

## Farmers' Involvement in Forest Management in the Central Region of Portugal

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### Abstract

This paper examines and describes some relevant characteristics of the forest mentality of small forest landowners, and their dispositions related to future activities on their forest land. It concludes that forest technicians, in their interventions, should consider the landowners' views about farming and forest resources management. Their attention should be drawn to the fact that landowners do not see themselves as simple forest producers, but as managers of a set of resources, which they use in an integrated way, according to family needs and particular socio-economic objectives.

### The problem and objectives

The social representation the landowners have about their role, affect the way they manage their forest resources, including the technical options they follow in their agricultural activities. It is often assumed that small scale owners of forest resources see themselves more as farmers than as forest landowners (Mexia, 1993; Soares, 1993; Morais, 1994), with the result that the forest is not cared for or managed like other productive resources. This paper examines how far this presupposition is applicable to the non-industrial private forest landowners (NPFL) of a region in the midlands of Portugal. It describes some relevant characteristics of the forest mentality of these forest landowners, and their dispositions related to future activities on their forest land.

### Methodology and study area

The results which are presented are part of a case study carried out in 1995. Data were collected through a structured face to face questionnaire survey conducted in the parish of Estreito, Zona do Pinhal. This area includes (190 679 hectares) one of the largest continuous areas of *pinus pinaster* in Europe. Sixty forest landowners were interviewed. The parish Estreito-Oleiros was selected for its representativeness of the region, according to both qualitative and quantitative criteria.

## Results and discussion

**Agriculture/forestry.** Our knowledge and experience about the region indicate that agriculture is mainly a subsistence activity. However, we were interested to understand how far the farmers are dependent on agriculture and on forest. In fact all respondents practice agriculture for subsistence, compared to 68 per cent who use their forest land for subsistence. This suggests that 32 per cent of the respondents do not regard their forest as a source of current income. Relatively few respondents, however, regard either agriculture or forest as the principal means of subsistence. Most answered that agriculture gives food products and the forests give some money. When a distinction is made between consumption and purchasing of agricultural and forest products, 97 per cent of respondents indicated that agriculture represents much or very much of their means of subsistence while their forest provides mainly money to buy goods other than the food they grow themselves.

**Agricultural activity.** Agricultural land is divided into several small and dispersed plots. Almost all NPFL refer to it as their vegetable garden. With the products from agricultural activity NPFL provide food for the household. Their first aim is therefore to be self-sufficient, with the surplus offered for sale. The culture of olive trees is significant in the region, with 82 per cent of the respondents having olive trees, and some of the produce is sold. In most cases, part of the agricultural crops are raised in the orchards, under the olive trees. Others products they sell include potatoes, corn and some fruits, namely cherry.

**Forest activity.** The forest in the region is mainly of one indigenous species, *pinus pinaster*, which is raised through natural regeneration. In addition, about 19 per cent of the forest-landowners have small areas planted with eucalyptus. In the pine forest, the main activities are thinning, and the collection of bush for animal feed, firewood and resin. Generally, the extractive activities, for resin and timber wood, are more frequent than protection or maintenance activities.

All of the respondents said that they use bush and that they have always been using it for animal feed and bedding and as a green manure. Since the quantities of bush and firewood collected directly contribute to the cleaning of the forest, it can be seen as an important forest activity from a management point of view. By surveying trends in the number of animals raised over time, we know that the number of all species of animals has declined. The decline is particularly significant in respect of cattle and goats. Since these consume more bush than other species, we can infer that there has been a fall in the quantity of bush used in bedding animals. The use of chemical fertilisers and the abandonment of some agricultural plots are also linked with this decrease in bush collection. All respondents report that they consume less firewood nowadays than 20 years ago. Respondents claimed that the main reasons for this are the use of gas cookers and electricity, the decrease in animal breeding (years ago the farmers used to use firewood to cook the pigs' food) and a fall in the number of persons at home. They only cook on a wood fire during the winter when they light a fire to heat the house. Some even use gas and electricity for heating.

**Animal production.** Linked with both agricultural and forest activity, there is a tradition of breeding animals in the region. About 82 per cent of the respondents now breed animals, indicating a decrease from around 94 per cent in the last twenty years. The goat is the animal more adapted to and representative of the region. Usually they are kept in small groups of 8 to

9 animals. The goats are bred for their milk and meat and, if it is possible, to sell the young. Pigs are bred mainly to provide meat for the household. Cattle are raised mainly for animal traction.

Non-industrial Private Forest Land-owners mentality Comparing NPFL relations with forest and agricultural activities in respect of four variables (health or value of each type of property, dependency on each activity, their self-designation and their satisfaction in working on each activity, Table 1) we can see that in spite of the fact that respondents report their forest property to have a greater value than their agricultural property, the level of dependence on agriculture is higher than on forestry. The majority of respondents used the designation "farmer" to introduce themselves while only 26 per cent referred to themselves as "forest land-owner". There is no difference in the percentage of respondents who like working on each activity.

Table 1: NPFL's preferences according their relation with the forest activity

	Health		Dependency		Self-designation		Satisfaction	
	Resp	(%)	Resp	(%)	Resp	(%)	Resp	(%)
Agriculture	18	32	41	72	25	44	25	44
Forest	32	56	14	25	15	26	24	42
Equal	7	12	2	3	17	30	8	14

There are many reasons which underlie this pattern of responses. They can be presented in four groupings representing perceived positive and negative aspects of agriculture and forestry respectively by different sets of respondents.

**Agriculture positive aspects:** agriculture gives more profit, at least rather more than the forest. Agriculture gives enough food products for household consumption and the surplus can be sold. It is less hard to work on agricultural fields, which, are nearer the house, a factor that seems particularly important to older respondents.

**Agriculture negative aspects:** trading agricultural products does not give much profit, because of the relatively small quantities and variability in "quality". It is better to produce strictly for household consumption and to abandon any remaining plots.

**Forest positive aspects:** forest gives more profit in cash. It is the single source of money and does not take a lot of work to provide a lot of money.

**Forest negative aspects:** the forest is good until it is burned. After a forest fire there is no revenue and no work to do: one can only wait for natural regeneration.

**The use of NPFL rights related to the forest** Cutting trees and selling the produce are the two rights that the NPFL have used most often, with around 85 per cent reporting one or both. The percentages exercising these two rights are high and similar, since usually when the forest land-owners cut trees they do it in order to sell them. This suggests that they do not use the

*pinus* wood for household use. Only 14 per cent refer to having sold forest land, and they justify this action by the need for money to buy other land. In some cases they have exchanged forest properties.

NPFLs' dispositions towards further forest activities are summarised in Table 2. From a general analysis we could retain the idea that the NPFL intend to continue to collect forest products (resin, bush, and others). The 32 per cent who said they were not in a position to carry out further forest activities are those with older trees which can no longer yield any resin and those whose property has been damaged by forest fires. The 44 per cent who have no trees available for cutting are NPFL with lands without adult trees. Some respondents, however, make it a point of honour that they have never cut down a tree, and do not intend to do so in the future.

Table 2 : Forest activities that NPFL are in a position to carry out

Disposition to	Yes		No	
	Resp	(%)	Resp	(%)
To collect products	39	68	18	32
Harvest trees	33	58	24	42
Sale trees	32	56	25	44
Use as pasture	14	25	43	75

If we talk about forest land instead of trees, the scenario is a little different. The majority of NPFL are not interested in buying land, although a considerable number of them could buy forest land if they felt it was a good business opportunity. The majority (83 per cent) are interested in maintaining their activity on forest lands, with the exception of a few who are interested in selling it.

**Duties and values which NPFL recognise in forests** In general NPFL feel the duty to protect and preserve the forest (Table 3), for two sets of reasons: to improve the forest quality in order to get more profit, and for the personal pleasure they derive from seeing their lands well managed.

Table 3 : Obligations (duties) that NPFL feel related with forest

Sort of duties	Yes		No	
	Resp	(%)	Resp	(%)
Maintain	42	74	11	19
Surveillance	35	61	18	32
Improve	32	56	21	37
Abandon	4	7	49	86
Nothing	4	7	-	-

However, the majority of the respondents usually only recognise the economic value of their forests (Table 4). They express this in different ways, whether related to money or related to patrimony. Personal pleasure is the next most important value, with environmental and aesthetic values being apparently less significant.

Table 4 : Values that NPFL recognise on forest

Sort of values	Resp	(%)
Economic value	43	75
Personal pleasure	20	35
Patrimony value	17	30
Environmental value	8	14
aesthetic value	7	12
Social value	5	9

When respondents were asked to rank the above values in terms of their relative importance to them, economic value was reported to be the most important by 45 percent, with affective value in second place. The much lower proportion giving priority to environmental and aesthetic values (10 and 2 per cent respectively) suggests that the emphasis in national and European policy of the environmental and aesthetic benefits of forests is not yet reflected in the views of these forest landowners.

## Conclusions

Most NPFL see themselves primarily as farmers, and former interactions between farming and forestry are weakening due to falling numbers of livestock and use of mineral fertilisers. However, at the level of the household economy farming and the management of forest land are parts of a single livelihood system in which farming supplies consumption needs and forest products provide money for household expenditure. Forest technicians should therefore not persist with technical interventions which do not consider the landowners' views about farming and forest resources management. Their attention should be drawn to the fact that landowners do not see themselves as forest producers per se, but as managers of a set of resources which they use in an integrated way, according to family needs and particular socio-economic objectives.

The continued absence of forest cleaning will present problems in the future, unless some action is taken to reverse this trend. Research is needed to find ways by which forest landowners can be encouraged to participate in actions which could improve forest management and hence both the productivity of their trees and the quality of the region's forest. Most of them have only small (less than 5 hectares) of forest and therefore some form of co-operative or collective action may be the best way forward.

## References

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