Prospects for the market supply of wood and other forest products from areas with fragmented forest-ownership structures

Task II

Case study: Rhône-Alpes/France

Forêt Privée Française
CNPPF
IDF

National Professional Center for Forest Ownership
Institute for Forestry Development (CNPPF-IDF)

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Abbreviations

Agreste: annual survey implemented by the DRAAF on forest contractors and sawmills for harvest statistics.

CBPS: short management plan which is a guarantee of sustainable management for forest ownership of less than 25 hectares.

COFORET: The Rhône-Alpes forest cooperative.

CRPF: Regional Professional Centre for Forest Ownership

DRAAF: Regional Department for Food, Agriculture and Forest. French forest authorities.

Ha: hectares

IFN: The French National Forest Inventory in charge of implementing statistics on the forest resource.

o.b.: over bark

ONF: Forest National Office in charge of state and communities' forests.

ONEMA: French Office for water and aquatic environment.

PEFC: Pan European Forest Certification. This is the principal sustainable management certification scheme in Rhône-Alpes.

PSG: Statutory management plan for forest ownership of more than 25 hectares.

SERFOBE: Forest service of the DRAAF Rhône-Alpes.

SRGS: Regional scheme which plan the objectives for private forest management.

Introduction

Rhône-Alpes is one of the 22 French administrative regions. This region is formed of 8 départements: Ain, Ardèche, Drome, Isère, Loire, Rhône, Savoie, and Haute-Savoie. It is an important forest region at the French national scale. The average size of a private forest ownership is 2.1 hectares; therefore the number of fragmented forest ownerships is very important.

The objective of this report is to describe any relevant data which could have an impact on the mobilization of wood from the fragmented private forest ownership of the Rhône-Alpes' region. This work is one of the 8 regional study cases implementing in Europe with the same protocol of data collecting. The EU Action Plan which aim to support and enhance sustainable forest management and multifunctional role of forests mandated this program.

We have considered as fragmented forest any ownership that has a surface area inferior to 10 hectares. This choice is based on the fact that, depending on the topography and the stand, management may be technically and economically difficult up to ownerships of 10 hectares surface area. Furthermore, it would have been really difficult to find data on very small forest ownerships because the threshold of 10 hectares is the one currently used. In this category of less than 10 hectares ownerships, we would precise the results by sub-categories according to the available data.

Data of this study case were collected mostly from the following secondary data sources:

- The French National Inventory publications;
- The regional AGRESTE statistics which are implemented by the French forest authorities in Rhône-Alpes (called DRAAF Rhône-Alpes);
- A recent survey on forest owners to analyze their motivations, expectations and the levers for action to produce more wood for energy.

In addition, the interviews of 11 experts listed in Annex 1, who represent a good range of the forest field in Rhône-Alpes, were performed and a focus group was organised to discuss the final questions to clarify.

1 Overview of the case study region

1.1 Regional forest cover

1.1.1 In percent of the total area

With 1.65 million hectares, Rhône-Alpes has a forest cover of 37% of the total area of the region *(IFN, 2008)*. This figure comes from the new method of the French National Forest Inventory which was implemented in 2005.
The French inventory gives statistics (except for forest cover) only for "productive forest". It seems important at this stage of the report to define what a productive forest is. The definition of a forest is the one given by the case study protocol with a minimum area of 0.5 hectare. Productive forest is a forest available for production where harvesting of trees is possible (not taking into account economic reasons) and compatible with other forest functions. Productive forests in Rhône-Alpes represent 94% of forests. Most non-productive forests (100,000 ha) play a role of protection against physicals hazards. They are located at high altitudes where land is subjected to erosion.

Inventory	Forest cover
1981-1986 inventory	32,5%
1993-2000 inventory	34,6%
Recent inventories (2005-2008)	37%

Tab. 1: Evolution of the Rhône-Alpes' forest cover. (Source: IFN, 2008)

1.1.2 Development during the last 10 years

Comparison between inventories shows around 2% increase in the share of the regional surface area covered by forest in the last decade.

1.1.3 Expected future development

The expansion of the forest cover is keeping stable. During the previous decade the augmentation of the share of forest cover was about the same (+2%). Today, artificial afforestation on farm lands is over. Forest lands' expansion is mostly due to natural regeneration on abandoned farm land. Furthermore forest expansion is expected to decrease because the pressure on land use is getting higher (*Mean of expert: Guineret, CRPF Rhône-Alpes*).

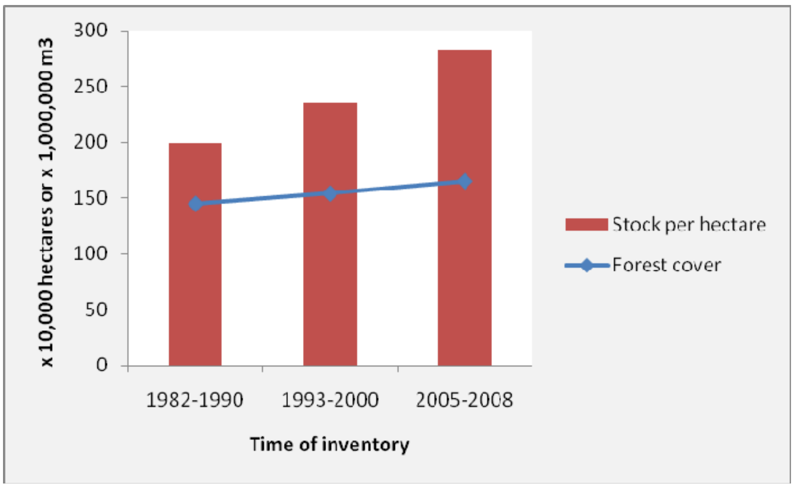

Fig. 1: Evolution of forest cover (x 10,000 hectares) and standing volume (x 1,000,000 hectares) in Rhône-Alpes. (Source: IFN, 2008)

1.2 Wood mobilisation in terms of annual increment

1.2.1 Annual harvest

The regional AGRESTE survey on forest contractors and sawmills shows that 4.6 million m^3 over bark (o.b.) (± 1 million m^3 depending on informal market) of wood were harvested in 2007 (included informal markets). *(*DRAAF Rhône-Alpes, 2009 p.2*)*

1.2.2 Annual increment

The Rhône-Alpes forest has an annual increment of 10.4 million m^3 o.b. *(*DRAAF Rhône-Alpes, 2009 p.2*)* Thus, only 40% of the regional increment is harvested.

1.2.3 Development during the last 10 years

This figure has decreased during the past 10 years: the regional increment grows faster than harvest due to forests ageing, difficulty to market woods and the fragmentation of ownership (PEFC Rhône Alpes, 2006).

1.2.4 Expected future development

It is difficult to estimate the future evolution of regional increment. Relating to harvests, a great increase of cuttings of non-coniferous trees for energy is expected. Coniferous timber wood harvests are expected to increase slightly in the coming years *(Mean of expert: René Guineret, CRPF Rhône-Alpes).*

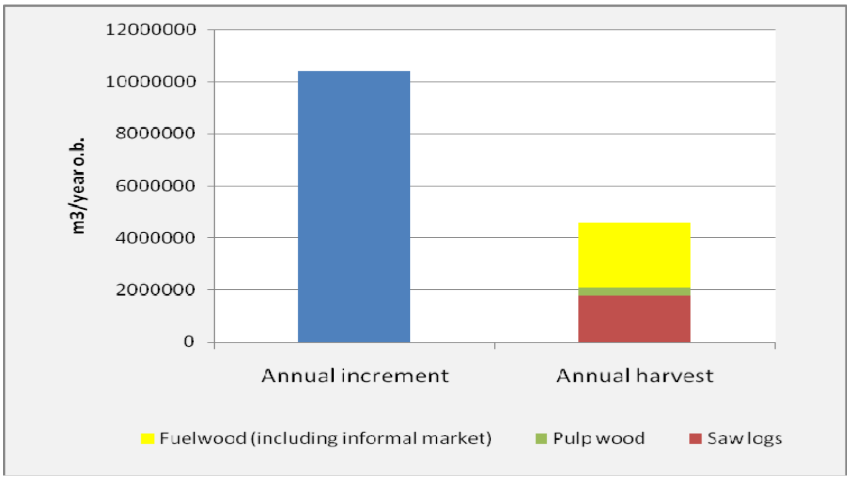

Fig. 2: Comparison of regional annual increment and harvest (m3 o.b.) (Source: DRAAF Rhône-Alpes, 2009).

1.3 Legal uncertainty regarding forest ownership

1.3.1 Restitution process

In France, there is no restitution process. A system of cadastre draws clearly the limits of forest ownership. However some owners of small ownership do not know where their parcel is located.

1.3.2 Description of the process

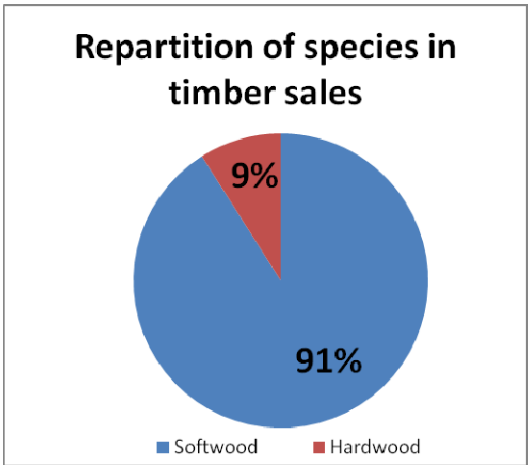

Fig. 3: Repartition of species in percentage of the selling volume of saw logs. (Source: MERCIER,

1.4 Characterization of the forests in the region

1.4.1 Average stock

The average stock of wood in Rhône-Alpes described by the National Forest Inventory (IFN) is 185 m^3 / ha o.b. *(*DRAAF Rhône-Alpes, 2009 p.2*)*. It is more than the national level (161 m^3 / ha).

1.4.2 Share of coniferous/non-coniferous wood

45% of the area is covered by hardwood species, 28% by softwood and 22% by mixed forests. The stock per hectare in shares of softwood and hardwood is well-balanced: 57% is represented by coniferous trees and 43% by non-coniferous trees *(*IFN, 2008*)*. However, it is not representative for timber harvests: 91% of volume is from coniferous trees *(*DRAAF Rhône-Alpes, 2009 p.2*)*. Since, coniferous are more adapted to mountains, the main part of harvests of non-coniferous trees comes from plain.

1.4.3 Share of abandoned unmanaged forests

The share of unmanaged forests may be one explication to these high stocks of wood. In 2009, a survey was implemented on 1,000 owners who represented all categories of private forest ownerships. This survey has been a very relevant source for the present report. To the question: "who manages your forest?", 22% of private foresters interviewed in surface area[1] answered "nobody". The lower the area of the forest, the higher is the share of unmanaged forest *(*Brun, Mallein and Pellisier, 2009*)*. Forests difficult to access are also more concerned by this problem *(Mean of expert: René Guineret, CRPF Rhône-Alpes)*.

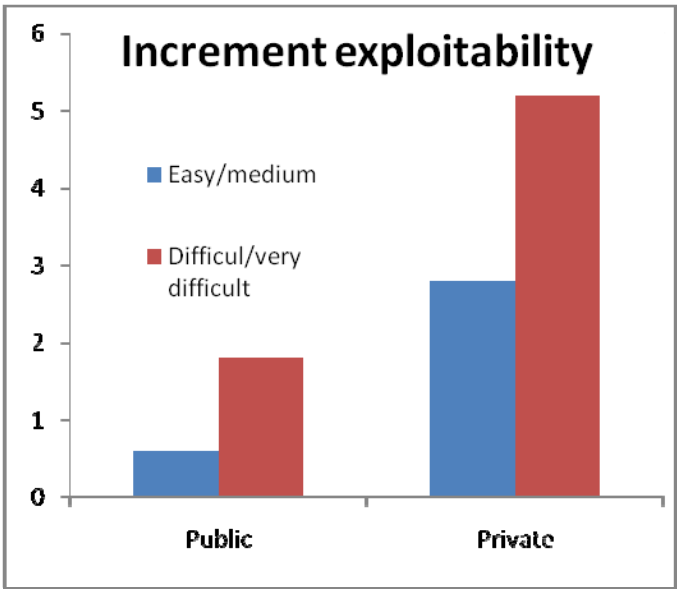

Fig. 4: Repartition of the increment depending on harvesting difficulty and category of property. (Source: IFN, 2009)

1.4.4 Topographic situation

On the same survey, 75% of owners who answered in the surface area said they had at least part of their ownership in Middle Mountain *(*Brun, Mallein, and Pellisier, 2009*)*. Forest parcels are essentially located on plateaus or slopes of low or middle altitude. It has been showed that

[1] The results are not given in proportion of the number of forest owners but in proportion of forest cover represented by these forest owners.

the four-fifth of the forests is located on 15% or steeper slopes and one-third on a minimum of 50% slopes. 16% of the forest area is not passable to hauling, skidding, or transportation machines (tractors and trucks). Only 34% of the forest area is located at less than 200 meters of a forest road and 19% is located at more than 1000 meters of a forest road. The French Inventory considers only 20% of the regional area as easily harvestable and 30% as quite easily. Two-third of the annual increment in the region is considered as difficult to harvest (27% at the national level). Public forests are located on less accessible sites than private forests (IFN, 2008). These figures demonstrate that accessibility is a real problem that has a big impact on wood mobilisation in the region.

1.4.5 Tree age distribution

No data describing the tree age distribution is available in the region. However, the National Forest Inventory takes data on the tree age distribution of the regional stumping wood stock. Small diameter trees represent only 25% (14% for coniferous trees) of the regional stumping wood stock. Therefore, the tree age distribution is not a barrier for harvesting. Coniferous stands and public forests have in average higher diameter trees.

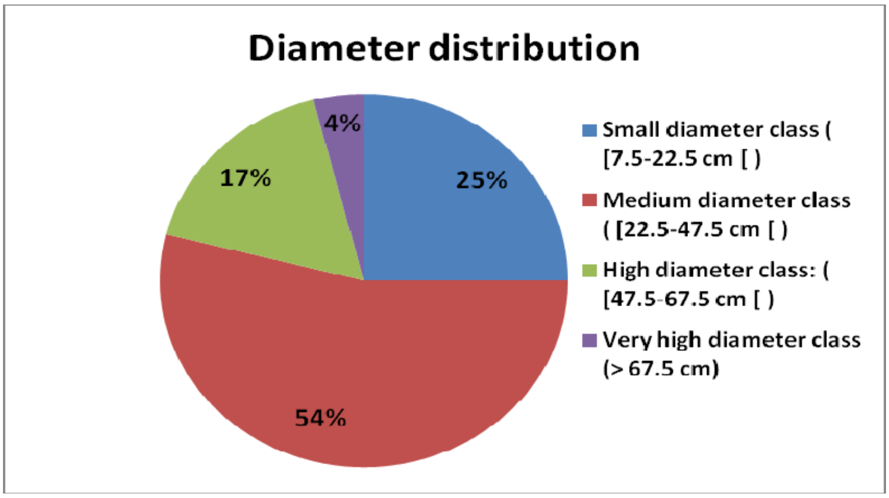

Fig. 5: Distribution of the total stock in classes of diameter. (Source: IFN, 2009)

1.4.6 Other factors influencing wood harvesting

Climatology has also an impact on harvests. The climate is Mediterranean on South while the North part of the region has a mountainous or continental climate. Forests need a lot of water. Thus, wood quality and harvests are higher in the North part of the region.
The diversity of species is also a factor to take into account in wood mobilisation. The IFN found an average number of 7 species of trees per 700 m^2 plot which is high compare to the national level of 5 species. This great diversity which is a great chance also makes wood mobilisation more complex, for it multiplies the work of sorting woods after the harvests.

1.4.7 Other important factors to describe the case study region

The “geographical” fragmentation of forest is not a problem. In fact, massifs of more than 100 hectares cover 96% of the forest area (PEFC, 2006).
The general overview of the region showed high additional potential harvestable volumes: less than half of the increment is harvested and the growing stock per hectare has increased in the past decades. However, the mountainous topography and the lack of forest roads is a real problem for wood extraction.

2 Regional wood markets

2.1 Structure of the regional markets

2.1.1 Wood sellers

2.1.1.1 Number of forest owners

In France, there are two categories of public forests: state forests and community (city, département…) forests. In Rhône-Alpes, there are 180 state forests and 1,539 community forests (ONF, 2005). The amount of fragmented private holdings, which clusters all forests of 10 hectares surface area or less, is 431,933 (DGFiP, 2003). 14,333 owners hold the other private forests (DGFiP, 2003). Industrial private and forest operators represent a low percentage of owners in numbers. They are institutional investors, forest companies (mostly sawmills) and a few other companies. They own large domains. Since they represent a small share of the total regional surface area (probably less than 5%), they are not detailed in statistics.

2.1.1.2 Annual selling volume

2.1.1.3 Annual selling volume by assortment

m^3 o.b.	Total (Average 2003-2007)	Community forests (Average 2007-2008)	State forests(Average 2007-2008)	Private forests (Average 2006-2007)
SAW LOGS	**1,804,826**	617,500	126,338	1,253,000
PULPWOOD	**286,389**	176,500		215,500
MARKETED FUELWOOD	**174,166**			
TOTAL	**2,265,381**	931,500		1,468,500

Tab. 2: The average annual selling volume by category of ownership and by assortments. (Source: Morel and René, 2008; France-Forêt Rhône-Alpes, 2009)

2.1.1.4 Amount of wood that fragmented forest owners have sold to markets

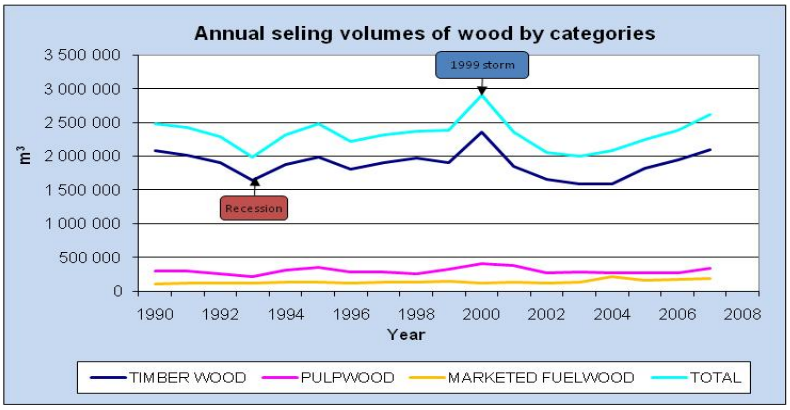

Fig. 6: Annual selling volumes of wood by assortments. (Source: DRAF Rhône-Alpes)

Selling volumes are based on a survey implemented every year by the regional forest authorities who are called DRAAF. Forest contractors and sawmills managers are the companies which are sampled. They have to fill in and return the form of the survey. Private forests represent only 65% of the total commercial harvest for 76% of the surface area.

Unfortunately, no data on volumes harvested in

fragmented forest ownerships are available in statistics.
Experts agree on the fact that mobilisation is in average higher in larger private forests.

2.1.1.5 Amount of wood that fragmented forest owners harvest for their own use

Experts interviews showed that fragmented private forest owners harvest more wood for their own use (mainly firewood), but they are not able to estimate these volumes, for it is very variable depending on stand access, the type of owner, wood quality... *(Mean of expert: de Quinsonat, PEFC)*

2.1.1.6 Development on the roundwood sellers market structures

Apart from two major events, the roundwood market kept stable in the last two decades. The recession of 1991 and the storm of 1999 marked the market. 2006 and 2007 were very good years. For the first time (apart from the storm period) the threshold of 2,500,000 cubic meters harvested was outreached. The same general trends are observed in public and private forests. Unfortunately the present economic crisis has a big impact on selling volume of wood. Statisticians plan, in Rhône-Alpes, for a 7% decrease in wood selling for saw logs in 2008 and for a 15% additional decrease in 2009 *(Mean of expert: Desroches, SERFOBE).* Concerning the energy wood sector the situation is good. Sales have raised constantly during the last years.

2.1.2 Industrial buyers

2.1.2.1 Number of industrial buyers in the region

Rhône-Alpes has a total of 317 sawmills. They are the principal industrial buyers in the region (*Morel and René, 2008).* 2% of companies produce 30% of the production (average of 20,000 m^3 of sawn per year and 20 to 50 salaries). On the other hand, 85% of sawmills have in average each a production capacity of 4,000 m^3 of sawn per year and employ 3 to 5 salaries; and they globally produce the same quantity as the first mentioned category.

Rhône-Alpes is very poor in pulp wood buyers. Only one pulp mill is implanted in the region, which buys exclusively sawmill residues, and no panel mill. Paper mills are numerous (at least 50 paper mills) but they buy pulp, not wood (*Morel and René, 2008).*

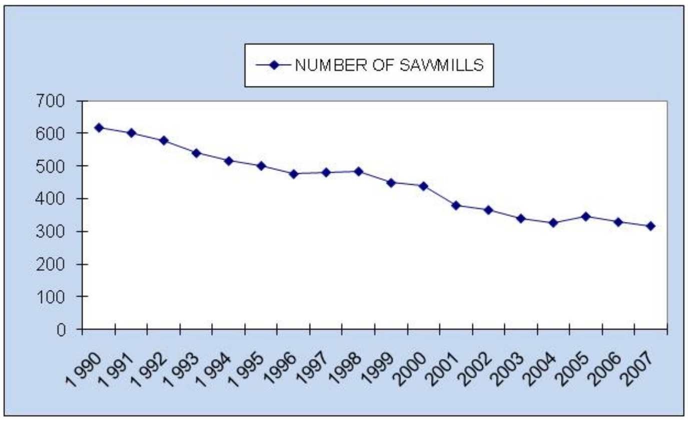

Fig. 7: Evolution of the number of sawmills during the past 20 years. (Source: DRAAF, 2009)

A study on heating plants counted 244 community heating plants, 254 private heating plants, 180 industrial heating plants and more than 4,000 individual wood burners.

2.1.2.2 Development of the number of industries during the last 10 years

Ten years ago there were 50% more sawmills (*Morel and René, 2008).* The sector of wood energy has exploded since 2000 (UCOFRA, 2009). A program financed the construction of 465 heating plants between 2000 and 2006 (ADEME, 2007). Today, 88 heating plants are on construction and more than 300 new projects of heating plants' installations are on discussion in Rhône-Alpes (UCOFRA, 2009).

2.1.2.3 Annual buying volume by industrial buyers' categories

Since no data is directly available on the annual buying volume of wood in the region, we made approximations from other data. Imports (20% of Rhône-Alpes' selling volume in 2003) of timber wood from France to Rhône-Alpes are higher than exports (10% of selling volume). Considering a balance equivalent to 10% of the selling volume, 200,000 additional cubic meters came to the region in 2007. Most of these imports come from Franche-Comté and Bourgogne[2]. The amount of the commercial balance of roundwood from Rhône-Alpes to foreign countries exceeds 3 million euros (DOUANES, 2009), which is equivalent to a few ten thousand cubic meters. Finally, the total buying volume of saw logs in the region should be close to 2,000,000 m^3 o.b. / year. The EAB survey brings precise information on the production of lumber in the region. Since the residues of sawmills represent 40% of the total buying volume of sawmills in France (Ginesty et Al., 2007), we considered a 60% output from saw log to sawn. As a consequence sawmills production consume around 2,000,000 m^3 o.b. a year. This figure confirms the first assumption.

Industries buying volume	m^3 o.b.	References
Saw logs	2,000,000	*Morel and René, 2008.*
Pulpwood	0	*(Mean of expert: Michon, COFORET)*
Energy wood	174,166	*Morel and René, 2008.*

Tab. 3 : The average annual buying volume by assortments.

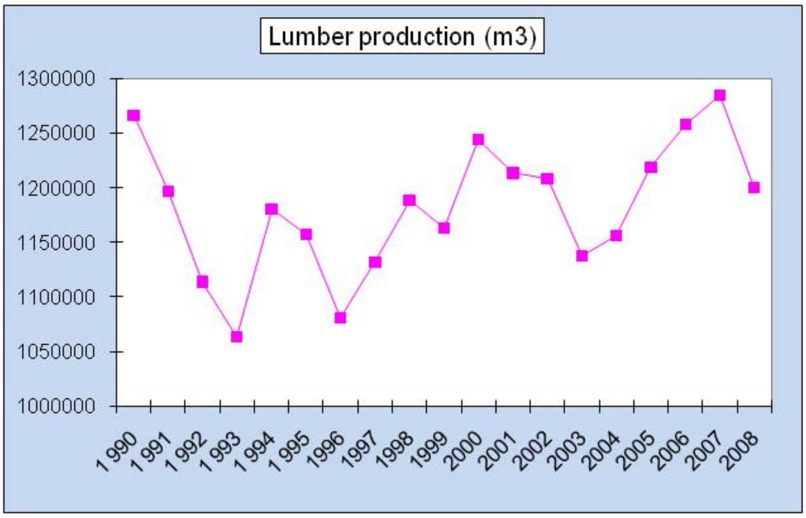

Fig. 8: Evolution of the production of sawn during the past 20 years. (Source: Morel and René, 2008)

In spite of the presence of one pulp mill in Rhône-Alpes, no pulpwood is bought by regional industries. In fact, this pulp mill buys only sawmills residues (*Mean of expert: Michon, COFORET*).

Energy wood is consumed locally. Hence there is no transfer outside the region. Wood energy companies produce 260,000 tons of green chips of which 76,490 tons (17%) are from roundwood. Since pellets are produced exclusively from sawmills residues the remnant selling volume is bought for firewood billet use (UCOFRA, 2009).

2.1.2.4 Development of annual buying volume by assortments

Comparison of Fig. 6 and Fig. 8 let us assume that the annual buying volume sticks to the regional lumber production. The buying volume has increased steadily since 1996.

[2] Two regions in the East part of France.

The 2003 decrease is due to the end of 1999 storm harvests. The 2008 crisis had stopped the good progression of previous years. In 2009, the annual volume of produced lumber is expected to decrease to 1 000 000 m3 *(Mean of expert: Desroches, SERFOBE)*.Concerning the energy wood sector a lot of new investments permitted the creation of new heating plants which increased the annual buying volume. This increase should continue in the coming years.

2.1.2.5 Share of domestic and imported volume

A recent study (Mercier, 2009) showed that 81% of the buying volume of saw logs is domestic. Regarding importations, 17% of the volume is from France. Switzerland furnishes most other Rhône-Alpes' saw logs *(*Mercier, 2009*).* Energy wood is exclusively domestic and no pulpwood from roundwood is bought.

2.1.2.6 Share of sawmills residues

In 2007, 1,000,000 tons of sawmills residues were produced in the region*.* 51% of regional sawmills residues goes to panel or to pulp mills outside the region *(510,000 tons in 2007)*, remnants goes to heating plants or other uses *(*Morel, René, 2008*).* The production of green chips is based on 17% of sawmills residues in volume *(*UCOFRA, 2009*).*

2.1.2.7 Number of traders

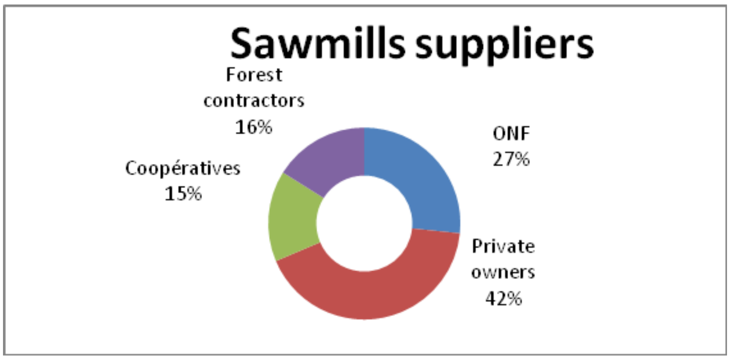

Fig. 9: Percentage of sawmills buying volume by category of sellers. (Source: Mercier, 2009)

In Rhône-Alpes traders are also forest contractors, 367 companies are specialized in harvesting and trading only and 189 are part of a sawmill (Morel, René, 2008). Logging activities used to be carried out by sawmills, and are now often externalised towards very small and numerous units of production. The regional cooperative also has trading activities. The company buys wood to its members previously to sell it to industries. Most forest operators sell woods to the different categories of industrial buyers. Therefore it is not possible to give data by assortments.

2.1.2.8 Annual wood volumes transferred by regional traders

In 2007, 1,035,000 m3 of saw logs which had been harvested in France (80% are from Rhône-Alpes) were bought by Rhône-Alpes' sawmills (Morel, René, 2008, cooperatives included*)*. Most owners don't do the harvests by themselves. They sell stumping wood to forest operators, cooperatives or directly to sawmills. Thus, this volume is close to the volume transferred by regional traders.
The 2008 survey of FIBRA (Mercier, 2009) on sawmills also gives good indications on trading volumes. This survey is not exhaustive and may under estimate the weight of regional traders. 69% of the buying volume of sawmills were sold by owners (ONF for public forests, and private owners). The remnants 31% (650,000 m3 in 2007) were trade by forest operators and cooperatives. In 2007, 385,000 m3 (1,035,000 – 650,000) of saw logs (felled wood) were sold directly by forest owners (public and private) to sawmills.

Concerning fuelwood, most of the marketed volume is bought by traders (*Mean of expert: Michon, COFORET*). Small heating plants are supplied by small local producers mostly farmers. Most of the supply in round wood for middle and large size heating plants is performed by the regional cooperative. Among the 126 fuelwood companies, 69 companies produce green chips from roundwood in the region *(UCOFRA, 2009)*.

2.1.2.9 Development on the wood market structures

The regional forest cooperative harvested twice volume of timber wood in 2008 compare to 2002. We didn't get any data on the evolution of the volume bought by forest contractors so it is difficult to know the development of trading activities. For other assortments the wood market structures should keep stable.

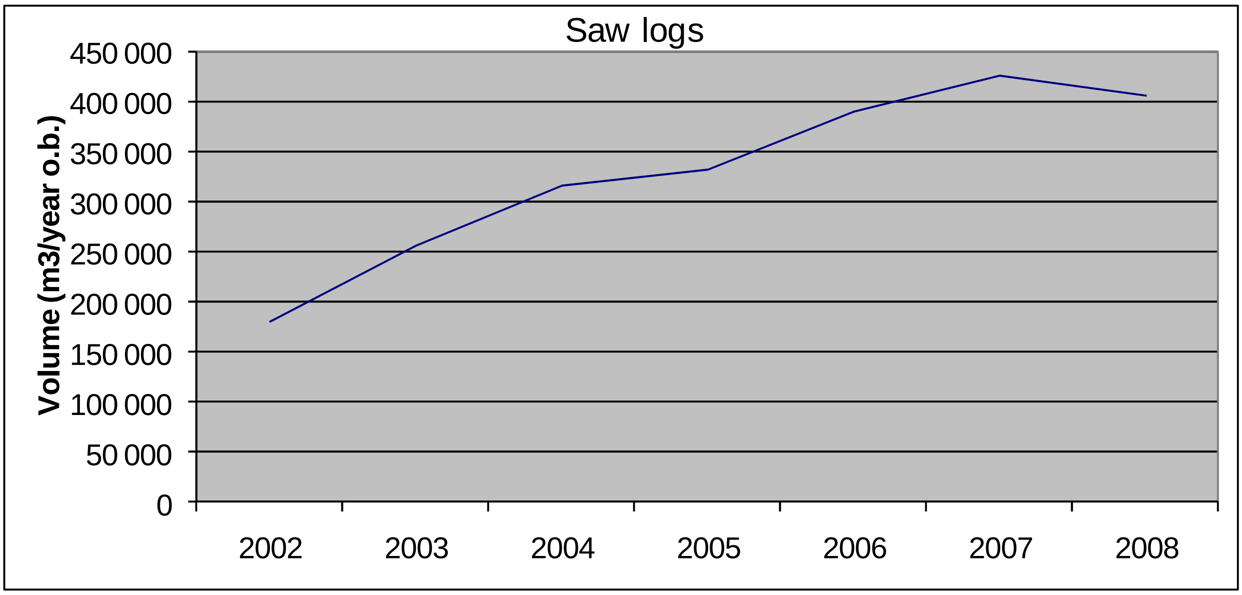

Fig. 10: Selling volume of saw logs of the regional cooperative COFORET (m^3 o.b.). (Source: France-Forêt Rhône-Alpes, 2009)

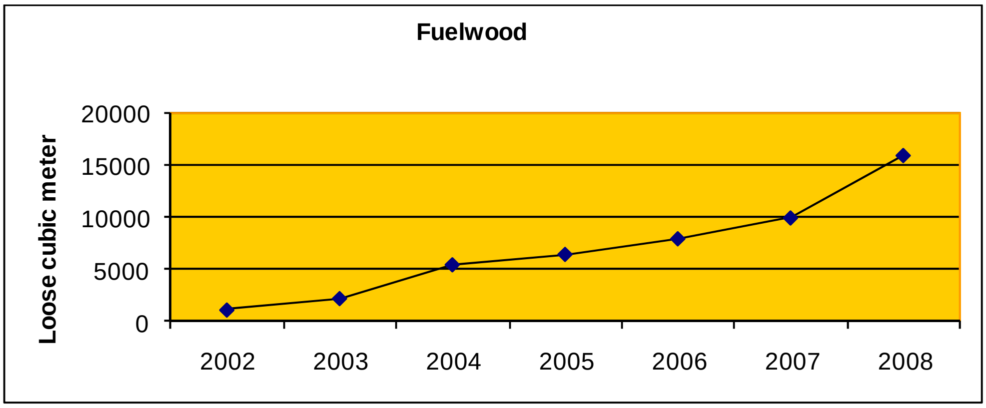

Fig. 11: Selling volume of fuelwood of the regional cooperative COFORET (Loose cubic meter). (Source: France-Forêt Rhône-Alpes, 2009)

2.1.3 Other market participants

2.1.3.1 Number of direct private buyers/consumers

Direct private buyers / consumers are only present in the fuelwood sector. A lot of them do the harvest of very small amounts of wood for their own use. Their number is really difficult to estimate.

2.1.3.2 Availability and capacity of harvest contractors or forest operators

The number of forest operators in the region is unknown. Experts think there are around 1,000 companies of forest operators in Rhône-Alpes (*Mean of expert: Mercier, FIBRA*). Some of them share their activity with garden work. They have an approximate average age of 35 to 40 years old (*Mean of expert: Verney, COFORET; Guy, forest contractor*). There are 367 forest contractors. They often employ forest operators and invest in harvesting equipment. 60% of sawmills do have forest operators activities (Morel, René, 2008*).*

2.1.3.3 Development of other market participant

The number of forest operators has decreased consequently in the last decades. The investment in modern processes allows harvesting more wood with fewer loggers. However there is a lack of loggers to cut small diameter trees in mountain (thinnings) where the use of modern processes is not possible (*Mean of expert: Verney, COFORET*). Furthermore the profession of logger is not well recognized and they are not organized. Due to a lack of logging education, owners have difficulty to find good quality loggers (*Mean of expert: de Pierrefeu*, *Syndicat des Sylviculteurs de la Loire*).

2.1.4 Other structural markets factors

2.1.4.1 Average distance between different types of sellers

100 km is the average distance from forest to sawmill (*Mean of expert: Michon, COFORET*). Apart from a few sawmills of important sawn capacity which come from very far (Belgium), the maximum distance is 250 km. Since no industries buy pulpwood in Rhône-Alpes, logging trucks cover an average distance of 300 km from forest to pulp or panel industries (*Mean of expert: Verney, COFORET; Guy, forest contractor*). Fragmented private forest ownerships are not farther from industries than other forest ownerships.

2.1.4.2 Average harvesting costs

The average harvesting costs to forest road is 15 to 20 € / m^3 o.b. (*Mean of expert: Desroches, SERFOBE;* FCBA, 2008). This is relatively higher than the national average due to the high share of mountains. It is important to precise that these costs are very dependent on logging conditions. Wood harvesting costs more in mountain or small diameter wood stands compare to plain or large diameter wood stands because forest operators log less volume per day. Harvesting costs range from 10 to 25 € / m^3 o.b..
These costs also depend on the number of owners to contact and the size of the logging site. Since, a logging site usually gathers parcels of the same kind of stands, the great heterogeneity of stands in some ownerships prevents from doing thinning and harvests on all the area of an ownership *(Mean of expert: Guy, forest contractor)*. The costs corresponding to the time spent by the forest contractor or forest manager with the owners persuading them or explaining the benefits of harvesting are fixed costs. Furthermore an average cost of 500 € for fellers transportation has to be added in case

of mechanized timber yard. Other costs like land repairing have also to be taken into account (*Mean of expert: Verney, COFORET*).

2.1.4.3 Average transportation costs

Transportation costs are the same for different ownership categories although, it requires more logistics on small logging sites *(Mean of expert: Verney, COFORET)*. The logging trucks pick up wood at different berths. For sawmills, the average cost is 8 to 15 € / m^3. Transport regulations are very strict. The transportation law limits the total load of lorries to 40 tons if they have more than 4 axles. After the storm of 1999, a decree was made to give the derogatory right to use bigger lorries. This decree was suspended a few years later. In 2009, the decree was renewed giving the roads where the derogation is applied. The decree says that transport is an essential element in the supply cost of industries, the derogation is made to enhance the competitiveness of the wood sector. The derogation allows lorries with crane, a forest back, which transport logged wood and if there is no economic viable alternative to use authorized roads with higher loads. The roads concerned by the decree are mostly national roads and principal départments' roads. With the derogation the maximum authorized load is still 40 tons for 4 axles lorries, 48 tons for 5 axles lorries and 57 tons for 6 or more axles lorries.

The main limit to this decree is that these roads don't serve directly the forest massifs. Lorries have to ask for special authorization for these roads which are quite often not adapted to these loads. This is a problem to get the authorization; the towns councils often refuse allowing lorries to use their roads. In this case, the only solution is to use smaller lorries in the massifs and to switch with bigger ones on derogatory roads. *(Mean of expert:Michon, COFORET).*

2.1.4.4 Approximate volume of informal market segments

The informal market is important but difficult to measure. The most relevant data announce an informal volume of 2 million of m^3 o.b. *(Mean of expert: Mercier, FIBRA;* CEREN, 2003*).* This figure is rather the consumption volume than the harvested one. It was measured by surveying a high number of households. It is almost equivalent to the marketed volume. Another study made from the IFN data gives lower figure (around 1 million m^3) but it is not taking into account branches.

2.1.4.5 Expansion of informal market

The informal market concerns essentially firewood so it is probably more present in small ownerships. Today this market is expected to expand due to the increasing price of fuelwood *(Mean of expert: de Quinsonat, PEFC*).

2.1.4.6 Reliability of available statistics on current fellings

Statistics are based on an annual survey on forest contractors and sawmills implemented by the Ministry of Agriculture. Statisticians assume that approached commercialized volumes have a 15% precision. The errors are due to wrong survey answering or approximations. Some sawmills which have harvesting activities give information on the volume of saw logs instead of harvested logs. However, observed evolutions are right (*Mean of expert: Desroches, SERFOBE*). Unfortunately, statistics don't make the difference between small private and other private properties.

2.1.4.7 Market information access by ownership categories

Since small forest owners harvest most of the time only once in their life, they have few knowledge on market prices and do not know where to go to get the right information (Mean of expert: Traub, CRPF).

2.1.4.8 Quality requirements by buyers categories

Sawmills are not satisfied with the wood quality they get, whereas foresters argued that cuttings are made for sylvicultural reasons rather than to furnish actual needs of industries (*Mean of expert: Verney, COFORET*). Sawmills managers think Rhône-Alpes forest is too heterogeneous. Thus, they are forced to have a large supply area which goes outside the region to obtain homogenous products. Thereby, they have higher cost and are not competitive on the market (*Mean of expert: Mercier, FIBRA*). The construction sector prefers to buy sawn wood from Northern Europe rather than local sawn wood because they answer better to their need of quality, price and quickness of delivery (*Mean of expert: Mercier, FIBRA*).
Quality is not a problem for heating plants (UCOFRA, 2009).

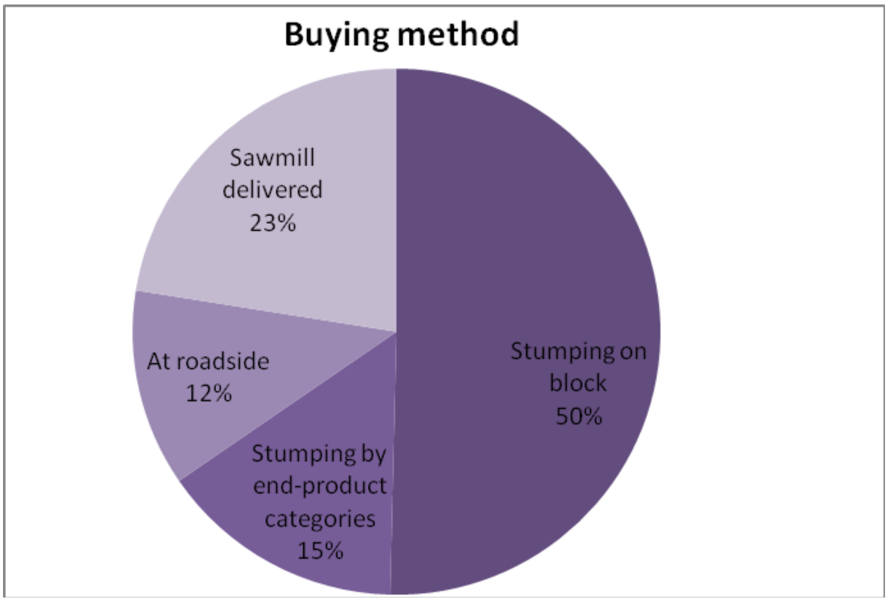

Fig. 12: Repartition of the buying volume of sawmills by buying methods. (Source: Mercier, 2009)

2.2 Wood sales methods

2.2.1.1 Wood sales methods description

There are different possible sales methods. Wood can be sold on the stump (also called standing sales) or at the stump (also called felled sales). In the first case, the buyer is responsible for implementing the cutting. He or she owns the wood as soon as he or she takes the commitment. In the case of felled sale, the seller does the harvest to the forest road and sort woods by categories to sell them at roadside (the wood is stocked by the seller on a berth near the road) or directly delivered to industries.
In case of standing or at the stump at roadside sales (all the logging and skidding work was done by the seller), wood can be sold in block or by end-product categories. In the first case, the price is decided for the total parcel, it is known before the harvest. For sale by end-product categories the price is fixed after the cutting according to volume

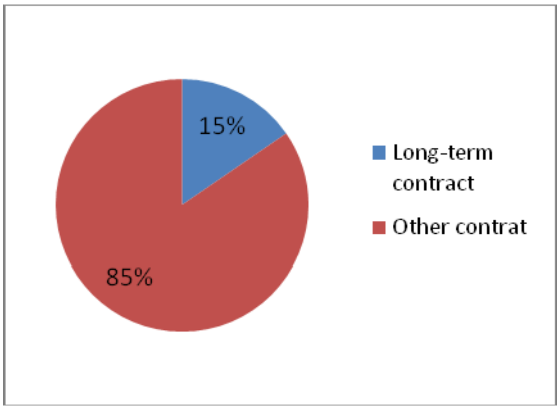

Fig. 13: The share of long-term contract in the buying volume of sawmills.

and quality.

For these three types of contract, there are three sales methods: sale by agreement, call for tenders, or long-term contract. In sales by agreement, the seller gives information to the buyer on the localization of the parcels, the kind of tree-marking and the requested harvesting conditions, and then the seller offers a price. Call for tenders are often used for grouped sales. They can be made by decreasing or by silent auctions. Long-term contract is an agreement between a seller and a buyer concerning the delivery of precise quantity and quality of wood at fixed dates and places. The seller usually delivers the products directly to the industry *(TOPPAN, 2009).*

2.2.1.2 Importance of sales methods

2.2.1.3 Importance of sales methods by assortment

Most forest owners sell standing wood by agreement and on block or more rarely by end-use categories. A survey realised by the interprofessional body (FIBRA) in 2008 gives information on the types of buying methods used by sawmills in Rhône-Alpes. They buy 65% of their supply directly to the forest owners, 12% in felled sales at roadside and 23% in felled sales delivered to the sawmill. 15% of contracts are long-term contract (Mercier, 2009).
Panel and paper industries usually buy wood on contract with cooperatives, ONF, forest contractors or forestry consultants.

2.2.1.4 Sales methods by ownership category

20% of ONF wood sales were based on long-term contracts (82% at the stump at roadside and 18% on the stump) with 65 different industries (France-Forêt Rhône-Alpes, 2009). The regional cooperative does mostly sales delivering wood directly to sawmill by long-term contracts of supply. Most other felled sales (at roadside or delivered to sawmill) were made by forest contractors. Most owners sell on the stump for all kind of ownerships. Small owners are more in favour for in block sales *(Mean of expert: Verney, COFORET).*

2.2.1.5 Explanation of sales methods preference

Forest owners prefer generally stumping sales because they don't have the skills or time to implement the harvest. Small owners usually implement in block sales for they like to know in advance the price they are going to get.

2.2.1.6 Annual wood volumes transferred by regional traders

In 2005, only 30% of the buying volume of sawmills were felled sales and there were almost no long-term contract *(*Mercier, 2005*).* Today, 35% of the volume is bought at the stump by sawmills and 15% of their supply is from long-term contract.

2.3 Characterization of wood sellers and buyers

2.3.1 Forest owner's side

2.3.1.1 Share of organized and unorganized industrial buyers

Fragmented private forest owners are less organised than other private owners. Less than one hectare forest owners don't really feel concerned by forest associations and they are only interested in representation associations. 3% of them take memberships in forest unions. Other owners of fragmented forests are more interested in associations having a function in grouping actions. 6.5% of 1 to 4 hectares in numbers are members of a forest association or a cooperative. The memberships are twice as numerous for ownerships from 4 to 10 hectares. Finally, it shows that forest associations impact less than 20% of the fragmented private forest owners (Brun, Mallein and Pellissier, 2009).

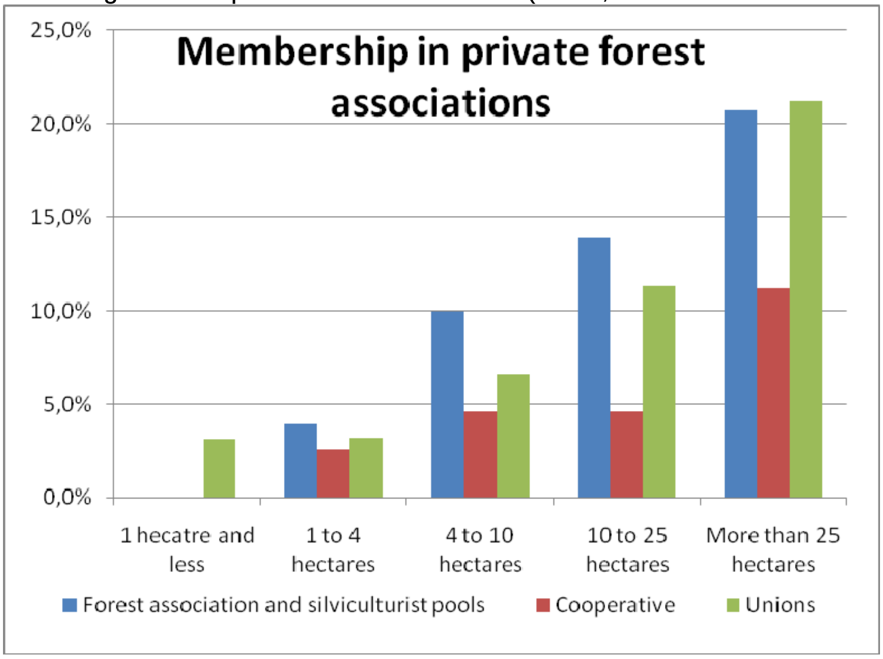

Fig. 14: Shares of forest association membership of forest owners in forest cover by category of ownership.

2.3.1.2 Share of wood sales by organized and unorganized forest owners

We don't have much information. All we know is that cooperatives sell 25% of the selling volume (Mean of expert: Verney, COFORET). Most of the volume sold by organized owners is sold by cooperatives.

2.3.1.3 Types of organized forest associations

Forest associations have four goals: representing, educating, grouping for action and developing economic activities for owners. These associations are: professional unions of forest owners, silviculturist pools, free and authorized unionist associations and cooperatives.

2.3.1.4 Work of these associations

The professional unions of forest owners aim to defend and represent its members toward different partners and administrations. The members of unions generally benefit of a grouped insurance of civil responsibility.

Silviculturist pools promote forestry knowledge and techniques exchange by organising reunions and installing networks of references. There are 37 of them in Rhône-Alpes. They are in partnership with the CRPF (see below) which is the regional forest service for private forestry development. They usually cover an area of one-fourth of a département.

Free and authorized unionist associations were created by forest owners with the help of the CRPF to group owners for action on a forest massif. They are more than one hundred of them in the region (France-Forêt Rhône-Alpes). They are organizations which can receive subsidies from the state or the region. The range of action of these associations is to group parcels, to implement grouped afforestation, road and silviculture works and for few of them to implement a grouped management to plan forest works and to group sales. Authorized unionist association are public associations, so they have to hold a public accounting. The agreement of two-third of owners on a forest massif is sufficient for these associations to make a decision for action whereas free unionist association need the agreement of all owners. These associations usually work with professional forest manager with the call for tender system.

Among regional forest associations only cooperatives have economic activities. Cooperatives were created 30 years ago by a group of dynamic owners. They usually sell felled wood delivered to the industry. In 2007, with more than 500,000 m^3 sold, the regional cooperative represented more than 20% of the total regional wood selling volume. Cooperatives are companies which mission is to ensure parcels management, sylvicultural work implementation and cutting marketing for members. They have regional amplitude. They have a commercial potential that allow them to answer to national and international markets. (TRAUB, 2009)

PEFC Rhône-Alpes which is a member of the PEFC Council (Programme for the Endorsement of Forest Certification schemes) promotes sustainably managed forest through third party certification. It is an independent, non profit organisation developed in a multi-stakeholder process. By implementing on different stages of the supply chain, it provides an assurance to purchasers of products from wood that they are promoting the sustainable management of forests. The certified forest cover constantly increased since its creation in 2001. However, only 25% of owners know the certification scheme (*Brun, Mallein and Pelissier, 2009)*.

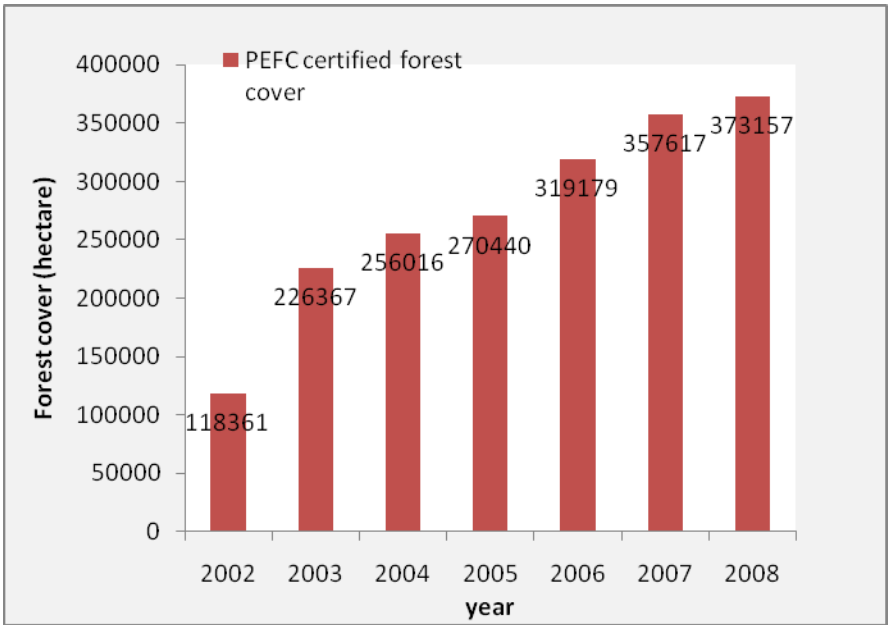

Fig. 15: Evolution of the PEFC certified forest cover (hectares) during the past 7 years. (Source: PEFC Rhône-Alpes, 2009)

2.3.1.5 Expected development of organization of forest owners

The level of organization of forest owners is increasing and will continue to increase *(Mean of expert, Ferragut, ASLGF du Bas-Dauphiné).* The regional cooperative has grown quickly in selling volume in the past few years. The objective is to increase by 50% the cooperative harvesting by 2013 (France-Forêt Rhône-Alpes). Free and authorized unionist associations represent a low volume of wood sales but are in dynamic development. In coming years, owners won't be able to sell wood if they have no membership in a sustainable management certification scheme *(Mean of expert: de Quinsonat, PEFC).*

2.3.1.6 Cooperation between fragmented forest owners

The growth of free and authorized unionist association is mostly due to the organisation of fragmented forest owners on a forest massif (Ougier, CRPF).

2.3.2 Wood industry side

2.3.2.1 Share of organized and un-organized industrial buyers

We didn't find any figure on the organization of industrial buyers. Organization of sawmills is weak *(Mean of expert: Mercier, FIBRA)*. The supply of roundwood for heating plants is mostly done by cooperatives so they don't need to be organized *(Mean of expert: Michon, COFORET)*.

2.3.2.2 Share of wood bought by organized and un-organized industrial buyers

We didn't find any figures on the share of wood bought by organized industrial buyers. All we know is that it is very low in volume, at the most a few ten-thousands cubic meters o.b. *(Mean of expert: Mercier).*

2.3.2.3 Types of organized industry associations

Most organized sawmills associations have a marketing function. Today, 4 kinds of associations exist in Rhône-Alpes for sawmills:

- Two commercial brands: Bois Qualité Savoie (17 sawmills and one enterprise of secondary processing) and Alpsciages (group of 9 sawmills and 350,000 m3 of wood sawn),
- Recognition of wood in the AOC brand from the mountain massif Chartreuse and Jura are in projects,
- A brand Parc bois des Bauges,
- Two certification systems: PEFC Rhône-Alpes for good forest management practices (59,000 m^3 in 2007) and Bois des Alpes is in project for local origin(*Mean of expert: Mercier, FIBRA*).

Like owners, sawmills also created unions to represent and defend them.

2.3.2.4 Work of organized industry associations

These brands and certification systems pursue actions in favour of local wood use for construction. They are recent and represent very small amount of wood. AOC (=Apellation d'origine controlée) is a French recognition of quality products usually given to special food products. It is applied on a defined territory and based on criteria of quality. The Chartreuse forest produces saw logs in average twice as large as usuall (3 m^3 instead of 1.5 m^3) with very good quality for construction wood due to very good forest soils. Today, 80% of the used construction wood on the massif is from Northern Europe. If nothing is done, the small sawmills are going to disappear, for they are not competitive. The AOC is a way of promoting the quality and the good carbon footprint of Chartreuse wood. Indeed, the production of local wood emits 420 kg of carbon compare to 9 tons for Northern wood. Carpenters and joiners questioned customers who told them, they were ready to pay more for the construction of a wood house to get local

wood. Thus, the AOC certification scheme should help the local sawmills to market more sawn wood (*Mean of expert: Ougier, CRPF Rhône-Alpes*).
Some well known companies selling products from wood already limited their buying to certified wood like paper mills Clairefontaine.

Today, sawmills don't group for buying. They have been used to implement harvest by themselves. Half of them want to buy felled wood to gain time, have regular supply, less variable buying costs and a guaranty of quality (FIB 74, 2008).

2.3.2.5 Future expected development of the level of industry organization

Wood brands are growing faster to promote local wood for construction. Small sawmills have no choice but to group to survive (Mean of expert: Ougier, CRPF).
In coming years, PEFC (or FSC) certification of industries is going to rise highly. It will be difficult for noncertified forest owners to sell wood (Mean of expert: de Quinsonat, PEFC Rhône-Alpes). The certification of forests is going to increase because of the requirement of buyers. Some distribution companies are going toward a 100 % certified products for their image and the requirements of their customers. Sawmills and other industries have to follow this requirements and to pass on the message to forest owners.

2.3.3 Cross forest owners and wood industry associations

In Rhône-Alpes, there is no real cross forest and wood industry association. Seven interprofessional bodies are regrouped in one regional association called FIBRA. They are in charge of implementing actions to promote forest and wood industries and to develop the wood sector in the region. Coforet, which is the regional forest cooperative, holds shares in three sawmills but it is not considered as a cross forestry-industry association.

2.3.4 General atmosphere of the relationship between forest owners and the industry

Forest owners and industries have few relationships. They often are limited to marketing relations, each one trying to get the best price. However, today some kinds of partnership appear for example with long-term contracts (*Mean of expert: de Pierrefeu, Syndicat des Sylviculteurs de la Loire*).

2.3.5 Influence of wood prices and wood price change on the regional supply

2.3.5.1 Reactions by ownership category and assortment

Small forest owners are more sensitive to wood price changes than large forest owners. Since most of them sell wood only once in their life, when they want to sell they get information to check if it is the good time. Owners who want to sell wood to finance a family event (wedding, buying a car...) are exceptions to this rule. However, these fragmented forest owners are the one who are the less informed about prices. They may have wrong information and sell at a lower price than market price. Large owners usually need to cover forest spending with wood selling. Furthermore they don't delay thinnings to assure a good silviculture. Thereby, they may delay cuttings but on a limited time period (*Mean of expert: Traub, CRPF Rhône-Alpes*).

2.3.5.2 Price development during the last 10 years

Prices globally decreased during the first part of the decade and they increased between 2004 and 2007. They decreased in 2008 and 2009 due to the economic crisis. As shown with the price of stumping wood in hardwood coppice, the price of wood for energy has constantly increased during the past decade.

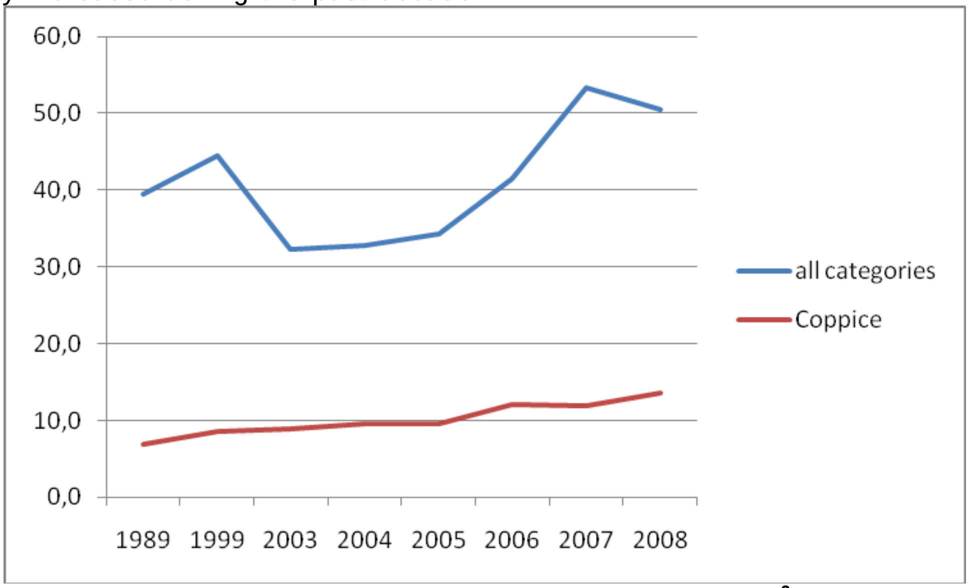

Fig. 16: Evolution of the prices of stumping wood in French (€ / m^3 on the stump) public forest during the past 10 years. Source: ONF, 2010. Unpublished.

2.3.5.3 Wood supply price elasticity

In general in France, the elasticity of supply to prices is low. Few owners answer that they cancelled a planned sale due to low prices. They prefer to favour the good maintenance of their forest.

2.3.6 Role of forest authorities regarding fragmented private forest ownership participation in the wood markets

2.3.6.1 Guidance or control on harvests

Forest authorities are in charge of applying the French forest laws in the region (DRAAF Rhône-Alpes), implementing subsidies (DRAAF Rhône-Alpes and Rhône-Alpes region) and controlling the respect of the environment (ONEMA). Since no law exists to force owners to harvest, forest laws only prevent illegal cuttings. In France control and guidance are not done by the same institution. The CRPF is in charge of guidance.

2.3.6.2 Guidance and control on wood sales

Controls on wood sales are rare and have no impact on the participation of fragmented forest owners in the wood markets

2.3.6.3 Forest regulations

2.3.6.4 Wood regulations

When forest and wood trading regulations don't have a big influence on wood mobilisation, taxes deductions and subsidies foster forest investment.

2.3.6.5 Forest or wood related taxes

Private forest owners have fiscal advantages. There are two ways of paying taxes on wood sales:

- If the owner choose it or wood sales income exceeds 46,000 € per annum, normal taxes are applied on wood sales, so that taxes on expenditures are reimbursed to the owner.
- Otherwise, the state reimburses 3.05% of the total selling volume.

Deductions on income taxes are possible if the owner has a guarantee of sustainable management[3] for forest purchases, forest works and forest management contracts. It is a new program called DEFI which encourages owners to invest in forest by fiscal deductions. The possible investments are forest ownership surface area extension, wood quality improvement by silvicultural work and the creation of a management plan. The threshold of these tax deductions are 3,487 € for a single person and 6,975 € for a couple (CRPF Rhône-Alpes, 2010).

Three other taxes are applied, tax on land ownership, tax on wealth and tax on transmission. Tax on land ownership is not collected for very small ownership (<4 ha) which is a problem because owners don't feel concern by their forest because it has no cost (Puech, 2009 and mean *of expert: Rivière, CRPF Vice-chairman - forest owner*). Only 25% of the value of forests is counted for wealth and succession taxes.
These advantages impact more the mobilisation of wood in large forest than in smaller.

2.3.6.6 Forest or wood related subsidies

The state, the region and the départements provide subsidies for several actions in Rhône Alpes (the given figures were extracted from a 2007 forecast document for 2008):

- Some sylvicultural works like first thinning or change in silviculture towards continuous forestry in hardwood stands. 1,000,000 € / year of subsidies are granted by Europe, the State and the Region.

[3] The guarantee of sustainable management is a valid management plan (PSG, CBPS or RTG). These management plans are a guarantee of sustainable management for PEFC and FSC requirements. However owners who don't have any sustainable certification schemes are anyway eligible for tax advantages if they fulfil this management plans requirements. There is no direct link between certification and tax advantages. They may have one very short management plan which are called CBPS (Good Silviculture Practices Code) or RTG (Standard Management Rule). The two documents have the same legal weight: they are a declaration of the owner who declares his good intentions. However the number of owners under 4 hectare requesting one is very weak. Grouped management plans through forest association are seen has a solution to overcome it.
There are two thresholds of surface area concerning management plans which are 25 hectares in a bloc and 10 hectares not in a bloc. Over 25 hectares in a bloc the owner has to have a PSG (Simple Management Plan) which contains a curriculum of harvestings and silvicultural works. The PSG is a legal documents approved by the CRPF. If the owner doesn't have one, he has to ask for an authorization every time he wants to implement a harvesting. Between 25 hectares in a bloc and 10 hectares in a bloc, a forest owner has no obligation, but may have any of the three kinds of management plans. Any of the three is sufficient to be eligible to a certification scheme. Under 10 hectares in a block, owners are not allowed to have an approved PSG but they may have a RTG or CBPS.

- Creation or evolution of existing forest association towards silviculture management. 60,000 € granted by the Region.
- Investment in new forwarders or harvesters. No overall data but these subsidies represent 30% on the total investment of the engine.
- Aerial cable for hauling: 600,000 € / year with an investment finance at 40% by the State and Départements.
- Creation of new roads: 4,200,000 € / year with a share of State and Europe participation depending on the kind of ownership and kind of road (invidual owner: 40%, forest unit: 50%, forest association or local development action: 70%)
- Exchanges and trading of parcels: granted by départements, amount unknown.
- New management plan (PSG): 120,000 € / year granted by the region.

They also partly finance the CRPF which is implementing the work of guidance, coordination and development of the private forest ownership. The CRPF is under the CNPF umbrella organization at a national level; both CRPF and CNPF have a public status, and are supported by the State.

Costs of solicitor fees can represent a large part of a forest purchase price for small forests (sometimes it can even outreach it). It is a real problem which prevents forest owners to increase the size of their parcels. Some départments subsidize this fee to incite land consolidation.

2.3.7 Role of stakeholders with interests in forestry

2.3.7.1 On harvest activities of fragmented private forest ownership

As mentioned in above (2.3.1), the certification scheme PEFC implements controls of the respect of the commitment of sustainable management of members. Members have to respect their management plan.

The environmental associations may have an impact on wood mobilization by blocking the implementation of forest road creation or clear cutting. They also fight against coniferous afforestation and soil compaction. They traditionally have been barriers to mobilization by blocking some projects. However, today the situation is evolving. They are members of the certification schemes and regional parks. Furthermore they are in favor of harvesting more wood in a sustainable way for the low environmental impact of the use of wood in the construction or energy sectors (Mean of expert: Traub, CRPF).

2.3.7.2 On wood sales of fragmented private forest ownership

2.3.7.3 On the overall framework conditions relating to harvests/wood sales of fragmented forest ownership

The CRPF is an important stakeholder in forestry, but is not considered as a forest authority. The CRPF has in charge the validation and registration of guarantees of sustainable management: statutory management plan for ownerships with more than 25 hectares of forest cover (PSG) and good sylvicultural practices code for smaller forests (CBPS). The CRPF is in charge to write the SRGS which is the scheme drawing sylvicultural objectives for regional private forests on a fixed period. CRPF technicians have a role of guidance to educate and group forest owners especially owners of fragmented ownerships. They also give advice to owners on silviculture works, and on the harvesting and wood sales process. In 2008, 1,700 visits of technicians to owners for guidance took place (CRPF Rhône-Alpes, 2009).

2.3.8 Wood markets future expected development

2.3.8.1 Regarding prices

Prices are very low in the wrapping sector because of the present crisis. They will probably stay low for a long time. The frame sector is going better due to less importation of sawn wood from Germany (less stock and higher prices) (*Mean of expert: Verney, COFORET*). In addition, wood is gaining share in the sector of construction which counterbalances the effect of the crisis (*Mean of expert: Thievennaz, forestry consultant*).

2.3.8.2 Regarding supply

Supply of all kind of assortments has decreased because of lower prices. When prices will go higher, owners will be willing to sell more wood on the market.

2.3.8.3 Regarding demand

The demand of sawmills is going to increase with the increase of wood in the construction sector. A new decree should be issued multiplying by 10 the minimum legal threshold of wood incorporation in new constructions from 2 dm^3 / m^2 to 20 dm^3 / m^2 like Nicolas SARKOZY announced it in June 2009. The number of heating plants is increasing quickly so the demand for fuel wood rises constantly.

2.3.8.4 Regarding their structures

Several sawmills have already closed. Among them 4 or 5 are very small sawmills (<10,000 m3 / year) and 2 or 3 are middle size sawmills (around 20,000 m3 / year). Several other small or middle size sawmills are probably going to close in the coming months. Some sawmill managers decide to retire a few year earlier than expected due to the present economic conditions. It is not a problem for the total production because the big sawmills increase regularly their sawing capacity (*Mean of expert: Verney, COFORET*).

2.3.8.5 Regarding imports

Most imports of roundwood come from the French region of Bourgogne and Franche-Comté. These imports should keep stable in the future. Rhône-Alpes used to import wood from Switzerland, obviously the trend is reversing due to high buying prices there.

2.3.8.6 Regarding exports

Small volumes of roundwood go to the French region Provence-Alpes-Côte-D'azur. The exports to Italia are going down except for poplar trees (*Mean of expert: Verney COFORET*).

2.3.8.7 Regarding forest authorities

As the French president asked for more wood mobilisation, a commission works on the topic, new incentives or regulations may come out in favour of wood harvesting. In particular, the government is going to double and if necessary to triple the current fixed-selling price of electricity from CHP plants running with fuelwood.

3 Private forest owners

3.1 Structure of forest ownership in the area in terms of forest resources

3.1.1

3.1.1.1 Overall distribution of ownership categories

All forests		
Ownership	Area (hectares)	%
State Forest	86 000	5%
Community Forest	304 000	18%
Private forest	1 263 000	76%
Total	1 653 000	

Tab. 5: Forest cover by ownership category. (Source: IFN, 2008)

All productive forests		
Ownership	Area (hectares)	%
State Forest	75 000	5%
Community Forest	287 000	17%
Private forest	1 191 000	72%
Total	1 553 000	

Tab. 4: Cover of productive forests by ownership category. (Source: IFN, 2008)

3.1.1.2 Share of private forest ownership

Private forest covers a large part of regional forest (76%). The proportion of non-productive forests is higher in private forests than in public forests. 57.4% of the private forest cover and 96.8% of the owners in numbers own less than 10 hectares *(*IFN, 2008 and DGFiP, 2003*).*

3.1.1.3 Share of fragmented private ownership thereof

In 1997, there were 59% of fragmented forest ownership in area (54.7% in 1983) and 96.9% (96.5% in 1983) in numbers. Hence the fragmentation has increased during two centuries until 1997. Today the trend has been reversed *(Mean of expert: Guineret, CRPF Rhône-Alpes).*

3.1.1.4 Development over the last 10 years

Rhône-Alpes follows the national trend of increased of consolidation of privately-owned forests (in France, the average area of forest properties of more than 1 ha increased from 6.8 to 8.8 hectares in 20 years) (IDF, 2005).

3.1.2

3.1.2.1 Distribution of ownership size categories within the group of fragmented private forest owners

	Number of holdings	Repartition in %	Surfaces in area	Repartition of the surfaces
0 to 1 ha	291,197	65%	133,839	11%
1 to 4 ha	110,361	25%	298,327	25%
4 to 10 ha	30,375	7%	250,598	21%
10 to 25 ha	10,522	2%	213,248	18%
> 25 ha	3,811	1%	293,988	25%
Total	446,266	100%	1,190,000	100%

Tab. 6: Number of owners and size of forest lands by category of private forest ownership. (Source: IFN, 2008 and DGFiP, 2003)

3.1.2.2 Development over the last 10 years

Between 1997 and 2003 the proportion in area of less than 4 hectares forests decreased, the proportion of forest between 4 and 10 hectares kept stable.

3.1.3

3.1.3.1 Volume of the annual increment in fragmented private forest ownerships

Private forests represent 77% of the annual regional increment or 8 million m^3 o.b. (IFN, 2008). If we assume fragmented forest have the same productivity of growth as private forest, their increment would be 4.6 million m^3/annually o.b. (59% of 8 millions m^3 o.b.).

3.1.3.2 Annual wood fellings

Annual wood fellings of fragmented private forest owners are not known. No statistics exist on this data and it is not possible to get a good mean of expert for it is dependent on many factors (accessibility, stands productivity, quality of wood, region...). What can be said is that fragmented forest owners mobilize less volume than other owners. They produce more firewood for their own use (*Mean of expert: de Quinsonat, PEFC Rhône-Alpes*). The 2009 survey confirms these affirmations. Small forest owners have less project of harvesting and are less inclined to harvest more wood than other owners. Fragmented forest ownership are more numerous in forest cover declaring having energy wood than other owners.

3.1.3.3 Differences between different ownership size categories within that group of fragmented private forest owners

Nothing is known on increment or annual wood fellings of ownership size categories within that group of fragmented private forest owners.

3.1.3.4 Development over the last 10 years

3.1.4

3.1.4.1 Impact of statutory reasons

100,000 hectares are considered as non-productive forests. They are mainly protection forests against erosion (IFN, 2008). Today, only public forests are classed as protective forests.

3.1.4.2 Development over the last 10 years

Ecologist associations asked to class the 10% of private forests where accessibility is impossible as natural reserve (*Mean of expert: André, REFORA*). Classed forests are only forests where harvesting is not economically profitable due to very difficult access. No statutory reasons hamper the mobilization of wood in fragmented forest ownership (*Mean of expert: Guineret, CRPF Rhône-Alpes*).

3.2 Level of participation of fragmented private forest owners in wood markets

3.2.1

3.2.1.1 Factors preventing fragmented forest owners to participate in wood markets

These factors are disinterest of forest owners, difficulty to group owners and ability of private forest owners to take care of their forest

3.2.1.2 Major chains of cause and effects

The main reason which prevents mobilization in fragmented private forest ownership is the fragmentation itself. A lot of small owners consider their good as non-profitable so they don't take care of their parcels or for some of them don't even know where they are (*Mean of expert: de Pierrefeu, Syndicat des sylviculteur de la Loire*).

The second reason is the difficulty to group owners and the cost of solicitor fees that hamper parcels sales. To be profitable in fragmented forests, harvesting has to be implemented on a sufficient surface area.

The last reason is based on owners' age and knowledge in forestry. Owners in the region are old in average (around 65 years old). Old owners or owners with no knowledge in forestry do fewer harvests (*Mean of expert: de Jerphanion, CRPF Rhône-Alpes*).

3.2.1.3 Future participation of small private owners in the wood market

The participation of small private owners in the wood markets will increase if enough money is invested for mobilization measures.

3.3 Characterisation of fragmented forest owners

3.3.1 Fragmented private forest owners-typologies

3.3.1.1 Description of typologies of fragmented private forest owners

The 2009 survey implemented by the CRPF drew up a typology of Rhône-Alpes private forest owners.
Six kinds of owners are described:

- Saver
  Wood is saved for family events (ex: wedding, graduate studies) or big investment (house, car, tractor). Management takes place punctually;
  These owners buy more parcels than average (goes in the sense of constituting a saving). They are generally farmers, employed or unemployed owners;
  Forest is limited to the questions of saving, investment, and patrimonial transfer.

- Frustrated owner
  Owners disappointed by forest for different reasons are gathered in this category:
  - Old, they can't anymore handle their forest;
  - They were deceived by the next generation that will cut their woods too fast;
  - They don't appreciate the intervention of association for environment protection;
  - They are worried by climatic hazards;
  - They just inherited of a forest and feel embarrassed by this situation (too far, no knowledge…).

- Local sociable foresters are the more present in local reunions of foresters, they militate for professional organizations, they like animation about forest and wood, they feel proud of being a forest owner so the income of their forest is not their unique objective. Forest is a base for positive social relations.

- Local producer are owners who take care of their forest as a garden, do the forest works by themselves (maintenance, thinning, pruning, and logging), invest in the local economy, produce added-value for them and the forest industry, and try to improve their forest incomes. The local economy has a big importance for income of forest management and local economy integration.

- For long term manager, income is brought by timber, pulpwood, or fuelwood or by hunting. This objective is completed by those of transferring the patrimony and by other more global objectives as contributing to protection of biodiversity or participating to the fight against global warming. They think forest has to be an open land to everybody locally. It is a space allowing relation between persons. Owners of this profile are more open to the economic world and on big questions concerning the "Earth future".

- For "symbolist" owners, forest represents values that speak to the individual. These values are naturalistic or ecological (carbon storage, biodiversity) but also pleasure sensations (senses, seasons, leisure, hunting), freedom in a personal space and a patrimony to transfer. These owners like neither collective enterprise nor new standards on logging. Income is not an objective but logging is necessary for forest maintenance.

3.3.1.2 Relevance of typologies for this project

Typologies are a good way to approach these different owners' profiles for guidance. Local producers and long term managers generally harvest enough wood in their forest (37% of owners in area). To foster mobilization in forests owned by local sociable foresters, suggested measures have to focus on territory dimension and local human relations. "Symbolist" owners are difficult to mobilize collectively because they are self-centred. Savers owners don't feel concern by forest. A saving or investment approach will interest them. Frustrated owners have to be reassured but they are difficult to mobilize. As showed in the chart, no difference in distribution of ownership size is observed (*Brun, Mallein and Pelissier, 2009).*

Forest area / 6 profiles	Saver	Frustrated owner	Local social forester	Local producer	Long-term manager	« Symbolist » owner
1 ha and less	8.30%	12.40%	15.20%	13.10%	33.10%	17.90%
From 1.1 to 4 ha	10.70%	13.30%	15.30%	11.30%	24.70%	24.70%
4.1 to 10 ha	9.40%	15.30%	15.70%	8.90%	26.80%	23.80%
10.1 to 25 ha	11.10%	13.30%	8.90%	10.60%	23.30%	32.80%
More than 25 ha	9.50%	10.90%	15.40%	14.50%	24.00%	25.80%
TOTAL	9.90%	13.10%	14.30%	11.60%	25.90%	25.20%

Tab. 7: Distribution in forest cover of owner types by category of private forest ownership. (Source: Brun, Mallein and Pelissier)

3.3.2 Wood potential of fragmented private forest owners-types

The survey didn't give any statistics on differences between increment and current fellings by owner-types. However, results of the survey give some indications. Frustrated owners and savers are the ones who are the less motivated for implementing fellings.

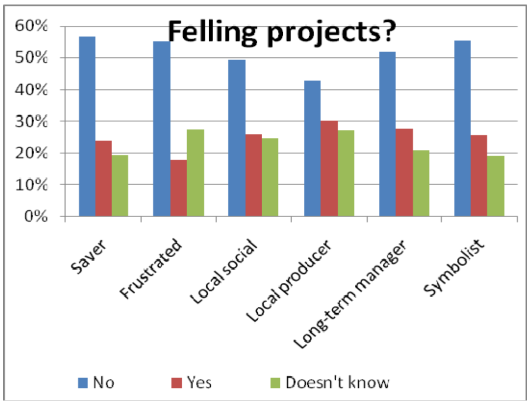

Fig. 18: Answers of forest owners to the question "Do you plan to realize a felling in the 5 coming years?" in proportion of forest cover by owners' types. (Source: Brun, Mallein and Pelissier, 2009)

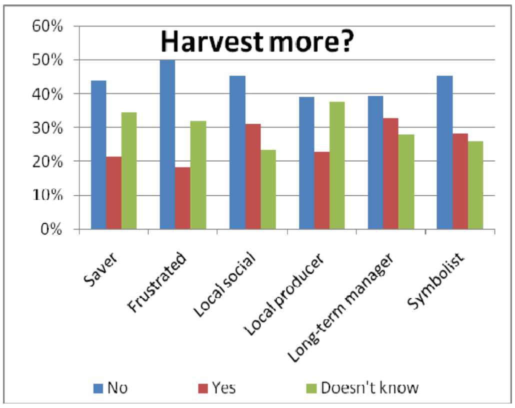

Fig. 17: Answers of forest owners to the question « Do you think it is possible to harvest more wood in your forest ownership? » in proportion of forest cover by owners' types. (Source: Brun, Mallein and Pelissier, 2009)

Studies on potential additional wood mobilization in Rhone-Alpes all give important available volumes. Unfortunately, they don't make difference between fragmented private forests and other forests. The last in date was realized in 2009 with the new data of the IFN. A deduction was made in the calculation of these volumes to take into account not reachable resource due to difficult accessibility (Ginesty et al. 2009). More wood is present in fragmented forests. Since they represent almost 60% of the private forest cover, we can assume that fragmented forests (< 10 ha) represent at least 70% of private forests additional harvestable volumes.

Total potential for mobilization CEMAGREF Rhône-Alpes (m^3/ha/year)	Pulp and energy wood		Timber wood	
	Public	Private	Public	Private
Hardwood	548	2890	160	680
Coniferous	531	1407	822	2,057
Total	1079	4297	982	2,737

Tab. 8: Simulation of potential harvestable volume of wood (m^3/ha/year). (Source: Ginesty et al., 2009, CONFIDENTIAL)

An objective plan to harvest more wood in Rhône-Alpes was signed in 2008 by the French government and forest actors. The fixed objectives are by 2013:

- 300,000 m3 of additional timber wood to mobilize compare to 2006 (200,000 in private forest and 100,000 in public forest)
- 100,000 tons of green chips produced
- 40% of chips from PEFC certified forest

And by 2020:

- 500,000 m3 of additional timber wood to mobilize compare to 2006 (350,000 in private forest and 150,000 in public forest)
- 400,000 tons of wood chips produced
- 60% of chips from PEFC certified forest (France-Forêt Rhône-Alpes, 2008)

These objectives don't give the details for fragmented private forests.

3.3.3 Precise characterisation of fragmented private forest owners

3.3.3.1 Socio-demographic aspects

Main features
25% of private forest owners are farmers or retired farmers (Brun, Mallein and Pelissier, 2009). Most of them live "next door" to their forests. 90% of owners in surface area live at less than 50 km of their ownership and two-third at less than 10 km (Brun, Mallein and Pelissier, 2009). The results are close for all categories of owners in surface area.

25% of the private forest cover is visited at least once a month by their owner and 70% once a year (Brun, Mallein and Pelissier, 2009). Only 20% of the area of over 4 hectares fragmented ownerships take part in a forest cooperative or a forest owner interest group. This figure diminishes for owners of smaller forests (10% for 1 to 4 ha owners and 1% under 1 ha owners). The number of owners planning to become members is low and increases with the forest size (Brun, Mallein and Pelissier, 2009). The opinion on the forest management of their forest is better for private owners who are members of organizations of forest management (Brun, Mallein and Pelissier, 2009).

Owner's age seems to be a very relevant data regarding wood mobilization. Fragmented forest owners are slightly younger than big forest owners. However, half of them are more than 65 years of age. The distribution of ages among fragmented forest ownership categories is about the same (Brun, Mallein and Pelissier, 2009).

3.3.3.2 Attitudes towards forests

Most forest owners don't see forests as a regular source of income. Only 40% of owners in forest cover consider forest income as important for them. Many owners have a minimal management in order to cover costs (management, maintenance and planting). They are invested in forest for the forest itself, for the pleasure that forest brings to them. Forest also represents a space of freedom for them and their family. They also are sensitive to the environmental aspect, their forest contributes to fight the greenhouse effect, and it is a reserve for flora and fauna biodiversity. Finally, it is a space of leisure for hunting, naturalist walking, accro-branch... (Brun, Mallein and Pelissier, 2009).

A lot of owners consider management as a way to pass a quality forest to the next generation. However, they don't all agree on what is a good management. Guiding management objectives are given by the typology. Savers keep the growing stock for times in need. Frustrated owners are deceived by forest and have no objectives. Local social and symbolist owners see management as a way to cover costs, to protect nature and to keep it to the next generation. Local producers and long-term managers aim to derive the maximum income, local producers being more sensitive to the local economy and long-term managers to sustainable management.

The role of extension services and cooperatives
- The CRPF

Fragmented forest owners have a good access to knowledge thanks to the CRPF (Regional Centre for Forest Ownership) of Rhône-Alpes. The CRPF is the forest service in charge of sensitising and educate forest owners to forestry and to group them for mutual management to mobilise the forest resource. They have very good contacts with forest owners because they give free and impartial advices and consultations.

Silviculturist pools are also a good place to acquire knowledge: in 2008, 196 information meetings gathered 6,200 owners. In addition, the CRPF publishes every year technical sheets on forest management handed out to forest owners. Some silviculturist pools buy small machinery in common like pruners (*Mean of expert: Ferragut, ASGLF du Bas-Dauphiné*).

In 2008, 100 private owners were trained by the CRPF to forestry (stages FOGEFOR). These trainings consist in one “base program” of about ten days scheduled throughout the year. However, the number of small owners following this program is reduced. (Probably around 85% of the participants own more than 10 hectares) (*Mean of expert: Traub, CRPF Rhône-alpes*).

▪ The Cooperatives and forestry consultants

Cooperatives are the professional managers the most present in the region. A lot of owners join the cooperatives because they were created by forest owners; they have a good experience and knowledge in forestry. They take care of everything from planning management to wood harvesting and wood marketing. Cooperatives try to control most of the chain from forest to industries. Some forest owners delegate the entire management to a cooperative (*Mean of expert: de Quinsonat, PEFC Rhône-Alpes*).
Some owners don’t want to use the cooperation system. They think cooperatives are not the best performer in wood increased valorisation or they prefer to sell woods directly to industries. In addition, cooperatives can’t deal with very small fragmented forest ownerships if they are not grouped. Grouping owners is a very long work which requires time and money. It is not the work of cooperatives.

Forestry consultants are also professional managers. They subscribe to rules of transparency and professional ethics to the benefit of their customers. For they are small structures, owners appreciate the human relationship of these professional managers. They refuse to buy wood from their customers. They don’t make any advertisement, so owners call for their services on a reputation basis *(Mean of expert: Christophe Barbe, CRPF Rhône-Alpes; de Pierrefeu, Syndicat des Sylviculteurs de la Loire).*

▪ The forest associations

This association are very different from cooperative, Back in the time, cooperatives were associations. However they grew so big that today they are huge companies covering the territory of a region. The board of administration of cooperatives is still hold by forest owners. The main objective of cooperative is commercial. They offer paying services to their members and buy wood to them to sell it on the market.
Forest associations were created to develop a grouped dynamic at a local level to share and improve silvicultural techniques and knowledge. They are a form of organisation of owners. Owners may at the same time be member of a forest association and a cooperative. Forest associations by the bias of the call for tender system may choose the cooperative to realize works or studies on the ownerships of their members.
Owners who become members of forest associations can also work with professional managers. These associations group owners for action. Owners join them to meet other local owners in their area, to learn more about forestry and for economical reasons to improve their forest and sell their wood. Forest associations usually call for professional forest managers for forest management. Owners don’t join forest associations for not having been contacted to do so or because they don’t feel the need to manage their forest with their neighbours *(Mean of expert de Jerphanion, CRPF Rhône-Alpes; de Quinsonat, PEFC Rhône-Alpes).*

Around 55% of fragmented forest owners take care of their ownership by themselves (Brun, Mallein and Pelissier, 2009). 17% among them are assisted by cooperatives or forest associations’ technicians or forestry consultants. Middle size forest owners (10 to 25 ha) are the more numerous to do forestry by themselves. 25% of the cover of fragmented private forests is not managed and a lot of owners leave the forest management to a parent.

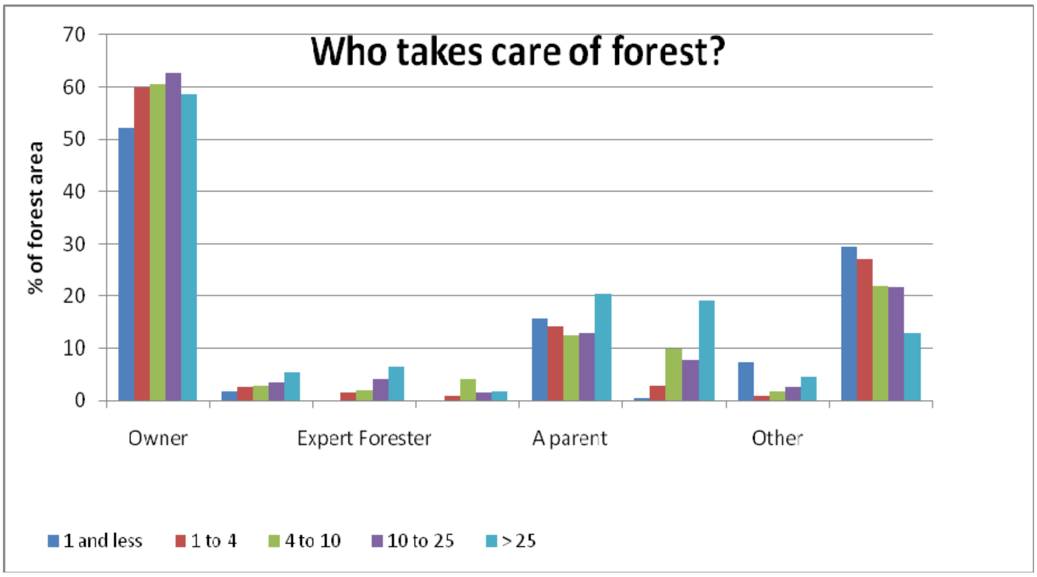

Fig. 19: Answers of forest owners to the question "Who takes care of your forest" in proportion of forest cover by size of ownership. (Source: Brun, Mallein and Pelissier, 2009)

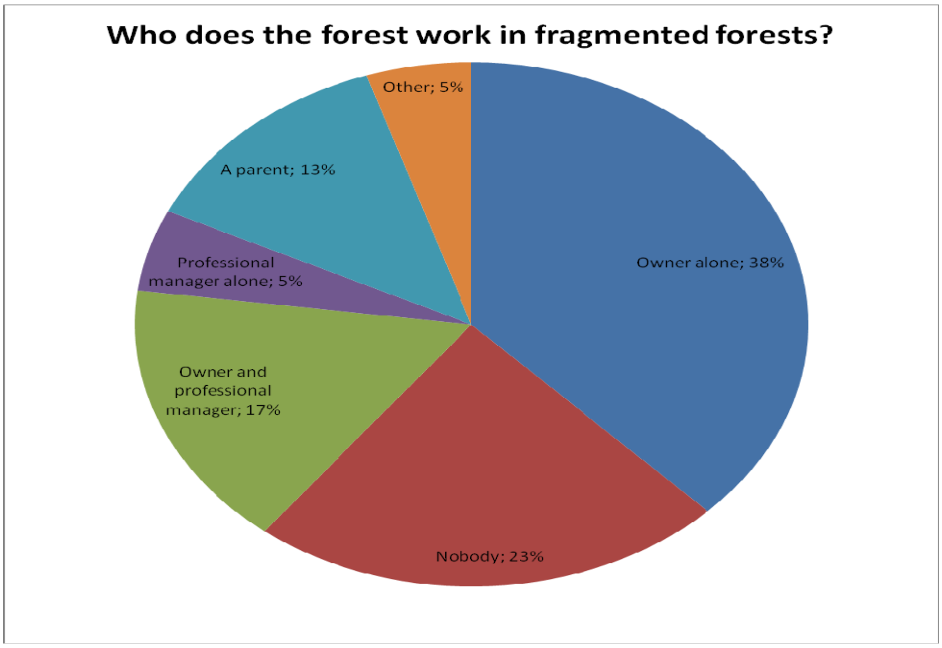

Fig. 20: Forest workers in proportion of forest cover. (Source: Brun, Mallein and Pelissier, 2009)

The level of information and education of forest owners is an important factor which is often linked to the degree of motivation of forest owners *(Mean of expert: de Jerphanion, CRPF Rhône-Alpes).* CRPF, silviculturist pools and journals are the main sources of information for forest owners. Concretely CRPF technicians visit fragmented forest owners to sensitive them to forest management and to implement actions with their neighbors. Silviculturist pools organize information meetings and plan the local action. 11,000 copies of the CRPF regional journal ("Le Forestier Privée") are broadcast every four months. 6,000 owners receive the journal. The CRPF has documented pages on the web site of the French private forest. Each département has also a forest journal.

Fragmented forest owners are less in contact with the CRPF in proportion (but it is the opposite in numbers since they are a lot more) of forest cover than larger forest owners (Brun, Mallein and Pelissier, 2009).

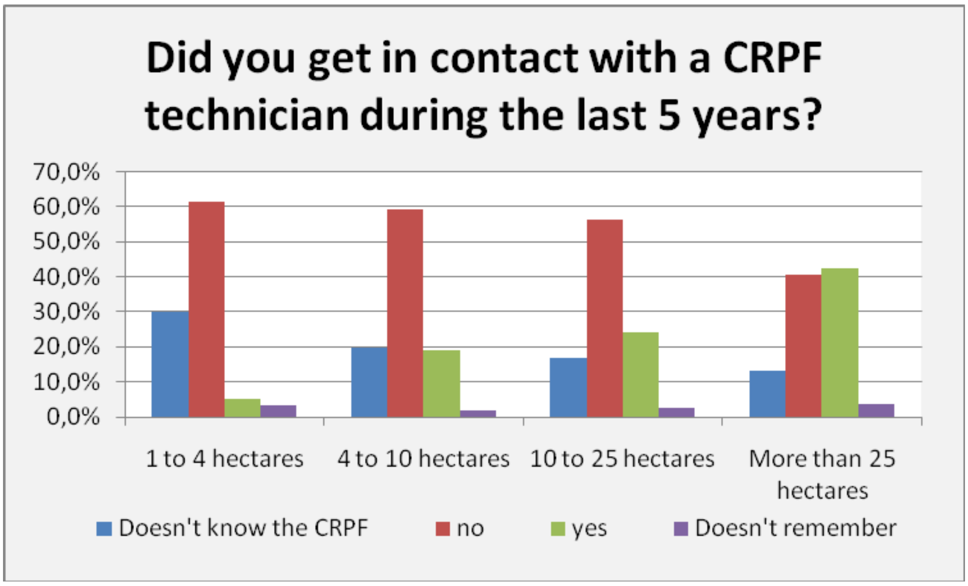

Fig. 21: Contact of forest owners with the CRPF by size of ownership. (Source: Brun, Mallein and Pelissier, 2009)

3.4 Motivation to actively participate in forestry

3.4.1 Central characteristics of fragmented private forest ownership as regard wood mobilization

3.4.1.1 Significant factors that explain why fragmented private forest ownership exploit or not exploit the sustainable harvesting potential of their forests

Fragmented forest owners feel less concern for forest management. This is a very big work to regroup them for grouped management.

3.4.1.2 Cause and effect of these factors

The forest owners' typology shows that fragmented forest owners have the same values as larger forest owners toward forest. However, they feel less concerned for forest management for their good has less impact on their finance (few taxes and no regular income). Most owners are satisfied with the current management of their forest. Profitable forest management is possible only if owners group their parcels for actions or extend them *(Mean of expert: de Pierrefeu, Syndicat des sylviculteurs de la Loire).* Fragmented forest owners who exploit the sustainable harvesting potentials of their forests are owners who group with their neighbours. Several fragmented forest ownerships can be managed as a larger forest if owners cooperate (*Mean of expert: de Jerphanion, CRPF Rhône-Alpes*).
However, these awareness and regrouping actions are a very big work which is implemented by the CRPF and forest associations. It is important to motivate forest owners with the good message. Owners who are the most ready to harvest more are long-term managers and local social owners. Long-term managers are sensitive to the

benefit of wood harvests for the forest. They probably are the most educated in forestry. Local social owners are the most receptive to meet other owners. They probably see additional wood harvests as a way to meet other owners which is a motivation for them. This shows the benefits of the education of forest owners and the cooperation between them (Brun, Mallein and Pelissier, 2009).

3.4.1.3 Expected future development of these factors

The CRPF implements programs which allow educating a lot of owners. However, owners are permanently renewed. The CRPF doesn't have enough means to educate more owners. The CRPF and forest associations also work to group owners. It needs a lot of time and it won't be possible if owners are not sensitive to cooperation by education.

3.4.2 Factors future evolution

In the short term, the means of the CRPF are diminished so the cooperation between forest owners is not likely to increase. In the medium or long-term forest owners' motivation for wood mobilisation is expected to increase due to governmental incentives and higher wood prices (in particular for local producers and savers).

3.5 Reaction of fragmented private forest owners to potential measures

The 2009 regional survey on forest owners showed that in general, small forest owners (< 4 ha) are less inclined to accept potential new measures than other owners.
Statutory measures are best accepted than measures aiming to improve management or maintenance (Brun, Mallein and Pelissier, 2009).
The survey showed the following results on different potential measures:

- If no harvest was implemented on a parcel during 30 years, 39 % of the owners in surface area would agree for an intervention of forest authorities to either class it into biodiversity reserve or leave the management to a forest association. Fragmented forest owners are more in favor (around 43%) of an intervention on unmanaged forest than other owners.
- 23 % of owners who manage by themselves their forest are in favor to manage the forests of their neighbors. This measure is accepted by only 12.9 % of the 1 to 4 hectares owners category.
- With low solicitor fees 23 % (in forest cover) of owners agree to sell their parcels, 19 % to buy new parcels and 30 % to switch parcels. Fragmented forest owners (less than 4 hectares) are less in favor for buying selling or switching parcels.
- 30 % of forest owners are interested in implementing forest work with their neighbors, the acceptability of the measure increases with the surface area of the ownership.
- 48 % of owners in surface area think that the counsel of a solicitor is justified to avoid fragmentation of ownership when passing forest ownerships to heirs.
- Only 17 % of forest owners are interested in borrowing or renting specialized equipment. Fragmented forest owners are the less interested (around 14%).
- 24 % are interested in having locally qualified forest employees (only 20% for small owners).
- 27 % of owners are interested for the creation of wood berth or forest roads on their parcels. Owners of less than 10 hectares are less interested.
- 34% of owners think owners have to be punished if they don't take care of their parcels. Statistics show that these owners are not exemplary ones.

- 31 % are interested in having free forest maintenance in exchange of firewood for all categories of ownership.
- 19 % of owners are ready to buy shares in the implementation of a drying plant.

4 Wood mobilization in Rhône-Alpes

4.1 Measures for wood mobilization from fragmented private forest ownership

<u>Massif development plans</u>
The principle is to call together the actors (owners, local elected representatives, forest managers…) of the territory to reflect on actions which can be made to mobilize wood. This two years plan follows three phases: information, meeting and action. CRPF technicians visit all owners, collect information on the point of view of owners and on the stakes of the massif. Meeting of the actors draws objectives and plans actions to implement. It is the opportunity for the CRPF to present at least two demonstration-sites on the massif. These demonstrations-sites are very varied according to the need of owners (e.g. tree marking, plantation of new species, fellings operations...). The plan results most of the time in the creation of forest roads which is the first limited factor for wood mobilization.
The choice of a massif is based on the request of owners. Owners feel more concerned for a project when they have asked themselves for action (*Mean of expert: Ougier, CRPF Rhône-Alpes*). Massif development plans work the best on massifs where owners are not so much involved but already do some forestry.

In 2007, 80 of these plans were implemented (10 per year) on 281,000 hectares (24% of private forest cover). This measure has an annual cost of 62,000 € per plan (*Mean of expert: Traub, CRPF Rhône-Alpes*). The region Rhône-Alpes provides the finances.
On the concerned massifs the following results are generally observed:
- number of visited owners is multiply by 10;
- road network is multiplied by 3;
- fellings are multiplied by 2 in volume (de Galbert, 2007).

These results show a good efficiency of massif development plans. However, in the following years (2 or 3) the volume of logging generally decreases to the one observed originally. This is due to the fact that all the volume that could be harvested at this moment was mobilised. The idea is to make a new massif development plan every ten years on the same massif. In this way, the massif is managed globally with a good sylvicultural scheme harvesting most of the increment *(Mean of expert: Traub, CRPF Rhône-Alpes).*

<u>Creation of forest association</u>
Compared to wood mobilisation, the advantage of road construction is its perenniality. However, sometimes roads are created and no harvestings are made. It may be linked to the choice of a massif where the surface area or the stand didn't deserve roads or where owners face other difficulty (*Mean of expert: Thievennaz, forestry consultant*).
Today, the CRPF tries to go further by creating dynamics which last in time to avoid having to come back on the same sector a few years later. CRPF technicians suggest owners to create or use existing forest associations to pursue forest management and wood mobilisation objectives on the long-term. These associations have the ability to create a grouped management plan, to collect subsidies. They work in partnership with professional forest managers with the call for tenders system. There is a need for creating new tools to support the forest management in these associations.
Sometimes the opposite scheme occurs. Owners create an association to group them with the help of a CRPF. Then, actions are implemented for wood harvesting. The advantage of grouping owners in forest associations is to create unity where wood harvesting is economically profitable.

<u>Drying plant</u>

Grouping sellers to implement actions for a higher offer of wood in fragmented forest ownership is the actual regional strategy. However, demand of wood has to respond to this offer. As described previously, Rhône-Alpes construction sector doesn't buy a lot of wood in the region partly due to a lack of drying and of mechanic strength testing. To make up for this lack of equipment of sawmills, two drying plants have been constructed. These plant buy wood to sawmills, dry them, plan them and test their mechanic strength. Then finished sawn wood is sold to local construction companies. Several owners are behind one of them. They participated to finance it with state and region subsidies. The cost of the installation was around 3 million €. Subsidies permitted to finance 60% of the project. Today, these two plants dry 25,000 m^3 of wood which is not enough.

<u>The creation of certification schemes</u> like PEFC might be a way of increasing wood harvesting. Forest owners who take membership in PEFC have to implement a management plan which requires regular fellings. Today, it is possible for any forest owner to present a management plan. Furthermore, if the pressure on wood demand rises, the certification schemes would avoid a mobilization destroying the forest. In Rhône-Alpes with the high demand of 2007, the number of clear cutting increased in mountain areas. This kind of management has proved not to be the most economically and environmentally profitable (*Mean of expert: Thievennaz, forestry consultant*). The demand from wood product customers for guarantees of sustainable management increasing, fragmented forest ownerships will have no choice but to join certification schemes.

4.2 Barriers for wood mobilization from fragmented private forest ownership

The number of owners multiplies the time spent by foresters (CRPF and professional managers) making them aware of forest management and wood mobilisation. Moreover fragmented forest owners have no solutions but to work together due to the size of their ownership. The work of grouping owners for action takes a lot of time and energy. Professional managers or forest contractors often don't take the time to group owners for harvest because they are too numerous, it is not profitable (see 2.1.4).
The other barriers are the same as these encountered in larger forests that is to say difficulty to access parcels (see 1.4) and the motivation of owners to realize fellings (see 3.4.1). However, these two last barriers are augmented by the first one.

4.3 Factors which have the strongest impact on wood mobilization from fragmented private forest ownership

The cost of conveyance fees, the tradition to share forest land between heirs and the very low taxes on forest land ownership renders land consolidation very difficult.
The education of forest owners and the work of foresters (CRPF or professional managers) to sensitive them and to implement guidance is essential in the motivation of forest owners to make a sustainable management of their forest.

Conclusion

This report showed Rhône-Alpes' characteristics concerning wood mobilization in fragmented forest ownerships. This region faces two main difficulties which are a high share of the forest difficult to access and a high fragmentation of ownership. The great heterogeneity of stands concerning species, productivity and quality is a force for biodiversity and adaptability to climate changes but also a handicap concerning wood mobilization.

The problem of fragmentation cannot be resolved without statutory measures to force small owners to sell to neighbours (taxes). However, ownership fragmentation isn't the cause of the problem of the current low wood mobilization rather it renders it more difficult to resolve. In fact, fragmented forest owners are not quite different from larger owners and may even be very dynamic. They are more difficult to motivate due to their higher number and for the smaller economic potential of their forest. However, some small private forest owners ask today for action. Since fragmentation is today, without statutory measures, too expensive and too long to resolve, the current forest regional strategy is to get around this problem. Small forest owners of a common massif are incited to regroup in an association which manages the cluster of their parcels as one larger management/business unit[4]. The goal is to create a financially independent unit. This strategy may be applicable only with enough means for education and guidance of forest owners, for the coordination of actions and the creation of forest associations. The current situation shows that more money is needed to activate forest owners.

Wood mobilization has to be profitable to happen. Today, the buying price of stumping wood given to forest owners is considered as the "residual value". The only ways to change this situation are to reduce the production costs of wood products to value very good quality wood products particularly in the construction sector. The first way is difficult, mechanization doesn't reduce production cost rather it is necessary to avoid labour shortage. Increasing the allowed lorry size is a good thing but is not always easy to apply due to the lack of adapted roads. Finally, the size of industries, especially sawmills, has to rise which is the current tendency but it will take time.
The quality development concerns the characteristic of the product but also the condition in which it was produced (sustainable management, small environmental impact in industries and transportation…). All actors of the chain of production have to look for the best quality product from the forest owner to the joiner. The creation of drying plants or the implementation of certification schemes go in this direction. Drying plants improve the quality of sawn wood. It is the first necessary step to upgrade the market outlet opening the possibility to produce higher added-value products like block-board or glu-lam. Certification schemes promote the quality and allow assuring the customer of the good quality of the product. New investments and new ideas are needed to continue to improve and promote the quality of wood products.

Finally there is a trend toward a bigger cooperation between forest owners in Rhône-Alpes and new investments to produce good quality sawn wood. However, these changes are only at their beginnings. The EU Action plan could have a positive effect on the evolution of this situation according to the measures which will be taken.

[4] This strategy is specific to Rhône-Alpes and cannot be generalized to France.

Literature and Data Sources

ADEME, 2007. Le bois-énergie : bilan et avenir d'une politique régionale volontaire de développement. Des compétences, des produits, des matériels, et des filières en forte mutation. Conférence bois énergie-Salon ENR Rhône-Alpes. Diaporama. 19 p. Unpublished

BRUN, M., MALLEIN P., and PELISSIER, P., 2009. Une recherche sur les profils d'identité située des propriétaires forestiers privés dans la relation à leurs bois, à leur forêt : profils de valeurs et acceptabilité de propositions innovantes pour la mobilisation de la ressource-bois ; focus sur le bois énergie. CRPF, Rhône-Alpes, ST DIDIER AU MONT D'OR. 16p.

CEREN, 2003. La régionalisation du bois en 2001 - secteur résidentiel. CEREN, septembre 2003. 36p.

CRPF Rhône-Alpes, 2005. Schéma Régional de Gestion Sylvicole des forêts privées de Rhône-Alpes. Ministère de l'Agriculture. 55p.

CRPF Rhône-Alpes, 2008. CRPF Rhône-Alpes : Rapport d'activité 2008. 4p.

CRPF Rhône-Alpes, 2008. CRPF Rhône-Alpes : Fiches de fiscalité forestière. In press.

DGFiP, 2003. Cadastre, Direction générale des finances publiques. Tableur.

DOUANES, 2009. Régional IMPORT/EXPORT Séries Chronos. Années 2006 à 2008. Tableur. Unpublished.

DRAAF Rhône-Alpes, 2009. Enquêtes exploitations forestières et scieries 2006 et 2007. Agreste Rhône-Alpes, n° 109. Direction Régionale de l'Alimentation, de l'Agriculture et de la Forêt, Service régional de la forêt, du bois et des énergies. 6p.

FCBA, 2008. Memento FCBA 2008-2009. 35p.

FIB 74, 2008. Diaporama sur la stratégie de la transformation du bois en Haute-Savoie. 36p. Unpublished.

GALBERT (de), M., LACROIX, X., 2007. Le gisement annuel de biomasse en forêt privée de Rhône-Alpes. CRPF Rhône-Alpes. 51p.

GALBERT (de), M., 2007. Les plans de massif de la forêt privée en Rhône-Alpes. Bilan fin 2007. 3p.

GINESTY, C., VALLET P., CHABÉ-FERRET S., LEVESQUE C., CHAUVIN C., 2009. Évaluation des volumes de bois mobilisables à partir des données de l'IFN "nouvelle méthode". Actualisation 2009 de l'étude "biomasse disponible" de 2007. NOGENT-SUR-VERNISSON, CEMAGREF, Département Gestion des Territoires, vol. 2, 52p. CONFIDENTIAL.

France-Forêt Rhône-Alpes, 2008. Document objectif pour développer la forêt française. LAMURE-SUR-AZERGUES. 2p.

France-Forêt Rhône-Alpes, 2009. Plan de mobilisation pour la forêt de Rhône-Alpes. Etat d'avancement un an après son adoption. Diaporama. 31p. unpublished.

IDF, 2005. Les chiffres clés de la forêt française. Institut pour le développement forestier. 24p.

IFN, 2008. La forêt française – Les résultats des campagnes d'inventaires 2005, 2006 et 2007. Inventaire Forestier National, Nogent-sur-Vernisson, p.121-135.
Database available on the net: www.ifn.fr

MERCIER, 2005. Synthèse des résultats de l'enquêt « Etat des lieux des modes de ventes et des besoins en bois ronds ». FIBRA, Fédération forêt bois Rhône-Alpes. 12p.

MERCIER, 2009. Enquête 2008 sur les scieries. FIBRA, Fédération forêt bois Rhône-Alpes. Tableur. In press.

MOREL, M., RENÉ, J., 2008. Statistiques forestières – Superficies forestières - Matériel ligneux sur pied et accroissement. Chiffres et Données Agriculture, n°196, p.10-39, Cellule forêt et occupation du territoire, Service central des Enquêtes et Études statistiques (ministère de l'Agriculture, de l'Alimentation, de la Pêche et des Affaires rurales), Toulouse. Tableur.
Database available on the net:
http://agreste.maapar.lbn.fr/ReportFolders/ReportFolders.aspx

ONF, 2005. Schéma Régional d'Aménagement de Rhône-Alpes. Office National des Forêts. 47p.

ONF, 2010. Prix moyens des bois sur pied aux ventes d'automne (toutes forêts publiques). Office National des Forêts. Tableur. Unpublished.

PEFC Rhône-Alpes, 2006. Etat des lieux de la filière forêt-bois en Rhône-Alpes. Référentiel de gestion durable. Association PEFC Rhône-Alpes. 96p.

PUECH, 2009. Mise en valeur de la forêt française et développement de la filière bois. Rapport remis à Monsieur Nicolas Sarkozy Président de la République. Ministère de l'Agriculture. 74 p.

UCOFRA, 2009. Union des communes forestières de Rhône-Alpes. Etat des lieux des filières d'approvisionnement en bois énergie en Rhône-Alpes au début de l'année 2009. 22p.
Bilan régional des chaufferies bois énergie en Rhône-Alpes au début de l'année 2009. 6p.

TOPPAN, E., 2009. Quel mode de vente choisir ? Forêt de France. Numéro 525.

TRAUB, N., 2009. Lexique des structures de regroupement Le Forestier privée. Numéro 31.pp.8-9.

Annex

Annex 1: List of interviewed experts

NAME	STRUCTURE	FONCTION	Date
Monsieur Jean ANDRE	REFORA	Network of ecological forests in Rhône-Alpes = managers, searchers, decision makers, end-users (Chairman)	12/01/2009
Monsieur Jean-Jacques DESROCHES	SERFOBE RHONE-ALPES	Regional forest publlic authority - deputy manager	11/24/2009
Monsieur Jean-Pierre FERRAGUT	ASGLF du Bas Dauphiné	Local Union of forest managers (Chairman)	11/27/2009
René GUINERET	CRPF RHONE-ALPES	Forest engineer	11/05/2009
Monsieur Maurice GUY	GUY SARL	Logging company	11/23/2009
Monsieur Bruno de JERPHANION	CRPF RHONE-ALPES	CRPF Chairman (forest owner)	12/09/2009
Monsieur Vincent MERCIER	FIBRA	Inter-professionnal body	11/25/2009
Sylvain OUGIER	CRPF RHONE-ALPES	Forest engineer	12/16/2009
Monsieur Christian de PIERREFEU	Syndicat des Sylviculteurs de la LOIRE	Local Union of forest managers (Chairman)	12/03/2009
Monsieur Bruno de QUINSONAS-OUDINOT	PEFC RHONE-ALPES	PEFC regional chairman (forest owner)	12/07/2009
Monsieur Jean-Charles THIEVENNAZ	Expert forestier	Forestry consultant	12/21/2009
Monsieur Jean-Jacques VERNEY	COFORET	Forest Cooperative - general manager	12/01/2009

Annex 2: List of invited members at the focus group 12/15/2009

NAME	STRUCTURE	FONCTION
Monsieur CHANTEPY	DDAF de la Drôme	Forest public authority (sub-regional level)-Technician
Monsieur Olivier CHAUMONTET	Communes Forestières Rhône-Alpes	Association of forest public communities - General Manager
Monsieur DUCOLOMB	Groupement des Sylviculteurs de BRESSE DOMBES REVERMONT	Association of private forest managers-Chairman
Monsieur Jean-Cyrille DUCRET	Scierie DUCRET	Sawmill - General Manager
Madame Hélène LE BACQUER	Contrat de Développement du Pays Beaujolais	Rural development public authority – representative
Monsieur Xavier MARTIN	CRPF RHONE-ALPES	Director
Monsieur Frédéric MICHON	COFORET	Forest Cooperative-Technical Manager
Monsieur Maurice RIVIERE	CRPF RHONE-ALPES	CRPF Vice-chairman - (forest owner)
Monsieur Mattieu ROUSSET	Conseil Régional Rhône-Alpes	Regional Authority
Monsieur René SABATIER	CRPF RHONE-ALPES	Forest Engineer
Monsieur Nicolas TRAUB	CRPF RHONE-ALPES	Assistant director

Annex 3: Fact sheet of the case studies results

Fact sheet of the case studies results

		Austria	Sweden	England (UK)	Rhone-Alpes (France)	Hungary	Estonia	Saxony (Germany)	Catalonia (Spain)
1.	**What is the total forest cover in the region?**								
	i) % of the total area?	*47.2 %*	*56.00%*	*8.4%*	*37%*	*19%*	*48,9%*	*28 %*	*63.51%*
	ii) How did it develop during the last 10 years (approx.)? (change % per annum)	*+0.4*	*Varied between 55.5 and 58.1 since 1923*	*+0.6%*	*+2%*	*+0,2%*	*n/a (2005 to 2007 - 2,5%)*	*+0,05%*	*+0.75%*
2.	**What is the wood mobilisation in terms of annual increment?**								
	i) Harvest in percent of the increment?	*60,1%*	*71%*	*39%*	*40%*	*50%*	*57,9%*	*~40%*	*24%*
	ii) How did it develop during the last 10 years (approx.)? (change % per annum)	*-11,3%*		*NA*	*-7%*	*-1,0%*	*NA*	*++ (NA)*	*4.14%*
3.	**Is there legal uncertainty regarding forest ownership? (yes or no)**	*No*	*NO*	*No*	*No*	*No*	*Yes*	*No*	*No*
4.	**What is the structure of the regional wood markets, in terms of ….?**								
4.1	**…buyer/seller ratio? (number of seller per buyer)**	*1:78*	*1:235*	*NA*	*1:1000*	*1:11*	*NA*	*1:450*	*is difficult to tell, some sellers are categorized as forest service companies (all types)*
4.2	**…other structural market factors?**								
	i) Average distance between different types of sellers (e.g. fragmented private forest ownerships) and different types of buyers? (km)	*NA*	*Lorry 79km/ton of roundwood 60-70km/ton of bio-energy assortments*	*NA*	*100-300 km*	*under 100 km*	*NA*	*Small: 10-50 Large: 150-200 km*	*80km*
	ii) Harvesting costs to forest road by ownership category? (excluding stumpage sales) (€/m³ o.b.)	*SSFOS 37.44 €/m³ PFO 21.95 €/m³ AFF 24.40 €/m³*	*Around 9 € for harvesting and 13 € for thinning*	*9.99 EUR/cum*	*20€/m³*	*10-15€/net m3*	*16€/m³*	*€9-13 (st.), €14-17 (pri.)*	*33 €/m³*
	iii) The informal market segments (subsistence, supply to family members, neighbours, etc.) in % of total market? (if no data is available please indicate whether or not it is considered to be a relevant segment or not)	*20%*	*Very small*	*Relevant*	*40-50%*	*10-15%*	*10%*	*25% (all pr.), 50% (frag.)*	*Very small*
	iv) Are informal market segment expected to expand or decrease? (expand, stable or decrease)	*constant*	*Stable*	*Expand*	*Expand*	*Stable*	*Stable*	*Expand*	*Decrease*
	v) Do wood price changes influence the regional supply by private forest owners (yes or no)?	*Yes*	*yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
5.	**Typical wood sales methods in the region?** (e.g. standing, auction, long-term contract, ad-hoc on individual basis, etc.) Please name the most important one or two!	*forest-roadside*	*Delivery timber 33% Standing forest timber 27% Felling by purchaser 26%*	*Negotiation, Ad hoc*	*Individual Ad-hoc*	*Ad-hoc Standing-on stock*	*Ad-hoc*	*Individual ad hoc., long-term*	*33% Auction, 50% individual contract and 17% forest owner associations with technical administration*

		Austria	Sweden	England (UK)	Rhone-Alpes (France)	Hungary	Estonia	Saxony (Germany)	Catalonia (Spain)
6.	**How are the forest owners to be characterised?**								
	i) % share of "organized" forest owners by number (Forest management organisations e.g. in owners associations, loose groups, cooperatives, co operations – NOT only political organisations!)?	*37%*	*50.00%*	*NA*	*5%*	*78%*	*5%*	*2.8% (cooperatives), 4,6% (own. association)*	*1% (respect all owners)*
	ii) % share of "organized" forest owners by forest area (Forest management organisations e.g. in owners associations, loose groups, cooperatives, co operations – NOT only political organisations!)?	*21.9%*	*50.00%*	*NA*	*10%*	*78%*	*7% of total forest area, 20%of private forest*	*17% (cooperatives) 32% (own association)*	*37%*
	iii) % share of roundwood sales by "organized" forest owners (Forest management organisations e.g. in owners associations, loose groups, cooperatives, co operations – NOT only political organisations!)?	*18,8*		*Na*	*25%*	*34%*	*NA*	*NA*	*74%*
	iv) Most frequent types of organized forest owners associations in the region (loose groups, cooperatives, co-operations or unions)?	*Co-operations*	*Forest owners associations*	*Loose groups*	*Forest associations Cooperatives*	*Business companies*	*Associations (based on ngo law)*	*Cooperatives*	*Forest owners associations*
	v) Is there a trend towards increased cooperation between small/fragmented private forest owners (yes or no)?	*Yes*	*unclear*	*Yes (slow)*	*Yes*	*Yes*	*Yes*	*No*	*Increased*
6.2	**Are there cross forest owners and wood industry associations in the region?** (yes or no)	*Yes*	*no*	*Yes*	*No*	*Yes*	*No*	*No*	*No*
7.	**What is the role of forest authorities regarding fragmented private forest ownerships participation in the wood markets?**								
	i) On harvests of fragmented private forest ownerships? (guidance, control or none)	*Control*	*Some controls*	*Guidance/ control*	*Control*	*Control*	*Control, Guidance*	*Guidance (Control)*	*Control*
	ii) On timber sales of fragmented private forest ownerships? (guidance, control or none)	*None*	*Only through the measurement law*	*Guidance/ control*	*None*	*None*	*Non*	*Guidance*	*None*
8.	**Structure of forest ownership in the area in terms of forest resources:**								
	i) % share of private forest ownership by forest area?	*80.6%*	*50.00%*	*82%*	*72%*	*44%*	*33%*	*45%*	*88%*
	ii) % share of fragmented private forest ownership by forest area?	*49.4%*	*50.00%*	*NA*	*40%*	*4%*	*70,7% (from private forest) 23% (from all forest)*	*20% (<10ha)*	*31.22%*
	iii) How did the share of fragmented private forest ownership develop during the last 10 years (approx.)? (change % per annum)	*-15% (1999-2007)*	*same*	*NA*	*-1,5%*	*n.a.*	*NA*	*-0.8% abs.(rel. to total area)*	*NA*
	iv) Harvest in percent of the increment in fragmented private forest ownerships	*46.2%*	*80.00%*	*NA*	*NA*	*50%*	*59%*	*(est. < 20%)*	*NA*
	v) How did the harvest in percent of the increment in fragmented private forest ownerships develop during the last 10 years (approx.)? (change % per annum)	*-12.5% (1999-2007)*	*Approximately the same, higher after Gudrun*	*NA*	*NA*	*n.a.*	*NA*	*NA*	*NA*

	Austria	Sweden	England (UK)	Rhone-Alpes (France)	Hungary	Estonia	Saxony (Germany)	Catalonia (Spain)
9. **Describe the structure of fragmented forest ownership in the area by number...**(if information is available only for certain sub-regions please indicate by *)								
i) % share of Non-farm forest ownership?	*33% (all private forest owners*	*NA*	*NA*	*75%*	*n.a.*	*60-70%*	*all PFO: 91-92% area, 96% owners*	*perception of increasing*
ii) % share of Non-resident forest owners? (e.g. more than 15km or 30min away)	*6% more than 20km (all private forest owners)*	*26.00%*	*NA*	*35%*	*n.a.*	*NA*	*all PFO: 85% (30min distance)*	*perception of increasing*
iii) % membership in forest owner cooperatives (Forest management organisations e.g. in owners associations, loose groups, cooperatives, co operations – NOT only political organisations!)?	*37%(all private forest owners)*	*50.00%*	*NA*	*3%*	*n.a.*	*NA*	*NA*	*few of the total*
iv) % secondary education in forestry and agriculture?	*13.8% (all private forest owners)*	*Small part*	*NA*	*NA*	*n.a.*	*NA*	*all PFO: 43% (1999)*	*few of the total*
v) % tertiary education in forestry and agriculture?	*4.5% (all private forest owners)*	*NA*	*NA*	*NA*	*n.a.*	*NA*	*all PFO: 8% (1999)*	*very few*
vi) Major attitudes of fragmented private forest ownership towards their forests (e.g. income, family tradition, investment, etc.)?	*Staves1 highest priority* *(1) sustainability* *(2) own use* *(3) tradition* *(4) free time* *(5) investment* *(6) hunting* *(7) income* *(8) working place* *all private forest owners*	*Production, recreation, income, feeling of home etc.*	*Hobby owner, family, tradition, sporting, investment*	*Family tradition*	*Family inheritance*	*NA*	*ALL PFO: Tradition/heritage, Asset, Own require. (1999)*	*The family's patrimony, Aesthetic model, Risk of forest fire, the financial situation of the landowner*
iii) Guiding management objectives (e.g. derive income, reserve growing stock, etc)	*Staves1 highest priority* *(1) maintaining capital* *(2) increasing profit* *(3)selling the forest* *(4) abandoning forestry* *private forest owners lass than 10 ha*	*Economy, environment and recreation*	*Biodiversity, timber, sporting, production, amenity*	*Pass on quality forest*	*n.a.*	*NA*	*ALL PFO: own requirements, reserve stock (1999)*	*Economic and sentimental*
iv) Important incentives to join in or delegate forest work?	*NA*	*Time, easier to hire someone*	*NA*	*Forest associations Massif development plan*	*No*	*NA*	*NA*	*Is difficult to delegate the property in the hands of another company, family tradition.*

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10. What are measures for wood mobilisation from fragmented private forest ownership in the region?								
i) Owner associations / Community Forestry (yes or no)	*Yes*	*yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
ii) Forest service companies/Forest management services(yes or no)	*Yes*	*yes*	*Yes*	*No*	*No*	*Yes*	*No*	*Yes*
iii) Communication / Advertisements (yes or no)	*Yes*	*yes*	*Yes*	*No*	*No*	*Yes*	*Yes*	*Yes*
iv) Forest Management Grants / Subsidies (yes or no)	*Yes*	*No*	*Yes*	*Yes*	*No*	*Yes*	*Yes*	*yes (aid to improve)*
v) Advisory services by authorities (yes or no)	*No*	*Yes to some extent*	*Yes*	*Yes*	*No*	*Yes*	*Yes*	*Yes*
vi) Training/ or educational programs by authorities (yes or no)	*Yes*	*No, by forestry associations*	*Yes*	*Yes*	*No*	*Yes*	*Yes*	*Yes*
vii) Legal framework to prevent further fragmentation (yes or no)	*No*	*yes*	*No*	*No*	*No*	*No*	*No*	*No*
viii) Others (yes or no)	*Yes*		*No*	*Yes*	*No*	*No*	*Yes*	*Yes (improving demand)*

	Austria	Sweden	England (UK)	Rhone-Alpes (France)	Hungary	Estonia	Saxony (Germany)	Catalonia (Spain)
Structural features Please summarise (using bullet points or keywords) the principal structural factors that have been identified as explanatory to the fragmented forest owner's participation in wood markets in your region? Distinguish owner related factors (e.g. capacities of the owner) and external factors (e.g. regulations)?	Owner related: Traditional and non-traditional forest owners with different social backgrounds Number and share of non-traditional forest owners seem to be growing as a result of the ongoing structural change in the agricultural sector Private small scale forest owners with lacking knowledge in forestry External: Strong impulse for the debate came with the intensified use of wood biomass from the forest for energy production which on the one side offered a new market for the land owners Wood biomass a new competition for the material to the pulp and paper and panel industries Public issues are not strongly debated, such as the possible degradation of the sites through a loss of nutrients, or the positive contribution of forestry and the forest industry to rural development Austria is a mountainous country which often implies high logging costs, and it is a developed country, which implies high salaries for forest workers Fragmented structure of the small forest ownership (<200ha)	Owner related: Economy and market prices Owners goals External: Regulations of wood measurement Feeling of security and stability of the market actors	Owner related: **Barrier**: lack of owners forestry knowledge/capacity **Barrier**: not the owners' principle or significant income revenue **Barrier:** lack of local woodland owner networks **Engagement**: woodland projects and cooperatives External: **Barrier:** regulatory system perceived as overly bureaucratic and time consuming **Grants:** EWGS (management planning), RDPE (capital grants), RHI (demand driver)	Owner related: Education of forest owners Action for grouping External: Guidance and coordination work	Owner related: Own use, Limited wood volume External: High VAT, strict regulations	Owner related: Small size (average 10 ha) of ownership does not have economic efficiency. Small size is result of the restitution of farm-related Forests to new owners, who by large are not farm-related. Missing systems to increase fragmented owners c-operation (local association main focus is training, information), wood trading systems established very recently. Wood market dominated by major pulp and saw mills in Finland, Sweden: for them Estonia is a market with secondary importance (used when their local market cannot match the demand). Owners are not managing the supply, but rather following the buyers (inc sales methods) External: Taxation rules: private physical persons cannot deduct forest management costs from sales income before paying income tax. This reduces wood trading profitability. Truck weight limit of 41 tons: modern, fully loaded truck weight is ca 60 tons. Poor forest road network Ageing community, mostly living in cities, poorly linked to their estates	Owner related: Average PFO property size of 3.2 ha; high degree of fragmentation Lacking information concerning forest management and wood marketing, Boundaries of estates are sometimes unknown, Other than economic owner's objectives External: Small areas result in small amounts of wood (problem for marketing, negligible income-effect) No publication of (open access to) owners' addresses for other owners/industry etc. Problems of infrastructure (existence and condition of roads; shape of properties) Low degree of organisation/cooperation between forest owners (partly influenced by historical developments)	Owner related: Many forest owners have agricultural tradition; Accessibility; low-value wood External: Prices, markets, regulations, fire risk,

	Austria	Sweden	England (UK)	Rhone-Alpes (France)	Hungary	Estonia	Saxony (Germany)	Catalonia (Spain)
Forest owners Please summarise (using bullet points or keywords) the most relevant fragmented forest owner's management-related attitudes, objectives and behavioural intentions influencing participation in forest product markets in your region?	Own wood use (subsistence) of the Austrian small scale forest owners is very high and the level is similar among all sizes of small scale forest ownership (<200ha) Trend in forest management goes away from the bread tree spruce to mixed wood because – discussion about climate change Private small scale forest owners often are not educated or trained for forest management A large part of private small scale forest owners do not have economic-oriented goals for their forest property Forest care is an important goal in the small forest owners milieu	Knowledge-level Economy Will to have a well managed forest	Biodiversity Hobby owner Tradition Self-sufficiency for timber Amenity (e.g. sporting) Landscape	To assure family inheritance, symbolic good to pass on to the next generation To save money for time in need To preserve nature To have social relation through their forest No objective, disappointment	No cooperation attitude	Forest as a source of income. Mainly additional income to daily jobs Forest as a future investment, additional income to pension Ownership as a driver for social value. Family link and tradition. The ownership received in the process of restitution relates the current owners in a meaningful way to their grandparent, who lost forcefully the ownership Potentially large numbers of owners have not thought through the objective of the ownership. The land was received more as largely unexpectedly through restitution, but ownership has not found a role in the owners' life.	"New" forest owners – though only small in number and area - are rather economically interested (i.e. in wood marketing); Others have mainly multiple objectives: fire wood use, "having" an asset , "live" tradition, spending leisure time, enjoy nature (small forest land as an "allotment")	Most of the Catalan forest owners are aging old, and therefore there is less motivation for performing forest operations and management Owners of new acquisition consider the forest owned as: second residence, investment on patrimony and leisure
Actual behaviour Please summarise (using bullet points or keywords) the most prevalent and actual fragmented forest owner's management behaviour in your region?	Small scale forest ownerships (<200 ha) in Austria show a strong positive supply reactions towards wood price signals In case of more traditional small scale forest owners and based on the supply behaviour from the past the wood reserves aren't predominantly located in the fragmented private forest ownership because the annual felling rate per ha in this group is higher than in the other ones	Harvest according to price given and market Use of advisory services	Lack of management due to poor knowledge Lack of management due to economic returns	To cover cost To maintain reserve of biodiversity To pass on to next generation To get an income	Urban owners are not interested in the ownership Countryside owners want to use the forest for own.	Minority of owners are actively managing their ownerships, majority are passive owners The dominant sales method is ad hoc sales, with pragmatic aim hit to the highest price; long-term contracts are rare The use of contractors is increasing, logs are sold as assortment, pulpwood as cutting right Wood has important role as raw material for the owner and his family (own use for energy, construction) Owners receive and expect to receive financial support from state for the forest management	Management in most cases: for fire wood use (own requirements, neighbours and friends); in case wood/timber should be sold to the market to derive some income: stumpage sales (forest operators, industry) or assortment sales with the help of the state forestry enterprise	Low yields Little interest in the property,

	Austria	Sweden	England (UK)	Rhone-Alpes (France)	Hungary	Estonia	Saxony (Germany)	Catalonia (Spain)
Which sorts of policy measures (to facilitate participation in forest product market) would the fragmented forest owners in your region be more responsive towards?	Forest management plan "light" There is a lack of financing of further actions that would require more personnel that approaches and supports the forest owners	Knowledge increases in different ways Public opinion important	Reduction in bureaucracy Quicker response period to felling licence applications Drivers to increase and (and therefore price for timber), e.g. RHI & the Wood Fuel Strategy for England	Extension of massif development plans which are a local program to implement grouped actions with CRPF guidance and coordination Forest association is a model to develop to increase wood mobilisation on the long term	Less admin National incentives maintained Open land market Enhanced Taxation on SMEs Lower VAT on forest products Investments into energy SMEs	Improve data collection on fragmented forest owners (create system, rather than project) Provide incentives for fragmented forest owners wood trade (no taxation on income received from sales, no other burdens like road restrictions), Support and develop forest owners economic co-operation/consolidation, Support for investments to reduce logging costs/route to the market (support road construction investments) Support for silvicultural investments (pre-commercial thinning, young stand treatment) Support for programs that increase forest owners and stakeholders awareness on forestry as well as on wood mobilisation	**Information/Training and advice (by state forest rangers)** - concerning management, harvesting operations, prices and marketing; - should be existent for a long time period for trust building **Subsidies** - indirect: see above (advice, information, training) and via direct infrastructural help (road building) - direct: infrastructure	Mobilisation of the demand / technological innovation Promote associated management Knowledge increases.
What other factors may be important to describe the fragmented forest owners in your case study region?	Chamber of Agriculture advices the private small scale forest owners and initiated together with forest owner cooperatives a network of "wood mobilisers" (Waldhelfer), which has successfully pushed the harvest activities in Austrian small scale forests. The "wood mobilisers" are a part of forest services for wood supply provided by the chamber for fragmented private forest ownership Austrian forest authorities in Austria primarily have a supervising or control and not a guidance function regarding harvests of fragmented private forest ownership	Most of the forest owners are not dependant on their land for income, but still wants to manage their forest well	Heterogeneous profile Multiple objectives	Wood mobilisation is dependent on many factors on the surface area of ownership but also species, fertility of soils, local economy, accessibility are very various in the region and may impact strongly on the wood mobilisation.			Low degree of organisation Fragmentation is expected to continue due to heritage and further partition Willingness to sell the property is presently decreasing (wood energy becomes more important) Road construction is often difficult to organise because of the number and shapes of small forest properties	Many owners depend on resources from outside the property. Little forest tradition, much knowledge and culture have been lost due to the abandonment of the rural areas and the traditional activities