

Forests and Afforestation in a Rural Development Context: a Comparative Study of three Regions in Finland

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<p>The investigation examines how farmers and rural advisors perceive forests, forestry and field afforestation in the context of rural development in three contrasting rural business districts (RBDs) in Finland: Etelä-Pohjanmaa, Mikkeli and Kuopio. The diversity of socio-economic histories of these districts enables the identification of discourses similar to those identified in Central Europe: Hedonist, community sustainability, agri-rural, nature conservation and utilitarian.</p> <p>Farmers and advisors had different views on the role of forests in the development of their localities. The advisors supported a utilitarian discourse whereas farmers, who are also the local inhabitants, supported community sustainability, hedonist and nature conservation discourses.</p> <p>Farmers' forestry objectives were "Income & financial security", "Conservation of nature and the local milieu" and "Household objectives". None of the objectives were strongly represented in Etelä-Pohjanmaa. "Income & financial security" was strongly represented in Mikkeli RBD. Some 12% of farmers had no specific objectives for their forests, but this figure rose to 18% for farmers in Etelä-Pohjanmaa.</p> <p>Farmers' preconditions for possible field afforestation (public subsidies incentives and private incentives) were assessed for all farmers, irrespective of their current afforestation plans. Overall, farmers' personal incentives were more likely to affect any possible afforestation decision than the availability of grant-aid, but the majority (54%) of farmers with afforestation plans were influenced by public subsidies</p> <p>Advisors in Mikkeli and Kuopio RBDs are aware that afforestation may have negative effects on rural enterprise, but advisors remain unresponsive to the nature-based enterprise and tourism opportunities that can be created from environmental/milieu and non-wood benefits of forests. This must be a cause for concern, particularly as it is accepted that the creation of new jobs in the countryside will come from such enterprises rather than from traditional forestry.</p>			
Keywords field afforestation, forests endogenous rural development, rural milieu, rural discourses, farm development, farmers' & rural advisors' attitudes, Etelä-Pohjanmaa, Mikkeli and Kuopio rural business districts			
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Foreword

Rural areas in Finland and Europe are in transformation in response to the demands of global economic and agricultural policy trends. With the decline of agricultural as the dominant economic activity of rural areas, new forms of employment are sought to compensate for lost incomes and to maintain livelihoods. The outcome is a revaluation of all rural-based resources including forests and forestry that might form a basis for the provision of goods or services. Rural policy in the European Union aims to create rural areas that in addition to tradition produce also produce non-tangible goods and services for society as a whole. Forests play an important role in this process.

In 1994, COST Action E3-*Forestry in the context of rural development* was established to assess how multifunctional forests were being perceived and studied in different countries. The Action led to the EU/FAIR funded research project *Multifunctional forestry as a means to rural development – MULTIFOR.RD* (1998–2002). This project sought to establish region-specific strategies for balancing public demands and forest-owners objectives. The Finnish Forest Research Institute (Metla) was involved in an advisory role.

As the MULTIFOR.RD project progressed, it became clear that the rural discourses that had been elaborated for the rural regions of Europe offered a basis for examining the role of forests in rural development in Finland. An initial question was therefore whether the discourses could be identified in Finland and whether clues to their presence varied regionally. Knowledge of similarities between discourses found in Finland and Central Europe could contribute to the integration of Finland's national rural policy with the aims of the rural policy of the EU. Such knowledge could also be useful in the formulation and application of regional forest programmes, as the regional strengths of rural discourses are likely to affect the perception of the local inhabitants of the potential role of forests and forestry in rural development.

This report is therefore a contribution to the on-going discussion as to the role of forests in Finnish rural development. An earlier report, *Field afforestation in the context of rural development: a preliminary study of farmers' and rural advisors' perceptions* was published in 2003 as *Metsäntutkimuslaitoksen tiedonantoja* 884.

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Ashley Selby

1 Introduction

1.1 Context of the investigation – national and international developments

Field afforestation by seeding and planting has been practised in Finland since 1969 as a policy means that, until the mid-1990s, aimed to control agricultural over-production. By 2001, some 235 000 ha of fields had been afforested. Concerted, exogenous programmes to encourage field afforestation, with the input of considerable domestic public funding (until 1994) or EU funding (from 1995), each resulted in peaks of afforestation activities (Selby 1974, 1980a and b, 1990, Selby and Petäjistö 1994). Similar endogenous behavioural reactions to exogenous policies and programmes for field afforestation can also be found elsewhere in Europe following the EU's introduction of the required public funding in 1987 (Volz and Weber 1993, Selby 1998, Weber 2000).

Field afforestation activities have shown strong regional and local concentrations. As a result of the absence of *endogenous* control processes the levels of field afforestation have reached the upper limits of local acceptance in some districts, both in terms of the actual areas afforested and the effects of such afforestation on the local landscape (Selby et al. 2003).

Field afforestation has long been employed in Finland as a policy instrument for reducing the area of agricultural land in an attempt to control agricultural over-production. The first legislation in this respect being introduced in 1967 and the first major field afforestation programme began two years later with the introduction of a field reservation (set-aside) programme. Since then, field afforestation has been a permanent part of a set of policy instruments for controlling and balancing agricultural production. Many parallels existed between the EU's common agricultural policy and Finnish agricultural policy prior to the country's accession to membership in 1995 (Volz and Weber 1993).

The European Union introduced set-aside funding in 1985 (Council Regulation (EEC) 797/1985, 1096/1988). This scheme was very similar to the one introduced in Finland in 1969. Similarly, support for the afforestation of agricultural land, which was introduced in Finland in 1967, has become one of E.U.'s agricultural and land use policy instruments (e.g. Council Regulations (EEC) 1610/1989, 2328/1991, 2080/1992, 1257/1999).

In its original form, grant-aid for field afforestation was a policy instrument to encourage the removal of land from agricultural production. However, in the European Union, field afforestation also became a tool for environmental amelioration, as well as a means for rural economic diversification and job creation (e.g. Glück and Weiss 1996). This position has been strengthened with time via e.g. Council Regulations No.1610/1989, No.2080 and No.257/1999. Field afforestation has also a political context – as a means of meeting national obligations under the Kyoto Agreement for the reduction of atmospheric carbon (Anz 1991, Tilli and Toivonen 2000). However, for a number of reasons, forestry and afforestation as a land use policy instrument has not been unreservedly accepted by the rural community at large (e.g. Voss 1996, Selby and Petäjistö 2000). Considerable regional variations also occur with respect to the social acceptability of "new" forests in rural (i.e. agricultural) landscapes (e.g. Weber 2000, Wiersum and Elands 2002).

There has been no specific field afforestation programme in Finland since 2000, but provisions for the compensation of farmers for lost income due to field afforestation remain in force under the provisions of the fund for sustainable forestry (Kemera 1996, Pahkasalo 2005).

The EU's Common Agricultural Policy (CAP), and adjustments of European agriculture to the demands of international trade agreements are leading to a situation where primary production has to be increasingly efficient to survive. This in turn has led to a situation where, in many rural areas of Europe, primary production is no longer the main livelihood. Recognising the need to create alternative employment in rural areas, the EU's rural policy encourages the commoditisation of other rural resources than those producing food and fibre (e.g. European Commission 1996). For much of Europe this includes the introduction and/or development of multifunction forests. The European Commission's communication on the development of a European forest strategy thus states that a forest strategy "should contribute to enhance the potential for wealth generation and rural and industrial employment within a sustainable society, particularly in rural areas have few economic alternatives" (Communication...1998, p.8).

1.2 Previous field afforestation investigations in Finland

Early investigations into the mechanisms behind field afforestation demonstrated a clear and unambiguous relationship between poor agricultural and socio-economic conditions, as well as farm ownership disturbances, and the regions of greatest field afforestation intensity (e.g. Selby 1974, 1980a and b, 1994, 1997, Selby and Petäjistö 1994, Selby et al. 1995). Small farms of poor structure that were not conducive to generation transfer agreements were closed, thereby terminating the reproduction of the family farm production chain. Taking advantage of grant-aid, fields were often afforested by the retired or retiring farmer or by the heirs to such estates. Some afforestation has been associated with farm structure improvements, active farms sometimes afforested distant and/or poor quality fields, even in association with forest clearance activities elsewhere on the farm property. Indeed, during the mid-1980s, and even during the current decade, considerable areas of forests have been cleared for new fields and part of the rationalisation process. Even so, the forest-dominant, dairy-farming regions of central and eastern Finland remain the regions that have experienced the most extensive field afforestation activities.

The behavioural aspects of the decision-making surrounding field afforestation, both from the farmers' point of view, as well as from the standpoint of rural advisors, have been examined by Petäjistö et al. (1993), Petäjistö and Selby (1994a and b) and Selby and Petäjistö (1994). In addition to economic reasons for the acceptance or rejection of field afforestation by farmers, a number of emotional and value judgements were also observed in the afforestation decision making process. These included ties-to-place, and local-oriented values that led even professional foresters to resist field afforestation in their home areas.

Other field afforestation studies have included an economic assessment of field afforestation at the farm-level (e.g. Aarnio and Rantala 1994) and a comparison of the profitability of field afforestation at the farm and national levels (Pahkasalo 2005). The landscape effects of alternative approaches field afforestation have been addressed by Karjalainen and Komulainen (1998), Tyrväinen and Tahvanainen (2000) and Tyrväinen et al. (2001). Technical and biological aspects of field afforestation have been studied in a broad series of investigations

(Hytönen and Polet (1995), while Tilli and Toivonen (2000) have examined the effect of future field afforestation scenarios on carbon sequestration.

Field afforestation has been studied in other European countries, especially in the context of EU policy and the application of EU regulations (e.g. Volz and Weber 1993) and in the context of the potential expansion of the EU eastwards (e.g. Weber 2000). Field afforestation was a component of COST Action E3-*Forestry in the context of rural development* (Terrasson 1998). However, the most thorough investigation of the role of forestry and afforestation in the context of rural development has been the EU-FAIR Project "Multifunction forestry as a means to rural development – MULTIFOR.RD)" This project examined public attitudes to forestry and afforestation in 18 regions of the EU – two regions in each of nine countries. The regions were selected to represent areas in which forests had traditionally been part of the rural economy, and areas in which afforestation was "intruding" into traditional farming areas (Wiersum and Elands 2002). The present investigation has been partly modelled on the MULTIFOR.RD project, in which Finland was represented (Selby and Karppinen 2002).

Thus, since its introduction in the late 1960s in Finland, the policy environment for forestry and field afforestation has changed considerably, both nationally and internationally. The question can therefore be raised: Is field afforestation still a process predicated on the socio-economic decline of the countryside, or does it play a role in creating a multifunctional forest base for rural development?

1.3 Aims

The principal aim of this investigation is to examine how farmers and rural advisors perceive forests, forestry and field afforestation in the context of rural development in contrasting rural areas of Finland. A related aim is to ascertain whether the rural discourses and conflicting rural attitudes to forestry that inform the debate on increased forestry in European countries can be identified in Finland despite Finland's exceptional position in Europe with respect to forest area per capita. The study also examines farmers' own development plans and the role played by forests and afforestation in those plans.

The paper first examines farmers' and advisors' perceptions of their localities, as well as their preferred means for rural development. To what extent they consider that forests and forestry can contribute to local development is specifically addressed. Farmers' rural discourses are estimated by comparing their responses to certain questions to the "ideal" characteristics of the discourses in question. Farmers' and rural advisors' views on the roles of forests, forestry and afforestation in local development are analysed and compared in a similar context. This is followed by an examination of farmers' planned future for their farm, their priorities in their own forests, and factors related to whether or not they have plans to afforest their fields. Finally, the results of the analyses are synthesised and conclusions drawn.

2 Frame of reference

2.1 What is meant by rural?

Some 80% of the European Union can be called "rural" (Glück 1998), but "rural" in this terminology is heterogeneous with respect to functions, socio-economic, demographic and biophysical conditions. The term "rural" has been subjected to many interpretations (e.g. Halfacree 1993, Marsden et al. 1990, Hoggart et al. 1995, Frouws 1998, Van der Ploeg 1997): Halfacree (1993) presents a list of descriptive definitions of the rural that include statistical definitions, function and administrative regions, and definitions centred on agriculture. Some definitions of "rural" focus on human agency (e.g. Van der Ploeg 1997), according to which rural areas can be characterised by the presence of a specific set of agricultural and other natural production processes that are accompanied by a *specific culture*. Such definitions are pertinent to the present study, as the examination of rural discourses will focus on regions that have traditionally had their own rural cultures.

Arguments also exist for the rejection of any specific definition of "rural" because any definition of the "rural" or the "urban" presents a misleading interpretation of prevailing social, economic and political structures (Cloke and Godwin 1992). In Finland, the rural policy programme, while containing definitions of the rural, ameliorates any polarisation between "urban" and "rural" areas in policy making by identifying 148 communes as (urban-rural) interaction communes (Maaseutupolitiikan... 2000, 2004).

Rural society and economy are no longer tied inseparably to farming, and terms such as "multifunctional" and "pluriactivity" have been coined to describe the new situation that has resulted in the diversification of farm enterprises as farming adjusts to liberal trade policies in agricultural commodities. New challenges stem from disturbances in the links between the sphere of capital circulation (via markets) and the spatially fixed, land-based sphere of production that together provide the conditions for the reproduction of family-based production systems. The provision of services (e.g. bed & breakfast) or the production of new commodities, e.g. wines, nature-based products, can off-set difficulties in farming by providing new physical commodities to the local or national market (Marsden and Murdoch 1990). Urbanisation, environmental awareness and the individualisation of the populace are also bringing new challenges and opportunities to rural areas (Myrdal 1957, De Haan and Long 1992, Slee 1994, Elands and Wiersum 2003). Rural employment is therefore increasingly tertiary sector oriented, often providing services demanded by incomers and visitors.

Rural change also retains its negative demographic dimension in many regions of Europe, including Finland. The migration of the young, economically active population to urban growth centres and the gentrification of the remaining rural inhabitants continues to have a negative effect on rural vitality. As a result, rural communities continue to be marginalised both economically and socially (Myrdal 1957, Selby 1980a, Marsden et al. 1990, Baldock et al. 1996, Nivalainen and Haapanen 2002).

Rural development can be *exogenous* (stimulated externally, most often based on "top-down" government policies and policy instruments) or it can be *endogenous* (where the emphasis is on the ability of rural people to develop their own innovations) (Slee 1994, Van de Ploeg and Long 1994, Van der Ploeg and Van Dijk 1995). Endogenous development is "bottom up".

Innovations emerge in response to changes in the uses of rural resources and rural-based factors of production. In order to release such endogenous processes, however, a supportive (exogenous) institutional policy environment may be required.

2.2 Socio-political discourses applicable to forestry and rural development¹

An examination of the social and economic trends affecting rural areas requires an approach that goes beyond spatial, functional or cultural criteria. One such approach is offered by the theory of social representation that takes into consideration personal perceptions and interpretations of everyday reality (Le Floch et al. 1999, Wiersum and Elands 1999).

Social, economic and political processes are in themselves affected by the values and attitudes of local inhabitants, and these in turn are influenced by the local cultural heritage and personal histories. It can be expected that the attitudes to forests and forestry of the rural population in Finland, where forests have been a dominant feature of rural economy, landscape and culture, will be somewhat different to those of the rural population in, say, Ireland or the Netherlands, where forest cover is minimal and forest ownership has rarely been in the hands of the rural population. However, while the principal actors in rural development are the rural inhabitants, the diversification of the rural economy may introduce new agencies with development-oriented interests. To these agents, the countryside is represented as a fresh economic space, an opportunity for capital investment (Marsden et al. 1993, Saarinen 2001).

The social representations concerning the nature of the countryside can be expected to vary between different regions, but they may also vary *within* a specific region (e.g. Hoggart et al. 1995). Different categories of people and different agents can be expected to have different representations of the rural and of rural development. In many rural areas, contestation exists between different agents (farmers, locals, newcomers, tourists and developers) concerning the *desired* rural identity. In other rural areas, however, the cultural perceptions of farmers still predominate (Lefebvre 1991, Marsden et al. 1993, Selby 1998, Wiersum and Elands 1999, Saarinen 2001).

The introduction of forests into an agrarian society, e.g. via field afforestation, often forms an area of contestation. In this context, *rural space*, as controlled by specific agents, and *rural locality* become causal social factors that mould rural development. These factors link together social, economic and political structures with *local action* (Marsden et al. 1993, Lefebvre 1991, Mormont 1990, Selby and Petäjistö 1995, Selby et al. 2004). Reflecting the local power structures, each rural area will be characterised by a specific combination of opinions concerning its cultural identity. That is to say, each area will have several sets of social representations between which consensus needs to be negotiated (Halfacree 1993, Murdoch and Marsden 1994, Wiersum and Elands 1999). Thus, each rural area will be characterised by a specific combination of representations that in turn contributes to a specific spatial-cultural identity (Pred 1984, Giddens 1985, Lefebvre 1991, Halfacree 1993, Murdoch and Marsden 1994, Wiersum and Elands 1999).

¹ Because this investigation has common origins with the EU FAIR MULTIFOR.RD project, both investigations share a similar frame of reference. Sections 2.2 and 2.3 therefore draw heavily on the MULTIFOR.RD experience. The authors gratefully acknowledge permission to borrow freely from three publications: Wiersum & Elands (1999), Elands (2000) and Elands & Wiersum (2003).

A theory of social representation has been developed (e.g. Moscovici 1984) in order to understand how people explain and articulate the complexity of stimuli and experiences that emanate from the social and physical environment in which they live. The theory rejects the positivistic idea that everyday behaviour involves a rational approach to objects, people and events. The approach is thus firmly embedded in a phenomenology epistemology (e.g. Berger and Luckmann 1967, Schutz 1967, 1970). The *social* aspect of representations is stressed because it is through *social interaction* that the unfamiliar is made familiar, a process that is by its nature, group specific (Gregory 1978, see also Ley 1977, Gibson 1978, Thrift 1983). The sharing of a *representation* will give it a shared understanding and a common evaluation with respect to the world being covered (Potter and Wetherell 1987, in Halfacree 1993, Le Floch and Deuffic 2002). Social representations of the rural are communicated through discourse. A discourse can therefore be considered to be an organised set of representations (Elands and Wiersum 2000, following Jones 1995, Frouws 1998).

The existence of competing representations of the rural result in conflicting views concerning the meaning and direction of rural development, following which Elands (2000) and Elands and Wiersum (2000) proposed five main socio-political discourses as a basis for understanding the contested role of forests in rural development (Table 2.1). These discourses formed a basis for the MULTIFOR.RD-project, to which the present investigation has had strong ties.

Table 2.1. Discourses on rural development (Elands 2000, Elands and Wiersum 2000).

	DISCOURSES				
	Agri-ruralist	Hedonist	Utilitarian	Community-sustainability	Nature conservation
<i>Concept of rurality</i>	Farming is the creator of the countryside	Countryside as the garden of the city	Production areas to be used for economic purposes	Remote places	Potential nature areas, nature has intrinsic values
<i>Rural problems</i>	Crisis in modern farming	Deteriorating aesthetic, cultural and natural values in rural areas	Underdevelopment and retardation	Marginalisation, stagnant rurality, with a decrease in social and economic vitality	Uncontrolled incursion of rural areas into wilderness areas
<i>Future of rural areas</i>	New social contract between farmers and society based on sustainability & quality	Re-establishment of these values	Need for innovative economic activities	Rejuvenation of basic social-economic structures and vitality	Creation of new, controlled balance between rural and nature areas

- The *agri-rural discourse*. Farming is conceptualised to be the creator of the rural milieu, with agricultural skills, family farms and farmers' partial autonomy from market forces being the dominant organisational forms of the countryside. The main problem in the rural areas is perceived to be the crisis in modern farming with its concomitant environmental pollution and destruction of nature. Rural development demands that a new social contract be negotiated between farmers and society. Farmers will then practise multi-functional agriculture that meets the social demands for products ranging from healthy food to attractive landscapes, recreational facilities and a clean environment. The agri-ruralist discourse thus focuses on the strengthening farming as the stewardship of rural areas. It recognises two types of linkages between the rural producers and urban consumers, i.e. the link in the value chain of food production, and the link between preserved landscape amenities and nature qualities and urban demands.

- The *hedonist discourse*. The ideal countryside is primarily perceived in terms of its contribution to the "quality of life" of the (mostly) urban-based population by providing beauty and attractive landscapes. The rural is represented by characteristics such as quietness and naturalness, and rural areas are contrasted to crowded, artificial and stressful towns. The discourse is rooted in the naturalist tradition of urban elites, who essentially consider the countryside to be the garden of the city. The crucial problem of the rural areas is the deterioration of aesthetic, cultural and natural values. Rural development should aim at restoring these values. Thus, the aesthetic qualities of the countryside are prioritised, while the interests of the rural population are ignored.
- The *utilitarian discourse*. Rural areas are conceptualised as production areas that should be effectively integrated into the dynamics of modern markets for food specialities, recreation, housing, attractive business parks, etc. The problems of rural areas are considered to be underdevelopment and retardation in an economic sense, resulting from a lack of attention to newly arising market relations and new opportunities for investment. Rural development should aim at stimulating innovative economic activities for satisfying productive and consumptive needs. Rural areas provide economic space, and opportunities for investment and the creation of new exchange values (Marsden et al. 1993).
- The *community sustainability discourse* can be related to the tradition of *rural areas as margins* (Hoggart et al. 1995). Rural areas are perceived as remote places characterised by low population densities, low incomes and stagnating basic services. The problem of these rural areas is either the maintenance of the social and economic infrastructure, or marginalisation due to a decrease in liveability and economic vitality. Rural development issues are dominated by concerns regarding the maintenance of a basic community infrastructure. Much attention is focussed on basic welfare issues such as employment and income generation. Rural development is seen to involving the (re)creation of a minimum set of social and economic structures, and the provision of decent living conditions and social services for the rural inhabitants. In contrast to the perspectives underlying the utilitarian discourse, the community sustainability discourse believes that rural development should not be left to market forces or endogenous developments, but requires active government interventions and regulations. Many of the declining rural areas of Finland would appear to create the ideal conditions for this discourse, and it is to the amelioration of these features that much of the current rural policy programme in Finland is addressed.
- The *nature conservation discourse*. This discourse is expressed by the idea that nature has its own intrinsic value and is related to the concern to maintain the ecological integrity of 'spaceship earth' for both present and future generations. The major problem of rural areas is not conceived as the decline in production conditions and liveability, but rather in the incursion of rural areas into wilderness areas with a subsequent loss of global nature values such as biodiversity. In this discourse the conservation and improved management of forests are not considered as tools for rural development, but rather as ultimate objectives to create a new balance between the rural areas and wilderness areas.

The *agri-rural*, *community sustainability* and *hedonist* discourses are considered to be socio-cultural in character and are related to the agrarian and naturalist traditions of the rural. In contrast, the *utilitarian* discourse is economic in character and is not directly related to any specific tradition of the rural, while the community sustainability discourse addresses the continued socio-economic viability of rural areas. The dynamics of both the *utilitarian* and

community sustainability discourses relate to the dynamics of the theory of cumulative and circular causation (Myrdal 1957). The fifth discourse, *nature conservation*, is not related directly to rural development. It addresses current concerns about the depletion of nature and biodiversity as a result of urbanisation, and the invasion of agriculture and commercial forestry into wilderness areas (Elands 2000, following e.g. Colby, 1990; Callicot and Mumford 1997).

The very nature of discourses means that they are not free of contention. Just as perceptions of space and place differ from individual to individual and from institution to institution, so in each discourse the role of forests and forestry will be perceived differently. The role of forests is not necessarily perceived to be positive. Different agents will share different representations, and so even within a single region it can be expected that several discourses on forestry and rural development will co-exist.

2.3 The role of forestry in different development discourses

In the rural development discourses presented above, the role of forestry can be conceived of in a specific way (Elands and Wiersum 1999, Elands and Wiersum 2000):

- *Agri-ruralist discourse*: Forestry development should focus on optimising the integration between farming and forestry at either farm or regional level. At the farm level, forests may contribute towards the development of multifunctional farm enterprises in which forest-related production and leisure activities (production of wood and non-wood products, camping, etc.) are integrated with agriculture. At the regional level forests should contribute towards the maintenance of an attractive rural landscape.
- *Hedonist discourse*: Forestry development should aim at the strengthening of the ecological infrastructure in order to increase the nature values of the countryside thereby adding to its recreational attractiveness. New "wilderness" areas should be created and incorporated in the rural areas as a means to provide both nature experience and tranquillity for urban people.
- *Utilitarian discourse*: The development of forestry should aim at optimising income earning capacity and its contribution to the regional economy. In regions subject to urban influences, new forms of integration of forests with housing estates, business parks and/or recreation facilities should be developed (urban forestry), while in remote rural areas forest production techniques should be optimised so as to be economically competitive with marginal agricultural production.
- *Community sustainability discourse*: Forestry development should contribute towards the maintenance of community stability in the rural margins. This can be achieved by measures aimed at sustaining forest-dependent communities, e.g. by optimising labour employment in forest management and forest-related industries, or by optimising forest production as a compliment to farm production.

In each of these discourses, rural development is conceived as an ultimate goal, while forestry is basically conceived as one of the potential operational tools to achieve this goal. In the final discourse, forestry has a rather different role.

- *The environmental conservation discourse* is related to the concern to maintain global ecological integrity for both present and future generations. The major problem is seen as the incursion of rural (production) areas into wilderness areas with a subsequent loss of global nature values such as biodiversity. Rural development should take the form of eco-development, and have as its objective the creation of a new balance between the rural areas and wilderness areas. In this discourse, the conservation of forests is not considered as a tool for rural development, but rather as an objective in itself.

In many rural areas forests are an important element of the rural landscape. Forests provide options for rural production as well as contribute in a significant way to cultural identity. In view of the multiple functions of forests, forestry can contribute to rural development by either optimising or diversifying production and amenity functions, creating attractive working conditions in forest-dependent communities, or by creating or improving ecological services (Table 2.2).

Table 2.2. The possible role of forestry in relation to the different contents of rural development (adapted from Wiersum and Elands 1999).

CONTENT OF RURAL DEVELOPMENT	FORESTRY ACTIVITY
1. Improving of primary production and related manufacturing processes.	Improvement of the timber sector (production, trade, manufacturing) offering income and labour opportunities.
2. Renewal and diversification of economic basis of rural areas.	Development of new forest related activities (new types of forest products, tourism) offering income and labour opportunities. Development of function endowment system for forest functions for which no traditional markets exists.
3a. Maintenance and/or development of attractive rural environment serving as a basis for positive rural identity.	Contribution to attractive rural landscapes (green infrastructure) which provide a positive rural identity and/or which attract novel economic activities.
3b. Maintenance of production value of retiring farms by afforesting fields.	Natural afforestation creates "abandoned appearance", artificial regeneration ignores the development of adjacent areas. Both can send negative socio-economic signals.
4. Maintenance and/or development of a sustainable ecological infrastructure.	Protecting biodiversity, local and regional climates, water and soil, protection against erosion, in mountain areas avalanche control, etc.

Not all rural agents consider forestry and afforestation to be beneficial to rural development. For instance, farmers in intensive farming regions will not wish to see the transfer of agricultural land to forestry. In other districts, afforestation may be interpreted as a sign of the marginalisation of agricultural land and thus damaging the "identity" of the locality. Afforestation can also change the open character of agricultural landscapes that are precious to local inhabitants. Current farming generations may still identify themselves with pre- and post-war agricultural pioneering activities and may regret, if not oppose, the return of forests.

When considering the role of forestry in rural development it is important to distinguish between the role of existing forests and new forests (afforestation). Existing forests are often integrated into the existing web of rural representations and they therefore form a significant part of the local identity. In such cases, innovative forestry activities may be a generally accepted contribution to rural development. Conversely, the "new forests" resulting from

afforestation may be considered as sign of marginalisation and create contention in the existing structure of representations and may be considered (at least by some actors) as a disincentive to rural development (Wiersum and Elands 1999).

3 Method and material

3.1 Selection of study regions and communes

The aims of this investigation are to examine how farmers and rural advisors perceive forests, forestry and field afforestation in different regions of Finland, and to ascertain whether variations in rural discourses and conflicting rural attitudes to forestry can be identified in these regions. By examining contrasting regions, the investigation follows the EU/FAIR MULTIFOR.RD-project in which two rural localities were selected in each country, one representing a long tradition of forestry, the other representing an area in which afforestation has been a recent activity. Such clearly contrasting regions cannot be found in Finland where Forests form a dominant land-use element even in the most agricultural of districts, and farmers have long been the most important owners of productive forest land (e.g. Reunala 1974, Karppinen et al. 2002). Nevertheless, regional differences in settlement and farming are observable in Finland (e.g. Granö 1952, Valle 1952), and these have contributed to regional variations in field afforestation intensity (Selby 1980a). The sample design in the present investigation necessitated first the selection of regions and then communes prior to the selection of farms.

The main criteria for the selection of regions was, therefore, field afforestation activity and the proportion of land under forest. An addition criterion was the division of agriculture into crop farming and animal husbandry. A final criterion was contrasting socio-economic histories. As already discussed in (section 2.3) social representations of the rural are communicated through discourses, and social representations are dependent upon social, economic and political processes that have in themselves been affected by values and attitudes created by a locality's history as well as by the cultural heritage and personal histories of the agents in question.

Based on these criteria, three rural business districts (RBD) were selected for the study: Etelä-Pohjanmaa RBD in western Finland, and Mikkeli and Kuopio RBDs in central-eastern Finland.

The division of Finland into eastern and western agricultural zones has a long history, and the socio-economic processes creating and maintaining them remained in force until well into the Post-War era. The differentiating processes were perhaps at their strongest in the 1930s, at the end of the manual labour phase of agriculture production (e.g. Valle 1952, Smeds 1961, Katajamäki 1988). This means that current older generations of rural inhabitants will have had direct contact with the values created at that time. Etelä-Pohjanmaa RBD is located in the western agricultural zone, characterised by a long history of arable farming, facilitated by the fertile, marine-based soils and low, flat terrain of the Ostrobothnian plain. Social organisation was based on village communities. Ostrobothnia also has long been associated with small-scale entrepreneurship, not least in the forest sector. Boat building, charcoal burning and tar distilling were important forest-related industrial activities in the 17th and 18th Centuries (Kaila 1931a and b). This history of enterprise was still clearly visible in the 1930s (Katajamäki 1988), and it seems to be still discernable in the current distribution of woodworking enterprises (Selby and Petäjistö 2002). Riihinen (1965) found that Ostrobothnia was characterised by a much greater

division of labour than the regions represented by Mikkeli and Kuopio RBDs. Similarly, social stability and social concentration were found to be greater in the western agricultural region, with a more stable social structure.

Mikkeli and Kuopio RBDs are located in the eastern agricultural zone. This zone has far less arable land than the western zone. The hilly topography, poor soils characterised by stoniness and poor drainage (Smeds 1961, Selby 1980a), have prevented the creation of extensive field areas, and consequently animal husbandry has been the dominant element of the rural economy (Katajamäki 1988). Eastern Finland was also characterised by slash-and-burn cultivation that survived well into the 20th Century (Valle 1952, Smeds 1961). This, too, prevented the establishment of extensive field-based agriculture, while the post-war resettlement of refugees from Karelia led to the creation of a large number of "cold farms" in Eastern Finland (Mead 1951). The eastern agricultural zone was also characterised by supplementary incomes provided by forestry. Several large-scale forest industry enterprises were located in the region, which has been characterised historically as the "inland forestry area" (Katajamäki 1988). Partly because of the presence of these large-scale forest enterprises, non-industrial private forestry has been an essential element of farm economies in the eastern agricultural zone: a pattern that is only now beginning to weaken as society urbanises and forest ownership patterns change (e.g. Karppinen 1998, 2000).

To select the communes for investigation, the commune typology currently employed by rural policy makers (Maaseutupolitiikan... 2000) was employed. The typology is based on a number of welfare indicators rather than structural criteria that might have been more suitable for the task in hand (e.g. Varmola 1987). The typology consists of three rural classes: core rural areas, scattered (low population density) settlement areas, and urban-rural interaction areas. The proportion of each commune type in each region (rural business district) was maintained in the sampling, with each commune type being represented by at least one commune.

3.2 Sample

The farm sample was based on the Rural Enterprise Register of the Ministry of Agriculture and Forestry's Department of Statistics. Fifteen hundred farmers out of an available population of c. 3000 received questionnaires. The high sampling rate was chosen to make sure that enough observations would be available for multivariate- and grouping analyses.

Data was collected by mailed questionnaire, including follow-ups, in January-February 2002. Of the 1500 questionnaires mailed, 954 were returned (64%), of which ten were rejected (returned unopened or not completed). A number of the returns (12%) contained supplementary information in the form of written notes on concerns over local and national trends in rural areas, as well as pamphlets concerning farm enterprises, or air photos of the farms in question. These notes were analysed and have been reported elsewhere (Koskela and Selby 2002).

Of the 546 non-returns, 55 (10%) were randomly selected for a short telephone inquiry, of which 41 succeeded. The differences in characteristics between the respondents and non-respondents were very slight. Differences occurred with regards to commune type, which was a product of the small telephone inquiry sample. As to the farm and farmer variables, the higher proportion of females in the telephone inquiry was assumed to reflect the fact that the phone calls were made during the day, similarly, the higher proportion of "farming as the main use of the farm" was probably due to the fact that the interview was conducted during the day

when farmers with other professions could be expected to be at work. Perceptions of levels of afforested fields or naturally regenerated scrubland were slightly different between the two groups, with more non-respondents perceiving an unacceptable level of natural regeneration.

A questionnaire was also sent to rural advisors and officials (Appendix 2) in the same communes as the farm study. These officials were: the commune's agricultural secretary, the commune's trade and commerce secretary, the commune's managing director and finally the local manager of the forest owners' association. That is to say, officials who are i) involved with economic affairs, ii) who deal with farmers and landowners as part of their daily routines, and iii) who should be aware of developments and problems in their commune. The communal officials varied slightly from commune to commune: some communes even employing a "rural affairs secretary". In other communes, some of the posts were combined. Ninety forms were posted, and after a second posting and telephone calls, 61 forms were returned: a return rate of 68%.

Nearly 40% of the rural advisors lived in the same commune where they were employed, 15% lived in a neighbouring commune to that in which they worked, while another 15% lived in the same province. Nearly one third (31%) lived elsewhere. Just over a quarter of the advisors owned forest or fields in the commune in which they worked.

Advisors were asked to respond to questions concerning local development that farmers could not be expected to be able to answer accurately, but about which advisors should be able to express an informed opinion. Questions concerning the characteristics of the commune, and the perception of various effects of field afforestation and natural regeneration on abandoned fields were identical to those in the farm questionnaire. Farm-related questions of the farm questionnaire were, of course, omitted and replaced with questions related to the commune's development and development potential.

3.3 Questionnaire design

The design of the questionnaires (Appendices 1 and 2) was guided by experiences with the MULTIFOR.RD project (Le Floch et al. 1999, Elands and Wiersum 2000, 2003), as well as an understanding of the field afforestation process in Finland (Selby 1980a, Selby and Petäjistö 1994). Aspects of the processes involved in the reproduction of the rural economy and society (e.g. Mormont 1990, Marsden et al. 1993) also contributed to the form of the inquiry.

The experience gained with the MULTIFOR.RD-project was particularly valuable. The MULTIFOR.RD-project made an initial qualitative survey that was rooted in the phenomenological epistemology as required for the identification of discourses. The aim was to elicit the nature and variety of perspectives and discourses on the role of forestry on rural development (Le Floch and Deuffic 2002), the results of which provided the basis for constructing a structured (postal) quantitative survey concerning the role of forestry on rural development. It is this latter survey that has formed a basis of the present investigation. Several questions from the MULTIFOR.RD quantitative survey have been employed in the present investigation.

3.4 Method

The analysis of the questionnaire-based data used several methods. Cross-tabulation, with statistical tests was employed to detect regional variations in the distribution of attributes. Factor or principal components analysis was used to reduce the data matrix to a set of "basic dimensions", i.e. underlying attributes that are not necessarily directly represented by the original variables. Original data and factor or component scores were also employed in *k-means* cluster analysis. This method identifies relatively homogenous groups of cases based on a given set of attributes. The number of clusters has to be specified in advance and so experimentation is necessary to obtain logical solutions. Each case is then attributed to a cluster depending on its statistical distance from cluster centres. Because the regions were predetermined, discriminant analysis also provided a useful analytical tool. The method uses a set of variables to create discriminant functions (factors) that discriminant between predetermined classes by minimising the within-group variance and maximising the between group variance. The software used was SPSS for Windows.

4 Brief description of the selected districts and communes

4.1 Characteristics of the study areas

The communes in the three study regions have a strong rural character with relatively high proportions of their economically active populations engaged in the primary sector (Table 4.1). Communes in the Etelä-Pohjanmaa Rural Business District (RBD) exhibit the greatest proportion of industrial sector employment, and those in Kuopio RBD the lowest. The proportion of the economic active population in the service sector is highest in the Kuopio RBD communes, although the service sector is strongly represented in all three regions. The rural nature of the regions is also reflected in low population densities (lowest in Kuopio RBD and highest in Etelä-Pohjanmaa RBD). Population loss through out-migration is also common to all but one of the communes selected.

Table 4.1. Some demographic and economic indicators for the study communes in Etelä-Pohjanmaa, Mikkeli and Kuopio rural business districts.

Indicator	Etelä-Pohjanmaa RBD	Mikkeli RBD	Kuopio RBD	All
Number of case communes	9	8	7	24
Population density 2000, inh/km ²	13	6.4	7.0	9.03
Population change 1990-2000 (1990=100)	92.6	90.3	91.9	91.6
Economically active population (EAP) in primary sector, 1998, %	18.0	23.7	27.3	22.6
EAP in industrial sector, 1998, %	30.9	23.1	15.3	23.7
EAP in service sector, 1998, %	48.3	49.6	53.6	50.3

Source: Statistical Yearbook of Finland 1990, 2000.

Land use and agricultural structure characteristics of the selected regions are shown in Table 4.2. Etelä-Pohjanmaa RBD communes are strongly characterised by arable farming. Nearly a fifth of the land area is under fields. The corresponding figure for sample communes in Kuopio RBD is c. 9% and for Mikkeli RBD c. 5%. Conversely, Mikkeli and Kuopio RBD communes are strongly characterised by forest land (75% and 69% respectively), while the Etelä-

Pohjanmaa RBD communes have a forest cover of 50%. This latter figure is relatively low by Finnish standards, but still very high compared with most regions of the European Union, including those selected for the MULTIFOR.RD project.

Table 4.2. Some agricultural indicators for the Etelä-Pohjanmaa, Mikkeli and Kuopio RBDs. Means for the case communes.

	Etelä-Pohjanmaa RBD	Mikkeli RBD	Kuopio RBD	Total
No. of case communes	9	8	7	24
Proportion of commune area under fields 2000, %	19.0	5.2	9.2	11.5
Proportion of fields forested 1990–1995 ¹ , %	1.9	8.9	6.3	5.5
Change in no. of active farms, 1990–2000, 1990=100	66.1	52.0	60.6	59.8
Change in area of fields, 1990–2000, 1990=100	103.1	83.0	92.6	93.3
Average size of active farms, 2000, ha	26.1	18.2	22.9	22.5
Change in size of active farms, 1990–2000, 1990=100	156.4	164.8	152.7	158.1
Dairy farms, 2000, %	27.9	44.4	50.0	39.9
Other livestock farms, 2000, %	14.4	16.4	12.2	14.4
Grain crop farms, 2000, %	40.7	14.8	12.5	23.9
Other plant crops, 2000, %	12.1	14.8	19.1	15.0
Average age of farming population, 2000	43.4	45.2	42.8	43.8
Annual working unit/farm 2000	1.2	1.4	1.6	1.37
Proportion of land under forest 1987–99 ² , %	50	75	69	-

¹ Five-year indicative sample. Source: Forestry Development Centre TAPIO

² Statistical Yearbook of Finland 2000

All sample communes have experienced a reduction of active farms during the 1990s, but this has been associated with an enlargement of the field area of active farms. The largest increase in farm size has occurred in the Mikkeli RBD communes, but despite this increase, Mikkeli RBD farms still remain the smallest (c.18 ha of fields) compared with 26 ha in Etelä-Pohjanmaa RBD and 23 ha in the Kuopio RBD.

The type of farming also differs between the regions. Dairy farms account for 50% and arable (grain) farms only 12% in the Kuopio RBD communes. Other crop farming (mainly hay) accounts for 19%. In the Etelä-Pohjanmaa RBD communes, arable (grain) is dominant (41%) with dairy farms accounting for less than 30%. The structure of farming in the Mikkeli RBD communes is similar to that of Kuopio RBD.

4.2 Field afforestation in the study areas

Field afforestation activities in the study communes for the period 1990-1995 are shown in Table 4.3. The proportion of fields afforested during the five-year period was estimated on the basis of the 1990 field area. The figures are not entirely accurate because they ignore such activities as field clearances, the use of agricultural land for building and civil engineering, etc.

However, any deviations should be small. The lowest intensity of afforestation is found in the communes of Etelä-Pohjanmaa RBD where agriculture is dominant in the local economy, while the highest field afforestation intensities are found in Mikkeli RBD and Kuopio RBD (Selby 1980a, Selby and Petäjistö 1994). Field afforestation during the period 1990-1995 accounted for 2% of the 1990 field area in the Etelä-Pohjanmaa communes, compared to 9% in Mikkeli RBD communes and just over 6% in the Kuopio RBD communes. This period of afforestation was chosen largely because it was the latest period for which commune-level figures were available at the time of compilation. However, field afforestation activities have gone on for over thirty years, and have been particularly intense in the communes of Mikkeli RBD.

Table 4.3. Field afforestation activities and field afforestation intensity 1990-1995, by communes and rural business districts.

Etelä-Pohjanmaa RBD			Mikkeli RBD			Kuopio RBD		
Commune	Field afforestation, 1990-95, ha ¹	Proportion of field area afforested, %	Commune	Field afforestation 1990-95, ha ¹	Approximate proportion of field area afforested, %	Commune	Field afforestation 1990-95, ha ¹	Proportion of field area afforested, %
Alahärmä	92	0.6	Enonkoski	179	9.2	Karttula	234	9.1
Evijärvi	237	4.5	Hirvensalmi	221	7.1	Maaninka	276	3.1
Jurva	90	1.3	Juva	661	6.6	Nilsinä	571	5.7
Kauhava	62	0.5	Kangaslampi	241	14.5	Rautalampi	294	5.8
Kurikka	91	0.7	Pertunmaa	281	7.4	Tervo	269	9.0
Laihia	52	0.5	Pieksämäen mlk.	458	8.4	Vehmersalmi	353	9.4
Lehtimäki	146	4.0	Ristiina	343	7.6	Vieremä	233	2.3
Peräseinäjoki	189	2.2	Sulkava	446	10.5			
Vimpeli	113	2.6						
Σ	1072	1,6	Σ	2830	9.3	Σ	2230	5.8

¹Source: Forestry Development Centre Tapio

5 Perceptions of rural development

5.1 Perceptions of economic activity – differences between farmers and rural advisors

To understanding the context of farmers' and rural advisors' responses to the key issues of forestry, afforestation and rural development is helpful to understand how they perceive their locality. Farmers and rural advisors were therefore asked what they considered to be the main economic activities of their commune. Their combined responses were entered into principal components analysis to extract the basic dimensions of the response matrix.

The two-component solution (Table 5.1) is unambiguous and clearly differentiates the secondary & tertiary sectors from the primary sector and tourism. Because each actor is bound to perceive combinations of these economies, k-means clustering was applied to the component scores to assess such combinations. Three clusters were obtained (Table 5.2).

The largest cluster (38.4%) is characterised by farmers and advisors who perceived that their commune has a *mixed economy*, with a slight bias towards the secondary & tertiary sectors. The assessment is close to the real world, as the economies of the majority of rural communes are closely tied to public sector services. The second cluster (34%) is characterised by perceptions of *a dominant primary sector with tourism*. The third cluster (28%) is characterised by the *dominance of the secondary & tertiary sectors*.

Table 5.1. A varimax rotated principal component solution for perceived commune economic activities, combined farmer and advisor responses.

	Secondary & tertiary sectors	Primary sector & tourism
<i>Eigenvalue</i>	2.82	1.48
<i>Cumulative proportion of variance explained, %</i>	35.22	53.66
Rotated loadings:		
Small and medium sized enterprises	.81	*
Services	.70	*
Retail & wholesale trade	.67	*
Large scale enterprises	.66	*
Craft enterprises	.63	*
Forestry	*	.83
Agriculture	*	.67
Tourism	.34	.58

Loadings less than +/-0.3 omitted for clarity

Table 5.2. Farmers' and advisors' perceptions of local economic activities. K-means cluster analysis of component scores.

	Mixed economy	Dominant primary sector with tourism	Dominant secondary & tertiary sector
Secondary & tertiary sectors	.78	-.99	.18
Primary sector & tourism	.55	.43	-1.30
N	386	341	278
%	38.4	33.9	27.7

The distribution of perceptions by rural business districts, Figure 5.1, shows that farmers and advisors perceive their local economies in similar, but not identical, ways. However, the basic differences of the regions in question are perceived by both groups (Farmers $\chi^2 = 135.4$ df 4 sign. 0.000 Advisors $\chi^2 = 12.9$ df 4 sign. 0.012).

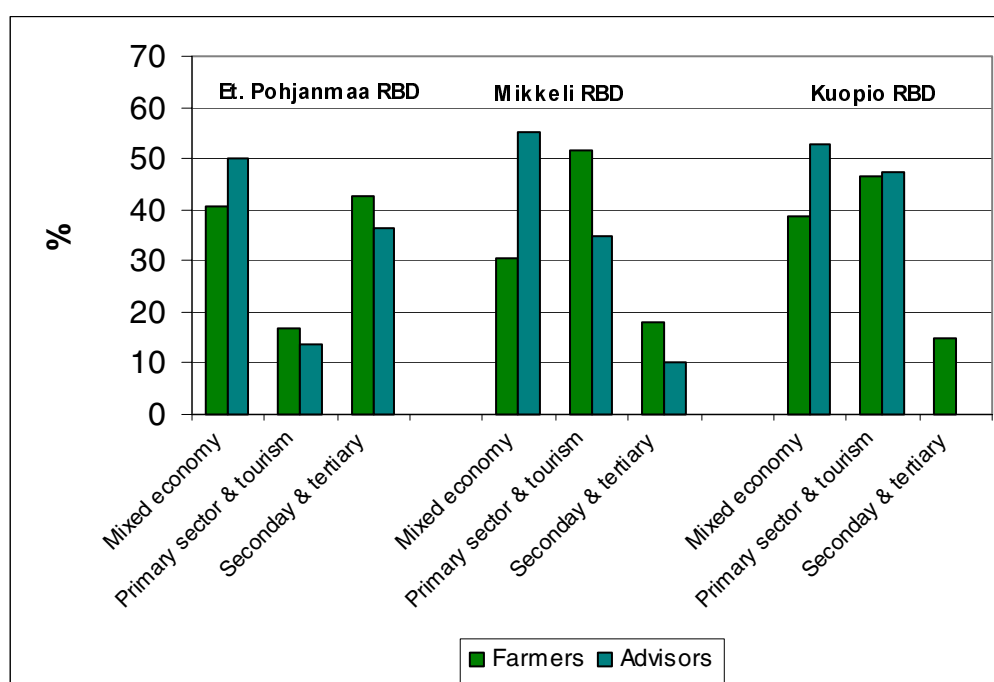


Figure 5.1. Farmers' and advisors' perceptions of their local economy. Cluster Membership, by rural business districts

5.2 Farmers' preferred development of their locality

Farmers were asked about their preferences concerning the future development of their locality; the farmers being asked to rank (from 1 to 3) their preferences from the given list of alternatives (as in the MULTIFOR.RD project; Table 5.3). The table reveals several major differences between regions and between the aggregate data for Finland and MULTIFOR.RD. Farmers in Etelä-Pohjanmaa RBD would prefer increased intensive farming and industrialisation, and they do not favour more forest, landscape management or wilderness areas. The frequencies reveal a continuing utilitarian discourse based on economic activity. Farmers were not so keen on developing tourism, as it would presumably conflict with the predominant discourse. In Mikkeli and Kuopio RBDs, farmers would prefer more employment opportunities and more intensive farming and more services. Farmers in these two RBDs seem to have a more multi-functional outlook, preferring more forests, more wilderness areas, more landscape management and more tourism. The farmers in Mikkeli and Kuopio RBDs seem more traditional in their view of future developments, reflecting an agri-rural discourse and even a hedonist discourse. The strong position of tourism as a preferred development would seem to be a pragmatic response to local conditions that would not conflict with the local discourses.

A comparison of the Finnish and MULTIFOR.RD aggregate data (Table 5.3) shows that the major similarity is farmers' wish for more employment opportunities in their localities. European farmers' would prefer more organic farming (41%) compared with only 22% of the farmers in Finland. On the contrary, 38% of Finnish farmers would prefer an increase in *intensive* farming. Finnish farmers also would also prefer more industry in their localities, but this result reflects the presence of Etelä-Pohjanmaa where small-scale enterprise has a long tradition. Farmers in the MULTIFOR.RD study were slightly more disposed towards an increase in forests than farmers in Finland, but again, the Finnish result was lowered by the lack of enthusiasm for more forests by Etelä-Pohjanmaa farmers.

Table 5.3. Farmers' preferred direction of local development in Etelä-Pohjanmaa, Mikkeli and Kuopio RBDs. Responses to main preferences (with reference to MULTIFOR.RD).

<i>Direction of development</i>	Etelä-Pohjanmaa, %	Mikkeli, %	Kuopio, %	All, %	MULTIFOR.RD, %
More employment opportunities	67	50	56	60	49
More intensive farming	46	32	40	38	23
More industry	51	15	19	32	23
More services	33	27	26	30	33
More tourism	14	32	30	23	29
Greater strength of social bond/social commitment	20	28	22	23	24
More organic farming	16	25	28	22	41
More forests	7	29	24	17	20
More housing	19	11	14	15	12
More landscape management	9	24	16	15	26
More wilderness and nature reserves	2	4	8	4	24

The responses were grouped using k-means clustering. Four serviceable clusters were obtained (Table 5.4). The clusters are interpreted as follows:

- 1. Economic intensification (Utilitarian discourse):** In this cluster, an increase in intensive farming, more industry, and increased employment opportunities each obtain large coefficients, supported by a relative large coefficient for more house building. These

farmers (23%) place the greatest hope for local development on the intensification of the use of the economy. The cluster therefore contains aspects of the *utilitarian discourse*.

2. **Social cohesion (Community sustainability discourse):** In this cluster, the strongest coefficients are obtained by *more services* and *increased sense of bonding and social commitment*, as well as *increased employment opportunities*. The proximity of social services and social bonding and commitment suggests the need for more social cohesion, on the understanding that a lack of services and a lack of bonding indicate the dissolution of social structures. The cluster relates to the *community sustainability discourse*.
3. **Landscape management (Agri-rural discourse):** The cluster is based on *more landscape management*, which receives the strongest coefficient, and it is supported by *increased employment opportunities* and *more organic farming*. The cluster contains elements of the *agri-rural discourse*, in which farming is the creator of the countryside. However, the reasonably large coefficient for increased sense of bonding and social commitment also suggests that the cluster could also represent elements of the *community sustainability discourse*.
4. **Tourism, organic farming & forests (Hedonist):** The main coefficient is for increased tourism, supported by increased organic farming, more forests, and (the common-to-all) employment opportunities. The cluster suggests elements of the *hedonist discourse* in that the tourist element and the organic element indicate that the countryside is being conceived as the garden of the city (as much of the rural environmental debate stems from the urban populace). Tourism is a means of benefiting from opportunity provided by this discourse.

Table 5.4. Farmers' preferred direction of local development (k-means clusters).

<i>Direction of local development</i>	1-Economic intensification (Utilitarian discourse)	2-Social cohesion (Community sustainability discourse)	3-Landscape management (Agri-rural discourse)	4-Tourism & forests (Hedonist discourse)
Increase in intensive farming	1.31	.53	.34	.46
More organic farming	.13	.21	.21	.85
Increased tourism	.09	.17	.19	1.19
More industry	1.64	.37	.21	.20
More house building	.64	.23	.15	.28
Increased employment opportunities	1.60	.97	.69	.74
More forests	.12	.21	.30	.66
More nature-reserves and wilderness areas	.05	.02	.18	.19
More services	.16	1.68	.24	.13
More landscape management	.00	.03	2.59	.06
Increase sense of bonding and social commitment	.12	1.37	.39	.12
N = 880	206	286	109	279
%	23.4	32.5	12.4	31.7

The distribution of the clusters (Table 5.5) shows that the utilitarian discourse as represented by economic intensification is most common amongst farmers in Etelä-Pohjanmaa RBD (35%), and was least common amongst Mikkeli RBD farmers (11%). Social cohesion (community sustainability) was a common concern and it was found in about a third of the farmers in all three districts. The agri-rural discourse as represented by more landscape management was most prevalent amongst farmers in Mikkeli and Kuopio RBDs (19% and 14% respectively) – areas where field afforestation has been extensive. Less importance was given to landscape

management by farmers in Etelä-Pohjanmaa RBD, a result that accords well with their utilitarian orientations. The hedonist discourse, represented by more tourism, organic farming and forests, was strongest among farmers in Mikkeli and Kuopio RBDs (c. 40% in each district), but less strong in the economically-oriented Etelä-Pohjanmaa RBD. The difference in the distributions between the regions was statistically significant.

Table 5.5. Farmers preferred rural development clusters, by rural business districts.

<i>Development cluster</i>	Etelä-Pohjanmaa RBD, %	Mikkeli RBD, %	Kuopio RBD, %	Total, %
1. Economic intensification (Utilitarian)	34.8	11.2	16.8	23.4
2. Social cohesion (Community sustainability)	35.0	29.9	30.9	32.5
3. More landscape management (Agri-rural)	7.6	18.8	14.1	12.4
4. Tourism & forests (Hedonist)	22.6	40.2	38.2	31.7
Total	100.0	100.0	100.0	100.0
N	394	224	262	880

$\chi^2_6 = 76.5$ $p = 0.000$

5.3 Advisors' preferred development of locality

Advisors were asked to give their opinion concerning the potential role of various development measures in their area. The same alternatives were employed as in the farmer study, but the responses to the alternatives were scaled differently (a 5-point scale was employed rather than the preference ranking used employed by farmers). This prevented combining the farmer and advisor data. In the principal component analysis an initial eigenvalue of 0.9 was employed rather than 1.0, as the resulting solution was structurally more satisfactory. The five-component model accounted for 73% of the total variance (Table 5.6):

Strengthening local identity: The component is characterised by the very strong loading of the variable *increased social commitment and co-operation between local people*, as well as strong loadings on *increased landscape management* and *increased tourism*. The *Increased services* variable is also loaded on the component. The component concerns the strengthening of local social structures and local identity. It can be related to the *community sustainability discourse*, in that the implied problem is the decrease in economic and social vitality, while the future requires rejuvenation of local socio-economic structures and vitality. (There are similarities in this component with Cluster 2 – Social cohesion, and Cluster 3 – More landscape management, in the farmer analysis.)

Growth-centre development: The three equally strong loadings on this component represent aspects of modern growth centres, *industrial production*, *services*, and *new housing*. The component represents an intensification of economic activity and as such can be considered to represent the *utilitarian discourse*. (The component is similar to Cluster 1 – Economic intensification, for the farmers).

Increase in forests: The component contains a single loading, which suggests that advisors do link their wish for an increase in forest area with other aspects of rural development. Whilst the utilitarian discourse could be in question, the following cluster analysis indicates that this component represents the nature conservation discourse.

Nature protection: The two variables loaded onto this component are organic farming and wilderness and nature protection areas. Given the latter loading, the presence of organic farming on the same component is logical if the interpretation is related to nature protection. The component reflects values found in the nature conservation discourse, notably the future creation of a new, controlled balance between rural areas and nature.

Intensive agriculture: The component is formed by a single variable. As in the case of the third component, increase in forests, the intensification of agriculture is not related to other aspects of local development. Nonetheless, the component represents the utilitarian discourse, as agriculture has only an economic function.

Table 5.6. Advisors' preferred development of locality, varimax rotated principal components model. (See Appendix 2, Question 8. Loadings less than 0.4 are omitted for clarity.)

	Strength- ening local identity	Growth- centre develop- ment	Increase in forests	Nature protection orientation	Intensive agri- culture
<i>Eigenvalues</i>	2.60	1.40	1.28	1.07	0.94
<i>Cumulative proportion of variance explained, %</i>	19.1	36.4	48.7	60.8	72.8
Rotated loadings:					
8j-Increase in social commitment and co-operation	.79				
8i-Increase in landscape management	.70				
8c-Increase in tourism	.64				
8d-Increase in industrial manufacturing		.76			
8e-Construction of new houses		.75			
8h-Increase in services	.46	.72			
8f-Increase in the area of forests			.92		
8b-Increase in organic farming				.88	
8g-Increase in wilderness and nature protection areas				.50	
8a-Increase in intensive farming					.87

If it is assumed that support for an increase in forest area has a utilitarian interpretation, then of the five components, three represent the utilitarian discourse (growth-centre development, agricultural intensification and more forests). Only the strengthening local identity and nature protection components present other discourses. The result is not surprising, given that the primary professional task of advisors is to develop local economies. However, the result suggests that in the minds of the advisors, farming and forestry have become unrelated economic activities.

From the standpoint of the present investigation, the most interesting result of the component score means concerns the *increase in forest area* component (Table 5.7). First, it is a single variable component, not linked with other aspects of rural activity. Secondly, only advisors in Kuopio RBD obtain a positive mean score for this component. Advisors in Mikkeli and Etelä-Pohjanmaa RBDs obtain negative mean scores, especially in the latter. The difference in means is not statistically significant. Nevertheless, the result for advisors contrasts with that for farmers, of whom 40% in Mikkeli RBD and 38% in Kuopio RBD identified with the hedonist discourse in which more forests were represented.

Table 5.7. Rural advisors' preferred local development. Component score means, by rural business districts.

<i>Advisors' preferred development</i>	Etelä-Pohjanmaa	Mikkeli	Kuopio	F (df 2, 58)	Signif.
Strengthening local identity (Community sustainability)	-.18	-.08	.30	1.31	.277
Growth-centre development (Utilitarian)	.45	-.18	-.32	3.92	.025
Increase in forests	-.23	-.11	.38	2.19	.121
Nature protection	-.18	.06	.14	.56	.572
Intensive agriculture (Utilitarian)	.11	-.49	.39	4.38	.017

The *growth* centre development receives a high positive score by advisors in Etelä-Pohjanmaa compared to the negative scores obtained in the other two RBDs. The high negative score obtained for intensive agriculture by Mikkeli RBD advisors contrasts with the positive scores obtained by advisors in Kuopio and Etelä-Pohjanmaa RBDs. The result reflects the current adjustments in dairy- and cattle farming, that characterise farming in Kuopio RBD, which derive from the EU's agricultural policies. The result also casts a pessimistic light on the future of farming in Mikkeli RBD.

Advisors in Kuopio RBD place importance on *strengthening local identity* (high positive score), whereas advisors in the other RBDs obtained negative scores. This indicates that rural advisors in Kuopio RBD are more aware of the need for a broad-based approach to rural development, perhaps stimulated by the adjustments in dairy- and cattle farming noted above. *Nature protection* as a means for rural development obtains positive scores in Kuopio RBD and weak but positive score in Mikkeli RBD.

A cluster analysis of the component scores for advisors' local development preferences produced a four-cluster solution (Table 5.8). The clusters are interpreted as follows:

Increase in forests: The cluster is dominated by the positive coefficient for "increase in forests". The weak coefficient for growth-centre development on the cluster could indicate that forests are being considered either in a *utilitarian* or *hedonist* discourse. However, the strong negative coefficient for "strengthening local identity" rules out the latter interpretation.

Local identity & primary production: The cluster brings together "strengthening local identity", representing the community sustainability discourse, and "increase in forests" and "agricultural intensification" both representing a utilitarian agricultural discourse, and a possible utilitarian interpretation of "more forests". The combination would seem to support an *agri-rural* discourse, where farming (farming and forestry in a Finnish context) continues to be the creator of the countryside, but that future primary production must be based on sustainability.

Agriculture intensification and nature protection: *Intensive agriculture* and *nature protection* are here combined. This indicates that advisors have accepted the current sustainability paradigm as a basis for future development. The *agri-rural* discourse is therefore implied, where a new social contract between society and farmers is based on sustainability and quality.

Growth centre development with local identity & nature protection: The cluster brings together growth centre development, local identity and the environment as development preferences – a combination urban growth, community sustainability and environmental

awareness. The dominant loading is for growth centre development, suggesting a *utilitarian* discourse, but this has to be tempered by the community sustainability and nature conservation discourses that are also represented. Together, the variables in the cluster seem to suggest a *hedonist* discourse, where the countryside is the garden of the city, where rural and natural values are deteriorating and where these values need to be re-established.

Table 5.8. Cluster analysis of rural advisors' preferred local development.

<i>Advisors' preferred development</i>	Increase in forests (Utilitarian)	Local identity & primary production (Agri-rural)	Agriculture & nature protection (Agri-rural)	Growth centre development with local identity & nature protection (Hedonist)
Strengthening local identity (Community sustainability)	-1.07	.83	-.25	.28
Growth-centre development (Utilitarian)	.07	-.46	-.57	1.39
Increase in forests	.89	.31	-.39	-.22
Nature protection	-.47	-.83	.45	.37
Intensive agriculture (Utilitarian)	-.97	.35	.20	-.07
N = 61	9	14	24	14
%	14.7	23.0	39.3	23.0

The regional distribution of the clusters is shown in Table 5.9. The table reveals a dominance of the agri-rural discourse amongst advisors, as might be expected. In Etelä-Pohjanmaa and Mikkeli RBDs 55% of the advisors fall into the agri-rural groups, 79% in Kuopio RBD. An increase in forests gains support only in Mikkeli, where conditions for agriculture are the least favourable and where a long tradition of forest exists. The hedonist interpretation of the fourth group is supported by the fact that it is mostly found in Etelä-Pohjanmaa RBD, where intensive agriculture and village culture form an essential part of the socio-economic and cultural history.

Table 5.9. Distribution of rural advisors' preferred local development clusters, by rural business districts.

<i>Advisors' preferred development</i>	Etelä-Pohjanmaa RBD, %	Mikkeli RBD, %	Kuopio RBD, %	Total, %
Increase in forests (Utilitarian)	9.1	30.0	5.3	14.8
Local identity & primary production (Agri-rural)	13.6	20.0	36.8	23.0
Agriculture & nature protection (Agri-rural)	40.9	35.0	42.1	39.3
Growth centre development with local identity & nature protection (Hedonist)	36.4	15.0	15.8	23.0
%	100.0	100.0	100.0	100.0
N	22	20	19	61

$\chi^2_6 = 10.14$ $p = 0.12$

While a statistical analysis of the differences between farmers and advisors is not possible as different methods were employed (Table 5.10), nevertheless reveals clear differences in the preferences of farmers and advisors concerning future development assessed from the standpoint of their representative discourses. The agri-rural discourse is more strongly represented in advisors in all three districts than in the farming community. Almost the reverse is true with regard to the community sustainability discourse, which is strong represented amongst farmers but less so in advisors (with the exception of Kuopio RBD).

Table 5.10. The proportion of farmers and advisors in the discourse groups, by rural business districts.

Rural discourse	Farmers			Rural advisors		
	Etelä-Pohjanmaa	Mikkeli	Kuopio	Etelä-Pohjanmaa	Mikkeli	Kuopio
Agri-rural	7	19	14	41	35	42
Community sustainability	35	30	31	14	20	37
Hedonist	23	40	38	36	15	16
Utilitarian	35	11	17			
Nature conservation				9	30	5

The data did not ideally separate the hedonist and utilitarian discourses, especially in the case of the advisors. This may have been a fault of the questions or because in Finland, or in the regions in question, these two discourses are not readily separable. Nevertheless, the utilitarian discourse for farmers and the utilitarian/hedonist discourse for advisors obtained almost identical results for the regions in question, with the utilitarian discourse being strongly represented in Etelä-Pohjanmaa RBD, and much less elsewhere. The farmers' hedonist discourse was represented more strongly in Mikkeli and Kuopio RBDs. The results are as expected, given the socio-economic and cultural histories of the regions in question.

5.4 Farmers' farming and forestry discourses

The primary sector remains a major source of income in rural areas. Similarly, the general image of the rural is still firmly tied to farming and forestry. A set of propositions was therefore given to the farmers in order to elicit the importance given to farming and forestry in establishing rural values. The propositions to which farmers were asked to respond were scaled from 1=completely disagree to 5=completely agree (see Appendix 1, question D1). The statements and propositions were constructed on the basis of some of the issues that have been raised in the frame of reference (Chapter 2) as well as by the public debate on agriculture, forestry and rural development in recent times. Experiences from previous field afforestation investigations as well as the MULTIFOR.RD project were also helpful when constructing the propositions. In the MULTIFOR.RD project, a basic hypothesis was that rural attitudes towards forests would be more favourable in regions where forests had traditionally been part of the rural land use than in areas where afforestation brought a significant change in land use that challenged traditional farming values gained support (Wiersum and Elands 1999, 2002). As noted earlier, the regional contrasts in land use in Finland are much less than those found in central Europe and it was doubted at the outset whether such a negative forest factor would be found.

The propositions were subjected to factor analysis, and after experimentation a five factor model was accepted (Table 5.11). A number of propositions were omitted because they led to confusion in the structure and interpretation of the factors. The factors are interpreted as follows:

Farming as upholder of rural values: The propositions loaded onto this component concern the role of farming and of rural areas to the well being of the nation and the protection of the nation's cultural heritage. Rurality is seen as a resource that is produced by the farming community and that is required by the nation, as well as by tourists and in-comers. The spirit of the factor is that farming is the creator and steward of rural areas that provide an environment of

value to the nation. The factor can be regarded to represent the *hedonist discourse* (Wiersum and Elands 1999), the concept of which views the countryside as the garden of the city, and that aesthetic and cultural values of the countryside have to be actively maintained.

Forests as a symbol of backwardness: The propositions loaded onto this factor concern the perceived negative aspects of forests and afforestation. The strongest loadings concern the backward image given by forested areas and the social isolation created by extensive forest areas. The opinion that afforestation gives an area an abandoned appearance is logically connected to the factor. The backwardness image is supported further by agreement with the proposition that field afforestation creates a negative environment for enterprise. The loading of the propositions concerning the need to control field afforestation by environmental and landscape regulations, and the need to clear afforested fields for landscape rehabilitation purposes, indicate that field afforestation has been excessive in some areas, and reveal an urgency for correcting past errors. The component addresses issues contained in the *community sustainability discourse*. As remote localities are in question, the problem concerns the marginalisation and stagnation of areas that exhibit a decrease in social and economic viability (Wiersum and Elands 1999).

Fields as a symbol of vitality: Propositions that concern the cultural and symbolic value of fields to the rural community, both historically and in the future, are strongly loaded onto this factor. One proposition concerns the symbolism of the *historic* effort that has gone into creating fields (e.g. Smeds 1961), while another concerns fields' symbolic role concerning rural vitality in the future. Other propositions on the factor reinforce the interpretations of these two loadings. One concerns the clearing of afforested fields to rehabilitate landscapes, i.e. re-creating cultural (landscape) values, another concerns the control of field afforestation via environmental and landscape regulations (preservation of cultural values and preventing their destruction). The final proposition on the factor concerns the abandoned appearance afforested fields impart to an area, i.e., afforested fields have negative symbolism. The component can be interpreted as representing the *agri-rural discourse*, which posits that farming is the creator of the countryside and that the crisis in modern farming (represented here by field afforestation) requires a new social contract between farmers and society.

Environmental protection dimension: The strongest loading on this factor is the proposition that more forests and unique biotypes should be protected. This is supported by the *negative* loading of the proposition that farming and environment policies *should not be mixed* (note double negative), and the positive loading on the proposition that field afforestation should be governed by environmental and landscape protection rules. The component contains elements of the *nature conservation discourse* (Elands 2000) in which nature and potential nature areas have intrinsic value that should be preserved and protected from socio-economic intrusion.

Rationalisation of agriculture: The final factor brings together two propositions. One supports the rationalisation and intensification of agricultural, while the other supports the concentration of agricultural production in the most fertile regions. The factor only accounts for 6% of the total variance in the data, but represents the *utilitarian discourse* in which rural development is seen to depend upon the optimal economic use of factors of production (Wiersum and Elands 2002).

Table 5.11. Varimax rotated principle axis factor model of farmers' farming and forestry discourses.

	Farming as upholder of rural values	Forests as a symbol of backward- ness	Fields as symbol of vitality	Environ- mental protection	Agri- cultural rational- isation	Commu- nality
<i>Rotated sums of squared loadings:</i>	2.24	2.18	1.38	.76	.57	
<i>Cumulative proportion of variance explained, %</i>	24.8	37.8	46.3	53.3	59.2	
Rotated loadings:						
Well maintained rural landscapes are a sign of a district's vitality	.78					.45
Farming landscapes are a part of the national cultural heritage	.73					.42
Rural areas are important for the quality of life of the nation	.70					.33
As well as producing primary products, farming and forestry's task is to provide a tranquil countryside for the nation	.62					.20
Tourists and incomers to rural areas demand a well maintained countryside	.61	.32				.25
Extensive forests give an area a backward image		.81				.42
Extensive forests isolate people from each other (negative sense)		.79				.43
Afforested landscapes do not encourage the development of new enterprises		.71				.41
Afforested areas take on an abandoned appearance		.62	.38			.44
Fields should not be afforested because they were cleared by hard manual labour			.78			.36
The clearing of afforested fields to restore cultural landscapes is recommendable	.44		.64			.28
Fields are a symbol of rural vitality also in the future			.63			.43
Field afforestation should be governed by strict environment and landscape protection rules		.33	.47	.45		.33
More forests and unique biotopes should be protected				.75		
Farming and forest policies <i>should not</i> be mixed with environmental policies				-.69		.13
Intensification and rationalisation are the only ways to save Finnish agriculture					.74	.13
Farming should be concentrated in the most fertile regions					.71	.15

Loadings less than +/-0.3 omitted for clarity

The means of the factor scores computed for the rural business districts are presented in Table 5.12. The *hedonist discourse* as represented by *farming as an upholder of rural values* has the smallest variance, with each district being close to the mean for all farmers (0.00). Any other result from the farming profession would, perhaps, have been surprising. The signs of the means are also logical, with farmers in the intensive farming region of Etelä-Pohjanmaa RBD obtaining a positive sign, compared to the (weak) negative coefficients for the more forest-oriented rural economies of Mikkeli and Kuopio RBDs.

Table 5.12. Mean factor scores for farmers' farming and forestry discourses, by rural business districts.

<i>Farmers' farming and forestry discourses</i>	Etelä-Pohjanmaa	Mikkeli	Kuopio	F (df 2, 941)	Signif.
Farming as upholder of rural values (<i>Hedonist discourse</i>)	.03	-.04	-.01	.47	.623
Forests as a symbol of backwardness (<i>Community sustainability discourse</i>)	.07	.06	-.17	7.17	.001
Fields as a symbol of vitality (<i>Agri-rural discourse</i>)	.08	-.11	-.04	4.87	.008
Environmental protection dimension (<i>Nature conservation discourse</i>)	.02	-.08	.04	1.89	.151
Agricultural rationalisation (<i>Utilitarian discourse</i>)	.08	-.04	-.10	7.59	.001

Forests as a symbol of backwardness representing the community sustainability discourse obtains weak but positive means scores in Etelä-Pohjanmaa and Mikkeli RBDs, but a strong, negative score in Kuopio RD. While it might be expected that farmers in Etelä-Pohjanmaa RBD adopt this position, it is surprising that farmers in Mikkeli RBD obtain a positive mean score. Mikkeli RBD has extensive forests, and forests have long been essential to the local economy. The relatively large, negative means score in Kuopio RBD indicates that forests are more activity integrated into the rural economy than in the neighbouring Mikkeli RBD. The difference in the means is statistically significant at the 0.001 level. The pair-wise T2 test is significant for Etelä-Pohjanmaa and Mikkeli (0.001) and for Mikkeli and Kuopio (0.008). The latter result indicates the scale of the difference between Mikkeli and Kuopio RBDs.

Fields as a symbol of vitality (agri-rural discourse) is positively represented in Etelä-Pohjanmaa RBD, as expected. The mean is weakly negative in Kuopio RBD, but strongly negative in Mikkeli RBD. The latter reveals that farmers in Mikkeli accept that agriculture in the district is in crisis, and that agri-rural discourse is weak. The difference in means is significant at $p=0.008$. The pair-wise T2 test is significant at $p=0.01$ for Etelä-Pohjanmaa/Mikkeli.

The difference in means between the districts for the *environmental protection dimension (nature conservation discourse)* is not statistically significant. Farmers in Mikkeli RBD nevertheless obtain a negative mean score, indicating that this discourse is less common. This, in turn, is an interesting result given that the authorities of the Province of Mikkeli have long attempted to market their region as an "eco-province". The difference in the means is statistically non-significant.

The *utilitarian discourse* as represented by the *agricultural rationalisation* dimension is represented most strongly amongst farmers in Etelä-Pohjanmaa RBD (positive mean score) than amongst farmers in the other two districts (negative mean score). The difference in the means is statistically significant. The pair-wise T2 test is significant for Etelä-Pohjanmaa and Mikkeli RBDs ($p=0.034$) and Etelä-Pohjanmaa and Kuopio RBDs ($p=0.001$).

Discourses are not mutually exclusive, and it can be expected that individuals will subscribe to different sets of social representations and will therefore identify with more than one discourse. The relative presence and importance of the discourse factors in the three RBDs was therefore examined by discriminant analysis.

Following a stepwise procedure, three of the factors were included in the discriminant function; agricultural rationalisation (Utilitarian discourse), fields as symbol of vitality (Hedonist discourse) and forests as symbol of backwardness (Community sustainability discourse; Table 5.13).

Table 5.13. Standardised canonical discriminant functions for farmers' rural discourses.

<i>Farmers' rural discourses</i>	Function 1 Utilitarian-hedonist (pro-agriculture)	Function 2 Community sustainability- hedonist (pro-forest)
Forest as a symbol of backwardness (CS-discourse)	.371	-.880
Fields as symbol of vitality (HD)	.501	.684
Agricultural rationalisation (UD)	.718	.215

The discriminant functions are interpreted as follows:

Function 1. Utilitarian-hedonist (pro-agriculture): the strongest loading on this function is obtained by the agricultural rationalisation factor (utilitarian discourse), followed by fields as symbol of vitality (hedonist discourse). The positive loading of forests as a symbol of backwardness (community sustainability discourse) supports a strong utilitarian, pro-agricultural interpretation of the function.

Function 2. Community sustainability-hedonist (pro-forest): The function is characterised by the strong negative loading of forests as a symbol of backwardness (community sustainability discourse). The negative loading means here that the concept is rejected, i.e. forests are not a symbol of backwardness. Fields as a symbol of vitality (hedonist discourse) obtains the strongest positive coefficient, supported by the relative weakly loaded agricultural rationalisation factor (utilitarian discourse). The function therefore stresses hedonist agricultural values that support a positive attitude to forests.

The functions can be considered to create a continuum. In one direction there is strong support for rational (utilitarian) agricultural discourses and a negative attitude towards forestry. In the other direction there is strong support for the community sustainability discourse (pro-forestry in this case) supported by softer (hedonist) agricultural values. The group centroids of the functions are as follows (Table 5.14).

Table 5.14. Group centroids of the discriminant functions for farmers' rural discourses.

RBD	Function 1 Utilitarian-hedonist (pro-agriculture)	Function 2 Community sustainability- hedonist (pro-forest)
Etelä-Pohjanmaa	.179	.027
Mikkeli	-.092	-.169
Kuopio	-.207	.102

Thus, the utilitarian-hedonist function is, as expected, positive in Etelä-Pohjanmaa RBD, and negative and relatively strong in Kuopio, while the community sustainability-hedonist function is positive and relatively strong in Kuopio, weakly positive in Etelä-Pohjanmaa, but negative in Mikkeli RBD.

The functions reveal the dominance of agriculture discourses in Etelä-Pohjanmaa RBD and pro-forest and softer agricultural discourses in Kuopio RBD. Mikkeli RBD exhibits negative function coefficients both cases, which indicates that the farmers there are not involved in the pro-agricultural discourses or the community sustainability-oriented pro-forest discourses.

Discriminant analysis assigns cases to the predetermined groups on the basis of the discriminant functions. Ideally, each case should be attributed to the group in which it originally belonged (the predicted group). In the present case, 44% of the farmers were attributed to the area (group) in which they are located (Table 5.15). This indicates that there is a wide variation in commitment to the various combinations of discourses in the areas concerned. This is to be expected. However, the largest single proportion of farmers in each RBD were successfully assigned to their predicted group, 49% in Kuopio RBD, 45% in Etelä-Pohjanmaa but only 36% in Mikkeli RBD.

Table 5.15. Actual and predicted classification results of the discriminant analysis for farmers' rural discourses.

	Predicted group membership, %			Total
	Etelä-Pohjanmaa	Mikkeli	Kuopio	
Etelä-Pohjanmaa	44.5	26.8	28.7	100.0
Mikkeli	33.9	36.4	29.7	100.0
Kuopio	29.4	22.1	48.5	100.0

43.6% of original cases correctly classified

6 Forests, afforestation and local development

6.1 Farmers' and advisors' views on forests as a means for local development

A role for forests and forestry as a means for rural development is embedded in Finnish rural policy. The current rural development programme specifies a broad-based development programme for forestry, encompassing not only traditional roundwood, paper and wooden products, but also forest-based good and services such as tourism, food-stuffs, and energy, as well as environmental services such as clean air, water and soil (Finland's... 1999, Maaseutupoliittinen... 2004).

Most forest owners live in rural areas (Karppinen et al. 2002), and despite the weakened role of farm forest ownership and the loss of forest labour incomes in rural areas (Elovirta 1995), forests remain a major rural resource. To what extent this resource is recognised as a means for rural development is thus a pertinent question, especially given the importance given by the EU to the role of forestry in rural diversification (e.g. Terrasson 1998, Weber 2000). The approach to the question is two fold, taking into account: i) from the farmers' perspectives, as they own much of the forest and have local knowledge, and ii) advisors' views, as they should have a broader and professional perspective on the opportunities of rural development.

The questions to determine how rural people view forests and forestry were those employed in the MULTIFOR.RD project, with minor adjustments for Finnish conditions (Appendix 1 & 2). Not all the questions original were appropriate for Finnish rural advisors, while extra questions were added for the farmers in order to capture aspects of field afforestation in more detail.

The analysis uses two sets of questions: one set that combines the responses of farmers and advisors to the same, simplified set of questions, and a second, more detailed, set from the farmer study. The advantage of the combined data is that a direct comparison can be made between the farmers and rural advisors.

Farmers and advisors showed few differences in their views as to the importance of forests and forestry to local development (Figure 6.1). The most noticeable results seen in the figure are i) farmers give greater importance to qualitative aspects of forests than utilitarian (economic) aspects. They acknowledge the creation of income from forests but not the creation of labour and livelihoods; and ii) advisors give greater importance to economic and livelihood aspects of forests and forestry (labour and income for locals, basis for nature-based enterprise), but the importance is still not very high.

The general trends noted in Figure 6.1 are maintained when examined by rural business districts, Figure 6.2, despite the fact that the forest and forestry regimes differ in each area. Figure 6.2 also reveals the systematically lower level of importance given to the role of forests in local development by farmers and advisors in Etelä-Pohjanmaa RBD, especially with respect to the creation of labour and livelihoods. In Mikkeli and Kuopio RBDs, a slightly higher importance is attributed to the labour and livelihood aspects of forestry, while the creation of farm incomes from forests is acknowledged.

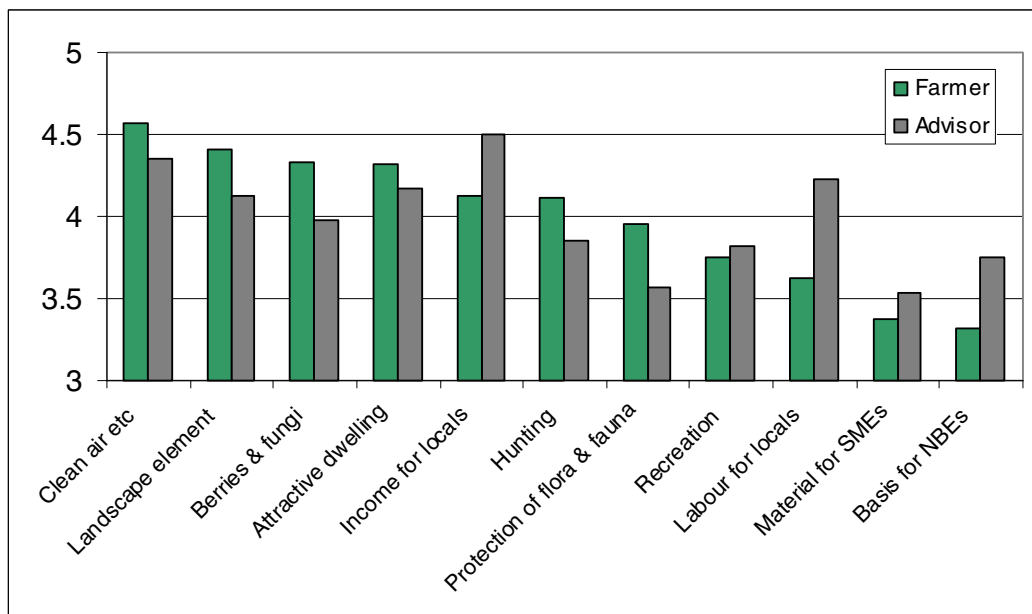


Figure 6.1. The views of farmers and advisors concerning the importance of forests and forestry for local development. Scoring: 1=Cannot say, 2=No significance, 3=Little significance, 4=Some significance, 5=Considerable significance.

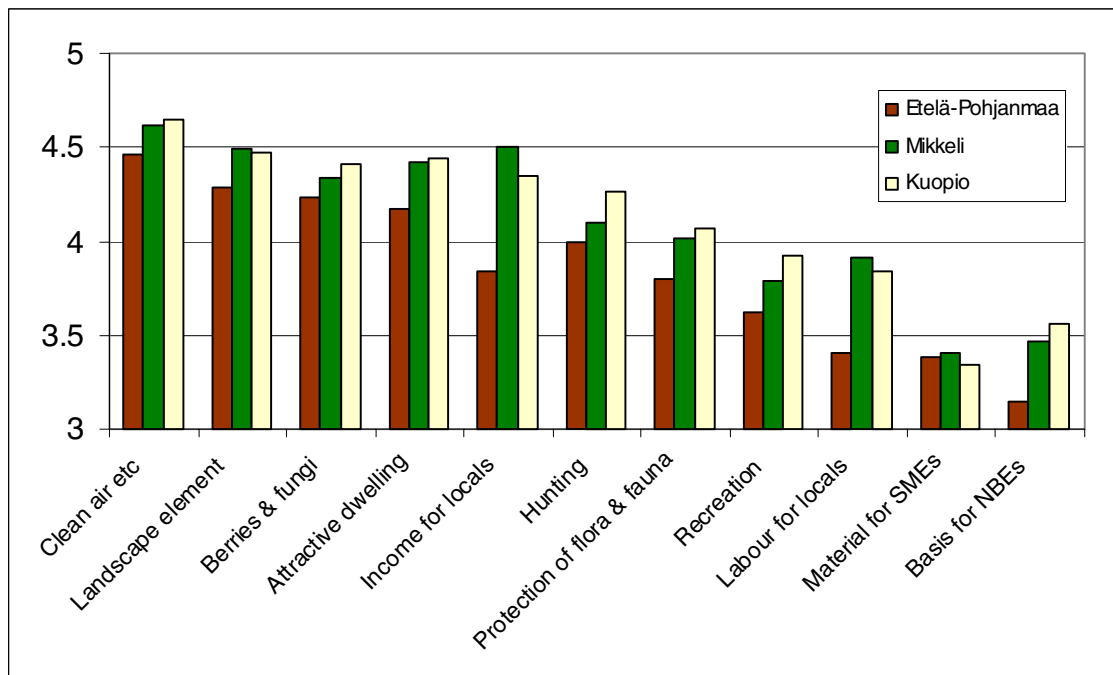


Figure 6.2. The combined views of farmers and advisors concerning the importance of forests and forestry for local development, by rural business districts. Scoring: 1=Cannot say, 2=No significance, 3=Little significance, 4=Some significance, 5=Considerable significance.

To seek underlying dimensions in the data set, principal components analysis was employed and a three component model that accounted for 63% of the variance was accepted (Table 6.1). The components are interpreted as follows:

Environmental values. The component brings together positive aspects of the forest "environment" both as a landscape element enhancing dwelling areas, and as a natural environment for flora and fauna, and a producer of clean of air, water and soil. The component can be considered to possess elements of the *hedonist discourse*, given that it stresses aesthetic and nature values in rural areas.

Economic benefits. The component brings together income, employment, nature-based enterprise and raw material aspects of forests in the local economy. The variable concerning recreation opportunities created by forests is also loaded on this component. This loading is logical given that recreational opportunity can be perceived as a commercial opportunity, e.g. in association with nature-based tourism. The component relates strongly to the utilitarian discourse.

Non-wood benefits from forests. The component brings together variables concerning hunting, berry and fungi picking, and opportunities for general outdoor recreation in forests. None of the discourses is directly represented here, as any utilitarian interpretation is offset by hedonistic elements.

Table 6.1. Varimax principal components model of farmers' and rural advisors' views on forests' role in rural development.

	Environmental benefits	Economic benefits	Non-wood benefits
<i>Eigenvalues</i>	4.27	1.50	1.11
<i>Cumulative variance explained, %</i>	38.82	52.41	62.54
Rotated loadings:			
Forests as landscape element	.82		
Forests as cleanser of air, soil and water	.81		
Forests as creator of attractive dwelling areas	.79		
Forests as protector of flora and fauna	.66		
Forests as provider of local employment		.84	
Forests as a source of income for local people		.74	
Forests as a source of raw materials for local SMEs		.71	
Forests as a basis for nature-based enterprises		.59	
Forests for hunting			.85
Forests for berry- and fungus picking			.80
Forests for recreational use		.39	.54

Loadings less than +/-0.3 omitted for clarity

6.2 Regional differences between farmers and advisors

The mean scores for the components were computed and the farmers' and advisors' mean scores are given in Table 6.2. Rural advisors attribute the greatest importance to economic benefits from forestry, with negative scores for environmental and non-wood benefits. Negative scores here means "below the mean", with the mean being zero. Farmers, on the other hand, have weak but positive scores for environmental and non-wood benefits, but a negative mean score for economic benefits. The differences of the means are statistically significant for each component.

Table 6.2. Mean scores for forests' role in local development, farmers and rural advisor, all communes.

Principal components	Farmers	Rural advisors	F-value, df 1, 1003	Signif.
Environmental values	.03	-.44	12.47	.000
Economic benefits	-.05	.75	37.11	.000
Non-wood benefits	.02	-.43	11.81	.001

The advisors' scores appear to be more emphatic than those of the farmers, i.e. their means scores tend to have greater variance from the mean. There are two reasons for this. First, farmers form by far the greater number of observations. Thus, the mean values of the components are weighted significantly towards the farmers (recall that the mean score for each component is zero). Secondly, the higher average scores of the advisors suggests that they are giving their view from a professional standpoint. Such standardised professional responses can be explained by rural power structures that lead to the production of rural (political-economic) space (that is to say "spheres of influence") (Gale and Golledge 1982, Lefebvre 1991, Selby and Petäjistö 1994, 1995). For this reason alone, advisors can be expected to place greatest emphasis on the perceived economic benefits of forests and less emphasis on the less tangible environmental and non-wood benefits.

When the means are examined by rural business districts, the different socio-economic and historical characteristics of the districts are revealed by the responses of both farmers and advisors (Table 6.3). Farmers in Mikkeli and Kuopio RBDs (areas with extensive forests and small dairy farms) gain positive scores for each of the forest benefits in question, while the

means for farmers in Etelä-Pohjanmaa RBD are negative. Particularly noticeable in Etelä-Pohjanmaa RBD district is the relative large *negative* mean score for economic benefits from forestry.

Table 6.3. Mean component scores for forests role in local development, farmers and rural advisor, by rural business districts.

Principal components	Etelä-Pohjanmaa RBD				Mikkeli RBD				Kuopio RBD			
	Farmers	Advisors	F-value, df 1, 456	Sig.	Farmers	Advisors	F-value, df 1, 254	Sig.	Farmers	Advisors	F-value, df 1, 289	Sig.
Environmental benefits	-.14	-.18	.036	.85	.17	-.55	12.45	.000	.17	-.63	12.76	.000
Economic benefits	-.30	.37	9.09	.003	.22	1.11	16.67	.000	.12	.81	10.41	.001
Non-wood benefits	-.07	-.46	3.07	.080	.00	-.74	10.44	.001	.21	-.07	1.43	.23

The means for the advisors in the three districts have similar signs (positive for economic benefits, negative for the others) but the magnitude varies considerably. The greatest economic benefits from forests are recognised by advisors in Mikkeli RBD, followed by Kuopio RBD, but even in Etelä-Pohjanmaa RBD the mean score is *positive*. With the exception of non-wood benefits in Kuopio and Etelä-Pohjanmaa RBDs, and environmental benefits in Etelä-Pohjanmaa RBD, the differences in the means between farmers and advisors are statistically highly significant.

The results reveal a dichotomy. Farmers attribute a greater range of benefits to forests than rural advisors. Indeed, the economic benefits from forests are less appreciated by farmers (who own the forests) than by advisors (farmers' mean scores are systematically lower than for advisors, even where the signs are the same). In Etelä-Pohjanmaa RBD, farmers seem to attribute very little value on the economic benefits of forests even though 65.5% of the land area in Etelä-Pohjanmaa RBD as a whole is under forests: a large proportion, even though it is less than Mikkeli and Kuopio RBDs (85% and 79% respectively).

To explore the farmer-advisor dichotomy further, the component scores were entered into discriminant analysis, with the *a priori* groups being farmers and advisors. All three components were accepted into the discriminant function (Table 6.4). The function emphasises environmental and non-wood benefits (positive signs) over economic benefits (negative sign).

Table 6.4. Discriminant function for the views of farmers and advisors concerning the role of forests in local development.

Principal components	Function
Economic benefits	-.76
Environmental benefits	.44
Non-wood benefits	.43

Case placement on the function indicates the degree to which traditional economic aspects of forests are preferred over non-wood and environmental benefits. With group centroids placed at 0.06 for the farmers (i.e. close to the origin – a logical result given the uneven size of the groups) and -0.989 for the advisors, farmers can be regarded to attribute both economic and non-wood and environmental benefits to forests, whereas advisors' views are strongly weighted towards traditional economic benefits. The result also implies that advisors may not be

perceiving the entrepreneurial opportunities that non-wood and environmental benefits of forests can provide.

With prior probability of group membership based on group size (to allow for the uneven size of the groups) 100% of the farmers were correctly assigned to their group and only one advisors (1.6%) was incorrectly assigned to his/her group.

6.3 The opinions of village action committees on forests as a means for local development

In a separate investigation into aspects of rural governance (Selby et al. 2004), village action committees in the same study communes as the current study, were asked about the local development importance that was given to forests and field afforestation. Their responses resulted in a three component model that closely resembles the model achieved for farmers and advisors (Table 6.5). The first component concerns economic benefits, i.e. income and livelihoods. The second component concerns the qualitative benefits to the inhabitants milieu brought by forests, while the third component concerns non-wood benefits from forests. The non-wood benefit component has hunting as the strongest loading, illustrating the importance of this activity in rural communities (see also Petäjistö 2002, Selby et al. 2004).

Table 6.5. Varimax rotated principal component model of the view of village action committees concerning the local role of forests.

	Economic benefits	Forest milieu	Non-wood benefits
<i>Eigenvalues</i>	2.37	2.01	1.73
<i>Cumulative proportion of variance explained, %</i>	26.33	48.68	67.95
Rotated loadings:			
Forests as provider of local employment	.78		
Forests a source of raw materials for local SMEs	.76		
Forests as a basis for nature-based enterprises	.72		
Forests as a source of income for local people	.66		.44
Forests as landscape element		.93	
Forests as creator of attractive dwelling areas		.92	
Forests for hunting			.80
Forest berry & fungi picking			.71
Non-wood use of forests		.46	.53

Loadings less than 0.40 omitted for clarity

Village action committee members in Etelä-Pohjanmaa RBD attributed less importance to forests in their locality than those in Mikkeli and Kuopio RBDs, as each of the mean scores was negative, strongly so in the case of economic- and non-wood benefits (Table 6.6). In Mikkeli, only the forest milieu component gained a negative (and weak) mean score. In Kuopio RBD, each component gained positive scores, strongly so in the case of economic- and non-wood benefits.

Table 6.6. Mean component scores for the views of village action committees concerning the local benefits of forests, by rural business districts.

<i>Local benefits of forests</i>	Etelä-Pohjanmaa	Mikkeli	Kuopio	F-value, df 2, 80	Signif.
Economic benefits	-.25	.01	.25	1.97	.15
Forest milieu	-.03	-.05	.07	.12	.87
Non-wood benefits	-.36	.24	.19	3.45	.04

6.4 Advisors and afforestation

6.4.1 Attitudes to field afforestation - farmers and advisors

Attitudes concerning the past and future field afforestation activities varied considerably between advisors and farmers (Table 6.7). Nearly two thirds of both farmers and advisors considered that there has been enough or even too much field afforestation, but when it came to saying whether there should be more field afforestation, farmers were more ambivalent. Only one fifth of the farmers considered that there could be more afforestation, compared to one third of the advisors, while nearly 20% of the farmers could not offer an opinion, compared to only 7% of the advisors. The irreversible nature of field afforestation and its long term effects on the farm economy are undoubtedly the main reasons for the farmers' ambivalence.

Table 6.7. Farmers' and advisors' views on the extent of field afforestation in their localities/communes.

	Farmers, %	Advisors, %	Total, %
Too much	7.0	4.9	6.9
Enough	55.8	55.7	55.8
Could be more	18.9	32.8	19.7
Cannot say	18.3	6.6	17.6
Total	100.0	100.0	100.0
N	928	61	989

$$\chi^2_3 = 10.50 \quad p = 0.015$$

Ten percent of the forestry advisors considered that field afforestation has been too extensive and only 5% believe that there could be more in their area. Conversely, 4% of agricultural advisors considered field afforestation to have been too extensive and nearly 40% were of the opinion that there could be more in their area. "Other" rural officials had the greatest enthusiasm for more afforestation.

In a related study, Selby et al. (2003) found that field afforestation was considered by all interested parties to be preferable to land abandonment that invariably leads to natural regeneration by woody plants of low or no economic or scenic value.

In an earlier study (Selby and Petäjistö 1995), foresters were found to be far more supportive of field afforestation than agricultural advisors, but the figures in Table 6.8 suggests that attitudes have changed. A greater proportion of forestry advisors than agricultural advisors now consider that field afforestation has been too extensive and that there could be more. However, a greater proportion of forestry advisors than agricultural advisors consider that field afforestation levels have been tolerable. In a related study, Selby et al. (2003) found that field afforestation was

considered by all interested parties to be preferable to land abandonment leading to natural regeneration by woody plants of low or no economic or scenic value.

Table 6.8. The opinions of advisors concerning the level of field afforestation, by professional groups.

<i>Extent of field afforestation in locality</i>	Agricultural advisors, %	Forestry advisors, %	Other rural officials, %	Total, %
Too extensive	4.3	10.5	0.0	4.9
Tolerable	47.8	78.9	42.1	55.7
Could be more	39.1	5.3	52.6	32.8
Cannot say	8.7	5.3	5.3	6.6
Total	100.0	100.0	100.0	100.0
N	23	19	19	61

$\chi^2_6 = 12.11$ $p = 0.06$

6.4.2 Objections and professional orientations

Finland has not availed itself of funding for field afforestation via the provisions of Council Regulation (EEC) 2080/92 since 1999. Instead, farmers who afforest fields have been compensated from the fund for sustainable forestry (Kemera) (Pahkosalo 2005). When an afforesting landowner receives grant-aided the decision to afforest is subject to conditions via which agricultural and forestry authorities play a role in the afforestation decision making.

Advisors were asked to what extent they considered that their advice had influenced farmers' field afforestation decisions, over two-thirds (70%) of the 61 advisors considered that they had had considerable or very considerable influence on farmers' decisions concerning field afforestation. Forestry advisors (19) seemed to have had the least influence, with 52% believing that they had had considerable influence, while 70% of the agricultural advisors (23) and 90% of the "other" officials (19) considered that had had considerable influence on farmers' afforestation decisions. The strong showing of the "other" group is probably explained by their role in the granting of permits. The χ^2 -test for perceived difference in influence by professional groups was statistically significant at $p=0.03$.

A decade ago, rural advisors' views concerning field afforestation tended to be guided by what can be called "ties-to-place" (e.g. Tuan 1974), and not only by their professional affiliation Selby and Petäjistö (1995). Accordingly, advisors' views on field afforestation depended on the context of the activity, i.e. whether in the country at large, or in the advisors' domicile commune. Advisors' attitudes to field afforestation were much less positive in the latter case. Finland has seen a considerable change in rural institutions during the 1990s, with agriculture in particular under-going radical change and rationalisation. Advisors' roles have therefore had to adjust, although not always quickly or willingly. Agricultural advisors seem to have been more ready to adapt to changed circumstances, while forestry advisors seem to be more change resistant (Selby et al. 2004).

To determine whether any changes had occurred in advisors' attitudes to field afforestation had changed the question employed in the 1994 investigation was employed again. Thus attitudes to field afforestation could again be placed in the twin contexts of the country at large and the advisors' commune of domicile/employment. The question was: "What are the barriers to extensive field afforestation in your commune and in the country as a whole?" with ten

propositions offered. The scale employed was: 1-cannot say, 2-not important, 3-not very important, 4-fairly important, 5-very important. Thus the higher the average score, the greater that agreement with the proposition. The outcome is presented in Table 6.9.

Table 6.9. Advisors' objections to field afforestation in their own commune and in the country as a whole, with paired-sample t-test significance. All advisors (n=60).

Proposition	Whole country	Own commune	t	T-test df	p
Fields are needed in the future	3.9	4.3	-3.42	59	.001
Fallow agreements are a better alternative	2.9	3.1	-2.65	58	.010
Farmers have a negative attitude to field afforestation	3.5	3.7	-2.45	59	.017
Preservation of the rural landscape	4.1	4.3	-1.99	59	.051
Advisors have a negative attitude to field afforestation	2.9	3.1	-1.96	59	.055
Field afforestation is irreversible	3.5	3.6	-1.93	59	.059
In the long term, field afforestation will weaken the possibilities for local economic development	2.7	2.9	-1.84	59	.072
Local opinion is against field afforestation	2.7	2.9	-1.94	58	.107
Field afforestation has already weakened local economic development	2.3	2.4	-1.43	58	.159
There is too much forest already	2.3	2.3	Equal means		

The averages for the commune of domicile (or professional responsibility) are systematically higher than for the country as a whole, thus supporting an earlier investigation (Selby and Petäjistö 1995). Propositions that directly affect the local milieu are those that are most significantly different from national level considerations.

The means and differences of advisors' objections to field afforestation were also calculated by professional affiliations (Table 6.10). Only the responses for agricultural and forestry advisors are reported because no statistically significant differences were found for the responses of the "other" group of rural advisors. This latter group had scores that were somewhat lower due to a higher frequency of "cannot say" answers. The two most interesting aspects of the results shown in Table 6.10 are:

- i) Forestry advisors give greater importance to the value of fields in the future than their agricultural counterparts;
- ii) Forestry advisors give greater importance to the preservation of local rural landscapes than agricultural advisors;
- iii) Agricultural advisors consider that local farmers' have a more negative attitude to field afforestation than farmers elsewhere. They also seem to feel that local opinion is more hostile towards field afforestation in their commune than elsewhere.

These results suggest an apparent conservatism in forestry advisors. Not only do forest advisors appear to be more resistant to changing circumstances, but they also appear to be less aware of local opinion, suggesting a degree of professional isolationism.

Table 6.10. Advisors' objections to field afforestation in their own commune and the country as a whole, with t-tests, by professional affiliation.

<i>Proposition</i>	Agricultural advisors (n=23)			Forestry advisors (n=18)		
	Whole country	Own commune	P (t-test)	Whole country	Own commune	P (t-test)
Fields are needed in the future	3.6	4.2	.007	4.2	4.6	.020
Preservation of the rural landscape	*	*	*	4.3	4.6	.042
Farmers have a negative attitude to field afforestation	3.3	3.6	.050	*	*	*
Local opinion is against field afforestation	2.5	2.9	.047	*	*	*

*Not statistically significant at $p=0.05$.

6.4.3 Afforestation and local development

Grants and premiums have been common to afforestation programmes both before Finland's accession to the EU and after, although such support is not available in Finland at the time of writing. Under circumstances where grant-aid is available, over two thirds of advisors, and nearly three out of four forestry advisors considered that it should be paid only subject to conditions (Table 6.11). Less than 10% of all advisors, and no forestry advisors, favoured the *unconditional* payment of grant-aid. The most opposition to the payment of grant-aid came from agricultural advisors (39%) and the least from the "other" group. The result supports earlier investigations concerning the spheres of influence of interest groups (Lefebvre 1991, Selby and Petäjistö 1994, 1995).

Table 6.11. Professional views on the advisability of paying farmers an afforestation premium.

	Forestry advisors, %	Agricultural advisors, %	Other advisors, %	All, %
No	26.3	39.1	10.5	23.0
Conditional	73.7	52.2	68.4	67.2
Yes	0.0	8.7	21.1	9.8
Total	100.0	100.0	100.0	100.0
N	23	19	19	61

The constraints suggested to the advisors concerned taking into consideration the affects of field afforestation on other sections of the rural socio-economy. Reduced by principal components analysis, two clear components were obtained that extracted 68% of the total variance (Table 6.12).

Table 6.12. Orthogonally rotated principal components model of advisors' preferred constraints on grant-aided field afforestation.

	Constraints affecting primary production	Constraints affecting local milieu
<i>Eigenvalues</i>	2.37	1.04
<i>Cumulative proportion of variance explained, %</i>	47.5	68.2
Rotated loadings:		
Effect of field afforestation on the future of forestry	.84	
Effect of field afforestation on local biodiversity	.82	
Effect of field afforestation on local farming and its future	.69	.65
Effect of field afforestation on local landscape		.87
Effect of field afforestation on local SME development		.75

Loadings less than +/-0.4 omitted for clarity

Orthogonal rotation was employed rather than varimax after inspection of the scatter plots. However, the loading on both components of the variable concerning the effect of field afforestation on local farming and its future could not be avoided. The components are:

Constraints on FA affecting primary production: The first component brings together constraints concerning the future of forestry, biodiversity and the future of farming. The component can therefore be seen to address constraints that affect primary production, both in terms of nature and the local economy.

Constraints on FA affecting local milieu: The component is characterised by high loadings of constraints on field afforestation that affect the local cultural landscape (visual milieu), as well as affects on the development of local small enterprises (socio-economic milieu). As noted above, constraints on FA that effect the future of local farming is also loaded onto this component. The latter loading is logical as farming is the economic activity that has the most direct effect on the local landscape, but afforested fields also send a negative signal concerning local socio-economic vitality.

The means of the components scores for constraints on field afforestation for rural business districts are shown in Table 6.13. While the differences are not statistically significant, especially in the case of the constraints affecting primary production, the signs of the means are entirely logical, with both the constraint components obtaining positive means in Mikkeli RBD where forests are most extensive, where the area under active farms has been in continual decline, and where field afforestation has been extensive during the past 30 years. Most noticeable in this respect is the large positive mean score for the constraints affecting the local milieu. The result supports an earlier report (Selby et al. 2003) in which it was shown that farmers in Mikkeli RBD were more concerned about the local effects of field afforestation than farmers in other districts. Etelä-Pohjanmaa and Kuopio RBDs obtain negative mean scores. In Etelä-Pohjanmaa, field afforestation is only a marginal activity, whereas in Kuopio RBD farmers' attitudes to forestry and afforestation have been shown in this study to be more positive.

Table 6.13. Advisors' preferred constraints on field afforestation, by rural business districts.

Principal components	Etelä-Pohjanmaa RBD	Mikkeli RBD	Kuopio RBD	F-value df 2, 58	p
Constraints affecting primary production	-.19	.19	-.15	.65	.52
Constraints affecting local milieu	-.22	.35	-.12	1.92	.15

Advisors were also asked to assess the affects of field afforestation on specific economic activities in their local community. Principal components analysis is again employed to examine their responses (Table 6.14). The components are as follows:

Effects on local forestry and agricultural enterprises: the component brings together strong loadings on variables describing the effects of field afforestation on agricultural- and forestry-related enterprises.

Effects on rural & nature based tourist enterprises: The component brings together effects on tourist enterprises and nature-based enterprises. The interpretation is weighted towards nature-based enterprise because local tourism will, in most cases, be based on the localities natural resources (topography, forests and water) as well as the cultural landscape.

Table 6.14. Orthogonally rotated principal components model of the views of advisors concerning the effects of field afforestation on local enterprise sectors.

Effect of field afforestation's on:	Effect of FA on local forestry and agricultural enterprises	Effect of FA on local nature-based enterprises
<i>Eigenvalues</i>	2.23	1.32
<i>Cumulative proportion of variance explained, %</i>	37.2	59.2
Rotated loadings:		
Forestry service enterprises	.75	
Forest-farm enterprises	.73	
Agricultural businesses	.69	
Heat enterprises	.68	
Rural tourism enterprises		.87
Nature-based enterprises		.78

Loadings less than +/-0.4 omitted for clarity

The mean components scores of advisors' perceptions of the effects of field afforestation on local enterprise development for rural business districts are given in Table 6.15. Agriculture and forestry can benefit from field afforestation: forestry benefits from an increased growing stock, while agriculture can benefit from improved farm structure, the closure of non-viable farms, etc. That each RBD obtains scores close to the mean (0.00) is therefore understandable. The signs are nevertheless logical, with the affects of afforestation on local enterprise being important (positive score) in Etelä-Pohjanmaa where, despite field afforestation activities being very modest, a strong sense of enterprise prevails (see Chapter 4). The effects of field afforestation on local enterprise in Mikkeli and Kuopio RBDs are not considered to be very important (negative scores). The difference in means (t-test) between Mikkeli and Etelä-Pohjanmaa RBD advisors is significant at $p=0.008$.

Table 6.15. Advisors' perception of the effect of field afforestation on local enterprise development, mean component scores by rural business districts.

Principal components	Etelä- Pohjanmaa RBD	Mikkeli RBD	Kuopio RBD	F (df 2, 58)	p
Effect of field afforestation on local forestry and agricultural enterprises	-.07	.02	.07	.11	.90
Effect of field afforestation on rural & nature-based enterprise	.49	-.44	-.10	.53	.01

A pessimistic interpretation of this result might be that enterprise activities are so low in the declining communes of Mikkeli that field afforestation is not seen to affect the situation one way or the other. Support for such pessimism is given by the negative Spearman rank correlation (-0.458 $p=0.02$) between the *proportion of fields afforested between 1990 and 1995* and the component *Field afforestation's effects on local nature-based enterprise* (data aggregated to the commune level). That is to say, higher proportions of field afforested are associated with lower nature-based enterprise activities.

6.4.4 Advisors' assessments of local barriers to forest-farm development

Viable agriculture is becoming increasingly difficult in a number of districts in Finland as a result of international market conditions for agriculture products, the constraints placed on farming by the EU's common agricultural policy and the difficult physical conditions for agriculture in Finland north of the 62nd parallel. The socio-economic history of farming has also meant that farm structure problems, especially small arable and forest areas, have exacerbated these difficulties. Converting farms to forest-farms has been examined as a means to alleviate the structural problem (e.g. Saastamoinen 1987, Mustonen 1994). Advisors were asked to respond to a set of propositions that dealt with the barriers to the formation of forest-farms. The responses have been reduced to basic dimension using principal axes factoring (Table 6.16). A four-factor model was achieved that accounted for 64% of the total variance. The factors are interpreted as follows:

Market uncertainties: The factor brings together the two propositions concerning farmers' uncertainties in the roundwood market. The interpretation is unambiguous.

Structural constraints: the factor is characterised by advisors' views that farms are too small and that harvesting potentials are too small to support the creation of forest-farms. The interpretation is strengthened by the relatively strong loading of "farmers too old". Age can be interpreted in this context as a farm-structure problem.

Lack of forestry experience: the factor is characterised by the strong loading of "lack of forestry experience", supported by the farms' own labour insufficiency for forest work. The weak but positive loading of "lack of interest" on the factor is logical given that in the absence of experience.

Lack of interest in forestry: the factor is dominated by the strong positive loading on "lack of sufficient subsidies for forest-farm orientation", but it is the relatively strong positive loadings of "lack of interest" and "farm owners too old" that reveal the nature of the factor. High age implies a restricted planning horizon which in turn will affect the level of motivation and interest. Given this situation, such farmers would probably not take advantage of subsidies for

forestry orientation anyway. This interpretation is strengthened by the fact that a range of subsidies are available through the fund for sustainable forestry (Kemera). The factor is regarded to primarily concern a lack of interest in forestry.

Table 6.16. Varimax rotated principal axis factor model of advisors' assessments of local barriers to the creation of forest-farms.

	Market uncertainties	Structural constraints	Lack of forestry experience	Lack of interest in forestry
<i>Eigenvalue</i>	3.09	1.72	1.28	1.00
<i>Cumulative proportion of variance explained, %</i>	18.8	35.4	50.5	64.1
Rotated loadings:				
Uncertainty in demand for timber	.90			
Uncertainty in development of timber prices	.88			
Low harvesting potential		.79		
Small forest holdings		.70		
Farm owners are too old		.47		.42
Lack of forestry experience on farms			.89	
Farms' own labour insufficient			.54	
Lack of sufficient subsidies for forest-farm orientation				.80
Lack of interest in forestry			.40	.58

Loadings less than +/-0.4 omitted for clarity

The mean scores of advisors' assessment of local barriers to forest-farm development by rural business districts are given in Table 6.17. Only in the case of *lack of forestry experience* is the difference between the means statistically significant. Lack of forestry experience gains a fairly large positive mean score in Etelä-Pohjanmaa RBD, an expected result given the dominance of intensive agriculture in that region with its strong agricultural- and weak forestry discourses (see Chapter 4). The relatively large, negative mean score for Mikkeli RBD is also as expected, given the predominance of forests in that region and the significance of forest incomes to small farms. The *positive* mean score obtained in Kuopio RBD was not expected. It may be that the dairy and cattle farming in that district has not freed farm labour for forestry work, but the present investigation cannot answer that question. Some evidence in support of such an interpretation is provided by the mean average work units per farm, which is highest in Kuopio RBD (1.56) compared with 1.19 for Etelä-Pohjanmaa, and 1.42 for Mikkeli RBDs (Agricultural Census 2000).

Table 6.17. Advisors' assessments of local barriers to the development of forest-farms. Mean component scores by rural business districts.

Factors	Etelä-Pohjanmaa RBD	Mikkeli RBD	Kuopio RBD	F-value (df 2, 58)	p
Market uncertainties	-.18	.19	.01	.78	.464
Structural constraints	.07	.02	-.11	.22	.803
Lack of forestry experience	.37	-.55	.15	6.38	.000
Lack of interest in forestry	.02	-.01	-.02	.01	.986

6.5 Governance aspects of field afforestation – the question of representation

6.5.1 Farmers' views concerning participation

Field afforestation can have both direct and indirect effects on the local milieu. It may have considerable landscape effects (e.g. Karjalainen and Komulainen 1998, Tyrväinen et al. 2000) which in turn may adversely affect possibilities for rural tourism (Tyrväinen et al. 2001). There is, therefore, more than one interested person in the afforestation decision. Good governance practise requires that in putting policies into effect the views of interested parties should be taken into consideration (e.g. Commission of the European Communities 2001).

Farmers' views concerning interest-group participation in the field afforestation permit process (Table 6.18) reflect the current decision-making process, so that the forest owners' association, the communal or municipal agricultural secretary and the regional forest centres are most frequently seen to be important participants. Nearly 40% of the farmers support the participation of the local agricultural producers union (MTK) and 30% of farmers consider that some form of participation by village action committees is necessary. Similarly, c. 30% thought that the rather "distant" Ministry of Agriculture and Forestry should nevertheless be represented.

Table 6.18. The opinion of farmers' concerning the interest groups that should participate in the field afforestation permit decision process, %.

<i>Interest group</i>	Participation in FA permit decision process, %	Opinion to be made known prior to permit decision process, %	No participation required /CNS, %	Total, %	N
Village action committee	8	23	69	100	912
Forest owners assoc.	39	45	15	100	914
Comm. agric. secretary	26	41	33	100	908
Agric. producers assoc.	14	25	61	100	906
Rural Centre	19	31	51	100	906
Forest Centre	27	36	36	100	911
Environment Centre	14	31	54	100	909
Min. of Ag. and For.	13	16	71	100	908
Others, e.g. neighbours	34	17	49	100	134

An omission from the question set regarding participation was "farmer's neighbours". Afforestation can upset the land use dynamics of a locality and prevent neighbouring farmers from renting or purchasing supplementary fields, as well as affecting the local landscape. In the event, 134 of the 944 farmers answered the "other" class in the question set, often adding the rider "neighbours". Of these 134 farmers, 34% consider that the participation of neighbours is important and 17% thought that, at least, neighbours' viewpoints should be made know prior to the decision-making. However, over 90% of the farmers expressing this opinion were farmers who did not plan afforestation themselves. In other words, they wanted to be represented in their neighbours' decision to afforest.

Farmers who plan field afforestation could be expected to have a different attitude towards participation than farmers without such plans. The former group is making a perfectly legal decision concerning their own property and have no obligation to consider the effects of the decision on other parties, while the latter group might want to use local opinion to oppose field afforestation that might affect their livelihood, milieu, etc.

Both groups of farmers accept a broad-based, interest group participation (Table 6.19). Nearly half (43%) of the farmers who do not plan to afforest fields wish for 5 to 9 interested groups to be represented in the decision process, but over one fifth (21%) of the farmers with afforestation plans also consider that there is a need for such broad-based participation. These figures gain further significance when recalling that only three authorities are needed to decide on the afforestation permit. However, farmers who plan to afforest their fields therefore show a lower tolerance for a broad-based participation of interest groups in the afforestation decision-making than farmers who do not plan to afforest fields. The difference between the groups is statistically significant (cross-tabulation without grouping resulted in a clear statistical differentiation, $\chi^2=29.35$ df 9; sign.= .001).

Table 6.19. The number of interested parties that should participate in the field afforestation permit decision process, by afforestation plans, %.

<i>Number of interest groups to be represented</i>	Plans to afforest, %	No plans to afforest, %	Total, %
None/Cannot say	3.4	10.4	9.4
1 to 2	24.7	17.9	18.6
3 to 4	50.6	29.4	31.5
5 to 6	18.0	25.2	24.5
7 to 9	3.3	17.4	16.1
Total	100	100	100
N	89	833	922

6.5.2 Rural advisors' views concerning participation

Rural advisors' opinions as to the participation of interested parties also reflect the current application process, so that the commune agricultural secretary and the forest centre are seen to be important (Table 6.20). The participation of other official organisations - the environment centre, the ministry of agriculture and forestry, the rural business district, and the commune commercial agent - are considered to be less important. Only 10% of the rural advisors consider that the commune commercial secretary should be involved. Similarly, advisors show little support for the necessity of village action committees to be involved in the decision process. While only 2% of the advisors thought that the afforestation permit applicants' neighbours should be represented in the decision process, over half (58%) considered that neighbours' opinions should be made known prior to the decision process.

Table 6.20. Advisors' opinions concerning the interest groups that should be represented in the field afforestation permit decision process.

<i>Interest group</i>	Participation in FA permit decision process, %	Opinion to be made known prior to permit decision process, %	No participation required /CNS, %	Total, %	N
FA applicant's neighbours	2	58	40	100	60
Village action committee	5	18	77	100	60
Forest owners assoc.	35	55	10	100	60
Comm. agric. secretary	37	55	8	100	60
Agric. producers assoc.	7	31	62	100	58
Comm. commercial agent	3	7	90	100	59
Rural Business District	8	25	67	100	60
Forest Centre	37	40	23	100	60
Environment Centre	2	36	63	100	59
Min. of Ag. and For.	17	3	80	100	60
Other officials	10	0	3	100	7

Advisors' opinions by profession are seen in Table 6.21. The differences between the professional groups are statistically significant (cross-tabulation without grouping ($\chi^2 = 24.76$ df 16 sign. = 0.074).

Table 6.21. Advisors' opinions concerning the number of interested parties that should be represented in the field afforestation permit decision process.

<i>Number of interest groups represented</i>	Agriculture advisors, %	Forestry advisors, %	Other rural advisors, %	All, %
1 to 2	8.7	5.6	5.3	6.6
3 to 4	26.1	55.6	52.7	43.3
5 to 6	43.4	33.4	31.6	36.7
7 to 9	21.7	5.6	10.6	11.7
Total	100	100	100	100
N	23	18	19	60

Agricultural advisors are far more amenable to broad-based interest-group participation in the permit decision process than their forestry colleagues, or the other advisory groups. Indeed, the forestry advisors show a distinct lack of interest in broad-based participation, with over 60% preferring to keep participation to below four parties. In comparison, 65% of the agricultural advisors are willing to see a very broad-based, interest-group participation (five interested parties or more).

7 Farm development, forests and afforestation

7.1 Future development of farms

Farmers' decisions concerning field afforestation are dependent upon their future plans as to whether or not agriculture is to be practised, whether the current form of husbandry will continue, or whether retirement or a change in profession is envisaged (Selby 1980b, Selby and Petäjistö 1995). Farm development plans also have a strong bearing on future rural vitality. If endogenous rural development is to occur (e.g. van der Ploeg and Long 1994, van der Ploeg and van Dijk 1995) it requires a structural foundation that is most often provided by family farms. A new development may be within the current production structure (e.g. a farm may start to produce special cheese from part of its milk production) or it may be something new, e.g. the provision of farm-based services such as tourism. The alternative to such local agricultural development can be a stagnation of rural vitality leading to socio-economic decline, the withdrawal of land from agriculture production, set-aside and afforestation (e.g. Selby 1980a, 1998, Selby and Petäjistö 1994, 1995, Selby et al. 2003).

Farm plans were investigated by presenting farmers with 14 likely scenarios, the farmers being asked to state on a scale of 1 to 5 whether each scenario was in the range from totally out of the question to highly likely. As the scenarios were not all mutually exclusive the responses were examined for basic dimensions by principal axis factor analysis. The five-factor model (Table 7.1) was achieved by reducing the boundary eigenvalue to below unity (0.91). This move was accepted because it strengthened the structure and interpretation of the model as a whole. The model extracted 69% of the total variance in the data set.

Table 7.1. Varimax-rotated principal axis factor model of farmers' plans for their farms over the next five years.

	Expansion of farm	Afforestation & non- cultivation	Reduction of field area & retirement	Forest- farm orientation	Work off farm	Communality
<i>Eigenvalue</i>	3.61	2.01	1.31	1.13	.91	
<i>Cumulative pro- portion of variance explained, %</i>	27.8	43.3	53.3	62.0	69.0	
Rotated loadings:						
Purchase fields	.85					.77
Renting fields from others	.73					.61
Clearing new fields	.68					.47
Afforesting all fields		.88				.80
Leaving fields uncultivated		.59				.42
Afforesting some fields		.58				.50
Sale of fields			.63			.52
Renting fields to others	-.36		.63			.55
Forest-farm orientation				.71		.52
Purchase forest	.39			.45		.38
Developing farm- based services (e.g. farm tourism)				(.22)	(.22)	.17
Seek work off farm					.62	.41
Retirement			.36		-.46	.44

Loadings less than +/-0.30 omitted to aid clarity

The factors are interpreted as follows:

Expansion of farm: The factor is characterised by variables concerned with the expansion of the agricultural premises - the purchase of fields and forest, renting fields from others and clearing new fields. The interpretation is supported by the logical negative loading of "renting fields to others". The factor interpretation therefore relates to the *utilitarian rural discourse* which requires that production areas be used for economic purposes.

Afforestation & non-cultivation: The factor is characterised by the very strong loading of "afforestation of all fields" that indicates the total cessation of farming. The strong loadings of the variables "leaving some fields uncultivated" and "afforestation of some fields" suggests a partial contraction or cessation of farming. The factor relates to the main problems of the *community sustainability discourse* - notably the decrease in social and economic viability in rural areas.

Reduction of field area & retirement: "Sale of fields" and "renting fields to others" are loaded onto the factor - both indicating the contraction or cessation of farming. The loading of "retirement" on the factor indicates that cause of the cessation. This factor, too, relates to the problems expressed by the *community sustainability discourse*.

Forestry and service orientation: The loadings of "forest-farm orientation" and "forest purchase" support each other and thus the interpretation of the factor is self-evident. The variable "development of farm-services" is also weakly loaded onto this factor. The weak loading stems from the low communality and from the small number of farmers who would adopt this alternative. However, the variable's loading onto this factor is entirely logical because farms that are re-orienting their production structure away from farming are likely to seek compensatory incomes from various sources. The factor relates to the *utilitarian discourse* in both conception (areas used for economic purposes) and response to the future (need for innovative economic activities).

Work off farm: The two variables loaded onto the factor are logical in sign and interpretation - "Seek work off farm" is strongly and positively loaded on the factor, whereas "retirement" is fairly strongly and *negatively* loaded on the factor. The interpretation is that while the farmer is seeking work elsewhere (e.g. to supplement income from the farm enterprise) he/she is not considering retirement. Depending upon the nature of its production structure, the farm may remain active and viable. "Development of farm services" is also loaded on this factor. The loading is logical and supports the negative loading of the "retirement" variable. The factor does not directly relate to the discourses presented. The failure of the farming enterprise to provide a viable income nevertheless suggests either the problem context of the *agri-rural discourse* (crisis in modern farming) or the *community sustainability discourse* (decrease in economic viability), or mixtures of both.

Factor scores and their means for the rural business districts (Table 7.2) show that *Farm expansion plans* receives positive, albeit weak, scores in Etelä-Pohjanmaa and Kuopio RBDs, indicating that farmers there are coping better with the current agricultural structural adjustments than farmers in Mikkeli, where the mean scores is relatively large and negative.

Table 7.2. Farmers' farm development intentions, factor scores means by rural business district.

<i>Farm development intentions</i>	Etelä-Pohjanmaa	Mikkeli	Kuopio	F-value, df 2, 941	Signif.
Farm expansion	.08	-.21	.05	8.51	.000
Afforestation & non-cultivation	-.12	.22	.01	11.36	.000
Contraction & retirement	.09	-.08	-.07	5.28	.005
Forest-farm & services	-.18	.30	-.02	30.44	.000
Work off-farm	.02	.04	-.06	1.51	.222

A similar trend is mirrored in the second factor, *afforestation and non-cultivation*. Farmers in Etelä-Pohjanmaa RBD obtain a negative mean score, while farmers in Mikkeli RBD obtain a relatively large positive score. Farmers in Kuopio RBD obtain a mean score close to the overall mean (0.00). The differences in means (F-test) for the *farm expansion* factor was statistically significant at $p=0.000$ for Etelä-Pohjanmaa and Mikkeli RBDs, and at 0.004 for Mikkeli and Kuopio RBDs. In the case of *afforestation & non-cultivation*, the statistic was significant at 0.000 for Etelä-Pohjanmaa and Mikkeli RBDs, and at 0.036 for Mikkeli and Kuopio RBDs.

The *contraction & retirement*-factor, unlike the *afforestation & contraction*, seems more likely to be considered by farmers in Etelä-Pohjanmaa RBD than in Mikkeli and Kuopio RBDs. The F-test for difference in means scores between Etelä-Pohjanmaa and Mikkeli RBDs was significant at $p=0.015$ and between Etelä-Pohjanmaa and Kuopio RBDs at $p=0.027$.

The factor *Forest-farm orientation and the development of services* represents a development trend that is more likely to be associated with farmers in areas where the agriculture-related social discourses are relatively weak, and forestry-related discourses relatively strong. Thus the regions' socio-economic histories suggest that the mean factors scores will be negative for farmers in Etelä-Pohjanmaa and positive for farmers in Mikkeli and Kuopio RBDs. This expectation is not entirely met, however, as the sign for Kuopio is unexpectedly negative. As discussed above concerning advisors' views the possibilities for farms to adapt to forest-farming (section 6.6), this may be due to the high agricultural labour demand placed on farms by intensive animal husbandry. The significance of differences in means was significant at $p=0.00$ for all pairs. Pair-wise differences in means for the fifth factor were non-significant.

Development clusters

The farm plans as represented by the above factor model are not all mutually exclusive. The factor scores were therefore subjected to k-means cluster analysis, which produced a four-cluster solution (Table 7.3).

Table 7.3. Four-cluster grouping of factor scores of farm development plans.

<i>Farm development intentions</i>	Contraction & retirement	Forestry orientation with services and work-off-farm	Farm expansion	Field afforestation, contraction and retirement
Farm expansion	-.59	-.59	1.08	-.07
Afforestation & non-cultivation	-.45	-.39	-.41	1.37
Reduction of field area & retirement	.62	-.41	-.36	.27
Forestry and service orientation	-.52	.44	-.07	.13
Work off farm	-.26	.26	-.06	.04
N (=944)	219	241	265	219
%	23.2	25.5	28.1	23.2

Contraction and retirement: this group of farmers is characterised by the single positive coefficients for *Reduction of field area & retirement*. The group accounts for 23% of the farmers in the study.

Forestry orientation with and services and work-off-farm: the strong, positive coefficient for *Forestry and service orientation* determines the character of this group, but it is supported by the positive value for *Work-off-farm*. Contrary to farmers in group 1, these farmers are not planning retirement even if the production structure of the farm is to be changed. The group accounts for 25.5% of the farm in the study.

Farm expansion: this cluster is characterised by the single, large positive coefficient of the farm expansion factor, all other values being negative. The group accounts for c. 28% of the farmers in the study.

Field afforestation, contraction and retirement: the cluster is characterised by the large, positive coefficient for the *afforestation and non-cultivation* factor and a positive coefficient for the *reduction of field area and retirement* factor. The attributes indicate that this group of farmers will afforest fields when production ceases upon retirement. The weak positive coefficient of the *Forestry and service orientation* factor indicates that some farmers will

actively continue forestry upon their cessation of farming. The groups accounts for 23% of the farmers in the study.

Given the nature of cluster analysis, these figures are only indicative, but the analysis of farmers' plans appears to reveal the serious nature of the current crisis in farming in Finland as only 28% of farmers are planning farm expansion, leaving the remaining 72% facing various forms of contraction, cessation or reorientation. Caution is required, however, as the cluster solution does not allow for farms that are not planning changes to their production in the near future. Table 7.4 shows how the clusters are distributed regionally. As expected, farm expansion is most likely to occur in the two intensive farming areas, Etelä-Pohjanmaa RBD and Kuopio RBD. The greatest proportion of farmers planning contraction and retirement also occurs in Etelä-Pohjanmaa RBD. Field afforestation is most likely to occur in association with contraction and retirement in Mikkeli RBD - the area that has already witnessed the most intensive levels of field afforestation.

Table 7.4. Farm development clusters, by RBDs.

<i>Farm development cluster</i>	Etelä-Pohjanmaa RBD, %	Mikkeli RBD, %	Kuopio RBD, %	Total, %
Contraction & retirement	30.3	12.3	21.3	23.2
Forestry orientation with services and work-off-farm	20.2	37.3	23.9	25.5
Farm expansion	30.5	17.8	33.1	28.1
Field afforestation, contraction and retirement	19.0	32.6	21.7	23.2
Total	100.0	100.0	100.0	100.0
N	436	236	272	944

$\chi^2_6 = 64.68$ $p = 0.000$

7.2 Farmers' forestry objectives

The forestry objectives of farmers reflect their attitudes to forests and forestry in general (Pietarinen 1987, Karppinen 2000, Karppinen et al. 2002). For example, Karppinen et al. (2002) has identified three main aims of forest ownership: economic and financial security aims, employment aims and non-material aims (such as nature conservation, non-wood and non-material benefits and landscape enhancement). Petäjistö (2002) obtained similar results. Similar variables are also employed in the present study (Question C1 - Appendix 1).

Responses to the forest objective were reduced to basic dimensions using principal factor analysis. The factor model permitted a third factor to be extracted when the boundary eigenvalue was set to just below unity (Table 7.5). Its inclusion is justified as its content and structure, and its interpretation is logical and is very similar to the factor models of Karppinen (2000) and Petäjistö (2002). The factors are interpreted as follows:

Income & security: The factor is characterised by variables that are directly related to a farmer's financial security - forests as an investment and as a means to supply income for daily consumption. The variable concerning "my forest is my family heritage" is complex - being loaded on two factors, but in the case of this factor it can be interpreted as representing the farm family's capital stock (inherited from past generations, and to be passed on to future ones). The loading of "my forest is a source of household wood" is rather weak, but it supports the

utilitarian interpretation of the factor. The factor can be considered to relate to the *utilitarian rural discourse* discussed earlier.

Conservation of nature and milieu: The factor is dominated by the strong loading of the variable representing the farmer's altruistic values "my forest enables me to practise nature protection and conservation", as well as the more hedonistic variable "my forest beautifies my landscape", i.e. forests create a positive milieu. Of the two other variables on the factor, "my forest is my family heritage", can be considered to represent the forests owner's pride of ownership, i.e. ownership for its own sake, which is something that also has to be protected for its own sake. Two variables with low communalities "Forestry provides opportunity for hunting", and "Forest berries and fungi are basis for nature-based enterprise" are weakly loaded on the factor, but support its interpretation. Hunting, in particular, is an integral part of rural culture in Finland (e.g. Petäjistö 2002). The nature-based enterprise opportunities are logically related the need to conserve nature.

Household objectives: The factor contains two strongly loaded variables - the household use of berries & fungi and forests as a source of household wood. The interpretation is therefore unambiguous.

The means of the factor scores were computed for the three rural business districts (Table 7.6). Farm forests were not regarded as a source of income and security by farmers in Etelä-Pohjanmaa RBD for which the mean score is relatively large and negative. Farmers in Mikkeli RBD, on the other hand, obtain a relatively large positive score, while farmers in Kuopio obtained a smaller, but nevertheless positive, score. The F-test for the difference in means is statistically significant, and the differences in means are also significant at $p=0.00$ for each pair of RBDs.

Table 7.5. Varimax rotated principle axis factor model of farmers' forest objectives.

	Financial income & security	Conservation of nature and milieu	Household benefits	Communality
<i>Eigenvalue</i>	3.85	1.21	.91	
<i>Cumulative proportion of variance explained, %</i>	38.5	12.1	9.1	
Rotated loadings:				
My forest provides security for a "rainy day"	.81			.73
My forest is a source of income for consumption	.74			.60
My forest is an investment	.65			.51
My forest is my family heritage	.42	.33		.35
My forest enables me to practise nature protection & conservation		.72		.55
My forest beautifies the landscape		.53		.42
My forest provides me with the opportunity to hunt		(.29)	(.28)	.19
My forest's berries and fungi are the basis for nature-based enterprise		(.27)		.17
My forest provides berries & fungi for my household		.32	.75	.67
My forest is a source of household wood	(.29)		.43	.29

Loadings less than +/-0.3 omitted for clarity

Table 7.6. Farmers' forest objectives. Mean factor scores by rural business districts.

<i>Farmers' forest objectives</i>	Etelä-Pohjanmaa RBD	Mikkeli RBD	Kuopio RBD	F-value, df 2, 941	Signif.
Income & security	-.24	.33	.10	36.87	.000
Conservation & milieu objectives	-.07	.01	.10	4.08	.017
Household objectives	-.16	.17	.11	18.05	.000

Concerning the *Conservation nature and milieu*-objective, farmers in Etelä-Pohjanmaa obtained a negative, relatively weak mean score, while farmers in Kuopio RBD obtained a positive mean score of similar magnitude. The F-test for the difference in means between Etelä-Pohjanmaa and Kuopio is statistically significant at $p=0.01$.

Farmers' use of their forests for household goods resulted in greater variance, but again farmers in Etelä-Pohjanmaa obtained a relatively strong, negative mean score. Farmers in Mikkeli and Kuopio RBDs obtain relatively strong positive mean scores; the highest score being obtained by farmers in Mikkeli RBD. The F-test for the difference in the means is statistically significant at $p=0.000$, while the pair-wise means are significant at $p=0.000$ for Etelä-Pohjanmaa and the other two districts respectively.

The result indicates that the culture of intensive agriculture in Etelä-Pohjanmaa RBD reduces farmers' use of their forests, whether for commercial or household benefits. Conversely, in the livestock districts of Kuopio- and especially Mikkeli RBD, forests are integral to the districts' rural economies. This result is not new, and is well understood, but in the context of the investigation it is an illustration of the presence of specific rural discourses. The result is also indicative of the likely role of forests, potential or otherwise, in future rural development.

A farmer's use of his forest is often not singular, even if one particularly use may be dominant. This has been well demonstrated by Karppinen (2000) and Petäjistö (2002). The factor scores were therefore subjected to k-means cluster analysis, which yielded five serviceable groupings (Table 7.7):

No specific objective: These farmers gained negative scores for each of the three attributes, indicating that they do not place priorities on any of the benefits. The group accounts for 12% of the farmers in the study.

Income & security objective: These farmers place importance on income and security from their forests, and account for 14% of the farmers in the investigation.

Household & milieu objective: This group of farmers (19%) place their priorities on non-wood benefits from their forests as well as on conservation and nature values based, perhaps, on altruism.

Maximum utility objective: This group of farmers (19%) place the greatest importance on income and security, as well as non-wood benefits. They place little importance on environmental benefits.

Multiple objectives: These farmers value each form of benefit from their forests. The coefficients are relatively even indicating that each forest function is given a similar priority. The group accounts for 36% of the farmers in the study.

Table 7.7. Farmers' forest objectives - cluster analysis of factors.

Farmers' forest objectives	No specific objective	Income & security objective	Household & milieu objective	Maximum utility objective	Multiple objectives
Income & security	-1.16	.60	-1.03	.40	.46
Conservation & milieu	-.62	-.21	.16	-.78	.60
Household benefit	-1.0	-1.08	.34	.26	.43
N (944)	111	133	177	179	344
%	11.8	14.1	18.8	19.0	36.4

The clusters partly agree with those obtained by Karppinen (1998), the premises for which were derived from primitive-mysticism, humanism and materialism, and employed a broader range of attributes. Karppinen's *Multi-objective owners* cluster accords with *multiple objectives* in the present investigation, while the *Income & security objective* here partially equates with Karppinen's *Investor* cluster as both address the issue of material security. The *Household & milieu objective* cluster here is close to Karppinen's *Recreationist* cluster.

The distribution of the groups by rural business districts reveals that nearly one-fifth of farmers in Etelä-Pohjanmaa RBD have no specific forest objectives - the figures for Mikkeli and Kuopio RBDs being very much lower (Table 7.8). Farmers in Mikkeli RBD place greater importance on maximum utility, as expected, whereas in Kuopio RBD the maximum utility priority is less prevalent. Farmers with multiple objectives are well represented in each region, but more so in Mikkeli and Kuopio RBDs.

Table 7.8. Farmers' forestry-objective groups, by rural business districts.

<i>Forest objective clusters</i>	Etelä-Pohjanmaa RBD, %	Mikkeli RBD, %	Kuopio RBD, %	Total, %
No specific objective	18.6	4.2	7.4	11.8
Income and security	15.4	13.1	12.9	14.1
Household and milieu	22.0	11.4	19.9	18.8
Maximum utility	15.4	25.0	19.5	19.0
Multiple objectives	28.7	46.2	40.4	36.4
Total	100.0	100.0	100.0	100.0
N	436	236	272	944

$\chi^2_{8} = 65.54$ $p = 0.000$

7.3 Farmers' intentions concerning field afforestation

Of the 944 farmers in this investigation, 89 (10%) reported intentions to afforest their fields. This figure is slightly larger than that reported in conjunction with future plans for the farm (7.2%). The main characteristics of farms that plan or do not plan to afforest fields are shown in Table 7.9.

Farms with afforestation plans are slightly larger, but the area of cultivated fields is larger in the case of farms with no afforestation plans. This latter characteristic reflects the presence of Etelä-Pohjanmaa farms, as does the much small area of forests on those farms not planning afforestation. As expected, the mean age of farmers and the length of current ownership are greater for farms planning afforestation. Similarly, the main use of the farm is skewed towards primary production (low mean value) in the case of farms with no afforestation plans.

Table 7.9. Main characteristics of farms that plan or do not plan to afforest fields.

<i>Farm characteristic</i>	Plans to afforest fields	No plans to afforest fields	F-value (d.f)	p
Farm area, ha	86.4	75.8	2.44 (1,878)	0.118
Field area, ha	14.4	21.1	8.94 (1,903)	0.000
Cultivated field area, ha	12.6	20.9	19.64 (1,821)	0.000
Forest area, ha	68.5	49.9	10.92 (1,892)	0.001
Length of current ownership, years	21.7	18.9	4.61 (1,887)	0.032
Length of family ownership, years	106.7	119.1	1.09 (1,802)	0.297
Age of respondent, years	50.3	47.4	6.05 (1,914)	0.014
Main use of farm ¹	2.4	1.1	11.06 (1,905)	0.001
N	87	829		

¹Main use of farm: 1=Agriculture, 2=agriculture & forestry, 3=forestry, 4=enterprise, 5=dwelling, 6=hunting, 7=holidays and recreation, 8=other.

The future plans of a farm will naturally have considerable bearing on the decision to afforest fields. Table 7.10 shows the relationship between planned afforestation and farm development plans (see section 7.1, Table 7.4). Farms with expansion plans are naturally the least interested in afforestation. The technical correlation between afforestation plans and group 4 (field afforestation, contraction and retirement) determines the large association, but more interestingly, contraction and retirement alone (group 1) accounts for only 10% of farmers with afforestation plans. The result supports earlier studies that have shown that farmers who plan to retire and decrease or cease agricultural production do not readily afforest their fields (Selby and Petäjistö 1994). One third of the farmers with afforestation plans are those who plan to work off-farm and concentrate on forestry field afforestation plans.

Table 7.10. Farmers' field afforestation plans, by farm plan cluster membership, %.

<i>Farm development cluster</i>	Afforestation plans, %	No afforestation plans, %
Contraction & retirement	10.1	24.5
Forestry orientation with services and work-off-farm	30.3	25.0
Farm expansion	1.1	30.9
Field afforestation, contraction & retirement	58.4	19.7
Total	100.0	100.0
N	89	833

$\chi^2_3 = 85.01$ $p = 0.000$

The link between farmers' forestry objectives and their intentions to afforest fields is shown in Table 7.11. The largest proportion of farmers (45%) is found in the group that have multiple forestry objectives. The second largest group is those farmers who seek maximum utility from their forests. The result is logical as it can be expected that the same farmers seek the optimum returns from their land.

Table 7.11. Farmers' forestry objectives and intentions to afforest fields, %.

<i>Forest objective cluster</i>	Afforestation plans	No afforestation plans	Total
No specific objective	6.7	12.0	11.5
Income & security objective	13.5	14.4	14.3
Household & milieu objective	10.1	19.8	18.9
Maximum utility objective	24.7	18.5	19.1
Multiple objectives	44.9	35.3	36.2
Total	100.0	100.0	100.0
n	89	833	922

$\chi^2_4 = 9.69$ $p = 0.05$

A basic assumption of the investigation is that field afforestation has implications for rural development. Such implications are reflected in the reasons for farmers' intended afforestation activities (Table 7.12). "Positive" reasons for field afforestation here means that it may improve the farm infrastructure or that it is related to a change in production structure. The "negative" reasons for field afforestation are here a response to demographic and socio-economic decline.

Table 7.12. "Important" or "very important" issues underlying farmers' decisions to afforest fields as proportion of total responses.

	Important or very important %
"Positive" reasons	
Rationalisation of farm structure (e.g. afforestation of marginal fields)	67.9
Forest-farm orientation	46.4
Re-orientation of production structure	32.4
Growth in importance of supplementary incomes	9.6
"Negative" reasons	
Contraction of agricultural production	43.0
Retirement and/or generation transfer	34.0
Other reasons	26.3

Farmers were asked about their preconditions for afforesting fields; i.e. the question concerned all farmers, not just those who planned to afforest fields (their preconditions have obviously already been met). Between one fifth and one quarter of farmers would require each of the given preconditions to be met (Table 7.13). Whether these preconditions existed at the time of the inquiry is not an issue.

Table 7.13. "Important" and "very important" preconditions concerning farmers' decisions to afforest their fields.

In future I will afforest fields if...	"Important" or "very important" responses as % of all farmers
a) Farm subsidies are reduced	20.8
b) Afforestation premiums area available	25.5
c) If the farm does not have a successor	19.2
d) Renting or selling the field does not succeed	22.4
Other reasons	1.4

(N=945)

Farmers' preconditions were examined by principal components analysis (Table 7.14). With "other preconditions" omitted, a two-factor solution gave a clear result that extracted 80% of the variance in the data. The first factor, *Public sector incentives*, brings together farm subsidy and afforestation premium issues, and thus represents public sector incentives for field afforestation. The second factor, *Private incentives*, brings together issues of farm succession and the ability to rent or sell the fields in question.

Table 7.14. Varimax rotated principal component model of farmers' preconditions for afforesting fields in the future.

	Public sector incentives	Private incentives
<i>Eigenvalues</i>	1.67	1.54
<i>Cumulative proportion of variance explained, %</i>	41.75	80.34
Rotated loadings:		
Farm subsidies are reduced	.91	
Afforestation premiums area available	.83	
Renting or selling the field does not succeed		.85
If the farm does not have a successor		.79

Loadings less than +/-0.3 omitted for clarity

Entering the component scores into grouping analysis (Table 7.15) simply confirmed the components, as one group was dominated by farmers that considered public subsidy incentives and the other that considered that private determinants were the main preconditions.

Table 7.15. Cluster analysis of farmers' preconditions for field afforestation.

Preconditions	Public subsidy preconditions	Private preconditions
Public sector incentives	-.36	1.24
Private incentives	.21	-.74
N	734	211

The relationship between farmers' planned afforestation and their preconditions is shown in Table 7.16. In the case of farmers who plan field afforestation the public subsidy determinants provide a stronger incentive than the private preconditions. The reverse is true for those farmers who at the time of the inquiry did not plan to afforest fields. The within-district distributions are virtually the same as in Table 7.16, the difference between districts being non-significant ($\chi^2 = 2.81$, $df = 2$, $p=0.246$). The result sheds some light on the results of earlier investigations that have revealed the unsustainable responses to public sector grant-aid programmes for field afforestation. When public support programmes for field afforestation have been introduced, they have been followed by an immediate uptake by those farmers for whom the subsidy incentive was acceptable, after which the level of uptake rapidly falls away (Selby 1990, Selby and Petäjistö 2000).

Table 7.16. Farmers' preconditions for considering field afforestation.

	Afforestation plans	No afforestation plans	Total
Private preconditions	46.1	81.3	77.9
Public subsidy preconditions	53.9	18.7	22.1
Total	100	100	100
N	89	833	922

$\chi^2_1 = 57.84$ $p = 0.000$

8 Summary and conclusions

8.1 Rural development, discourses, and the views of farmers and advisors

The investigation has examined how farmers and rural advisors perceive forests, forestry and field afforestation in the context of rural development. Three contrasting rural areas of Finland were employed - the rural business districts of Etelä-Pohjanmaa, Mikkeli and Kuopio. The study also examined whether the rural discourses and conflicting rural attitudes to forestry that inform the debate on increased forestry in European countries can be identified in Finland. The study also examined farmers' own farm development plans and the role played by forests and afforestation in those plans.

The rural business districts of Etelä-Pohjanmaa, Mikkeli and Kuopio, with their different socio-economic histories and physical conditions, were selected on the basis of experience with the EU FAIR MULTIFOR.RD-project that addressed multifunctional forestry as a means for rural development in eight European countries (Elands and Wiersum 2003). Local rural discourses were identified that led to an understanding of local attitudes to forestry and afforestation. The presence in Finland of similar rural discourses was considered to be unlikely given the extent and relative homogeneity of Finnish forest cover compared to most Central European regions, as well as forests' important historical role in the rural economy.

The discourses were not elicited in this investigation. That would have required using the assumed phenomenological epistemology and research tools (as employed in the initial phase of the MULTIFOR.RD-project). Instead, the discourses established in the MULTIFOR.RD-project were employed as a reference for a more empirical approach that employed quantitative rather than qualitative questions (as employed in the second phase of the MULTIFOR.RD-project). In the current investigation, factor and principal components analyses, cluster analysis and discriminant analysis have been employed.

The diversity in socio-economic histories of the Etelä-Pohjanmaa, Mikkeli and Kuopio rural business districts was sufficient for the analysis to identify the presence of discourses that were similar to those represented in Central Europe (Elands 2000, Elands and Wiersum 2000). This was the case even though the Finnish data contained extra variables to capture a greater range of attitudes towards forests and forestry. Hedonist, community sustainability, agri-rural, nature conservation and utilitarian discourses were each identifiable.

The study has examined a number of issues from the standpoint of both farmers and rural advisors. Farmers' preferred directions of local development fell into four groups: Economic intensification (representing the utilitarian discourse), social cohesion (representing the community sustainability discourse), landscape management (agri-rural discourse), and tourism & forests (hedonist discourse). Advisors preferences for local development formed five principal components: strengthening local identity (community sustainability discourse), growth centre development (utilitarian discourse), increased forest area (nature conservation discourse), nature protection (nature conservation discourse) and intensive agriculture (utilitarian discourse).

The analysis revealed clear differences in the preferences of farmers and advisors assessed from the standpoint of their representative discourses. The *agri-rural discourse* was more strongly

represented in advisors in all three districts than amongst the farmers. The reverse was true with regard to the *community sustainability discourse*, which was strongly represented amongst farmers but less so amongst advisors (with the exception of Kuopio RBD). The *utilitarian discourse* seemed to be strongly represented in Etelä-Pohjanmaa RBD, but much less so elsewhere. The *hedonist discourse* was represented more strongly amongst farmers in Mikkeli and Kuopio RBDs. The results were as expected, given the socio-economic and cultural histories of the regions in question.

Farmers and advisors had rather different views on the role of forests in the development of their locality. A three-component model of local benefits from forests derived from the combined responses of farmers and advisors revealed statistically highly significant differences in responses in each of the three regions in the study. Environment and non-wood benefits were appreciated by farmers (positive mean scores) but not by advisors (negative mean scores), whereas advisors placed the development emphasis on traditional economic values (positive mean scores) that received negative mean scores from farmers. Thus, the advisors were seen to be supporting utilitarian representations of the rural whereas farmers, who are also the inhabitants, supported community sustainability and hedonist and nature conservation representations of the rural. A reason for this is that the advisory professions make decisions that support the maintenance of the set of power relations of each sector in question (Lefebvre 1991, Marsden et al. 1993), whereas farmers are more concerned with quality of life values (Selby and Petäjistö 1994, 1995).

The development of forest-farms (i.e. specialising in forestry) has sometimes been posited as a means to create rural employment. However, according to the advisors, the development of forest-farms is hindered by market uncertainties, farm structural constraints (too little forest), and farmers' lack of forest experience, as well as farmers' lack of interest. Structural constraints were most in evidence in Kuopio RBD, while lack of experience was strongest in Etelä-Pohjanmaa RBD, as can be expected from rural discourses presented earlier. A lack of experience in forestry was also observed by advisors in Kuopio RBD, but advisors in Mikkeli RBD did not consider this constraint to be very important - an expected result given the historical importance of forestry in that district. Farmers in each of the rural business districts were considered by advisors to exhibit a similar lack of interest in forest-farming.

The current, adjustment processes that are being forced on Finnish rural areas by membership of the EU seem to have relaxed the previous "professional spatial tensions" between competing primary sector interests. Agricultural advisors now appear to support field afforestation more readily than forestry advisors, thereby reversing the situation found a decade ago (Selby and Petäjistö 1995). While this result has not been examined more deeply here, it is possibly that the annual agricultural calendar demands a more flexible approach to exogenous changes. The production cycle in forestry is far slower, and so exogenous demands for change can also be absorbed more slowly. In Mikkeli RBD, where field afforestation has been intense over the past 30 years, and where local opinion is now less supportive of uncontrolled afforestation (Selby et al. 2003), advisors were found to be more likely to support preconditions for afforestation. In Etelä-Pohjanmaa and Kuopio RBDs, where agriculture is dominant and field afforestation levels have been low, such preconditions on afforestation were less apparent. Advisors in Mikkeli and Kuopio RBDs are beginning to be aware that afforestation can have negative effects on rural enterprise, and especially nature-based enterprise. However, an apparent omission in advisors' representations concerning the nature of the countryside is a general awareness of the nature-based enterprise and tourism opportunities that can be created from environmental/milieu and non-wood benefits of forests. This omission must be a cause for concern, particularly as it is

accepted that the creation of new jobs in the countryside will come from such enterprises rather than from traditional forestry.

8.2 Farm development and the role of forests and afforestation

Farmers' farm development plans fell into five groups: farm expansion, retirement and cessation, non-cultivation and afforestation, work off farm, and specialising on farm forestry. Farms with expansion plans were more likely to be found in Etelä-Pohjanmaa and Kuopio RBDs, and least likely to be found in Mikkeli RBD. Conversely, non-cultivation and field afforestation plans were most commonly met in Mikkeli RBD, thereby indicating a continuation of the decline of farming in that region. In Etelä-Pohjanmaa RBD farmers facing retirement were more likely to sell or rent their fields than afforest them, but this option was less preferred in the other regions. Seeking work off farm was least likely in Mikkeli RBD, where opportunities are also fewer; a possible corollary being that farmers in Mikkeli RBD were the most likely to consider forest-farming. This interpretation was strengthened by cluster analysis, which brought together work off-farm and forest-farming. This cluster accounted for 28% of the farmers in the study, and 33% of the farmers in Mikkeli RBD. About one in three farmers in Etelä-Pohjanmaa and Kuopio RBDs were planning to expand their farming operations. Conversely, the contraction of agricultural production and retirement was mainly a feature of farmers in Etelä-Pohjanmaa and Kuopio RBDs. On the other hand, contraction, retirement *and afforestation* accounted for 33% of farmers in Mikkeli RBD but only c. 20% in the other two regions.

Farmers' objectives in their own forests created three principal components: "Income & financial security", "Conservation of nature and the local milieu" and "Household objectives". This result was very similar to those of Karppinen (2000) and Petäjistö (2002). None of the objectives were prominent in Etelä-Pohjanmaa, where farmers' average scores for each factor were negative. Conversely, in Mikkeli and Kuopio RBDs farmers obtained positive mean scores, notably for "income & financial security" in Mikkeli RBD. Cluster analysis produced five groups from the above factors. These were: no objectives, income & security, household & milieu, maximum utility, and multiple objectives. Some 12% of farmers had no specific objectives for their forests, but this figure rose to 18% for farmers in Etelä-Pohjanmaa. Farmers in Etelä-Pohjanmaa and Kuopio RBDs placed greatest emphasis on the household & milieu objectives of their forests (c. 20% in both regions). The largest (36%) was formed by farmers with multiple objectives for their forests (i.e. income & security, household & milieu, and maximum utility). This group was also the largest in each of the three districts under study, but it was nevertheless much smaller in Etelä-Pohjanmaa than in Mikkeli and Kuopio RBDs.

Field afforestation

Of the 944 farmers in this investigation, only 89 (10%) had plans to afforest fields. Afforestation was naturally associated with the group of farmers that was considering contraction, retirement and afforestation (58%), as well as the group considering forest-farming (30%). The farms with afforestation plans were, on average, larger (86 ha) than other farms (76 ha), and had larger forest areas (68 ha versus 50 ha), but their field area was smaller (14 ha versus 21 ha). Farmers planning afforestation were on average three years older than farmers

with no afforestation plans. Farms with afforestation plans were more likely to already be used for recreational or other non-production purposes.

Afforestation plans were associated with farmers who had multiple forest objectives (45%), as well as with farmers who aimed at maximising the utility of their forests (25%), but less in the case of household & milieu objectives (10%). Farmers with no forest objectives were the least likely to afforest fields (7% of farmers planning afforestation).

	Afforestation plans	No afforestation plans	Total
Private incentives	46.1	81.3	77.9
Public subsidy incentives	53.9	18.7	22.1
Total	100	100	100
N	89	833	922

Farmers' preconditions for field afforestation were assessed for all farmers, irrespective of their current afforestation plans. Preconditions fell into two groups, public subsidies incentives and private incentives. Most farmers (78%) fell into the private incentives set, but the majority (54%) of farmers with afforestation plans were influenced by public subsidies. Farmers' personal preconditions therefore seem more likely to affect their afforestation decision than the availability of grant-aid. This would account for the short-lived success and non-sustainability of public funded afforestation programmes that seem invariably to expect a greater response than is actually achieved (e.g. Selby and Petäjistö 2000).

8.3 Conclusions

The relative regional strengths of the rural discourses that have been identified by factor solutions in this investigation have implications for forestry as a means for rural development. For example, it seems likely that forests and forestry will remain of lower significance in the rural economy in districts where rural discourses are strongly pro-agriculture. Similarly, a predominantly pro-agricultural discourse will mean that local inhabitants, including rural advisors, will not necessarily acquire the representations that enable them to experience forests and forestry as a basis for innovative entrepreneurial activities.

The mechanism of this process is understood, and it can be explained, for example, by the man - environment dialectic (e.g. Ley and Samuels 1978, Selby 1989). The individual and/or community makes decisions according to the opportunities and constraints that are perceived in the environment (milieu). These decisions, in turn, affect the environment, which in turn will have an effect on the next round of perceptions and decision-making, and so on. Perceptions of opportunities in the socio-economic environment are strongly influenced by experience, education and culture. These factors contribute, in turn, to the establishment of representations and discourses (e.g. Kelly 1955, Simon 1957, Lowenthal 1961, Harrison and Sarre 1971, Leff et al. 1974, Buttner 1976, Ley 1977, Ley and Samuels 1978, Golledge 1979, Moscovici 1984, Saarinen et al. 1984, Selby 1987, Selby and Petäjistö 1992, Elands and Wiersum 2000). Once a discourse is established, the dialectic relationship between the individual and his/her community that maintains the discourse will tend to impose a behavioural normality on the locality (e.g. Tönnies 1957, Rogers 1968). Local norms and locally determined "unacceptable innovation" may act to dull or prevent the individual's perceptions of enterprise opportunities (e.g. Selby 1987). Prevailing discourses will also be upheld by local power structures each of

which will have different priorities and possess different "stakes" in the direction of local development (Urry 1990, Lefebvre 1991, Cox and Mair 1991, Marsden et al. 1993).

Following this process, national and regional forest programmes and other measures aimed at developing forest-based rural enterprise initiatives may face an up-hill struggle if the dominant interest groups and their representations in the regions in question are not conducive to a forests and forestry discourse (e.g. Finland's... 1999, Hänninen et al. 2003, Maaseutupolitiikan... 2004). This will occur where socio-economic histories and concomitant local cultures have created discourses that fail to provide individuals with the ability to perceive the opportunities for enterprise offered by forest-based goods and services. (This is probably a reason why rural advisors were found to support a utilitarian discourse of forests and played down the significance of other uses - uses that could form the basis of new entrepreneurial activities.) Discourses concerning the benefits of forests therefore have to be renegotiated to enable local forest owners and potential small-scale entrepreneurs to perceive and commoditise those forest-based opportunities that will tend to be suppressed by social representations that are negative to forests and forestry. The case of Etelä-Pohjanmaa RBD in this investigation provides an example of such a situation, where, despite a well developed woodworking industry, the rural development potential of forests and forestry is not generally perceived because of the dominance of agricultural representations in the rural discourses.

While rural policy acknowledges the reduced significance of the primary sector to the rural economy as a whole, farmers remain the largest single land ownership group both with respect to agricultural land and forest land. The closure of farms, changes in land use, etc. therefore not only affect the socio-economic structure of any given locality, but often changes the perceived vitality of the landscape, which in turn can affect the development of other sectors, e.g. rural tourism and its associated services (e.g. Tyrväinen et al. 2001). For this reason, a greater participation of interested parties is required in decisions that can change the nature of the local milieu. Not only is this participation part of the "man-environment dialectic" noted above, but it is also the process by which discourses are negotiated as a product of the interaction of local representations.

Field afforestation is a clear example of such a process. The development of local nature-based tourism, for example, will create its own representations. On the other hand, conditions for rural tourism that require a rich milieu can be compromised by insensitive afforestation decisions of individual land owners, and so a new discourse needs to be negotiated. One way to achieve a new discourse is for the participation of a broad set of representations in the afforestation decision process. The majority of farmers considered that such broad-based participation is necessary in the afforestation process (Selby et al. 2004), although naturally farmers who did not plan to afforest their fields were keener for broad-based participation than those farmers who plan to afforest fields. Similarly, nearly 50% of the rural advisors in this study consider that participation should be greater than the three to four authorities that have been involved hitherto in the afforestation permit decision process. Farmers and advisors reveal similar priorities with respect to which interest groups should be represented in any field afforestation decision process. Agricultural advisors were, however, much keener on a broad-based participation in the decision process than forestry advisors.

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Seloste

Tämän tutkimuksen tarkoituksena oli selvittää, millaisia kehittämissuunnitelmia maanviljelijöillä on ja mikä on metsien ja pellonmetsityksen rooli näissä suunnitelmissa. Tutkimuksessa selvitettiin myös miten yhtäältä maanviljelijät ja toisaalta maaseutuneuvojat kokevat metsät sekä metsätalouden ja pellonmetsityksen roolin maaseudun kehityksessä. Lisäksi tavoitteena oli selvittää, voidaanko Suomessa löytää yhteyksiä maaseutudiskursseihin ja samankaltaisia ristiriitaisia asenteita metsätalouden laajentumista kohtaan, joita on löydetty muissa Euroopan maissa.

Tutkimus perustuu postikyselyllä hankittuun aineistoon. Kyselylomake lähetettiin 1 500 maanviljelijälle ja yhteensä 90 elinkeinoasiamiehelle sekä maatalous- ja metsäneuvojalle Etelä-Pohjanmaan, Mikkelin ja Kuopion maaseutuelinkeinopiireissä vuonna 2002. Etelä-Pohjanmaan maaseutuelinkeinopiirin alueelle on tyypillistä voimakas viljely ja pienyritystoiminnan vankka perinne. Mikkelin maaseutuelinkeinopiirissä on paljon pieniä tiloja ja perhemetsätalous on voimakasta. Pellonmetsitys on alueella hyvin yleistä. Kuopion maaseutuelinkeinopiirin alueelle ovat tyypillisiä maitokarjatilat. Maanviljelijöiden (vastausprosentti 63) ja neuvojien (vastausprosentti 59) näkemykset pellonmetsityksestä ja metsistä vaihtelivat näillä kolmella erityyppisellä alueella. Menetelminä tutkimuksessa käytettiin ennen kaikkea faktori- ja ryhmittelyanalyysiä.

Tutkimuksen lähtökohtana olivat aiemmat pellonmetsitystutkimukset Suomessa ja EU/FAIR projekti "Metsien monikäytön merkitys maaseudun kehityksessä - MULTIFOR.RD" (1998–2002). EU/FAIR -projektissa esitettiin maaseutudiskursseja maaseudun väestön kokemasta maaseutumiljööstä ja metsien roolista maaseudun kehityksessä (Wiersum & Elands 1999, 2002, Elands 2000, Elands & Wiersum 2000). Löydetyt maaseutudiskurssit olivat: 1) *maatalousmaaseutudiskurssi*, jossa maanviljelyä pidetään koko maaseudun luojana ja ylläpitäjänä, 2) *hedonistinen diskurssi*, jossa maaseutu nähdään kaupunkilaisten puutarhana, 3) *hyödyntämiskurssi*, jossa tuotantoalueita käytetään taloudellisen hyödyn saavuttamiseen, 4) *yhteisöllinen kestävyysdiskurssi*, joka edustaa syrjäisiä alueita, 5) sekä *luonnonsuojeludiskurssi*, jossa luonnon katsotaan omaavan itseisarvon.

Tässä julkaisussa raportoidun tutkimuksen tulosten perusteella nähdään, että maanviljelijöiden tulevaisuuden suunnitelmat jakautuivat viiteen osa-alueeseen: maataloustuotannon laajentaminen, metsitys ja viljelyn lopettaminen, toiminnan supistaminen ja eläkkeelle jääminen, suuntautuminen metsätalouteen sekä työskentely tilan ulkopuolella. Vain hieman yli neljäsosa suunnitteli maataloustuotannon laajentamista ja loput suunnittelivat vähentävänsä tuotantoa ja jäävänsä eläkkeelle, etsivänsä työtä tilan ulkopuolelta tai suuntaavansa tuotantoa metsätalouteen. Neljäsosa suunnitteli sekä eläkkeelle jäämistä että peltojen metsittämistä.

Tuotannon supistamista ja eläkkeelle jäämistä *ilman* peltojen metsitystä suunnittelivat useimmin maanviljelijät Etelä-Pohjanmaan maaseutuelinkeinopiirissä (30 %). Mikkelin maaseutuelinkeinopiirissä maanviljelijät suunnittelivat sen sijaan hieman useammin sekä eläkkeelle jäämistä että peltojen metsitystä (32 %). Lähes 40 prosenttia mikkelinlaisista maanviljelijöistä suunnitteli työskentelyä tilan ulkopuolella ja tilan suuntaamista metsätalouteen. Noin kolmasosa etelä-pohjanmaalaisista ja kuopiolaisista maanviljelijöistä suunnitteli maataloustuotannon laajentamista, sen sijaan mikkelinlaisista vain joka viides.

Maanviljelijöiden metsänomistuksen tavoitteet jakautuivat myös viiteen osa-alueeseen: ei erityisiä tavoitteita (12 %), tuotto ja taloudellinen turvallisuus (14 %), kotitarvekäyttö ja maisema (19 %), hyödyn maksimointi (19 %) ja monikäyttö (36 %). Tavoitteet vaihtelivat alueittain. Etelä-Pohjanmaan maaseutuelinkeinopiirissä maanviljelijät painottivat monikäyttötavoitteita ja kotitarvekäyttöä, mutta 19 prosenttia maanviljelijöistä ei ollut asettanut erityisiä tavoitteita metsänomistukselleen. Mikkelin maaseutuelinkeinopiirissä yleisimpiä tavoitteita olivat hyödyn maksimointi (25 %) ja monikäyttö (46 %), vain 4 prosentilla ei ollut erityisiä tavoitteita. Kuopion maaseutuelinkeinopiirissä 40 prosenttia maanviljelijöistä kuului monikäyttöä korostavaan ryhmään. Kotitarvekäyttöä ja maisemaa, kuten myös hyödyn maksimointia piti tärkeimpänä tavoitteenaan 20 prosenttia Kuopion maaseutuelinkeinopiirin maanviljelijöistä.

Tärkeimpinä pellonmetsitykseen johtavina ”positiivisina” tekijöinä pidettiin maatalan rakenteen parantamista (68 % metsitystä itse suunnittelevista maanviljelijöistä), suuntautumista metsätalouteen (46 %) ja maatalan tuotantosuunnan muuttamista (32 %). Tärkeimpinä ”negatiivisina” pellonmetsitykseen johtavina tekijöinä pidettiin maanviljelyn supistamista (43 %) ja eläkkeelle siirtymistä ja/tai sukupolvenvaihdosta (34 %). Pellonmetsitystä suunnittelivat useimmin monikäyttöä (45 %) ja hyödyn maksimointia (25 %) korostavat maanviljelijät. Viidesosa maanviljelijöistä ilmoitti harkitsevansa peltojen metsittämistä, jos maataloustuet pienenevät tulevaisuudessa. Neljäsosa maanviljelijöistä harkitsisi pellonmetsitystä, jos siitä maksettaisiin palkkio.

Julkisen sektorin myöntämää tukea pidettiin pellonmetsityksen ehtona vain kuudella prosentilla tiloista, joilla pellonmetsityksen mahdollisuutta harkittiin. Pellonmetsitystä harkitsevista maanviljelijöistä sen sijaan 23 prosentilla oli tilaan tai omistajaan liittyviä ehtoja pellonmetsitykselle, kuten se, että pellot metsitetään, jos maatilalle ei löydy jatkajaa. Tämän tuloksen perusteella on ymmärrettävää, että ylhäältä päin johdetut pellonmetsitysohjelmat eivät ole toimineet kestäväällä pohjalla.

Neuvojista suurin osa oli sitä mieltä, että pellonmetsityspalkkioiden maksamiseen tulisi liittyä ehtoja. Mikkelin maaseutuelinkeinopiirissä katsottiin tiukimmin, että pellonmetsityksen vaikutukset alkutuotantoon sekä paikalliseen miljööseen tulisi ottaa lupaharkinnassa huomioon. Etelä-Pohjanmaan ja Kuopion maaseutuelinkeinopiireissä kyseistä tarkastelua ei pidetty aivan yhtä välttämättöminä. Tulos on looginen, kun otetaan huomioon Mikkelissä viimeisen 30 vuoden aikana toteutetut laajat pellonmetsitykset.

Maatalousneuvojat toivoivat metsäneuvojia useammin laajapohjaista osallistumista pellonmetsityspäätöksiin. Tästä voidaan päätellä maatalousneuvojien olevan metsäneuvojia selkeämmin samoilla linjoilla EU -hallintokäytännön suuntauksen kanssa, jonka tavoitteena on tuoda päätöksenteko mahdollisimman lähelle kansalaisia.

Maatalous- ja metsäneuvojat suhtautuivat pellonmetsitykseen omassa kunnassa kielteisemmin kuin pellonmetsitykseen koko maassa. Oman kunnan kohdalla korostettiin erityisesti peltojen tarvetta tulevaisuudessa sekä maalaismaiseman säilyttämisen tärkeyttä.

Kansainvälisten tutkimusten mukaan (Wiersum & Elands 1999, 2002) maaseutudiskurssien alueelliset vahvuudet aiheuttavat suoria ja epäsuoria vaikutuksia metsätalouteen ja sitä kautta maaseudun kehitykseen. Suora vaikutus on, että alueilla, joilla diskurssi on voimakkaasti maatalouteen painottuva, metsät ja metsätalous saavat vähemmän huomiota maaseudun taloudellisen toiminnan tekijöinä. Epäsuora vaikutus maataloutta painottavasta diskurssista on,

että paikalliset ihmiset, mukaan lukien neuvojat, eivät välttämättä kykene näkemään metsiä ja metsätaloutta yritystoiminnan perustana. Yksilöt ja yhteisöt tekevät päätöksiä sen mukaan, millaisia mahdollisuuksia ja rajoitteita he kokevat ympäristönsä tarjoavan. Tämän prosessin tuloksena muodostuneet päätökset vaikuttavat ympäristöön, ja sitä kautta jälleen näkemyksiin miljööstä ja sen mahdollisuuksista. Tutkimusten mukaan ihmisten näkemykset ympäristön antamista mahdollisuuksista ovat vahvasti sidoksissa kokemuksiin, koulutukseen ja kulttuuriin, ja että kaikki nämä tekijät vaikuttavat diskurssien muodostumiseen (esim. Kelly 1955, Berger & Luckmann 1967, Buttner 1976, Golledge 1979, Moscowici 1984).

Yksilön ja yhteisön välinen suhde, joka ylläpitää myös diskurssia, yleensä määrittelee myös paikallisen käyttäytymismallin. Paikalliset normit ja paikallisesti määräytyvä tietyn tyyppisten innovaatioiden leimaaminen ei-hyväksyttäviksi voi estää yksilön kykyä nähdä alueen yritystoimintamahdollisuuksia. Vallitseva diskurssi pidetään yllä myös paikallisten hallintorakenteiden kautta. Rakenteet ovat asettaneet erilaisia tärkeysjärjestyksiä ja painotuksia paikalliselle kehitykselle.

Tämän tutkimuksen mukaan neuvojien näkemykset olivat voimakkaasti suuntautuneet taloudelliseen toimintaan liittyvään hyödyntämiskurssiin kaikilla kolmella tutkimusalueella. Neuvojien näkemyksistä löytyi kuitenkin myös maatalous-maaseutudiskurssi, joka pyrkii säilyttämään maaseudun perinteiset arvot. Mikkelin maaseutuelinkeinopiirissä neuvojat pääasiassa kannattivat metsien lisäämistä (hyödyntämiskurssi), muilla alueilla metsien lisääminen sai vähemmän kannatusta neuvojien keskuudessa.

Metsäpolitiikka Suomessa on muuttumassa, osaksi Kansallisen metsäohjelman toimintaprosessin kautta. Kansallinen metsäohjelma painottaa perinteistä, hyötykäyttöä korostavaa näkemystä metsätaloudesta raaka-aineen tuottajana metsäteollisuudelle. Myös alueelliset metsäohjelmat ja maaseutupolitiikka korostavat metsätalouden asemaa raaka-aineen tuottajana. Tämä on yksi syy siihen, että tässä tutkimuksessa neuvojat tukivat metsien taloudellista ja hyötykäyttöä ja väheksyivät muiden käyttötapojen tärkeyttä – käyttötapojen, jotka voisivat muodostaa pohjan uudelle yritykselle. Siksi onkin tarpeellista muokata alueellisia metsäohjelmia vastaamaan maaseudun kehittämissuunnitelmien asettamiin tarpeisiin ja samoin vastaamaan paikallista elinkeinorakennetta.

Maanviljelijöiden näkemyksistä löytyivät hedonistisen- ja yhteisöllisen kestävyysdiskurssit, mutta erityisesti Etelä-Pohjanmaan maaseutuelinkeinopiirin maanviljelijät painottivat hyödyntämiskurssia. Maanviljelijät eivät painottaneet luonnonsuojeludiskurssia yhdelläkään tutkimusalueella, mutta sen sijaan mikkeliläiset neuvojat korostivat luonnonsuojelun tärkeyttä. Maanviljelijät Kuopion maaseutuelinkeinopiirissä kannattivat metsien lisäämistä muita maanviljelijöitä enemmän.

Maanviljelijöiden ja neuvojien näkemykset metsien ja metsätalouden tuottamista paikallisista hyödyistä erosivat toisistaan. Maanviljelijät korostivat metsistä ja metsätaloudesta koituvia – ei-puuntuotantoon liittyviä – ja ympäristöarvoja enemmän kuin taloudellisia hyötyjä. Neuvojat sen sijaan painottivat taloudellisia hyötyjä vahvasti. Etelä-Pohjanmaalla sekä maanviljelijät että neuvojat eivät kokeneet metsien ympäristöllistä vaikutusta tai ei-puuntuotannollisia arvoja kovin tärkeinä, tosin alueen maanviljelijät eivät pitäneet metsien tuottamia taloudellisiakaan hyötyjä merkittävänä.

Alueelliset metsäohjelmat ja muut toimenpiteet metsiin perustuvan maaseutuyrittäjyyden kehittämiseksi voivat kohdata vastustusta, jos vallitsevat intressiryhmät ja heidän näkemyksensä

eivät tue metsä- ja metsätaloudiskurssia. Näin voi käydä, jos alueen sosio-ekonomisen historia ja paikallinen kulttuuri ovat luoneet diskursseja, jotka eivät tarjoa yksilölle mahdollisuutta havaita metsiin perustuvia yritysmahdollisuuksia ja palveluja. Metsien tuottamia hyötyjä korostavia diskursseja tulisi edistää, jotta metsänomistajat ja pienyritykset pystyisivät havaitsemaan metsiin perustuvat mahdollisuudet ja hyödyntämään niitä. Metsiin negatiivisesti suhtautuvat tahot saattavat hankaloittaa tätä prosessia.

Etelä-Pohjanmaan maaseutuelinkeinopiiri on esimerkki tilanteesta, jossa kehittyneestä puualan teollisuudesta huolimatta, metsiä ja metsäteollisuutta ei nähdä maaseudun kehityspotentiaalina. Tämä johtuu siitä, että alueella on painottunut maataloutta korostava diskurssi.

Vaikka maaseutupolitiikassa tunnustetaankin primaarisektorin taloudellisen merkityksen maaseudulle vähentyneen, ovat maanviljelijät edelleen suurin yksittäinen maatalous- ja metsämaan omistajaryhmä. Siten maatilojen lakkauttaminen, muutokset maankäytössä jne. eivät vaikuta vain alueen sosio-ekonomiseen rakenteeseen, mutta myös alueen koettuun elinvoimaisuuteen, joka voi vaikuttaa muiden sektoreiden kuten maaseutumatkailun ja siihen liittyvien palveluiden kehitykseen. Tästä johtuen paikallista miljöötä mahdollisesti muuttavien päätösten tekemiseen tulisi vaatia laajempaa yhteiskunnallista osallistumista. Osallistuminen ei ole ainoastaan vaikuttamista ihmisen ja koetun ympäristön suhteeseen, vaan myös prosessi, jossa diskurssit syntyvät paikallisten edustajien vuorovaikutuksen kautta.

Suurin osa tutkimuksen maanviljelijöistä katsoi, että laajapohjainen osallistuminen on tarpeen pellonmetsitysprosessissa. Kuitenkin ne maanomistajat, jotka eivät suunnitelleet pellonmetsitystä, pitivät laajapohjaista osallistumista tärkeänä useammin, kuin pellonmetsitystä omilla maillaan suunnittelevat. Samoin lähes 50 prosenttia neuvojista katsoi, että pellonmetsityslupien päätöksentekoprosessiin tulisi osallistua laajempipohjainen joukko nykyisen kolmen tai neljän viranomaistahon lisäksi. Sekä maanviljelijät että neuvojat olivat samaa mieltä siitä, minkä tahojen tulisi olla päätöksentekoprosessissa mukana. Maatalousneuvojat kannattivat huomattavasti laajemmin laajapohjaista osallistumista päätöksentekoon kuin metsäneuvojat. Kuntien elinkeinoasiamiesten näkemykset sijoittuivat näiden ryhmien väliin.

Nämä näkemyserot ammattiryhmien välillä heijastavat niitä radikaaleja muutoksia, joita maataloussektori on läpikäynyt viimeisinä vuosikymmeninä – muutokset ovat vaikuttaneet sekä sääntelyyn että hallintokäytäntöön. Metsäammattilaiset ovat perinteisesti ylläpitäneet tiukkaa kontrollia yhteiskuntapoliittisesta asemastaan ja halunneet myös säilyttää saavutetun asemansa. Tämä toimintatapa voi vaikeuttaa metsäammattilaisten järjestäytymistä uudessa sosio-ekonomisessa tilanteessa. Vuosikymmen sitten yhteistyö neuvojien kesken pellonmetsitystä koskevissa kysymyksissä oli hyvin vähäistä, kun taas tässä tutkimuksessa havaitaan, että neuvojat osoittavat nyt enemmän halukkuutta laajapohjaiseen osallistumiseen pellonmetsityksen päätöksenteossa. Parannukset ovat silti tarpeen, jos pellonmetsitystoiminnan ei haluta vaikuttavan maaseudun elinvoimaisuuteen tulevaisuudessa.

Tässä tutkimuksessa havaittiin huomattavaa paikallista vastustusta pellonmetsityksen laajentumista kohtaan tietyillä alueilla Keski- ja Itä-Suomessa, mutta juuri näillä alueilla monet maanviljelijät suunnittelevat pellonmetsitystä seuraavan viiden vuoden aikana. Pellonmetsityksen vaikutukset paikalliseen maisemaan ja elinkeinoihin saattavat muodostua ongelmallisiksi. Metsitys ilman yhteiskunnan maksamaa palkkiota ei vaadi lupaa. Tällöin asiaa ei käsitellä paikallisessa päätöksentekoprosessissa, vaikka näin tulisikin tehdä.

Avainsanat: pellonmetsitys, metsät, sisäsyntyinen maaseudun kehitys, maaseutumiljö, maaseutudiskurssit, mautilojen kehitysnäkymät, maanviljelijöiden, kuntien elinkeinoasiamiesten sekä maatalous- ja metsäneuvojen näkemykset Etelä-Pohjanmaan, Mikkelin ja Kuopion maaseutuelinkeinopiireissä.

APPENDIX 1: QUESTIONNAIRE TO FARMERS (links to MULTIFOR.RD added)



DESCRIPTION OF THE FARM'S LOCALITY

A1. Commune in which farm is located _____

A2. Does the farm owner live on the farm

1 Permanently

3 Farm dwelling unoccupied

2 Part-time (e.g. weekends, holidays)

4 Dwelling occupied by third party

A3. If you do not dwell permanently on the farm, where do you live?

1 Elsewhere in a sparsely settled locality

2 In a village centre or other built-up district

3 In a town

A3a. What is the distance between your farm and dwelling _____ km

A4. How important are the following livelihoods in your farm's locality? (One tick per row) (after MULTIFOR.RD)

	Very important	Fairly important	Not very important	Of no importance	Cannot say
a) Farming	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
b) Forestry	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
c) Commerce	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
d) Tourism	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
e) Large-scale industry	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
f) Small-scale industry	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
g) Cottage industries (arts & crafts)	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
h) Services	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>

A5. Which of the following alternatives best describe the locality of your farm? (Please tick up to three boxes: mark the best alternative "1", the next best "2" and the third best "3")(after Multifor.RD)

The farm's locality is

- a) An area dominated by agriculture _____
- b) An area dominated by productive forestry _____
- c) an area with significant areas of nature and wilderness _____
- d) A peripheral and sparsely settled area _____
- e) A rural area adjacent to a town _____
- f) A centre with diverse business activities surrounded by rural areas _____
- g) A built-up urban area _____
- h) An area visit by a large number of tourists _____
- i) Other strongly characteristic features (e.g. mining), specify _____

A6. To what extent do the following descriptions apply to the locality of your farm?

(One tick per row) (after Multifor.RD)

Cannot The locality is /has say	The description agrees...				
	Perfectly	Quite	Only well	Not at partly	all
a) peaceful and quiet with little traffic	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
b) beautiful scenery	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
c) sparsely populated	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
d) plenty of opportunities for recreation and sports	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
e) good overall services (e.g. public transport, schools, shops, etc.)	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
f) unpolluted air, water and soil	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
g) a large area of forests	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
h) a rich variety of nature and wildlife	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
i) a closely knit community	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
j) a strong sense of history and tradition	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
k) an increasing number of nature-based tourists	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
l) prevalence of low incomes	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
m) poor employment opportunities	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
n) many abandoned farms with afforested fields	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
o) conflicts between different uses of land (e.g. building, farming and tourism)	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
p) no means to prevent young people from leaving the locality	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
q) no involvement of locals in how locality is developed	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
r) too many visiting tourists	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
s) too much industrial development and factories	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
t) too much crime	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
u) too many new houses have been built in recent past	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
v) too many summer cottages	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>

A7. Possible ways to develop this locality in the future are listed below. Please indicate which three possibilities you would prefer. (Please tick up to three boxes: mark the best alternative "1", the next best "2" and the third best "3")(after Multifor.RD)

- a) Increase in intensive farming _____
- b) Increase in organic farming _____
- c) Increase in tourism _____
- d) Increase in industrial manufacturing _____
- e) Building of new houses _____
- f) Increase in employment opportunities _____
- g) Increase in forest area _____
- h) Increase in nature and wildlife conservation areas _____
- i) Increase in services _____
- j) More landscape management (e.g. improvement in scenery) _____
- k) Increased bonds and friendship between local inhabitants (community spirit) _____
- l) Other means, specify _____

A8. How important are the following functions of forests to the development of your locality in the future?
(One tick per row) (modified from Multifor.RD)

	Highly important	Important	Fairly important	Not at all important	Cannot say
a) Forests provide recreation opportunities for locals	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
b) Forests provide hunting opportunities	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
c) Forests provide the opportunity to collect fungi and berries	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
d) Forest provide employment for local people	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
e) Forests are a source of income for local people	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
f) Forests provide raw material for local small-scale enterprises	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
g) Forests form a basis for nature-based enterprises	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
h) Forests are important for maintaining a rich flora and fauna	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
i) Forests are an attractive element in the landscape	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
j) Forests protect air, soil and water	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
k) Forests improve the attractiveness of living here	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>

FIELD AFFORESTATION

B1. In your experience, how common have the following activities been in your locality in recent years? (One tick per row).

	Common	Not very common	Rare	Cannot say
a) Afforestation of fields	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
b) Natural forest regeneration on abandoned fields	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
c) Forest clearances for fields	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>

B2. In your opinion, have field afforestation and natural forest regeneration on abandoned fields affected landscape changes in your locality? (One tick per row).

	<u>Changes have been...</u>				
	Very noticeable	Noticeable	Only slight	Non-existent	Cannot say
a) Afforestation of fields	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
b) Natural regeneration of abandoned fields	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>

B3. How do you feel about the amount of field afforestation and natural regeneration of abandoned fields that there has been in your locality? (One tick per row).

	<u>The current amount has been...</u>			
	too much	just acceptable	could still be more	Cannot say
a) Afforestation of fields	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
b) Natural regeneration of abandoned fields	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>

B4. To what extent do you feel that the following agents should be represented in the decision and planning process leading to the granting of the field afforestation permit? (one tick per row)

	Should be represented	Should give a statement	No need to be represented	Cannot say
a) Village action committee	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
b) Forest owners' association	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
c) Commune's agricultural officer	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
d) Farmers' representative (farmers' union)	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
e) Rural development official	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
f) Forestry development official	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
g) Environmental management official	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
h) Representative from Ministry of agriculture and forestry	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
i) Other representatives, specify _____	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>

B5. In your opinion, have field afforestation practices in your locality been in contradiction with the aims of rural development policy?

3 yes 2 no 1 cannot say

B6. If "yes" have the contradictions been? 1 slight 2 moderate 3 considerable

B7. How have these contradictions arisen?

- 1) _____
 2) _____
 3) _____

B8. Generally speaking, how has field afforestation affected the following activities in your locality? (one tick per row)

	Very positively	Positively	Cannot say	Negatively	Very negatively
a) Agricultural enterprises	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
b) Forestry enterprises	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
c) Other sectors of enterprise	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>

YOUR OWN FARM AND ITS DEVELOPMENT



C1. How important are the following objectives in your own forest? (One tick per row) (*Multifor.RD)

	Very important	Fairly important	Not very important	Not important	Cannot say
a) My forest is an investment	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
b) My forest provides income*	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
c) My forest gives financial security in case of hard times	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
d) My forest provides me with household wood*	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
e) My forest provide the opportunity to collect fungi and berries for household use	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
f) My forest provides the basis for supplementary income from non-timber goods and services (e.g. tourism)*	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
g) My forest is part of the family inheritance*	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
h) My forest provides the opportunity for hunting*	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
i) My forest is important for me as a place for nature protection and management*	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
j) My forests create a beautiful landscape	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
k) Other objectives, specify? _____	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>

C2. Do you intend to undertake any of the following activities in the next five years?

(One tick per row) (*Multifor.RD)

	Very-Likely	Quite-possibly	Cannot say	Not-very likely	Under no circumstances
a) Reorientation of agricultural production	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
b) Purchasing extra agricultural land*	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
c) Purchasing extra forest land	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
d) Clearing forest land for fields	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
e) Sale of agricultural land*	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
f) Renting farmland from neighbouring farms*	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
g) Renting farmland to neighbouring farms*	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
h) Afforesting some of my fields*	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
i) Afforesting all my fields	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
j) Leaving my fields uncultivated*	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
k) Developing services (e.g. farm tourism)	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
l) Seeking off-farm employment	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
m) Creating a forest-farm	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
n) Retiring from farming	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
o) Other, specify? _____	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>

C3. If you personally are going to cease farming in the next five years, who will continue managing the farm?

- 4 I am not going to cease farming (Go to question C5)
- 3 The farm will continue under new management (Go to question C5)
- 2 The farm may have a new manager(Go to question C4)
- 1 There is no one wishing to continue farming (Go to question C4)

C4. If there is no one willing to continue farming, what are the main reasons for this situation? (Please tick two boxes: mark the best alternative "1", the next best "2")

- a) I have no children or close relatives _____
- b) Farming does not interest my children or close relatives _____
- c) My farm's field area is too small to offer a viable profession in future _____
- d) The locality does not offer possibilities for supplementary incomes that would be necessary for the continuation of farming _____
- e) My heirs live too far away to manage the farm, even as a part-time venture _____
- f) The farm's forest does not generate sufficient income to supplement the income from farming _____
- g) Other, specify? _____

C5. Do you plan to afforest part or all of your fields over the next five years?

- ₁ Yes (Go to question C6)
- ₂ No afforestation is planned (Go to question C7)
- ₃ My fields are already afforested (Go to question D1)

C6. If you plan to afforest some or all of your fields, how important are the following reasons for your decision? (One tick per row)

	Very important	Fairly important	Not very important	Of no importance	Cannot say
a) Growth of supplementary enterprise (e.g. farm tourism)	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
b) Contraction of agricultural production	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
c) Reorientation of agricultural production	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
d) Rationalisation of farm structure (e.g. afforestation of small, distant, or poor fields)	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
e) Retirement / generation transfer	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
f) Development of forest-farm	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
g) Other, specify _____	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>

C7 I would afforest my fields in the future under the following circumstances (One tick per row)

	Very-Likely	Quite-possibly	Cannot say	Not-very likely	Under no circumstances
a) Agricultural support is reduced	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
b) Afforestation premiums are available	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
c) My farm fails to secure a new manager	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
d) If selling or renting my fields is not possible	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
e) Other, specify? _____	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>

PROPOSITIONS



D1. A number of propositions are now given concerning rural issues and field afforestation. Please indicate to what extent you agree or disagree with each proposition. (One tick per row).

Proposition	Totally agree	Partly agree	Neutral/ cannot say	Partly disagree	Totally disagree
a) "Fields should not be afforested because they were cleared by the hard labour of our forefathers"	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
b) "Fields are a symbol of rural vitality also in the future"	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
c) "Agriculture in this country should be concentrated only in the most fertile districts"	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
d) "Rural areas play a vital role in the quality of life of the nation"	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
e) "Field afforestation should be controlled by strict environmental- and landscape protection regulations"	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
f) "As a result of field afforestation, the local milieu takes on an abandoned appearance"	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
g) "Forests create a sense of isolation between neighbours" (MULITFOR.RD)	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
h) "Agricultural- and forestry policies should not be mixed up with environmental policy"	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
i) "Agricultural landscapes are an important part of our cultural heritage" (modified from MULITFOR.RD)	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
j) "A well managed rural landscape is a sign of the locality's vitality"	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
k) "Extensive forests give a locality a backward appearance"	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
l) "Tourism brings essential extra income to rural areas"	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
m) "Landowners would not afforest their fields if they were not given grants and premiums"	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
n) "Afforested landscapes to not encourage the creation of new enterprises in the locality"	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
o) "Tourists and incomers expect to find a well managed countryside"	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
p) "Nature-based tourism creates a threat to nature"	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
q) "Mechanisation and improved efficiency is the only way to save the country's farming industry"	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>

→Continued

Proposition	Totally agree	Partly agree	Neutral/ cannot say	Partly disagree	Totally disagree
r) "The clearing of afforested fields to restore rural landscapes is recommendable"	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
s) "More forests and diverse nature areas should be set aside for protection"	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
t) "Tourists bring with them values that threaten to distort the traditional values of rural areas"	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
u) "In addition to the production of food and fibre, agriculture and forestry must create for society as pleasant and peaceful rural milieu"	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>

BACKGROUND INFORMATION

E1. Farm area in 2001: Total area _____ ha, of which

a) fields _____ ha, of which _____ ha under cultivation in 2001

b) forest _____ ha

c) other land _____ ha

d) field area rented to neighbouring farms _____ ha

E2. Field area rented from neighbouring farms in 2001 _____ ha

E3. Has the farm have supplementary enterprise activities (e.g. farm tourism) ?

no yes, specify _____

E4. What is the main function of the farm? (One tick only)

farming

dwelling

farming and forestry equally important

hunting

forestry

holiday and recreational use

enterprise activities

Other

E5. Farm ownership

sole owner

Joint ownership company

family ownership

Other

Owned jointly by heirs

E6. For how long has the farm been under the present management? _____ years

E7. For how long has the farm being in your family's ownership? _____ years

E8. Age of respondent _____ yrs.

E9. Sex

Male

female

E10. What is your profession or professional status?

- ₁ agricultural or forestry entrepreneur
- ₂ other form of independent entrepreneur
- ₅ Pensioner

- ₃ Wage or salary earner
- ₄ Other, specify _____



Many thanks for your co-operation

We would also welcome your comments about our research and about rural development and rural development policy in general.

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If you would like to take part in a draw, please provide your name and address below: This slip will act as the draw ticket.

Name _____

Address _____

APPENDIX 2: QUESTIONNAIRE TO RURAL ADVISORS



A1. Commune _____

A2. Organisation _____

A3. In what field are you qualified?
 1 Agriculture
 2 Forestry
 3 Other fields/sectors, specify _____

A4. How long have you been in your present employment _____ years

A5. Is your home
 4 same commune as place of work
 2 neighbouring commune
 3 same province
 1 elsewhere

A6. Do you own forests or agricultural land in the following places?

	Same commune as place of work	Elsewhere	Not at all
Forest	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
Agricultural land	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>

A7. How important are the following livelihoods in your farm's locality? (One tick per row) (after MULTIFOR.RD)

	Very important	Fairly important	Not very important	Of no importance	Cannot say
a) Farming	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
b) Forestry	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
c) Commerce	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
d) Tourism	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
e) Large-scale industry	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
f) Small-scale industry	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
g) Cottage industries (arts & crafts)	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
h) Services	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>

A8. How important do you consider the following means to developing this commune? (one tick per row)

	Very important	Fairly important	Not very important	Of no importance	Cannot say
a) Increase in intensive farming	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
b) Increase in organic farming	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
c) Increase in tourism	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
d) Increase in industrial manufacturing	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
e) Building of new houses	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
f) Increase in forest area	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
g) Increase in nature and wildlife conservation areas	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
h) Increase in services	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
i) more landscape management (e.g. improvement in scenery)	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
j) increased bonds and friendship between local inhabitants (community spirit)	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
k) Other means, specify _____	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>

A9. How significant are the following functions of forests to the development of your commune in the future? (One tick per row) (modified from Multifor.RD)

	High significance	Moderate significance	Low significant	No significance	Cannot say
a) Forests provide recreation opportunities for locals	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
b) Forests provide hunting opportunities	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
c) Forests provide the opportunity to collect fungi and berries	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
d) Forest provide employment for local people	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
e) Forests are a source of income for local people	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
f) Forests provide raw material for local small-scale enterprises	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
g) Forests form a basis for nature-based enterprises	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
h) Forests are important for maintaining a rich flora and fauna	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
i) Forests are an attractive element in the landscape	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
j) Forests protect air, soil and water	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
k) Forests improve the attractiveness of living here	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
l) Muu merkitys, mikä _____	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>

A10. In your commune, are there many farms that in your opinion could shift their production increasingly towards forestry (intensifying forestry and reducing agriculture)?

- 5 Very many (> 50 % of farms) 4 Many (c. 25-50 %) 3 some (c. 10-25 %) 2 a few (<10 %) 1 none, or at most one or two

A11. To what extent do the following factors hinder the shift of farms' production from farming to forestry in your commune?

	Very much	Fairly much	Slightly	Not at all	Cannot say
a) Small forest area	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
b) Small felling potential	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
c) Uncertainties in demand for roundwood	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
d) Uncertainties in roundwood price development	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
e) Farms' own labour resource insufficient for forest work	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
f) Farms lack experience in forest work	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
g) Subsidies are not sufficient for forest work	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
h) No reason to reduce agricultural production	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
i) No interest in forestry	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
j) Farmers are too old for forest work	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
k) Other, specify _____	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>

A12. How would you assess the co-operation between farmers and the listed organisations in your commune?

	Very good	Good	Cannot say	Poor	Very poor
a) Commune agricultural official	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
b) Agricultural producers association	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
c) Forest management association	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
d) Commune trade official	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
e) Forest Centre	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
f) Rural Centre	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
g) Environment Centre	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
h) Labour and Enterprise Centre	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
i) Other organisation, specify _____	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>

A12a. And what about co-operation between farmers?

	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
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B1. In your experience, how common have the following activities been in your commune in recent years?
(One tick per row).

	Common	Not very common	Rare	Cannot say
a) Afforestation of fields	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
b) Natural forest regeneration on abandoned fields	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
c) Forest clearances for fields	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>

B2. In your opinion, have field afforestation and natural forest regeneration on abandoned fields affected landscape changes in your commune? *(One tick per row).*

	<u>Changes have been...</u>				
	Very noticeable	Noticeable	Only slight	Non-existent	Cannot say
a) Afforestation of fields	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
b) Natural regeneration of abandoned fields	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>

B3. How do you feel about the amount of field afforestation and natural regeneration of abandoned fields that there has been in your commune? *(One tick per row).*

	<u>The current amount has been...</u>			
	too much	just acceptable	could still be more	Cannot say
a) Afforestation of fields	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
b) Natural regeneration of abandoned fields	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>

B4. In your opinion, have field afforestation practices in your locality been in contradiction with the aims of rural development policy?

3 yes 2 no 1 cannot say

B5. If "yes" have the contradictions been? 1 slight 2 moderate 3 considerable

B6. How have these contradictions arisen?

- 1) _____
- 2) _____
- 3) _____

B7. To what extent can advisory activities affect farm or forest owners' decision-making with respect to field afforestation?

5 Considerably 4 Moderately 3 Slightly 2 Not at all 1 Cannot say

B8. In your opinion, should farmers and forest owners be paid a premium or other grant-aid for afforesting fields?

1 No 2 Yes, but not without preconditions 3 Yes, without preconditions

B9. If field afforestation is supported by public funding, should the following conditions be observed in the permit-granting process?

	Certainly	Perhaps	No	Cannot say
a) The effect of field afforestation on the structure of local agriculture and its future	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
b) The effect of field afforestation on local forestry and its future	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
c) The effect of field afforestation on the biodiversity of the locality	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
d) The effect of field afforestation on local rural landscapes	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
e) The effects of field afforestation on the potential development of local small enterprises (e.g. nature-based enterprises and farm tourism)	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
f) Other effects, specify? _____	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>

B10. Generally speaking, how has field afforestation affected the following activities in your locality? (one tick per row)

	Very positively	Positively	Cannot say	Negatively	Very negatively
a) Agricultural enterprises	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
b) Forestry enterprises (forest farms)	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
c) Nature-based enterprises (e.g. Commercial benefits from nature's goods and services)	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
d) Forest service enterprises (e.g. forest management enterprises, tree nurseries, etc.)	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
f) (Wood) Heating enterprises	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
e) Tourism enterprises (e.g. farm tourism)	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
g) Other enterprises, sector _____	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>

B11. To what extent do you feel that the following agents should be represented in the decision and planning process leading to the granting of the field afforestation permit? (one tick per row)

	Should be represented	Should give a statement	No need to be represented	Cannot say
a) Applicant's neighbours	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
b) Local village action committee	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
c) Forest owners' association	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
d) Agriculture producers' association	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
e) Commune's agricultural officer	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
f) Commune's trade officer	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
g) Rural Centre	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
h) Forest Centre	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
i) Environment Centre	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
j) Ministry of Agriculture and Forestry	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
k) Other representation, specify _____	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>

B12. How important do you consider the following factors to be barriers to a wider acceptance of field afforestation in the country as a whole and in your commune in particular?

	Very important	Fairly important	Not very important	Not important	Cannot say
a) Farms need their fields to secure gainful agricultural production					
1 Whole country	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
2 Own commune	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
b) The preservation of rural landscapes					
1 Whole country	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
2 Own commune	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
c) Afforestation is an irreversible process					
1 Whole country	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
2 Own commune	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
d) Local farmers' negative attitudes to field afforestation (emotional factors)					
1 Whole country	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
2 Own commune	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
e) Negative attitudes of rural advisors towards field afforestation					
1 Whole country	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
2 Own commune	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
f) The amount of forests is already too great					
1 Whole country	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
2 Own commune	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>

Question B12 continues →

	Very important	Fairly important	Not very important	Not important	Cannot say
g) Fallow agreements are a better alternative					
1 Whole country	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
2 Own commune	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
h) Earlier field afforestation has already weakened the commune's economic development					
1 Whole country	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
2 Own commune	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
i) Local inhabitants are not in favour of field afforestation					
1 Whole country	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
2 Own commune	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
j) In the long term, field afforestation will weaken local development opportunities					
1 Whole country	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
2 Own commune	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
k) Other factors, specify _____					
1 Whole country	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>
2 Own commune	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>



Many thanks for your co-operation

We would also welcome your comments about our research and about rural development and rural development policy in general.

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