation plans and the wishes of community inhabitants concerning future afforestation, but in others there are discrepancies in these future visions

A scatter diagram relating the proportion of community inhabitants who want more forests and proportion of farmers who are considering planting over the next five years is depicted below in Figure 1. Sidaway (1997) used a similar approach in analysis of land management stakeholder controversies in different European countries. Where case study areas are located close to or on the 45 degree line indicated in the figure, it can be concluded that there is a sort of harmony between inhabitants and landowners. The further an area is located from this line, the greater the level of potential conflict between actor groups. The scatter diagram thus enables the classification of all case study areas into one or a combination of the following categories regarding visions on afforestation:

- *status quo* – unlikely or 'no-go' areas due to both low public support and low likelihood of planting by farmers, an example of which is the traditional area in Spain;
- *under-plant* – where public support for afforestation is much higher than likelihood of planting by farmers, as exists in both areas in the Netherlands, and most especially in the afforestation case study;
- *plant conflict* - where the likelihood of planting by farmers public is higher than public support and thus where there is most likely to be conflict in the future, an example of which might be relevant to the traditional Austrian area; and

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<sup>8</sup> The KMO value for the above factor analysis is low at 0.50 probably due to the fact that the variables are stochastic dependent (scale-ticking alternatives). Furthermore, N in the traditional areas in both Austria and Spain respectively is very low at 3 and 4.

- *strategic* – where both public support and likelihood of planting are high, as can be found in the afforestation area in Hungary.

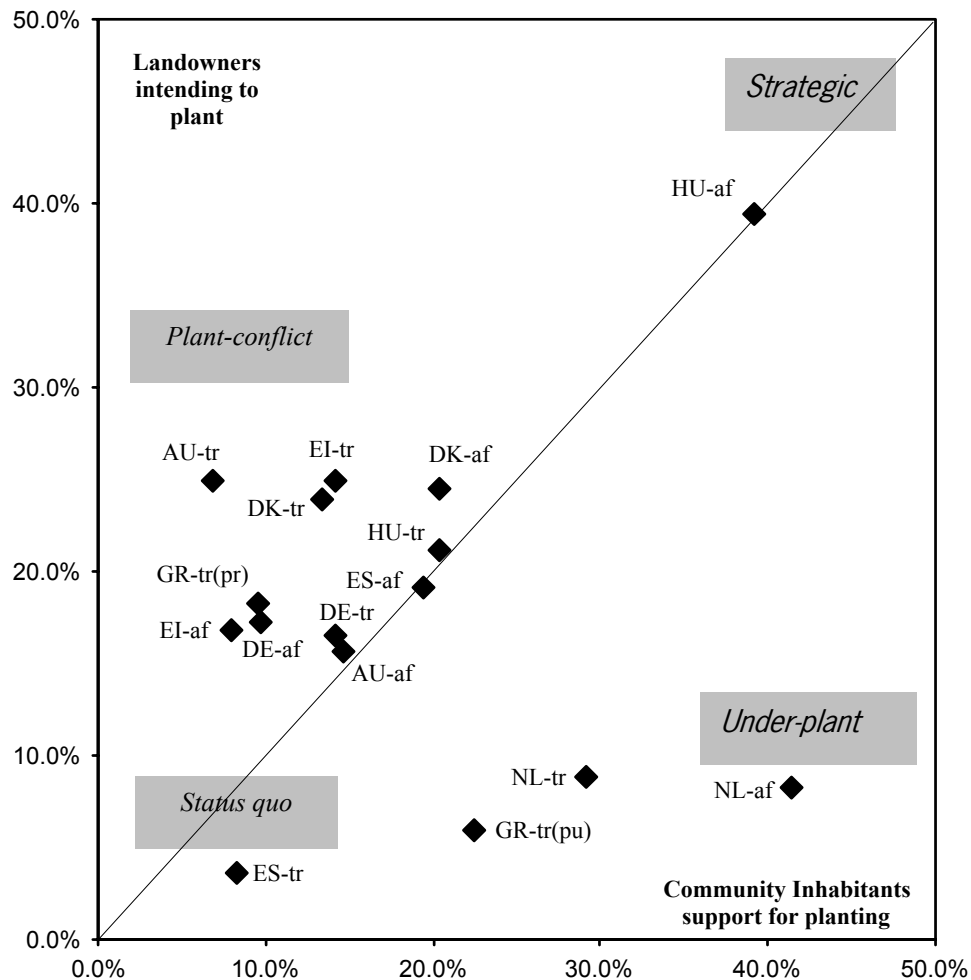


Figure 1: Comparison between community inhabitant support for expansion of forests and likelihood of future afforestation at the case study area level

Interpretation of figure 1 must be considered in the context of perceptions regarding the amount of forests in the locality. For instance, community inhabitants who feel there is a low forest cover in the locality are significantly more likely to support increased afforestation (Cramer's  $V = 0.14$ ,  $P < 0.001$ ,  $N = 4309$ ). Likewise, farmers and forest-farmers who feel there is a low amount of forests locally are significantly more likely to plant their land (Cramer's  $V = 0.11$ ,  $P < 0.001$ ,  $N = 1,520$ , un-weighted). The converse of both the above relationships is also found to be true.

Referring to the Spanish traditional area above where the lowest support for afforestation by both stakeholder groups is found, approximately 68% of both community inhabitants and farmers / forest-farmers feel there is a high forest cover already existing. Taking the afforestation area in Hungary, on the other hand, where there is high support for planting by both groups, less than 5% of both community inhabitants and farmers / forest-farmers feel there is a high forest cover already existing. It would appear in both these extreme locations, therefore, that support for planting is strongly influenced by perceptions regarding current amount of forest cover. In other case study areas, this relationship does not appear to exist. Considering rural area types in the context of the above figure, a cluster of three

diverse / urbanised areas are likely to experience under-planting, another group of diverse and urbanised areas are located midway between status quo and strategic, the primary sector areas are tending more towards status quo and the remote area is located at status quo. It can be concluded, therefore, that from the point of local perspectives there may be very little scope for afforestation in remote areas and in primary sector areas and relatively more scope for afforestation in more urbanised areas. A notable exception to this, however, pertains to the highly urbanised case study areas in the Netherlands where land has potentially high development value and is thus unlikely to be planted.

## 2.4 Level of support for financial aids for afforestation

In this paper the perceptions of communities regarding the amount of forests in their locality have been summarised. Furthermore, the level of support for further afforestation in different areas has been outlined. Thereafter, constraints to planting forests by farmers were explored, one of which is founded upon perceived financial limitations. It is worth considering next, therefore, the level of support, or otherwise, among community inhabitants (i.e. excluding all landowners) for grant aid funding of forestry. Five possible public funding schemes were presented to the respondents for their consideration. The level of approval and rejection is specified for each below at the European level (N=3,858):

- enhance and sustain the landscape (82% approve, 18% reject);
- support of farming enterprises<sup>9</sup> (67% approve, 33% reject);
- plant trees on private land (65% approve, 35% reject);
- manage and protect private forests (63% approve, 37% reject) and
- allow people to visit private forest for recreation (46% approve, 54% reject).

As can be seen from these results, the grant aiding of afforestation comes third in order of approval, supported by 65% of the total sample. Similar approval is granted to the management and protection of forests and slightly less than half approve of grants to allow people to visit forests for recreation. Increasing level of approval for grant aiding of afforestation is significantly associated ( $P < 0.001$ ) with an increase in the level of agreement with the following:

- that forests are planted / managed with proper consultation with local people;
- that the wishes of the local community are respected by those responsible for promoting afforestation ;
- that people who do not own land should be involved in decisions regarding land use; and
- that there should be strict environmental rules on planting and management of forests.

The first of the above two items suggest that people who support grant aiding are more likely to be satisfied concerning the level of consultation with and respect shown for community inhabitants regarding afforestation and forest management policies and practices. The last two items, however, indicate that support for grant aiding afforestation and forest management is conditional upon participation of community inhabitants in land use policies as well as placing strict environmental rules on forestry practices. Approval of grant aid is therefore a reflection of positive experience with forests but is not unconditional. The highest level of approval for grant aiding afforestation occurs in both Hungarian areas and both Greek areas (between 85% and 94%). The lowest level of approval occurs in the Austrian traditional area (38%). In terms of rural area type, the highest level of support occurs in diversified and remote areas and the lowest support is found in urbanised areas. There are no significant differences between traditional and afforestation areas at the European level.

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<sup>9</sup> In the qualitative research phase some countries, including Ireland and Greece, encountered perceived competition among landowners between supports for agri-environmental schemes (such as REPS) and afforestation

### 3. Functions of forests

The second major theme being addressed in this paper is the relative importance of different forest functions as determined both by local area populations generally as well as forest owners specifically. As mentioned earlier in the introduction, European forestry strategies are increasingly reflecting the diverse range of benefits that forests can provide to society. However, prior to the Multifor.RD survey, there had been no trans-European assessment to determine just exactly what does society expect from forests. Furthermore, little information exists at the European level on forest owners' management objectives and the degree to which they concur, or otherwise, with the expectations of the public. Answers to these questions are provided in the text below.

#### 3.1 Priority of potential forest benefits as determined by local communities

As a qualifier to perceptions as to whether the amount of forests in the locality is too little, ok, or too much, respondents were asked if their answers depend upon the type of forest (for example, broadleaf versus conifer). Approximately 25% of respondents ticked the answer 'yes', highlighting that an expression for additional or fewer forests is, for many people dependent upon what type of forest is on offer – *yes, perhaps more forests, as long as they suit our interests and needs*. The survey questionnaire also required all respondents to consider 5 alternative yet inter-related potential benefits of forests, as listed below. Mean scores are provided for each benefit, indicating the relative priority of each (1 = low priority, 2 = medium priority and 3 = high priority):

- protection of air, water and soil = 2.8
- nature conservation = 2.7
- providing attractive landscape, nice scenery = 2.6
- recreation for local people = 2.4
- business activities, including providing jobs = 2.2.

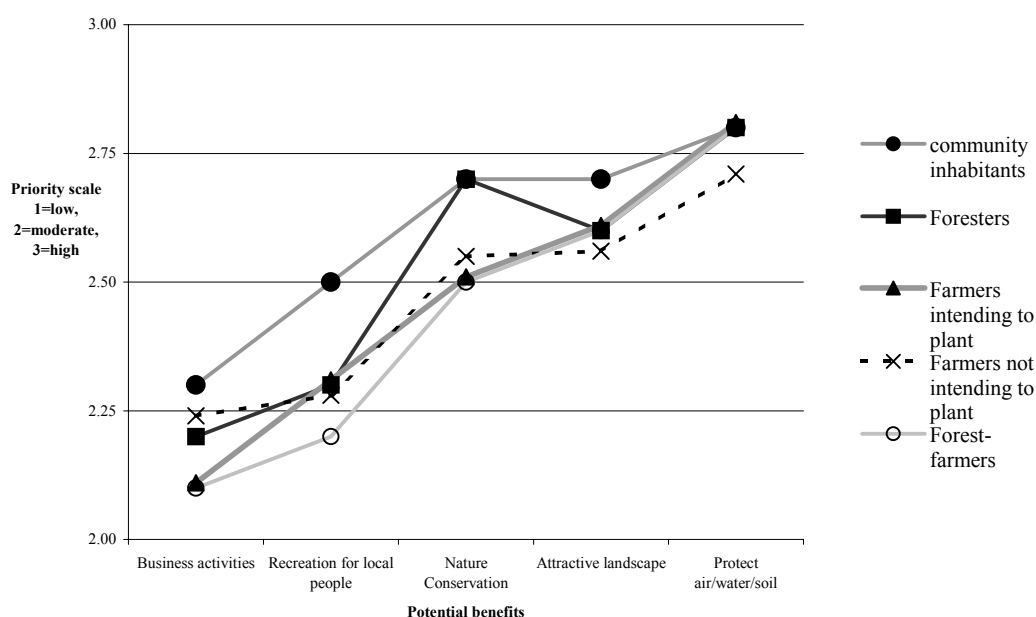
As can be seen from these results at the European level, protection of air, water and soil is regarded as the top priority (categorised as 'high') and business activities, including providing jobs, is perceived to be the lowest ('medium'). Results pertaining to each case study area are provided in Table A4 in the Appendix.

Differences in rating of the potential benefits between five<sup>10</sup> stakeholder groups are depicted in Figure 2. There it can be observed that community inhabitants generally rate all benefits the highest, closely followed by foresters. It is remarkable how closely farmers intending to plant and forest-farmers rate each of the potential benefits. Furthermore, the same pattern as described above, whereby protection of natural resources is highest priority and business activities the lowest, pertains to all five stakeholder groups. It seems from these results, therefore, that there is no conflict of interest between the different stakeholder groups concerning the priority of potential benefits of forests.

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<sup>10</sup> For the purposes of this analysis, 'farmers' were split into those intending to plant and those not intending to plant

**Figure 2: Priority of potential benefits of forests to future of locality as determined by different stakeholders**



In calculating weighted means to be used together with Anova tests in order to determine differences between all respondents at different levels (case study area, country, rural area type, Euro-zone and traditional / afforestation), it was noticed that the  $\eta^2$  values are highest for the item business activities, irrespective of level being considered. Business activities, therefore, is the most discriminative of the five items considered by the respondents. It is important to note at this point, as depicted in the figure above, that community inhabitants rate business activities significantly higher than forest owners (Cramer's  $V = 0.09$ ,  $P < 0.001$ ). Those who do not own forests, therefore, are more concerned about the economic contribution that forests make to the locality than those who do own forests.

Respondents who rate business activities as a high priority are significantly ( $P < 0.001$ ,  $N = 2,200$ ) more likely to feel that:

- forests provide good employment for local people (Cramer's  $V = 0.27$ );
- forests provide good incomes for local people (Cramer's  $V = 0.23$ );
- forestry is of high importance to the local economy (Cramer's  $V = 0.18$ );
- their local area is significantly occupied by production forestry (Cramer's  $V = 0.17$ ); and
- grants should be provided to private landowners to plant their land (Cramer's  $V = 0.06$ ).

The converse of the above relationships exists ( $P < 0.001$ ) for those respondents who rate business activities as a low priority. It is clear from these results, therefore, that the perceived priority which should be placed on forest business activities in the future is positively related to the extent to which forestry contributes to the local economy of rural areas. The perceived priority, which should be placed on business activities at different levels, is hereafter discussed. This item is rated as the lowest or joint lowest priority in all case study areas with the exception of the Kolindros area of Greece as well as the afforestation area in Ireland and the traditional area in Spain. In the traditional Hungarian area as well as the Spanish afforestation area, both business activities and recreation are equally rated as the lowest priority. Referring back to the Greek Kolindros area, business activities is uniquely rated the highest of all potential benefits. Business activities are regarded as a higher priority in declining and remote areas

compared to the three most urbanised area types (urbanised, diversified and primary sector in growth), reflecting the higher dependency in the more rural areas upon incomes from forests. Referring to the Euro-zone level, the Mediterranean region rates business activities considerably higher than either Atlantic or Central European. Lastly, the greatest difference between the traditional and afforestation area type also concerns business activities, where it is rated higher in terms of priority in the former.

### 3.2 Forest owners' management objectives

The research findings indicate that the preferences of the general population in fact closely agree with priorities of forest owners and managers regarding forest functions. Forest owners were asked to indicate the level of importance they attribute to 9 diverse management objectives. Subsequent factor analysis tests identified three *local forest management dimensions*, namely nature and landscape, economy and personal use explaining 63% of the variance<sup>11</sup> (Figure 3 and Table A5 in the Appendix).

Nature and landscape Enhance landscape scenery Contribute towards bio-diversity Protect natural resources Create nice places for recreation	Economy Income from wood production Income from non-timber products and services Supply of timber for own use
	Personal use Use for personal hunting Supply of timber for own use

Figure 3: Dimensions of factors pertaining to forest management objectives

The nature and landscape factor scored the highest of the three factors for all case study areas with the exception of the Danish traditional area. Economy, on the other hand, scored the lowest of the three factors for half of the case study areas (both areas in Denmark, the Netherlands and Spain as well as the afforestation area in Hungary and the traditional area in Ireland). Lastly, personal use scored the highest of the three factors in the Danish traditional area but the lowest of the three factors in both areas of Austria, Germany and Greece as well as the traditional area in Hungary and the afforestation area in Ireland. In summary, therefore, forest owners generally expressed the highest regard for nature and landscape functions, followed by financial reward and, lastly, use of the forest for personal interests. This trend pertains to all classes of forest owners (retired, 'hobby', part-time and full time), albeit as expected 'hobby' owners are marginally more interested than others in nature and landscape and full-time owners are marginally more interested than others in economy. Economy of the forest is deemed to be of high importance to just 10% of owners.

A scatter diagram of the relationship between economy and nature and landscape is depicted in Figure 4 below at the level of case study area. Here it is confirmed that in no case study area is economy more important than nature and landscape. Furthermore, a number of groups can be identified which are broadly similar in their evaluation of the two factors. The Greek traditional area (public forests), for example, scores the highest on both factors. A cluster comprising both Danish and both Dutch areas as well as the Spanish afforestation area is recognised for the low scoring on economy relative to nature and landscape. Another group, which includes the afforestation areas in Germany and Hungary as well

<sup>11</sup> One of the nine items evaluated, namely 'to develop an asset for the next generation' was equally loaded on two factors and was thereafter dropped from the final factor analysis reported upon in this paper.

as the traditional area in Ireland, appears to rate nature and landscape the lowest of all areas. The remaining case study areas show the most balance between economy and nature and landscape.

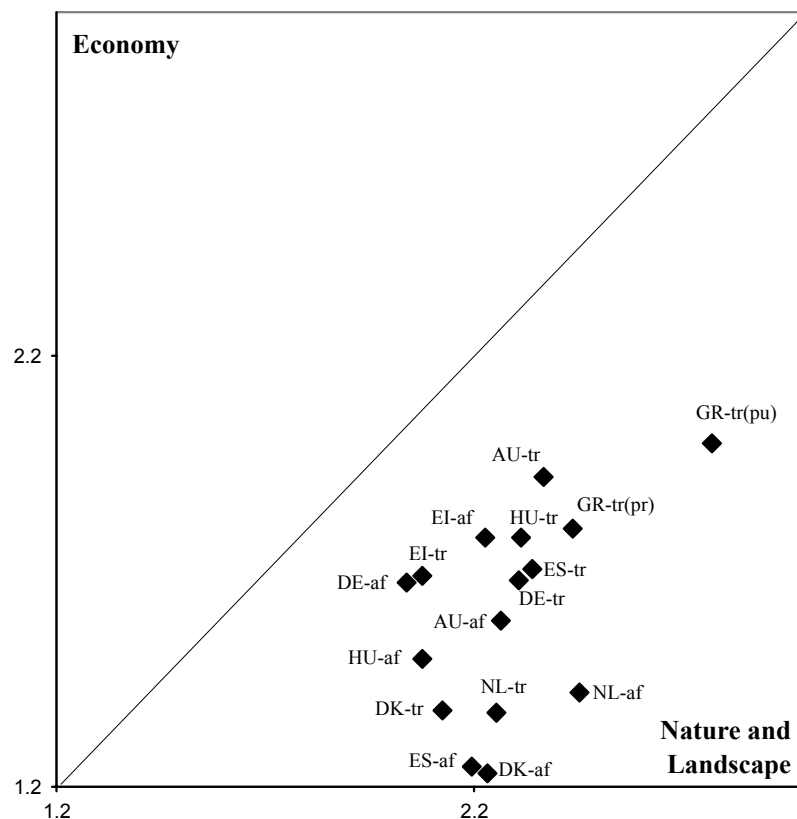


Figure 4: Relative importance of economy and nature and landscape to forest owners at the case study area level (1= no importance/non-existent, 2=somewhat importance, 3= high importance)

Following the above factor analysis, all forest owners (N = 1,010) were classified using cluster analysis as one of the following:

- *indifferent* (36%, low level of motivation concerning all forest functions)<sup>12</sup>;
- *environmentalists* (30% of total, priority upon nature and landscape);
- *multifunctional* (18% of total, equal priority on economy and nature and landscape); and
- *self-interested* (16% of total, mostly use the forest for their own purposes).

At the European level, therefore, the highest proportion of forest owners are indifferent, closely followed by environmentalists. Multifunctional and self-interested foresters comprise the lowest and approximately equal proportions. The findings in the Multifor.RD study whereby just 21% of the forest owners expressed an interest in the economy of their forest suggest commonality with the Lorenz-curve indicating that in many production systems 20% of the producers are responsible for about 80% of the output (Schanz, pers. com). In Finland, Karppinen (1997) also identified four forest owner types similar in

<sup>12</sup> A check was run to establish the relationship between the indifferent forest owners and the item 'to develop an asset for the next generation'. Only 13% of those owner types rated the item of high importance, compared to over 33% of the other three forest owner types.



some respects to those highlighted in the Multifor.RD study, namely “multi-objective” owners who value both the financial and amenity benefits of their forests, “recreationists” primarily interested in non-timber and amenity aspects, “self-employed owners” who value regular sales and income as well as employment and “investors” who regard their forest as a source of economic security. The most striking difference between Karppinen’s classification and that proposed in this article is the financial or economic thread which connects three owner types in the Finnish study compared to just one type in the Multifor.RD study.

A number of variables are found to have a significant relationship with the type of forest owner in question, namely size of forest, owners’ income, level of attachment to own forest and how the forest was obtained. Each of these is summarised below in outline.

### *Influence of forest size*

All forests owned or rented were combined and classified into three categories, namely less than 5 hectares (82% of all forest owners), between 5 and 25 hectares (15%) and greater than 25 hectares (3%). Forest size is found to have a significant relationship with each of the four forest owner types (Cramer’s  $V = 0.19$ ,  $P < 0.001$ ) whereby increasing forest size is associated with the following:

- increase in proportion of multifunctional foresters, one of whose primary concerns includes economy;
- increase in proportion of self-interested owners;
- decrease (marginal) in proportion of environmentalists; and
- decrease in proportion of indifferent owners.

Small forest owners are mostly indifferent (43%) with a high proportion also classified as environmentalists (32%). Approximately 95% of forest owners in Greece are classified as small, compared to 70% or less in other countries. Medium owners comprise equal proportions of environmentalists, indifferent and multifunctional. Lastly, large forest owners are mostly multifunctional (34%), but a high proportion of them is also self interested (27%) and environmentalists (25%). Considering rural area type, the remote are comprises approximately 44% large forest owners, compared to 8% or less than the other areas. The proportion of large forest owners in Spain, the Netherlands and Ireland respectively is 22%, 16% and 11% compared to 7% or less in all the other countries.

### *Influence of income*

The income of forest owners is found to have a significant relationship with typology of forest owner ( $P < 0.001$ , Cramer’s  $V = 0.13$ ) whereby increasing income is associated with a decrease in proportion of multifunctional foresters and an increase in self-interested types. This result is not unexpected given that wealthy forest owners are likely to be less financially dependent upon their forest and thus can afford to use them predominantly for their own purposes, such as hunting. Increasing income is also associated with an increase in the proportion of environmentalist owners, albeit the differences are marginal. Finally, comparing the poorest with the wealthiest, a higher proportion of the former is indifferent.

### *Attachment to own forest*

Level of attachment to one’s own forest is also related to forest owner type ( $P < 0.001$ , Cramer’s  $V = 0.15$ ). The most dramatic relationship in this regard pertains to indifferent forest owners, wherein their proportion increases substantially with a decreasing level of attachment to their forest. Moving from

neutral to strong attachment, on the other hand, it is also apparent that the proportion of self-interested, environmentalist and multifunctional foresters increases.

### *How the forest was obtained*

A significant relationship exists between how the forest was obtained and type of forest owner. Taking those who purchased their forest, for example, it can be seen that they are more likely to be self-interested and less likely to be multifunctional ( $P < 0.001$ , Cramer's  $V = 0.25$ ). People who purchased their forest, therefore, appear to do so in the main for their own use, rather than for economic reward. The converse relationship exists for those who inherited their forest. These forest owners are less likely to be self-interested and more likely to be multifunctional ( $P < 0.001$ , Cramer's  $V = 0.21$ ). This is possibly due to a (part) dependency for over one generation upon the forest as a source of income.

Aside from considering such influences as size, attachment and ownership pattern, it is also worth reviewing where such multifunctional foresters are located. At the country level, Greece is the most multifunctional in orientation, followed by Ireland and then Austria. The remaining countries demonstrate relatively little interest, therefore, in the economy of forests. As might be expected, the highest proportion of multifunctional foresters occurs in the primary sector areas in decline as well as in remote areas where the contribution of forestry to the local economy is likely to be more critical than elsewhere. Finally, a higher proportion of multifunctional foresters is found in traditional forestry areas than in afforestation areas. Perhaps it can be predicted that foresters in afforestation areas might become more multifunctional in outlook in the future as local forest resources and associated downstream industries develop and mature.

### **3.3 Extent of agreement between priority of business activities to community inhabitants and level of importance to forest owners**

Thus far the priority of different forest functions has been explored separately for both community inhabitants and forest owners. In particular, it has been highlighted that the function 'business activities' is the most discriminative variable at the level of community inhabitants. Furthermore, it has been demonstrated that forest owners vary considerably in the importance placed by them upon the economy of their forest. At this stage, it is worthwhile exploring, therefore, the level of agreement or otherwise which exists between both stakeholder groups concerning the business / economy aspect of forestry. A scatter diagram relating priority of business activities to community inhabitants and importance of economy to forest owners ( $P < 0.001$ ,  $\eta^2 = 0.15$  and  $0.22$  respectively) is depicted below in Figure 5.

As with the previous scatter diagram, proximity to the 45 degree line indicates harmony between both actor groups. The diagram enables the classification of all case study areas into one or a combination of the following four categories:

- *non-commercial* – areas where both community inhabitants and forest owners agree that business activities / forest economy are of low interest, an example of which is the traditional area in the Netherlands;
- *under-commercial* – areas where community inhabitant support for business activities is much higher than importance of forest economy to forest owners;
- *over-commercial* - areas where community inhabitant support for business activities is much lower than importance of forest economy to forest owners; and
- *high commercial* – areas where both community inhabitants and forest owners agree that business activities / forest economy are of high importance.

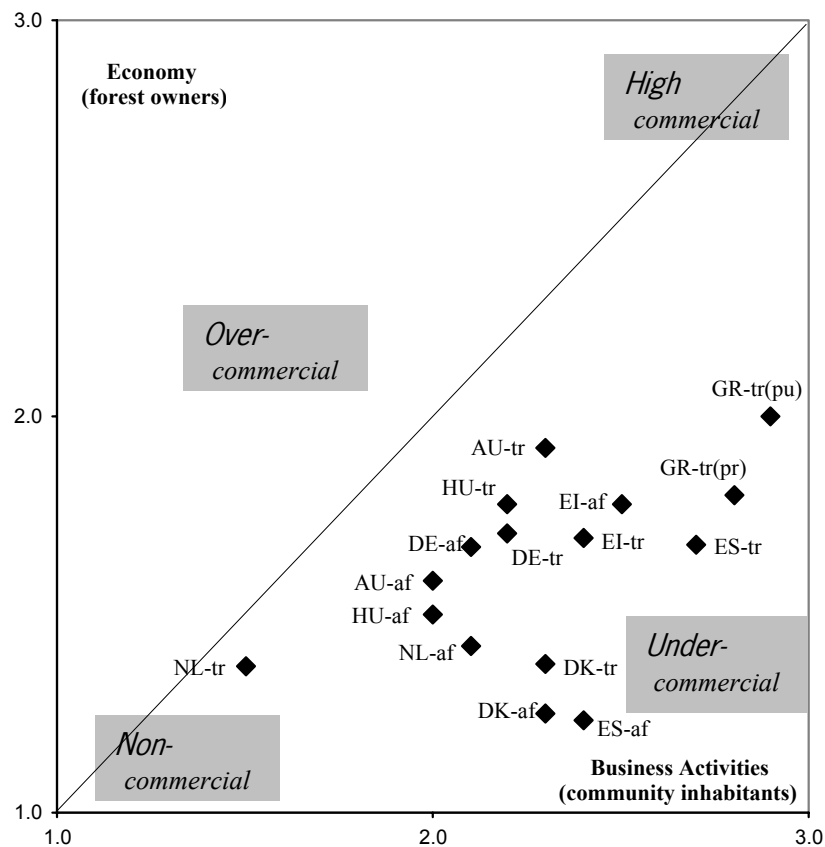


Figure 5: Comparison between priority of forest business activities to community inhabitants and importance of economy to forest owners at the case study area level (1=no importance, 2=medium importance, 3=high importance; N inhabitants = 145 to 381, N farmers = 5 to 155)

Referring to Figure 5, it can be seen that most of the case study areas portray a combination of two or more of the above categories, as follows:

- non-commercial - in the traditional area of the Netherlands, neither stakeholder group shows any interest in business activities or economy of forests;
- no interest shown in economy by forest owners and medium interest shown by community inhabitants – 5 of the case study areas fit into this category (both areas in Denmark as well as the afforestation areas in Hungary, the Netherlands and Spain)
- more or less similar interest shown by both stakeholder groups (medium / some) – 7 case study areas fall into this category (both areas of Austria, Germany and Ireland as well as in the traditional Hungarian area); and
- some interest shown in economy by forest owners and high interest shown by community inhabitants – 3 of the case study areas fit into this category (traditional area of Spain as well as both areas in Greece).

In summary, it can be inferred that community inhabitants appear to place a higher priority upon the economic contribution of forests than do forest owners themselves. This suggestion is supported by an earlier reported finding whereby community inhabitants were found to rate business activities, including providing employment for local people, higher as potential forest benefits than forest owners.

## 4. Discussion

Results of the Multifor.RD survey may prove useful in assisting the development of regional specific forestry strategies that reflect the demands and expectations of rural communities and landowners. For instance, 20% of respondents interviewed feel there are too few forests in their locality, and the same proportion of people explicitly expressed a wish to see an expansion of forests in their area in the future. It is also apparent, however, that landowners' intentions do not always concur with the expectations of the local population. Only in the Hungarian afforestation area can there be found a high public demand for more forests, matched by an equally high proportion of farmers who expressed their intention to plant land over the next five years. Clearly, this is an example of an area, which could be targeted for substantial afforestation.

In other areas, the public demand for more forests may not be met with a desire for planting by landowners, the Dutch afforestation area being a good example in this respect. In locations such as these, the perceived constraints upon planting by farmers should be carefully examined and consideration given to easing or removing such barriers through regionally appropriate measures. Staying with the Dutch afforestation area, for example, the major constraints upon planting by farmers were discovered to be 'land too productive' and 'not financially viable'. The only way to realise the demand for more forests by the public, therefore, is to make afforestation substantially more rewarding for farmers through, for example, increasing the level of grant-aid.

Conversely to the Hungarian afforestation area, there is one case study area (Irish afforestation) where both a low public demand for additional forests and a low likelihood of planting by farmers can be found. An increase in afforestation would appear to be against the odds in such locations. In this Irish example, the most critical issue from the perspective of the local community is that forests are perceived to contribute negatively towards quality of life. Considering the position of farmers, on the other hand, almost half of those interviewed feel there are enough forests already and 40% said that they 'don't like forests'. From the qualitative survey it can be deduced that these sentiments are related to the fact that afforestation is considered as an indication of the loss of the agriculture based rural culture and reflects the influx of outside economic interests establishing purely commercial monocultural plantations (O'Leary and McCormack, 2000). Unless a major shift in the perception of forests is brought about in this community, therefore, it would appear there is little that can be done to substantially increase the extent of afforestation any further.

Each of the other case study areas used in this study could be reviewed in a similar way to those dealt with above in order to (a) determine the likelihood of afforestation in the future and (b) identify measures that could be introduced which reassure the public and / or encourage landowners as relevant to individual circumstances. Furthermore, the demands and expectations of populations at the level of rural area type warrant greater attention regarding future afforestation trends. As can be seen from Table 2 below, the highest demand for more forests can be found in diversified areas (28%). Coincidentally, this is the area type where people are most inclined to feel there are too few forests and the area type where farmers are most likely to plant. Conversely, in the remote area the wish for more forest is unlikely to be realised due to the very low interest displayed by landowners. A yet different scenario exists in the declining areas where farmers intentions to plant exceed considerably the wishes for more forests in the locality, perhaps signalling potential future conflicts.

Table 2: Afforestation according to rural area type (%; N = 111 to 1679, weighted)

<b>Rural area type</b>	<b>Perception there are too few forests in locality (all respondents)</b>	<b>Wish for more forests in the future (all respondents)</b>	<b>Farmers who intend to plant their land</b>
Urbanised	18	18	18
Diversified	34	28	21
Primary sector growth	6	13	17
Primary sector decline	12	14	20
Remote	3	17	4
Total	19	20	18

In addition to the insights provided by the survey towards regional specific afforestation strategies, they also indicate regional differences regarding preferred future functions of forests and their role in rural areas. Just as is the case concerning the acceptability of afforestation, considerable variety exists concerning the perceived priority of different forest functions. For instance, foresters do not regard the economy of forests as high importance in any of the 16 case study areas. In fact, in 6 of the areas economy is judged to be of no importance at all. A practical measure of grant-aid for sound management might therefore be introduced in such areas (where not already existing), the principle objective of which would be to ultimately maximise the quality of forest products and possibly improve incomes for forest owners.

## 5. Conclusions

There is some room in certain areas covered by this study for afforestation initiatives by landowners, considering the public demand for more forests. As to the potential conflicts that may arise when afforestation programs are set-up and implemented from 'above', it has to be remarked that in a number of areas the intentions of landowners to plant more forest substantially exceeded the acceptance, or the wish, of the local inhabitants in that direction. Policy makers should thus be cautious when initiating planting programs on the basis of insights put forward in this study, having checked the amount of differential between afforestation views among landowners and inhabitants in the relevant area.

Furthermore, local communities examined in this study are sending a clear message that forests should primarily function for environmental protection and enhancement and thereafter for resource production. Forest owners too demonstrated a relatively low interest in the economy of their forest, with the majority either disinterested or environmentalist in their objectives. It is not intended to imply that environmental functions of forests cannot contribute towards the rural economy, for clearly there are many opportunities provided in terms of, for example, recreation and tourism. Direct job creation as well as income from the forest, however, in the absence of other considerations, is clearly the lowest priority for the majority of respondents. If all actor groups rate business activities as the lowest priority for future forests, then the direct monetary return from timber production on public investment by grant aiding afforestation must be called into question. Recognition must be given to the primacy of environmental over economic benefits and the indirect monetary return from afforestation through its positive effects on for example recreation and tourism. Future European forest strategies and policies should therefore give a greater priority to supporting nature and landscape functions in order to redress the heretofore focus upon production.

Most importantly, it has been demonstrated that considerable variety exists between and within countries concerning the perspectives and expectations of forestry. This in turn provides a strong argument for the development of a two-tiered hierarchy of forest policies in Europe; the first at the regional level of rural area type, the second at a sub-regional (or 'within' country) level and both moulded to best suit the needs of local people.

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## Appendix

*Table A1: Distribution of sample sizes according to case study area and respondent type (N=7,044)*

<b>Case Study Area</b>	<b>Community inhabitants</b>	<b>Farmers (only)</b>	<b>Foresters (only)</b>	<b>Forest-farmers</b>	<b>Total</b>
Waldviertel (AU) – traditional	437	8	21	174	640
Weinviertel (AU) – afforestation	423	55	9	83	570
Haderslev (DK) – traditional	359	79	18	159	615
Hvorslev (DK) – afforestation	354	120	13	109	596
Staufen (DE) – traditional	293	29	1	18	341
Pfullendorf (DE) – afforestation	155	32	7	72	266
Konitsa (GR) – traditional	319	39	6	11	375
Kolindros (GR) – traditional	277	8	57	142	484
Szentgál (HU) – traditional	229	32	29	100	390
Kerekegyháza (HU) – afforestation	144	129	16	115	404
Wicklow (EI)– traditional	476	26	1	19	522
Leitrim (EI) – afforestation	413	102	3	31	549
Ede (NL) – traditional	255	101	10	41	407
Stadskanaal (NL) – afforestation	261	129	11	35	436
Navès (ES) – traditional	49	8	2	60	119
Torroella de Montgri (ES) – afforestation	194	41	5	90	330
<b>Total</b>	<b>4638</b>	<b>938</b>	<b>209</b>	<b>1259</b>	<b>7044</b>

*Table A2: Perceptions of amount of forest cover in locality at case study area level (N=6406, %)*

<b>Case Study Area</b>	<b>Amount of forests in this locality is ...</b>		
	<b>Too much</b>	<b>OK as it is</b>	<b>Too little</b>
Waldviertel (AU) – traditional	18.2	80.3	1.5
Weinviertel (AU) – afforestation	1.7	90.2	8.1
Haderslev (DK) – traditional	0.9	79.2	19.9
Hvorslev (DK) – afforestation	0.0	66.1	33.9
Staufen (DE) – traditional	1.8	92.5	5.7
Pfullendorf (DE) – afforestation	0.4	95.4	4.2
Konitsa (GR) – traditional	38.6	53.8	7.6
Kolindros (GR) – traditional	24.8	54.8	20.3
Szentgál (HU) – traditional	4.3	85.8	9.9
Kerekegyháza (HU) – afforestation	0.3	41.2	58.6
Wicklow (EI)– traditional	1.1	84.0	14.9
Leitrim (EI) – afforestation	20.8	59.3	19.9
Ede (NL) – traditional	1.1	84.1	14.9
Stadskanaal (NL) – afforestation	2.3	38.1	59.6
Navès (ES) – traditional	5.3	92.1	2.6
Torroella de Montgri (ES) – afforestation	1.4	63.4	35.3
<b>Total</b>	<b>7.9</b>	<b>71.8</b>	<b>20.3</b>

Table A3: Factor analysis components in the Reasons for Not Planting Forests Question (loadings of items included in the compound scores marked in bold; only scores higher than 0.20 are included)

Item of question 25	Factor (Component)				
	Dislike	Un-economic	Unaware	Prohibited	Low confidence
Never thought of it			.794		
Not allowed according local regulations				.841	
Land is too productive for trees		.727			
Property is too small/dispersed			-.504	-.525	.406
Don't know enough about forestry	-.266	.356	.485		.477
Let my children decide about landuse					.784
Not financially attractive		.692			
Enough forests in locality already	.757	.227			
Don't like trees/forests	.757				
<i>Explained variance (65.2)</i>	<i>15.4</i>	<i>13.1</i>	<i>13.0</i>	<i>11.9</i>	<i>11.8</i>
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Missing values: listwise. Rotation converged in 10 iterations.					

Table A4: Assessment of different forest functions by total sample (1=low priority, 2=medium priority and 3=high priority; N=6,406)

Case Study Area	Forest Functions				
	Recreation for local people	Business activities	Nature Conservation	Attractive landscape	Protection air/water/soil
Waldviertel (AU) – traditional	2.50	2.25	2.69	2.70	2.91
Weinviertel (AU) – afforestation	2.60	1.92	2.76	2.73	2.89
Haderslev (DK) – traditional	2.28	2.08	2.48	2.67	2.72
Hvorslev (DK) – afforestation	2.16	2.03	2.52	2.59	2.67
Staufen (DE) – traditional	2.81	2.16	2.86	2.78	2.95
Pfullendorf (DE) – afforestation	2.53	2.01	2.57	2.62	2.86
Konitsa (GR) – traditional	2.67	2.88	2.83	2.74	2.81
Kolindros (GR) – traditional	2.54	2.78	2.85	2.73	2.88
Szentgál (HU) – traditional	2.09	2.14	2.50	2.45	2.77
Kerekegyháza (HU) – afforestation	2.01	1.87	2.59	2.39	2.81
Wicklow (EI) – traditional	2.54	2.38	2.78	2.69	2.90
Leitrim (EI) – afforestation	2.13	2.42	2.53	2.47	2.71
Ede (NL) – traditional	1.96	1.54	2.55	2.46	2.67
Stadskanaal (NL) – afforestation	2.17	2.07	2.41	2.40	2.56
Navès (ES) – traditional	2.23	2.56	2.66	2.58	2.73
Torroella de Montgri (ES) – afforestation	2.32	2.28	2.88	2.79	2.92
Total	2.35	2.21	2.65	2.61	2.80



Table A5: Factor analysis components in Forest Management Objectives Question (loadings of items included in the compound scores marked in bold; only scores higher than 0.20 are included)

Item of question 29	Factor (Component)		
	Nature and landscape	Economy	Personal use
Enhancing landscape scenery	.806		.225
Contribution towards biodiversity	.787		
Natural resources protection	.741		-.212
Income from non timber goods and services		.681	.246
Good possibilities for my own hunting			.864
Supply of timber for my own use/organisation		.623	-.464
Income generation from wood production		.794	
Catering a nice place for recreation	.595	.230	
<i>Explained variance (62.4)</i>	<i>32.2</i>	<i>17.4</i>	<i>12.8</i>
<i>Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Missing values: meansub (respondents with more than 1 missing value are excluded). Rotation converged in 5 iterations.</i>			



## **Part 2      Country results**



# **Social relationships to forests as an indication of present issues regarding rural areas; content analysis of in-depth interviews carried out in the Monts d'Arrée area, France**

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## **Abstract**

On the basis of in-depth interviews carried out in a French rural area, this paper aims at giving an example of the results from an explorative qualitative survey using the phenomenological approach. The survey focused on obtaining insight in the meanings attributed to forests in the Monts d'Arrée region by different social groups. First, the paper briefly presents an overview of the theoretical frame for the survey and of its methodological implications. Then the main results of the survey are presented; this exposition leads to a distinction between different social groups having different types of discourses as well as different ideas about the nature of the area. In the last part of the paper, the variables that seem to effect the social issues expressed by the interviewees are discussed. It is concluded that one of the most important issues regarding forests in the context of rural areas is the issue of open and public space.

**Keywords:** social meanings, rural area, forest, phenomenology, Brittany, France.

## **1. Introduction**

*Multifunctionality* is a recurrent term within the present debate concerning rural areas. Though politicians hardly take it as an operational concept, it underlies new orientations of public policies in the fields of agriculture, forestry and land management (see for example the French Agriculture Orientation Law and Forestry Orientation Law). Though researchers hardly take it as a scientific concept<sup>1</sup>, it motivates many research programmes. In brief, multifunctionality is still more or less a black box supposed to embody the changing social relationships with environment and nature.

The aim of the research project titled "Multifunctional forestry as a means to rural development" is to identify and to understand the different functions of forests (and their inter-relations) in the context of some given rural areas, so as to address the issue of forests in the perspective of rural development. One aspect of the originality of the research project is that it takes a qualitative approach as a starting point, which gives the opportunity to question multifunctionality in the light of the different and changing social relationships with environment and nature, from a particular focus on forest.

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<sup>1</sup> Guyomar, personal communication, INRA-Cemagref-CIRAD meeting of the « Multifunctionality » research program, June, 2001.

This paper illustrates of what has been done by the different partners during this qualitative approach: it concerns one of the French case study area, the Monts d'Arrée area. Located in the far west of France, it is traditionally poor moorland farming area, with a low density of inhabitants, remote from coastal urbanised areas. In the sixties, an important afforestation programme took place, leading to the increase of coniferous stands. At the same time a Natural Regional Park was created to boost the economy as well as to preserve the environment and the landscape.

In the first part, we will introduce the selected theoretical frame and its methodological implications. In the second part, we will present the results of the survey in the Monts d'Arrée area: different social groups have to be distinguished according to the type of discourses they provide as well as to the type of issues they express regarding the area. In a third part, we discuss two points: we go back to our research question about forests and rural development and we discuss the variables that seem to effect the types of issues expressed by the interviewees. We conclude with underlining one important issue regarding forest in the context of rural area, the issue of open and public space.

## **2. Theoretical frame – methodological implications**

### *Main objective*

The main objective of the qualitative phase is to understand the different relationships of different categories of people to forests in the context of given rural areas thoroughly.

### *Phenomenological frame*

The emphasis is on the meanings that people attribute to forests, in their complexity and in their diversity. In that perspective, phenomenology offers a relevant theoretical frame, as it is, in short, the study of the objects or phenomenon as they are perceived, interpreted and known.

The central idea is that reality is a social construction (Schutz, 1987; Berger and Luckmann, 1989):

- *construction*, in the sense that we grasp only certain aspects of the reality of the world and that we interpret : that is to say that we attribute to these aspects meanings and symbols;
- *social*, in the sense that the major part of our knowledge of the world is socially derived, handed over to us by parents, friends, colleagues and teachers.

An important consequence of this social dimension is that it leads, in return, to the internalisation and reification of knowledge by each of us: the symbolic social constructions become part of the world taken-for-granted (Schutz, 1987).

### *Implications for research methodology*

Within such a frame, the formulation of the research questions becomes: are forests of any relevance to the different actors using or simply knowing the area? How are forests and forestry experienced within the area? What meanings and symbols do these actors attribute to forests?

The raw material is collected via interviews and consists of a “discourse”, which basic definition is “*what someone says about something to another one*”. This comprises three indissociable aspects: information + opinion + argumentation. The aim is not to analyse the content of discourses as pure information nor as arguments used to demonstrate or justify certain actions or practices. Such an approach might result in the researcher pointing out the discrepancy between discourse and practices).

Rather the aim is to recognise and acknowledge the intentionality (Searle, 1985) that underlies each saying and the unity of saying and acting; it is to point out how the social actors themselves describe society and the inscription of their very actions in it (Sacks, quoted by Mondada, 1995).

As a discourse is a co-construction between the interviewer and the interviewee (Mondada, 1995), a very important moment is when the interviewer (who leaves his research questions totally behind) introduces himself and the subject matter of the survey, and invites the interviewee to speak about an object or a place from his own everyday experience, with his own words. During the interview, the interviewer asks follow-up questions in order to make the interviewee precise one point or another; he can resort alternatively to empathy, contradiction and provocation (Blanchet and Gotman, 1992).

The interviewed people must have a certain knowledge of the area, whatever the content of this knowledge may be: either as economic actor, recreationist or inhabitant. They also must be as diverse as possible, in terms of age, profession, location, type of housing and length of tenure in the area. We interviewed 45 persons among 3 pre-determined categories:

- people deriving their livelihood from the land uses (farmers, forest producers);
- inhabitants, visitors or tourists;
- people involved in public policy or lobbying ("politicians").

The analysis is a content analysis of discourse: what is the person talking about? Which objects (e.g. forests) are mentioned? How are they qualified? What words are used? What associations and/or oppositions do they contribute to the structure? How is it possible to group people according to the way they talk about such or such objects?

### **3. Main results**

From the results of the interviews it appeared that a major distinction had to be made among our interviewees, according to the very nature of the discourse provided towards the area. We can speak of a real gap between two categories of people: politicians and ordinary people. Secondly, within each of these two major groups sub-groups have to be distinguished according to the issues or concerns that they preferentially point out.

The first group comprises politicians with a *political-oriented discourse*. Via the interviewer they speak to each other, in the name of institutions, about their strategic views on what is/should be the area. They are members of civil services, administrations, conservationists groups, or they are elected people (e.g. mayors). It also includes some actors who are in contact with politicians regularly (in particular big forest owners who are member of the Private Forest Owners Union) or occasionally (for example, a farmer elaborating a disputed afforestation plan). Two sub-groups with conflicting views regarding the main role of forests can be distinguished:

- the pro-forests view the area as a vacant space to afforest, out of which profit can be made from timber wood and hunting rents;
- the pro-landscape view the area as a beautiful open moorland landscape to preserve (i.e. from afforestation and even from existing forests) and to offer to the tourists' eyes and feet.

The second group comprises people having an (everyday) *experience-oriented discourse*. They speak from their own daily ordinary experience, accounting for the meanings that the area, its objects and its people have to them. They are permanent or occasional inhabitants, having diverse professions and ages (farmers, traders, employees, retired people). Some of them own land, others do not own land.

A common and recurrent idea they express is the beauty of the landscape of the area. But, whereas the

landscape's notion of the pro-landscape politicians has mainly the aesthetic dimension of an unchanging picture, in the ordinary people's talks this notion is used as a vehicle for the sensual experience of the land by people moving and acting in. It is a way for them to express their strong attachment to the area.

Within the group of people with an experience-oriented discourse, two sub-groups can be distinguished: the regular users and the tourists.

To the *regular users* (permanent inhabitants, people usually coming for holidays), the landscape is also and above all a mirror of the socio-economic changes. Through the account they make for those changes, they point out issues of the highest importance to them. According to them, 30 years ago, there was a local community structured on farming activities, on the collective use of space and on a common view of their territory as a relatively open one: open to each other regardless the property rights. They oppose themselves, as local people still more or less rooted in this community context, to three groups of people that got involved in the area during the past decades.

- The first one constitutes of rich and well-educated urban people, that bought and afforested –at least partly - large parcels of land. If regular users point out strongly the trend towards an increase of the private use of space, it is indeed because it affects their own rights of use (especially regarding mushrooms picking). But also because they view this private use of the land as an elitist use: the new “landlords” reserve parts of the land either for themselves, for friends or for others well-off users. When a forest owner forbids the entrance of its forest to the public except to a club of bowmen, it is not so much –like argued by the owner- a matter of potential conflict of uses between walkers and bowmen. Rather, it is a matter of social inequity: such an attitude reveals the will to stay in “good company”, and it is precisely in that respect that it is criticised by inhabitants and other regular users in general.
- The second group that the ordinary regular users focus on is the group of politicians. In front of politicians or administrations that impose their own views and rules on them, they feel like “Indians of the reservation”. In particular, they denounce the aesthetics measures enacted in terms of landscape preservation. Not only because those rules have financial implications for their activities, but above all because they are used as a vehicle for aesthetic norms that ignore local people's own aesthetic tastes. They even deny local people to have and to express different tastes. The interviewees report on conflicts of views with the Departmental Service of Architecture concerning the material used to restore houses, the colours of the windows, and so on.
- The third group that they talk about is the group of tourists. They view themselves as inhabitants who made a particular choice of life, in contrast to tourists as elusive consumers in an amusement park, passing by without staying. As much as the weakness of the tourists' contribution to the local economy, they seem to regret the lack of civil exchanges.

The main debate of ordinary people concerns social issues. The issues that are put at the foreground concern the relationships between various forest user groups that are present within this particular rural area.

The second group of people with an experience-oriented discourse are the *tourists*. They speak about tourism ... and that is about all. They wonder if tourism development will not be a threat to the landscape beauty.

#### **4. Discussion and conclusion**

On the basis of these results, and keeping in mind that the conclusions refer only to the interviewees of the Monts d'Arrée area, we would like to discuss two main points.



In the first place, we would like to reconsider the research question about forests and rural development in the light of our interviewees' concerns and expectations for the future of their area. The most striking point on that subject is that there is a gap between ordinary people (inhabitants, the man in the street) and politicians. This gap concerns both the type of discourse (based on strategy or based on the phenomenological everyday experience) as well as the nature of the concerns pointed out. Forest appears as a core object to politicians and crystallises a debate on economic development *versus* landscape aesthetics. To ordinary people, forest is not an object of discourse properly saying; it is a spatial object that they designate when dealing with other –mainly social- issues. Anyway, to most of them, among whom inhabitants who participated in the afforestation plan in the sixties, forests as Sitka spruce plantations have no meanings, neither economically speaking, nor aesthetically or whatever.

As far as the notion of “rural development” is concerned, it can be concluded that it appears as non-relevant to our interviewees. Far removed from the ordinary people's way of thinking with respect to the future of the area, it is neither a very relevant category of thought for politicians. One of them, working in the Department of Agriculture Service, speaks of “local development”, which is not the same: the main difference is that he does not consider the area as a “rural” one in opposition with other areas that would be “urban”. Most of the other interviewees of the politicians group preferentially speak in terms of specialised economic development: for example agricultural development or tourism development.

Finally, concerning the contribution of forest to the economic development of the area, none of the interviewees really believes in it. An exception has to be made for the forest lobby, to which pro-forest politicians and some big forest owners belong. However, the latter group also recognises that the area mainly serves as a means for timber production: the value of the wood is enhanced in other departments or even in other regions of France and there are little financial benefits from timber-industry within the locality, except for forest owners when they are living in the area. Results from the quantitative survey, carried out in subsequent phase of the project, confirm this point: about 2% of the interviewees (on a total of 602 respondents) think that a significant part of the wood harvested in the area is used or transformed locally.

In the second place, the variables that seem to effect the contents of the concerns or expectations towards the area as expressed by the interviewees will be discussed. In general, our results are in accordance with Cantrill and Senecah's (2001) conclusion about the “mitigating influences of socio-demographic factors” on perceptions of the environment, and about the fact that “a person's understanding of where they resided and who they were in relation to the environment often depend on how long they had lived in an area”. Nevertheless, the results of this research lead to a somewhat different conclusion when going more into details. Cantrill and Senecah (ibid.) observed that “*as one spends a longer period of time in a region, social forces such as interpersonal relationships become more important than environmental conditions in describing one's surroundings*”; and that, on the contrary, as one spends a shorter time in a region, the environmental descriptions are more important and the social dimension less important. In our survey, it can be observed that those who spend the longest period of time are of course those who report the most on social interactions and who give the most abundant descriptions of the environment. On the contrary, the interviewer encountered great difficulties to establish a real discussion with tourists, even on physical or landscape matters. It seems as if, in order to develop relationships to environment and nature, it was necessary to establish first relationships to other persons already in relation with this environment.

Regarding the issues that probably influence the contents of the discourses, the quantitative survey confirmed three points:

- some important economic actors, such as people owning big forest areas and often living in cities far away from the area, convey some political issues, such as the one considering forest development as an opportunity for the area;
- apart from above mentioned big forest owners the category “actors deriving their livelihood from agriculture or forestry” is not relevant as far as we are looking for social relationships to a given rural area;
- neither it is relevant to distinguish between permanent inhabitants and occasional inhabitants, as they mainly share the same views on the area, its evolution and its problems.

To conclude with, we would like to insist on what we consider as a major issue for rural areas. At present, many authors wonder about the future of public space, that is shrinking nearby cities, and about the sociological stakes that this trend creates in terms of social exclusion (Banerjee, 2001). At the same time, the opening of the rural areas, until now characterised by the low number of public spaces, is a sociological stake becoming more and more important (Mermet and Michel, 2001). In this context, it is clear that forest stands in the foreground, both because it occupies a particular place in our western imaginary (Harrison, 1992) and because it is an economic production factor using more and more lands. The idea of multifunctionality could find a particularly fertile soil in forests, maybe more than in the case of agriculture. It could go in the direction of favouring the meeting of different users of the rural areas; it could provide places where civil ties and civil exchanges take place. On condition, nevertheless, that the very nature of the most important social issues could be clearly understood. Reasoning in terms of “functions” includes the risk, in case there are any problems between users, of reducing problems to conflicts of uses, which are calling for practical solutions like zoning and elaborating agreements on restrictions of uses. These kind of solutions lead to the strengthening of the problems, by reinforcing the feeling of exclusion of some groups by other ones (Banerjee, 2001). We must keep in mind that relationships to things are first and foremost relationships to people in order to reach things (Weber<sup>2</sup>).

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# **Lifestyles of private forest owners as an indication of social change**

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## **Abstract**

Research about small-scale forest owners has often been dominated by a focus on forest owners' jobs. The sources of their income were expected to explain why people use their forest in the way they do it. Studies in Central Europe show that only a minority of the forest owners are still full-time farmers. Due to the increased mobility many forest owners now live in cities, where they are engaged in urban lifestyles. The use of the forests by such urban oriented forest owners might be better explained by specific features of urban lifestyles rather than the classical features of income and social status. During the last two years, three studies were made by the Institute of Forest Policy of the University of Freiburg about the effect of changes in lifestyles on forest management. The first study analysed characteristics of farm forest owner lifestyles in the Black Forest. It described almost homogeneous social structures characterised by the identification via profession, roots in the region (low mobility) and a high demand for independence. The second study was the German contribution to the Multifor.RD project. It consisted of a survey dealing with the attitudes of inhabitants and landowners in two case study areas in Baden-Württemberg. One of the areas is influenced by a nearby city and the other is thought to be a rural area depending upon the primary sector; therefore the comparative results illustrate the impact of urbanisation on the perception of forests and rural development. The third survey aimed at classifying forest owners by their urban orientation. The characteristics, which were selected for the construction of a specific scale of urban orientation, illustrate the extent in which their lifestyles can be considered as being urban-based. The studies provide evidence that there is a correlation between the degree of urban orientation of forest owners and their knowledge about forestry and forest policy programmes.

**Keywords:** small-scale forest owners, social change, urban lifestyles, Germany

## **1. Introduction**

The forest and its owners are expected to contribute to the development of rural areas. On various political levels, numerous political programmes rely on these contributions, or rather try to promote them. The provision of wood, the attractiveness of the landscape as a basis for tourism and the security of the resident's quality of life through the income and the organisation of recreational areas are all examples of high expectation regarding the role of forestry.

To what extent forest owners fulfil these expectations depends, among others, on their interest to harvest and sell wood, on the amount of time and money they can invest in the maintenance of the forest, and on their forest management objectives, for instance whether these are oriented towards the maximisation of income or towards recreational use. The question concerning the forest owners' objectives and attitudes and its meaning for the treatment of the forests has often been examined (among others by Lee, 1997; Judmann, 1998; Karppinen, 1998; Lönnstedt, 1998). When considering

these issues, the position of the small private forest owner deserves special attention. In the extensive literature concerning the objectives and attitudes of this category of forest owners, the large heterogeneity of their goals, attitudes and behaviour has been impressively documented. The creation of this diversity can be explained by the impact of "social change". The professional and income situation of many forest owners has changed; this is often reflected in their increased spatial mobility. As a consequence, their dependence on rural production processes, wood supply for example, has declined (Schaffner, 2001). Therefore, social change and the ensuing changes in the social situation of the forest owner are often considered as an impediment to accomplish the function fulfilment expected from forestry.

In order to gain a better understanding of the impact of social change on forest management by small private forest owners, this paper presents a synthesis of three empirical studies, conducted in the state of Baden-Württemberg, which analysed the social structure from private forest owners. On the basis of different theoretical approaches and these empirical data the authors will assess the impact of social change on forestry development. The framework of the social structure analysis, a term recently popularised as "lifestyle", is central to these considerations.

## **2. Social change and lifestyle**

### **2.1 Social change**

The social structure of a society or of a part of the society, such as forest owners, consists in a traditional understanding of objective characteristics. These characteristics are mostly represented by a vertical organisation into strata and classes. However, at present the social structure of society is in a state of flux and development. A static snapshot of the social conditions can therefore, no longer represent a portrayal of social structures. Therefore, a new approach towards characterising social structures has been developed. This theory of social change focuses on the causes, the course, and the prognostic changes of the social structure of society or of singular social systems. A summary of the various theories can be found in Schäfers (1998), Hradil (2000) or, in relation to forestry, in Schanz (1999).

If one follows the supporters of modernisation theories, the deeply rooted transformation process of society in Middle and Western Europe demonstrates (at least ex post) a clear direction. Extensive changes are clearly noticeable through the innovation and reforms, which are held in place by society's foundation institutions. The changes also include transformations of social institutions of the organisational system. These are exemplified by phenomena such as bureaucratisation, urbanisation, democratisation and social mobility (Rammstedt, 1994; Zapf, 1994; Schäfers, 1998; Zijderveld, 1998; Geissler, 2000; Zapf, 2001).

The following processes have been indicated as the dominant development trends for social change of Germany and other comparable Middle European countries:

- the rationalisation and scientification of living conditions;
- the improvement of the standard of living and of given social chances;
- the replacement of hard physical labour with mechanisation and automation;
- the division of the work and living space, or rather of work world and leisure time;
- trend toward city settling and lifestyle forms and the related individualisation of lifestyle.

These trends are summarised in the term “modernisation of social structure”. Such modernisation should neither be considered as a linear development process, nor as exclusively positive and completely internationally homogeneous. Social dynamics take place continuously on different temporal and geographical scales, and consequently development tendencies on the national and regional level can result in different development stages. Whether a society finds itself in a fast or a slow change is, therefore, not always completely clear. This is particularly the case when singular parts of a society demonstrate different speeds of development. There are phenomena which in the words of Pinder (1941) are referred to as the “*simultaneousness of the non-simultaneous*” (see also Best, 1988). At present people live in a traditional and modern manner to very different degrees. Additionally, group specific differences exist concerning the awareness of time, eras and the related lifestyle (see also Schäfers, 1998; Geissler, 2000; Hradil, 2000).

Especially, the spreading trend of city life, settlement forms and the related behaviour, are in close interaction with the modernisation of the social structure. Cities and urban culture have always represented a breeding ground for societal development and innovative processes. Cities are simultaneously the strongest influenced by these processes. The almost complete saturation of information technology, combined with strong interconnections through audio-visual media, means that the urban existence, as the modern form of life, is omnipresent. Nevertheless, noticeable differences still exist between urban and rural areas in respect to population density, settlement pattern, accessibility and production processes. Urban-based customs have left the city as their physical nucleus and are gradually spreading out. Social change affects all people in a society, however, each in different ways. Therefore, it can no longer be assumed that residents of a certain region all share a similar sensitivity to the modernisation process.

## 2.2 Lifestyle

In the social sciences the social structure within a society was categorised for a long time by the so-called “strata analysis” developed by Theodor Geiger (1891-1952) in the 1930s. In this analysis, the population is divided into strata, where people with similar living conditions and similar inner psychological characteristics are grouped into one stratum. This model was well suited for describing, for example, the population of Germany up until the 1950s. To which stratum one belonged was relatively easy to ascertain given the criteria profession, income, property, and social prestige.

Instead of the old concept of “stratum” recently several scientists such as Oevermann (1993) have suggested an alternative concept of “lifestyle”. This concept is interpreted as referring to the “*anonymous, self-transformational, historically concrete, structural creation that constructs itself as contradictory whole from compulsory decisions and an obligation to explain*”. Those members who belong to a certain lifestyle represent “*in a subjective perspective the centralised autonomous units of practical trade*”. A lifestyle is constructed in the execution of decisions. An objective structure exists with these decisions, which, on one hand, excludes certain options of future actions but, on the other hand, opens up new options. At the same time, there are no clear estimation criteria available for the correct or the incorrect selection of options, which makes a decision situation a crisis. In retrospect, there is always a reason for coming to a decision and the outcome will show whether or not it is reliable. Any person, who has had to make a decision, has been confronted with certain challenges and life situations, which form a lifestyle. The society stratum membership can therefore most accurately be established on the basis of the actual function and/or activity.

Similar to the former stratum analysis approach, the lifestyle analysis approach considers that people with similar living conditions gather similar life experiences and are, therefore, similar in their personal structure. In the past, typical categories for singular strata of a society were, for example, the “lower class”, the “working class”, the “farming community”, the “bourgeoisie” or the “elite” (Dahrendorf, 1965). These classes were relatively sharply divided from one another; this distinction made itself among others evident by specific class-limited privileges or disadvantages. Evidently the educational level and the consequential, usually inevitable, related profession function is an important class characteristic.

Since the late 1950s the well-known social categories have disappeared in the course of social change. The reasons for this are the above described processes of social change such as the increased social and spatial mobility, an extensive social security, and an increasing prosperity. The classes are beginning to merge into one another. However, society is still, in many respects, separable into categories. But differences must usually be arduously “created” through social studies. At a first glance they are not outwardly visible and they no longer match up to the old, well-known descriptions (Beck, 1986).

Since the 1980s, the concepts “lifestyle” and “milieu” have gained importance in the German social structure analysis (Lüdtke, 1989; Schulze, 1992). The lifestyles are founded on the distribution of resources and are, therefore, also vertically oriented like classes. They presuppose, however, in the framework of available resources, a horizontal freedom of choice. This is above all the freedom of an individual’s production. Lifestyle serves as the identity foundation and as the means of separation. No longer the internalisation of the outer circumstances, but rather the trivialisation of inner motives is now in the foreground (Georg, 1998).

According to the dominant opinion, less and less professions are suitable as characteristics for a categorisation for the analysis of social structure. Some authors regard material possessions and attitudes alone as insufficient. Rather than these characteristics, leisure time behaviour, clothes style and interior house design, which above all depict prestige significance and styling customs, have been suggested (see table 1).

*Table 1: Schematic Division of Lifestyles (altered from Georg, 1998: 98)*

<b>Social Situation</b>	<i>a) Vertical Characteristics: Resources and Restrictions</i>
	• Income
	• Access to Information
	• Status
	<i>b) Horizontal Characteristics: Social Demographics</i>
<b>Mental Level</b>	• Age and Sex
	• Region and Living Community
<b>Expressive Behaviour</b>	• Life Goals
	• Value Orientation and Attitudes
	• Free Time Behaviour
	• Apartment Furnishings
	• Clothes
	• Interactive Behaviour

### **2.3 Social change and lifestyle of private forest owners**

In the extensive literature about private forests, numerous descriptive categorisations of forest owners can be found (Schraml, 2001). Usually, the dominant types of forest owners in the surveyed area define the approximate division. This is demonstrated by the division of industrial forest owners (NIPF's) in Scandinavia and the USA or the difference in farming and non-farming forest ownership in the German studies. In further standardisation, developed from the empirical data basis, Schaffner (2001) identifies three basic dimensions: (1) the management of forests (especially cultivation), (2) value orientation (social, economic, ecological) and (3) structure variables.

The question raised by current sociological literature, whether the social structures analysis should supplement socio-cultural components, like lifestyle, does not yet play a role in private forest research. However, as stated above, many developments support the idea that the objective criteria, like profession or the individual income, have less and less influence on personal lifestyle. And as lifestyles influence actions (Hradil, 1996) the use of this concept in assessing the historical changes of the private forest owner's conditions seem worth pursuing.

Private forest ownership, especially small private forest ownership in Germany, was up until the 1950s usually connected with an agricultural enterprise (Abetz, 1955). Since that period agriculture has been characterised by a continuous concentration process, which results in a decrease in the total number of agricultural businesses; numerous businesses are run part-time. Provided that the cultivation of agricultural areas were completely abandoned, agricultural and forestry business branches would have to separate. The majority of the small forest owners today are neither full-time nor part-time farmer or forester and their forest is not connected with self-managed farming (Volz, 2001).

With the disappearance of agriculture and the generation change into new professional fields, a change in the way of life of forest owners takes place. Only a few remaining private forest owners allow their related motives and behaviour to be assigned to the classical farmer class. When a farm is abandoned, the forest usually stays within the possession of the family. The new owners are faced with completely different circumstances, such as a change in location and social surroundings. However, both of these changes are accompanied by a clear adjustment in handed-down norms and value expectations. Interests and demands change not only in personal areas, but also in relation to forest ownership (Volz and Bieling, 1998). Especially the forestry-economic aspects of forest ownership increasingly lose meaning with this "new" kind of landowner. A large part of the small private forests conveys the character of a "forestry wasteland", because the present owner has distanced itself mentally, technically and spatially from its possession (Volz, 2001). In contrast, it has been determined that increasing numbers of forest owners have discovered their forest as a hobby and free time activity (Judmann, 1998). The lifestyles of the new private forest owners have proven to be very heterogeneous in every respect. This is also evident in their demands and goals of the forest property. The new, often described as "urban", forest owners (although the term "urban" should simply express the process of modernisation and urbanisation and not a spatial attachment to the city) do not allow for a concrete classification to a certain class. They can be found in (almost) all sectors of the population (Schraml and Hårdter, 2002).

### 3. Experiences with empirical work

#### 3.1 An overview of the research projects

At the University of Freiburg's Institute of Forest Policy in the years 2000 and 2001 three studies about the situation of private forest owners were conducted, see Table 2. The first study is a part of the EU-FAIR supported international research project "Multifunctional forestry as a means to rural development (Multifor.RD)". In addition to political decision-makers and the local population, landowners were questioned in two case studies about the role of forest in rural areas. From the survey results, a strategy for rural area development will be derived. In the second project on the "Lifestyle of the farm forester", the goal was to analyse the classic private forest owners' structure in detail. This study described the social structure of the "farm forester" group and examined their meaning in forest policy. The third project deals with the "Urban orientation of forest owners". It was hypothesised that the theoretical idea of a societal modernisation, or rather urbanisation, should show a specific relation to forest ownership. The study approach attempts a theory-derived categorisation of the groups according to their degree of urbanisation, which is used to generate a basis for a new orientation especially for forest owner consulting.

*Table 2: Research approach in the private forest owner research. Three examples from the Institute for Forest Policy of the University of Freiburg*

Project Title	Area Examined		Group Questioned		Sampling technique	Interview technique
	Name	Size (km2)	Collective	Number		
Multifor.RD	Staufen	91	Residents (landowners)	369 (48)	Random Selection	Standardised- written
	Pfullendorf	197		375 (105)		
The lifestyle of the farm forester	Middle Black Forest	Approx. 1.660	Farm forest Owners	6	Criteria of the maximal contrast Random selection	Open interviews
				343		Standardised- written
Urban orientation of forest owners	Baden- Württem- berg	35,751	Forest owners	600	Random Selection	Standardised, by telephone

#### 3.2 A comparison of densely and sparsely forested areas: the role of forestry in the perception of property owners and residents

The Multifor.RD survey is part of a European-wide comparative study. This survey assessed the attitudes of the forest owners and the local population concerning the characteristics of their region, forest, forestry and its contribution to the development of the area. The basis for the standardised surveys were two relatively small research areas (see table 2). The analysis of perspectives serves as a basis for the acquisition of regional specific strategies to improve the contribution of forestry to the development of rural areas. The regions in Germany were selected with the idea that one is regarded as a traditional forest region (Staufen) and the other as a region with recent afforestation activities (Pfullendorf). Table 3 demonstrates that both areas vary in their percentage of forest cover. Whereas Staufen has up to 60% forested area, Pfullendorf has only 31%.



Table 3: A comparison of the German survey areas for the Multifor.RD study

	<b>Staufen</b>	<b>Pfullendorf</b>
Pre-classification for the selection of case studies (forest percentage and forest development)	Traditional forest area	Afforestation area
Land use		
• Forest area (%)	60	31
• Agricultural area (%)	32	57
Demography		
• Population density (pers./km <sup>2</sup> )	136	116
• Distance to nearest city (km)	12	84
Employment		
• In primary and secondary sector (%)	44	70
• In the tertiary sector (%)	56	30
Later characterisation for a European comparison (with the help of "rural descriptors")	Rural area with urban characteristics	Rural area depending upon the primary sector

Already in the course of characterising both areas, using the common "rural descriptors" selected by the Multifor.RD project, it became clear that both areas also differ in their degree of urbanisation (see table 3). Based on the statistical data about population demography, the land use and the occupational situation the "heavily forested and greatly influenced by forestry" area Staufen was classified as "a rural area with urban characteristics." Whereas, the relatively less forested area around Pfullendorf was classified with a self-created typology as a "rural area dependent on the primary sector" (De Deugd and Elands, 2001).

However, the results of the questionnaire survey paint another picture. When asked, whether they would characterise the respective areas as "rural" or "urban", almost all respondents agreed (97%) that the region was rural. There are no differences between the two areas and the differences between the property owners (99%) and the inhabitants (96%) were minimal. Table 4 shows concurring results of a similar question ("is your region urban?"). Almost all of the respondents answered negatively.

Table 4: The characterisation created by questionnaires of the research area. The comparison between all those questioned, as well as, between the property owners and other residents.

<b>The Region is a ...</b>	<b>Staufen</b>	<b>Pfullendorf</b>	<b>Landowners</b>	<b>Community inhabitants</b>
area significantly occupied by agriculture	<b>54*</b>	<b>78</b>	<b>78</b>	<b>60</b>
area significantly occupied by forestry	42	49	46	45
area significantly occupied by nature	46	41	47	42
remote and sparsely populated area	<b>10</b>	<b>20</b>	20	12
Rural area adjacent to urban areas	<b>9</b>	<b>0</b>	<b>1</b>	<b>7</b>
Urbanised area	1	1	0	1

\* Significant differences ( $p < 0,01$  level) between areas and landowners & inhabitants are printed in bold

The "forestry" characterisation of the region's important land users (see table 4) is also similar. Only 42% of the respondents from Staufen consider their region "strongly influenced by forestry". Despite the fact that Pfullendorf has only half of the percentage of forest area of Staufen, a somewhat higher percentage, 49%, answered that the area was strongly influenced by forestry. The subjective

characterisation of the area seems to contradict the objective, quantifiable forest proportions. This is a result which proves to be a central theme throughout the entire questionnaire; the property owners themselves, as well as the residents of the rural area (Pfullendorf) recognise the contributions of agriculture and forestry to the regional development more so than the other residents of the area, or the people in the urban research area (Staufen).

This contrast in perception about the role of forests is also apparent from the answers when people were asked about the future role of the forests in the region. The respondents from the more urbanised area considered recreation, nature conservation and an attractive landscape as having a remarkably higher significance than respondents from the rural area. Referring to the question of the forest's economic meaning, the respondents of both regions answered similarly, despite completely different percentages of forest areas. The forests were assessed in all cases as having a "middle economic value".

The perceptions of residents of the region on the role of forests agreed only partially with those of the property owners. Only up to roughly 50% of the landowners declare farming or forestry as their profession and therefore, it is not surprising that wood production on average (mean of the respondents) only has a limited importance for their income. However, nearly 20% of the surveyed landowners from both regions assessed wood production as an important income-generating factor for themselves. Basically, even if they are working in other professions, they value the role of the forest differently and assess its importance to the regional development higher in many questions than other inhabitants of the region. First of all, it seems sensible, apart from the consequences of social change, to recognise the owners of small forest areas as an independent social system. The fact that they own forest evidently influences their perceptions very clearly. Secondly, it is noticeable that the residents of rural areas are, to a large degree, landowners. However, the others, who are not landowners, are similar to landowners in their views. Thirdly, it is evident that just because a region is densely forested, it cannot necessarily be concluded that the perceived value of the forest will be higher than in areas with a low forest cover. Other factors are clearly more influential. In this case, the influence of neighbouring cities on the people's lifestyle and value judgement explains the perception of the role of the forest and its owners, which corresponds to the normal ideas of a mainly urban oriented society (Weber and Mann, 1997).

### **3.3 The classical structure: farm forest owners in the Middle Black Forest**

The focal point of this research was an investigation of the farms in the Black Forest, which, due to the inheritance laws, have been handed down through generations for centuries. These farms, largely due to the (agricultural) structural change, find themselves in an existence crisis. The problem definition, which forms the basis of this research, was derived from an evaluation of the specific existence crisis situations and the previous research. The study looks into the question of which structure characterised the lifestyle of the farmers and which principles must be considered to secure the existence of the farming forester, taking into consideration the variable of social lifestyle of farm forest owners.

The research design of this study was divided into a qualitative and a quantitative empirical part. The purpose of the two-part concept was, in the first step, to analyse the quality of life and to generate appropriate hypotheses. In the second step, the determined structure was examined with regard to generalisations and used for verification. With the qualitative study, the "objective hermeneutics" method was used. Under the term of objective hermeneutics, Oevermann et al. (1979) developed a reconstructive method of latent sense structure. The method of "objective hermeneutics" uses a reconstructive method, rather than the subsumptive process. From these interviews, with a so-called

“typological central case” and many case examples the research was conducted as a structural analytical typification of the respective farm forester families and their lifestyles.

*Table 5: Socio-demographic data of farm-foresters from the Middle Black Forest (343 Questioned) and the German population (Statistisches Bundesamt, 2001), given in percentages.*

	<b>Forest owner</b>	<b>Households in Germany</b>
<b>Family situation</b>		
Single	14	22
Married	82	54
Divorced	2	9
Widowed	1	15
Other	1	–
<b>Number of children</b>		
Childless	16	47
One child	10	26
2 children	24	20
3 children	28	5
4 children and more	22	2

In the empirical statistical research part, the structures, generated using these cases, were submitted in the form of “items” of a written survey of a large farm forester collective. The socio-demographic statements from table 5 already clearly show that the near 343 questioned farmers and foresters noticeably differ from the German population.

The study also offers information on other aspects of the social characteristics of forest owners. Notably, it was determined how the structural organisation of the farm forester community can best be characterised. The lifestyle of the farm forestry community in the farming area of the Black Forest is very homogenous and is characterised above all by the following structures: a high need for self-sufficiency, a strong environmental conscience, a desire for an effective use of income, an increasing individualistic lifestyle, a high significance of cultural rationality, a high degree of attachment to the home region, the preference of a full-time farm orientation, the need for acceptance of autonomy along with a very characteristic need for autonomy. Nevertheless, the full-time farms (41%) are already in the minority compared to part-time farms (59%). Table 6 clearly shows that above all in the full-time, but even in the part-time farms, forestry contributes a sizeable proportion of the income.

*Table 6: Total division income from full-time and part-time farms from the Middle Black Forest (mean values, N=343)*

<b>Sources of income</b>	<b>Full-time farms</b>	<b>Part-time farms</b>
Forestry	35,59	21,15
Agriculture	39,42	10,55
Direct Marketing	6,08	3,43
Service Sector	1,37	3,17
Tourism	7,36	6,04
Independent Work	–	20,02
Other	9,18	35,64

This result of the study thus provides an in-depth awareness and understanding of the farming forest owners' mentality. Thereby, it supplies numerous, far-reaching, safeguarded prognoses for possible outside interventions. Possibilities for a model evaluation were also produced.

### **3.4 The new diversity: urban orientation of forest owners**

The third research project discussed in this paper aims to analyse the social structure of the small private forest owners. Specifically, (1) the extent of urbanisation of the small private forest owners should be summarised qualitatively and quantitatively, and (2) possible correlation between the urban orientation and its attitudes towards, or handling of the forest property should be verified. Moreover, suggestions for consulting (3) will be derived from the empirical findings.

Quantitative research using standardised telephone interviews enabled the whole group of respondents to be collectively characterised, along with contextual understanding of sub collective characteristics. The characterisations concerned the lifestyles of forest owners. These were determined by using a graduated scale of urban orientation, which is the focal point of the research. It was assumed that there is a societal continuum between extremely and slightly urban oriented people. The degree of urbanisation of the collective should not only be exemplified by traditional characteristics like profession (agricultural versus non-agricultural), and the characteristics or size of the living area. Rather theoretically and empirically derived variables were used to describe the degree of urban orientation of the respondents.

The survey of forest owners used several approaches to define "Urbanity of Forest Owners", for example:

- with known objective characteristics, the information about profession, living situation, the community type or also the degree of attachment to the community and whether he/she grew up in an urban or rural setting;
- with the help of a subjective assessment, where the surveyed assess themselves, information is given about the personal well being in certain places or situations;
- on the basis of characteristics, which were derived from the modernisation theories (e.g. mobility);
- with the help of characteristics acquired from earlier research.

Only the fourth approach will be illustrated here. In this case, the criteria of urban orientation were identified from those surveyed in a study of consumerism, media use, and social attitudes conducted throughout Germany in 2000, created with the help of a correlation analysis (Institut für Demoskopie Allensbach, 2001)<sup>1</sup>. In the existing data set, criteria were sought in which the residents of very large cities (with a population of a million or half a million as well as in their surrounding areas) differ from those of small cities or rural communities. From many hundreds of tested characteristics, 24 characteristics of different dimensions were selected. These concern partially mannerism, but also ownership or attitude. Of each of these characteristics at least one variable was used in the study. With the variables the degrees of "urban orientation" are created independent from whether someone lives in the city or identifies oneself with the city (see Table 7).

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<sup>1</sup> Allensbacher Market and Advertisement Analysis (AWA). This research is conducted annually since 1959 on the basis of approximately 20,000 Face-to-Face-Interviews.

Table 7: The 24 empirically derived characteristics for an “urban orientation” scale of forest owners.

<b>Relatively strong interest in:</b> 1. Science and Research 2. Cultural Activities 3. Politics 4. Classical Music 5. Exclusive Products 6. Exclusive Types of Sports 7. Cosmetics	<b>Household Possession of:</b> 8. Answering Machines 9. CD-Players 10. Internet Connection 11. Video Cameras 12. Stocks and Bonds 13. International Credit Cards 14. Property Ownership 15. Vacation House or Apartment
<b>Relatively Frequent Activities:</b> 16. Reading Books 17. Reading an national Newspaper 18. Going to the Movies 19. Good Knowledge of Foreign Languages 20. Several Vacations per Year 21. Use of Public Transportation	<b>Style and Self-worth Assessment:</b> 22. Classical Clothes Style 23. Assessment as Middle Class 24. Occupational Improvement Compared to Father

In this way, the forest owners who live in the country could be classified in respect to their degree of urban orientation. The scale can be divided differently. The chosen example shows that:

- 24% of the forest owners fulfilled 12 of the 24 urbanity criteria;
- 30% of the forest owners fulfilled 9 to 11 of the urbanity criteria;
- 29% of the forest owners fulfilled 6 to 8 of the urbanity criteria;
- 17% of the forest owners answered less than 6 of the urbanity criteria.

Therefore, the forest owners present, as postulated in the modernisation theory, a heterogeneous collective. The proportion of people, who label themselves as “farmers”, lies around 15%. All other forest owners have other professions. Because the process of tertiarisation is continual, at least 41% of the surveyed are part-time farmers. Two-thirds of those surveyed had parents who were active in agriculture and, in 80% of the cases, at least the grandparents were farmers.

The results of the survey provide evidence that the collective is not simultaneously changing in all locations. Traditional lifestyles, where the forest has great meaning, can be found, as was shown in the first research project, as well as freely chosen life styles, for which the management of the forest plays a secondary role. It was ascertained that, if the current generation of forest owners was still confronted with an authentic farming lifestyle in their youth, the formation of many intermediate steps was favoured.

## 4. Conclusions

The idea that social change can provide an important explanation for the social structure of forest owners and its dynamics has long been developing in forest policy research. Above all, behavioural and attitudinal structure have a big influence on how forests are handled by the owners and what forestry achieves for the development of the rural areas. The research so far observes above all the change from an agrarian lifestyle of the forest owners to “non-farm” forms of living and refers to the comparison between agriculturalists and non-agriculturalists. The Multifor.RD study demonstrates that during the urbanisation, social and economic factors, which are not directly related to forests or forestry, have a more important influence on the perception of the forest’s role in a rural setting than the criteria like the

relative forest area in a community or the absolute number of jobs in forestry or related branches. Hypotheses derived from the modernisation theories on the influence of urbanisation were verified in this study. From the results of these empirical data about the perspectives of forest owners, the authors have determined that a one-sided orientation towards professions in the description of forest owners creates unsatisfactory results.

The research shows unanimously that only a small part of the forest owners get their income from forestry or agriculture. The descriptors of forest owners' urbanity show a high diversity in important characteristics like source of receiving information and time budgeting. This has important repercussions on the personal management of forests and the implementation of forest policy programmes.

The analyses also show that the distinction in rural versus urban orientation is necessary. The study about the farm forester in the Middle Black Forest illustrates a high regional significance of wood production income in a certain group. An existential dependence on wood production exists here, which also reflects the lifestyle of those surveyed. The lifestyles are not completely freely chosen, but rather are specified by the profession, for example the dependence on family labour or limited mobility due to farm work.

In conclusion, the authors believe that the concept of lifestyle, which became popular in sociology during the 80s and 90s, seems well suited for describing, also from a horizontal perspective, creating understanding about the social structure of forest owners and about the differentiation in 'traditional' and 'urban' structures. When one wants to describe or influence forestry practice on the basis of social manners and attitudes, research about forest owners is of fundamental importance. Lifestyles are action theory based and, therefore, especially well suited for explaining how good forestry or other forms of forest practice fits into the life of a forest owner. The authors prefer such an integrated analytical approach to a pure attitude analysis, which for example would emphasise the protection or use orientation and would use this to derive a forest practice.

This brings up the question of the reproduction of lifestyles, a topic that gains importance from the strong correlation between the lifestyle of forest owners and the achievement of political goals. The clear intention of maintaining the cultural landscapes is one example. The results of the research about the lifestyles of farm foresters indicate the enormous effort of this group to, if not conserve, at least reform the farm forester lifestyle to preserve it for the next generation. Even if comparable active efforts of many forest owners, classified as having a strongly urban oriented lifestyle are hardly perceptible, many forest owners refer to their own socialisation in the farming family. This explains, for example, the positive attitude towards wood use. The analysis of the lifestyles simultaneously produces evidence as to why the increased mobility leads to an absence of time in the daily or annual routine for forest management. These are starting points for practical forest policy to formulate programmes, which suit the lifestyles of the forest owners.

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# Urban forest owners in Austria; implications for rural development

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## Abstract

The development of forestry in Austria is influenced by a very high fragmented ownership structure, dominated by small-scale private forest ownership. In marginal regions, small farms were given up and agricultural lands were afforested. Therefore, at present non-farmers living in urban areas increasingly own through inheritance forest land in rural areas. These urban forest owners have non-agricultural professions and are relying on other sources of income than primary production. The perspectives on forests of these urban owners are predominantly social oriented with a concern for enjoyment, for utilisation of timber for own use, and for future generations. In the current situation most of the urban forest owners still have some relation to the primary sector. However, the next generation will not have these 'roots' in traditional ownership conditions. Although it is not precisely known how many urban forest owners exist in Austria, it can be assumed that their number is increasing. The fragmentation of small-scale forest ownership and the variety of management goals are considered by the forestry sector as problematic for systematic forest management and sustainable wood supply. Yet, the 'urban' value based individual approaches towards forest management could also be considered as advantageous for nature conservation, biodiversity, and the increasing public demand of more environmental potential benefits of forests. In addition, there seems to be a good potential for income earning by farmers, if they would offer forest management services and consulting to urban owners, who don't have the facilities or no interest to maintain their property by themselves.

**Keywords:** private forestry, urban forest owners, afforestation

## 1. General structure of forest ownership in Austria

The development of forestry in Austria is mainly influenced by a very high fragmented and heterogeneous ownership structure. The Austrian forests are mainly privately owned (about 80%, with 10% in the hands of local forest co-operatives). The forests in federal ownership (about 17%) are managed by the Austrian Federal Forests (ÖBF-AG) and the remaining 3% are owned by provinces and communities (Quendler, 1999). Besides, the size of the forest property is very small. About 65% of the forest enterprises have a size of less than 5 hectares (Pregernig and Weiss, 1998)<sup>1</sup>. Thus, the role of small-scale private ownership in Austria is evident.

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<sup>1</sup> According to the statistics of agriculture and forestry Austria has approximately 214,000 forest holdings: 140,000 holdings are smaller than 5 hectares, 57,000 holdings between 5 and 20 hectares, 12,000 holdings between 20 and 50 hectares, 4,000 holdings between 50 and 200 hectares, and about 1,000 holdings are larger than 200 hectares (Glück and Weiss, 1996).

The management goals of small-scale private landowners vary largely with private landowners with more than 5 hectares forest. The objective of various studies and surveys about the private ownership in Austria was to analyse the forest owners' management goals. Until now it was assumed that the group of private small-scale forest owners are very homogenous and the forest owners' interests and motivations are mainly economical ones. However, at present many surveys also deal with sociological interests and examine the multiple use and interests in forests and forestry of landowners and non-owners. This applies to the survey of the Multifor.RD project<sup>2</sup> as well as to the studies about the diverse ownership structure of private forests. For instance, the gradually change of the role of forestry and forests with an increasing attention being given to its ecological and amenity services is also strongly connected with the change of the private forest ownership structure (Van der Ploeg and Wiersum, 1996).

## **2. Implications of ownership structure on rural areas**

In the second half of the 20<sup>th</sup> century, the development of forestry in the traditional forest area Waldviertel, one of the Austrian Multifor.RD case study areas, followed the general trend in Austria; small farms were given up and marginal agricultural lands were afforested. In small-scale forests, changes in ownership are inseparably linked to the structural development of agriculture and are revealed by the shift of forest ownership from farmers to non-farmers through inheritance or other property transfers. As a consequence, the general trend is an increasing number of non-farm forest owners ('urban' forest owners). For instance, in the traditional forest area Waldviertel about 71% of all interviewed forest owners are solely forest owners and only about 29% are farmers with forests. About 17% of all interviewed forest owners in the Waldviertel area do not even live in the locality. The majority of the solely forest owners (who have no agricultural occupation and who are mostly employees or pensioners), own less than 20 hectares of forest. About 82% of these solely forest owners with less than 20 hectares of forest own even less than 10 hectares of forest<sup>3</sup>.

In the traditional forest area Waldviertel the transformation of the ownership structure had strong implications on the small-structured cultivated landscape scenery in the past. The increase in non-farm forest owners (urban forest owners) additionally to other relevant factors such as afforestation schemes, good prerequisites for forestry and the traditional attitude of landowners not selling the own property increased the amount of forested areas. Landowners in the Waldviertel area, who have no interest in primary production or part-time farmers with a declining future prospect for the enterprise, are more likely to afforest fertile land than full-time farmers. In particular in the case study area Waldviertel, it is very unlikely that inherited properties are sold. It is more common to afforest land than to sell or lease it to farmers. To own land is still seen as a financial reserve, which should be kept at least for the next generations. In the Waldviertel area the planting of new forests is apparently taking place on more or less 'valueless' sites for agriculture or in areas, where already enough forestland exists.

It should be noted that the increase in forest land in the traditional forest area Waldviertel is more the outcome of a change in the primary sector which has resulted in an abandonment of farmland on less productive sites than a sudden rise of public awareness for the role of forests and forestry. In the Waldviertel area, it seems that forestry measures in agriculture -in particular afforestation schemes-, do

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<sup>2</sup> Multifor.RD stands for Multifunctional Forestry as a means to Rural Development and is a comparative European research project in which Austria participates.

<sup>3</sup> The solely forest owners was the largest group (67.5%) of the total group of interviewed landowners (n=303). Next, 27.6% were farmers with forest, 0.5% were farmers without forests, and 4.4% were solely landowners.

not reach its aims, which are defined by being an alternative use for agricultural land, supporting forestry activities on farms, contributing to rural development by encouraging pluri-activity or maintaining the countryside.

This process is not taking place all over Austria. In the afforestation area 'Weinviertel', the second Multifor.RD case study area, a different situation was found. Weinviertel is situated in a typical (flat) area dominated by agriculture and (very) poor in forests. Here the planting of new forests is still not recognised by farmers as an alternative land-use or as financially attractive. In this area the land is considered as too productive to be afforested and active farmers rather seldom adopt afforestation schemes. Those Weinviertel landowners, who are not cultivating their land any more, are at least leasing the land to other farmers. Therefore, compared to the Waldviertel area, in the Weinviertel area, there is no major change in land-use taking place. However, according to the Multifor.RD survey about 29% of the interviewed landowners are non-farm forest owners and 32% of the interviewed landowners are landowners without any agricultural profession, too. That means more than half of the interviewed landowners in the Weinviertel are no farmers.

### **3. Urban forest owners' objectives**

As indicated by the Multifor.RD research findings, a gradual change from 'rural' to 'urban' forest owners is taking place. The so-called urban forest owners are mostly descendants of former farmers living in more urban areas or having non-agricultural professions. They are thus relying on other sources of income than primary production and are not depending on timber revenues. While in the past the outcome of the forest was important to the economic survival of farmers, today it only plays a minor economic role (especially for part-time farmers). However, for full-time farmers, if they own more than about 20 ha, the forest can play a significant income. As a consequence, the ownership structure affects the forest owner's interests, values and attitudes and also the role of forests in the area.

The results of an Austrian qualitative study conducted in the year 2000<sup>4</sup>, which compared the so-called 'urban' forest owners with the 'traditional' farm forest owners, indicated that urban owners' forestland is viewed from a more socially oriented perspective with concern for enjoyment ('hobby') and utilisation of timber for own needs and by coming generations. The definition 'urban' does not imply that all 'urban' owners are inhabitants of a large town. The term is only a new conception, which should highlight the contrast to the traditionally farm forest owners.

The urban owners' willingness to act in their forests is strongly related to their interests towards their forests and the possibility to realise their objectives. Constraints for cultivating their forests are for example having not enough time, machinery or experience in forestry. However, it should be noted that there are also urban forest owners, who have only ecological interests in keeping the forests as natural as possible.

The results indicate that most of the urban forest owners are quite 'active' owners, who underline non-commercial benefits of their forest property and perceive their forests as amenity places for recreation ('hobby') and compensation to everyday life and (office) work. For example, compared to allotment gardeners, the urban owners cultivate their forests alone or with the help of the family during their

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<sup>4</sup> The study was part of the Special-Research-Project 'Forest Ecosystem Restoration'. Empirical data has been collected by means of personal semi-structured, problem-centred interviews.

holidays or when they are retired. Aesthetic aspects of the forests (i.e. more mixed stands) are also important.

Different to the urban forest owners, who have less time for the forest (cultivation of the forest is done in the leisure time), the 'traditional' forest owners (part-time and full-time farmers) perceive their forests as part of their farm and work. While the forest is viewed as a minor component of the overall enterprise, the traditional forest owners are definitely more business-oriented than the urban forest owners and would harvest more timber if it were economically feasible.

On the contrary, the urban forest owners do not lay their emphasis on economic benefits of forests. Nevertheless non-profit motivations seem not to exclude the cultivation of the forest. The urban owners also use their wood for their own needs (fuel, constructions) or sell timber, which results from the occasional thinning. However, the urban forest owners do not need the income from the forest to improve the economy of the family. Their economical interests are mainly to achieve a positive cash flow and to compensate the financial investments for the forest (i.e. technical equipment). They do not consider their property as a fortune, but they still believe that their forestland is at least a potential for sale, risk aversion or income in emergencies and could possibly increase in value to function as a financial reserve for the next generation. Thus, there is a desire to preserve the property and to save it as an inheritance from the grandparents while having it on loan from the children.

Additionally, dissimilar to the quite 'active' urban forest owners exist the so-called 'typical' urban forest owners without any machinery, any interest, any experiences and any attachment to the forest. In some of these cases the forest property is seen as a losing business and as a property without rhyme or reason. The cause for this negative perception lies in the purchase cost for technical equipment and the small size of the property. Moreover, one can say that the urban forest owners have less attachment to their forests than the traditional forest owner has. However, the level of attachment and the interest in forests seem not to be mainly correlated to economical motivations.

Probably, this kind of forest owners, who is not attached and not interested in his/her forest, will increase in the next (second) generation of urban forest owners. In the current situation most of the urban forest owners are still descendants from farmers (the first generation of non-farmers) and thus have some relatives or friends working in the primary sector. The link to the forest property is strengthened if the owner has grown up on the property or the parents were active farmers or foresters. The present generation can make use of the agricultural background (machinery, experience, information sources, informal advice etc.) and have a traditional attitude or strong emotional attachment towards his or her own property. However, according to the opinion of the urban owners (and some consultants in forestry), the next generation, their descendants, already have and will not have these 'roots' in traditional ownership conditions and will be even more 'removed' in a social and in a spatial way from the own forest. This concern is also common among farm forest owners without successors (descendants with non-agricultural occupations).

#### **4. Implications for rural development**

The fragmentation of small-scale forest ownership and its wide variety of management goals (if any) can be and probably is seen by the forestry sector as a problem for systematic forest management and sustainable wood supply. For instance, the fragmented ownership structure with its small holdings in both case study areas of the Multifor.RD regions are seen as a major problem and a hindrance for increasing the use of timber resource. In particular the urban forest owners, who mostly do not seek any

economic benefits of their property, are affecting the utilisation of forest resources from profit-oriented forest owners. For example, many forest roads cannot be constructed in an area with numerous small holdings, because even if one of the landowners is against the road (e.g. an urban forest owner who is not interested in the economic use of the forest), the whole project cannot succeed. However, the heterogeneous ownership structure (diverse behaviour, non-economic preferences) and its numerous individual approaches toward forest land ownership can also be seen as beneficial from the viewpoint of nature conservation and biodiversity (Hytinen, 1999). This also applies to the increasing public demand of more environmental potential benefits of forests. Similar results could be found in the outcome of the Multifor.RD survey from the questions about the forest management priorities of forest owners. The most important objectives of the majority of the forest owners in both areas (traditional forest area, afforestation area) are such as natural protection, contribution to biodiversity, enhancement of the landscape and catering a nice place for recreation. However, the income from own wood, supply of timber for private use and the forest as an asset for the next generation are more important for the forest owners in the traditional forest area Waldviertel than in the afforestation area Weinviertel.

It can be considered that there would be a high potential of income for farmers, if they would cultivate (neighbouring) forests in the area of i.e. non-farm-forest owners, who don't have the facilities or no interest to maintain their property by themselves. It should be noted that the urban forest owners even without any economical interests want their forest to be clean and to be maintained. Interestingly, not cultivated forests are seen to have a negative effect on the ecosystem and to be more susceptible to calamities (i.e. bark beetle, storms etc.). Additionally, a common view among the urban owners is that nature products should not be wasted and that only cultivated forests can be used for recreation. The urban forest owners' idea of a 'productive' nature can be probably be explained by their socialisation in an agricultural milieu. This traditional attitude is the main reason, why additional job opportunities would be available in services for farmers offering silvicultural and harvesting operations to non-farmers.

A difficulty in attaining such beneficial effects from the changing forest owners patterns is that the Chamber of Agriculture<sup>5</sup> and the Forest Authority, who provide professional consulting and training have difficulties to reach all its members especially the urban forest owners for consulting. Most of the urban forest owners receive their knowledge, advice and information about forestry from informal contacts to relatives, neighbours and friends. Only few of the urban owners have an education in forestry or are interested in public forestry education, assistance programmes, subsidies or contact to official consultants, because they perceive their forest property as too small. On the other hand, it should be noted that consultants focus their work mainly on traditional forest owners (farmers) or forest owners with profit interests (large forest ownership) even though the number of 'new' forest owners is meant to be considerable and even increasing. Therefore, policy instruments (subsidy programmes, consultation services, technical help etc.) should be 'tailored' to the specific needs of different types of forest owners.

This specially places responsibility on the public advisory system, which has to start acting more strategically. It is important but still difficult to consult the urban forest owners, because some of them even don't know where their forests are or form a wrong idea of forest and forestry. The forest services and consulting by farmers to non-farmers could be co-ordinated by forest co-operatives. The co-operatives' chairmen could then act as the main contact for the urban owners to the area and their property. Such forest associations could also be very useful for the numerous small-scale forest owners and in particular for the 'urban' forest owners, who have economic interests with their forests. Such

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<sup>5</sup> All landowners with more than one hectare land are obligatory members of the Chamber of Agriculture.

associations could support these small-scale forest owners to produce timber according to the demands of the customers and the market, presumed that they want to make a profit from their property. These forest associations are appreciated especially by the urban forest owners, as institutions, which undertake the forest management (timber selling, thinning etc.) and inform the forest owners about forest-related issues (i.e. timber prices).

## 5. Conclusion

In small-scale forests, changes in ownership are inseparably linked to the structural development of agriculture and are revealed by the shift of forest ownership from farmers to non-farmers through inheritance or other property transfers. As a consequence, the general trend is an increasing number of non-farm forest owners or so-called urban forest owners. The question of the total number of urban owners in Austria and how much area they own is still not answered. However, it can be assumed that due to the decreasing number of farmers, the amount of forests owned by the urban forest owners is increasing. This structural change of the ownership structure could have significant future implications for rural areas if the number of landowners, who are not living in the area or having a non-agricultural background, would increase. In particular, the change of lifestyle could change the forest owners' interests in their forests and their property in general (Schraml et al., 2002). As it is known that the urban forest owners do not lay their emphasis on economic benefits of forests, this lack of profit motivations could be either seen as a major problem and a hindrance for increasing the use of timber resource or as beneficial from the viewpoint of nature conservation and biodiversity. Concerning the regional development, there would be a high potential of income for farmers, as some of the 'urban' forest owners have no facilities or no interest to maintain their forests by themselves. Thus, forest services and consulting could be offered to the 'urban' owners by the local farmers.

The transformation of the ownership structure caused already problems for the local development of agriculture and tourism in the traditional forest area Waldviertel<sup>6</sup>, because the amount of cultivated areas decreased, while the share of planted forests on marginal agricultural lands increased. This constant growth of forestland is seen by now as detrimental for the regional development in the Waldviertel area. This feeling is reflected by a recent slogan in the area asking 'to let the sun come in'. On the contrary, in the afforestation area Weinviertel, which is dominated by farming activities and has little forest land, no similar change in land use or ownership structure is happening as afforestation is not seen as an alternative to agriculture. Most of the fertile land in the Weinviertel area is either leased or sold to farmers. In short, comparing both Multifor.RD case study areas, it seems that afforestation is taking place only on land 'valueless' for farming or in areas, where already enough forestland exists.

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<sup>6</sup> Tourism plays a considerable economic role for the study area since the opening of a spa in the 1970's.



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# **Forest and afforestation in the neighbourhood; attractiveness and value of local areas in Denmark**

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## **Abstract**

During recent years afforestation has received notable political attention in Denmark, both at national and local level, amongst others because of the recreational benefits of forested areas compared to e.g. cultivated and urbanised areas. The results of two independent Danish studies indicate that short distances from residences to forests actually make local areas more attractive to live in, and that people are more attached to living areas with good nature qualities which forested areas are part of. Moreover, the house owners' economic values of afforestation in urban fringe areas are significant, and the aggregate value is in most circumstances expected to exceed the cost of the afforestation itself.

**Keywords:** afforestation, quality of life, attachment, forest distance, hedonic price method

## **1. Introduction**

Forests produce multiple benefits to society, and an increase in the forested area from 10 to 20% of the total land area in Denmark by afforestation is one of the prioritised political goals in Danish nature policy. The political target is anticipated to take place during a period of 80-100 years, being the time of a "tree generation".

Benefits derived from forested areas are e.g. cultural, social (serving mental and physical health factors), economic (timber), aesthetic (landscape variation and attractiveness) as well as ecological (e.g. creating forest biotopes) and environmental (e.g. nutrient abatement) (see e.g. Tyrväinen, 1999). One of the main arguments for the Danish ambition on afforestation is the need for more recreational opportunities for the urban citizens in Denmark. Two other main benefits by this policy are protection of ground water and improving the green network of biotopes in the landscape (Danish Forest and Nature Agency, 2000).

Afforestation can create these multiple benefits, but not necessarily at the same place. While afforestation in close vicinity to urban fringe areas can be attractive for urban citizens' recreation, the areas suitable for effective nitrogen abatement can be more effectively localised in intensively grown agricultural areas in the countryside, i.e. spin-off between the mentioned benefits of afforestation is not guaranteed per se. However, many authors point at the spin-off between forests as recreational areas

and a source for mental and physical health (e.g. Kaplan and Kaplan, 1989; Grahn, 1991; Ulrich et al, 1991; Korpela and Hartig, 1996; Tyrväinen, 1999).

One fifth of the Danish municipalities plan to afforest in the coming period of the next 5 years (Tvedt, 2001), and one reason behind this is that local decision makers often see dwelling areas near forests as important to attract newcomers (Præstholt, 2000). Kardell (1982), Lindhagen (1996), Tyrväinen (1999), Hörnsten (2000) and Jensen and Skov-Petersen (2002) point out that distance to the forest is an essential factor for participation in and choice between recreational activities.

This paper focuses on how afforestation and forests influence quality of life in local areas and on the importance of short distances between living areas and forests. The analysis consists of two independent Danish studies, both with a hypothesis implying that the value of afforestation is notable for residents having forests in close vicinity to their living areas. In the two studies values of forests are expressed respectively (1) qualitatively by personal interviews followed up by a quantitative postal questionnaire survey and (2) quantitatively by monetary valuation. The first study expresses the respondents' attitudes and attachment to the quality of life in their area, including the role of the local forests in it. The second study evaluates house owners' willingness to pay for short distance to forests as a proxy for their valuation of the recreational benefits of forests.

In the following sections the methods and results are outlined, compared and discussed to give a presentation of the multiple values of forests and afforestation close to where people live. In section 2 the outline and methods used in the two independent studies are described, followed by the results in section 3. In the last section (4) the results are connected, and common conclusions are drawn upon the results of the two studies.

## **2. Methods and data**

As mentioned this analysis is based upon two independent studies: one based upon interviews and questionnaires in two study areas, and one based on regression analysis on house prices in another study area. All of the study areas are localised in Jutland. This implies that the results gain knowledge about how people in different areas are attached to the surroundings in their living area, however, we are not able to generalise from these results. On the other hand, the results can be used to outline how and why people are attached to certain attributes in the landscape.

### *Interviews and questionnaires in Haderslev and Hvorslev*

Case studies in two Danish municipalities were carried out within the European FAIR project "Multifunctional forestry as a means to rural development (Multifor.RD)".

The two municipalities are both dominated by agricultural land use, and the forest area is below the country average of 11 %. The forests are mostly old deciduous in Haderslev municipality. A lot of the forests are situated within few kilometres from the provincial town of Haderslev, where 2/3 of the 32,000 inhabitants lives. The municipality is 272km<sup>2</sup> while the other municipality, Hvorslev, is 130km<sup>2</sup>. Hvorslev is more rural having below 7,000 inhabitants and about half of the population in the two major villages. The forests in Hvorslev are dominated by conifers, and during the 20<sup>th</sup> century much of the forest has been raised on coarse-grained soils on slopes along the two major river valleys. Both areas have landscape amenities besides the forests. Haderslev has a long narrow inlet (subglacial trench) and

a coastline, while the river Gudenå, the longest river in Denmark, flows through the landscape of Hvorslev.

Qualitative interviews have been carried out with 59 landowners, other community inhabitants, decision-makers and members of interest organisations (Præstholm, 2000). Parallel interviews were made in 10 areas in 5 other European countries. The purpose of the qualitative phase was to “obtain insights in the nature and variety of perspectives on the role of forestry in rural development” (Elands et al., 2001). The interview approach was phenomenological. Phenomenology emphasises that each person has an individual reality based on his own “experiences” and “interactions with his environment” (Walmsley and Lewis, 1984 p. 157), and to understand this constructed reality the approach must be open minded and not influenced by a priori assumptions (Le Floch et al., 1999). Each interview therefore focussed on the individual practices and attitudes within the overall themes of the research. These few overall themes were introduced in each interview, but only talked through if it made sense to the interviewee - the lifeworld of each interviewee so to say directed each of the interviews in directions relevant to the person.

A quantitative postal survey with landowners and community inhabitants succeeded the qualitative survey. It aimed to assess the distribution of the variety of perspectives derived from the qualitative interviews (Præstholm and Jensen, 2001)<sup>1</sup>. The landowner group consists of all farmers and foresters in Haderslev and Hvorslev municipalities, who are registered in the Central Register of Companies (CVR). A random sample of community inhabitants older than 17 years was drawn from the Central Personal Register (CPR). 503 landowners answered which is 74 % of all while 714 community inhabitants (no landowners included) participated. This is a response rate of 72 % of the initial sample of inhabitants in the two municipalities. The survey is representative for landowners as well as community inhabitants in both areas (Præstholm and Jensen, 2001).

#### *The hedonic price method applied on houses in the Drastrup/Frejlev area*

The valuation study “Recreational values of afforestation and nature restoration” has partly been accomplished as part of a Danish research programme on future developments of Danish rural districts, and partly for the Danish Ministry of Environment and Energy.

Monetary benefits of forests are estimated quantitatively by the use of the hedonic price method, a monetary valuation method. By this method house prices can be used to reveal how much people are willing to pay for amenity benefits in housing. The assumption is that differences in house prices and rents can be explained by different housing characteristics, such as environmental qualities as well as structural characteristics of the house (number of rooms, size/quality/age of the house, etc.) Close vicinity to a forest is one such characteristic, which influences the price of the house.

The use of the method implies econometric estimations of the house price functions to investigate how marginal changes -in e.g. land use- influence house prices. Estimations can be made by e.g. investigating how distance to a forest influences the house prices, or how house prices in an area within a certain distance are affected by afforestation. It is expected that the improvement of the area by afforestation will provide a capital gain for the house owners in the area. The hedonic price method has been applied to forest studies in a number of foreign studies (see e.g. Powe et al., 1997; Tyrväinen and Miettinen, 2000), but not in Denmark. Normally the house price method is used for valuation of existing

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<sup>1</sup> The same survey was done in 16 areas in 8 other European countries within the Multifor.RD project.

attributes, e.g. an existing forest. Afforestation represents a change in environmental quality, and in the literature there are only few examples of valuation of changes in quality by the house price method, see e.g. Bogart and Cromwell (2000). Consequently, the application of the house price analysis of data from an afforestation area is a new contribution to the international literature.

House data are excellent in Denmark both regarding the time span of the data sets and the characteristics of the houses included in the data being collected by the Central Register for Housing and Building. But this does not mutually exclude problems; several econometrics challenges occur in estimating the house price function, including choice of functional form and variables. Consequently, this study encompassed careful empirical testing of several functional forms.

The hedonic price method was applied on house data from the village Frejlev close to Drastrup Forest south-west of Aalborg in the North of Jutland (Hasler et al., 2002). The afforested area in Drastrup covers approximately 725 ha, including afforested land (mixed deciduous and spruce), extensive pasture areas as well as public tracks. A couple of small villages are localised in the neighbourhood of the afforested area, the closest being the village Frejlev. In this village less than 400 houses are localised close to the forest.

The afforestation project was started in 1991, and the first phase of the tree planting was completed in 1995. The data from house sales in the area have been grouped in three categories: one period before the afforestation started from 1985-1990, the planning and planting period from 1991-1995, and finally the period from 1996 to 2000 after the afforestation took place. In the period from 1985 to 2000, i.e. before, under and after the tree planting, 142 houses were sold, and hence, the data set consists of these 142 houses and house prices. The houses are all one-family residences. The house owners' willingness to pay for forestation in close vicinity to their living area was estimated by house price functions for each of the periods (1985-1990, 1991-1995 and 1996-2000).

Within the same study, four existing forest areas were examined, using the same data source for house prices. These forested areas are localised both in Jutland and on Zealand. While the afforestation study in Drastrup investigated the willingness to pay for the afforestation project for those house owners living in the area close to the afforestation, the investigation of the existing forests estimated the value of short distance to the forests; i.e. how much house prices were reduced when distance increased by 1%. The two parts of the study yielded different results, but both parts of the study entail analyses of how house owners are attracted to the forested areas in the surroundings, and whether they are willing to pay for it.

As mentioned, the interview and valuation results are derived from different studies and study areas, and consequently, the results do not encompass the same respondents. As mentioned, however, both the interview and the valuation studies address different aspects connected to how and why inhabitants get attached to areas with a certain nature quality (here forested/not forested areas).

### **3. Results**

#### *Forests improve quality of life in Haderslev and Hvorslev*

The qualitative interviews showed that forest in both municipalities were perceived as an important component of the landscape amenities and that forest in many ways improved quality of life in general. The different perspectives of contributing to the quality of life were organised in four criteria and twelve

indicators, not only on the basis of the Danish result, but all the interviews within the Multifor.RD project (Papageorgiou et al., 2000; Elands et al., 2001). The indicators were afterward tested in the quantitative survey by twelve statements that respondents should agree or disagree on, see table 1.

*Table 1: Criteria and indicators for forests' influence on the quality of life. Results derived from the qualitative interviews (Elands et al., 2001). The right column shows the operationalisation of the indicators into statements for the quantitative postal questionnaire. A 5-point likert scale was used (strongly agree to strongly disagree).*

<b>Criteria and indicators</b>	<b>Questionnaire statement: <i>Forests in the area...</i></b>
<b>Community benefits</b>	
Recreation potential	<i>...provide very few opportunities for recreation and sports</i>
Community cohesion	<i>...create a sense of isolation between neighbours</i>
Quality of living environment	<i>...significantly improve the attractiveness of living here</i>
Social equity and autonomy	<i>...are here against the wishes of local people</i>
<b>Economic welfare</b>	
Income from goods and services	<i>...provide good incomes for local people</i>
Employment creation	<i>...provide good employment for local people</i>
Economic sustainability	<i>...are a threat for other land use activities such as farming</i>
<b>Landscape identity</b>	
Aesthetic quality	<i>...deteriorate the beauty of the landscape</i>
Image/uniqueness	<i>...have created a landscape which is characteristically different from other places</i>
Cultural and historical associations	<i>...are of important historical or cultural value</i>
<b>Environmental and nature quality</b>	
Impact on natural resources	<i>...protect our air, water and soil</i>
<i>Contribution to biodiversity</i>	<i>...are very poor in terms of the variety of plants and animals</i>

A factor analysis of the twelve statements on forests' influence on quality of life came out with three factors explaining 57.7% of all variation. One missing value was accepted and substituted by the mean value, which included 91.1% of all respondents in the analysis. The rotated correlation matrix can be seen in table 2.

Three dimensions emerged out the factor analysis:

1. *negative consequences*. There is a negative influence of forests on the locality: The forests are here against wishes of local people, create sense of isolation, threat other land uses and deteriorate the beauty of the landscape. Further more the forests have poor variety of plants and animals and have few opportunities for recreation/sports.
2. *positive for nature/culture*. The forests are positive for nature and culture values within the locality: Forests are of important historical or cultural value, improve attractiveness of living, create the landscape characteristics and protect the environment.
3. *improve economy*. The forests improve the economic welfare in terms of the creation of local income and employment opportunities.

Table 2: Correlation coefficients on 3 factors extracted from the 12 statements on forests' influence on quality of life. The variables are grouped with the factor, where the correlation is highest. Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. A Rotation converged in 7 iterations. Values below 0.20 are skipped. (n = 1109)

Forests in the area...	Factor		
	Negative consequences	Positive for nature / culture	Improve economy
...are here against the wishes of local people	<b>.770</b>		
...create a sense of isolation between neighbours	<b>.734</b>		
...are a threat to other land use activities such as farming	<b>.715</b>		-.224
...deteriorate the beauty of the landscape	<b>.704</b>	-.223	.202
...are very poor in terms of the variety of plants and animals*	<b>.653</b>	-.412	.220
...provide very few opportunities for recreation and sports*	<b>.562</b>	-.422	
...are of important historical or cultural value		<b>.707</b>	
...significantly improve the attractiveness of living here		<b>.656</b>	
...have created a landscape which is characteristically different from other places		<b>.620</b>	.248
...protect our air, water and soil		<b>.602</b>	
...provide good incomes for local people		.290	<b>.827</b>
...provide good employment for local people		.337	<b>.801</b>

The three factors do not correspond with the criteria and indicators developed on the basis of the qualitative interviews (Table 1). Factor 1 contains all the negatively formulated statements from all four criteria. The second factor consists of statements on a positive forest influence on natural and cultural values, while the third factor contains the positive influence on economic welfare in the locality. A mean is calculated on the score of the variables associated to each factor<sup>2</sup>. This score is used to compare different groups of respondents. The overall tendency is that the respondents disagree that forests have negative implications. Instead, they agree on the positive influence of forests on nature and cultural perspectives while they are more neutral on the economy welfare perspectives of forests. But there are some differences between the actor groups as well as between the areas, see Figure 1.

<sup>2</sup> The mean value is corrected for missing values (maximum 1 of the 12 variables)



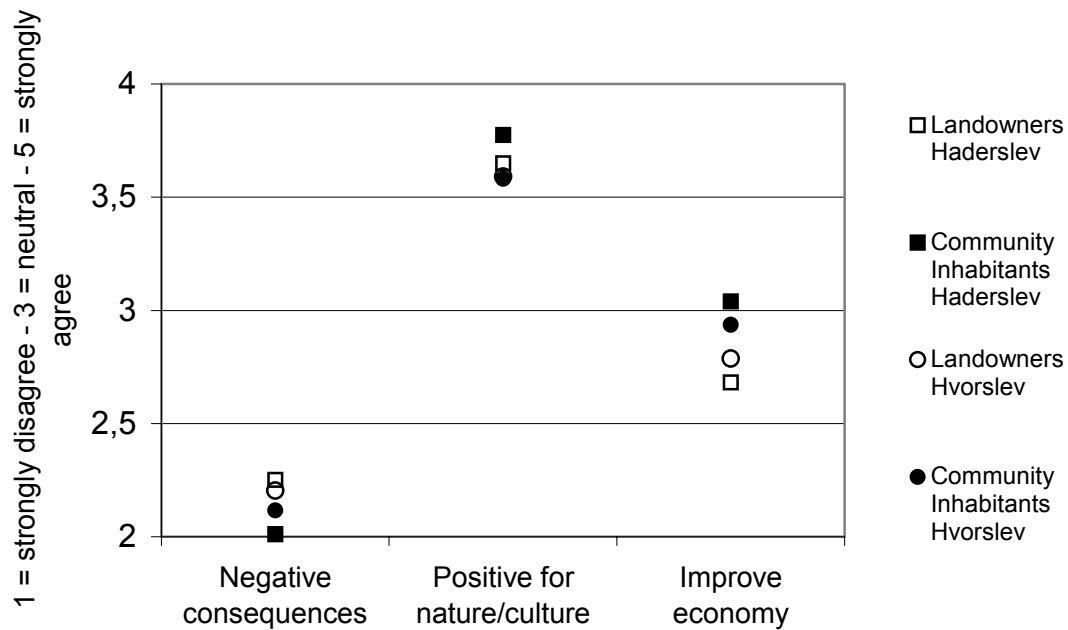


Figure 1: Mean score for different actor groups on the factors on forests' influence on quality of life in the area

The differences between the two areas are not significant on the factors of “negative consequences” and “improve economy” ( $p < 0.01$ )<sup>3</sup>. But the factor for forests' influence positive on nature and culture shows a significantly higher agreement level in Haderslev than Hvorslev ( $p < 0.01$ ). Disagreements between actor groups within each are only significant in Haderslev ( $p < 0.01$ ): More landowners in Haderslev agree on the factor of “negative consequences” of forests, while they disagree more often that forest “improve economy”. The landowners in Haderslev have also a lower agreement rate on the nature/culture factor, but this difference is not significant. The landowners in Haderslev are in other words more sceptical towards the forests' influence on quality of life compared to community inhabitants (Figure 1). The qualitative interviews have enlightened that this attitude might be because of the local story: Several farmers felt that the State Forest District destroyed the possibility of farm development when the State Forest District managed to buy land for creating a deer park for recreational purposes. Farmers during the qualitative interviews mentioned many negative opinions about this event.

Nevertheless, it can not change the overall picture that forests have positive natural and cultural influences on quality of life in both areas, especially in Haderslev (Figure 1). These qualities are probably also the reason why most respondents of the survey feel attached or even strongly attached to the forests of the area (figure 2).

<sup>3</sup> The Chi square test is done on the 5 groups of agreement level. The data are weighted according to the overall distribution of landowners and community inhabitants in each area.

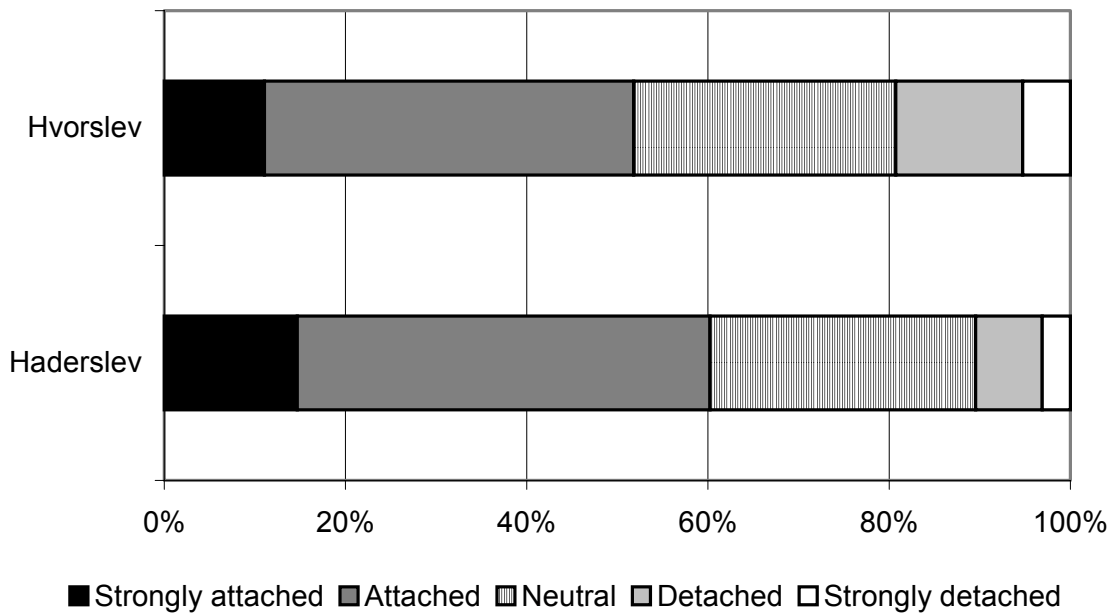


Figure 2: Attachment to forest in the area. The data is weighted according to distribution of landowners and community inhabitants in each area ( $n = 1200$ )

From the qualitative interviews it is known that much focus has been put on forests in Haderslev due to an active State Forest District, which has afforested an area near the town of Haderslev including the mentioned deer park. Furthermore, the old deciduous forests not far from the town and their status as public forest make them more attractive for recreation compared to the mostly coniferous (private) forests of Hvorslev (Jensen and Koch, 1997). This might be some of the reason why respondents of Haderslev are significantly more attached to the local forests than the respondents of Hvorslev ( $p < 0.01$ ).

If groups of scores on the factor “positive for nature/culture” and attachment to forests are cross tabulated with the attachment to the area in general two other significant differences are detected ( $p < 0.01$ )<sup>4</sup>: the more positive a respondent’s attitude towards the natural and cultural qualities of forests and the higher his attachment to the local forests the higher the proportion of people who are (strongly) attached to the area. A positive view on forests seems to walk hand in hand with attachment to the area in general. The next question is what aspects influence a positive view on forests among different groups of respondents?

#### *Distance to forest makes a difference*

Distance from an inhabitant’s residence to the forest seems to be an important factor. Respondents living within 500 metres from a forest put more emphasis on the forests’ influence on natural and cultural values and feel more attached to the forests in the area ( $p < 0.01$ ). Opposite to that, people living more than 2 km from a forest tend to be more neutral towards the nature and landscape qualities

<sup>4</sup> Weighting according to distribution of landowners and community inhabitants has been done in the cross tabulation.

in general in the two areas<sup>5</sup>. One reason for the influence of distance might be that people living near to a forest also visit forests more often for recreational purposes, see table 3. This corresponds with other research showing that forest recreation mostly takes place near home (Jensen and Koch, 1997; Hörnsten, 2000; Jensen and Skov-Petersen, 2002).

*Table 3: Proportion of respondents making use of forest recreation weekly or daily compared with distance to nearest forest (n=1019)*

	<b>Immediately beside home</b>	<b>Less than 500 metres</b>	<b>Between 500 metres and 2 km</b>	More than 2 km
Weekly	34 %	28 %	19 %	12 %
Daily	20 %	10 %	3 %	3 %
n =	122	216	437	244

The recreational pattern correlates with the attachment to forests in the area; the inhabitants who recreate a lot in the forests are also more devoted to the forests. In the same way, the results show that an increasing intensity of forest recreation means a higher level of agreement on the fact that forests improve natural and cultural qualities ( $p < 0.01$ ).

Despite the overall influence of distance, community inhabitants of Haderslev are the most positive about the influence of the local forests on quality of life (figure 1) even though many live more than 2 km from forest and recreate less often in the forests than the others. The qualitative interviews showed that the old broad-leaved forests and recent afforestation near the town of Haderslev were found very attractive by the interviewees, and they often took the car out there to have a walk or a weekend picnic. But at the same time they might still want to live more close to the forest than they do at present.

Swedish research shows that 40.6% of respondents in a postal survey preferred shorter distance to the nearest forest, and the preferred distance was 1 km or less by 85% of the respondents (Hörnsten and Fredman, 2000). Such questions were not posed directly in the Danish survey, but respondents were asked if they felt the amount of forest was “too little”, “okay as it is” or “too much” next to their residence. Only ¼ of the respondents find that the forest cover is “too little” near their residence. In this way it seems that the Danish respondents are more satisfied with the distance to a forest compared to the Swedes, however, we have to keep in mind the different ways in which the questions were posed. Practically no respondents state that there is too much forest while the majority is satisfied with the present forest cover. But the distance to the nearest forest surely influences this opinion: 55% of all the respondents who live more than 2 km from a forest find the forest cover “too little” near their residence.

### *Choice of dwelling – nature is important*

The importance of distance was further investigated by asking the community inhabitants in Haderslev and Hvorslev about the most important reason for choosing the present dwelling. Next, it was possible to tick secondary reasons for the choice of home. Thirteen options were given and the results are depicted in figure 3. It shows that nearness to green areas, nature and forests is not the *most* important reason for the choice of dwelling. For example, short distance to family and friends and the dwelling

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<sup>5</sup> “Nature and landscape quality” is a factor describing the area in general and not only forests' influence. The factor is derived from another question and will not be further elaborated on in this paper.

itself are more often mentioned as the most important reason. But, if the secondary reasons are considered as well, the green areas, nature and forest are mentioned by more than 2/3, see total importance rate in figure 3.

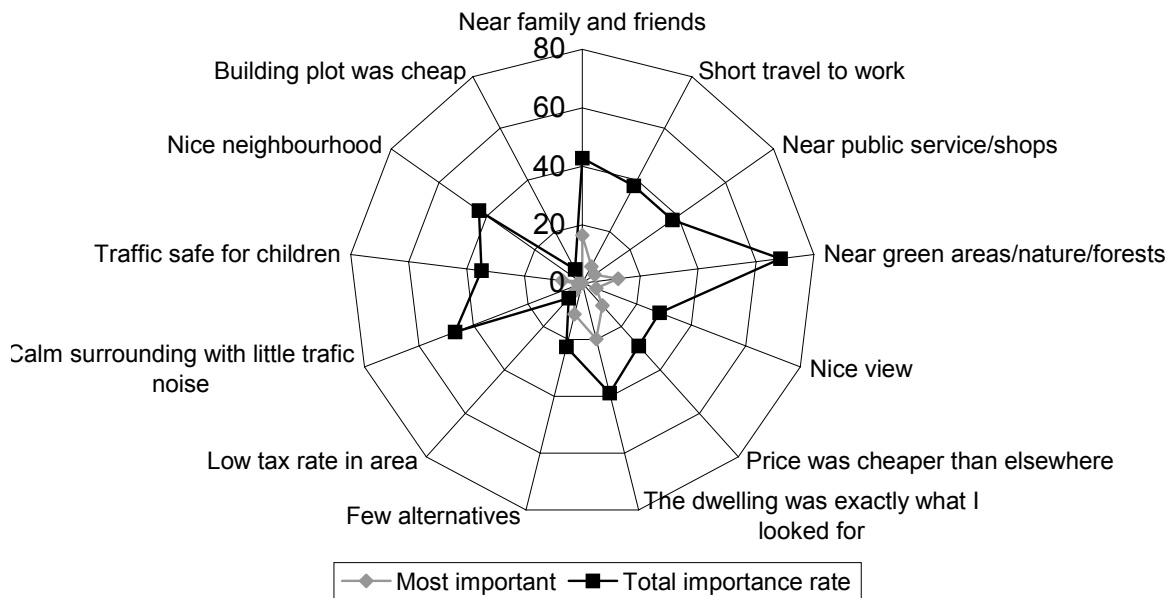


Figure 3: The most important reason for the choice of the present dwelling among community inhabitants in Haderslev and Hvorslev municipalities. Respondents could also tick what else was important for the choice (more than one tick was allowed). The total importance rate shows how many percent mentioned the reason either as a primary or a secondary reason (n = 398)

The 13 reasons were divided in three groups on the basis of a factor analysis of the secondary answers:

- *rational reasons*. In this factor the more objective, practical and financial motivations are grouped: near public service/shops, short travel to work, near family and friends, low tax rate in the area, building site was cheap, and price was cheaper than elsewhere;
- *the dwelling itself and nice social surroundings*. Aspects with respect to the house itself and its direct surroundings are grouped in this factor: calm surroundings with little traffic noise, traffic safe for children, nice neighbourhood, and the dwelling was exactly what I looked for;
- *the nature quality*. In this factor natural and aesthetic qualities are joined: near green areas/nature/forests and nice view.

This grouping of reasons was used to get a more simple understanding of the 13 reasons in figure 3. Figure 4 shows the share of primary reasons into each of these overall groups. Rational reasons are the most important ones, while the nature quality was marginal in both areas. But for 60% of the people living immediately beside a forest, the nature quality was the most important reason. This group of respondents is though rather small (less than 10% of the community inhabitants).

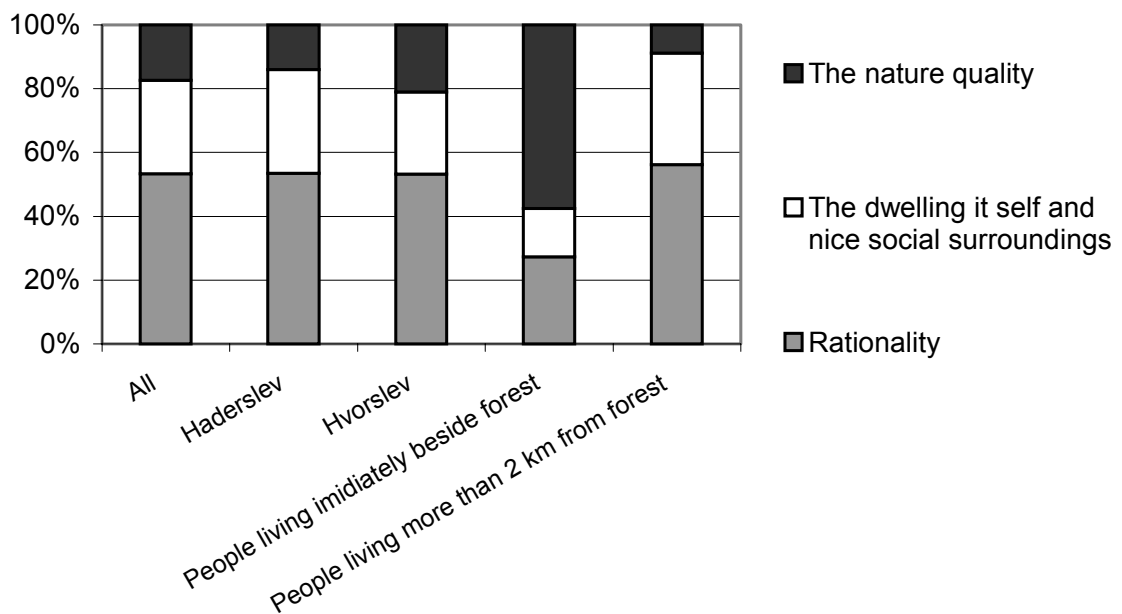


Figure 4: Most important factor for choosing the present dwelling

Nevertheless, the results show that a group of community inhabitants see nature quality as the most important location factor. Furthermore, nearness to green areas, nature and forests are considered of importance to the majority of the respondents (figure 3). But how can this be valued in economic terms?

#### *Afforestation influences prices on dwelling*

As mentioned in section 2, house prices can be used to estimate the monetary value of house owners' attachment to forested areas. Therefore, the house price method has been applied on an afforestation area in Drastrup in Aalborg municipality in the North of Jutland. As mentioned in section 2 the houses are localised in the village Frejlev close to Drastrup Forest. Within the same study, the house price method has been applied to four existing forest areas: Tokkekøb and Allerød in the North of Zealand, Haslev in Mid-Zealand, and Esbjerg in the South of Jutland. The main focus in this paper is on the Drastrup case study, but the results from the other case studies will be referred to as well as they enlighten the value of short proximity to forests.

Firstly, house prices of the village Frejlev, are deflated by a house price index, so that the prices for the houses sold in the entire data set is represented in 2000-prices. In other words, the house price index corrects the prices for normal inflation etc. The house price index is estimated from houses sold in the municipality of Aalborg to represent the changes in house prices especially in this area, opposite to using a general, national house price index. Figure 5 shows that even when the prices are deflated there is a significant increase in the house prices in the area from 1985 to 2000.

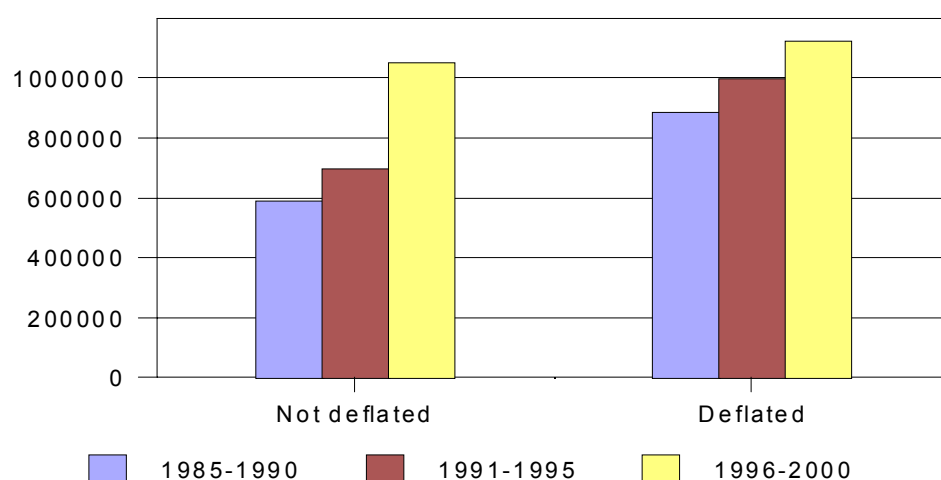


Figure 5: House prices in Frejlev, 1985 to 2000

The next step is to investigate if this change took place during the period of the afforestation, and if it can be assigned to the afforestation or to other changes in the area.

Based on house prices from 1985 to 2000, we were able to divide the assessment of the willingness to pay into three periods; before afforestation (1985-1990), under afforestation (1991-1995) and after afforestation (1996-2000), and hereby investigate the marginal willingness to pay for the change in environmental quality: i.e. the afforestation of the area, including pasture areas and establishment of public tracks for recreation.

The first hypothesis is that the house prices in the village of Frejlev, close to the Drastrup forest, have increased more than the house prices in the rest of Aalborg municipality, and that this extraordinary increase can be explained by the afforestation in the area. This hypothesis was investigated by using a dummy variable describing if the house was sold after the afforestation took place. A linear model was estimated, resulting in an increase on house prices for an average house in Frejlev on 170,000 DKK. The result was highly significant.

The second hypothesis was that the house prices increased already in the planning and planting period of the afforestation project. A new dummy variable was introduced into the model, describing whether the house was sold in the start or planting period. Dividing the afforestation into these phases yields a more detailed result, describing that houses sold in the period 1991-1995 were sold 103,000 DKK above the sales price in the period from 1985-1990. Furthermore, the extraordinary sales price from 1996 and after has been 230,000 DKK above the sales price from 1985-1990. These house prices are also deflated, correcting for the normal rise in house prices in the area.

The increase in house prices in the area can be aggregated to obtain an estimate for the benefits of the afforestation in this area. The southern part of Frejlev has 395 houses close to Drastrup, and the aggregated result is 93 mio. DKK, which is an average of 130,000 DKK per ha afforested land. Compared to the average costs held by the Ministry of Environment and Energy on 66,000 DKK/ha, the estimated benefits exceed the costs, even if lost income from agricultural production is included. As we have not investigated house prices in rural areas dominated by agricultural production, nothing can be said about the monetary benefits in such areas from this study, however.

As mentioned, the house price study also comprised studies of four forested areas in Jutland and on Zealand. In this part of the study the house price function was estimated as a function of distance to the forest. Using the mentioned four areas as study areas, it was found that in three of the areas (Tokkekøb and Allerød on Zealand and Esbjerg in Jutland) the house prices decreased by 0.04% when the distance increased by 1%. Hence, the difference between a localisation between 100 and 500m. from the forest is estimated to be approximately 330,000 DKK in the area on Zealand (Tokkekøb), and 60,000 DKK in Esbjerg (South Jutland). The value of short proximity to forests from the study can be seen in figure 6.

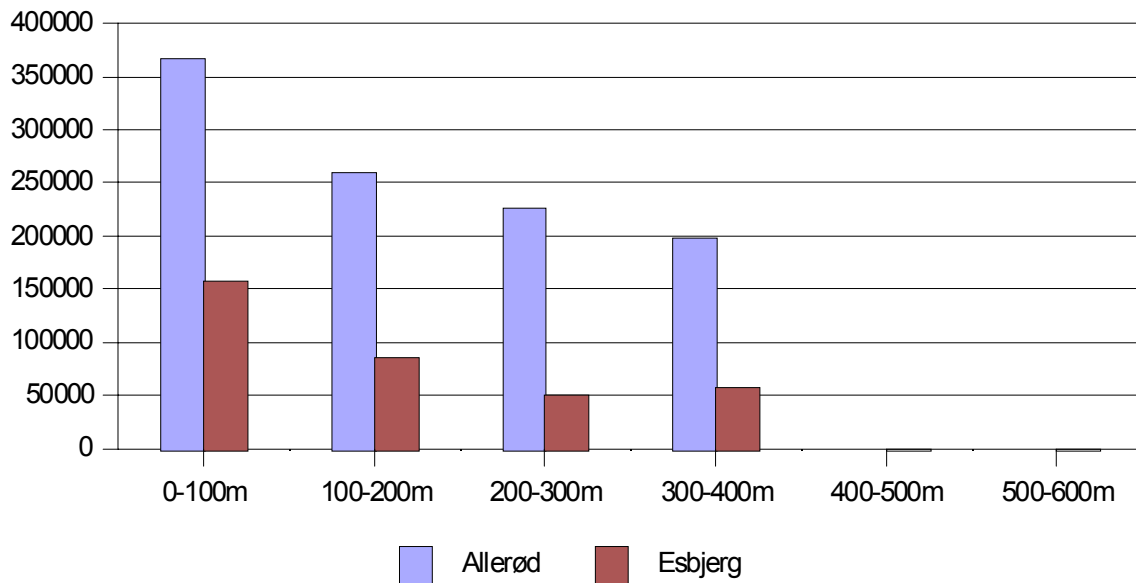


Figure 6: Distance and house prices, Esbjerg and Allerød

The differences can be explained by regional variance in the house prices as well as forest characteristics.

Consequently, the monetary valuation in all of these areas has shown that the house owners have a significant willingness to pay for short proximity to forests. As the valuation includes no interviews and direct questions to the house owners, no explanations can be given for the willingness to pay, however. Another drawback of the house price method is that only house owners' use values are estimated, and consequently, the value of the forests are underestimated as other use and non-use values are not included.

#### 4. Discussion and conclusion

Out of the qualitative interviews with landowners, community inhabitants and decision makers within the frame of the European Multifor.RD project it can be concluded that forests in many ways improve quality of life for citizens in the two Danish municipalities Haderslev and Hverslev. A representative survey in the municipalities with more than 1,200 respondents verified this conclusion: Nature qualities make respondents significantly more attached to the area, and forests improve the qualities of living in the areas. A short distance from home to the nearest forest makes inhabitants of rural areas more positive towards local nature and landscape qualities. The importance of distance is further expressed by the

fact that short distance to green areas, nature and forests seems to be an important factor for choice of dwelling.

The monetary valuation of afforestation through the house price method, used in an afforestation area close to Aalborg in the northern part of Jutland and on four forested areas in Jutland and Zealand, has shown that afforestation yields significant increases in the house prices. Regarding the afforestation study this increase took place already in the planning period of the afforestation project. The house price increased even more after the afforestation project was completed. The results from the house price study of houses close to older, existing forests resulted in the estimation of a house price function revealing that the house prices declined by 0.04% when the distance to the forest increased by 1%. The house price function used in the study areas resulted in a difference from 60,000 (Esbjerg) to 330,000 DKK (Tokkekøb) in house prices when the distance from the house to the forest increased from 100 to 500 m.

The estimated results from each of the studies in Haderslev/Hvorslev and in Drastrup and the other areas used for house price analysis cannot be transferred directly to other areas, and consequently, the results from the two studies can not be connected and compared directly, even though such direct comparisons of different approaches would be interesting. The results do not reveal the benefits for the same population and areas, and hence, the absolute results in numbers and DKK cannot be connected.

However, this is not necessary to utilise and combine the results together, as coherence in the results from the two studies appoints that there are multiple values connected to afforestation close to living areas, and that these values can be revealed both qualitatively and quantitatively by asking respondents and by monetary valuation. Forests improve quality of life in local areas and a short distance to forest is considered important – people actually want to pay for it.

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# Local people's attitudes and policy implications on forestry and rural development in two rural areas in Greece

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## Abstract

The aim of this paper is to review how community inhabitants and landowners perceive issues related to rurality characteristics as well as the role of the forestry and agricultural sector in two rural areas in Greece. Kolindros and Konitsa are two examples of rural areas with diversified rurality conditions where agriculture is still important, local people still have close bonds with their area, despite the declining employment opportunities and limited economic development. Survey findings show that agriculture remains the backbone of the economy in Kolindros and all efforts for rural development coincide with the development of agriculture as a traditional sector producing commodities, while in Konitsa rural development appears to be more multidimensional. Multipurpose forestry is well recognised among the participants but the degree of appreciation of forests and level of attachment by local people is linked to the economic importance of forestry and forest ownership status. Afforestation in Kolindros is conceived an agricultural activity likely to generate greater benefits to farmers. In Konitsa forestry is not only deemed an economic resource but as commodity to enhance the landscape and promote other activities such as tourism. A crucial implication for policy measures is that while in Kolindros agricultural policies have been considered as rural policies, a shift is required today from an approach based on subsidizing agriculture to one based on widening the economic base and on strategic investments to develop new activities. In the case of Konitsa, policy measures should aim at supporting a multi-sectoral development where agriculture is a component of a comprehensive rural development policy (encompassing also forestry, trade, tourism etc) that could offer non-commodity outputs such as soil and landscape to develop new activities such as agri-tourism.

**Keywords:** rural development, forestry, agriculture, Greece

## 1. Introduction

Within Europe at present, many rural areas are subject to dynamic change. In many places the importance of agricultural production is declining, while environmental and landscape functions are increasingly valued. The changing role of the, until recently, traditional activities has modified the content and process of development in rural areas. Even if farming is still important in shaping rural land use, employment opportunities in primary industries (largely agriculture) are declining. Moreover, in many rural areas, public sector employment has been the main component of employment growth, but in a climate of fiscal restraint this source of jobs is likely to contract (Pezzini, 2000). Forests are increasingly considered as an important component of rural areas, because they provide both economic values through wood and non-wood production and manufacturing, as well as social values for recreation and

tourism, landscape amenity, biological diversity, environmental protection and cultural heritage. Forestry can contribute towards rural development by either improving or innovating production processes or by providing an ecological infrastructure for an attractive rural landscape (Slee and Wiersum, 2001).

The above developments are frequently faced by rural areas in Greece which also suffer an out-migration of young people caused by lack of employment opportunities along with in-migration of people in retirement, a fact which has led to significant ageing of the population (Psaltopoulos and Skuras, 2000). Moreover, due to the rough topography of mountainous rural Greece, most rural areas experience a sense of isolation from agglomeration centres. Consequently, they have difficulty in establishing the necessary critical mass of facilities, producer services and investments to support economic development so that entrepreneurs have difficulty starting up enterprises in the area.

The purpose of this article is to discuss and summarise the perceptions and attitudes of local populations towards the content and process of rural development in their locality and the role that forestry could have in it. The objective of providing information on local attitudes is increasingly relevant to policy makers for the formulation of policies and strategies at a regional level. Baseline information was obtained by means of a questionnaire addressed to community inhabitants and landowners in two locations in Greece: Kolindros and Konitsa.

## **2. Research methodology**

### *Research approach and sampling procedures*

The objective of the research is to identify the perceptions and attitudes of community inhabitants and different stakeholders in the two study areas in Greece. As a consequence, the project is a site-oriented study and a quantitative survey is conducted which can best be realised by means of a questionnaire directly targeting local people who live in the area and/or own forest/farming land in the area regardless if they are permanent residents or not in this area. The methodology of the present research has developed in accordance to the methodological framework used for Multifor.RD, a European comparative research project, which Greece has been a research partner (see also Elands et al, 2000). This approach was judged to be a realistic way to elicit their perception on rurality characteristics, including aspects of forestry and its role in the development of the area. Attempt was made to avoid differences in meaning and grammatical information, eliminate culture specific aspects, where possible, and keep the language simple but concise. It was decided that two questionnaires to be used to elicit the views of community inhabitants and separately of those that own land in the area. The questionnaire targeting landowners included all questions of the community inhabitants' questionnaire plus a set of questions dealing with issues relevant to farmers and people involved actively in farming activities, as well as certain questions for forest owners and managers. In certain questions an open-ended choice was applied to reveal issues that are not covered by selected answers. Filter questions were used to exclude farmers and forest managers from answering a particular question sequence, if this was irrelevant to them.

### *Questions to be investigated*

The main themes to be investigated in this research can be grouped in the following categories, around which the questions of the questionnaire have been formulated:

- Questions referring to the perception of the character of their area, its basic characteristics and the importance of various economic activities now and in the future (4 questions);

- Questions about the role of forests and forestry in the area (12 questions);
- A question about the preferred society and value system of the respondents;
- Questions on farming and forestry practices: management, land exploitation and attitudes on afforestation issues (12 questions).

There are 18 questions in the questionnaire used for the community inhabitants covering the first three of the above categories (plus 8 questions for the personal characteristics of the respondents and their economic background). The questionnaire for landowners, i.e. farmers and forest owners and managers, covers all the above categories.

The results of the research, to be presented in the following sections, do not cover the question of the value system of the respondents, which will be analysed in a special work to be conducted for this purpose. The identity of rural areas in Greece will be firstly presented, as supported by the results of the present study and other existing records. Then selective findings of the research concerning the main themes described above will be presented and finally some implications to be taken into account in policy formulation for the themes being investigated will be proposed.

### 3. The identity of rural areas

Table 1 shows the main characteristics of the survey areas in Greece, using as main descriptors for characterising rurality conditions certain demographic, land use and employment criteria developed within this research in order to classify all case study areas from the nine countries participating in the research.

*Table 1: Rurality characteristics of survey areas in Greece*

Criteria	Characteristics	Konitsa	Kolindros
General and land use	Mean altitude (m)	807	400
	Size (ha)	5463	12390
	Agricultural land (%)	18	45
	Forests (%)	51	44
	Degraded wilderness (%)	13	4
Demographic	Population		
	Size	2858	5245
	Population density (km <sup>2</sup> )	52	42
	Active population (15-60 years)	915 (32%)	2032 (39%)
	Population change		
	Changes between 71-81	0,0	-0,4
	Changes between 81-91		
	Changes between 91-01		
	Distance from urban centres		
	Population >10.000	64	25
Population >50.000	64	25	
Employment	Active employment (persons)	915	2032
	Employment in primary sector %	12,3	49,6
	Employment in secondary sector %	20,3	33
	Employment in tertiary sector %	54,1	29

Using the above parameters and other relevant data, all case study areas from the nine countries participating in this research have been classified in the following typology of rural areas (De Deugd and Elands, 2001):

- *rural areas with urban characteristics*. Agriculture is losing importance and development towards urban centred has been taking place. The economic structure is diversified and trends shift from the primary towards the tertiary sector.
- *diversified rural areas*. This group characterises the case study areas that tend to exhibit signs of urbanisation. The secondary sector is high and the tertiary sector is gaining importance. Agriculture is the main landuse.
- *rural areas depending upon the primary sector*. This group represents areas with rural characteristics, agriculture is still the backbone of the local economy and the impact of agglomeration centres nearby is minor. Most areas have suffered or suffer from depopulation and are rather remote (This category is not homogenous as the other groups in respect to remoteness and population density and thus three subgroups can be further divided).

According to the above typology, the Greek case study areas belong to the following categories, with their corresponding characteristics.

- Konitsa study area is described as a rural area with diversified economic conditions, where forests are mainly under state ownership and serve productive, conservation and watershed protection purposes. Population accounts for 2,858 inhabitants and despite the widespread traditional farming activities, Konitsa shows an urban-like employment structure with a significant 54% of the population working in the tertiary sector. However, the contribution of farming in the area's economic fibre is significant. Forestry is not a significant employer for the region. In fact most of the state forest in the area is a nature reserve (National Park) and hence conservation is the prime management purpose. Konitsa is also renowned for its wild nature and as a centre for a variety of outdoors activities due to its varied topography. The highly valued landscape has resulted in increased tourist numbers. As a consequence, all activities associated with the primary sector are in decline whilst those related to tourism are increasingly contributing to the local income.
- Similarly Kolindros is described as a rural area with a predominant agricultural character and where productive forests exist under private ownership. The 5,245 inhabitants are mainly employed in agriculture and especially in tobacco and wheat crops. Trade and manufacturing is limited and tourism is not yet developed. Private forests are managed for firewood production but employment in the forest sector has declined over the past decades accounting now for only a tiny 0.05% of the total active population. Regarding forest management, the forest service supervises the exploitation of forest estates.

Referring to the characteristics of the population in the chosen rural areas, findings from the survey imply that the two areas show a number of commonalties and differences in some significant ways with respect to major socio-economic descriptors such as gender, age, education, occupation and household structure. In brief, gender differences are apparent between groups but overall female and male respondents are adequately represented in the samples. All samples consist of relatively mid-aged, low educated and low paid interviewees although certain group attributes markedly diverge from this general picture. Landowner participants in both study regions are of higher mean age and have a lower educational background than community inhabitants. Within landowner groups the largest distinction is confined to the higher ratio of farmers in retirement over active farmers that recorded in Konitsa. This ratio was significantly lower for farmers in Kolindros. Although community inhabitants between the two study areas follow the general characteristics as described above, those of Konitsa clearly distinguish from their counterparts with respect to the higher proportion of employees at the secondary sector, better annual income and slightly higher education. On average, the households of both landowners and

community inhabitants contain the same number of adults but more children (aged<18) are recorded in Kolindros thus, implying a more rapid ageing of the Konitsa population for the future.

By far, both study areas are predominantly perceived to be rural with strong agriculture related activities. Both groups have developed strong family bonds and employment bonds with the locality. Cross-tabulating variables, reveal the influential role of children and relatives in the locality to the perceived agricultural as well as the rural character of Kolindros. Other significant interactions between variables in Konitsa, include the agricultural character of the area with people growing up there, those working outside perceive Konitsa to be a centre with diverse activities and finally the agricultural character seems to interrelate with strong attachment to the area. Furthermore, participants, have grown up locally in rural areas and very few are members in local or nation-wide organisations.

#### 4. Perceived character of the areas

Research findings highlight the agricultural character of in both survey areas and the close bonds of the inhabitants with the area. Specifically, at least 63% of landowners and community inhabitants' responses in Figure 1 describe Kolindros to be an area dominated by agriculture and in close proximity to urban centres. The corresponding responses with regard to the respondents' impression of Konitsa seems to centre around agriculture but also spread over a large number of attributes such as forestry, and an area with a lot of nature/wilderness beauty. Thus, although agriculture has received the highest percentage in both groups, forestry and nature/wilderness are highly ranked in people's image about Konitsa.

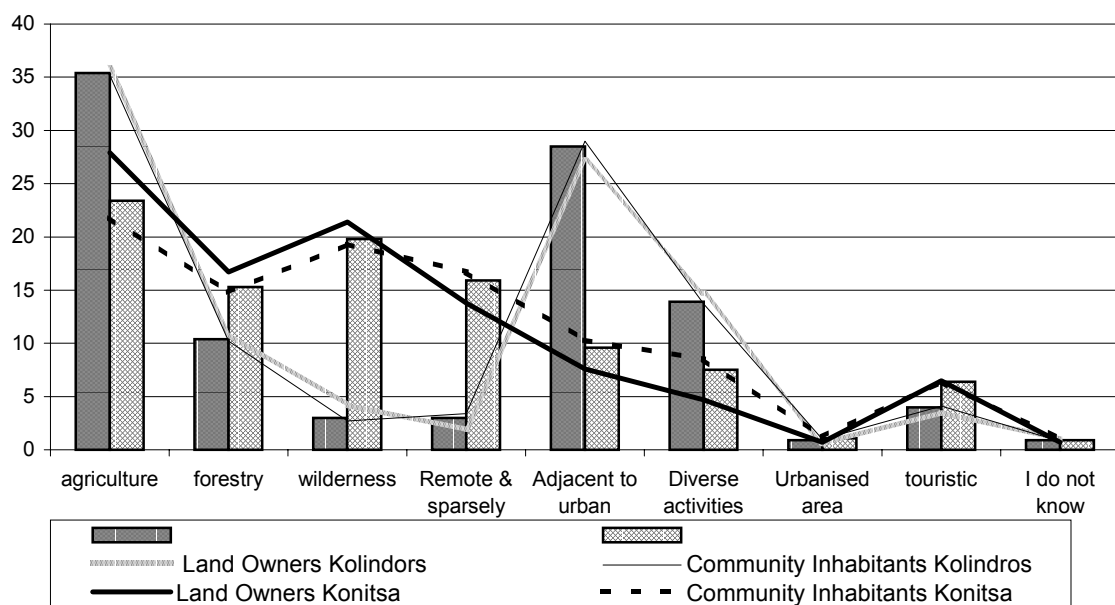


Figure 1: Perceived characteristics of the rural areas Konitsa and Kolindros (N=877)

Research findings suggest that a very high percentage of the interviewees has had children and relatives in Konitsa and Kolindros (93% and 94% respectively). The remaining percentage, comprises of people not having relations or children whatsoever, or being newcomers in the locality. Furthermore, the vast majority of the interviewees are employed within the locality and only a small 13% in Kolindros and 18%

in Konitsa work outside the locality. The strong family bonds and local employment to the area are typical of rural areas in Greece and indicate the limited pool of labour and funds to facilitate local initiatives.

It is apparent from the results that in both rural areas landowners base their living, at a substantial level, to the production of agricultural commodities and to a lesser extent to forestry, trade and tourism. The perceived economic importance of various economic activities is portrayed in Figure 2 where it appears that respondents have ranked highly agriculture as the cornerstone of local economy. The latter is more important for Kolindros.

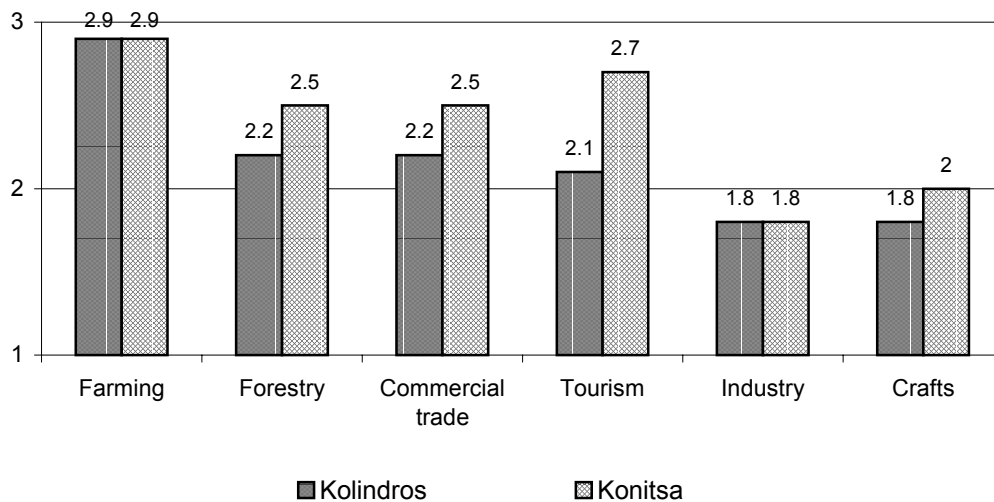


Figure 2: Economic importance of the following activities in the locality (1=low importance, 2=some importance, 3=high importance)

At a certain extent the multidimensional character in Konitsa is attributed to the diverse economic opportunities developed in the area, which accounts for forestry, trade and tourism. This wide source of amenities can be a source of economic development in Konitsa (it is a factor of comparative advantage to Kolindros) either through the direct exploitation of resources (such as forests) or through creating conditions likely to favour other economic activities (such as tourism). Judged from the above findings two distinct growth patterns can be realised in the two Greek study areas. The first is based on agricultural utilisation of the land to intensively produce agricultural commodities that is the case of Kolindros, while the second comprises a grid of interactive economic activities that expands the notion of rural development to areas such as tourism and forestry, which is the case of Konitsa.

## 5. Role of forests in the locality

Forests contribute in a significant way in the livelihood and welfare of people in local areas. The various benefits addressed topics in the area of economy, aesthetics, environment and society. A factor analysis using principal components was performed on the 12 variables of a specific question addressed to reveal the contribution of forests to the quality of life in the area. The factor analysis produced four factors for the Kolindros study area and three for the Konitsa (see Tables 1,2 in appendix). Regarding the Konitsa sample, it can be derived that participants agree on the multifunctional role of forests in the locality. Moreover, they perceive that local forests enhance the landscape values



and attractiveness of the residential area, have important protective function and add to local history and culture. Respondents are likely opposing the isolation effect between members of the community. Yet, they hold a rather neutral posture concerning the possibilities for local employment and income and finally they perceive that forests provide opportunities for recreation and are relatively rich in biodiversity. The results of the factor analysis suggest that alike Kolindros, participants agree that forests in Konitsa have multiple functions, ameliorate the landscape, have protective and important historical and cultural values. They express a rather agreement that forests contribute to the local economy in the context of job provision and income generation and finally they disagree of conflicts between community members as well as low forest potential for the area.

In order to record the participants' level of attachment to forests in the locality, respondents were asked to rank their answers in a 5-point Likert scale with 1 denoting strong detachment and 5 signifying strong attachment. Analysis of mean values, shown in Figure 3, indicates that both actor groups (i.e. community inhabitants and landowners) in Kolindros are less attached to forests in their locality than their counterparts in Konitsa. Differences between landowners and community inhabitants were not found to vary substantially within each study area. When the level of attachment to forests is examined against the attachment to the locality, differences in mean values were not statistical for the Konitsa groups but participants in Kolindros feel significantly more attached to their locality rather than to forests in the locality. The perceived level of attachment to forests is likely to be positively associated with the economic importance of forestry in the local economy. Hence, the reduced contribution of forestry in Kolindros and the fact that forests are privately owned may justify the diminished level of attachment recorded among the Kolindros participants.

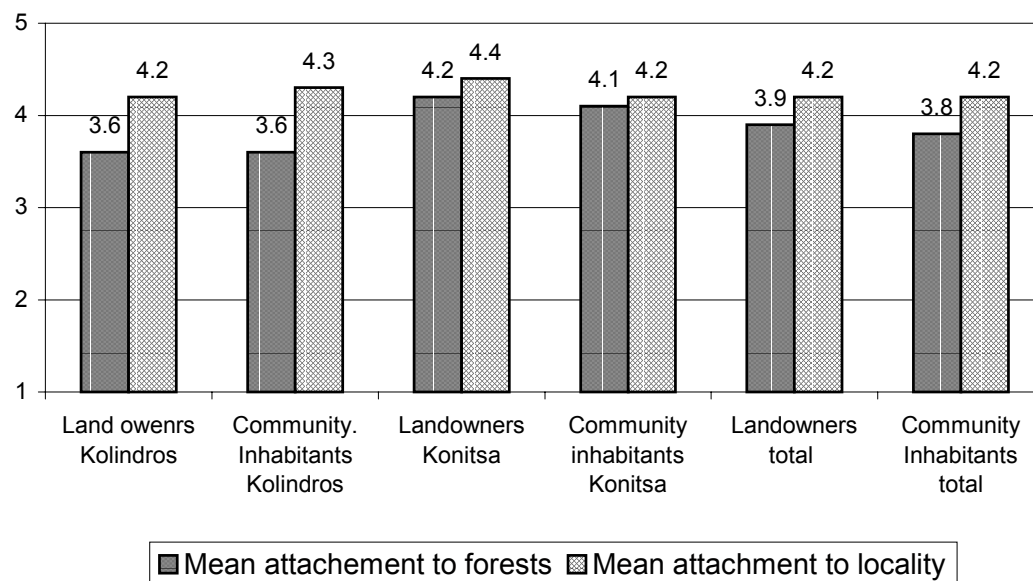


Figure 3: Mean value of the level of attachment of respondents to locality and to forests in the locality (1=strongly detached, 3=neutral, 5=strongly attached)

A fundamental difference between the two study areas in Greece is that forests in Kolindros are privately owned whereas those in Konitsa area are predominantly owned by the state. In this respect the views of participants in those areas are of managerial importance. Overall, the percentage of people preferring free access to forests regardless of ownership status is rather high (greater than 60%). It can be concluded that free access to nature as well as to public or private forests in particular are taken for granted by the Greek interviewees and this is likely to explain the high aggregate percentages. Also a

high level of unanimity is recorded between actor groups in both Kolindros and Konitsa as the variability observed is below statistical limits.

The perceived amount of forests in the study area was realised to be a determinant factor in the farmer's decision to plant forest in their land. Results show that the majority of people participated in the survey perceives the localities to be moderately wooded/forested. Group differences did not vary statistically within each study area. In contrast the perceptions of landowners tend to differentiate according to the study area ( $X^2=21,060$ ,  $df=3$ ,  $p=0,000$ , Cramer's  $V=0,309$ ). Thus, farmers in Konitsa believe the area to be more highly forested than Kolindros (41%, 21% correspondingly). Similarly, community inhabitants in Konitsa perceive their locality to be significantly more moderately to highly wooded than do respondents from Kolindros ( $X^2=55,096$ ,  $df=3$ ,  $p=0,000$ , Cramer's  $V=0,293$ ).

## 6. The perception of landowners on future options of their land

Agriculture seems to be organised in a family scale basis in Konitsa judged from the lower average size of agricultural land per farmer. In both survey areas land is exclusively engaged in single activities relating to farming or forestry which are run by the farmer himself with the assistance of other family members or hired staff.

Although the development of the agricultural sector has boosted the local economy, its perceived importance for the next five years is reduced and comparatively negative prospect is likely to occur in Kolindros. Bearing in mind the future development it appears that a large number of farmers in Konitsa (58%) considers to rent land from others followed up by a significant 47% who thinks of buying land from others. In general, the expansion of land either by buying or renting land, is a top ranked option by both participants (Figure 4).

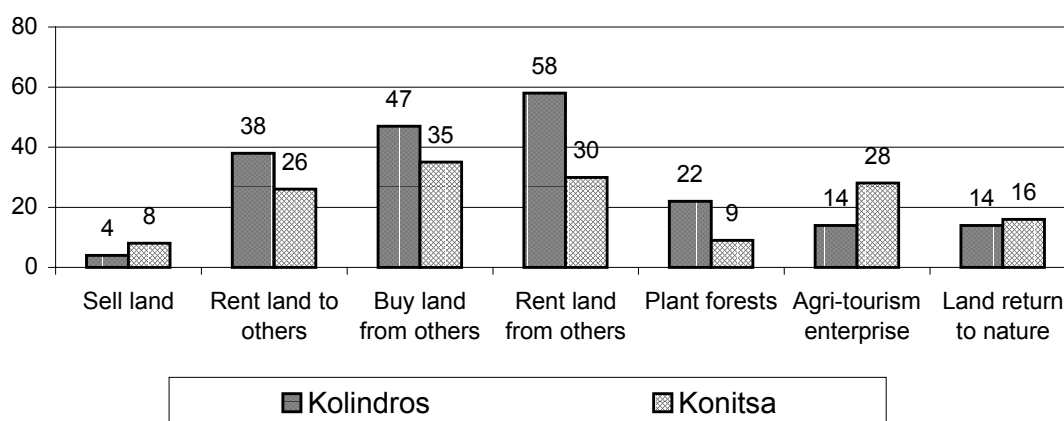


Figure 4: Future options of landowners' land (%)

Combined with previous findings, it emerges that land expansion is used as a tool to increase production and competitiveness and counterbalance the prospect of landowners in Kolindros having their farm activities declined in the future. Of the remaining percentages approximately 38% of farmers consider to rent their land to others. It is interesting however, that from the options relating to land use changes, planting forests has attracted the higher percentage (22%) followed by agri-tourism activities and letting land return to nature. Regarding Konitsa, results about the buying or renting of land are in conformance

with those of Kolindros though of a lower magnitude. An equally important option for farmers in Konitsa is to rent land to others. Where, however, results clearly distinguish between study areas is in the higher possibility for developing agri-touristic activities in Konitsa which is due to the increasingly growing number of tourists and recreationists visiting Konitsa. From the remaining land uses, planting trees has received a lower percentage (9%) as compared to Kolindros (22%). The use of chi square statistical test did not identify statistical differences at 99% level except only the prospect of renting land from others.

## 7. Opinions of landowners and community inhabitants on afforestation issues

Knowledge of landowners' perceptions concerning afforestation schemes is becoming more important as the economic and social implications of such schemes impinge upon local communities.

### *Reasons for not planting trees*

Examining into more detail the recorded unwillingness of farmers to plant trees in their land, a number of possible reasons was given in the questionnaire in an attempt to elucidate major impeding factors to farmers' decision. Multiple response analysis has produced the results shown in Figure 5. Group differences are apparent and statistically justified for all reasons.

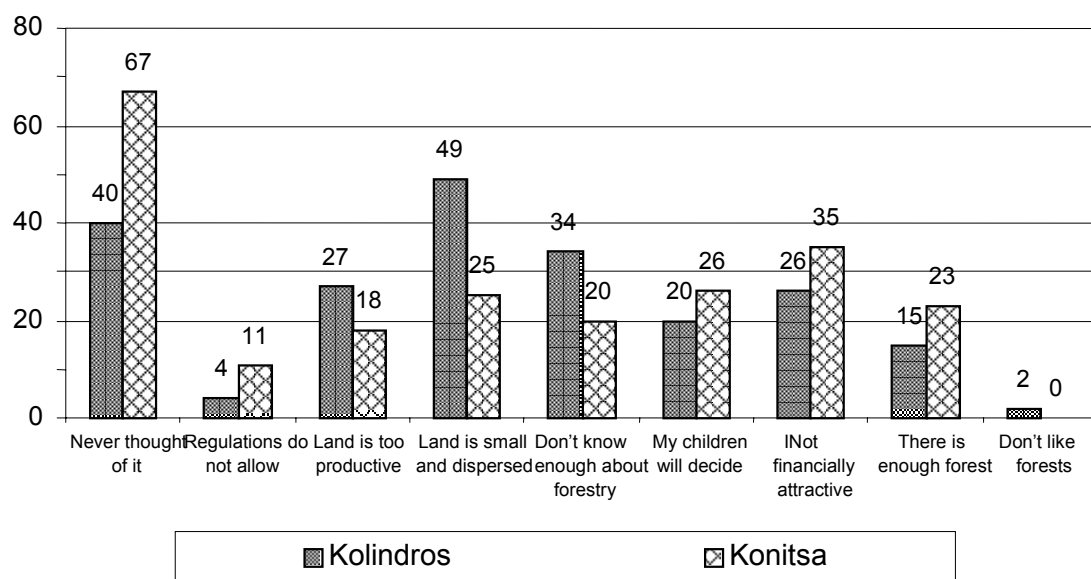


Figure 5: Major reasons for not planting trees in farmers' land (%)

Over two thirds (67%) of the farmer group in Konitsa has never thought of planting trees as an alternative use of their land. The respective percentage falls to 40% of their counterparts in Kolindros. The second most popular answer for Konitsa farmers is the low economic attractiveness of forestry (35%) while a sizeable 26% will let their children to decide and 25% believe that land is small and dispersed. Finally, 23% of the sample argues that there is already enough forest in Konitsa. Regarding Kolindros, just below half of the respondents (49%) think of their land as being small and dispersed followed by 40% who claimed that they never thought of it. The high percentage of respondents stating the small size of their property as a reason for not willing to plant trees, is probably indicative of a forest-land size association which hold obvious economic repercussions. Planting trees in small and

dispersed land is an unprofitable activity, which coupled with the lack of knowledge on forest management, makes afforestation an unattractive activity for farmers.

### *The role of grants*

The vast majority of the respondents agree that there would have been no planting without grants and subsidies (67% in Kolindros and 72% in Konitsa). The low percentage of "I do not know" compared to high percentages recorded for the remaining grant and regulation related questions, further illustrates the prominent role of financing in afforestation schemes. Group variability was apparent and within statistical limits with respect to grant sufficiency for planting trees ( $X^2=20,172$ ,  $df=2$ ,  $p=0,000$ , Cramer's  $V=0,313$ ). Most farmers in Kolindros state that grants are not sufficient to stimulate planting (44%). In contrast, the majority of respondents in Konitsa declares grants to be adequate (37%). The higher expressed insufficiency of grants is perhaps indicative of a higher felling of uncertainty and insecurity derived from their involvement in new and activities (forestry) that little previous knowledge exist among farmers in Kolindros and are subject to increased risk. In contrast, the alternative use of land in Konitsa combined with the multi-dimensional character of Konitsa highlights the supplementary role of forestry into family income. Herein lies the major difference in the perceived role of afforestation in the two localities.

### *Conflicting nature of forestry and agriculture*

Regarding the conflicting nature of forestry and agriculture both landowner groups disagree with this statement (47%, 49% in Kolindros and Konitsa respectively, Figure 6). Although the non-conflicting nature of forestry and agriculture is recognised by the majority of landowners, the two groups appear to differentiate statistically as regards tree planting on farm land ( $X^2=21,658$ ,  $df=2$ ,  $p=0,000$ , Cramer's  $V=0,323$ ). While almost 55% of the Konitsa farmers agree that it is acceptable to plant trees on farmland, the percentage drops as low as 25% in Kolindros with a sizeable 61% of farmers expressing disagreement to that. Planting trees in areas where agriculture is losing importance was seen favourably by 43% of farmers in Konitsa as compared to 28% in Kolindros. An overwhelming unanimity was recorded as far as the complicated process for grant acquisition is concerned. Both groups claim the approval procedures to be rather complicated and this is consistent with findings from the qualitative survey.

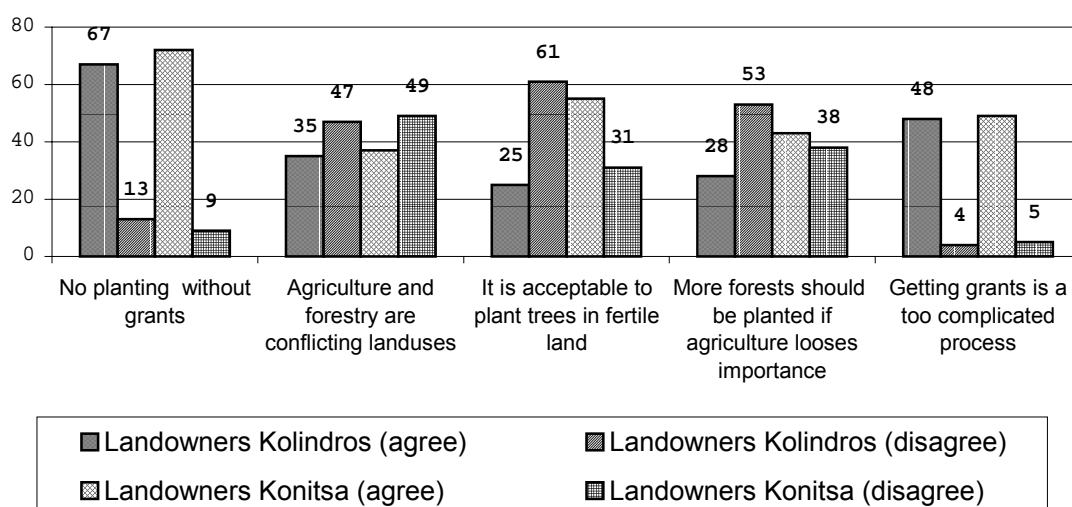


Figure 6: Opinions of landowners towards afforestation issues (%)

### *Awareness of tree planting schemes*

The information of afforestation schemes is critical for the broad implementation of such forest measures among rural communities. Evidence from interviews revealed some weaknesses in the institutions responsible to disseminate information to local communities. Findings indicate that just over half of the landowners in Kolindros (52%) are aware of afforestation schemes compared to 42% in Konitsa but the difference was not found to be statistically significant. In addition, those respondents that are interested in getting involved in afforestation schemes account for 50% in Kolindros and 33% for Konitsa.

## **8. Policy implications**

This research has surveyed two rural areas in Greece with a dominant agricultural sector but representing differences ownership conditions with respect to forests within the locality. In accordance with the general aim of the Multifor.RD project, this study has recorded the views and perceptions of various stakeholders regarding the role of forestry for the development of the areas. Findings suggest a multiplicity of commonalities in the way local people perceive rural development. Moreover, both survey areas suffer, though at a varying degree, from relatively low incomes, high unemployment, poor quality of employment, outward migration of young people and low quality services. As a result, mobilising local resources, local entrepreneurship and innovation to support alternative development opportunities are extremely restricted.

Perhaps a major finding of the research lies in the area of homogeneity of perceptions between the two communities of issues pertaining to agricultural character of both study areas. Agriculture is the backbone of survey areas, and it is conceived to be a wellspring of support for local development. In addition, the forestry and tourism sector may give additional impetus to rural development, notably in Konitsa. From these basic considerations, several policy implications can be drawn. Agriculture plays an important role in shaping the rural economy either through the intensification of agricultural production, organic farming and even tree planting. Based on this, one is tempted to claim that in Kolindros today rural development coincides with agricultural development. Forestry is not appreciated as an economic asset, despite the broadly recognised and valued benefits of forests. Rural development policy measures hence for Kolindros should add impetus to the restructuring of the local economy and gain benefits as a rural area in close proximity to the major agglomeration centre of Thessaloniki. In the case of Konitsa the still strong, but compared to the past, weakened productive role of forestry coupled with multiplicity of economic activities compose a rural framework where a comprehensive developmental framework should be multi-sectoral and encompass agriculture development as one component in addition to tourism and forestry development. The majority of rural inhabitants in Konitsa are increasingly dependent upon employment and income generated by a complex mix of interactive economic activities. Thus, the rural development approach should be extended beyond agriculture in order to cure rural ills.

The research findings about the role of forests in the locality indicate that community members place increasing emphasis on quality of life factors including natural amenities, the protective functions of forests and its preservation as a common asset for the future. In view of the local communities acknowledging and accepting the multiple roles of forests for the locality, it is imperative that a forest policy should encourage the use of non-timber products as well as the possibilities for creating income from amenities and services. Receiving the support of local communities the formulation of region-specific measures should be facilitated.

The extent that new activities based on forestry or tourist related industry are welcomed and favoured in both study areas, is markedly dependent upon their capacity to sustain the livelihood of local people as well as provide local employment in a long run prospect. The development of such capacity, in sectors such as tourism, does not only rely on human resources and financial inputs but is also the product of a widely appreciated and respected landscape and natural setting in which forest and forestry is a valued component. The lower levels of attachment of the Kolindros respondents to forests in the locality might well be an expression of the presently reduced economic importance of forestry into the local economy, as compared to Konitsa. On the other hand, it may also reflect the differing forest ownership and the fact that forests are privately owned in Kolindros rather than predominantly publicly as in Konitsa. The question arises to what extent forest-based tourism development can best proceed under public or private forest ownership.

The differences in perspectives on the role of forests under private and public ownership is reflected in the finding of the survey in the different perspectives on afforested areas, in the sense of trees planted on farmland, and forests. Farmers in Kolindros perceive tree planting to be an agricultural activity and an option for the alternative use of land in order to increase profitability. Hence, although respondents in Kolindros are less attached to the forests in the locality than respondents in Konitsa, they are more eager to consider tree planting as a substitute measure for the negative future prospect of agriculture. Nonetheless, adoption of such activities is only feasible if clear-cut and sufficient economic benefits can be transferred to farmers. However, it seems that the economic benefits of tree planting is dubious and afforestation schemes involve a generally increased risk factor for farmers to utilise in fertile and productive agricultural farmlands.

In the traditional policies it has been tried to circumvent such risks by the provision of subsidies for tree planting. Despite the stimulating value of grants and subsidies, farmers are often still adverse to planting trees as a result of administrative intricacies that lead to complicated grant acquisition processes and overlapping regulations governing tree planting. Similar administrative weaknesses are apparent in the process of disseminating knowledge about tree planting schemes to farmers as well as in the process of motivating farmers in getting involved in afforestation.

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## Appendix

Table 1. Factor identification, factor loadings and mean scores for each contribution of forests to quality of life by actor group in Kolindros

Factor identification	Variables Forests in Kolindros...	Factor loading	Landowners		Com. Inhabitants	
			mean	St.D	mean	St.D
Multifunctional forests (landscape value)	Differentiate landscape	0,781	4,10	0,644	4,14	0,63
	Improve attractiveness of living here	0,758				
	Protect air, water and soil	0,659				
	Are of historical and cultural value	0,628				
Isolation and conflicts with the local people	Create a sense of isolation	0,820	4,01	0,70	3,98	0,71
	Are a threat for farming	0,778				
	Are against the wishes of local people	0,771				
	Deteriorate the beauty of landscape	0,572				
Economic contribution	Provide good income	0,901	3,00	1,13	3,09	1,11
	Provide good employment	0,861				
Few recreation opportunities and variety of plants and animals	Provide few recreation opportunities	0,842	3,06	1,10	3,06	1,06
	Are poor in terms of biodiversity	0,807				
Total explained variance	67,2%					
Cronbach's alpha	0,79					

Table 2. Factor identification, factor loadings and mean scores for each contribution of forests to quality of life by actor group in Konitsa

Factor identification	Variables Forests in Konitsa...	Factor loading	Landowners		Com. Inhabitants	
			mean	St.D	mean	St.D
Conflicts with local people and low forest potential	Are against the wishes of local people	0,865	4,06	0,66	3,65	0,90
	Deteriorate the beauty of landscape	0,837				
	Are poor in terms of biodiversity	0,753				
	Create a sense of isolation	0,696				
	Provide few recreation opportunities	0,686				
	Are a threat for other land uses	0,646				
Economic contribution	Provide good income	0,851	4,02	1,04	3,98	0,90
	Provide good employment	0,848				
Multifunctional forests	Differentiate landscape	0,523	4,57	0,53	4,49	0,49
	Are of historical and cultural value	0,508				
	Protect air, water and soil	0,874				
	Improve attractiveness of living here	0,578				
Total explained variance	65,8%					
Cronbach's alpha	0,69					





# **The paradox of Mediterranean forests; between economic profitability and social demands. The Catalan case**

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## **Abstract**

During recent years, while the price of wood and the profitability of traditional wood produces have decreased, social demands on forests have increased. This is happening in many European regions, but is specially marked in the Mediterranean areas. The fall in profitability causes a decrease in the management effort. Under Mediterranean conditions a lack of management leads to an increased risk of forest fires (a phenomenon with serious consequences for all the forest functions and the stakeholders). Consequently, a problem at the estate level has become a territorial problem. Mediterranean forests have to tackle such a large-scale problem that this has caused a crisis of trust in the administration and the future of forestry. There are claims from different “fronts” for a “reflection” in society aimed at defining the future of our forests, what country we want and which instruments we should use to achieve this. In the framework of the EU/FAIR funded research programme on “Multifunctional Forestry as a means to rural development” the legal and social forestry framework of two study cases have been analysed, together with the attitudes, perceptions and practices of inhabitants, landowners, politicians and NGO's on forestry and forests as a means to rural development. This paper illustrates the current situation for different forestry functions and issues of Mediterranean forest, highlighting the main items from the point of view of different stakeholders and gives some clues to finding solutions.

**Keywords:** multifunctionality, stakeholders, Mediterranean forestry, forest policy, Catalonia, Spain

## **1. Introduction**

Forest functions have diversified throughout the years. Social functions (mainly landscape and recreation) and environmental functions (nature conservation, carbon sequestration, watershed protection) have been revealed as often being more important than timber production in answering social demands (Vos, 1996; Mather, 1999). Nowadays society demands “à la carte” a wide scope for different forest functions for industrial use, recreation, conservation, etc. Forest management has to tackle this situation and find satisfactory combinations of goods and services (Vos, 1996) with the consequent need to integrate forest and social demands into wider planning processes.

In many areas, forests are the basis for tourism, forests attract large numbers of visitors and a new and unknown use-consume of the territory is appearing. Mushroom picking is a good example and has become an important tourist attraction in autumn (DGTOP, 1997).

Multifunctionality of forests is the base of the new forest management paradigm and at the same time it is the cause of conflicts and dysfunctions. The limited ability of society to maintain the costs of an activity from which it constantly demands more and more, added to the fact that there are many

beneficiaries of forests goods and services but few people pay for the costs of its management (Merlo, 1999) allow us to say that forest are very profitable for society but not for landowners. This is especially important in regions where ownership is mainly private (in Catalonia 80%).

In the framework of Catalan mountain counties, several forest-related developments can be observed. They are the direct consequences of a profound contradiction between social demands on forests and their economic downturn:

- loss of traditional cultural landscape;
- accumulation of large wood stocks, which cannot be exploited in an economic feasible way;
- difficulties for many small municipalities of affording the costs of new recreational activities with the incomes derived from wood production (road maintenance, shelters, garbage removal, etc.);
- loss of investment capacity;
- closing of many small family forest exploitation businesses;
- economic difficulties of small wood transformation industries (sawmills), which represent the only industrial alternative in many areas;
- economic difficulties of carrying out several forest activities (pruning, selective thinning, etc.) that can determine the lack of quality wood within some decades.

Some questions come to mind: what are the main policy issues of multifunctional forestry as a means to rural development according to the stakeholders? How could this multifunctionality be enhanced? How could income for forest owners be increased? This paper aims to analyse the context and key issues from the stakeholders' point of view and provides some clues about how forest policy could tackle it.

## 2. Methodology

In the framework of the EU/FAIR funded research programme on "Multifunctional Forestry as a means to rural development: establishing criteria for region specific strategies for balancing public demands and forest owners objectives (PL98-4223)" the legal and social forestry framework and the attitudes, perceptions and practices of inhabitants, landowners, politicians and NGO's concerning the role of forestry and forests in rural development have been analysed through a case study approach.

*Table 1: Characterisation of the study areas*

	<b>Naves (Solsonès)</b>	<b>Torroella de Montgrí (Baix Empordà)</b>
Surface (km <sup>2</sup> )	146.66	65.3
Inhabitants 1996 (density inhab/km <sup>2</sup> )	264 (1.8)	7726 (57.2)
% annual population growth 1981-1996	-1.8	+2.4
% forest area	82.4	52.6
% agriculture area	16.3	25.4
Average forest estate size (ha)	93.6	3.9 (private) 860 (public)
% public ownership	0%	70%
% employment in primary sector	54.3	7.8
% employment in tertiary sector	27.2	62.8
Nº beds	208	42900
Nº nights spent	35040	5167305

*Source: own elaboration from IDESCAT and questionnaires*

The selected municipalities (table 1) represent two typical and different situations. Navès is an area where the economy is strongly linked to the primary sector, while Torroella de Montgrí is a tourist area with a leading tertiary sector.

A socio-economic analysis was undertaken at a local level as well as a more general analysis about forestry in Catalonia and Spain. Given that since the 1978 Constitution, most of the responsibilities for forests have been gradually transferred to the different autonomous regions, the forestry analysis focuses on the context of Catalonia. 22 in-depth interviews with policy makers and key stakeholders were carried out in June-September 2000 and a questionnaire was answered by a total of 455 people. Key policy issues were detected in the interviews and the context analysis (figure 1) and were contrasted with the results of the quantitative analysis using a combinatory technique (Bericat, 2000).

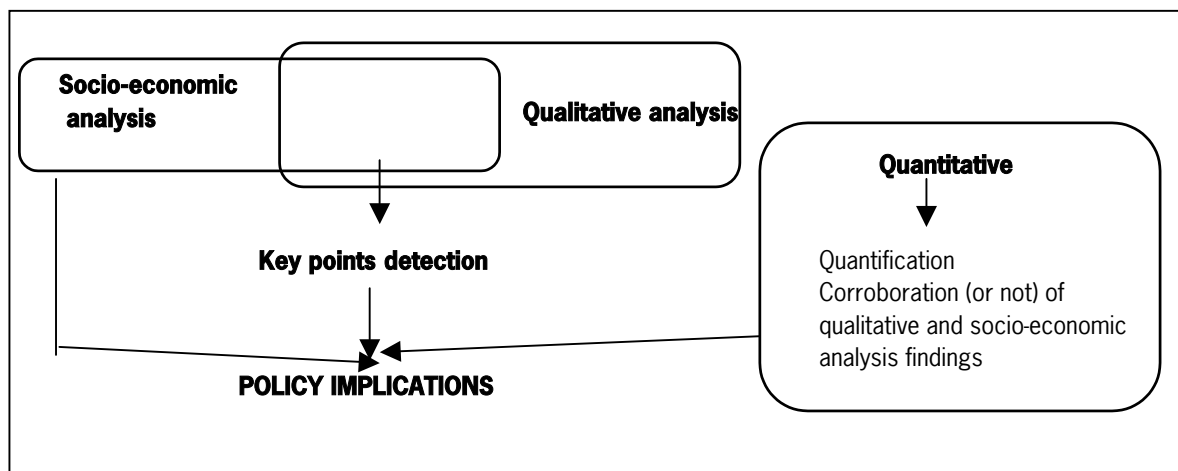


Figure 1: Methodological scheme

This paper focuses on the key points regarding multifunctional forestry highlighted by the interviewees, the main context and structural factors, wood and non-wood products, non marketable goods and services, forests as tourist infrastructure, and its contribution to rural development. The policy implication of each key point will be discussed according to the opinions of the stakeholders. Finally, two major conclusions will be drawn.

### 3. Results and discussion

#### 3.1 Multifunctionality

According to the inhabitants of the two case study areas, forests provide society with a wide range of products and therefore their social value is unquestionable. Despite that, from the interviews with policy makers it became clear that profits for landowners and managers are low and that economic flows from society to forests are very low. In fact, in many cases these only consist of the payment of general taxes. Merlo (1999) pointed out that those who obtain the profits from forests are not the same as those who pay the costs.

For the people interviewed it seems clear that the perception of which forest function is more important depends on the context of the rural area, the kind of rural stakeholder and the availability of the market price (table 2). Thus, for example, in an area where forest management is integrated into the productive

activities of the county, the socio-economic function is an important factor when taking political decisions. By contrast, when the productive function is almost zero but the landscape quality is a key element for tourist activities, its conservation is a political priority as a means to stimulate the tourist sector.

*Table 2: Some examples of functions and the social stakeholders that value them most highly*

<b>Functions</b>	<b>Example</b>	<b>Social stakeholders who value it most highly</b>
Ecological and environmental	Bio-diversity, carbon sequestration	Conservationists groups
	Landscape	Tourist lobby
Socio-economic	Employment, forest income	Forest owner, political bodies
Socio-cultural	Tradition, popular culture	Users

Conflicts arise when the goods provider is not the one who receives the economic benefits. This happens in the case of indirect benefits or benefits without market price, such as the landscape case shown in table 3. In general, forest owners, who are the providers of direct and indirect benefits derived from forest management, are only paid for those proceeding from socio-economic functions, which count on a market price through wood income.

*Table 3: Landscape provider and beneficiary*

<b>Good</b>	<b>Provider</b>	<b>Benefit</b>	<b>Beneficiary</b>
Landscape	Forest owner through forest management	Incomes derived from tourist visitors	Tourist sector (accommodation, restaurants)

### *Policy implication*

The results from the interviews demonstrate that the perception of multifunctionality of forests changes according to the socio-economic context of the area, and the availability of a market price for forest products. According to the interviewees, an adequate definition of forest policy and rural development which favours forests' multifunctionality and which is able to cope with the conflicts between suppliers, users and beneficiaries of the goods and services, depends on:

- the type of goods and services that forests and forest management offer
- the identification of suppliers, users and beneficiaries of each good and service
- identifying economic fluxes in relation to every good and service.

The fulfilment of this analysis would be the starting point for finding the social consensus for a correct retribution of profits to providers and a better definition of adaptable financial and forest policy tools for each circumstance.

## **3.2 Forest multifunctionality: wood uses**

From the interviews with policy makers it appears that there is a widespread perception that the current conditions of the timber sector are unfavourable. This perception is strongly supported by the facts: the

rate of use/growth of timber has been 17% over the last 5 years. This low level of use compared with the growth seems to be the result of falling profitability on many estates (Raddi, 1998). Many factors, such as a lack of manpower, extra working costs and decreasing consumption and prices of wood, which will be mentioned subsequently, are influencing this.

First of all, there is a lack of specialised and non-specialised manpower due to the hard nature of forest work and because it is not a very well accepted socially. This is also due to the general demographic crisis that could be solved thanks to migration, which can balance the problem over wide areas. Next, there are extra transport costs due to inadequate roads and the growing distance to sawmills, and extra costs because of the difficulties with the Administration when trying to open skidding paths (Raddi, 1998) due to a pressure for ecological and bio-diversity conservation functions. Another important data is the trend in fire wood use in Catalonia (Figure 2), based mainly on the abandonment of charcoal as a domestic fuel and its substitution by butane or natural gas during the 1960s.

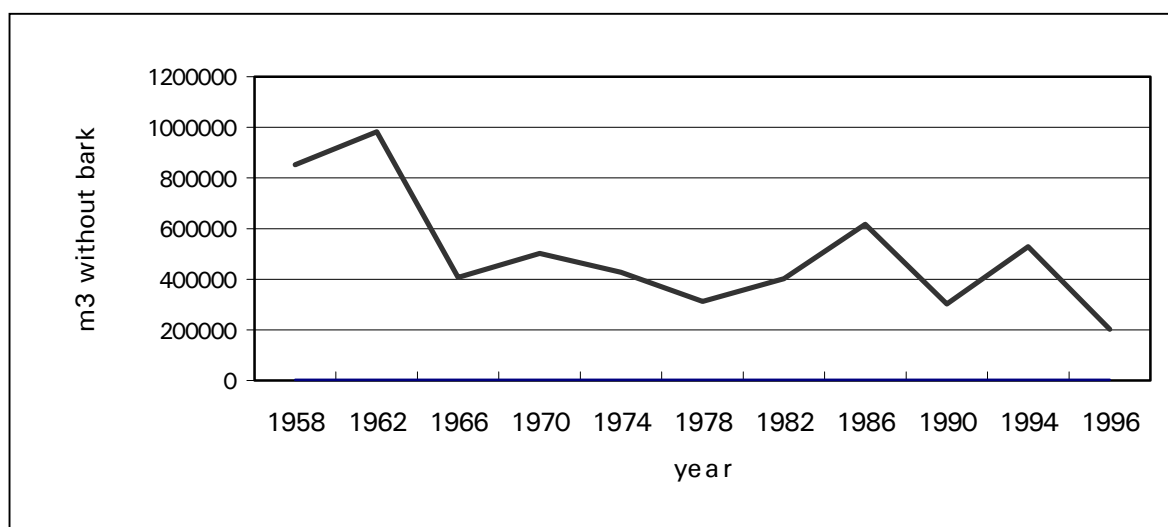


Figure 2: Downturn of firewood use

This fact, together with the migratory wave from rural areas to the cities has led to a lesser harvesting pressure on forests. Also remarkable is the dramatic evolution of the industrial price per tonne of *Pinus sylvestris* (Raddi, 1998) taken from the historical analysis of the wood prices in constant 1990 pesetas (figure 3).

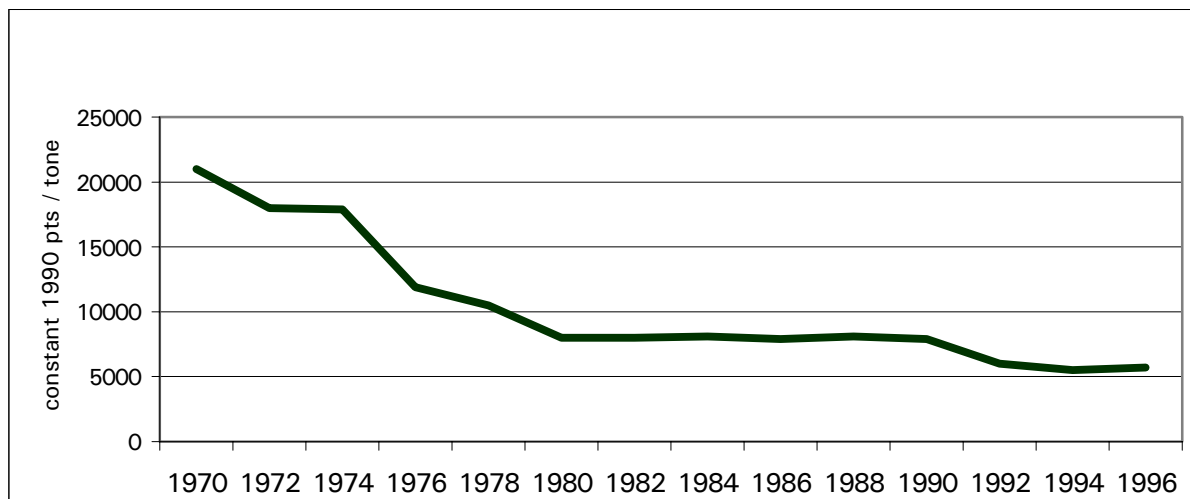


Figure 3: Evolution of the industry price of *Pinus sylvestris* in constant 1990 pesetas

To summarise, the lack of market competitiveness increased by the structural difficulties of rural areas is the reason for the abandonment of wood uses in large forest areas of Catalonia with productive potential. Consequently, less management took place. With the abandonment of forest management, the vulnerability of forests to forest fires increases while the quality of landscape and recreational amenities decrease in the forest area. The result of the drop in the economic value of forest products and the threat of forest fires is that forests are no longer viewed as a resource to be conserved for the future. This fact, together with other elements (such as the current designing of subsidies or population ageing), reduces the capacity for investment and makes long-term forest planning more difficult. Some interviewees, going further, state that given the decreasing viability of wood exploitation during the last 30 years, it will be difficult to provide the same goods and services from forest activity if market conditions do not change. That is to say if wood, till now the main income for forestry, is no longer profitable but we still wish (well-managed) forest, we will have to start thinking of other ways to fund forest management. A market value for positive externalities and the necessary tools for forest policy for the compensation of forest managers are proposed.

### *Policy implication*

The stakeholders have pointed out some policy implications and recommendations:

- a forest policy based on forest multifunctionality as a means for rural development must offer the means to promote or improve wood uses in those areas with productive potential;
- due to sector weaknesses and the social repercussion of forest management (concentration of forest fires, landscape quality), the catalytic role of the Administration is an indispensable support for private sector initiative.

Other elements to take into account are:

- the definition of a subsidies policy coherent with the current needs of the sector and society, that is at the same time the payer and the beneficiary (payer of the subsidies from taxes, and beneficiary of the goods and benefices of forests);
- institutional support for the offer through technical (product diversification, product transformation and added value deduction, R+D, etc.) and socio-professional aspects (promoting associations, professional organisations, education, etc.) should be offered;

- institutional backing for demand through awareness campaigns and measures to support wood product uses and local wood production should be developed.

Like other sub-sectoral policies, forest policy will have to include horizontal measures to face structural aspects (depopulation, ageing, etc.) in rural areas and interdependence with other sectors (agriculture, tourism, etc.) through an integral approach.

### 3.3 Multifunctionality of forests: non-wood uses

Profit from non-wood forest products (NWFP) represents an income that is, in many cases, higher than that from wood products. According to the interviewed policy makers and administrators from Torroella de Montgrí and Navès, some key elements to take into account when including this in a forest policy and when defining their uses in rural development are:

- features of use: recreational or commercial activity (depending on the social stakeholder);
- degree of regularisation of the sector: normative framework for use, commercialisation chain (producers- intermediaries- consumers), information available, etc.

The next example clearly illustrates this. Mushroom picking is a recreational and, at the same time, commercial activity, whereas cork is only a commercial activity. The mushroom sector is poorly regulated. By contrast, in the case of cork, the market is solid. In those cases with a poorly regulated sector, conflicts can arise between owners and users of the resources.

Table 4: Classification of NWFP according the type of activity, regulation of the sector and rise of conflicts

Product	Main type of activity		Degree of regularisation		Raising of Conflicts
	Recreational	Commercial	Regulated	Little regulated	
Hunting	X	X	X		
Cork		X	X		
Truffles	X	X		X	X
Other mushrooms	X	X		X	X
Pinecones		X		X	X
Asparagus	X				

The solution of conflicts on NWPF in many cases is under-regularisation of the sector. Frequently, this process is rectified with a requirement for payment for a good that was previously free, as in the case of mushrooms, an example taken from some neighbouring Spanish autonomous regions. Given this fact, certain effects must be taken into account. On one hand, despite being technical, social and economic justified, a high political risk can be anticipated, due to payment for an activity that was previously free. On the other hand, it is a complex process, for a balanced agreement is necessary among all social stakeholders involved, without discrimination.

#### *Policy implication*

For a correct inclusion of non-wood uses in forest policy, it is necessary to:

- identify the nature of each type of NWPF (*map of non-wood forest uses*);
- regularise the sector in those cases where this is necessary;

- promote commercial use where necessary.

It will be necessary to start several collateral measures for the process of regularisation, such as information campaigns on the use of the environment, improvement of co-ordination between administrations and between the administrations and private initiatives. At the same time, these aspects will strengthen the forest sector.

### **3.4 Non market goods and forest services**

The externalities approach -society pays for the forest provision of non-market goods and forest services- underlines the importance of valuing positive forest functions, such as climate regulation, biodiversity conservation, control of erosion and landscape quality, which are not financially compensated. Financial compensation for these externalities or NMGS is seen as a way of counteracting the loss of economic profitability of traditional uses. Nevertheless, the reasoning given by some interviewees shows the difficulty of carrying out initiatives in this sense:

- considering that payment is already made through general taxes, and it is the administration which manages the economic resources badly;
- the excessive promotion of this approach is making the social understanding of the importance of promoting forest productive functions difficult;
- the lack of practical experience leaves the discourse blocked in its own theory;
- there is an inherent political risk involved in any measure aiming at charging for goods or services that were previously free.

It can be highlighted that in both areas inhabitants and landowners are of the opinion that -with regards to the contribution of forests to the quality of life- the aspect of improving the attractiveness of living in the area is much more important than the provision of good income for local people. This result is consistent with recent surveys on perceptions, attitudes and importance of different forest functions in Switzerland and France (Zimmermann, 1996; Mather, 1999) that highlight the higher importance of the welfare and protective functions.

According to the European Environmental Agency, the study of emerging approaches to finance the functionality of forests and the preservation/sustainability activities (sufficient income from well-managed forest) is both urgent and important, for both employment and rural development. The water and energy sectors are the main target sectors as providers of fair financing. Pinborg and Jiménez-Beltrán (1998) and Rojas (1998) even propose models of internalising bonus.

In general, the opinions of the interviewed policy makers and administrators can be split in two main groups, which is in accordance with the definition of Hanley et al. (1998). They distinguish two basic principles for the implementation of the externalities approach, the "Beneficiaries Pay Principle" (BPP) and the "Providers Gets Principle" (PGP). The first one is orientated towards the demand for public goods and the second one towards the supply side of public goods.

In a case study review (Hanley, 1995), a high level of implementation of the PGP was found concerning the public goods from rural areas together with a low level of implementation the BPP. The results in our case study areas are similar. Figure 4 shows that the inhabitants from the two case study areas agree that government aid is needed to help forest management in those cases where forest management is not profitable and abandonment is growing, but at the same time they also think that taxes already paid are enough. However, the question is whether grants and subsidies are the only instruments that can be



used. Citizens see the need for additional income for landowners, but at the same time think that taxes paid are enough; extra tools are required.

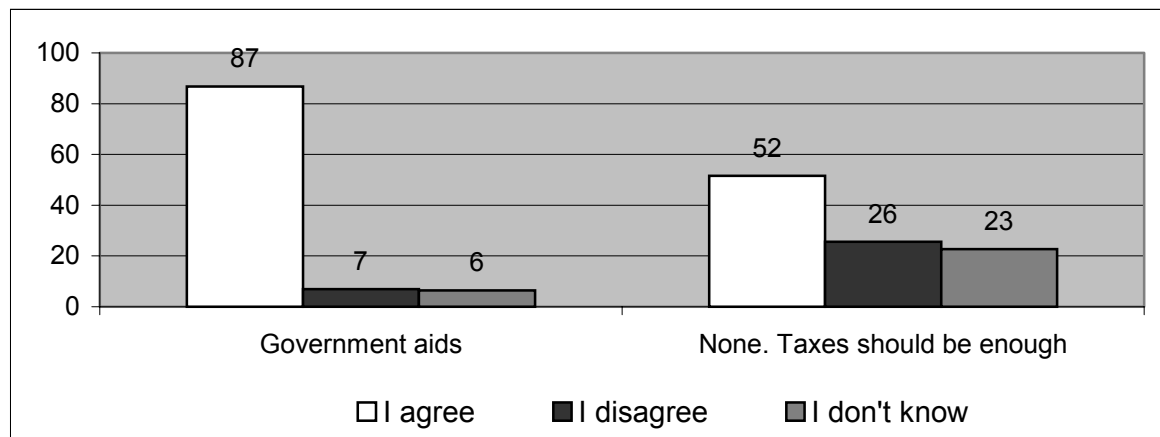


Figure 4: Opinions on measures, in case the forest management is not economic feasible and forest abandonment is growing, that can contribute to the funding of forest management (% , n=455)

### Policy implication

From the interviews with policy makers and administrators it appeared that the provision of goods and environmental services should be guaranteed through different tools. Many examples show how efficient forestry policy needs a mix of voluntary and compulsory measures, financial and market-related tools and endogenous and exogenous development (Rojas, 1995; Merlo and Paveri, 1997; Glück, 1998; Tikkanen, 1998).

## 3.5 Forests multifunctionality: forest as a tourist infrastructure

The perception of the role of forests and forest management as landscape providers, and its linkage to tourist activities, changes mainly in function of:

- degree of singularity (related to the abundance or scarcity of the resource);
- degree of development of tourist activity.

These are important elements to take into account in the discourse on externalities economic compensation for the indirect benefits that forest management offers to the tourist sector or to the community through landscape quality. The different situations will condition the willingness of landscape beneficiaries to assume the cost of its maintenance (table 5).

Table 5: Willingness of landscape beneficiaries to assume the cost of its maintenance according to the singularity of the landscape and tourist sector development

		Degree of development of the tourist sector	
		High	Low
Degree of singularity	High	Strong	Intermediate
	Low	Intermediate	Weak

At the same time, these aspects will determine the political decisions taken on forest spatial planning (referring to the types of tourist practices that it can carry). Situations with high singularity and high tourist pressure favour more conservative postures.

### *Policy implication*

In the opinion of some interviewees, especially among policy makers, it is clear that when analysing the role of forest as tourist infrastructure and its inclusion in forest policy, it is necessary to take into account public and private sector willingness to bear the cost of its maintenance. This willingness is linked to two main elements: the degree of singularity of the forest in the area and the degree of urban and tourism development.

The private sector linked to tourism shows some reluctance to assume part of the costs of landscape conservation, although this is the main element of the tourist offer. The two main reasons that can explain why landscape conservation measures have not been carried out by private agents is the idea that this will lead to a decrease in users and the lack of successful precedents. Therefore, in order to include its role as a means of rural development, it is necessary to:

- carry out information campaigns among society about the structural difficulties of the rural model to make the externalities discourse more understandable and decrease its political risk;
- promote a deep dialogue among all the stakeholders implicated in concrete and practical proposals;
- co-ordinate initiatives with wider policies and strategies, in the framework of territorial planning that enjoy a consensus in society.

## **3.6 Structural facts to be considered in a forest policy**

Apart from the purely technical aspects and other ecological determinants that determine the degree of development of the forest, there are also several structural and socio-political factors to take into account.

The factors that seem to have a major repercussion are:

- *population ageing*: from our respondents, we can see there is a ten-year difference between the mean age of landowners (61) and inhabitants (51);
- *lack of association*: the fact that only 21% of the landowners in our study areas belong to a forest association illustrates the magnitude of the problem.

A lack of social and economic structure can be highlighted as a main characteristic of rural areas in Catalonia together with a demographic crisis (noticed through the low population and the high level of ageing) largely caused by the concentration of economic development in the Barcelona conurbation (Aldomà, 1999). This social and demographic recession is associated with economic changes that lead to the abandonment of land and are visible in a lack of continuity and abandonment of the farms. The design of forest policy should contemplate those structural aspects of the forest sector, which can determine its development. Therefore, to tackle those socio-economic aspects it is important to define inter-sectoral guidelines and parallel actions to the traditional programmes of the forest sector. The following characteristics are also emphasised by forest landowners' representatives:

- *low political "profitability" of efforts in forest sector*: The high complexity of the forest problematic (inter-sectoriality and the sector crisis as the "tip of the iceberg" of the crisis of the rural development model, etc.) and the time scale of the sector (short term investment and profit in the

long term, obviously inadequate for the political calendar) make every effort in this sector less profitable;

- *loss of reliance on and distrust of the forest administration* caused by the overlapping of responsibilities and lack of co-ordination between different administrations, the inefficient subsidies and grant policy (irregularity, uncertainty and excessive bureaucracy) and the lack of information sharing.

The latter characteristic is supported by figures from the quantitative survey in both case study areas (figure 5). In both areas together only 6% of forest owners disagreed with the statement “there are not enough grants and subsidies to manage forests successfully”; 4% disagreed with “the process of getting grants is too complicated” and 6% with “there are too many regulations governing the planting and management of forests.

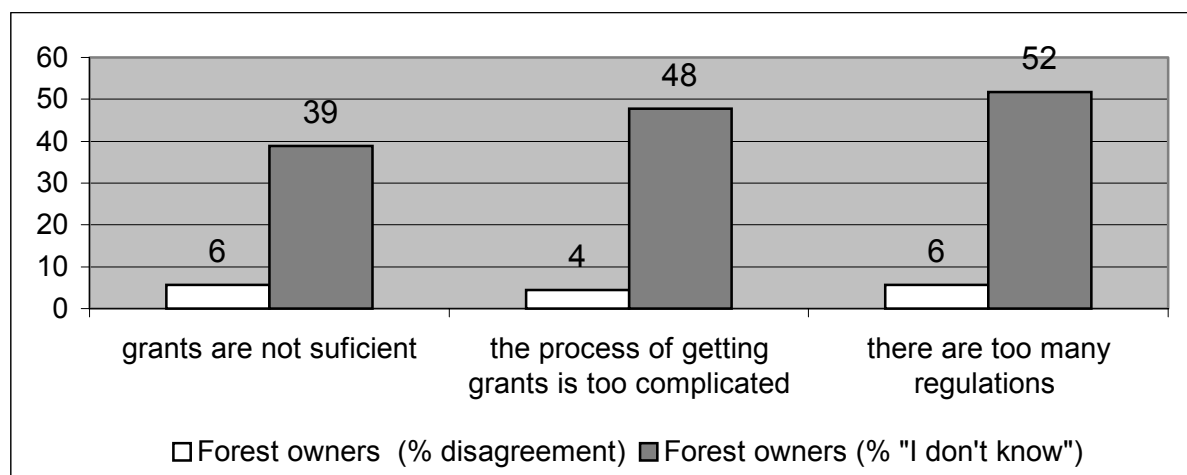


Figure 5: Forest owners' opinions on forestry grants and subsidies in Navès and Torroella de Montgri (n=130)

This can be explained as the discontent of landowners with grants and regulations. However, what is even more important is the high number of landowners that answered “I don't know” which could indicate their passivity or a failure by the Forest Administration, which results in a high number of landowners not knowing or caring about different administrative processes. However, the Forest Administration has to take into account that its action determines the capacity of the forest sector, so it becomes essential to work on recovering reliance on the administration and credibility. The following measures could help, according to the interviewees:

- recover the tasks of sharing information service as a main way to communicate with forest owners;
- define spaces to approach the administration to the sector's needs;
- improve inter-sectoral co-ordination; and,
- adapt the subsidy and grants policy to the demands of the sector as a prior stage to recovering its investment capacity.

Furthermore, it is necessary to search for measures that increase the incomes of forest landowners as a guarantee for maintaining forest management (Merlo et al., 1996). We should not think only about the easy solution provided by grants and incentives, which are difficult to maintain. Thoughts should also be given to other kinds of forest policy tools (such as regulations, compensations, incentives, improvement

of infrastructures, management agreements, marketing of environmental services, training and extension, etc) or combinations of several of these (Merlo and Paveri, 1997).

It was strongly emphasised by the interviewees that forestry is linked to farms in large areas. In large rural areas, forests and forestry are part of farming and are integrated into the same exploitation unit (74% and 60% of forest estates in our study cases). Although the contribution of the forest to agrarian income is marginal, it plays a strategic role, especially in spatial and work organisation. In those areas where forestry is linked to the agrarian exploitation, measures to enhance forestry will have to be combined with inter-sectoral measures that also support other agrarian activities.

## 4. Conclusion

Every chapter of this paper has its own policy implication by way of conclusion. However, there are two main points that can be highlighted as main conclusions.

- An integral approach is necessary in the sense of the definition of inter-sectoral guidelines and actions parallel to the traditional programs.
- Proposals on the role of forests for rural development basically correspond to two different but not opposite areas that have to be complementary. Emphasising this complementarity is not trivial, but rather must be promoted both in order to break the tendency of presenting it as a matter of choice, whereas the promotion of those are essential.
  - a. The first area refers to the development of the productive potential of forests by improving traditional uses or new alternatives. The sector's lack of structure, dynamism and capacity for investment makes the support of the administrations necessary.
  - b. The second area refers to the discourse on NMGS or externalities compensation, which has to be reinforced through information campaigns.

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# Forest privatisation, public perceptions and attitudes to forestry and rural development in a country in transition

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## Abstract

This paper discusses how the Hungarian perspectives on forestry are shaped by the changing social environment, notably the radical change of land ownership structure and forest management structures. These changes reflect more fundamental changes in economic life as well as legal and social conditions. As a result of these changes during the last decade the needs of the society were highly modified. The Hungarian process of privatisation of forest and land ownership has included some unique features when compared to the privatisation processes in other East-European countries. As a result of the reformulation of the laws on (forest) land ownership and economic changes in the 1990s the area of private forests has increased to over 763.000 hectares. Due to the lacks of knowledge and experience with forest management, as well as unfinished ownership transformation, almost 50 % of private forests are still unmanaged. To highlight the prospects of private forestry, selected results of the Multifor.RD study are used to illustrate perspectives on its role in stimulating rural development in Hungary.

**Keywords:** forestry, private forestry, rural development, Hungary, privatisation

## 1. Forestry sector in Hungary

### *General information*

Officially, in Hungary 1,89 million hectares of land have been classified as forests, this involves around 19% of all land area. Actually, the forest cover amounts to 1,76 million hectares (Table 1). The forests' standing stock was in 1999 estimated at about 323 million cubic metres, with an average (relative to the total forest area) of 180 cubic metres per ha. Deciduous forest accounts for about 85% the growing stock (Figure 1). The annual increment is estimated at 12 million cubic metres, with an average (relative to the total forest area) of 6.8 cubic metres per hectare. Thus, the annual amount of officially timber removal is only about 50% of the annual increment (Table 1).

*Table 1: Basic data on Forest Resources and Forestry in Hungary (Ministry of Agriculture and Rural Development, Forestry Department, 1999)*

<b>Characteristic</b>	<b>Figure</b>
Forest area [million ha]	1.76
Percentage of forest cover relative to the total land area [%]	18.9
Forest cover relative to the population [ha/capita]	0.174
Land area classified as forest land [million ha]	1.894
Standing stock [million m <sup>3</sup> gross]	323.1
Annual increment [million m <sup>3</sup> /year gross]	11.7
Total logging [including both thinning operations and regular harvesting; million m <sup>3</sup> gross]	6.6
Regular harvesting [million m <sup>3</sup> gross]	4.5
Logging area [average annual; 1000 ha]	19.2
Regeneration area (average annual; 1000 ha)	20.3
Afforestation [initial establishment of forests, average annual area; 1000 ha]	8.2
Percentage of forests subject to management plans [%]	100

Regarding the economic importance of the forests only information is available from forestry as a traditional wood-producing sector. The share of the forestry sector in the Hungarian GDP is hard to estimate, as the Hungarian statistical board publishes the forestry data together with those of the agricultural and fisheries sector. At present it is cautiously estimated that the forestry sector contributes about 0.3 % of the GDP; a decade ago this was still about 0.7% (Table 2). Notwithstanding this decrease in relative economic importance, the forestry sector remains an important factor for the Hungarian labour market, particularly in rural areas.

*Table 2: Hungarian gross production ratios in agriculture (share percent (comparative prices))*

<b>Description</b>	<b>1990</b>	<b>1992</b>	<b>1994</b>	<b>1996</b>	<b>1998</b>
Agriculture	14.8	8.8	8.1	7.2	5.5
Food industry	8.9	8.9	8.6	8.0	-
Forestry	0.7	0.4	0.3	0.3	0.3
Total	24.4	18.1	17.0	15.5	-
National economy total	100	100	100	100	100

### *Distribution and ownership system of Hungarian forests*

Although the historic presence of forest is primarily determined by climatic (annual precipitation, relative air humidity, groundwater), edaphic and hydrological factors, at present its occurrence is mainly influenced by socio-economic and political factors. At present the Hungarian forests are unevenly distributed. The densest and best-maintained forests are located in highland areas, where they fulfil important protection functions. Moreover, four out of the five most forested counties are in the Southwest. On the other hand, the lowland plains such as for example the 'Pusztá' located in the centre of the country have little – if any - forest cover.

Out of the 1.9 million hectares officially registered forest land, 1128 thousand hectares are owned by the state, while the remaining area consists of private forests. In the past, the majority of these private forests were the property of agricultural co-operatives; recently they have been privatised. Large forest



blocks dominated by native species remained the property of the state, while private forests are more scattered and mainly consist of fast growing tree species (Figure 1).

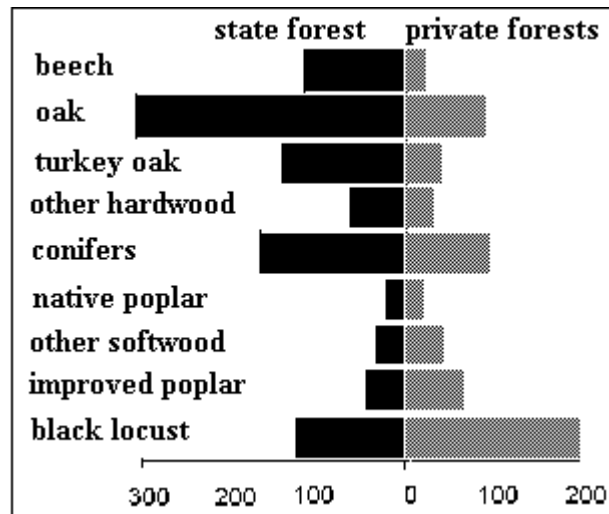


Figure 1: Area distribution of different tree species in state and private ownership

## 2. Forest privatisation in Eastern Europe and in Hungary

As mentioned above, during recent years the forests of the former agricultural co-operatives have been privatised. The term privatisation did not gain wide circulation in politics until the late 1970s and early 1980s. With the rise of conservative governments in Western Europe privatisation has come primarily to mean two things (Starr, 1988):

- any shift of activities or functions from the state to the private sector;
- more specifically, any shift of the production of goods and services from public to private sector.

Also in Eastern European countries a privatisation process is ongoing. This privatisation process can not simply be compared to the privatisation process in the western world. (Kovacs, 1997). In East-Europe, especially in Hungary, privatisation does not only involve a change activities from the public to the private sector, but rather a total change in both economic life and social structures within the framework of a large-scale political reform.

In the wake of the political reforms of the early 1990s, most of the countries of Central and Eastern Europe have adopted new forestry legislation. In most cases, the perceived need for new forest laws was related to the reforms in the area of land tenure, mainly the recognition of private property rights. The influence of this trend towards private property rights on forest policy and law has varied from country to country. In some cases privatisation has extended to the ownership of forest resources and lands, while in others governments have decided to retain their ownership. (Render, 1999).

Regarding the process of transformation of forest ownership, two main forms can be distinguished:

- *restoration*: attempts at resurrection of the previous ownership system, usually dating back to 1945;
- *privatisation*: establishment of a new ownership system, which to a large extent is practically independent from the historical ownership system.

Most Eastern European countries dominantly follow the first approach, and aim at a very cautious transformation of forest ownership. In the majority of the countries, the transformation of forest ownership was started after 1997 during the second phase of economical reform of the country. The restoration techniques reduce the risk of large unmanaged areas, improper forest management and excessive wood felling. Moreover, in most Eastern European countries there is a dominance of independent forest owners. Only in Slovakia and Hungary this is less the case, in these countries joint forest management techniques are widely used.

Compared to the other transition countries, in Hungary there has been a radical change in the ownership system during the last decade. The process of ownership transformation did not aim at restoration of the historical situation, neither was it based on environmental and economical concerns. Rather, social and political concerns on the need to restructure property rights were the central concern. The main characteristics of privatisation in Hungary are:

- an absence of requirements regarding a minimum size of property;
- the partakers have to be native natural persons;
- possibility of bidding downward on privatisation auctions;
- a disregard for the value of forest assets.

The forest privatisation process was part of a wider socio-economic privatisation effort, and was not specifically tailored to reflect characteristics of the forestry sector. Forests and farmland were basically treated alike. The valuation of land earmarked for privatisation only reflects the value of the soil, and ignores both the material and immaterial value of the forest stand. As a result, the process of privatisation of forest land often resulted in the establishment of undivided common properties. This created a special situation in forestry as the owners were forced by the law to perform a kind of joint management. This specific situation regarding the organisation of forest management has resulted in several difficulties for the owners as well as for the authorities.

### *Organisation of private forest management*

The state forest policy concerning private forests was based on that theory that large undivided forest estates are the most suitable for sustainable forest management. The emerging private ownership involves a quarter million new forest owners and has resulted in extremely fragmented ownership pattern. Consequently the Forest Authority considered that joint forest management should be a major forest policy tool. According to this policy the basic unit of forest management is the forest plot, which is a rather homogenous forest stand over 0.15 hectare. A forest plot can be owned independently or jointly by many (even some hundred) owners. In case that an owner has one or more plots under his exclusive ownership, he may independently manage his forest. In all other cases, forests should be jointly managed. In such a case the forest authority does not make a difference between management association (where there are individual forestry rights) and corporate forest (where there is a common ownership) (Hasel, 1971). Thus, the forest management situation is quite diverse (Table 3).

*Table 3: Statistical data of private forest management bodies in Hungary (2000). For the rest of the private forest area the form of management is not registered yet*

<b>Private management forms</b>	<b>total area hectares</b>	<b>average area hectares</b>	<b>number of management units</b>
Forest tenures	107,249	97	1,100
Forest associations	76,785	276	280
Private companies	63,186	86	730
Independently owned	135,892	3.5	38,800

Within Europe, co-operative forms of forest management are increasingly seen as a good option for solving the problems of small, fragmented private forest ownership structures, which are common across many European countries (Ottish and Battochio, 2000). In Hungary however, all kinds of associations and co-operatives have been discredited over 35 years of communist collectivisation. Consequently, private forest owners are hesitant to enter into any type of association again. Moreover, the obligation of joint forest management has raised numerous problems and, except in some regions, it has not proved to be a common remedy to the emerging problems of private forestry. In heavily forested regions, where there already existed a tradition of joint forest management, new owners were able to follow the examples of the existing models of the joint forestry (e.g. by arranging joint tenures). But in most regions, the new forest owners based their decision-making regarding forest management on other considerations than economic factors and these factors proved to be insufficient to promote joint forest management. Consecutively, even if joint management is practical from an economic point of view, it is not certain that forest owners are willing to join a forest association. There are several reasons for the low rate of willingness to associate; the most substantial ones have roots in emotional, organisational and economic standpoints.

Moreover, along with the changes in the ownership structure, there was another important transformation in the forest management organisation, i.e. a separation between of forest owner, forest manager and forest entrepreneur both in private and state forestry (Lett, 1999). As a result, the previous importance of size of management units has decreased significantly. This change modified to a large extent the role of forest managing organisations.

### *Perspectives on forest privatisation*

The opinion of the society about forest privatisation and forest management is rather negative. This opinion is partly based on misinformation, but also on general concern as well as traditional views and presumptions concerning forest management. The society often does not differentiate between unfavourable trends in global forest resources and the trends regarding the management of domestic forests. People usually believe that both global and domestic forests suffered the same tendency of decrease in area and health conditions. Incidental exaggerations in the mass media about risks and mishandling of new private forests have contributed to this negative opinion.

### *Land purchase of foreign investors in Hungary*

As indicated above, according to the legal regulations, it is forbidden to purchase agricultural land and forest by foreign investors. Only farmland up to 6000m<sup>2</sup>, flats and houses are allowed to be sold to foreigners. In order to maintain this prohibition, companies and enterprises are also excluded from land ownership, since a foreign presence can not be supervised or restricted in any Hungarian companies. It is a generally accepted opinion that this prohibition has a positive role on rural areas, due to the low Hungarian land and forest prices. The emotional background of this regulation is important: it is easy to generate a fear of rich foreign investors, who would buy out the whole country. However, it has been questioned whether this argument is of relevance when considering forests. The free access and entrance to forests is guaranteed by laws, and is therefore not dependent on the nationality of the owner. Also the non-wood benefits can be provided irrespectively of the nationality of the forest owner. The result of the ban is to maintain the present low prices of forested land, which is obviously against the financial interest of local inhabitants.

### 3. Perspectives on the role of forests in Hungary

The information collected by the Multifor.RD project enabled to assess whether the difficulties regarding the organisational context of forest management are reflected in general perspectives on forests in Hungary and what the prevailing opinions regarding the future role of forests are. The Multifor.RD survey was carried out in two communities, i.e. Szentgál (located in the Bakony Mountains in northwest Hungary) representing a traditional forest area and Kerekegyháza (located in the central plain of Hungary characterised by the 'puszta' landscape) representing an afforestation area. In the following two main outcomes of the survey will be presented, i.e. the overall perspectives concerning the present and future roles of forests, and the opinions on the economic importance of private forests.

#### *Perspectives on the present and future role of forests*

Notwithstanding the various organisational problems in Hungarian forestry, the Multifor.RD results indicate that the opinion of both community members and landowners about forests is basically favourable. As illustrated in Figure 2 the overwhelming majority of the respondents consider that forests have several positive values and they generally disagree with negative statements concerning forests. The positive perceptions are most clearly expressed in the traditional forest areas as compared to the afforestation area. The only exception concerns the protective function of forests: in the Great Hungarian Plain forests have a well-recognised protective function against wind erosion. According to the respondents the most important forest function is the protection function, followed by environmental, landscape and recreation functions; the economic functions were valued least. This order of importance is the same in both study areas.

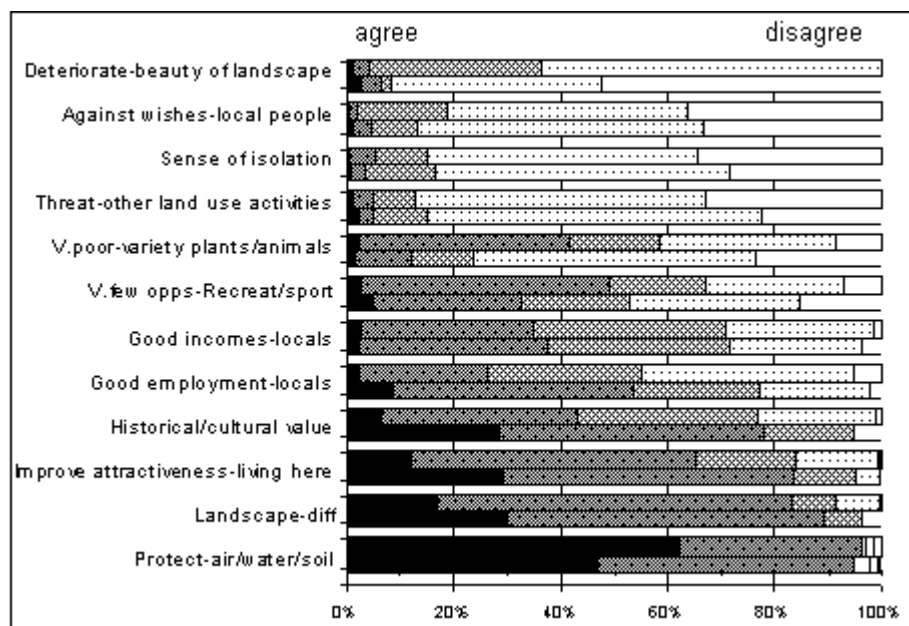


Figure 2: Opinions on the role of forests in afforestation (upper) and traditional (lower) forest areas

This positive perspective on forests is also reflected in the answers to the questions about the role of forests in the future development of the areas. About half of the respondents considers this role to be very important, forty percent as important and only ten percent as non-important. Interestingly, the role of forestry was considered in almost the same order of importance as the role of agriculture, while the role of the trade, tourism and industry sector was rated much lower (Figure 3). Clear differences on the

relative importance of agriculture and forestry are present between the two study areas. The positive opinion on the role of forest was highest in the traditional forest area; in this area the role of forests was even rated higher than that of agriculture. While in the afforestation area agriculture was considered as being most important and forestry much less so. Obvious, these opinions reflect the prevailing perspectives on the nature of the locality as reflected in the historical land use systems.

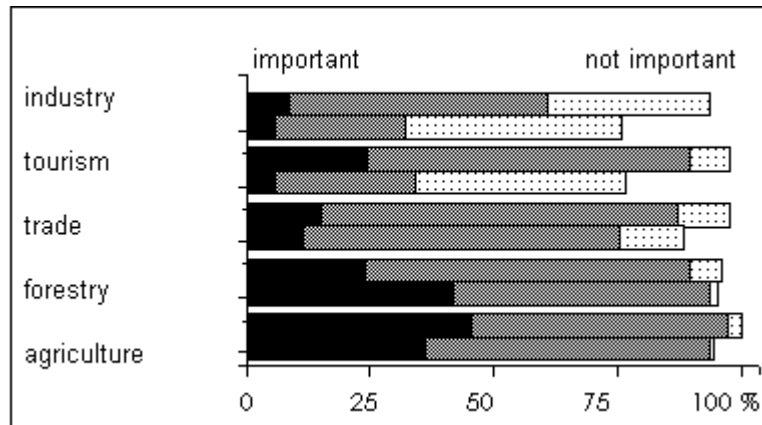


Figure 3: Evaluation of importance of different activities in afforestation (upper) and traditional (lower) forest areas

#### *Perspectives on economic importance of private forests*

In view of the considerations underlying the privatisation policy of forest ownership as well as the general opinion that forests are almost as important as agriculture for future development, it might be assumed that private forest owners would evaluate their forests mostly from an economic point of view. Especially since Hungary is a country in transition, where the income level of rural inhabitants is still rather low. Consequently, forest owners are predicted to rely on the natural resources to a high extent. It could even be suggested that, in case forest owners consider the economic importance of forests insignificant, they might want to sell the forest land in order to generate some income. However, as illustrated in Figure 4, the Multifor.RD results indicate that forest owners do not attach much importance to the economic importance of their forests and that they emphasise the environmental and social values.

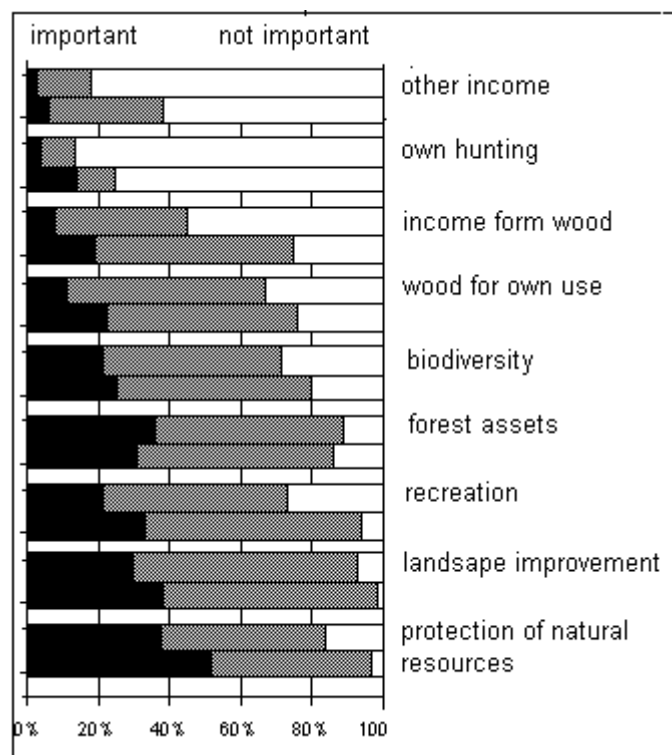


Figure 4: The importance of own forest in afforestation (upper) and traditional (lower) forest areas

#### 4. Conclusions: development trends of private forestry

Over the past decade, the forestry sector in Hungary has been drastically changed due to the process of forest privatisation. Since Hungary is a country with an economy in transition, where the level of the income is rather low, the forest owners are predicted to utilise their forests to a maximum possible, sustainable extent. However, our investigations could not prove this assumption as the economic orientation of private forest owners was found to be low, compared to their environmental awareness. This finding is surprising in view of the fact that two-third of the private forests is plantation-like industrial forest, mostly consisting of black locust and poplars. Such plantations are primarily meant for wood production, and a low level of utilisation of such plantations can not be considered as an environmental friendly management. Rather, it should be considered that the wood production in forest plantations might decrease due to the pressure of timber demand on natural forests.

Still, due to site and scale factors as well as economic factors such as labour costs and wood prices private forests are less profitable than state forests. This indicates that private forests may have only a minor role in rural development and the financial improvement of the income of rural forest owners. Indeed, private forestry in Hungary is still far from providing even a minor, but stable basis to the rural Hungarian economy. However, afforestation may modify this situation, as the present state forest policy encompasses an ambitious increase in financial resources in order to enlarge the forest area. Such afforestation may at least temporary increase labour opportunities. However, the overall role of forests in local improvement of labour possibilities is still in question. It does not seem probable that future forest management activities will provide more labour than agricultural activities, unless conscious efforts are undertaken to increase forest-derived employment opportunities through the development of forest product manufacturing and development of a forest-related recreation and tourism facilities.

Thus, although the Multifor.RD results indicate a general positive opinion about the present and future role of forests in Hungarian rural areas, there are several contradictory development trends, which make it difficult to predict what role private forestry will actually play in the development of Hungarian rural areas. Apart from long and medium-term changes such as changes in wood prices and land prices, there are several other factors which may effect private forestry in a very short term. The establishment of National Land Fund, the possibility of allowing foreign investors to buy land, and the extension of land rent to a maximum of 50 years, as well as the rapid increase of afforestation subsidies, may result some dramatic changes in private forestry which are impossible to foresee.

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# Forest and rural development in France; major policy issues

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## Abstract

Several new concerns appeared in the international debate on forest during the past ten years: e.g. its contribution to rural development, its multifunctionality and its amenities. The authors place this evolution in relation to a more general trend in public policies. They give a short overview of the context for forest and rural development policies. Then, they analyse how these issues are perceived at a local scale by ordinary people, using the main results from an in-depth survey carried out among inhabitants and institutions, in two rural areas in France: Monts d'Arrée and Plateau de Millevaches. It appears that, in both cases, the main issue for rural development is expressed in terms of public space rather than in forest terms. Finally, the authors discuss the capacity of French forest policy that is recently modernised with the 2001 forest law to give an adequate answer to such a demand.

**Key words:** forest policy, amenities, public space, sociological survey, rural area

## 1. Introduction

A number of new concepts appeared in the international debate during the two last decades: for example sustainable development, multiple uses and public participation. In particular, the concept of multifunctionality first appeared in the debate on sustainable forest management that has gradually gained in importance since it emerged at the end of the 1980's. Promoting efficient utilisation and assessment for recovering the full valuation of goods and services provided by forests was identified at the 1992 UN Conference on Environment and Development in Rio de Janeiro (Glück, 2000). This principle was formulated in Agenda 21; one objective of this programme is "*to improve recognition of the social, economic and ecological values of trees, forests and forests lands...*". In Europe, multifunctionality was taken over through the second (Helsinki, 1993) and third (Lisbon, 1998) Ministerial Conference on the Protection of Forests in Europe. The need to enhance multifunctionality was expressed in resolution H1 which defines sustainable management of forest, and in resolution L1 on the enhancement of the socio-economic aspects of sustainable forest management (Mayer, 2000). The concept has been established as a general principle that makes it possible to ensure sustainability over time.

All these concepts are implying a substantial change in the objectives of public policies, which is not specific to the forest sector. Considering that these public policies are drawn in the name of the "general public", the question then is to know how these concerns can meet the expectations of the public. The first phase of the Multifor.RD project, consisting of an in-depth survey in two study cases of each country involved, gave us the opportunity to examine how these issues are perceived at a local scale, and by ordinary people.

In a first part, we will consider the main trends leading to the current evolutions of public policies in Europe. Then, we will examine the European context in the field of rural development and forest policy. After a short overview of the contribution of forest to rural development, we will give some indications on the necessary adaptation of public policies, suggested by the results of the in-depth interviews carried on in the two French case-study areas chosen for the Multifor.RD project (Monts d'Arrée, Plateau de Millevaches).

## **2. The changing nature of public policies**

Before the analysis of the current evolution, we will start by three general comments. First of all, we have to remind that the outcome of an international conference or a simple technical regulation is not enough to speak about public policy. A public policy implies three conditions: explicit choices of precise objectives, motivated decisions regarding the way to achieve these objectives and a consistent set of means.

Secondly, when we consider political measures, we tend to focus our attention on two aspects: laws and regulations on one side and public funding on the other. But we do not pay too much attention to the human means dedicated to a specific public policy. Regarding some new fields of interest such as quality of life or environment, human resources in terms of public staff, education, and so on, can be more important than public subsidies.

At last, public policies can imply various levels of decision-making. They of course imply public institutions at several levels: from neighbourhoods to the European Union. But we also have to consider that the private sector is playing a role as well. Its role is not only limited to the willingness of the population to follow the objectives of public policies. The private sector introduces during the implementation its own concepts and professional knowledge. For example, a public policy on landscape will strongly depend on the concept of landscape existing among institutional actors who intervene upon rural areas, and we know how diverse and complex the definition of the concept may be for them (Candau and Le Floch, 2002).

Beside these three preliminary considerations, what are the main evolutions of public policy? Until the last decades, public policy was mainly aimed at the satisfaction of needs (Duran, 2002): to feed the population, to build up roads, schools and hospitals, etc. Consequently, the whole public organisation was conceived as an organ: one product (wheat or meat), one corporation (farmers), and one public office (Ministry of Agriculture). Now in most European countries, the public equipment is almost finished, the main vital needs are covered and the political debate is more and more addressing soft issues: quality of life, environment, security, industrial or natural risks, and so on. This implies that the consequences of public action are more important than the action in itself, and also that the valuation of the results is qualitative and not quantitative. For example, politicians are not questioned on the number of new flats built in a city, but on the improvement of social ties and security in suburbs.

A first consequence of this evolution is that the objective of public policies can only be defined in a very broad sense at a national level. Practical objectives can only be defined at the local level according to the social and environmental context. It also means that the implementation is playing a crucial role in the results.

A second consequence is that stakes are crossing the economic sector and the organisation of public offices. The implementation is no more in the hand of a few officers, but involves a large number of

persons, representatives of several interest groups and several levels of decision-making. Moreover, it implies a negotiation process.

To some extent, it looks paradoxical to see that the level of discussion for a number of policies is higher (from the national to the international level), and that the practical results are more and more depending on the implementation at the local level (see also Wiersum, 2000).

### **3. Does a European policy exist towards forest and forestry? towards rural development?**

As far as forest and forestry are concerned, the first point is that there is no European policy: policies are defined at the national or even in some countries at the regional level. Nevertheless, there is now a first step towards a common policy as the objectives are discussed through the ministerial conferences for the protection of forest in Europe (MCPFE). It is the responsibility of each country to decide whether the resolutions adopted during these conferences are introduced in the national policy or not.

In our field of interest, two resolutions have to be kept in mind (Mayer, 2000). Resolution H1 of the Helsinki conference in 1993 has laid down sustainability as a principle in forest management. Resolution L1 of the Lisbon conference in 1998 addressed the relations between the forest sector and society. It covers several items including the contribution of forest and forestry to rural development, the public participation to management decisions and the necessity of a full valuation of goods and services produced by forests, including non-market products. During the Lisbon conference, attention was also paid to the necessity of planning instruments. The concept of national forest programme (NFP) was introduced (Glück et al., 1999).

The situation regarding rural development is strongly different as we have a number of European measures (National Plan for Rural Development established in application of RDR n° CE 1257/1999 dated 7 of may 1999, LEADER programme, etc.). The question is only whether this set of measures can constitute a policy with the full meaning of this word. It is not the objective of this paper to argue about this; the answer can only be given through a full evaluation of the European policy. At present, the evaluation is only starting for some specific measures, and, in particular, this is the case of mid-term evaluation of RDR ( art 49 of rule CE 1257/1999, COM VI/8865/99).

### **4. Main challenges concerning the contribution of forestry to rural development**

To pay attention to the contribution of forest and forestry to rural development implies to consider the economic and the social issues.

In an economic perspective, there are two main challenges. The first one is obviously related to wood production and its repercussions in terms of employment and incomes for forest owners. In France, the whole wood sector employs 500,000 persons but most of them are not working into the forest itself (wood processing, administrations, etc.). Direct forest employment is about one fifth of this figure, but at a local scale, its geographic distribution could be poorly correlated with the location of the forest. The impact of the forest owners' incomes raises a similar problem, as most of them are not living in the vicinity where the forest is located. In some parts of France, secondary products and mushrooms in particular can play a highly significant role (Deuffic and Le Floch, 2001). It means that the economic

influence of the forest production on rural development seen at a local scale cannot be estimated by a simple ratio to the forest area, but depends on particular circumstances.

The second challenge is related to the development process derived from "cultivation" of rural amenities (OECD, 1999). This process involves employment in the tourism and recreation sector, new opportunities linked to the merchandisation of public goods and services (green employment). But the main influence has to be thought in terms of comparative advantages towards other areas, which can explain residential choices, implementation of firms, and so on. Forest obviously has a contribution to rural amenities as an archetype of nature (Eizner, 1995). Nevertheless, rural amenities can only be understood in a territorial appraisal and in most cases it should be very difficult to isolate the precise contribution of forest.

As the social issues are concerned, we have to realise that the role of forest could be important with respect to several dimensions: e.g. social identity and public space (Le Floch, 2002). This social role concerns the whole population or at least an important part of it, even if the economic repercussions are concentrated on a very small number of individuals.

## **5. Main policy issues raised by the Multifor.RD project**

First of all, it should be noticed that the methodological approach of the Multifor.RD project did not include an analysis of the rural development process in itself, but only opinions on rural development. A second limit is that the development and forest issues were only estimated at a local level and we have seen before that the new stakes of public policies are involving a large number of interest groups and several level of decision. Nevertheless, the Multifor.RD project has two main assets: it is based on in-depth interviews of ordinary people, not only institutions, as well as on a large variety of case studies widespread throughout Europe. In this respect, it cannot give a comprehensive view of the contribution of forest to rural development, but it can help to provide a precise valuation of "some" stakes.

As France is concerned, three points should be put forward.

1) In both case studies (Monts d'Arrée, Plateau de Millevaches), the economic role of forest regarding development is simply not a stake for interviewees at a local level. It becomes more significant in the discourse of regional institutions. At the national level, this stake appears highly important. For example, the national forest strategy approved in 1999 was based on four axes. Three of them have, at least partly, an economic dimension: to gain new markets, to assure the development of the forest-wood-paper sector in the frame of a concerted land management, and to improve the international competitiveness of the forest sector. As public policy is concerned, these objectives fit with the classical sector-based conception and a complete set of measures is available. The situation is completely similar for biodiversity.

2) On the contrary, one major concern for the interviewees at the local level appears to be related to the question of "public space", that is to say a public place where public issues are discussed or debated, a place of civil exchanges (Banerjee, 2001). Indeed, when some of the (permanent or occasional regular) inhabitants claim the access to a forest, it is not only a claim for physical access to a recreational space. It is also a claim for the right, as a member of a community, to walk around, to look around, and, eventually, to debate and to express a view on the territorial changes and projects. And when they criticise a forest owner who restricts the use of its forest to a club of bowmen, in the name of a potential conflict of uses between bowmen and walkers, they in fact denounce the owner's will "to stay in

good company”, the exclusion of the presence of the other by an actor playing a role in the area and in its future.

This may not be true in all countries of the European Union, but we can argue that it has to be considered as a hypothesis for several countries, such as Denmark and Belgium. This result is consistent with the conclusions of the OECD (1999) on the importance of amenities for rural space. It is also consistent with our observations on the evolution of the objective of public concern, from the satisfaction of material needs towards soft issues related to the quality of life. At last, it is also recorded in the national forest strategy and in the new “Loi d’orientation sur la forêt”.

3) The question is then to know if the existing set of political measures is adequate to meet this objective. The main novelty in the new 2001 French forest law is the introduction of the territorial forest contract (“Charte Forestière de Territoire”, i.e. CFT). In a first step, this measure is only used at an experimental level, but it is a pragmatic tentative to take into account the consequences of the evolution of public policy: definition of the objectives at a local level, negotiation process between a number of actors, et cetera. Nevertheless, this measure is still falling into the trap of a sector-based entry. If the main issue for rural development is public space and not forest, we can doubt the capacity of existing political measures to achieve this objective. Moreover, the only answer to the public claim for an access to some “natural” space such as forest is given in terms of negotiation between actors. In consideration the property rights on public goods and services are not clearly allocated by law. There are strong differences between the European countries on this topic, and the debate will certainly emerge again.

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## **Part 3      Discussion**



# **Comments on the Multifor.RD research project**

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## **1. Introduction**

First, it is important to acknowledge the power without responsibility of the 'referent'. As a commentator who knows about the outline of the project, but who receives such a large amount of material in the course of a day of both a conceptual and empirical character, the best the research team can hope for is impressions. That is all that I offer.

The basic structure of the project, with two contrasting areas in a number of countries, is entirely sound. It offers not only room for forest-rich: forest-poor area comparisons but also inter-country comparisons. The desire to create a broad-based attitudinal study to inform policy is commendable if, in my opinion, a little optimistic in view of what it can expect to achieve.

I have summarised my comments around six themes:

- Methods and the epistemological basis of the study
- The nature of development
- The relationship between attitudes values and facts
- Institutions, agencies and governance to deliver change
- Non-market values and their significance in forestry
- A false dualism between environmental and production forestry

## **2. Methods and epistemologies**

The two-stage approach in the study offers an intuitively appealing qualitative-followed-by-quantitative approach. If, however, part of the study is rooted in phenomenological (or perhaps reflexive) methods and part is based on a more conventional hypothetico-deductive approach, there may be a disjuncture between the qualitative and quantitative components. Whereas the former approach denies the legitimacy of any objective reality and is based on a dialogue about forests between the questioner and respondent in a loosely structured format, the latter necessarily assumes a more objective reality. This may be no more than a pedantic observation on methods, but the more reflexive the relationship between respondent and questioner, the greater the capacity for a shift in consciousness and attitude. This may not be of any real consequence in terms of the findings if we are dealing with two entirely separate samples. Perhaps it is better to consider them as twin track approaches rather than a linear stage 1 followed by stage 2 approach.

### **3. The nature of development**

In the presentations given, the term rural was given close scrutiny, as was forestry as an idea (although there might have been a case for exploring attitudes to trees as well as forests). Development as a concept was not given the same treatment. Yet, the very definition of development is highly contested. For example, do rising property values resulting from the proximity of dwellings to trees count as development (especially when such rises may have adverse effects on poor rural people)? Do rising biodiversity values or carbon sink values count as development? What about household values from home gathered fuel or even mushrooms? Do their values contribute to development? Given that the general public may operate with more narrowly job- or output-based definitions, it is possible that these wider definitions get ignored. That is of itself might be revealing in the stage 1 analysis, but these themes might have been explored in stage 2, especially when a more sophisticated conception of development might include non-market values, cultural values etc. There is thus a need to articulate more clearly the different conceptions of development and better explore their consequences in a forest setting.

### **4. The relationship between attitudes values and facts**

Much of the analysis takes the form of stated preferences, attitudes and values. In the paper of Praestholm et al. (2002) on forest attractiveness and local housing values in Denmark some studies were identified which gave expressions of value to some of the phenomena investigated. Given the growing importance of non-market values it is important to know their value, even if there are disputes as to exactly how we go about it.

There is a case for exploring more closely the link between values and attitudes and outcomes. In a sector like forestry which is widely visible, but may not directly 'touch' people through employment, it is unsurprising that there should be attitudes and equally unsurprising that the relationship between trees, forests and rural development should be weakly articulated.

### **5. Institutions, agencies and governance to deliver change**

Given that the theme of the project was multifunctionality, I was surprised at the lack of any analysis of institutional capacities to deliver multifunctional outcomes. I suspect that some forestry/rural development institutions are much more capable of working to a multi-functional agenda than others. The extent to which new institutions have evolved in the different participating countries would have been a pertinent channel of enquiry. There would however, have been enormous problems of conducting a comparative study of institutional innovation. Even a descriptive account of institutional innovation would have been useful context.

Closely associated with the question of institutional design are issues of governance relating to the relationships between institutions and different stakeholders. Whilst some institutions may be associated with open adaptive governance where new ways of decision-making and resource allocation arise, in other cases, decision-making may remain very conservative.

## **6. Non-market values and their significance in forestry**

This issue is partly touched on above. It seems to me likely that non-market values may represent a very large part of the values of forests in peri-urban areas. Given that these consumption-oriented values and the weak links with and low importance of forest-related economic activity and the principal users, it is unsurprising that a weak connection between forestry and rural development should be detected.

Our own work in Scotland in the late 1990s exposed a big difference in non-market values from one place to another and it is widely believed that multi-functional forestry means very different things in remote and metropolitan locations.

## **7. A false dualism between environmental and production forestry**

Forests can have both high non-market values and high market values. It is not necessarily one or the other. Forests contain both elements- hence their multifunctionality- in different proportions in different places.

However, we need to recognise that the recreational forest in Austria, owned by an urban resident is co-existing alongside a working forest for a rural resident. Whilst one labour input into forest management is a cost, the other is a recreational benefit. Yet when we are looking at economic activity, how can a recreational activity realise a concrete marketable product? But it does. We need to construct new ways of exploring these ambiguous relationships between recreation and development, which are also present in hobby farming, small-scale tourism etc.

## **8. Conclusions**

The project stimulated a good response from the audience and will continue to do so through published articles and other presentations. It is timely and provides a valuable platform for further work.

I suspect that we will need to look harder at the connection between attitudes and measurable benefits in terms of output, or maybe non-market values. It would also be interesting to know whether communities can be engaged by the prospect of woodland development using various participatory approaches, which are widely advocated and appear to work in developing countries.

I suspect also that we need to look at the capacity for institutional innovation and for innovation at the level of the firm. The substantial contribution of the RES (Recreation and Environmental Services) project by Mantau and others (2001) has thrown light on some of the economic possibilities of internalising the externalities. These might create more hard measurable development from forests. But there is still a need for institutional vehicles to carry these ideas into practice.

I suspect, but do not know (and I say this as a non-forester) that forestry's value in certain locations in social terms is likely to be much, much greater than the market values. Some of these values are direct, some are more weakly connected and indirect and some are unambiguously extra-market values. The complexity of this bundle of values cannot be explored using the extant methods of environmental valuation alone. There is a need to develop new approaches to valuation, beyond those currently used.

Multifunctionality will stay as an issue. Decision-making about appropriate styles of multifunctionality need to be informed by better understanding of stakeholder aspirations, as well as concrete possibilities of which crop will grow where and at what cost or profit. There is also a case for developing more action research initiatives to needs to explore the interface between theory and practice.

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# **Finnish external advisors' comments on the Multifor.RD research project**

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## **1. Introduction**

Bill Slee, in his parallel comments, mentions the power of the referent "without responsibility". This referent is in a different position, as we were members of COST Action E3 (Forestry in the context of rural development) of which Multifor.RD was developed in 1998. Secondly, we have been involved in Multifor.RD in an advisory capacity. Any comments we have to make cannot, therefore, be objective. Rather they are an overview of some of the issues that have arisen during the project, and in particular, we shall comment on the value of the database that the project has created, as well as its potential for further research.

Rather than repeat all the points covered by Bill Slee in his comments, for ours could be very similar, we shall examine some of the issues that have arisen during the progress of Multifor.RD; issues that have given the project its very nature, and upon which its success and remaining potential can be assessed.

Our comments fall into three main groups:

- Methods employed and their problems
- Quantitative analyses and their utilisation
- Contribution to rural development?

## **2. Research methods employed and their problems**

The two-stage approach of the project has clearly been its strength and its weakness. The decision to adopt the phenomenological approach for part one, may or may not have been justified. In any event, it sought to elucidate the discourses of the rural population in their "taken-for-granted" world by means of open ended, loosely structured interviews: reality as a social construct being the guiding frame of reference.

Relationships always involve people, thus problems exist concerning the interpretability of, and especially comparability of, questions asked of different populations. The key areas of difficulty in such comparisons is that the collected personal phenomena concerning cultural meanings, and experiences and the way they are expressed represent different interpretations of "reality". For example, "isolation" as a concept can be negative (space causes people to be forced apart, weakens social/community coherence, etc.) or positive (space keeps neighbour's noises and smells at a safe distance, avoids invasions on own privacy). During testing of some of the Multifor.RD questions in Finland, most respondents answered that "isolation" was a *good* thing, whereas in the Multifor.RD questionnaire the inference was that "isolation" was a *negative* attribute.

Did the quantitative study gain from the qualitative study? Yes, it would seem that the precautions that were taken to ensure that questions were understood in the same way across cultural and linguistic boundaries have paid off.

However, the "academic rigour" that surrounded the phenomenological approach to the qualitative phase of the study meant that the considerable international literature (especially Scandinavian and American) on multiple-use and multifunctional forests and forestry was largely ignored. Criticisms could therefore be raised that in failing to recognise this rich literature the Multifor.RD team placed "academic purity" before the pragmatic demands of the problem to be solved. Certainly, the issues that were elucidated from the qualitative study have all been recognised in the literature.

It is easy to be wise after the event, but perhaps the reports from Finland and Switzerland on the results of earlier research on the role of multifunctional forestry for rural development should have been written and presented at the very beginning of the Multifor.RD project rather than at the end. The project would then have gained a better perspective of the related research that had already been accomplished in these two countries. This would have clarified the advisors' roles. Moreover, the Multifor.RD team would also have gained an advanced understanding about possibilities and limitations to develop a common conceptual basis of research from the insights into perspectives on forestry in these two countries. This, in turn, the project would have avoided the criticism presented above. Nonetheless, the efforts to link perspectives on multifunctional forestry and on rural development are quite interesting.

### **3. Quantitative analyses and their utilisation**

Some fears and doubts raised at a Multifor.RD workshop in Greece in June 2001 concerning the nature of the empirical results have been proved unfounded. The results so far presented at seminars and workshops clearly demonstrate that the goals set in the official EU/FAIR research proposal will be fulfilled by June 2002.

Again in hindsight, perhaps not enough discussion took place at the beginning of the quantitative phase of the study as to statistical methods that would be employed. Such a discussion may have helped structure some questions in such a way as to assist the analysis. For example, discriminant analysis may not have been the most suitable method for testing the differences between 16 different regions (*a priori* classes). Discriminant analysis should have been based on a few clearly defined *a priori* classes that were related to the questions being asked in the TA. For example, the testing of the "discourses" identified in the article of Elands and Wiersum (2001) would result in 5 classes (4 discriminant functions). These would be much easier to manage and understand than the 15 discriminant functions required for a region-based classification.

The Multifor.RD database is very rich. The analysis and reports that will fulfil the terms of the official research proposal will not even begin to exhaust the material. Indeed, the analysis has still to examine many relationships that are central to the frame of reference: the discourses and the questions raised in the research proposal.

Many more interesting dependent variables and groups are to be found in the data, and each deserves to be addressed. For instance, the area descriptive variables could be employed to create a greater variety of area typologies (e.g. rural areas as social representations). Evidence for "constructed spaces" (based on the frame of reference - reality as a social construct) can also be sought. Such typologies can, in turn, be employed for testing relations to forests and forestry.

The main results must, of course, relate to the official EU/FAIR research proposal. The papers presented at various Multifor.RD workshops have concentrated on the empirical (quantitative) result: but how are the qualitative results to be integrated? It would be a shame if the qualitative results were somehow "lost" (unless, of course, the qualitative analysis was simply a means of avoiding the international literature and so preserve "academic purity", as suggested above).

Other questions also arise: Are national or sub-national results to be compared with aggregated data? Are discourses to be constructed for 1) each study area, 2) each country, 3) all areas together by traditional forestry and afforestation areas?

These questions are important, especially in the context of one of the aims of the research project, namely the *establishment of criteria for distinguishing regional-specific strategies for multifunctional forestry to serve rural development*.

Whether or not these questions, and others, will be answered in the final report of Multifor.RD is not entirely relevant. As noted already, the data is so rich that it may take a year or two of post-Multifor.RD research to examine all the potential issues.

Praise needs to go to the Multifor.RD team for its decision to encourage continuing work with the database even after the project, from the EU's standpoint, has been completed. The flexible guidelines that have been established to preserve copyright and yet enable the whole data-set to be employed by individuals and teams is very commendable.

#### **4. Contribution to rural development?**

Fine as the empirical results may be, they must make a contribution to rural development. It will be essential for the results to be published in a form, or forms, that reach the target clients: policy-makers in the fields of forestry and rural development, development officers in study regions, and so on. While it is to be hoped that the database will lead to some academic dissertations, the main purpose of Multifor.RD must be the dissemination of practical information. Thus, it is to be hoped that articles are also written for journals and papers that serve the main clients.

Of course, the rural development dimension, which is a key feature of the study, cannot be based on "perceptions" and "subjective" or "qualitative" results alone. The commodification of resources and externalities will be a key issue if jobs are to be created (a point raised by the Spanish team). The role of business-related information in rural areas will be an important factor. For example: what stimulates the motive to become a forest-based entrepreneur? Such issues need to be placed in the context of the results (e.g. the paper by O'Leary and Elands "*Anyone for more forests*", especially the section of business activities, p.66-67, Figure 5) is a starting point for such a line of analysis.

National or regional development policies may run into problems as rural populations age and the young leave for urban growth centres. How to attract young people to rural livelihoods is a major challenge facing rural policy makers! Social studies of forest-based rural development, such as Multifor.RD, can only set the frame for rural policy makers. For example, initially forest- and forestry-based enterprises will almost certainly need public sector support. How this can best be achieved without alienating part of rural population is, again, a challenge for policy-makers.

Projects such as Multifor.RD can show that cultural differences exist with respect to attitudes to forests, forestry and enterprise, and upon what basis such differences occur. But again, the question remains: how will policy recommendations take into consideration local values and aspirations?

It will be important for Multifor.RD's results to point to regions of successful integration of forestry into rural development, and to use these areas as a model for specific recommendations. Similarly, the results of the project should point to regions of hostility to forest-based rural development, and to use these, too, as a model for specific recommendations, notably the avoidance of conflicts between farmers and foresters; conflicts which could hinder the acceptance of forestry as an alternative land use in rural areas.

## References

- Elands, B.H.M. and K.F. Wiersum, 2001. Forestry and rural development in Europe: an exploration of socio-political discourses. *Forest Policy and Economics*, 3, p. 5-16.
- O' Leary, T.N. and B.H.M. Elands, 2002. Anyone for more forests? Current perspectives and future expectations on afforestation and forest functions across Europe. In: Wiersum, K.F. and B.H.M. Elands (eds), *The changing role of forestry in Europe: perspectives for rural development*. Forest and Nature Conservation Policy Group, Wageningen University, Wageningen, the Netherlands. *Nature Forest in Society*, 2002-2, p. 51-74.



## Forum discussion

After the comments of the two referents a general discussion on the policy implications of the Multifor.RD project was held. This discussion was facilitated by a forum consisting of the Daniel Terrasson (who earlier delivered a paper on policy implications), the two referents Bill Slee and Ashley Selby, and Alexander Buch of the Liaison Unit Vienna of the Ministerial Conference on the Protection of Forests in Europe. The last member of the forum opened the discussion by indicating the following issues, which should be kept in mind when considering the policy implications of the research project.

- Within Europe quite different concepts and definitions concerning forests exist. Attention should be given to the question whether this diversity has influenced the answers of the respondents and the comparative analysis of the answers. This aspect merits careful attention when interpreting the research findings.
- The role of forestry for rural development is not only dependent on the opinions regarding the desired functions of forests from various stakeholder groups, but also from economic and technological changes. For instance, at present the forestry situation in Europe is affected by the imports of lowly priced timber from Russia. In this country more wood resources are present than in the rest of Europe, and consequently increased wood imports from Russia can have major repercussions on the role of forests in the EU countries. Another example is the increasing attention for options to develop renewable energy resources. Forests could play an important role in providing such renewable energy. From the Multifor.RD research it appears that such developments are not included in the concerns of community inhabitants concerning the role of forestry in rural development. Nonetheless, from a policy perspective such developments and their effects on income generation from forest production cannot be overlooked.
- When considering the policy implications of the Multifor.RD research specific attention might be given to assess how the community perspectives relate to the forestry measures incorporated in the EU Common Agricultural Policy. At present no specific EU rural development policy exists yet, although general principles for rural development have been formulated in the 1996 Cork Declaration on 'A living countryside'. Discussions are ongoing how these principles might be elaborated into a new EU rural development policy.

In the following discussion two main items are addressed. In the first place it is emphasised that policies cannot be based on community perceptions and attitudes towards the forest functions only, but also on economic considerations. Consequently, specialist knowledge concerning the quickly changing position of wood as an economic resource has also to be taken into consideration when formulating forest policies. Moreover, as mentioned by the referent Bill Slee options for new approaches towards the marketing of recreational and environmental services should also be considered.

In the second place the high level of importance attached to the environmental services of forests are highlighted. The Multifor.RD project clearly illustrated how such environmental forest functions are often valued higher than the productive functions of forests. Indeed, the project demonstrates how forests are foremost valued for maintaining and improving the quality of life in general rather than for their ability to contribute towards generation of income and employment. Still this should not be interpreted that forest conservation measures should be limited to strict protection. In order to assure the multifunctionality of forests in many cases a more active management is necessary, for instance to assure desired levels of forest products (not only timber but also non-timber products), maintenance of biodiversity, and proper recreational facilities.



## **Appendix**

# THE CHANGING ROLE OF FORESTRY IN EUROPE

BETWEEN URBANISATION  
AND RURAL DEVELOPMENT

11 - 14 November 2001  
Wageningen, the Netherlands

Programme

## Contact and further information:

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[www.alterra.nl/forestrysymposium.htm](http://www.alterra.nl/forestrysymposium.htm)

## Sunday 11 November 2001

8:30-18:00 EXCURSION

with

9:45-10:00 AMSTERDAM, RAI BUILDING

Amsterdam Tree Soil

10:30-11:30 AMSTERDAM, THE VONDELPARK

Aspects of design, selection and establishment and management problems in an extremely busy historical park in Amsterdam

11.45-12.45 AMSTERDAM, HET AMSTERDAMSE BOS

An older urban forest in transition: from purely recreational to more ecological; changes in planning and management.

14.15-15.15 THE HAGUE, HAAGSE BOS

Management of a State Forest in the city. This is an old forest with many visitors. It is a remnant of old dune forests, but is now completely surrounded by the city.

15.30-16.30 BALIJ/BIESLANDSE BOS

Design and development of a new polder forest. Changing flat polder land into an urban forest.

19:00-20:30 ICE-BREAKER

## Monday 12 November 2001

9:30-10:00 OPENING

Opening by **prof. dr L. Speelman**, rector of Wageningen University

Opening by **prof. dr H. Schanz**, chairman of the programme committee

Introduction by **dr A.N. van der Zande**, director general of the Expertise Group Environmental Sciences of the Wageningen University and Research Centre.

10:00-10:30 RURAL AND URBAN AREAS – PART I

**The European Commission's nature management policies and strategies in changing European societies** by N.H.

Hanley, Head of the unit ENV.B2 - Nature and Bio-diversity of DG Environment

10:30-11:00 COFFEE BREAK

11:00-12:30 RURAL AND URBAN AREAS – PART II

**Developments and recent driving forces in rural areas in a European perspective** by Dr. Nathalie Bertrand (Cemagref, France) & Dr. Marie-Christine Kovacsazy (Commissariat Général du Plan, France)

**Developments and recent driving forces in urban areas in a European perspective** by Prof. Dr. Gregory Ashworth (University of Groningen, the Netherlands)

**Interaction between urban and rural areas – underlying processes and their consequences for forest and nature management** by Prof. Ir. Klaas Kerkstra (Wageningen University, the Netherlands)

12:30-14:00 LUNCH

14:00-15:00 RURAL AND URBAN AREAS – PART III

**The human dimension in the relation between urban and rural areas and their effects on forest and nature management** by Prof. Dr. Robert Sommer (University of California, Davis, USA)

**The challenges of changing urban-rural relations for forest and nature management in the Western world** by Prof. James J. Kennedy (Utah State University, USA) and Prof. Dr. Niels Elers Koch (Danish Forest and Landscape Research Institute, Denmark)

15:00-15:30 DISCUSSION

15:30-16:00 COFFEE BREAK

16:00-18:00 EU-ACTIONS

**The myth of forests: a reflection on the variety of rural identities in Europe and the role of forests in it** by Ir. Birgit Elands (Wageningen University, the Netherlands) and Tomas O'Leary (University College Dublin, Ireland)

**Cost action E12 Urban forests and trees: Introduction and main results** by Dr. Kjell

Nilsson and Dr. Ir. Cecil Konijnendijk (Danish Forest and Landscape Research Institute, Denmark)

**Panel discussion** about MultiforRD and COST E12

18:00-22:00 RECEPTION AT ALTERRA

## Tuesday 13 November 2001

(detailed information on pages 2 and 3)

PARALLEL SESSION 1-A

**Changing Form, Benefit and Functions of Urban Forests And Trees**

PARALLEL SESSION 1-B

**Innovative Approaches in Selection and Establishment of Urban Tree Resources**

PARALLEL SESSION 1-C

**Innovative Approaches in Urban Forest and Tree Management**

PARALLEL SESSION 2

**Multifunctional forestry as a means to rural development**

- / -

**Meeting of the Management Committee Cost E12 (MC Members only)**

18.30-23.30 CONFERENCE DINER

## Wednesday 14 November 2001

7.45-15.00 FIELD TRIP TO THE FLEVOPOLDER

**New perspectives for man and nature in an urban environment; highlights from the Dutch State Forest Service**

15.00-17.30 INNOVATIVE PERSPECTIVES ON FORESTRY – REFLECTIONS ON THE SYMPOSIUM AND THE ROAD AHEAD

**Introduction** by Prof. Chris Baines, environmentalist and broadcaster (United Kingdom)

**Reflections** by panel of forest policy makers and forest managers

## Tuesday 13 November 2001

	PARALLEL SESSION 1-A	PARALLEL SESSION 1-B	PARALLEL SESSION 1-C	PARALLEL SESSION 2
	<b>CHANGING FORM, BENEFIT AND FUNCTIONS OF URBAN FORESTS AND TREES</b>	<b>INNOVATIVE APPROACHES IN SELECTION AND ESTABLISHMENT OF URBAN TREE RESOURCES</b>	<b>INNOVATIVE APPROACHES IN URBAN FOREST AND TREE MANAGEMENT</b>	<b>MULTIFUNCTIONAL FORESTRY AS A MEANS TO RURAL DEVELOPMENT</b>
09:00 - 10:30	DEVELOPING THE SOCIAL VALUES OF URBAN FORESTS CHAIR: <i>ANDREAS OTTITSCH</i>	INNOVATIVE APPROACHES IN URBAN PLANT SELECTION AND PEST CONTROL CHAIR: <i>MARY FORREST</i>	DEVELOPING MANAGEMENT SYSTEMS IN URBAN FORESTRY CHAIR: <i>MARIA-LOUISE TELLO</i>	THE CONTESTED NATURE OF FORESTRY FOR RURAL DEVELOPMENT CHAIR: <i>DANIEL TERRASSON</i>
	<b>Professionalising planning for the social functions of forests and nature areas</b> by Sjerp de Vries and Martin Goossen (the Netherlands) <b>The potential of social integration of Urban Green Spaces in Lucca (Italy) and Zürich (Switzerland)</b> by Klaus Seeland (Switzerland) & Fabio Salbitano (Italy) <b>NeighbourWoods: developing policies and planning for Europe's urban woodlands</b> by Cecil Konijnendijk (Denmark)	<b>Plant selection for street trees, park trees and urban woodlands</b> by Arne Sæbø (Norway), Thorarinn Benedikz (Iceland), Thomas Randrup (Denmark) and Jos Van Slycken (Belgium) <b>Biological and integrated control of insect pests in urban parks and forests</b> by Marek Tomalak (Poland) <i>Open slot</i>	<b>Management of urban greenery - a system oriented model of tasks in urban forestry</b> by Werner Pillmann (Austria) <b>Developing an information system for structural urban green planning and management in St. Petersburg, Russia</b> by Cecil Konijnendijk (Denmark), Jens Ole Juul (Denmark), Alexander Alekseev (Russia), Susanne Guldager (Denmark) & Ole. H. Caspersen (Denmark) <b>Towards a monitoring method and a number of multifaceted and hierarchical biodiversity indicators for urban and suburban parks</b> by Martin Hermy and Johnny Cornelis (Belgium)	<b>The integrated MultiforRD research approach</b> by K.F. Wiersum (The Netherlands) <b>Social relationships to forests as an indication of present issues regarding rural areas. Content analysis of in-depth interviews carried out in the Monts d'Arrée area, France</b> by S. le Floch & P. Deuffic (France) <b>Anyone for more forests? Current perspectives and future expectations</b> by T. O'Leary (Ireland) & B.H.M. Elands (the Netherlands)
10:30	COFFEE BREAK	COFFEE BREAK	COFFEE BREAK	COFFEE BREAK
11:00 - 12:30	Developing Innovative Programmes for Urban Forestry CHAIR: <i>CECIL KONIJNENDIJK</i>	Innovative Approaches in Urban Tree Establishment CHAIR: <i>THOMAS RANDRUP</i>	Management of Urban Woodlands CHAIR: <i>DIRK DUJESIEFKEN</i>	Lifestyles and Values of Forest Owners and Users CHAIR: <i>TOMAS O'LEARY</i>
	<b>Ireland's NeighbourWood scheme - urban greening through partnerships</b> by Kevin Collins and John Brosnan (Ireland) <b>The White Rose Forest - A catalyst for the regeneration of a region</b> by Alan Simson (United Kingdom) <b>Challenges of neighbourhood participation in city-scaled urban greening</b> by Ann Van Herzele (Belgium)	<b>Tree selection and establishment practices in Europe - Results from a European survey</b> by Stephan Pauleit (Germany), Louis Marie Rivière (France), Laure Vidal-Beaudet (France), Jose Luis Garcia-Valdecantos (Spain), Gemma Garcia-Marin (Spain), Monique Bodson (Belgium), and Nerys Jones (United Kingdom) <b>Informing the public about the ecological impact of different methods of road and pavement winter maintenance in Vienna</b> by Monika Sieghardt and Martin Wresowar (Austria) <b>Weed control in the urban environment in Denmark</b> by Palle Kristoffersen and Camilla B. Lophaven (Denmark)	<b>Visual aspects of urban woodland: their dependency of context</b> by Åsa Ode (Sweden) and Gary Fry (Norway) <b>Management styles and knowledge cultures of yesterday and tomorrow for multiple use and urban woodland management</b> by Anna Jönsson and Roland Gustavsson (Sweden)	<b>Forest owner lifestyles as indicators for social change</b> by U. Schraml, S. Ziegenspeck & U. Härdter (Germany) <b>Urban forest owners in Austria – implications for rural development</b> by E. Kvarda (Austria) <b>The multiple values of forest and afforestation in Denmark: improving the attractiveness of local areas</b> by S. Praestholm, F. Søndergaard Jensen, B. Hasler, C. Damgaard & E. Erichsen (Denmark)

**Tuesday 13 November 2001 Programme (continued)**

	<b>PARALLEL SESSION 1-A</b>	<b>PARALLEL SESSION 1-B</b>	<b>PARALLEL SESSION 1-C</b>	<b>PARALLEL SESSION 2</b>
	<b><i>CHANGING FORM, BENEFIT AND FUNCTIONS OF URBAN FORESTS AND TREES</i></b>	<b><i>INNOVATIVE APPROACHES IN SELECTION AND ESTABLISHMENT OF URBAN TREE RESOURCES</i></b>	<b><i>INNOVATIVE APPROACHES IN URBAN FOREST AND TREE MANAGEMENT</i></b>	<b><i>MULTIFUNCTIONAL FORESTRY AS A MEANS TO RURAL DEVELOPMENT</i></b>
12:30	LUNCH	LUNCH	LUNCH	LUNCH
13:30	CASE STUDIES OF URBAN WOODLAND PLANNING AND DESIGN	IMPROVING URBAN SOILS FOR URBAN TREES	CASE STUDIES OF URBAN FOREST OWNERSHIP AND MANAGEMENT	PARADOX OR HARMONY IN FORESTRY STRATEGIES IN SOUTH AND EAST EUROPE?
-	CHAIR: <i>KJELL NILSSON</i>	CHAIR: <i>JOS KOOLEN</i>	CHAIR: <i>MARTIN HERMY</i>	CHAIR: <i>FREERK WIERSUM</i>
15:00	<b><i>Use and abuse of woodlands in Central Scotland</i></b> by Simon Bell (United Kingdom)	<b><i>Amsterdam Tree Soil revisited</i></b> by Els Couenberg (Netherlands) & Badda Beyne	<b><i>Results of changing social demands in Istanbul Bahçeköy Forest Enterprise: a case study</i></b> by Ömer Eker and Kenan Ok (Turkey)	<b><i>The paradox of Mediterranean forests: between economic profitability and social demands, the Catalan case</i></b> by G. Dominguez et al. (Spain)
	<b><i>Designing urban woodlands in the Netherlands; the layout of forests in lowlands</i></b> by Dominique Blom (the Netherlands)	<b><i>The assessment of mulch sheets to inhibit competitive vegetation in tree plantations in urban and natural environment</i></b> by Jürgen Samyn & Bruno de Vos (Belgium)	<b><i>A historical case of periurban forestry: the 'Sotos Históricos' of Aranjuez</i></b> by José-Luis Garcia-Valdecantos and Maria-Louisa Tello (Spain)	<b><i>Local people's attitudes and policy implications on forestry and rural development in two case study areas in Greece</i></b> by K. Kassioumis, K. Papageorgiou, N. Stamou, Ath. Christodoulou, V. Blioumis & Ath. Karameris
	<b><i>Creating an urban forest in the city of Maale Edomim</i></b> by Iris Bernstein (Israel)	<b><i>The effect of adding mycorrhizae to planting soil on the establishment and first growth of street tree plantings</i></b> by Jitze Kopinga (Netherlands)		<b><i>Forest privatisation, public perceptions and attitudes to forestry and rural development in a country in transition</i></b> by L. Jager & A. Szepesi
15:00	COFFEE BREAK	COFFEE BREAK	COFFEE BREAK	COFFEE BREAK
15:30	MEETING OF THE MANAGEMENT COMMITTEE COST E12	MEETING OF THE MANAGEMENT COMMITTEE COST E12	MEETING OF THE MANAGEMENT COMMITTEE COST E12	POLICY IMPLICATIONS
-				CHAIR: <i>NIELS ELMERS KOCH</i>
17:00	(MC MEMBERS ONLY)	(MC MEMBERS ONLY)	(MC MEMBERS ONLY)	<b><i>Comments on research findings by referent</i></b> by A. Selby & B. Slee
				<b><i>Possible implications of MultiforRD research findings for developing European forest policy</i></b> by D. Terrasson et al.
				<b><i>Forum discussion</i></b> with policy makers
				<i>FORUM MEMBERS:</i>
				- Mr. Alexander Buch – Austria
				- Mr. Fergal Mulloy – Ireland
18:30	CONFERENCE DINNER	CONFERENCE DINNER	CONFERENCE DINNER	CONFERENCE DINNER