

Forest Land Consolidation – Who benefits?

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Introduction

Forest research in Germany has a long tradition. It also seems to be a part of this tradition that the research has so far paid little attention to small scale forests. Even the specific features of small scale ownership have not been investigated. However, several recent studies break this tradition and follow up the needs of small scale forestry. This kind of research has been almost exclusively driven by the perceived need to mobilize small scale forestry because of the actual and suspected usable timber from small scale forests. The forestry and timber industry unanimously argue that this timber has to become accessible.

The impeding factors include, on the one hand, structural disadvantages of small scale forests (e.g., their fragmentation) and, on the other hand, the actions of small forest owners, which appear irrational to the forest administration and timber enterprises, but are in fact caused by forest owners' multiple dispositions and restrictions concerning their forests. The mobilization of owners and, therefore, the increase of the stock of timber in small-scale forests accessible to forest enterprises require transaction costs. Currently, only state actors (e.g., the forest administration) are prepared to bear these costs and actually provide financial support and personnel for mobilizing.

The growing fragmentation of private forests is closely connected to the structural change in agriculture. The number of farmers who used to manage both agricultural and forest land within one enterprise has been steadily decreasing. The abandonment of the farm marks the starting point for a new development of these forests. While arable land is leased or sold to other farmers who continue to use it for agricultural production, the forests and their use rights commonly remain within the family of the abandoned farm. In addition, in some cases the forest land has been repeatedly divided into smaller plots between heirs. This led to the situation when the size and shape of these plots no longer allows a meaningful forest management. Whereas the mechanized harvesting becomes a standard operation in professional forest enterprises, it is not feasible in such fragmented forests. It makes it impossible for forest owners to hire a contractor for harvesting.

This tangle of structural disadvantages, coupled with numerous, sometimes conflicting interests of the owners or owners' associations has to be unravelled. This is the only way to reduce and eliminate obstacles which complicate forest management, or even make it impossible.

There are several options that are likely to help overcome the disadvantages and obstacles discussed above, including joint management with or without conceding individual property in a forest community, voluntary land exchange, and forest land consolidation.

While land consolidation in Germany seems to have become a standard tool for restructuring agricultural land, the rearrangement of small scale forests with this instrument has not been as wide-spread. Yet in Bavaria forest land consolidation has been seen as an alternative to other tools. Politics and administrations have always communicated it to forest owners and to the public in this way. This tool has also been actively applied when proper preconditions were in place.

This paper deals with several aspects of the process of the legitimisation of forest land consolidation in Bavaria. It shows the results of an analyzed case study and attempts to answer the question of who benefits from a forest land consolidation. The paper presents the preliminary results of the on-going research project that will run until 2013.

Methods

Literature analysis

In order to determine the importance of land consolidation and forest land consolidation in particular, we have conducted a text analysis of the articles in the leading German forestry journals since 1900 (1946) to 2011. Focusing on the structural improvements in small scale forests:

- “Forstwissenschaftliches Centralblatt“, (1900-2003), since 2004 appearing as "European Journal of Forest Research".
- “Allgemeine Forst und Jagdzeitung“, (1900 - 2011)
- “AFZ - der Wald“, (1946 - 2011)

Case study analysis

In order to gain empirical knowledge about forest land consolidations in extremely fragmented forest areas and their owners, we have analysed current land consolidation projects, as well as those that have been successfully completed several years ago. This allows drawing a comprehensive picture of the application of the land consolidation tool in different situations. We selected cases from two of the seven administrative regions of Bavaria: “Lower Franconia” and “Swabia”.

Small private forests in “Lower Franconia” are extremely fragmented. Most of the forest land consolidations in Bavaria that have been conducted so far, or are still in progress, are located here. Therefore, this administrative region has accumulated considerable experience with forest land consolidation. The situation in some areas in Swabia is comparable to Lower Franconia. The selected case studies offer a possibility to explore similarities and differences in land consolidation, regarding among other factors different forest types or characteristics of the actors.

The selection of case studies was based mainly on the following criteria:

- High proportion of small scale forests (less than 2 ha) and extremely fragmented ownership.
- The objective of the consolidation is the improvement of the forests' management (incidentally agricultural land). This ensures that the procedure is motivated by forestry considerations. Forest proportion should be at least two thirds of the total land under consolidation.
- Current land consolidations should have passed the often contested phase of forest valuation and restructuring. The key decisions should have been made.
- Completed land consolidations should be finished at least 2 years ago and at most 15 years ago. This is important because on the one hand, the owners were already able to make experience with their new property and become familiar with their forests. On the other hand, in order to reconstruct the owners' perceptions, we want to make sure that they can still recall the process of consolidation and their perceptions are not distorted by possible property transitions after the consolidation.

For each case study, we interviewed about 6 to 10 participants, including forest owners and representatives of state agencies and forestry associations, local politicians and consolidation advocates. We used the method of narrative interviews developed by the sociologist Fritz Schütze. It is a type of open interview and is particularly suitable for our purposes, since questions are not standardized, but an initial question is used to make the respondent tell a story the way he experienced it himself. This story should be told impromptu with a starting point, the chronology of the facts and an end (KÜSTERS 2006: 13). Schütze defines impromptu stories as retrospective experience-based stories with authentic content initiated in direct interaction with the interviewer. It is important that the respondent has no way to prepare the content and formulation of his story (SCHÜTZE 1987: 237). The interviewer takes the role of an attentive listener not influencing the narrative flow.

The interviewers usually visited the respondents at home or in the office. The interviews were between 30 and 90 minutes long. With the consent of respondents, the interviews were recorded. The interview begins with a question on a narrative-generating issue ("tell stimulus"). Respondents were encouraged to talk without interruptions from the interviewer about the process of forest land consolidation as openly as possible. In the free narrative, subjective meaning structures can be identified and analyzed in contrast to systematic surveys (MAYRING 2002: 72). Normally, the narrative phase takes 5 to 30 minutes. In a second phase the interviewer focuses on the contents that the respondent mentioned but did not provide enough details (KÜSTERS 2006: 61). In the following phase, the interviewer asks about other issues not mentioned before. From this perspective; this phase can be described as a semi-structured interview. In the end, there are a couple of standardized questions to record socio-demographic data on forest owners and information about their forests. Only forest owners are asked these questions.

The interviews are transcribed. Their analysis is conducted anonymously. For the analysis of narrative interviews, we apply a documentary method proposed by BOHNSACK (1999). This method allows reconstructing practical experiences of individuals and groups and informs us about their action dispositions. The point is to

understand how the narrative and the actions described in the narrative are constructed and how issues involved are framed (Nohl 2009: 8f). The analysis enables identifying specific patterns and, therefore, allows for generalization (NOHL 2009: 45).

Results

Literature Analysis Results

Ever since land consolidation has existed as an official instrument, its application to forests has been at best minor. In the forestry literature, there are only a few contributions that directly or indirectly deal with forest land consolidation. Before the enactment of the new Land Consolidation Act in Germany in 1954, we found no articles that mentioned forest land consolidation. After the enactment, several papers were published around 1960 and again around 1980. In connection with increasing research about small scale forestry, again more attention is paid to forest land consolidation. In Bavaria, over 23,000 ha of forests have been reorganized in land consolidations which have been completed since 1995 or are still in progress.

Case Study "B" Results

The fragmented private forest area is located in the southwest of Bavaria in the administrative district of Swabia and covers about 28 hectares which originally were split into 147 parcels with an average size of about 0.2 hectares. The plots of the 30 forest owners often were only 5 to 6 m wide and the boundaries were mostly not marked. There was no forest road or even a connection to public roads, only tolerated lanes for small tractors. The entire area is covered with Norway spruce of all ages. Many plots were poorly groomed. To introduce an optimal system of forest roads, the commonly managed forest in the north was also included into the project (see Figure 1).



Figure 1: Forest area "case study B" before and after land consolidation (Source: ALE Schwaben)

The objectives of the consolidation included the amalgamation of the fragmented forest parcels, cadastral surveying of all plots and the connection of all parcels to a forest road, that trucks could use.

The preparation phase began in 2002 with several information sessions for forest owners on land consolidation and included a visit to a forest that underwent consolidation. In 2006 the responsible Office of Rural Development officially started the forest land consolidation and the board of participants was elected. In 2007, the assessment for soil and forest inventory was carried out and a plan for roads and drainage was developed. The construction of forest roads, as well as measures to improve habitats was also completed in 2007. In the following year, all plots were reorganised and surveyed. The execution order was issued in May 2009. Currently, the consolidation is going through the final evaluation. In 2011 the land consolidation will be completed. The 147 parcels have been merged into 35 plots (the ratio is 4 to 1). The number of forest owners decreased from 30 to 27.

Interviewed Participants:

A forester, 4 forest owners, the head of the participants' board, the mayor, an expert and the representative from the Office of Rural Development.

The narrative interview helped capture the participants' perceptions of the consolidation of the "Case B". In the course of our analysis of the interviews, the important success factors and obstacles influencing the progress of a forest land consolidation were identified. These results represent useful recommendations for future forest land consolidations. We expect that further analysis of the data collected for our project, especially the analysis of additional case studies, will help modify and extend our recommendations.

Success factors and obstacles are shown in Table 1:

	Success factors	Obstacles
Category	Actors and interactions	Actors and interactions
Feature	Confidence	Interests of participants
Feature	Outstanding commitment	Many blockers
Feature	New generation of forest owners	Strong emotional attachment to "own forest"
Feature	Good cooperation	Bad cooperation
Category	Conditions	Conditions
Feature	Positive experiences with land consolidation	Negative experiences with land consolidation
Feature	High subsidies	High costs
Category	Process phases	Process phase
Feature	Speed of the whole measure	Duration of the land consolidation
<i>Phase 1</i>	<i>Preliminary phase</i>	<i>Preliminary phase</i>
Feature	Excursion to a successful completed forest land consolidation	-
<i>Phase 2</i>	<i>Beginning of the Fieldwork</i>	<i>Beginning of the Fieldwork</i>
Feature	Appraisal	Appraisal
<i>Phase 3</i>	<i>Redesign of the land consolidation area</i>	<i>Redesign of the land consolidation area</i>
Feature	Merging wishes easy to fulfil	Merging wishes hard/not to fulfil

Feature	Demarcation of new land	Demarcation of new land
Feature	Road construction / habitat improvement plan	Road construction / habitat improvement plan

Table 1: Success factors and obstacles of forest land consolidation "Case B"

In the "Case B", the participants' positive perceptions are mainly influenced by the following success factors:

- Forest owners' **confidence** in the involved actors like municipality, foresters, Office of Rural Development, appraiser and the local board of participants. The presence of confidence in technical and social skills is relevant, since necessary steps such as appraisal of soil and timber and the merging of parcels can be made quickly and without suspicion.
- **Strong commitment** of the responsible actors. A special cooperation between the local board of participants, Office of Rural Development, the forester and the appraiser is also an important success factor. The cooperation should be transparent and open. Personal dialogue is very important, especially with those forest owners who are principally critical or anxious. Conversations between forest owners and members of the local board or the mayor can solve conflicts when they emerge.
- For the success of forest land consolidation in the "Case B" the **generational change** also played a major role. The younger generation of forest owners has a less emotional attachment to the individual plots and the trees thereon. In their value system, economic and rational aspects prevail. They saw the fragmented plots and the lack of forest roads as the biggest obstacles for an independent management of their forest property and were therefore open-minded about a forest land consolidation.

In the category of *conditions* there were two success factors mentioned by participants.

- Good experience with former agricultural land consolidation.
- The prospect of subsidies from public funds for the whole measure, including the road construction. This greatly promoted a positive attitude.

Discussion

So who benefits from a forest land consolidation?"

First, we argue that land consolidation, coupled with village renewal, is probably the most important tool for rural development in Germany. With these measures, the policy objectives for rural areas can be implemented. And even more, by the (co-) design of actions by local citizens, the policy also receives direct inputs about what feed, which is suitable to meet the needs of citizens. Therefore, it is not surprising if the main beneficiaries are to be found in rural areas and in close proximity to the land consolidation area. Also, the main beneficiaries of urban development measures are the people who live and work around these areas.

When we compare the situations before and after the consolidation we see that both groups – i.e., those who keep their forests and those who sell it - are the winners.

The members of the first group win because they receive a well structured forest with a good connection to forest and public roads. The members of the second group benefit because they are able to sell the plots which, in the worst cases, they did not even know they possessed. As a result, they were, on the one hand, unable to fulfil their duty concerning their forest ownership and, on the other hand, they got a good chance to sell their land that some day might have caused problems. Forest owners who sold their property during the land consolidation are more likely to be those who rarely made use of their wood or did thinnings or plantings - themselves or by contracting a forest enterprise. Mostly, they do not live close to the forest, unlike the other group that preferred to keep their forests. The sold acreage was used mainly for roads and habitat improvement and became the property of the municipality.

Due to the land consolidation, the proportion of traditional agriculture-oriented forest owners increased again. The structural disadvantages of fragmented plots and the lack of forest roads can be overcome with forest land consolidation. Structural change in ownership is unstoppable; at best land consolidation slows it down a little. What cannot be denied is that with the help of land consolidation the vast majority of the forests become incorporated into a meaningful management regime. The "urban" forest owners have the opportunity to sell their forests. In turn, it allows the remaining owners to manage their forests more easily than before.

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