



Effects of the Second World War on the forests of the southwest Veluwe

A Master Thesis

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Foreword

In front of you lies the result of my master thesis research, written in conclusion of my Master Forest and Nature Conservation at Wageningen University (Wageningen UR). Having done several historical courses and a historical bachelor thesis, I decided to also end with a historical subject. In conjunction with my supervisor, ir. Jim van Laar, I decided on a study looking into the effects of the Second World War on the forests of the southwest Veluwe. I selected the southwest Veluwe area due to all the events happening there during the Second World War. I selected the period because of my interest in war history and my knowledge on the battle of Arnhem.

Highlighting this study for me were the sources I could use, mainly the archive material in combination with aerial photographs and interviews. I really enjoyed visiting the archives and browsing through the old pages and papers collected there. Comparing this information with high resolution photographs portrayed a nice picture of the effects of events. The stories told by my interview respondents gave it all a more personal touch and helped me to better understand what happened during the war.

Although I wrote this master thesis on my own there are several people who I want to thank for their contribution. Firstly I want to thank my supervisor ir. J.N. van Laar for his help, feedback and an interview respondent. I subsequently want to thank ir. M.A. Hoogstra-Klein for her comments on my proposal and concept version. Both of them helped me improve the quality of my master thesis. I also want to thank B. van Beek, S. Geijskes and C. van der Genugten for helping me find and access information and respondents to interview. I want to thank all my respondents for their hospitality and invaluable information. Thanks also goes to those employees of Wageningen UR Library and Dotka data for providing me with high resolution aerial photographs. I also want to thank my family and friends for their support and feedback. I especially want to thank my sister E. Zwartkruis for her help with photoshop and my father E.G. Zwartkruis for sharing his knowledge on the narrative analysis method and his overall feedback during my master thesis research.

Description cover page picture

Four British paratroopers of the 1st Para regiment near Wolfheze, on 17 September 1944 during operation Market Garden. The soldiers take cover in a shell crater most likely caused by British artillery fire (Clark, 2004; Dutch Defence Press, 2010).

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Abstract

This master thesis looks into the effect of the Second World War on a selection of woodlands on the southwest Veluwe area. Woodland and the Second World War are interlinked, but there have been few studies which look at the interplay between nature and war, especially in the Netherlands. A study focussing fully on the effects of the Second World War on the local woodlands is also still missing, while the potential impact of the Second World War on local woodlands in woodland poor countries is considerable. There is at the same time a renewed interest in forest history among Dutch historians and foresters.

The purpose of this study is to describe the effects of the Second World War on some selected local woodlands in the Netherlands. The selected study areas on the southwest Veluwe are: Boswachterij Oostereng, Boswachterij Doorwerth, Estate Hoekelum and Estate De Duno. The following research question is used:

What were the main effects of war related activities during the Second World War ('40-'45) on some selected woodlands of the southwest Veluwe?

The theoretical basis of the research is formed from Fulbrook (2002) ideas on scientific background. The scientific background can best be described as the background the researcher has due to his training and experiences and how this influences his way of looking at the data. Together with the research question and methods it forms the basis of historical research, which looks not towards the absolute truth, but the reconstruction of the past.

The scientific background Fulbrook (2002) mentions is similar to Creswell's (2009) worldview which is characterised as a basic set of beliefs that guide action. The worldview used here is a social constructivist one, which assumes that individuals seek to understand the world. While doing so they develop subjective meanings of their experiences, which leads to many varied meanings about the world they live in. This in turn leads to multiple truths and the researcher is to make sense of, and interpret these meanings and truths. Complementary to the social constructivist worldview, the ideas about meaning and truth formulated by Wheatley (1997) are used. She argues that meaning and truth are subjectively formulated and bound to a specific location. In practice this means that everything must be seen in the local perspective.

The combination of Creswell's social constructivist worldview and Wheatley ideas on local meaning and truth form the foundation of this research. In this way they form the scientific background as discussed by Fulbrook (2002). Meaning that they form the theoretical basis in this historical research.

A qualitative study is conducted to answer the research question. The information is found using methods described by Busha and Harter (1980) and Wheatley (1997), in combination with the Snowball Effect method as described by Rigney (2010).

The main sources come from an archive study, aerial photographs and semi-structured interviews with people who lived near the woodlands during the war. The data from the archives and aerial photographs is analysed using the Six step analysis provided by Creswell (2009). The interviews are analysed using a narrative approach derived from Riessman (1993) and Czarniawska (2004).

In the end ten main effects are discussed. These are:

- The obligatory cutting; as introduced by the Dutch government under German control.
- The forced cutting; by or for the Wehrmacht during the war.

- The construction of defence works; with the use of local wood and their destruction in the post-war period.
- The presence of ammunition; and the removal of it in the post-war period.
- Damage; occurring due to shelling and fighting during the war.
- Theft; of wood during the war.
- The presence and change of management plans; and the influence of the war upon them.
- Friction during and after the war; and its effects on the woodlands.
- Measures taken in the woodlands; the type of actions and amount of them, during and after the war.
- The construction of the highway; its influence and whether it is a war related activity.

Most of these events occur in all case study areas or are expected to have taken place there. Only the friction and highway question are unique for the respective case study areas.

The interviews, which were not location specific, also mentioned most these effects in their stories. It therefor appears that these main effects occurred on a wider scale than just in the case study areas. Closer inspection however show large differences between the case study areas as well.

The main effects differ for each phase of the war. During the occupation period, from May 1940 to August 1944, the main effects included: the obligatory cutting, the forced cutting, theft and labour shortage. All these effects were however mitigated by the events occurring in the second period. In this period, from September 1944 to May 1945, the main effects included: damage due to shelling, the construction of defence works and the damage due to close quarter fighting. The overall damage occurring due to these effects effected the third period heavily. In this period, from summer 1945 to 1950, the main effects included: The cleaning measures taken in the woodland, the acceleration and change of management plans, damage due to the removal of ammunition and the shortage of seeds and skilled labour. The overexploitation which happened during the first period might also have influenced the effects in the third period, but its influence cannot clearly be distinguished.

In the end the main in effect in this case study area, was the damage occurring in the last months of the war due to shelling. As its impact was most widespread and it effected most measures taken in the post-war period. It next to that had a large nullifying effect on the events that happened earlier during the war.

1. Introduction

"In the burning and devastated cities, we daily experienced the direct impact of war."

Albert Speer - Chief of the German War Economy, Memoirs (Speer, 1970; p. 278).

It was not only in the burning and devastated cities that the impacts of the Second World War were experienced. Since the Second World War left great parts of the world broken and ruined (De Jong, 1982-2). Many of the war's impacts have been studied¹, but some domains remain largely unexplored. One of these domains are the effects on the woodlands (Bader, 2011), which forms the research object of this study.

Woodlands and its products have been inherently related to war, which was also the case in the Second World War. On the one hand its products were used to help the war effort by for example creating defensive structures, weapons, transport casings and fuel. While on the other hand the woodlands themselves were the scene of horrific fighting (West, 2003; Mcneill, 2004; Van Ufford, 2007; Bader, 2011). This relation shows the potential of high pressure and demands on woodlands during the war. This pressure would potentially be even higher in countries with little woodland cover (West, 2003). The Netherlands is one of these countries. During the Second World War it had a woodland cover of less than 8% (Houtzagers, 1940; CBS-1, 2013). The demand for wood was increased during the war when compared to the pre-war period and some of the woodlands were the scene of heavy fighting (Rademaker, 1988; Van Ufford, 2007; Bouwer, 2008; Gelders Genootschap, 2011).

There have been few studies which look at the interplay between nature and war (Bader, 2011) and this is especially the case in the Netherlands. There have been works who discuss the topic in a general sense, for example Rademaker (1988) and Zevenbergen (2002). These studies were set up broadly and do not look into the local situation. Local effects were mentioned by researchers like Van Ufford (2007), Bouwer (2008) and Jansen (2012), but for them the Second World War period was just one period studied in a much longer period of time. A study focussing fully on the effects of the Second World War on the local woodlands is still missing, while the potential impact of the Second World War on local woodlands in woodland poor countries is considerable.

At the same moment there is a renewed interest in forest history among Dutch historians and foresters (pers. com. J. N. van Laar 22-11-12, KNBV; Symposium boshistorisch onderzoek anno 2012), but a serious lack in proper research done on the subject (pers. com. K. Bouwer 22-11-12, KNBV; Symposium boshistorisch onderzoek anno 2012). In 1981, J. Buis already pressed the need for more proper historical forest research and anno 2012 this need still seems to be present.

One study focussing on local aspects can of course not fulfil this need and this study does not attempt to do so. It is however a start in fulfilling the need for more proper historical forest research in this field. Combined with the lack of a study with this focus, it provides the scientific reason to do this research.

Studying the effects would not only be interesting for historians who are interested in the Second World War of which there are many (Mcneill, 2004). It is also pressing as important information is being lost at an alarming rate. People living and working in the woodlands during the Second World War are getting extinct, and with them their stories and experiences are lost, while these tell so much about how it was there and then (Howarth, 1998; pers. com. J. Burny 22-11-12, KNBV; Symposium boshistorisch onderzoek anno 2012). At the same time there are many sources available

1) A small selection of the many Second World War related research done: De Jong, 1982-1, Rademaker (1988), Brewer (2004), Gilmour (2010), Bruley (2011), Gooch (2012) & Wasserstein (2012).

which are presently easily overlooked. Sources like maps, photographs and archive material hold much information, but remain difficult to access and are time consuming to research. Yet gathering and maintaining this information will increase our knowledge and understanding of the past, and can be used by future generations to understand and learn from (Zevenbergen, 2002).

The capturing of experiences relayed through stories and the gathering and combining of difficult to access sources, provides the social reason to do this research.

The purpose of this study is to describe the effects of the Second World War on some selected local woodlands in the Netherlands. Within the Netherlands the southwest Veluwe area is selected. This is done as this area contains many woodlands and has been the scene of both the increase of wood requirement during the war, and the actual fighting between the Allies and Axis. It has next to that been the subject of research before, making it possible to combine and compare (De Jong, 1982-1; Van Ufford, 2007; Bouwer, 2008; Gelders Genootschap, 2011; Jansen, 2012).

This purpose leads to the following research question:

What were the main effects of war related activities during the Second World War ('40-'45) on some selected woodlands of the southwest Veluwe?

From this research question three associated sub questions follow:

Which events and developments effected these woodlands during the war?

What was the impact of the identified events and developments?

How did the identified events and developments influence the post-war situation?

The results of this thesis are the descriptions of the 'main effects'. These main effects can both be direct or indirect effects of the war. It is on forehand unknown what the main effects are and it is uncertain if all effects can be found within this studies timeframe. The found effects are organised in the conclusion chapter by degree of influence. The 'war related activities' are defined as all activities which are directly or indirectly caused by the Second World War. The 'Second World War' is divided as the war between the Axis (Germany, Italy and Japan) and the Allies (all countries opposing the Axis) between 10 May 1940 and 5 May 1945. These dates are chosen as they mark the beginning and end of the war in the Netherlands, excluding its colonies. The south of the Netherlands was liberated in the autumn of 1944, but the study area was not part of this liberated area (De Jong, 1982-1). Therefore the 5th of May 1945 was chosen as the official ending point. The 'post-war situation' is defined as the first five to ten years after 1945. This is based on preliminary research that shows that many main impacts took place in that period (GldA-2; Zevenbergen, 2002). This period is also limited to keep the local focus and limited timeframe in mind. 'Woodlands' in this study is defined as land covered with woods or trees.

The 'southwest Veluwe' also needs to be defined and delineated. In this study it is defined as the area situated between the cities of Arnhem, Wageningen and Ede in the province of Gelderland, the Netherlands. The northern border of this area is the railroad Arnhem-Utrecht, while the river Rhine forms the southern border. Given the limited time scope for this study, these area need to be narrowed down to keep the study feasible. It is important to select study sites which incorporate the many different events that are needed to answer the research question. It is next to that important to use sites which can be traced back to 1940 and for which information can be found. In this light the Boswachterij Oostereng, Boswachterij Doorwerth, Estate Hoekelum and Estate De Duno are selected. These four areas are situated in such a way that there locations are distributed in different

gradients concerning the distance to the river and to both the Axis and Allies advance during the conquest and liberation campaigns in respectively 1940 and 1945 (De Jong, 1982-2; Amersfoort & Kamphuis, 2005). By using these locations this study also incorporates a mix of state owned areas (i.e. Boswachterij Oostereng, Boswachterij Doorwerth) and privately held areas (i.e. Estate Hoekelum and Estate De Duno). The areas individually also show potential events which effected the woodlands. Boswachterij Oostereng was the first woodland area in the Netherlands to use a management plan, which was drafted and implemented during the war. Estate Hoekelum got split in two during the war by the first Dutch motorway. Estate De Duno and Boswachterij Doorwerth not only provided wood and woody products during the war, but was next to that the scene of horrific fighting. All areas have been used in research before and preliminary archive studies showed that information from the wars period remains available. Figure 1 gives an overview of the case study areas positions.

The detailed setup of this study is delineated in the following chapters. In chapter two the overarching research choices are explained and theory use is discussed. In chapter three the methods needed to answer the research question are operationalized. In chapter four the results from the literature, archive and aerial photographs are given. In chapter five the interviews are analysed. In chapter six all information from chapter four and five are brought together in a synthesis, in order to come to the conclusion and recommendations. The study ends with the references and appendixes.

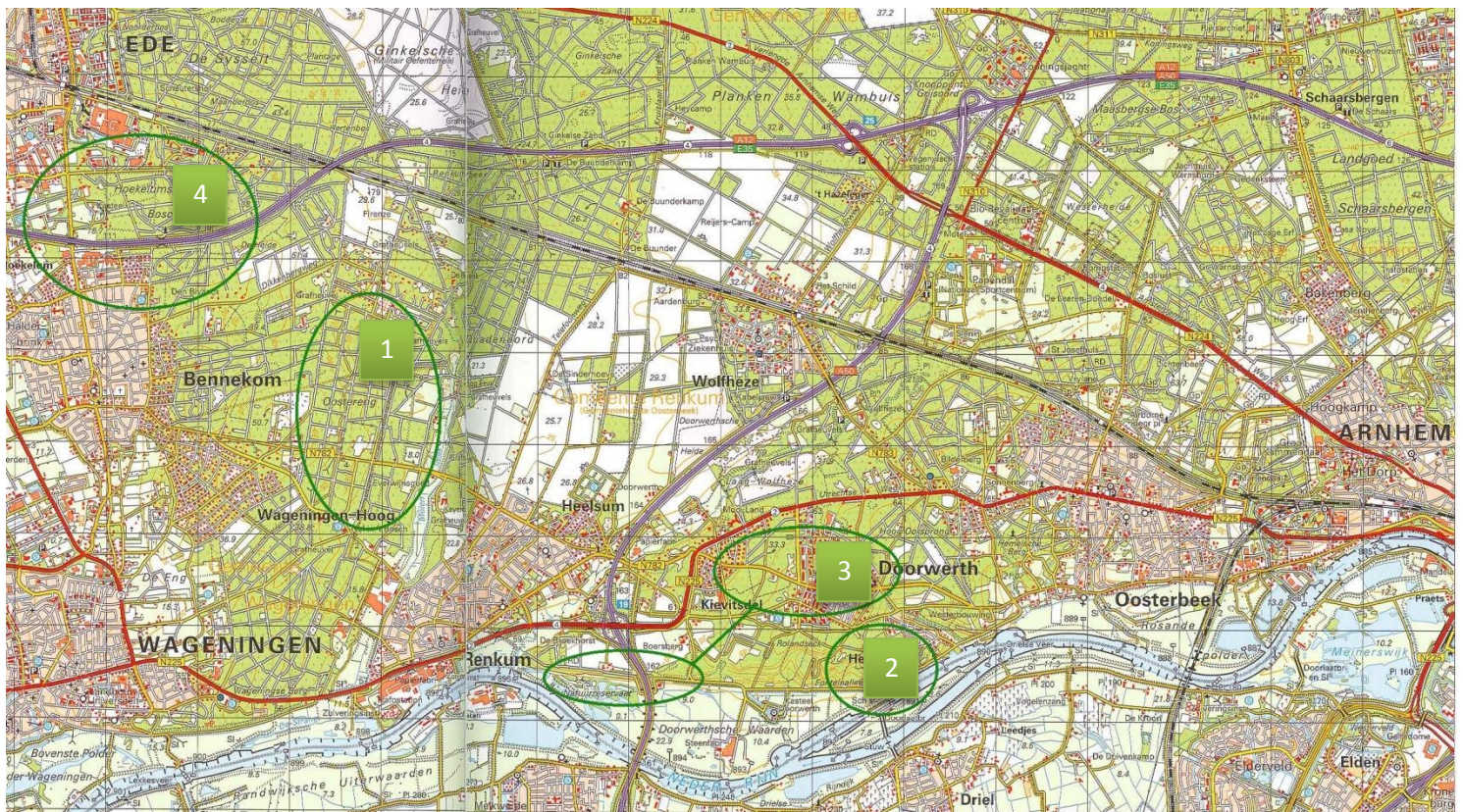


Figure 1: The Case study area situated between the cities of Arnhem, Wageningen and Ede. The northern border of this area is the railroad Arnhem-Utrecht, while the river Rhine forms the southern border. The four case study areas are: 1) Boswachterij Oostereng, 2) Estate De Duno, 3) Boswachterij Doorwerth and 4) Estate Hoekelum (Boddaert & Bakker, 2004; map 94 & 95).

2. Theoretical framework

"Models are always false."

pers. com. G. Gort 17-01-13 - during a lecture of MAT-22306: Quantitative Research Methodology and Statistics.

This chapter looks into the choices concerning the use of theory and the thereby belonging methods. Next to that the overarching consideration when conducting historical forest research are explained.

2.1. Historical research and theory use

When looking into historical forest research it becomes clear that there are not many specific theories. Agnoletti (2000) noted in his research that there are many methods to do historical forest research. While there are only few theories developed exclusively for forest history. Bleijenbergh (2009) also found the amount of specialised theories lacking and therefore recommends an exploratory approach into historical forest research. Jansen et al. (2012) suggests a focus on methodology when doing historical research. Theories are often not present, useful or needed. To keep the results scientifically researchers of history turn towards the use of widely used and approved historical methods.

The absence of theories seems troublesome, but is it really so?

Scientific background

When conducting historical research it is generally assumed that the research deals with real people and real events that truly happened (Fulbrook, 2002). It is however questionable if historical research can determine 'the truth' in its most absolute form. In this light it can be said that a historian reconstructs and explores the past selectively, instead of reproducing the past completely. This selective reconstruction leads to different interpretations of the past depending on the researcher, his questions, methods and scientific background (Fulbrook, 2002).

According to Fulbrook (2002) it is this scientific background that forms the theoretical basis in all historical research. Many historical researchers claim not to use theory and/or justify their findings purely on their chosen methods. Yet they all make choices when selecting and implementing their research, in order to satisfy their curiosity and answer their research question. These choices lead to different findings and conclusions which shows why historians so often disagree with each other (Shafer, 1969; Fulbrook, 2002).

Although researchers have different theoretical backgrounds and thus different views it is not sufficient to just accept this and believe everything that is found, claimed or written by historians. History needs to be separated from myth and ideology. The differentiation lies within the building blocks of any research, namely the facts and the interpretation of these facts. There are various way to deal with these facts and their interpretation. The facts themselves need to be gathered using different approaches which in turn must be object of analysis and critique. This also counts for the analysis which is used to interpret the found facts. There is no single right way to conduct either the gathering of the facts and the analysis. Yet that does not mean that all methods are equally illuminating or acceptable. Which methods are illuminating and acceptable depends on the researchers scientific background and the research question (Fulbrook, 2002).

Given the different perspectives of historical researchers it is clear that there always be disagreements between historians on historical findings. It is therefore important to base the results on arguments and keep an open mind while debating the results amending them if necessary (Fulbrook, 2002).

The scientific background Fulbrook (2002) mentions is similar to Creswell's (2009) worldview as shown in paragraph 2.2. Researching forest history.

Three-step analysis

Next to the theoretical basis, a sound methodology is key to any research. Bader (2011) uses three analytical steps in his research, in which he looks at how and who the German forests changed during the First World War. The three analytical steps, namely: reconstruction, interpretation and coping, are usually only applied to look at the impact of short-term catastrophes. Yet in his research the steps offer a distinct analytical value. The reconstruction is on a short-term phenomenon, while the interpretation and coping only come to light in a long-term investigation. He argues that this analytical scheme can consequently be applied on other phenomena during war crises. The effects of war related activities during the Second World War on the woodlands definitely fall within this research field.

Bader (2011) acknowledges the importance of the researchers background as this shapes the researchers way of thinking. This in turn influences the processing of facts and other information and the thereon following development of conclusions. To make the facts and conclusions scientifically sound he pleas for the integration of approaches. These approaches have a strong sociological character given the prominent role of humans during crises like war. Impacts caused by humans can only be seen within the cultural, social and political position of the actor. This also counts for the underlining thought patterns of the actor. In this way he agrees with the idea of local meaning and truth as explained by Wheatley (London, 1997).

Using different approaches and integrating them to gain scientifically approved outcomes is explained in chapter 3. Operationalization of the .

2.2. Researching forest history

When doing scientific research it is important to make several overarching considerations. In this paragraph these considerations are explained and choices are made where appropriate. First of all the type of research is selected. Following on that is the worldview which forms the foundation of any research. Lastly several challenges concerning historical forest research are mentioned.

Type of research

As historical forest research lends itself to both qualitative and quantitative research, it is important to choose what to find out and how to do this. For this research a qualitative approach is chosen.

The main reason to do this lies in the research question, which revolves around finding effects and describing them. This leads to an approach fitting with qualitative research.

Another advantage of qualitative research is the possibility of an inductive approach (Creswell, 2009).

This means that the researcher seeks to find strong evidence for the conclusions, instead of looking for the absolute proof for the conclusions (Copi et al, 2007; Creswell, 2009). An inductive approach is a bottom-up approach consisting of three steps. First information is gathered. Then an overall analysis of the data and patterns is made. This is followed by an explanation of these found data and patterns (Blackstone, 2012). This is useful in historical forest research, especially when using archive material. Archive material has the potential to offer new insight in the historical situation, but at the start of the study it remains largely unknown what can and cannot be found in the archives within this studies timeframe. Using a qualitative approach gives the researcher more flexibility to deal with these unknowns (Creswell, 2009; Renes, 2010).

The choice for qualitative research is also done out of personal preferences. Like dr. G. Gort, I do not believe that models portray the truth. Having done my fair share of statistical courses I know quantitative research has its uses. Yet I feel that in the western world the focus lies too much on standardisation and measurement through numbers. I agree here with Wheatley. She sees the number obsession as a way to make things real in order to exert control over it. It seems however that this did not make better researchers or leaders. Instead it creates a number game where people try to gain the best numbers for their goal and explain them accordingly (Wheatley & Kellner-Rogers, 1999). On a more philosophical note this excessive numbering also attempts to reduce ourselves, and all else, to machines. In that way *"we gave up most of what is essential to being human. We created ourselves devoid of spirit, will, passion, compassion, even intelligence."* (Wheatley, 1997; line 79). I agree with these notions that we are more than numbers and that by numbering information is simplified and lost. I therefore feel that when conducting historical forest research into effects of a war, a qualitative approach fits better.

It could also be questioned if proper quantitative research could be done on this research subject. Quantitative research requires data ordered in datasets. Since it is difficult to generate new data in historical research, one must often rely on data that has been recorded in the past. Yet these data are often incomplete. Around 1940 the Dutch forestry service did keep records of what happened and their information has the potential to form a quite complete dataset (GldA-1; GldA-2). It is however questionable whether these datasets would be complete as the woodlands on the southwest Veluwe were for a large part in private hands and not all private owners kept records (Rademaker, 1988). The time period focused upon in this research presents another problem. Nazi Germany was well known for documenting everything they did, but they destroyed much of their records before the Allies could lay their hands on it. A lot of information was also lost due to the destruction of the buildings in which the information was stored (De Jong, 1982-2; Bouwer, 2008). A qualitative approach makes it possible to deal with this lack of complete datasets, while still saying something about the research sites (Renes, 2010).

Worldview

With the choice of qualitative research comes a certain worldview. A worldview is a basic set of beliefs that guide action (Guba, 1990, p.17 in Creswell, 2009). In this research it helps define the way this research deals with concepts like knowledge, truth and data.

In this study a social constructivist worldview as discussed by Creswell (2009), is used. The social constructivist worldview holds the assumption that individuals seek to understand the world in which they live and work. While doing so they develop subjective meanings of their experiences, which leads to many varied meanings about the world they live in. The meanings formed are dynamic and

formed over time through interaction and historical and social influence. The goal of the researcher is to make sense of, and interpret the meaning others have about the world (Creswell, 2009). With multiple meanings come multiple ideas of reality and thus multiple truths. The social constructivist worldview embraces this idea of multiple truths. To deal with these, researchers do not try to narrow meanings and categorizes them but instead look for the complexity of views. This also allows for the use of an inductive approach (Creswell, 2009). The bias of the researcher is recognized and accepted in the social constructivist worldview. A researcher is influenced by his background and therefore his interpretation of the data is too (Stone, 1989; Creswell, 2009).

Complementary to the social constructivist worldview there are the ideas about meaning and truth formulated by Wheatley (London, 1997). She argues that meaning and truth are not only subjectively formulated, but that they are also bound to the local situation. This means that what is true on one location does not have to be true on another location, as the location influences the actors formulating their meaning and truth. In practice this means that everything must be seen in the local perspective. Solutions and conclusions only apply to that specific location. Generalization is therefore impossible (London, 1997).

The combination of Creswell's social constructivist worldview and M. J. Wheatley ideas on local meaning and truth, form the foundation of this research. In this way they form the scientific background as discussed by Fulbrook (2002). Meaning that they form the theoretical basis in this historical research.

3. Operationalization of the theory

"Get into the messiness of the data before you try to see what it means."

M. J. Wheatley in an interview with S. London (1997)

In this chapter the methods used to answer the research questions are operationalized. First the different approaches used to answer the research question are mentioned. After that the data gathering and analysing techniques are explained. This is followed by the order of the representation of the found data in the final thesis and the explanation of the qualitative research considerations. The chapter ends with an overview of the research structure.

3.1 Data gathering

When doing a historical qualitative case study it is impossible to know in advance what information can exactly be found. This turns the collection of information into a story of hunting for information (Bleijenbergh, 2009; Creswell, 2009; Wester & Hijmans, 2009). In this light it is important to use several different approaches to increase the chance of finding what you need to answer the research question (Bader, 2011). These approaches are explained in this paragraph.

The actual gathering of the information is done using the ideas of Busha and Harter (1980) and Wheatley (London, 1997) on information gathering and the Snowball Effect method as discussed by Rigney (2010).

Wheatley (London, 1997) proposes that we as humans are uncomfortable with chaos. Order is wanted, so when confused everything is done to move away from chaos as soon as possible. Yet it is through confusion that new ideas are found. It is therefore a necessary step in moving from one idea to a new one. Busha and Harter (1980) also recommend to first find as much information as possible given the timeframe and sources available, before doing the analysis. The actual analysing and combining of sources is therefor done when the greater part of the information on a subject is found. The Snowball Effect is an information gathering method where one or several, starting sources form the basis of the research. From these sources new sources are found by using keywords and references from the starting source. This method is also be used to find interviewees. By speaking to one interviewee or a local researcher one hopes to find new people of interest to interview (Rigney, 2010).

3.2 Sources of data

To answer the research question several different sources are used, as explained in the following paragraph.

(Semi)Literature

Written documents have often been used as the main information source when doing historical research (Shafer, 1969). Both literature and semi literature is used in order to access an as large as possible source base. To enhance this both the Dutch and English language are used to find sources.

German sources are used when these are found. Due to the researchers language proficiency the original search for sources is not done in German.

To gather the sources both the (digital) University library and local libraries are accessed. National libraries like the Royal library (Koninklijke bibliotheek) could be used if the search of sources leads there. General information sites like that of the Digital Bibliography of Dutch History (De Digitale Bibliografie Nederlandse Geschiedenis) can also be accessed (Jansen et al., 2012).

Archives

An archive study is done to access sources in archives about the locations during and just after the second world war. This allows to get close to the original data from which new conclusions can be drawn. By gathering archive information from different archives it is also easier to access these sources in the future (Hughes, 2006). It also safeguards information as archive sources can get lost over time by the destruction of the documents and the cleaning process of archive material. After a given time period an archive cleans its archive data. This means that they delete data which are double in order to keep source finding more accessible while losing no real information. Although the overarching story is safeguarded the nuances within this story can get lost due to this process (Renes, 2010).

When dealing with archives it is important to realise that the knowledge about the government and the elite is usually more abundant and easier to find (Renes, 2010).

Archives that can be used in this study include the Gelders Archief, Nationaal Archief, local archives of the research locations, Archief Staatsbosbeheer and that of NIOD (instituut voor oorlogs-, holocaust- en genocidestudies).

Next to written documents the archives can also be used to access images, maps and photographs.

Images

The term images here is used to indicate all imagery excluding photographs. Images can be used to create an idea about how it was there and then. When dealing with images it is important to remember the goal of the image maker. For this goal determines what was portrayed and how. Images are therefore not fully trustworthy as they are an interpretation of the maker, which is then interpreted by the researcher. An image is often posed, manipulated or simply a selection of the truth seen by the maker of the image (Renes, 2010).

Databases to find images can be the Second World War image library (<http://www.beeldbankwo2.nl>) and the image library from the defence department (<http://nimh-beeldbank.defensie.nl/>) (Jansen et al., 2012). Images can also be found in the (semi) literature and the different archives.

Maps

Maps are a systematic representation of a spatial description. This makes them a simplification of reality. Important to check when examining a map is the goal of the map. This is important to understand what was shown and what was left out. Before the Second World War several maps of the study area were made. These include military maps, goal specific maps like tourist maps and topographic maps. Like with photographs the military maps can be faked out of tactical consideration (Renes, 2010). Maps can be used to get an idea about the land use and land cover at the time of their making.

Photographs

Photographs lack the interpretation of the maker as images have. Instead they show the world as it was in two dimensions. They are however often faked or posed depending on their goal. Military

pictures can be faked out of tactical consideration. Very useful are the aerial photographs made during the Second World War. These detailed photographs were made in 1944/45 to find the German defence lines in the Netherlands (Renes, 2010). In this study they are used to view the research area as it was in those years.

Oral History through interviews

Oral history concerns itself with the collection of stories told by people. Stories are an important way in which communication between people takes place and is often used to remember history (Czarniawska, 2004). According to Czarniawska (2004) there are three ways to collect stories. First there is the recording of spontaneous incidents of storytelling. In this case the researcher joins a person or group of persons for a long time period in the presumption that stories are eventually told. This method is time consuming and it is on forehand uncertain whether or not the persons talk about the subject the researcher is interested in.

The second approach is more focussed on the subject and relies on eliciting stories. Five steps should be covered. First the researcher establishes the general aim. Second the location and actors/activities are described. Third a specific incident is chosen, which is described in detail as a fourth step. In the last step critical judgement from the researcher can be included, as long as it remains clear whose critical judgement it is.

The last option is to simply ask for the stories directly. The five steps previously mentioned could be used to streamline the researchers inquiry. It is also possible to make use of an introduction with specific questions (see Czarniawska, 2004; p.44 for an detailed example).

When dealing with stories it is important to realise that stories are fabricated (Czarniawska, 2004; Bader, 2011). This is done by the storyteller when he is asked to talk (to tell a story) about a certain event. He then recalls this event and fabricates a story based on his interpretation of the event he saw. This story is then consumed by the researcher who listens and interpret it. This is done selectively to suit the purpose of the study. Oral history in this way can be seen as an interpretation (by the storyteller) of an event told (by the storyteller to the researcher) and reinterpreted (by the researcher) before being told again (by the researcher in his written work), which is then interpreted (by the reader) who makes a new story from it. Unbiased storytelling through oral history is therefore simply impossible (Czarniawska, 2004). Considering this it also becomes clear that the story told is not equal to the event that occurred originally, since it includes several steps of interpretation and selective recollection all done from one or several discourses (Riessman, 1993). This also plays its part when stories are told from one person to another, before being told to the researcher. The more people retelling the story the more the story changes (Riessman, 1993; Renes, 2010). The difference between internal and external stories must also be noted. Stories might differ depending on who they are told to. Internal stories are told to people who belong to the same group as the storyteller, while external stories are told to outsiders. As a researcher you are generally considered an outsider which can change the way the story is told or the story altogether (Fulbrook, 2002; Czarniawska, 2004).

Other pitfalls as discussed by Renes (2010) include interviewees who try to give the right answer, by giving a generally accepted or socially expected answer. It can also be that information behind the story is based upon written sources instead of the recollection of the event. Finally it is important to keep in mind that memories fade over time, leading to incomplete, incorrect stories, or stories based on other sources then the recollection of the event.

Although oral history can be read or observed it is mainly found through interviews (Czarniawska, 2004). There are three types of interviews, namely structured interviews, semi structured interviews and open interviews. In a structured interview all topics and questions are thought of in advance and followed to the letter. In a semi structured interview only the topics and corresponding start questions for these topics are created in advance. This allows the interview to be focussed on the subjects important to the researcher, while allowing the interviewee to discuss what he/she finds important within that topic. In an open interview only a start question is created in advance, allowing the interviewee to talk about the things that he/she finds important (Baarda et al., 2001; Creswell, 2009).

Oral history through interviews allows people to tell their story, a story that would otherwise remain unknown (Nunokoosing, 2005). The stories of the people who worked in the woodlands during and after the war are in danger of being lost. Recording their stories now safes them for future generations and can help to give an insight about local effects on the forest not recorded in documents (Bader, 2011).

To capture their stories a semi structured interview is selected. This is done to give the respondents the freedom to talk about the events they find important while staying on the topic of this study.

The selection of respondents will heavily rely on the Snowball Effect method. This search will start with local researchers and local elderly organisations. The goal is to have up to two respondents per selected location, who worked or lived there during or directly after (i.e. within the first five years) the war. The time limit of five years is deducted from preliminary research on the intensity of activities on Boswachterij Oostereng (GldA-1; GldA-2). The limited number of respondents is due to the small number of possible respondents still alive and the use of a narrative data analysing method, which is time consuming and not relying on large numbers of respondents. This data analysing method is further delineated in paragraph Interview analysis.

Exchange rates

Dealing with historical forest data means dealing with money and thus money exchange rates. Using the right exchange rate is important as it allows the researcher and reader to put the money things cost or yield around 1940 in a nowadays perspective. In order to do this correctly the calculation function found on the website of the Dutch Central Statistical Office (Centraal Bureau voor de Statistiek) is used. This is cited as CBS-2, 2013.

3.3 Data analysis

Data must be analysed in order to reach well founded conclusions. In case of a case study design one always starts with a description of the setting followed by the information on the main theme or issue. In this way one moves from a broader setting to the local situation (Creswell, 2009).

Six steps for analysing information

Creswell (2009) provides six steps to analyse data. The first step is to gather and prepare the data for analysis.

For the second step all data gathered need to be carefully read to get a general idea about the data. During this step the necessary validation of the data can be done.

The third step includes the coding of the data. This means that the data are organised into small pieces of information which are labelled with a term. Coding is done without bringing meaning to the different pieces of information.

In the fourth step the coded data are divided into descriptions and themes. Descriptions in this case contain the detailed pieces of information about people, places or events, which belong to a certain case. While themes contain the detailed pieces of information which need to be analysed between the different cases.

The fifth step revolves around portraying the information to the reader. This is partly done in a descriptive way within the result chapters. Where possible tables, graphs and pictures are used to enhance the comprehensibility of the information. Relationship models can also be used to show events related to each other (Bouwer, 1988).

In the last step the portrayed information is interpreted. During this step the lessons learned and new research topics related to the study can also be shown. This is done in the concluding chapter. When doing the analysis it is important to ask the 'W' questions. When and Where was What (not) done, Who was responsible and Why did it happen (Sikkel, 1981; Jansen et al., 2012)

Interview analysis

To analyse the interviews a narrative approach is selected. A narrative approach focusses on the stories told by the interviewees. The interview contains different parts called narratives. Using the definitions of Riessman (1993), Jansz (1993), Czarniawska (2004) and Creswell (2009) a narrative is a written or spoken story concerning a representation of an event, which has coherency or a plot in time or causality.

There is no standard way of doing narrative analysis (Riessman, 1993; Czarniawska, 2004). Using the books of Riessman (1993) and Czarniawska (2004) the following analysing method was derived.

The first step is to fully transcribe the interview in order to analyse the full story. What is said, how it is said and in what order is it said. This includes all sounds, repetitions, false starts and more, as these can give insight in the underlying story. Notes about the atmosphere, movements, and other character traits portrayed during the interview, are also kept and mentioned if necessary. The transcripts are numbered line by line. To safeguard the anonymity of the interviewee and other persons all names are replaced by letters. Respondents get a code including a number like R1, R2. Persons in their story are replaced with random letters like M or Q.

The second step includes the analysis of the transcripts internally. First lines concerning one narrative are gathered by line number. The focus of this quest for narratives lies with finding events that occurred in the woodlands because of the war and the underlining discourse of the person. Riessman (1993) also stresses the importance of power here as she finds it important to know whose story is told and why. Power and power relation are kept in mind when doing the analysis, but do not form the focus. The found narratives are then defined in one sentence, in such a way that an outsider understands the content of the narrative. Narratives that are similar must be placed under one topic as these form so called linked stories.

The final step is the investigation of the coherence between the different interviews. This is done by comparing found narratives, events and discourses. Although no quantitative analysis is done, some

counting can be done as it can show the importance of the subject for the interviewee. If an interviewee keeps repeating a certain fact it must be important to him or her.

Respondents and ethical considerations

To answer the research question four to eight people are interviewed. This number is relatively low compared to other studies, but it is acceptable due to the use of a narrative approach which does not rely on a large group of respondents. The respondents are preferably people who worked in the woodlands during or directly after, the Second World War (1940-1950). It is however important to widen the range of possible respondents due to their age and the logistical problem of finding them. Therefore people living in or around the woodlands during or directly after the Second World War (1940-1950) can be interviewed as well.

Another possibility is to ask veterans who fought on the Veluwe during the Second World War about their stories. The limitation of this can be the knowledge about the location where the veterans fought. This is often unknown, making it impossible to say anything about the specific research locations from the interviews with veterans. It is next to that likely that the veterans do not remember the details about the forests due to the fighting and other stressful activities and events occurring around them.

Finally it is also possible to talk to people who knew those who worked in the forest and record their stories. The limitation of this is the additional step of interpretation. In this situation the story gets interpreted by the storyteller, reinterpreted by the interviewee which is then reinterpreted by the researcher. The interviewing of these people will therefore be kept to a minimum.

All interviewees are contacted in advance by phone and/or email to inform them of the interview method and narrative approach. Important to mention here is that the full interview is recorded and transcribed, but that no member checking is done.

The interviews are conducted in Dutch if this is the native language of the interviewee. Otherwise English is used. To justify claims made from the interviews anonymous quotes are used. These quotes are quoted in the original language in which they were told. If necessary they are (partially) translated or explained. The transcripts themselves are not published to safeguard the anonymity of the interviewees.

3.4 Data representation

The ordering of forest historical research data can be done in three ways namely chronologically, spatially or in a combination of these two (Renes, 2010). For this study a hybrid form is used where the data are first ordered spatially on the different cases and within these cases the information is ordered chronologically.

The first result chapter discusses the case Boswachterij Oostereng. This chapter starts with a brief description of the pre-war period, followed by the situation during the war and ending with a short post-war period description in which the war effects are highlighted. This is subsequently done for the other cases: Estate De Duno, Boswachterij Doorwerth and Estate Hoekelum. The chapters include the information found from all sources accessed and analysed for the given location.

The chapter on the different locations is followed by the chapter analysing the interviews using a narrative analysis method. This is followed by the synthesis chapter, in which the different locations

are brought together to be compared and analysed. This chapter also shows the limitations of the conducted study. That chapter ends with a conclusion in which the research question is answered and future recommendations are mentioned.

Appendix A includes a short summary containing the development of the war on the southwest Veluwe. Appendix B includes the anonymous interview of Respondent 4 (R4). Appendix C includes three aerial photographs of Boswachterij Oostereng. Every picture is a combination of several aerial photographs. Some examples of aerial photographs used in the other case study areas, are cropped and positioned with their respective paragraphs. A full list of photographs used is located in the Reference chapter.

3.5 Qualitative research considerations

When doing scientifically approved qualitative research there are several things to consider. These include the qualitative design choice, validity, criticism and bias and subjectivity.

Case study design

This study makes use of a case study design. The case study design is an old and well known design dating back as far as 1933 (Wester & Hijmans, 2009). By using a case study design the researcher can gain interpretation and insight in a phenomena in order to understand it (Meredith, 1998; Wester & Hijmans, 2009). Understanding here is not the rational understanding that something is truthfully so. It is instead value driven and only meaningful within a framework of perspectives assumptions and believes. It is therefore not free of bias or subjectivity (Meredith, 1998). The advantage of using a case study design is that it is able to capture specifically that which is relevant for the study. While also being able to understand and explain it. A common problem of the case study design lies with the lack of controls and procedures, fuelling the need for validity measures (Meredith, 1998).

Concerning validity

Validity is the way to check if the findings are accurate. Since qualitative research cannot rely on numbers telling if something is 'significant' or not it is a very important step to take (Agnoletti, 2000; Creswell, 2009; Veenman et al., 2009). Validity of the findings is best achieved by usage of methods. According to Creswell (2009) there are several strategies for doing this.

First and well known is the triangulation strategy, which revolves around the usage of different sources to justify one claim and/or conclusion (Meredith, 1998; Creswell, 2009; Veenman et al., 2009; Wester & Hijmans, 2009). Richards (2006) disagrees with this definition of triangulation. According to him triangulation refers to the gaining of multiple perspectives through completed studies that have been conducted on the same topic and that directly address each other's findings' (Richards,2006; p.91). To achieve this different completed studies about the same subject must be brought together in order to either challenge, illuminate or verify the study done (Richards,2006). This would rule out the use of triangulation strategies in studies on new subjects.

The second strategy is member checking. This is mainly important when doing interviews, as it means that the polished results are brought back to the participants and/or experts who were interviewed to see if their words where explained correctly and used to come to an acceptable conclusion (Riessman, 1993; Creswell, 2009).

The third strategy revolves around the descriptions of the findings. These should be thick, meaning that they should be detailed. This will help to clarify the findings and meaning behind them while making for a believable story (Riessman, 1993; Creswell, 2009).

The fourth strategy is the clarification of the bias that the researcher has. How does his background, gender, culture etc. influence his way of looking at the data.

The last validity strategy is to include discrepant information. By including information that contradicts earlier findings it adds credibility, as the world is never black and white (Fulbrook, 2002; Creswell, 2009).

According to Richards (2006) it is also important to make sure that the research question fits with the data and methods. By doing this it is assured that the data are relevant and appropriate and handled accordingly. To assure this happens it is imperative to set up quality controlling procedures in advance. These procedures are needed see how methods and the data gathered through them are performing.

It is next to that important to log all steps taken in the analysis. This log shows which decisions are made and the argumentation behind these decisions. In that way it is possible for other persons to understand the decisions made (Richards, 2006).

To enhance the validity even further it is recommended to use multiple validity strategies (Creswell, 2009). This is also done in this study. First of all the triangulation strategy according to Meredith, (1998), Creswell (2009), Veenman et al. (2009) and Wester & Hijmans (2009) is used. This study attempts to access a large array of sources to come to its conclusions. These different sources are explained in the paragraph 3.1 Data gathering.

Member checking is not done as the interviews are not used to portray the opinion of the interviewee, but the researchers interpretation of the story told. This is explained further in the paragraphs Oral History through interviews and Interview analysis.

Using a thick description is done where possible. Considering the potentially large amount of information found, it will be impossible to describe everything in detail. Instead a selection concerning the priority of the different finding must be made. In practice this means that certain things are considered to be more important and receive a thicker description than other subjects do. This selection is done on the basis of the research question and the information found in the literature and interviews. When information is directly necessary to answer the research question it will receive more attention and thus a thicker description than other information. Information linking the literature and interviews is also important and will therefore receive more attention and thus a thicker description than other information.

Bias is an important subject in qualitative research (Shafer, 1969; Creswell, 2009) and will be further elaborated in the sub paragraph Concerning bias and subjectivity.

The inclusion of discrepant information cannot be guaranteed but neither is it rejected. There are no underlying intentions or messages that need to be made clear in this study. There is in that light also no interest in leaving out discrepant information. Given the time scope of this study it can however not be guaranteed that discrepant information is found. When discrepant information is found it will be mentioned in a thickness fitting of its importance relative to the research question.

No specific data and method quality control options are used. This is done due to the limited time scope of this study and the lack of knowledge on control systems for methods and data. It is assumed that the methods as proposed in this proposal are tested by the scientific community and have proven their worth for the sources used. This assumption is considered correct due to the intensive

use in the literature. The quality of historical data are checked by using external criticism and internal criticism as proposed in the subparagraph Concerning criticism.

A log is kept to catalogue the important decisions made and actions chosen. This log is not included in the final thesis. Important discussions are also mentioned in the thesis chapters when these are directly relevant for the reader, as it must always be clear where the information was found and what train of thought led to the conclusions.

Concerning criticism

To control the authenticity and credibility of historical information the technique of external criticism and internal criticism as proposed by Shafer (1969), is used.

External criticism concerns the authenticity of information found and is checked before internal criticism which controls for the credibility of the information found. External criticism is achieved by going through three steps. First the author needs to be determined, then the date needs to be established. These two must of course coincide for an author born in 1935 cannot write anything in 1936. As a final step the content of the information must be analysed. This must be done on the literal content including for example the word spelling and correct fixable dates, and on the contents meaning, which can be cross referenced with other sources.

The internal criticism as discussed by Shafer (1969; p. 137-138) has nine steps. These have been reclassified in order to be more usable in this study. The content remains equal, though should be used flexible. The list is not complete and neither was it claimed to be so, as different sources require different checks.

The first step concerns itself with the accuracy of the observations done and/or reported. When this is done it is important to check if the person making the observations was actually in the position to do so, both physically and socially. Socially possible here includes for example knowledge of the subject or social control being used to force someone to look away or leave at the time of the event. The time of the observation must also be checked. Finally it is important to try to determine the mind-set of the observer. This includes for example his intention to report the event and his bias towards it.

Secondly it is important to keep in mind the meaning of the text. Is the meaning literal or was it meant for example ironically or sarcastically.

The last point is about the truth. It is important to remember that both truth and lies are interesting to report. Yet when drawing conclusions about the data it is important to know the difference between the truth and lies, while remembering that lies can both be distributed intentionally and unintentionally. It will however never be fully clear if something is true or not. One can therefore code statements on how true and accurate they are. This for example includes probably true, probably accurate, probably untrue, probably inaccurate. Plausibility does not mean true but it adds to the probability.

Neither of these three points can, with certainty, be proven right or wrong. It is however important to think and if necessary discuss it, to better value the information found (Shafer, 1969; Fulbrook, 2002).

Concerning bias and subjectivity

Subjectivity concerns itself with meanings in terms of personal values. As a person I have certain ideas about the world around me and these ideas have over time developed into values which now

partly drive my thoughts and ideas about the world. Your subjectivity therefor determines how you look at the world. This is closely related to bias. Bias are judgements reached without examining all the evidence, or believes held in such high esteem that they prevent consideration of information contradicting these believes. It is also possible that these believes totally cancel out any awareness of contradicting evidence (Shafer, 1969).

A researcher is never free of bias and subjectivity. This however does not have to be a problem, if the bias is known. In this way the reader can account for any possible bias in the data (Shafer, 1969). The researcher has of course the task to minimise his bias and subjectivity when writing and drawing conclusions (Agnoletti, 2000; Fulbrook, 2002). This can partly be done by planning adequate time to writing and rewrite and by constantly remembering one’s own bias towards the subject (Creswell, 2009). It is therefore important when making claims or drawing conclusions, to ask what evidence was sought, found, selected and eventually used. It is next to that important to use multiple sources where possible (Shafer, 1969; Creswell, 2009).

3.6 Research structure

To keep a clear overview of this research structure Figure 2 was made. This figure portrays the research levels and choices within these levels.

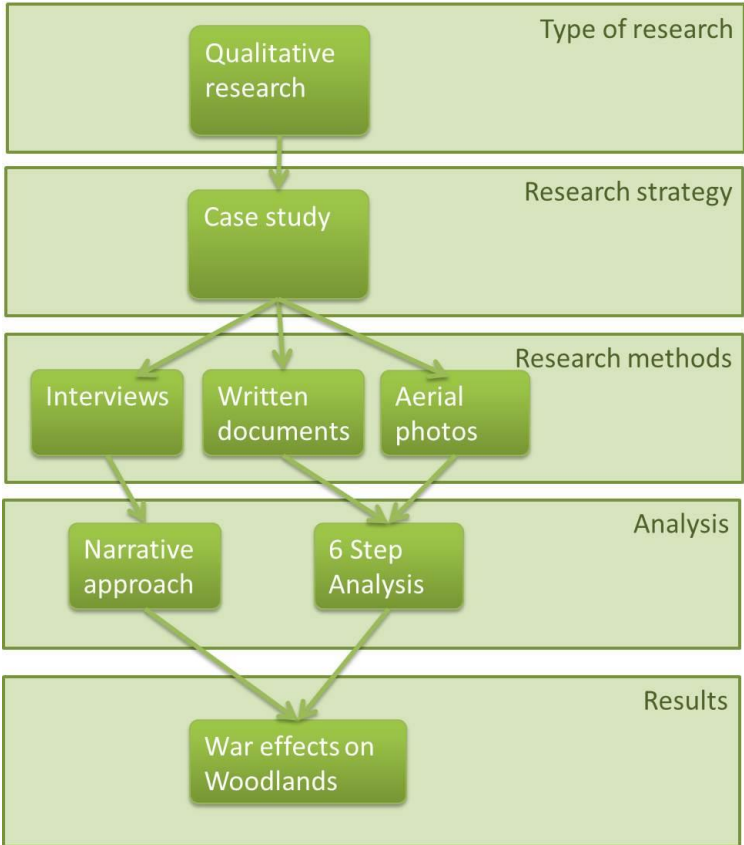


Figure 2: Research structure

The research can be divided in five levels, namely the type of research, research strategy, research methods, analysis and results.

As explained in the paragraph 2.2. Researching forest history a qualitative approach is used due to its advantages within the field of historical research and the researchers worldview.

Within this qualitative approach a case study design is used as this enables an in-depth study of a larger area.

The method to get the information relies on three key methods to allow triangulation. These are oral history through interviews, written documents in archives and (digital) libraries and aerial photographs made during the war.

The analysis of the information found is done in two ways. The interviews are analysed using the narrative approach in order to capture the stories of people experiencing the forest during and close after the war. The written documents and aerial photographs are analysed using the six steps of Creswell (2009) as discussed in the paragraph Six steps for analysing information.

The results are ordered in three chapters, each containing one case study area. Within these chapters the information is ordered chronologically. These results are then discussed in a discussion chapter. Deducing from this are the conclusion and synthesis chapters.

4. The southwest Veluwe; a local story

"Each of us holds a story that is quite different from the dominant one of our times."

M. J. Wheatley (Wheatley, 1997; lines 42-43).

In this chapter the events occurring during the Second World War, in the four case study areas, are discussed. The paragraphs focus on the woodlands and are ordered chronologically. First Boswachterij Oostereng is discussed followed by Estate De Duno, Boswachterij Doorwerth and Estate Hoekelum. The length and content of the paragraphs differs due to difference in the information availability and relevance to the subject.

Appendix A portrays a global overview of the events taking place in western Europe during the Second World War. This summary can help to place the events discussed in the results chapters in perspective.

4.1. Boswachterij Oostereng: Rationalisation at its finest

Boswachterij Oostereng is positioned on the Keijenbergseweg between Wageningen-hoog and Renkum. It was started as a 19th century reclamation estate by three investors from Leiden. The waste lands reclaimed were planted with fruit trees and Scotch fir to use in the oil industry. The estate changed owners several times and in 1910 a new villa was built. The villa included a garden designed by landscape architect L.A. Springer. Later he also redesigned the rest of the estate to serve a more commercial purpose (Van Ufford, 2007; Gelders genootschap, 2011). Springer also created an arboretum including several exotic coniferous species as well as some strange deciduous species. He also replaced the last plots planted with fruit trees with other trees. In the later years, between 1921 and 1940, he replaced a lot of the poor growing plots, focusing mainly on coniferous species like Scotch fir combined with some Douglas fir, Japanese larch, Black Pine and several Abies species. Some deciduous species like oak and beech were present as well, but they form a minority on the estate. In the later years he is assisted by E.C.A. de Jonge, who temporarily replaces him after he died in the summer of 1940 (GldA-9).

Acquiring Oostereng

When the last owner Carolina Insinger-Everwijn Lange died the estate was sold by her heirs. This included the villa, its furniture and the estate of 196.91 hectare (GldA-9). According to (GldA-2), Bouwer (2008; p.355) and Jansen (2012; pp.249 & 270) this transaction took place on 14 October 1941. The official management plan 1944-1953 (GldA-9, p.2) claims it occurred during the year 1942. Regardless of the exact time, it was bought by the State Forest Service in large part for the Landbouw Hogeschool (LHS) in Wageningen (nowadays Wageningen UR). The sale was approved by oberforstmeister Hagemann who was in charge of the reorganisation of the Dutch woodland sector at the time. The function of Boswachterij Oostereng would be research and rational forestry. The students of the LHS could also practice and perform forestry related tasks on the estate during their study. The State Forest Service renamed the estate to Boswachterij Oostereng. The cost for the estate was f253.273,47. The house was rented to A. Beijer, who owned the nearby hotel Nol in't bosch. At the same time J. Six Dijkstra was appointed as the new forester (GldA-9; Bouwer, 2008).

The situation on the estate was considered bad. Springer his management was not aimed at rational production. As a consequence the plots contained a unfavourable age distribution, poor growth and badly formed tree stems and crown shapes (GldA-9; Bouwer, 2008). As put in GldA-9 (p.45): *“De boschtoestand in de Oostereng kan in het algemeen niet zeer bevredigend genoemd worden,...”* According to Bouwer (2008; p.355) there was also a concern about the large amount of exotic species, but the information in GldA-9 contradicts this. Here they speak positively about the Douglas fir and Japanese larch and complain about the small amount of hectares present on Boswachterij Oostereng. They do agree with Bouwer (2008) on the problems of these exotic species when it comes to attacks by insects and the problems with the leaves of Japanese larch. Which are slow to compost and thereby negatively impact the soil.

In order to reach a rational standard on Boswachterij Oostereng a management plan was made. This included rules for roads, anti-fire and wind grooves, soil tillage and (re)forestation. Some roads remained untouched even though they were not perfectly positioned due to practicality reasons. Natural beauty is claimed unimportant for a production forest, but it is not fully neglected. On several occasions the natural beauty is mentioned and actions are taken to keep things as they are (GldA-9). An example of this is the description of a slightly bended road:

“Zij mogelijke eentonigheid verbreken en zodoende de esthetica helpen bevorderen.” (GldA-9; p.26)

When discussing tourism the natural beauty surfaces as well:

“Uit den aard mag het esthetische genot en het hygienische nut dat Oostereng aan het publiek kan bieden niet verkort worden.” (GldA-9; p.59)

Due to the state of the woodland many plots needed to be repaired into more productive plots. Other areas needed to be (re)planted totally. The skewed age distribution is the reason behind many measures taken. The focus lies on coniferous main species like Scotch fir, Douglas fir and Japanese larch, which all needed to be under planted with deciduous species. The main species were meant to generate money, while the under species were meant to nurture the ground. Cutting cycles of 60 years were used which meant a total area of 2.72 hectare could be cut on a yearly basis. Due to the state of the forest it was considered necessary to cut about 3.62 hectare coniferous and 0.7 hectare deciduous woodland in the first 30 or so years. This totals about 701m³ per year in those years. They realise that the rationalisation of Boswachterij Oostereng takes time (GldA-9). As they put it:

“... voor het langzamerhand normaal worden van het zoo zeer abnormale Oostereng vele tientallen jaren gedulde zal moeten hebben. De omstandigheden laten het niet anders toe.” (GldA-9; p.120)

The war on Oostereng

Boswachterij Oostereng was left undamaged by the invasion in 1940. The following four years saw little damage as a direct result of the war. There were problems with the local population who stole wood, committed vandalism and stole litter, blueberries, and mushrooms. Some measures were taken but it proved almost impossible to halt these things. The war and subsequent shortages were blamed. The war also caused a shortage of skilled labourers in the first years. The construction of highway 12 is named as one of the causes. In the last years of the war a shortage of labourers, both skilled and unskilled occurs. This was mainly caused by the arbeitseinzats (forced labour) and people trying to escape it by going into hiding. Given the strictness and measures required by the management plan it was important to have skilled labourers (GldA-9; GldA-2; Jansen, 2012). Another problem were the harsh long winters which shortened the planting season and slowed overall tree growth (GldA-2).

During the battle of Arnhem only little fighting took place on Boswachterij Oostereng. Being positioned west of landing zone DZ / LZ 'X' it was used by the Germans to counter attack from. This attack had little effect. A later offensive by the Germans, stretching from the Amsterdamseweg to the Bennekomseweg, must have passed through Boswachterij Oostereng as well (Clark, 2004). Yet any damages sustained during these attacks remain undocumented.

After the battle for Arnhem the villa on Boswachterij Oostereng was confiscated by the Wehrmacht who build trenches and laid barbed wire around it. The villa is most likely destroyed in April 1945 by Allied artillery bombardments from the Betuwe. Yet it was empty by that time (GldA-2; Van Ufford, 2007; Jansen, 2012). Aerial photographs of 8th of April 1945 show the villa still intact the roof seems damaged by an explosion leaving a hole. Around the villa a handful of craters are present as well as a single trench system surrounding the house. The barbed wire is not solid enough to be seen on the photos. The other houses on Boswachterij Oostereng seem undamaged and the forest seems mostly absent of craters. These shelling damages only show in the fields and near the roads. Appendix C portrays the aerial photographs of Boswachterij Oostereng in 1939, September 1944 and September 1945.

Putting the management plan into action

The annual reports for Boswachterij Oostereng show a detailed picture containing the actions taken in the woodlands there. This report was found in GldA-2.

The first year discussed is 1941, though hardly any actions take place. 1942 saw the first big changes in both cutting and planting. More than 31 hectare were thinned yielding among other things 116075 kilogram generator wood. This consisting half of deciduous and half of coniferous (Scotch fir) species. Mine, saw and firewood was gained and sold as well. At the same time 0.8 hectare was replanted with a mix of coniferous and deciduous species.

The amount cut and planted increases over the years. In 1943 large amounts of mainly Scotch fir was cut. This includes among other things thinning to create space for planting and the removal of badly growing trees. The total amounts cut are calculated sometimes in hectares and other times in cubic meters, making it hard to get a total estimate. Mine, generator and firewood where the main uses for the cut wood. Planting of deciduous species took place and included mainly *Prunus serotina*. In two plots inboeten took place. Inboeten is the process of replacing the newly planted trees that did not make it through the summer. In this case mainly coniferous species where used in combination with some deciduous under species. Rodents and rabbits ate a lot of the seeds used.

1944 saw a small decline in the amount cut and planted due to the battle of Arnhem and subsequent evacuation of the area. Mine and firewood was cut, but the information concerning the exact amounts has been lost during the chaos of the war. Douglas fir (5.38 hectares) and Japanese larch (3.25 hectares) combined with a deciduous under layer are planted that year. Yet most Japanese larch did not survive the weather. In other parts of Boswachterij Oostereng about 1.63 hectares are under planted with a combination of mainly *Prunus serotina* and Japanese larch. About 1 hectare was subject in inboeten as well. During the war most wood was obtained by thinning, clear cutting hardly took place.

Comparing the aerial photographs of 1939 and 12 September 1944 portrays both cutting and planting activities (see Appendix C). Nine plots spread out over Boswachterij Oostereng are clear cut, in these fields the removal of three stumps can be clearly observed. Soil tillage and replantation cannot be seen here. Several plots newly planted around 1939 have clearly grown and gained in mass. Two other plots where clearly turned from uncultivated land into forest by replantation.

Looking at the annual reports it is clear that the cutting was done in larger areas than shown on the aerial photographs. Considering the situation this is explainable. The annual reports show a lot of thinning. Most wood was first cut using this method, to keep the influence on the woodland as small as possible. Given that thinning not always shows in the crown surface it is difficult to observe in aerial photographs. There are however two plots which clearly show gabs, indicating the removal of individual trees.

With the ending of the war it was clear that too much wood had been cut in the year 1944-1945. The excessive 234 m³ cut, of which two thirds deciduous, lead to the decision to cut less the following years. When comparing the photographs from 12 September 1944 and 8 April 1945 an emptier Boswachterij Oostereng is seen (see Appendix C). It is however important to remember that most deciduous trees were still mostly without leaves in April 1945. Using the management map of 1944, present in the management plan, the plots containing deciduous trees can be determined. Using this it is clear that most scotch fir plots are considerable less dense. This can best be observed in the western part of Boswachterij Oostereng as most plots here are monocultures Scotch fir. As set in the annual reports no more clear cutting took place in this period and neither was there any replantation.

Although less was to be cut, a start was made with the cleaning of the woodland in 1945. This mainly includes the removal of damaged trees and defence works and the closing of holes and other imperfections in the ground. Over 850 m³ is cut as firewood in this way including both coniferous and deciduous species. The individual species are often not specified. An additional 100 m³ of Scotch fir was salvaged to be used as mine wood. This wood was carefully selected to include no damages or shrapnel. Planting did not take place this year. Security meant to prevent theft of wood and woodland product, was maintained. Though the amount of theft decrease rapidly after the war. Replanting picked up again in 1946, when over 9.5 hectare were replanted. This included practically only inboeten with Japanese larch, Douglas fir and *Prunus serotina*. The cleaning of the woodland continued to yielding a lot of firewood. About 167 m³ coniferous wood was cut to serve as saw and mine wood.

The years 1947 saw a further increase of cutting and replanting. The focus still lies on the cleaning of the woodland yielding mostly firewood. Like the previous year saw and mine wood was cut as well. About 8 hectare gets replanted and ingeboed with mainly Douglas fir and *Prunus serotina*. From 1948 onwards a decrease in the amount of firewood cut can be observed. Instead more saw, mine and staakhout (thin wood several meters long) is cut. This is also the first year after the war in which clear cutting takes place in several plots. The amount of plots that get planted and sowed increase as well. The practice of inboeten occurs only once this year. Planting is still mainly done with Douglas fir, Japanese larch and *Prunus serotina* while different oak species are sowed underneath. The sowed nuts were however often eaten by rabbits.

By 1949 the actions taken in Boswachterij Oostereng no longer focus on cleaning up the woodland from war damages. Although firewood is still cut, more and more wood is sold as mine, saw and pole wood. The amount of actions increases dramatically as well. This can be nicely illustrated by the amount of pages used to describe the actions. The State forest service needed about 4 pages to explain their taken actions during the war. 1946 to 1948 saw this number increase to about 6, but in 1949 and 1950 they need over 12 pages both years. 1951 and 1952 see this number decrease slightly again. Due to the sheer amount of information is difficult to give a clear oversight of what happened.

Both cutting and planting increases during this time. This increase in planting is logical as it was both needed and required by law to replant. It became next to that easier to get seeds for (re)planting. Cutting continues to provide the then much needed wood and to eventually reach the planned rational woodland. Replantation is still mostly done with Douglas fir, Japanese larch and *Prunus serotina*, combined with the sowing of different oak species. Yet at the same time more Scotch fir and other coniferous and deciduous are planted as well.

Although the amount of skill labourers had increased after the war it now decreased again. This was mainly due to the higher wages labourers could earn in the industry and on privately held woodland areas. Although marked as a problem it does not really show in the amount woodland cut and planted in these years. The amount of problems caused by rabbits increases as well during 1949 and 1950. The rabbits originated from neighbouring estates and ate a lot of the newly sown oak nuts. First they tried to fence off newly planted areas, with moderate results. The problem is eventually solved in 1951 by shooting the rabbits in combination with the bad weather. From 1950 onward most wood gets sold by public auctions. This seems like a logical occurrence considering that the war time rules finally dissolved in 1949. Which allowed forest owners to sell their products like they had done in the pre-war period.

Between 1941 and 1952 f236961.76 was spent on Boswachterij Oostereng. With a profit of f190927.73 a net loss of f46034.03 was obtained. Of these twelve years only 1943, 1949, 1951 and 1952 were balanced positively. Most money was obtained with the sale of wood. Apart from the obvious replanting costs the costs for cleaning up the woodland was highest (GldA-2).

Cooperation between the State Forest Service and LHS

Boswachterij Oostereng was bought for a large part for LHS in order to provide test plots. This to practice, do research and for demonstrations. Some research already took place during the war and students were used to work on Boswachterij Oostereng. The State Forest Service served only as the managing organisation. Together with the professors at LHS they would plan the future of Boswachterij Oostereng. It was intended that the foresters and his labourers worked in service of the professors at LHS (GldA-5). This also partly happened as can be seen in GldA-5. This archive piece includes a letter from 1942 in which the forester of Boswachterij Oostereng asks for permission to commit an action that was not inside the management plan. This cooperation however changed during the war as the State Forest Service pulled more power towards herself. The power to control cutting and replantation and pressured by the German demands of large quantities of wood, allowed and forced them to do this (GldA-5; Bouwer, 2008). Experiments were limited and only took place when these did not intervene with the production goal (GldA-9; GldA-5). Correspondence between the foresters on Boswachterij Oostereng and the professors at LHS, confirm this change. The professors show themselves obedient and accept the overruling of the State Forest Service. An example of this can be observed when one professor complains about the cutting in plots 15 and 16 and subsequently requests to spare these plots. When the cutting is deemed necessary by the State Forest Service, the professor drops his complaint and even mentions several other plots which qualify for future cutting. In another letter a forester explains to a professor that an unplanned action has taken place on Boswachterij Oostereng. Although the professor disagrees with this he remains silent. As he puts it:

“Ik vraag liever geen uitleg aan den heer Six Dijkstra, om begrijpelijke reden.” (GldA-5)

Putting a question mark behind the original proposed partnership based on equality.

4.2. Estate De Duno: Abrupt change

Estate De Duno is positioned on the push moraine north of the Lower Rhine river between Heveadorp in the east and the Italiaanse weg west. The estate originated in the 18th century as a country seat (buitenplaats) and included a park. The estate was privately owned and served several different functions during its time, including housing and serving as an inn. The park was enlarged in 1907 with some of the domain forests of nearby Doorwerth and the forests on the Westerbouwing. During this time several new houses were built on the estate. Between 1915 and 1922 parts of the estate and several houses upon it were sold. When the last owner O. van Vloten died in 1931, the estate went to the Geldersch Landschap. This foundation owns and manages several estates, castles and nature areas in the province of Gelderland. The Geldersch Landschap renovates the villa and turns it into a hotel (Van Beek, 2006; Van der Does & Holwerda, 2009; Gelders genootschap, 2011). Around 1935 a reform plan (hervormingsplan) is made in order to return the 65 hectare large estate and the woodlands upon it into the original form (GleKA-1; GldA-6). The plan was made with the help of the State Forest Service, and largely executed using subsidies from the government. Due to the crisis it was possible to get subsidies to hire people for unemployment relief projects. De Duno reform plan was one such project and therefore received subsidies covering 100% the wages of its employees (GleKA-2; Buis & Verkaik, 1999; Bouwer, 2008).

The War

The estate escaped the German invasion in 1940 unharmed. Given its size it was affected by the Germans regulations to rationalise the production and produce wood. The estate consisted mainly of coppice and most wood cut in the beginning of the war was oak. Rationalization, stemming also from the high demand, can be seen in the full use of the trees. As not only the tree trunk, but also the tree stumps and bark are sold. The wood is often used as firewood and generator wood. An example of these deliveries can be found in the archive where they describe the sale of firewood to the bakeries in the surrounding towns in 1944 (GleKA-1). This practice was very common according to R2:

“Dat was in het verleden regelmatig dat ze dat [de hakhoutbossen red.] allemaal plat maakte, want dat gebruikte de bakkers. De bakkerijen werden allemaal gestookt met takkenbossen en ieder dorp had wel meerdere bakkers.” (l. 78-81).

Although the cutting was forced and regulated, the estate remained free to sell firewood to the people living on the estate (GleKA-1).

In 1942 and 1943 the Wehrmacht started cutting wood themselves on estate De Duno. The cutting was done by subcontractors hired by the Wehrmacht or by The Public work programs agency (Nederlandsche Heidemaatschappij). When the wood was cut The Public work programs agency contacted the Geldersch Landschap to tell what was cut and when this was done. A few days later the Wehrmacht send a Debet form indicating the money they owned the Geldersch Landschap (GleKA-1). This money was presumably paid later that year. An example from this can be seen in **Figure 3: In the bottom left corner the notification by The Public work programs agency and above it the notification of the Wehrmacht. R.M. stands for ‘Ruimte Meter’ which equals a Stère (1 m3) (GleKA-1).**

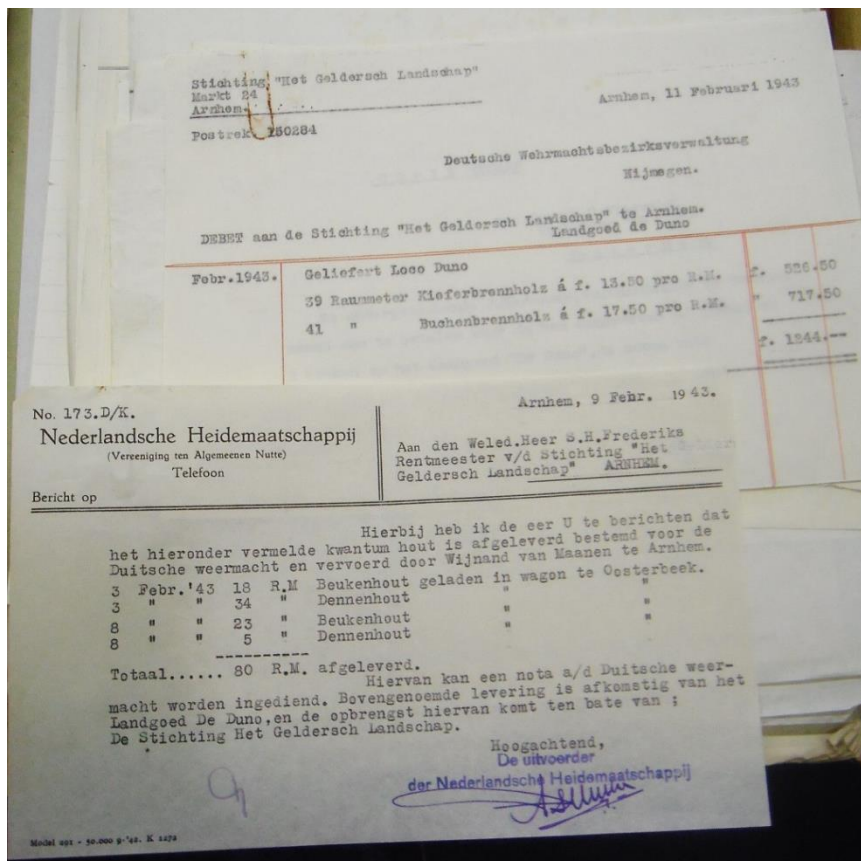


Figure 3: In the bottom left corner the notification by The Public work programs agency and above it the notification of the Wehrmacht. R.M. stands for 'Ruimte Meter' which equals a Stère (1 m³) (GleKA-1).

Sometimes the wood cut by subcontractors for the Wehrmacht remained untouched as was the case on 28 of March 1944. A letter from the steward (Rentmeester) signals this occurrence and requests to use the already cut wood for civilian purposes (GleKA-1).

Comparing the aerial photographs from 1939 and 12 September 1944 some cutting can be observed on two small plots on the western part of the estate. The cutting is however not as visible as it was on Boswachterij Oostereng (see Figure 4). Most wood was gained by thinning the woodlands and the aerial photographs do show more space within several plots, hinting at this practice. At the same moment it could be simply part of the reform plan as explained in the paragraph The abrupt change. Thievery also took place during the war. Sometimes the thieves were caught and an official report (Proces-verbaal) was made. GleKA-1 contains a letter dated 1946 from a man who lived on the estate during the war and was caught stealing. In his letter he tries to justify his actions and attempts to get the official report removed. Alas to no avail as the Gelders Landschap holds on to the official report and thereby belonging penalty. Most wood was stolen by local civilians after it was cut. In a letter dated 23 February 1943 the Steward of the estate urges a potential buyer of tree stumps to collect the wood as fast as possible due to the high change of theft. He writes:

“Met oog op diefstal zult u ten zeerste verplichten met het nemen van een spoedige verplichting”
(GleKA-1)

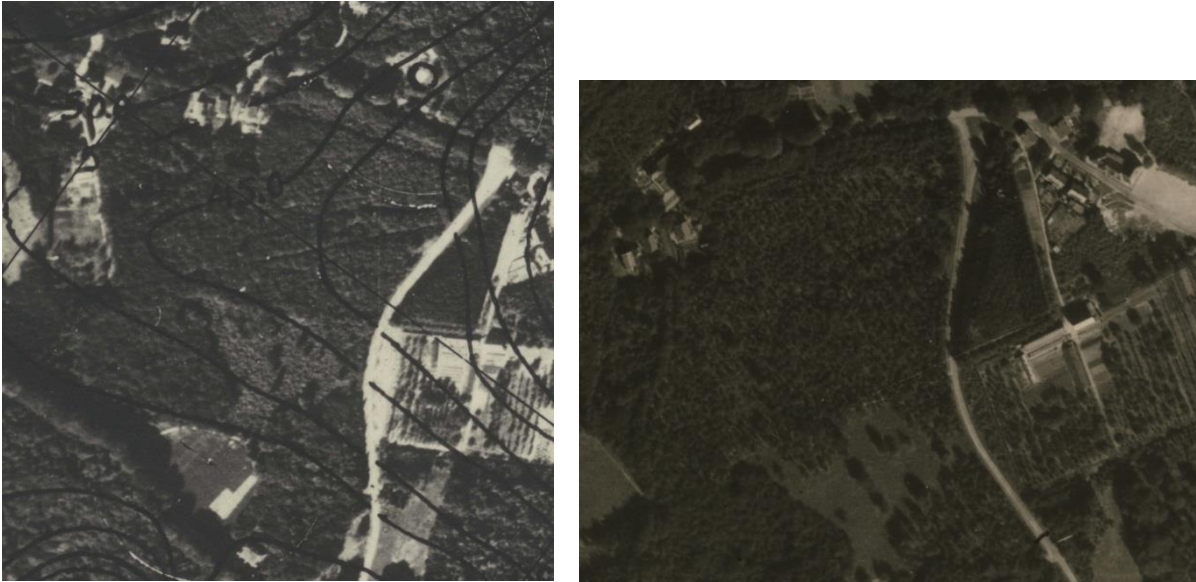


Figure 4: Estate De Duno 1939 left and 12 September 1944 right. Both show the same woodland plot south of the Oude Oosterbeeksche Weg. The picture from 1944 clearly shows a more open woodland compared to the situation in 1939 (Left: excision of 1938; Right: excision of 114_06_3120 with contrast increased).

In 1944 the war truly comes to De Duno. With the Allied landings the estate becomes a warzone. First British paratroopers move from west to east in order to get to Arnhem. When that fails the estate becomes the scene of heavy hand to hand fighting especially around the Westerbouwing, which hilltop dominated the river (Clark, 2004; Gelders genootschap, 2011). After the withdrawal of the Allies the area becomes an exclusion zone. Around 200 German soldiers occupy the estate heavily fortifying it with trenches, bunkers and land mines (GldA-7; De Jong, 1982-2; Gelders genootschap, 2011). Land mines were also used in booby traps as R3 remembers:

“Er waren mijnen in de grond maar er waren ook van die [mijnen], als je bij wijze van spreken een trap tegenaan gaf en je trok aan dat koord dan knalde er een eind verder een of andere mijn ook. Dus het was kort na de oorlog best harstikke gevaarlijk in de bossen.” (l. 177-180)

The aerial photographs of the area mainly show the trench systems (see Figure 5). During the winter 1944/'45 heavy artillery bombardments took place by the Allied forces occupying the Betuwe. These bombardments wreaked havoc on the estate and destroyed most of the houses upon it (GldA-6; Bouwer, 2008; Van der Does & Holwerda, 2009). These damage can partially be seen on the aerial photographs made in spring 1945. House the Duno can no longer clearly be distinguished on the aerial photographs, but the houses positioned further north on the estate are better visible. Damages seem however limited from the air, meaning that till that time no direct hits occurred on these houses.

By the time the Canadian 1st army moves into the area to liberate it, most Germans already withdrawn and only few skirmishes took place (De Jong, 1982-2).

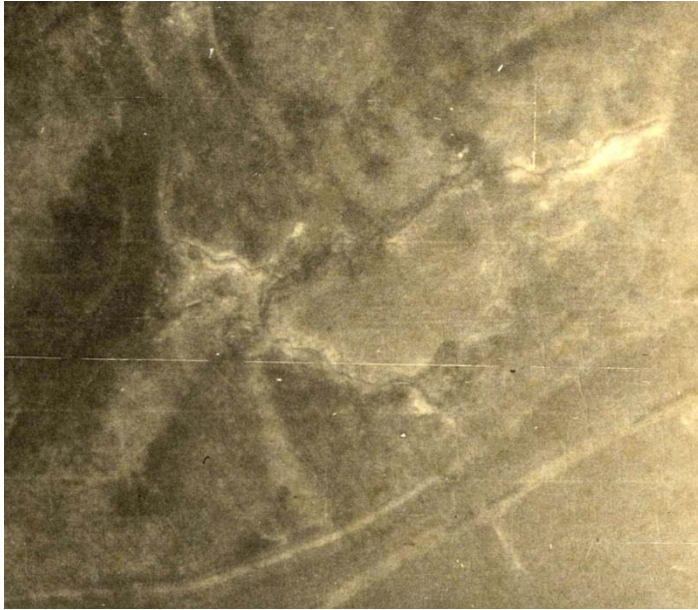


Figure 5: Estate De Duno 1945. Bottom left the river. The trench system is visible on the field in front of the Estate. The Villa itself is no longer visible on the photograph (excision of 215_08_4160 with *contrast increased*).

The aftermath

With the war over, the big cleanup begins. This was partially done with government grants. All buildings except for two buildings on the Italiaanse weg, namely 'Vrede' and 'De vreugd' were heavily damaged and consequently demolished. They were never to be rebuild (GleKA-1; Van der Does & Holwerda, 2009). The woodlands were cleaned as well by removing the damaged trees and refilling the holes left by the trenches and bombardments. After this replanting took place, which was important due to the erosion taking place on the then barren slopes. The clearing and selling of the wood was difficult due to the shrapnel present in the trees, and care had to be taken due to the presence of land mines (GleKA-1; Van Beek, 2006).

The rules that allowed the German government to control the forestry sector remain active after the war. The Dutch government uses these rules to remains in control of planting and cutting. In June 1946 Geldersch Landschap is obligated to provide 250000 kilogram generator wood from its woodlands within the following 2 years. They are also obligated to make logging plans for their possessions. These plans show where to cut the woodlands and where to reforest. Reforestation was deemed very important due to the loss of woodlands during the war. The plans and its execution were overseen by the State Forest Service (GleKA-1). Although the wartime rules remained, their implementation changes as the logging plan of 1946 shows:

"Bij vaststelling van het kapplan is uitgegaan van de gedachte, dat onze geplunderde bosschen rust nodig moeten hebben om zich te herstellen." (GleKA-1)

It was therefore not allowed to cut more than the annual growth, and the State Forest Service monitored this. Given the extreme damages on the estate the Geldersch Landschap got a postponement on their reforestation target (GleKA-1). This allowed them to cleanup the estate including the removal of defence works and ammunition depots. The latter were often blown up. This was cheap and easy compared to other methods of removal, but caused heavy damages locally (GldA-6). The damages left by the removal, through explosion, of ammunition are also remembered by R4:

“We hadden nog zo’n grote bom gevonden, me vader en ik, dat was een blindganger. [...] de helft erboven en de helft in de grond. Op de plaats hebben ze die laten exploderen. Daar zit nou nog een heel groot gat.” (l. 312-316).

After the war some friction is observed between Geldersch Landschap, the State Forest Service and The Public work programs agency. This can for example be seen in the correspondence between these three organisations in 1946 and 1947, partially present in GleKA-1. The correspondence subject is the reforestation plans on the estate. These are originally led by landscape architect Verhoeven. The State Forest Service is sceptical about the plans but allows the Geldersch Landschap to contact The Public work programs agency anyway. Much to the State Forest Service surprise The Public work programs agency agrees to execute the plans after which the State Forest Service intervenes preventing the plans to be executed. They disagree with Verhoeven’s approach since it does not include a State Forest Service approved plan. The correspondence does not portray the conclusion of this event.

The overall tone however is positive, for much has been destroyed, but there is also a lot that remains and which has the potential to be again (GldA-6). This however did not mean that the estate would be returned to its pre-war situation.

The abrupt change

Before the war a reform plan was started and during the war the execution of this plan continued. In 1941 both De Duno commission and the State Forest Service agreed to continue with the reform plan. The project which would take at least 5 year to complete, could still serve as an unemployment relieve project as long as there was sufficient professional supervision. Because of this the pre-war subsidies continued. Although under German control these subsidies lasted until spring 1944 (GldA-8; GleKA-2; GleKA-1).

The plan intended to create a woodland that originally belonged on the relatively rich soils present on De Duno. This wood is called *Querceto-Carpinetum stellarietosum* (droge eiken-haagbeukenbos) and includes mainly deciduous species like oak, beech, common hazel and common hornbeam. Some groups of individual coniferous species were allowed to remain as well. The plan included a detailed list of actions to be taken in the different plots. In several plots both coniferous and deciduous trees were thinned. This was done to remove unhealthy specimens and create space for mountain-ash, alder buckthorn, beech, common hazel and common hornbeam. Most coniferous plots were however not just thinned, but also cut to make space for the deciduous species. The aerial photographs of 12 September 1944 show a more open woodland which could be the result of this plan. Only the healthy growing Douglas gets exempted from this. The Douglas did however not form the majority of the coniferous trees on De Duno. Some coppice remains but it is often reformed into high forest. Sometimes this is done naturally with little human interference, while in other plots the future trees are set free of competition and actively guided. The latter often takes place on the steep slopes. Some new walkways are created as well and there are of course several plots which see no interference at all. A letter from March 1944 shows that the plan remains largely in use, although it is requested to spare the oaks stands and not remove all tree stumps (GleKA-1).

The damages caused in the last year of war largely destroyed the till then reached results of the reform plan. The aerial photographs show this destruction partly. The woodland near the forest show both destruction by trenches and bomb craters. **Fout! Verwijzingsbron niet gevonden.**⁶ gives an impression of how this looked on the ground.

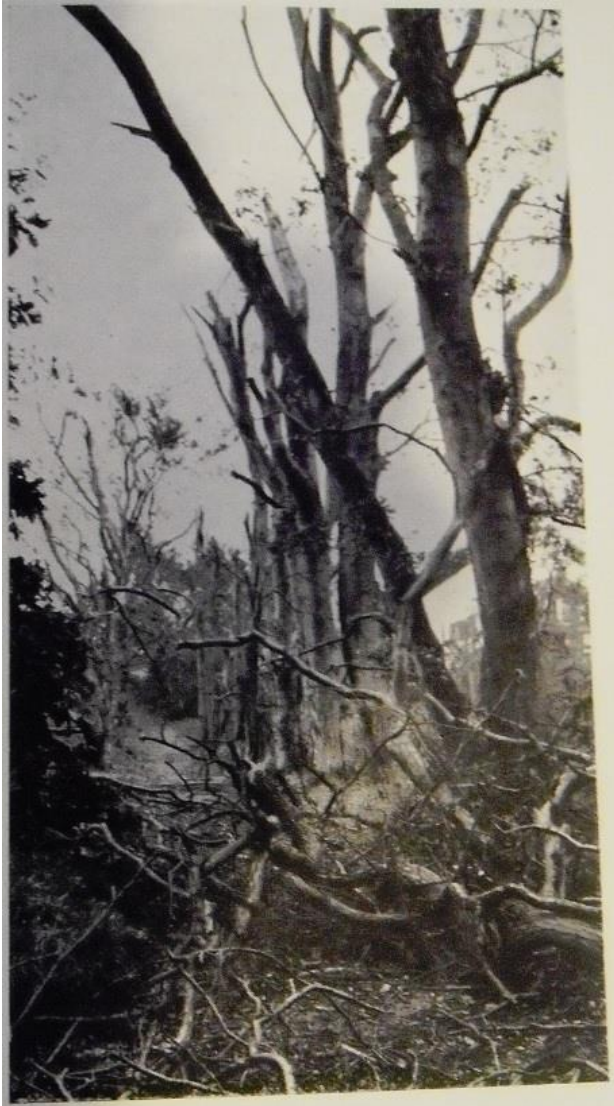


Figure 6: Destruction on De Duno (GldA-6)

As a result the whole estate was turned into a forest reserve. What was left of the coppice was removed and replanted, and the whole woodland was turned into high forest (GldA-6; Van der Does & Holwerda, 2009; pers. com. S. Van der Genugten, 16-12-13)

According to De Beaufort (in GldA-6) the choice to turn estate De Duno into a forest reserve was socially and economically. Right after the war he reasons that the Dutch population, tired of war and plagued by their economic needs, is more than ever in need of nature. This nature serves to help the stricken population to unwind and regenerate their physical and mental strength. Which is needed to deal with the stress occurring in the post-war situation. The recreation of nature is therefore of vital importance. Yet to do this money is needed, and the Geldersch Landschap realises that money is a scarce commodity. Meaning that a cheap solution must be found. The solution is a more natural management, where nature develops itself without too much human intervention. This natural development is a long term solution and is relatively cheap. He next to that sees it as an ideal sought after by nature conservationists. As De Beaufort puts it:

“Dit “laten begaan” van de natuur is

vanzelfsprekend voor den natuurbeschermer het ideaal.” (GldA-6; p.48)

He also realises that this natural forest can produce as well, allowing the woodland to make some money as well.

This economic reason seems strong considering other evidence as well. De Duno, although considered extremely beautiful (GleKA-1), was never a lucrative location. The balance sheets from the pre-war and war period show this clearly (GldA-6). The cleanup measures needed after the war also carried high cost of f16.000. This does not include the cost for any reforestation of soil improvement measures. The Geldersch Lanschap, a young organisation, also owned other possessions which needed their attention, making the choice of a cheap management methods logical (GleKA-1; GldA-6). The Geldersch Lanschap also owned the heavily damaged castle Doorwerth, which was eventually renovated. The cost of this project (6 million guilders) was carried by the national government (90%), the province of Gelderland (2.5%) and the municipality of Renkum (2.5%), leaving only 5% to be paid by Geldersch Lanschap (GldA-10).

4.3. Boswachterij Doorwerth: Boersberg and Noordberg

In the municipality of Renkum lies Boswachterij Doorwerth, which did not exist in the pre-war period. Its forest lots were owned by various private owners before the war. The area contained a lot of villas owned by the rich families from the western part of the Netherlands. These people, who often earned their money in the industry of plantation business, bought lots on the Veluwe to build country houses and villas where they could relax and recreate (Bouwer, 2008). The woodlands near Doorwerth were especially interesting due to their natural beauty, including old deciduous woodlands and great views over the low lying Betuwe. As a result more and more country houses and villas were built often destroying the beauty they were coming to experience in the first place. Municipalities and conservationists recognised this trend and as a result tried to limit the construction and pressure on the woodlands. The municipality of Renkum started a compulsory purchase procedure to gain ownership over these lots in order to create one continuous woodland area. This could be used for recreation, protection, urban expansion and economic forestry as well as halting the construction process. The outbreak of the war delayed the compulsory purchase procedure, but in 1941 the municipality eventually succeeded (Bouwer, 2008). Yet long could they not enjoy their newly owned woodland as on January 5th 1942 it was claimed by the State Forest Service. Using a new law introduced in 1940 by the Dutch government, the State Forest Service was able to confiscate terrains for the state in order to safeguard production and natural beauty. In total 72 lots were confiscated from the municipality of Renkum, accounting for over 190 hectare. The municipality was not compensated till 1944. The newly created woodland area was named Boswachterij Doorwerth and the State Forest Service became responsible for its exploitation (GldA-3; Bouwer, 2008).

War time exploitation of Boswachterij Doorwerth

Like estate the Duno Boswachterij Doorwerth survived the 1940 invasion practically unharmed. During the years of the compulsory purchase procedure and confiscation by the State Forest Service little happened. According to (GldA-4) it were mainly the country houses and villas which suffered in this period as they were abandoned and no longer maintained. It was therefore also advised to repair these houses as soon as possible. Yet the war prevents any action of the sort. Boswachterij Doorwerth consisted mainly of coppice of oak and beech and some coniferous trees. After the confiscation by the State Forest Service it was meant mainly for rational exploitation. It hereby follows the demand set by the Germans, also visible in Boswachterij Oostereng. Yet during the pre-war period it had not been managed with the rational production goal in mind. As a result the State Forest Service had to reorganise the whole area to make rational forestry possible. This meant that large areas were cut and sold, followed by soil tillage and replantation. This brought with it the high cost of f83428.38 from 1942 to 1945. While yielding only f27757.42 in return. This yield was gained mainly from the sale of wood and the rent of the present country houses and villas. In the post-war period until 1952 an additional f147885.89 was spent. This includes the cleaning and reparation of the war damages. Only f70578.48 was earned, mainly from the sale of wood. As a result the balance between 1942 and 1952 was negative f132978.37. During this period only the years 1942 and 1946 were profitable. This is mainly due to the sale of wood combined with hardly and replantation cost (GldA-4).

All actions undertaken in the woodlands of Doorwerth are preserved in the archive, in annual reports for the years 1941 to 1955 (GldA-4). These detailed accounts tell of the transformation of Boswachterij Doorwerth from coppice woodland to a high forest that includes both under and upper species, and intended to produce wood. The pre-war situation where coppice dominates the woodland is partially visible in the aerial photographs of 1939 and the historical maps. High forest is mainly present along the roads (GldA-4; Wieberdink, 1989; map 490; 1938 & 2038).

During the war most plots are thinned or felled, its wood used as firewood, generator wood and for the mines. Farmers also use woods from the Boswachterij on their farms. This so called *“boerengrieffhout”* often gained from coppice, is used for example for poles and the making of fences. Thievery takes place as well, which is mentioned once in 1942. Direct influence of the Wehrmacht is noted in 1944 when they cut 51m³ oak and beech. This wood is however never collected and gets repurposed for civil use. As the annual report mentioned:

“Weermacht velt, maar neemt niet af, hout word bestemd voor oiviele doeleinden” (GldA-4)¹

During the war replanting takes place as well. Mostly deciduous species like *Prunus serotina*, common hazel and alder buckthorn, are planted. After planting seeds are dispersed to create an additional layer. This to varying effect as some seeds get eaten by rodents, rabbits and birds or simply do not germinate. In autumn the newly planted trees that did not make it are replaced (inboeten) (GldA-4).

The battle for Arnhem brought a halt to the forestry practices on Boswachterij Doorwerth. Like on estate De Duno the area suffered heavily from the fighting during the Battle for Arnhem and even more by the artillery bombardments during the following winter (Bouwer, 2008). The aerial photographs from 15 March 1945 show this effect clearly. On the photo of 12 September 1944 no defence works or damages are visible while in spring 1945 the forests are littered with trenches and bomb craters. The trench systems are both present near the river and in the hinterland. The density of bomb craters is highest near the river (see also Figure 7, 8 & 9).

It is reckoned that the German soldiers posted on the push moraine, near Doorwerth, used a lot of wood from the woodland during the winter. The wood often served as firewood and to construct defence works. Due to the damages by artillery shelling it remains impossible to see this in the aerial photographs (GldA-11).

From the second half of 1945 the State Forest Service starts cleaning up the woodlands on Boswachterij Doorwerth. The wood, mostly shot to pieces was littered with shells, making cutting and sawing difficult. It also means that practically all wood is used as firewood. The cleaning is even more endangered by booby-traps in the trees. These usually consisted of small land mines. Mine and pole wood was salvaged where possible, but it is scarce and cut only in small amounts (GldA-4). Any replanting is not mentioned till 1947. From then onwards replanting takes place in a growing capacity. Reason for this delay are most likely the necessity to clean first in combination with the lack of seeds and young trees to plant. When these eventually came they mostly came from Boswachterij Oostereng or nearby plant nurseries like the one in Wageningen. Before planting intense soil tillage was conducted. This included the removal of Bramble and Fern which frequently overgrown the plots without trees. Replanting was mostly done with *Prunus serotina* and Japanese larch. Native oak and beech also return as the to be planted species. One of the first replantation takes place on the lanes flanking the Fonteinallee. The original lane got shot to pieces and in 1947 new beech trees are planted. However all but five died due to sunburn during the summer. Next to that the sloped areas

1) Given the context it is likely that “oiviele” is a typing mistake for “civiele” meaning civilian.

gain priority when replanting. The cause for this is most likely the problems with erosion, as discussed in 4.2. Estate De Duno: Abrupt change. Inboeten also takes place in many of the cleaned woodlands. In 1951 about half (7 hectare) of all wood added is added in this way. Hardly any monocultures are created. The coniferous plots with Japanese larch is often under planted with *Prunus serotina*. Deciduous woodland usually remains deciduous and includes several different deciduous species.

From 1948 onwards more and more wood is sold as saw and pole wood. Firewood remains a common purpose and is mainly originate from the plots that where heavily damaged by the fighting (GldA-4).

Boersberg and Noordberg

While interviewing R1 and R2 two for them special places, often returned. These places are the Boersberg and Noordberg which are positioned on the push moraine west of Estate De Duno and south of the village Heelsum (Figure 6). The stories told by R1 and R2 concerning these areas are captured here and combined with the aerial photographs to tell a wartime story. First the war, especially the battle of Arnhem, is discussed. This is followed by their view of the Woodlands and the events within them.

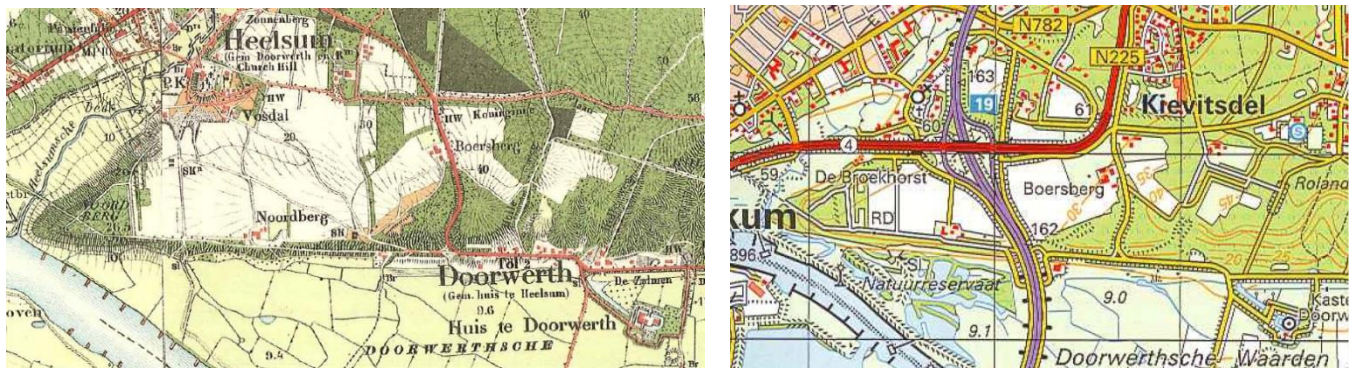


Figure 6: The Boersberg and Noordberg, left in 1910 (Wieberdink, 1989; map 490 & 489) and right in 2004 (Boddaert & Bakker, 2004; map 94).

Although the War influenced normal day life from day one, the effects in the forest where not always that clear for the local inhabitants. Yet the battle of Arnhem, and all its change was not so easily missed. R1 and R2 vividly remember this time, by now they were about nine and eleven years old. According to R2 life went on normal until the battle of Arnhem. After that the Germans started building extensive defence networks:

“Er waren verdedigingswerken hier in de bossen genoeg. Eigenlijk alleen niet in de oorlogsjaren, maar dat is alleen maar gekomen met de luchtlanding. Toen hebben ze hier verdedigingswerken gehad. Er zaten loopgraven en bunkers zaten hier.” (l. 176-179).

This is followed by a detailed description of the always twisting trench system, which ran from their house to their neighbour’s house on the Noordberg, more than 750 meters away. It also ran onto the push moraine including the Boersberg and the field nearby and also included several foxholes. He also talks about bunkers on the push moraine and the fortification of their house.

R1 remembers less details surrounding the defence works except for the trenches. He does however remember the staggering amount of ammunition left in the woodlands by both the Germans and Allies, as well as uniforms and helmets. As he puts it:

“loopgraven die waren er nog wel op ongeregelde plekken en wat ik dus al verteld heb over de munitie; tot ver na de oorlog gebeurde daar nog ongelukken mee.” (l. 297-299).

The aerial photographs confirm R2 his claim for change after the battle of Arnhem. The pre-war pictures portray not a single piece of defence work in the vicinity. The pictures of March and April 1945, portray a different story altogether, as trenches are clearly visible in the area and pattern described by R2 (see picture 7, 8 & 9). Although the trenches are clearly visible the bunkers talked about are not. Neither can the fortification of the house be seen. Given the period of constant shelling, the Germans most likely camouflaged them in order to remain as safe as possible. The presence of foxholes seems entirely possible since it was the standard practice of the time (Clark, 2004). It is however impossible to distinguish these holes from the holes left by the artillery bombardments.



Figure 7: Noordberg on the left side on 12 September 1944. The woodland upon it is clearly visible. No defence works are present and the woodlands and fields are undamaged (excision of 114_06_3124 with contrast increased).



Figure 8: Noordberg on the left side of the picture, north of the river on 8 April 1945 and the fields east of it leading up to the Boersberg (see picture 9). The trench systems are clearly visible as are the bomb craters in the field (excision of 028_04_3046 with contrast increased).



Figure 9: Boersberg on the bottom right corner, on 15 March 1945 and the fields west of it leading up to the Noordberg (see picture 8). The trench systems are clearly visible as are the bomb craters in the field (excision of 215_08_4155 with contrast increased).

According to R2 the woodland size did not change between the pre-war period and now. As he claims:

"...wat nu bos is dat was voor de oorlog en in de oorlog ook bos." (l. 59-60).

When comparing the maps of 1910 and 2005 this statement rings true. He remembers this deciduous woodland as coppice before the war. Most of it was damaged during the war, especially on the sloped areas. These damaged parts were consequently clear cut after the war and replanted. Some wood on the western part where largely intact and still contain trees dating to the pre-war period. As he puts it:

"Die hellingen die zijn allemaal afgekapt na de oorlog en zijn ook allemaal weer opnieuw ingepoot. Behalve dit bos hier. Als je hier nou X naar beneden en dan de rechtse kant die helling hebt, die is wel kaal geweest en is overnieuw ingepoot, maar bovenop de berg daar staan nog bomen die voor de oorlog ook al stonden." (l. 69-72).

The wood which in his recollection was not as high as now provided a clear view over the Betuwe for the German defenders. The lack of leaves on the trees helped a lot as well.

Although remembered as coppice by R2 the pre-war map of 1910 portrays almost 50% of the Boersberg as high forest. The aerial photographs show that the Boersberg is mainly deciduous woodland. Given the period and location it was most likely coppice. Looking at the photographs taken during the winter it becomes clear that a small part was coniferous woodland as well, but the ration was certainly not 50/50 as the maps claim. The slopes of the push moraine, not visible on the maps are coppice as well.

Given his age it is not strange that R1 did not recollect the details of the woodlands during or right after the war. The use of coppice also did not help him remember as R2 nicely points out:

“Dat bos hier was van SBB, dat is helemaal plat geweest. En na de oorlog hebben ze dat allemaal omgezaagd. Maarja dat was in het verleden regelmatig dat ze dat allemaal plat maakte, want dat gebruikte de bakkers.” (l. 77-79).

When growing up with the practice of coppice it is seen as ‘normal’ that woodlands grows and get cut down only to regrow again. With cycles averaging 15 years it becomes normal to see a woodland temporarily devoid of trees (Den Ouden et al., 2010). When comparing the aerial photographs from 1939 to 1945 no clear cutting or thinning practices are observed during the war on these locations. The Noordberg is by R1 remembered for something different, namely the danger of the ammunition. As he recalls:

“5 jaar na de oorlog op een zondag, als regel ging ik wel mee wandelen, op avontuur met mijn kornuiten, maar toen had ik een mooi boek en ik had geen zin dus ik bleef thuis. Maar der klonk een enorme ontploffing en [...] toen bleken mijn vriendjes aan het knoeien te zijn geslagen met een landmijn of iets van die aard en dat ding dat ontplofte” (l. 24-29).

The explosion caused by the four young lads playing, cost them dearly. One of them died instantly while a second died the following day. The third lost his leg and the last his toes. It proved a memory highlighting the shadowy side of the war.

4.4. Estate Hoekelum: An estate divided

Estate Hoekelum is an old estate positioned between Ede and Bennekom on the Edenseweg. Its origin lies in 1325, when it is first mentioned as a lodge (Bodlaender & Hulst, 2001). The estate was owned by different families who all influence the estate in their own way. First there was a focus on agriculture and the management and cultivation of waste lands. This was followed slowly by a focus on forestry based on coppice and coniferous woodlands. In the last century the estate owners also focussed on complementary functions, like tourism and the organisation of conferences (EA-2). In 1988 the then owner Jacoba Cornelia baroness van Wassenaer, sold the estate to the Geldersch Landschap en Kasteelen. Baroness Van Wassenaer lived on the estate till her death.

The War

During the Second World War the estate was owned by baron Karel Gerrit Willem van Wassenaer, the father of Jacoba Cornelia baroness van Wassenaer. Influenced by the English landscape style he had changes the originally formal look by adding curved roads flanked by trees around 1900. He also added small waterways, ponds and a teahouse (Bodlaender, & Hulst, 2001; Kasteel Hoekelum, 2013). In this period most forest on the estate consisted of coppice of mainly oak and beech and some coniferous woodlands consisting mainly of Scotch fir (EA-2).

The focus on coppice was economically expectable in the Netherlands during that time. Most high forest was only present in the lanes along the roads (Jansen, 2012; pers. com. S. Van der Genugten, 16-12-13).

The estate escaped the German invasion in 1940 unharmed. The Germanys rules to rationalize the forestry sector and increase production in order to supply wood for the war effort, also counted for estate Hoekelum. This due to its size being larger than 5, and later 10, hectare (Bodlaender & Hulst,

2001; Bouwer, 2008). The scarcity caused by this rule led to the theft of wood from 1940 onwards. As the Arnhemse Courant of 23 November 1940 posts:

STROOPERIJ VAN HOUT.

Twee jongelui maakten zich te Bennekom op gronden van Baron van Wassenaar schuldig aan strooperij, onder verzwarende omstandigheden, van z.g. sprokkelhout. Bij het transporteren per kruiwagen van het bijeengegaaarde hout werden zij betrapt. Een jachtopziener maakte proces-verbaal op.

Poaching of wood

Two young men have been caught poaching deadwood in Bennekom on the lands of the Baron van Wassenaar, under aggravating circumstances. They were caught when transporting the wood by wheelbarrow. A gamekeeper made the official report.

This theft was not unique, neither for the location, quality and quantity. The thefts were however not the barons biggest problem or loss. In 1943 his wife dies and in January 1944 he was ordered to leave his estate. The German military police (*Feldgendarmarie*) occupied the estate and its castle till the end of the war (EA-2; Kasteel Hoekelum, 2013). The first real damages due to the fighting were suffered on 17th of September 1944. That day the area was bombed prior to the Allied landings near Arnhem. As R4 puts it:

“Er kwamen een paar formaties vliegtuigen [aan] en wij staan dan zo te kijken en [de Duitse officier] zegt dan: Dat zijn de tommy’s. [...] en hij heeft het nog niet gezegd, of het was nacht. Het was echt helemaal donker en, dat bleek later, van de bommen. Toen zijn we hier enorm gebombardeerd. Ja echt enorm en [...] dat was de eerste keer dat wij gebombardeerd werden ja.” (l. 92-135).

Using the aerial photographs some effects of these bombardments can be seen. The highway, which can be seen clearly from the sky, portrays damages compared to September 1944. The coniferous woodland shows several small craters and two craters are present in the field in front of the castle. Clearly visible are the defence works built by the Germans after the battle for Arnhem. This includes the trenches in the highway foundations and in the fields. There is also a trench system around the castle and the other houses on the estate. Many more trenches are present south of the highway. These trenches are most visible in the fields (see Figure 10).

The German occupation of the estate left its marks as well. The damages to the castle were repaired on 22 Augustus 1946 and a start was made with the cleaning of the woodlands. The baron however did not return to the estate and died in 1946, leaving the estate to his daughter (EA-2; Bodlaender & Hulst, 2001; Kasteel Hoekelum, 2013).



Figure 10: Castle Hoekelum in the upper left corner and the surrounding trench systems. The trenches are also visible in the dirt foundation of the highway (excision of 046_09_4199 with *contrast increased*).

Change in the woodlands

It was compulsory to make business plans during the war, but the plans for Estate Hoekelum have not been found during this research. This makes it difficult to trace what happened within the woodlands and why. It is however known when the management of the different plots on the estate changed and when the different plots on the estate germinated.

There are 50 recorded changes in management surrounding the war period (1940-1950). Most of these (33) take place after the war while only three take place during the war. The other fourteen projects take place over a longer period, which includes the war but is not limited to this period. The changes take place in both the coniferous and deciduous woodlands in almost equal amount (19 vs. 17) but most are changed into coniferous wood (32). These new coniferous woodlands consist mainly of Japanese larch and Douglas fir sometimes combined with some Scotch fir. There are some mixed plots in which the managements changes, but these follow the previously mentioned pattern and are mostly turned into coniferous woodlands.

There are also five plots which turn from cultivated land like roads and gardens, into woodland. Three of these occur after the war, making it look like it was more than just a reaction on the war. During the war there are only three plots that report a management change. Twice does it include a change from deciduous woodlands, once to coniferous and once to a mixed stand. The other plot changes from cultivated land to deciduous woodlands (EA-3; EA-2; Bodlaender, & Hulst, 2001). It is however unclear whether or not this change is due to the war since the changes are dated as 1940. This means that they could have taken place before the actual start of the war (EA-2).

When comparing the aerial photographs from 1939 and 12 September 1944, some of these changes can be observed. On the plots on the most western part of the estate clear signs of clear cutting and

the removal of tree stumps can be seen. One central plot lying bare in 1939 has been replanted. The only other clearly visible change is the construction of the highway (see Figure 11 and 12).



Figure 11: Estate Hoekelum in 1939, showing the pre-war situation (excision of 1921).



Figure 12: Estate Hoekelum on 12 September 1944, showing the clear cut areas on the east side of the estate. The dirt ramp constructed for the highway is just visible on the bottom of the picture (merged excision of photograph 114_04_4061 & 114_04_4062 with *contrast increased*)

The management map 1950 (EA-1) gives another insight into the actions observed in the aerial photographs. Next to land use the map contains among other things the years of germination of a plot. Using this map a different image is portrayed.

Looking at the plots south of the highway, it becomes clear that most germinated during (1940/'42) or directly after the war (1946/'47). This suggesting that these plots were cut during the war. The plots that remain untouched all germinated in the 19th century, making it look like they tried to save the older plots from the forced cutting.

The germination of the plots north of the highway portray a less clear image. Most plots around the castle seem untouched. All of these germinated mid-19th century. Most other plots that seem unharmed also originate from the 18th and 19th century (EA-1). The date of germination however

does not prove that no cutting took place. Thinning for example could still take place as could the cutting of coppice. Neither of these require replanting and therefore does not show up on this management map. Since the area around the castle consisted mostly of coppicing it seems likely these would be cut as well to achieve the necessary amount that needed to be cut. The aerial photographs do not portray any change in the area. The trees which during September are still in full leaf cover might hide any thinning that had taken place.

One area that saw a serious change was of course the area that was cut for the construction of the highway. For the creation of the highway, a dirt ramp was built partly above, partly below ground level. Apart from the approximately 20 meter wide highway, the talus on both side was cleared as well. The forest present on this location was clear cut and the tree stump were removed.

The highway question

During the war estate Hoekelum was split in two by the construction of highway 12 (A12). This was the first highway in the Netherlands and was partly built during the war. Yet does this make it a war related activity that influenced the woodlands on Hoekelum?

The first highways were invented around 1930 and built from 1933 to 1942 under fascist rule in Italy and Germany (Modern Marvels, 2002; Autosnelwegen.nl, 2013). The highways were built for economic and war related functions. Being built mainly by unemployed people it was used to decrease unemployment in an attempt to battle the then ongoing crisis. Its creation and completion also served propaganda goals. Germany owned by 1939 over 3000 kilometres of highway. By then most of the manual labour was replaced by machine work. The highway building project in Germany was halted in 1942 due to the shortages of materials and manpower which was all needed for the war effort, mainly the construction of the Atlantic Wall (Modern Marvels, 2002).

Although the highways were partially meant to speed up troop movement and enable the blitzkrieg they hardly did. This was mainly due to the unavailability of highways abroad, since no other country had a finished highway network that could be exploited. More notable; most other countries had not even started planning and building highways. The train network which expanded over the whole European continent, proved much more valuable for troop movement and was therefore used most often in the transportation role. In the second half of the war the German air force did use the highways as airfields. The Allies used them too during their advance into Germany in 1945 (Modern Marvels, 2002).

The Dutch started thinking about highways around the same time as their German neighbours. First a private group promoted the idea to build highways to connect the large Dutch, Belgium and German cities. The government concluded the creation of highways unnecessary at first, but early-30's agreed with the use and creation of a highway system. Like in Germany this was partly in order to decrease unemployment. Work started from 1933 onward, on the highway 12 which was meant to connect Den Haag and Utrecht. From Utrecht it would go to Arnhem. It was originally planned to connect from Arnhem to Emmerich in Germany, but this plan was halted when the start of the war became inevitable. In 1940 121 kilometre of highway was finished and open for the public (Autosnelwegen.nl, 2013).

Looking at the aerial photographs of 1939 it becomes clear that the creation of highway 12 Utrecht-Arnhem near Hoekelum had not yet started (Also see figure 11). Yet Baron van Wassenaer already knew that his estate would become separated by the highway. When the plans for the highways

course where revealed he had, on multiple occasions, protested about this. Yet to no avail (EA-2; Bodlaender & Hulst, 2001).

During the German occupation the German government picked up the construction of the highway where the Dutch had finished. The pre-war plans were unaltered except for the part west of Arnhem which was to be connected towards Emmerich from which it would go to the Ruhr area. Highway 12 was deemed important for the war thus it got priority. It was to be constructed as soon as possible. In 1942 the construction was stopped as were all German highway works. This was mainly due to the shortage of concrete, which was necessary for the construction of the Atlantic wall. The construction did however not stop totally in 1942. Instead work continued till 1943 on the dirt foundation. This foundation could be built without concrete and was approved by the Germans as long as no regular workers were used. Instead forced labor, consisting of mainly Jews, were employed (Modern Marvels, 2002; Autosnelwegen.nl, 2013).

The aerial photographs from 1944 and 1945 of the estate Hoekelum show this groundwork clearly. The photographs from 1945 also portray defence works, mostly trenches, in the highway foundations (Also see figure 12).

After the war the Dutch government continued with the construction of the highway accepting the changes made during the German occupation (Autosnelwegen.nl, 2013).

It is clear that the Germans influenced the Dutch highways. They made sure the highway was connected to Germany, further north than originally planned by the Dutch government (Autosnelwegen.nl, 2013). They also served as a leading example when it came to the arrangement of the highways surroundings after the war (Veldhuis & Paeßens, 2009). According to Buiter (1997) it was however not the German highways but the Italian highways that influenced the original pre-war design.

The German influence is however very limited when considering the splitting of estate Hoekelum during the war. The plans for the highway were invented without German influence and the plans always meant the estate to be split. During the war the Germans simply picked up where the Dutch had left and prioritised the project. After the war the Dutch government again continued as planned. Had the war not taken place the highway would still have been built right through estate Hoekelum. It can therefore not be seen as a war related effect, even though the highway influenced the estate and the woodlands on it.

5. Stories of local people

"Storytelling reveals meaning without committing the error of defining it."

Hannah Arendt (Arendt, n.d.).

The conducted interviews are analysed in this chapter using the method explained in paragraph 3.3 Data analysis. The chapter starts with a description of the interviewed people. This is followed by the internal analysis of the interviews which focusses on the subjects interviewees talk about. After this the interviews are compared, focussing on what is said about the woodlands. This last step done to gain insight into the coherences and differences between the interviews.

5.1. Overview of the interviewees

As described in paragraph 3.3 Data analysis four to eight people were selected to be interviewed. It proved impossible to find people who worked in the woodlands during or directly after the Second World War. One contact claimed this to be the result of the age of these people. According to him all these people would have died by now. This could however not be confirmed. Since no woodland workers could be found the search continued towards people who lived near or in the woodlands in the case study area. Four of these people were found and subsequently interviewed. All interviews were conducted and transcribed in Dutch. One of these can be found in Appendix B. Table 1 shows the basic information about the interviewed people.

Table 1: Overview of the interviewees.

Respondent	Code	Date of interview	Year of birth
Respondent 1	R1	14 October 2013	1935
Respondent 2	R2	17 October 2013	1933
Respondent 3	R3	22 October 2013	1935
Respondent 4	R4	18 December 2013	1935

In September 2013 several Arnhem veterans were contacted. Two of them agreed to tell me their story, but neither wanted to do a full interview. The advanced age of the veterans combined with the exhaustion of the traveling and other activities during the commemoration week, made this simply too exhausting and stressful.

Although both veterans mention woodlands in their story, neither of them remember any details of it. This is not strange considering the stress they experienced at the time, trying to survive in the middle of a desperate battle.

5.2. Respondent 1

In this paragraph the interview conducted with respondent 1 (R1) is analysed. First the found narratives are portrayed. These narratives concern the subjects mentioned, not their content. In this way it is shown about what R1 talks, not what R1 says about it. This is followed by an explanation about the links between the different narratives, called linked stories. Finally the narratives are analysed content wise concerning the effects on the woodlands. In this paragraph it is also

mentioned what R1 tells about the woodland. The line numbers are given to enable the reader to find out what was said precisely. Some quotes are used as well to give meaning to the narratives.

Paragraphs 5.3, 5.4 and 5.5 discuss exactly the same for respectively respondent 2 (R2), respondent 3 (R3) and respondent 4 (R4). These paragraphs are there for ordered in exactly the same way.

The found narratives

Table 2 shows the individual narratives found in the interview of R1.

Table 2: Narratives found in the interview of R1.

Narrative	Line numbers	Subject
N1	1-21	R1 tells about R1s personal history and gives biographical information.
N2	21-49	R1 tells about playing with ammunition after the war and how this turned out badly for R1s friends.
N3	49-54	R1 tells about R1s personal history and gives biographical information.
N4	54-87	R1 tells about the evacuation during the battle of Arnhem 1944.
N5	87-101	R1 tells about the river Rhine and the therein located pool (Rijnbad).
N6	101-107	R1 tells about the clearing of mines and ammunition after the war.
N7	107-117	R1 tells about watching soccer on the Wageningse berg.
N8	117-127	R1 tells about the wave pool in Doorwerth.
N9	127-141	R1 tells about the battle of Arnhem and the commemorations nowadays.
N10	141-148	R1 tells about the daily drive to his school (De mulo).
N11	148-165	R1 tells about the Keijenbergsebeek and the Keijenberg.
N12	166-181	R1 tells about the scouting.
N13	182-186	R1 tells about the accessibility of the woodlands.
N14	186-197	R1 tells about the trailer park on the Bennekomseweg.
N15	197-219	R1 tells about the paper factory.
N16	220-238	R1 tells about soccer on the Wageningse berg and going to church.
N17	239-253	R1 conveys sources that I might use during my thesis.
N18	254-293	R1 tells about the state of the woodlands during the war and R1s work in the woodlands after the war.
N19	294-332	R1 tells about playing with ammunition and how disordered they were as children after the war.
N20	333-353	R1 tells about the activities of others in the forests and returns briefly to the loss of R1s friends due to playing with ammunition.
N21	353-361	R1 tells about a commercial action the local textiles shop had just after the war.

Linked stories

The above mentioned narratives can be divided into three main linked stories.

The first one concerns itself with the biographical information with which R1 starts the interview. In N1 R1 start by telling something about R1 self. In N3 R1 continues by telling something about R1 nearby living family. In N1 R1 also mentions R1s everyday life and activities and specifically mentions

his school, the scouting and the church. These three subjects return in N10 (school), N12 (scouting) and N16 (church). In N16 he also refers back to soccer on the Wageningse berg. This is a reference to N7 where R1 talked about soccer on the Wageningse berg in more detail. In N12 R1 talks about the ensign of the scouting, who returns in N21 as the owner of the local textiles shop after the war. Related to N21 is N15 in which R1 talks about the paper factory as the main employer of the region. The fondness of swimming is not mentioned in N1 but returns subsequently in N5, N8 and N11, as activities undertaken in R1s everyday life. The first linked story is schematically shown in Figure 13.

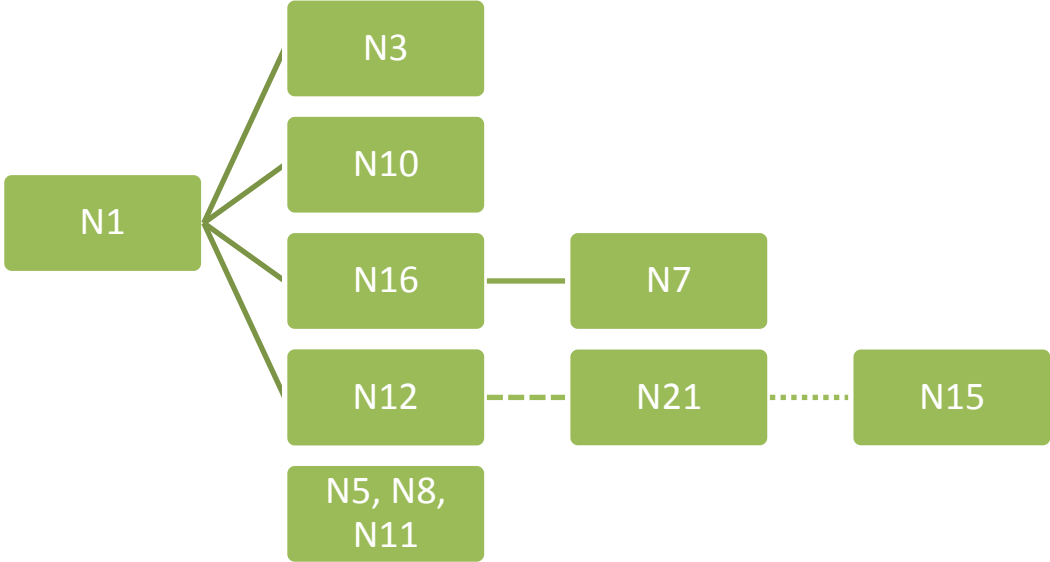


Figure 13: Narrative flowchart containing the linked stories on R1s biographical information and everyday life. The different line style show a separation in the linked story. N15 is directly related to N21 but not to N12. It is only related to N12 through N21. In the same way N21 is directly related to N12 but not to N1. It is only related to N1 through N12.

The second linked story contains the subject of ammunition and the battle of Arnhem. The gathering of ammunition and the danger of it returns in the beginning (N2, N6) and in the end (N19, N20) of the interview. Despite the mentioned danger R1 collected ammunition as R1 mentioned in N4. Here R1 tells among other things, a story of how R1 was afraid to lose R1s collection when they were evacuated. linked to N4 is N9 in which R1 continues on the battle of Arnhem prior to the evacuation. The second linked story is schematically shown in the upper half of Figure 14.

A third narrative going parallel the second story concerns itself with the R1s remembrance of the woodlands. Starting in N13 R1 talks about the accessibility of the woodlands during the war. In N18 R1 talks about the state of the woodlands and R1s work in these woodlands after the war. In N20 R1 discussed activities he and others did in the woodlands. R1 ends N20 with a last remark about the danger of ammunitions and what a waste it was that it turned out badly for R1s friends. The second and third line are intertwined due to N20. Although it are two different subjects it remains one narrative. Listing carefully to the tape of the original interview gives the impression that the mention of R1s friends is more of a lingering though. Talking about what people did in the woodlands brought back memories of R1s loss. The third linked story is schematically shown in the bottom half of Figure 14.



Figure 14: Narrative flowchart containing the linked stories on ammunition and Woodlands. The different line style show a separation in the linked story. N9 is directly related to N4 but not to N2, N6, N19 and N20. It is only related to these narratives through N4.

Two narratives are left out of the above mentioned linked stories. These narratives stand apart and are not linked. N14 concerns a story about the nearby trailer park where R1 and friends did not dare to come or pass on their own. N17 contains the part in which R1 provided me with several sources of information which I might be able to use.

Narratives on effects on woodlands

R1 starts in N2 by mentioning the first effects with a personal story highlighting ammunition and the danger of this (l. 24-34). The end of the war left the woodlands filled with left over war material and ammunition, which children like R1 gathered and played with sometimes with deadly results. The dangerous effects of ammunition are mentioned again in N20 (l. 352-353).

Effect: Left over ammunition.

A second effect of the war is mentioned in N4 when R1 talks about being evacuated. Here R1 mentioned hearing bombardments while being evacuated through the woodlands (l. 80-83).

“Dus we trokken door de bossen en overal hoorde je ontploffingen en of dat nou inkomend granaatvuur was of [...] granaatvuur wat op de Betuwe werd afgeknald waar de geallieerde zaten, dat weet ik tot op vandaag niet...” (l. 80-83).

Although R1 does not remember which side was shooting, it remains an effect on the woodlands.

Effect: Damage due to shelling.

In N6 R1 mentions the method of clearing ammunition that had not exploded after the war (l. 104-106).

“Dat ging zo primitief met een paard en een lang koord [...]dat werd verbonden aan zo’n granaat en dat denderde dan maar net zo lang [voort] totdat dat ding ontplofte. Dat was de mijnopruijningsdienst.” (l. 104-106).

R1 does not describe the results of this method, but clearing mines and ammunition by detonating it leaves its mark like any explosion does.

Effect: Damage due to ammunition clearing.

When asked about the state of the woodlands after the war, R1 claims not to remember this.

“Daar had ik geen benul van [...] dat interesseerde je helemaal niet nee” (l. 256-257).

Yet later when describing working in the woodlands R1 mentioned two interesting facts.

The first one concerns with the way the forest looked. In line 266 R1 describes the woodlands as hardly accessible suggesting a woodland with lots of undergrowth hindering the planting.

R1 also tells about aiding with planting of Douglas telling something about what was planted after the war (l. 268-270).

“...dan maakte zij [bosarbeiders red.] een gleuf met een spa en moest ik als jochie en ook een paar vriendjes dat boompje, die Douglas, in die gleuf stoppen en dan stampte zij dat aan en trokken we naar het volgende gat.” (l. 268-270)

Effect: Presence of much undergrowth.

Effect: Planting of Douglas.

A final result of the war is mentioned by R1 in N19 when R1 discusses the defence works the Germans build in the woodlands (l. 297).

Effect: Presence of defence works, mainly trenches.

5.3. Respondent 2

In this paragraph the interview conducted with respondent 2 (R2) is analysed as discussed in paragraph 5.2.

The found narratives

Table 3 shows the individual narratives found in the interview of R2.

Table 3: Narratives found in the interview of R2.

Narrative	Line numbers	Subject
N1	1-10	R2 tells about R2s name surfacing in a research like this one.
N2	10-21	R2 tells about R2s personal history and gives biographical information.
N3	22-32	R2 tells about the differences in the agricultural sector and nowadays agrarians.
N4	32-44	R2 tells about the evacuation in September 1944.
N5	46-51	R2 tells about R2s personal history and gives biographical information.
N6	52-57	R2 tells about the differences in the agricultural sector.
N7	57-84	R2 tells about the woodlands surrounding the farm.
N8	85-115	R2 tells about the usage of the woodland by agrarians.
N9	116-135	R2 tells about the usage of the woodland by citizens, how that changed and the role of the car.
N10	135-150	R2 tells an anecdote from his youth.
N11	151-163	R2 tells about the role of the car.
N12	163-173	R2 tells about the woodlands surrounding the farm.
N13	174-218	R2 tells about the military usage of the woodlands surrounding the farm and the different military structures.
N14	218-237	R2 tells about military service (conscription) then and now.
N15	237-251	R2 tells about R2s school time and military service (conscription).
N16	252-294	R2 tells about the change in the agricultural sector and related food industry.

Linked stories

The above mentioned narratives can be divided into three main linked stories.

The first one concerns itself with the biographical information with which R2 starts the interview. In N2 R2 start by telling something about his family and the farm. In N5 R2 continues by telling something about R2 self. R2 continues talking about his everyday life in N10 where he tells an anecdote about school after the war. he continues talking about school in N15 where he talks about his school time during the war. In N15 R2 also mentioned the reason why he did not need to serve in the army after the war, which refers back to N14 where he speaks about military service. The first linked story is schematically shown in Figure 15.



Figure 15: Narrative flowchart containing the linked stories on R2s biographical information and everyday life. The different line style show a separation in the linked story. N14 is directly related to N15 but not to N10. It is only related to N10 through N15.

In the second linked story R2 talks about the changes occurring between now and then. This starts in N3 and N6 with the discussion of change in the agricultural sector and continues in N16 where this changed is related to the Food industry. Related to change, though unrelated to the agricultural sector, is N11 where R2 voices R2s opinion about the car usage now and how that was all different in the past. This opinion on car usage also returns in N9. Related to change is N8 where R2 explains the difference between the use of wood by agrarians. The second linked story is schematically shown in the upper half of Figure 16.

The third linked story concerns itself with the war and the woodlands surrounding the farm. It starts in N4 where R2 discusses the evacuation in September 1944. In N7 he discusses the woodland and the damages the war caused. In N12 R2 talks about the woodland in the pre-war period continuing in N13 where R2 discusses the usage of the woodlands by the Germans when R2 was evacuated. Related to the usage discussed in N13 R2 discusses the usage of the woodlands for the agrarians (N8) and the citizens (N9). The second and third line are intertwined due to N8 and N9. In these narratives R2 talks about the usage of the woodlands by agrarians and citizens while referring to the difference between then and now. The second linked story is schematically shown in the bottom half of Figure 16.

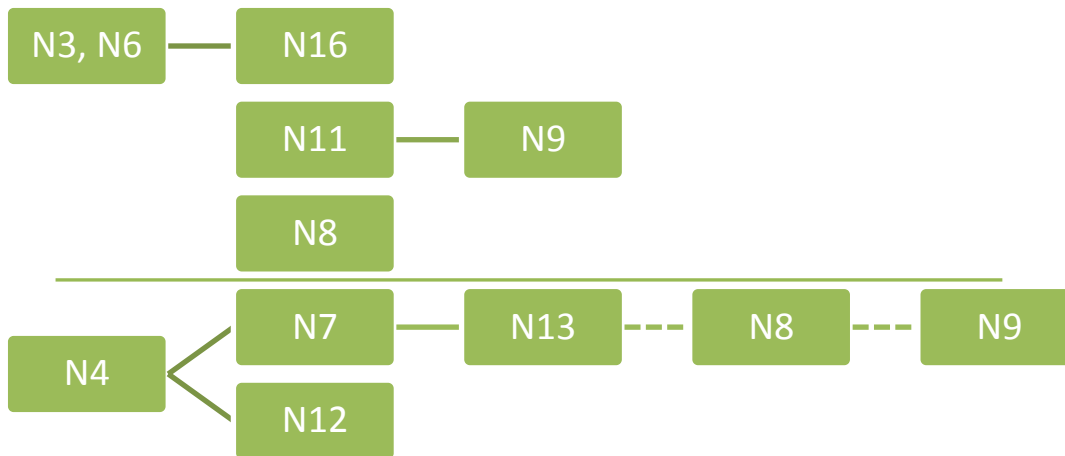


Figure 16: Narrative flowchart containing the linked stories on change and War and the woodlands. The different line style show a separation in the linked story. N8 and N9 are directly related to N13 but not to N7 or N12. They are only related to N7 and N12 through N13.

N1 is not part of a linked story and contains R2 opening remarks about R2 not being surprised about being contacted for this interview.

Narratives on effects on woodlands

R2 first mentions effect of the war on the woodlands in N7 (l. 61; l. 74). Here R2 mentions damages due to shelling.

Effect: Damage due to artillery shelling.

R2 talks about the changes in the woodlands directly after the war in N7, N8 and N12. R2 starts with the previously mentioned destruction which led to extensive clear cutting of the damaged woodlands directly after the war (l. 61-62; l. 70; l. 77-78). According R2 the total woodland area did not change after the war, so all woodland cut was also replanted or regenerated naturally (l. 59-60; l. 114). The replanting sometimes resulted into a change of specie composition as R2 mentions (l. 65-67).

"...er stonden eikenbomen [...] en die zijn na de oorlog allemaal gekapt en daar zijn beukenbomen voor in de plaats gekomen." (l. 65-67)

Here an oak lane was cut down and replaced by a lane consisting of beech trees. The natural regrowth often included a change from coppice to high forest as R2 mentioned.

"Het hakhout wat de toen groeide is nou allemaal groter geworden." (l. 111-112).

R2 however does not blame this on the war but on the disappearance of the local bakeries (l. 167-168).

Effect: Clear cutting in the post-war period.

Effect: Keeping the woodland areal equal.

Effect: Replanting (sometimes) with different species in the post-war period.

R2 also mentioned defence works in the woodlands near the farm including trenches, bunkers and foxholes (l. 178-179; l. 216).

Effect: Presence of defence works mainly trenches, bunkers and foxholes.

Lastly R2 mentions his impression of the woodland during the winter 1944-1945 (l. 203-205).

"Daar [de verdedigingslinie op de stuwwal red.] had je een prachtig uitzicht, en het was wintertijd, der zat geen blad meer aan de bomen, dus met een verrekijker konden ze [de Duitsers red] een heel eind kijken." (l. 203-205)

R2 describes the view over the Betuwe as clear, since the trees were relatively small and without leaves. A remark must be made on this comment as R2 could never have seen this view in the winter of 1944-1945. At the time he was evacuated. It is however possible that R2 got the impression when he got back home after the evacuation or when R2 visited the location one winter later.

5.4. Respondent 3

In this paragraph the interview conducted with respondent 3 (R3) is analysed as discussed in paragraph 6.2.

The found narratives

Table 4 shows the individual narratives found in the interview of R3.

Table 4: Narratives found in the interview of R3.

Narrative	Line numbers	Subject
N1	1-25	R3 tells about the battle of Arnhem and the subsequent evacuation and return home.
N2	25-33	R3 tells about the large amount of ammunition after the war and the dangers of it.
N3	33-40	R3 tells about R3s personal history and gives biographical information.
N4	40-44	R3 tells about the damages caused to trees due to the war.
N5	44-63	R3 tells about the usage of the woodlands by the Germans and R3s family during the war.
N6	64-138	R3 tells about the damages caused to trees due to the war and castle Doorwerth.
N7	139-158	R3 tells about the usage of wood directly after the war.
N8	159-169	R3 tells about the accessibility of the woodlands.
N9	170-180	R3 tells about defence works in the woodland.
N10	181-208	R3 tells about the river Rhine and collecting ammunition and other war material.
N11	209-226	R3 tells about the disposal of his ammunition and war material collection.
N12	227-281	R3 tells about beekeeping and voluntary work in castle Doorwerth after the war.
N13	282-305	R3 tells about how the centre of Oosterbeek got both busier and less ordered.

Linked stories

The above mentioned narratives can be divided into four main linked stories.

The first linked story focusses on war damages. R3 starts by the general story about the damages to the cities due to the battle of Arnhem in N1. In N4 R3 continues with the damages to trees by the war which also returns in N6 where R3 tells about castle Doorwerth and the damages to it and the surrounding trees. In N7 R3 explains how the wood after the war was damaged and filled with shrapnel that it could only be used as firewood. Inherently related to the war and the situation in the

woodlands mentioned in N7 are the defence works R3 talks about in N9. The first linked story is schematically shown in the upper half of Figure 17.

In the second linked story R3 talks about ammunition. R3 starts with this in N2 where R3 mentions the large amount of ammunition and the dangers from this. In N10 R3 returns to the subject by telling about how R3 and R3s brother went to the Rhine to gather ammunition and war material, which subsequently ends in N11 with his story of getting rid of R3s collection. Both N2 and N11 note the danger of the ammunition which links them with N9. Here R3 talks about the defence works and mines present in the forest which made the woodlands a dangerous place. The first and second line are intertwined due to N9 where R3 starts talking about the defence works and ends up talking about the danger of being in the woodlands after the war. The second linked story is schematically shown in the middle of Figure 17.

The third linked story concerns itself with the biographical information. This starts in N3 where R3 tells something about his study. In N12 he comes back to this by talking about his hobby beekeeping and his voluntary work as a gardener in the garden of castle Doorwerth. R3 interrupts N12 when a heavy lorry drives by to remark the increase in traffic in Oosterbeek. This is a follow-up on R3s remarks at the end of N6 where R3 also mentions this increase in traffic when he gets interrupted by the noise from the main road. R3 returns to this in N13. The first and third story are intertwined due to N6 which concerns itself with the war damages but gets interrupted by the noise from the main road. The third linked story is schematically shown in in the bottom half of Figure 17.

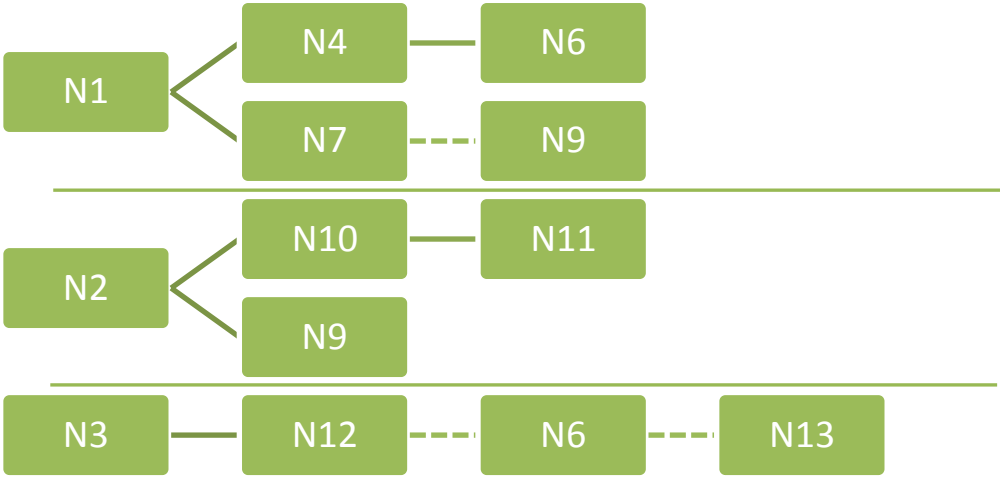


Figure 17: Narrative flowchart containing the linked stories on war damages, ammunition and R3s biographical information. The different line style show a separation in the linked story. N9 is directly related to N7 but not to N1. It is only related to N1 through N7. In the same way N6 and N13 are directly related to N12 but not to N3. They are only related to N3 through N12

The fourth linked story contains the final two narratives and tells a story about actions undertaken in the woodland during the war (N5) and the accessibility of these woodlands (N8). The fourth linked story is schematically shown in Figure 18.



Figure 18: Narrative flowchart containing the linked story about usage of the woodlands.

Narratives on effects on woodlands

R3 starts in N2 by mentioning the large amounts of ammunition present and the danger of this (l. 27-32).

Effect: Left over ammunition.

In N4 R3 mentions the damage done to trees in the intense fighting in September 1944 (l. 41-43).

“...maar die omgeving [rondom Oosterbeek] die was natuurlijk ook enorm beschadigt hé, want je houdt het niet voormogelijk hoeveel bomen er bijvoorbeeld alleen door de oorlog gewoon kapotgeschoten zijn hé.” (l. 41-43).

R3 returns to this in N6 where he mentions the immense war damage in the woodlands near the river (l. 65-66). R3 then goes into the situation surrounding castle Doorwerth and the surrounding trees (l. 84-85; l. 125), including the famous tree on the courtyard of the castle (l. 110-114). All were heavily damaged yet most of these trees returned after the war (l. 114-115; l. 135-138).

“Dat Oosterbeek toen wat bomen betreft en wat bos betreft, heel erg beschadigt was zo niet helemaal kapot volledig verdwenen waren [...] Ja en god zij dank dat [bos red.] is allemaal weer terug gekomen.” (l. 135-138).

Later in N7 R3 returns to the damages to the woodlands due to fighting and shelling (l. 140-141).

Effect: Damage due to fighting in September 1944 and shelling in the winter 1944-1945.

In N5 R3 mentions the usage of wood during the war. R3's family was dependant on the woodlands for firewood and as the war progressed R3 and R3's brothers went inside the woodlands to steal wood (l. 50-51). During this time they had to watch out for the Germans present in the woodlands, who also cut wood (l. 54-55). R3 remembers the wood being cut on one meter lengths and expected it to be used as mine wood (l. 58-59).

“...dat [wat de Duitsers kaptten red.] werd meestal gekapt in stukken van een meter ongeveer, ik dacht dat het eigenlijk ook voornamelijk voor de mijnen was.” (l. 58-59).

In N7 R3 talks about the usage of wood after the war. Due to the shrapnel the wood was mainly used as firewood (l. 143-144). In (l. 156-157) R3 adds to this that the firewood came from coppice.

Although most wood was damaged R3 also mentioned the presence of some beautiful trees among the damaged ones (l. 149-150).

“...maar er waren heel veel kapotte bomen en daar zaten natuurlijk toch best wel hele mooie exemplaren tussen...” (l. 149-150).

This gives the impression that R3 remembers some larger relatively undamaged trees.

Effect: Theft of wood during the war.

Effect: German wood cutting during the war.

Effect: Limited usage of wood after the war.

Effect: Presence of some good specimens among the damaged ones.

The presence of defence works is mentioned by R3 in N9. He remembers mainly mines and booby-trapped mines in the woodlands. (l. 174-176)

Effect: Presence of defence works mainly mines.

5.5. Respondent 4

In this paragraph the interview conducted with respondent 4 (R4) is analysed as discussed in paragraph 5.2.

The found narratives

Table 5 shows the individual narratives found in the interview of R4.

Table 5: Narratives found in the interview of R4.

Narrative	Line numbers	Subject
N1	1-8	R4 tells about the German invasion in 1940.
N2	8-26	R4 tells about the German government and its influence on daily life.
N3	27-43	R4 tells about his activities during the war.
N4	44-67	R4 tells about the change in the woodland after the war both in amount and in aesthetics.
N5	67-78	R4 tells about how R4s family used the woodlands.
N6	79-81	R4 tells about the accessibility of the woodlands.
N7	82-136	R4 tells about the allied bombardment prior the 1944 landings.
N8	136-157	R4 tells about bombardments prior the 1944 landings and the danger of being shot by allied planes.
N9	157-163	R4 tells about the increase of fanaticism of the Germans as the war processes and the difference between the Wehrmacht and the SS.
N10	163-201	R4 tells about the battle of Arnhem, about the coming of the British and the return of Germans.
N11	201-216	R4 tells about the evacuation to the nearby estate.
N12	216-235	R4 tells about the owners of the estate and their affluence.
N13	235-247	R4 tells about the searching of shelters for British soldiers and material by the Germans.
N14	247-262	R4 tells an anecdote about catching a pig for the Germans in the middle of the night.
N15	262-265	R4 tells about the evacuation to Ede.
N16	266-283	R4 tells about returning home to a total devastation after the war.
N17	284-317	R4 tells about the reparation of the war damages with help of prisoners of war.
N18	318-404	R4 tells about a person of the SD who claimed to be of the resistance in order to catch the actual resistance active in the region.
N19	404-425	R4 tells about the assistance police after the war and German soldiers who hid inside the forest near R4s home.
N20	425-440	R4 tells about the chaos after the war and the general lack of respect for rules everyone had.

Linked stories

The above mentioned narratives can be divided into two main linked stories.

The first story can broadly be divided as R4s story during the war. Starting with N1 on the invasion of the Germans in 1940. He continues in N7 talking about the bombardment prior to the allied landings in September 1944. He refers back to bombardments before operation Market Garden in N8, before continuing with this experience of the battle of Arnhem in N10. In N11 he tells about his evacuation to the nearby estate. In N12 he tells about the estate owners. Following in N13, N14 by telling about

the events that occurred on the estate, before continuing with his evacuation to Ede in N15. When the war ends R4 returns to his destroyed home as explained in N16. Following that up with the much needed reparation in N17. In N19 he tells about the nearby assistance police who was in charge of keeping order after the war following in N20 with the general chaos and lack of respect everyone, including this assistance police, had directly after the war.

Sidestepping from N1 R4 talks about the influence of the war on his life in N2 and N3. In N2 R4 mentions both the SS and the Wehrmacht and their differences which he mentions again in N9. The first linked story is schematically shown in the upper half of Figure 19.

The second linked story contains R4 activities in the woodlands. In N5 R4 talks about the families usage of wood and in N6 R4 mentions the accessibility. In N3 R4 also mentions spending much time in the woodlands for recreational purposes. The first and second line are intertwined due to N3 where R4 talks about his daily including his time spend in the woodlands and the effect the war had on his life. The second linked story is schematically shown in the bottom half of Figure 19.

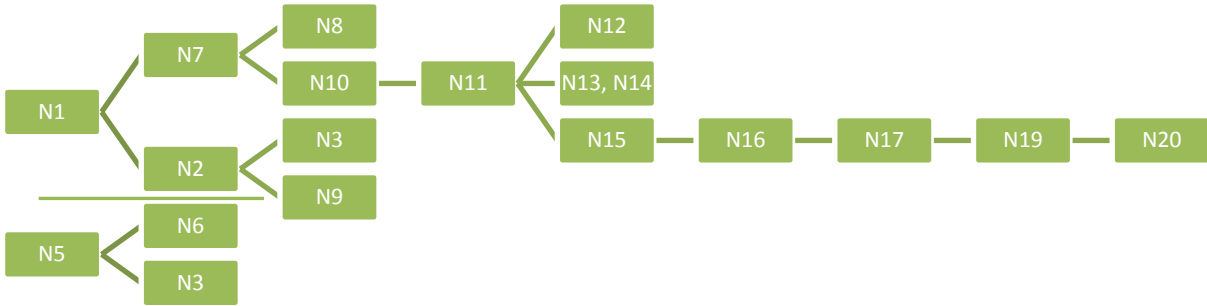


Figure 19: Narrative flowchart containing the linked stories on his wartime experience and R4 activities in the woodland.

Two narratives are not linked. In N4 R4 talks about the change in the woodland, comparing the situation before and in the war with the situation now. N18 is also separate and contains a detailed story of a person of the SD who pretended to be from the resistance.

Narratives on effects on woodlands

Starting in N4 R4 talks about the woodlands and how they became larger (l. 49) and less beautiful after the war (l. 51).

“Nu is dat allemaal begroeit maar dat was toen allemaal kaal.” (l. 49).

“De bossen die waren veel mooier he.” (l. 51).

R4 determines this aesthetic value by the size of the trees which used to be much larger (l. 52-54) and the woodlands where better maintained (l. 57-58). R4 thinks this change is due to the focus on production which occurred after the war.

Effect: Focus on production leading to more woodland cover and less beautiful woodlands.

In N5 and N6 R4 talks about the families use of wood. They used wood as firewood, having no other fuel available. This wood came from the nearby woodland (l. 67s-72). According to R4 this was allowed (l. 80-81).

“Ja, jaja dat mocht. Dat werd ook niet altijd gewoon gevraagd, nee dat was gewoon heel gewoon eigenlijk.” (l. 80-81).

Effect: Wood use as firewood during the war.

In N7 R4 talks about damages due to bombardments by airplanes before the landings of September 1944 (l. 125-126).

Effect: Damage due to bombardment by airplanes.

R4 mentions the usage of the woodlands by the Germans. In N14 (l. 257-260) R4 explains how the Germans hid their kitchen in a dense forest to prevent it being seen from the air. In N19 he tells about the post-war period in which several German soldiers hid inside the woodland once more to prevent being captured by the allies or assistance police (l. 413; l. 420-421).

"Aan de andere kant [van de brandweg red.] was eikenhout en daar liep ook een Duitser die zijn eigen schuilhield" (l. 420-421).

In N17 R4 also talks about the Germans who took wood to build their trenches from the nearby woodlands (l. 285), damaging the woodland in the process (l. 294-295).

Effect: Woodlands as a hiding place for the Germans during and after the war.

Effect: Wood used for trench systems.

In N16 R4 talks about large amount of ammunition left behind after the war. At first R4 only mentions ammunition in the family house (l. 268-270), but later in N17 and N19 R4 tells about collecting ammunition in the woodlands himself (l. 305-307; l. 417). This ammunition was handed over to the mine clearing service who disposed of it by blowing it up (l. 308, l. 314-315).

"...dan werd het [de gevonden ammunitie red.] bij elkaar gedaan en dan werd het de lucht in geblazen." (l. 308).

R4 remembers the mine clearing service as quite capable (l. 300-301). In N19 R4 mentioned that the bored assistance police shot at the unexploded ammunition, which also must have damaged the woodland and heather(l. 427-432).

Effect: Left over ammunition.

Effect: Damage due to ammunition clearing.

Effect: Damage due to shooting at ammunition.

In N16 R4 mentions defence works in the heather and woodlands nearby (l. 270-271). These defence works where according to R4 in N19 all restored. This was done by removing the wood from the trenches and filling the trenches and craters with sand (l. 285-286; l. 290-292; l. 296-297).

"...dat hout hebben ze eruit gehaald en de loopgraven hebben ze dichtgegooid." (l. 285-286).

Effect: Presence of defence works mainly trenches.

Effect: Removal of defence works after the war.

5.6. Comparing found narratives on effects

In this paragraph the found narratives concerning effects of the war on the woodlands are compared. The different narrative parts discussed in the previous paragraphs Narratives on effects on woodlands are ordered in table 6.

Table 6: Narratives on effects on woodlands.

R1	R2	R3	R4
Left over ammunition		Left over ammunition	Left over ammunition
Presence of defence works, mainly trenches	Presence of defence works mainly trenches, bunkers and foxholes	Presence of defence works mainly mines	Presence of defence works mainly trenches
			Wood used for trench systems
			Removal of defence works after the war
Damage due to shelling	Damage due to artillery shelling	Damage due to fighting in September 1944 and shelling in the winter 1944-1945	Damage due to bombardment by airplanes
Damage due to ammunition clearing			Damage due to ammunition clearing
			Damage due to shooting at ammunition
	Clear cutting in the post-war period		
	Keeping the woodland areal equal		Focus on production leading to more woodland cover and less beautiful woodlands
Planting of Douglas	Replanting (sometimes) with different species in the post-war period		
		German wood cutting during the war	Woodlands as a hiding place for the Germans during and after the war
		Theft of wood during the war	Wood use as firewood during the war
		Limited usage of wood after the war	
Presence of much undergrowth		Presence of some good specimens among the damaged ones	

The 28 items in Table 6 are ordered on subject in order to portray the things said by different respondents on the same subject in the same row. Several occurrences reoccur with all, or several respondents. Others do not return and are considered unique in this setting.

Both R1, R3 and R4 speak about the large amount of ammunition that was left after the war. They also mention its dangers after the war, with both R1 and R3 talking about the loss of friends due to it. The presence of defence works is mentioned by all, which is logical since it was a question in the semi structured interview. The answers however differ, showing a difference in either remembrance or the presence of local defence work, or both. R4 also remembers the usage of locally cut wood in these defence works (trench system) and the process of removing these defence works and other damages that occurred in the woodland.

The damages due to fighting is also recalled by all respondents. This seems logical given the ferocity of the fighting and shelling. Some minor differences in remembrances can again be observed since R3 also remembers damage due to fighting and R4 remembered being bombed by airplanes where the other remembered artillery shelling or simply the shelling itself.

Other damage to the land occurred after the war when clearing ammunition as R1 and R4 imply. R4 continues on this damaged occurring due to blowing up of ammunition after the war by bored assistance policemen.

R2 is the only one who mentioned clear cutting in the post-war period, but stresses twice that the total woodland areal did not change. According R4 the areal of woodland did increase after the war. This however can be completely true since both lived on other sides of the case study area.

When it comes to reforestation R1 remembers planting Douglas. R2 remembers replanting and that it sometimes happened with different species.

The use of the woodland by the Germans is mentioned by both R3 and R4. R3 remembers the Germans in the woodlands cutting during the war, while R4 remembers them in the woodland hiding after the war.

The theft of wood is discussed by R3, who used it mainly as firewood. R4 also used the wood as firewood though claims to have done this legitimately. The usage of wood for firewood occurred after the war as R3 remembers. According to him this was the only viable usage at the time.

Coming to the actual look of the forest R1 remembers it for having a thick undergrowth directly after the war. R3 mentions the occurrence of some relatively undamaged trees among the damaged ones.

Although some subjects return in several or all the respondents interviews they are not always the same. Sometime a different detail is remembered leading to a different story. This is further discussed in chapter 6 Synthesis and conclusion.

6. Synthesis and conclusion

"It is time, I believe, to become a community of inquirers, serious explorers seeking to discover the essence of order-order we will find even in the heart of chaos."

Wheatley (1993: p. 3).

This chapter is divided in three parts. In the first part the results described in chapter 4. The southwest Veluwe; a local story and chapter 5. Stories of local people are brought together and discussed. In the second part the methods are critically discussed in order to find the weaknesses of this research. Resulting from these two parts is the conclusion. This paragraph also includes the new insights gained, the strengths of this research and some recommendations.

6.1. Result discussion

In this paragraph the information from the four case study areas is brought together and combined with the information from the interviews. While doing so several similarities and differences concerning the effects on the woodlands were observed. All studied areas were affected by the rules implemented by the German government to increase the wood production in the Dutch woodlands. The obligatory management plan and a minimum required wood supplied, influenced the amount cut and thereby influenced the woodland. There are however more events that effected the woodland, which are discussed in the following paragraphs. These paragraphs are ordered thematically starting with influence by the German occupation, followed by influence of the Dutch population and ending with the post-war events. This is followed with an overview of the effects for all case study areas, to show the similarity and difference between them. These are subsequently shortly discussed.

Forced cutting

When the minimum required wood cut did not satisfy the Wehrmacht, they started cutting on their own initiative. Prove of this cutting is present in the archives of both Estate De Duno and Boswachterij Doorwerth. It is also mentioned by R3.

In the archives of Estate De Duno the most detailed proof surfaced. It showed that after the cutting had taken place the owners were informed about what was taken, when it was taken, who executed the cutting and how much money the Wehrmacht owed them. Boswachterij Doorwerth only notifies that wood had been cut for the Wehrmacht, even though in this case it was not collected and thus used elsewhere. No similar information was found for either Estate Hoekelum and Boswachterij Oostereng. In the case of Estate Hoekelum this lack of information could be the result of a lack of information found during this research. Yet for Boswachterij Oostereng it is very particular that no prove of forced cutting was found. The information about Boswachterij Oostereng is plentiful and set up exactly the same as on Boswachterij Doorwerth. This would assume that if wood was forcefully cut it would be reported. This in turn suggests that no forced cutting had taken place. However the prove of cutting for the Wehrmacht is only present in the archives of Boswachterij Doorwerth, because the Wehrmacht never collected the wood. This must have been an exceptional situation, considering the way the information is portrayed in the archives of Estate De Duno. This suggests that the Wehrmacht cut wood more often on Boswachterij Doorwerth, which

was never reported since it was collected normally. Considering this it is to be expected that the same events occurred in Boswachterij Oostereng. The question then rises why no information about this has been found. Was it shame, or something else that kept it out of the archives?

R3 also tells about the Germans cutting wood in the woodlands near R3s home. The difference is that the archives speak of other parties cutting for the Wehrmacht, while respondent 3 remembers the Germans cutting themselves. It however is possible that the German soldiers themselves also cut wood, especially considering the employment shortages.

Defence works

Another direct influence of the Wehrmacht are the defence works build after the battle of Arnhem. Before this battle no defence works were present in the studied area as is mentioned by R2 and clearly shown on the aerial photographs. All four areas lie within the exclusion zone and were fortified with defence works. The areas closest to the river were fortified the heaviest which is logical considering that if the allies would attack, their attack would come most likely from the south. All respondents remember the defence works which according to them consisted mainly of trenches, bunkers, mines and foxholes. Especially these trench systems are very clearly visible on the aerial photographs throughout the whole evacuated area. Mines are mentioned in several post-war annual reports since these caused a lot of danger when cutting wood. The presence of bunkers and foxholes is not visible from the air, nor are they mentioned in the archives. This does however not mean that they were not there. Bunkers were usually perfectly camouflaged in order to prevent detection and destruction by bombardments or shelling. Foxholes are not visible either since they cannot be distinguished from the holes caused by allied shelling. The reason of not appearing in the archives has most likely to do with the business like nature of these reports. The reports focus on what occurs, which in these cases are obstacles which needed to be removed. This removal progress is most likely a part of cleaning the woodlands which has just not been specified fully.

R4 mentions in his story the use of locally cut wood in the trench systems. Since the trenches were made in haste it seems likely that any wood used was locally cut. The archives show no proof of this, since it was never reported. Considering their situation it is logical that the German soldiers did not bother to report what wood they used. After the war the owners never tried to distinguish between different types of damage. For them a damaged tree needed to be cut and replanted regardless of the damage source. No figures are therefore available, but considering the extent of the trench systems shown on the aerial photographs it would have been considerable.

Given the severity of the winter 1944-1945, it also seems likely that the soldiers cut wood to use as firewood. Like with above mentioned cutting, there are no figures available for the amount of wood lost this way.

Not many of the defence works shown on the aerial photographs remain today. This is the result of the cleaning of the woodlands after the war. The cleaning is mentioned in the archive, but only R4 mentions this process in detail. It was most likely done out of safety considerations and as a requirement to be able to replant properly.

Ammunition

Three respondents also talk about ammunition. According to them large amounts of ammunition were left after the war, causing several dangerous and even deadly situations. The archives however show very little interest in this. Only on Estate De Duno some mention is made of

ammunition, when describing the clean-up including the removal of several large ammunition depots. These were blown up dealing damage to their surroundings. It seems likely that ammunition was present where soldiers were present. Since defence works were present on all studied areas and soldiers were occupying the villas on Boswachterij Oostereng, Estate De Duno and the castle on Estate Hoekelum, it seems likely that ammunition was present there as well. The aerial photographs are not detailed enough to see ammunition which is logical due to size of ammunition.

An aspect of ammunition is the danger of clearing it. R1 and R4 discuss the damage occurring due to the clearing of ammunition and shooting at ammunition. This caused damage locally, though this is not recorded in any archive pieces. It is possible that this type of clearing did not occur in the specific areas, though it also might simply not have been recorded.

Damage due to shelling and fighting

After the battle of Arnhem the Allies started shelling the German forces in order to weaken them for the inevitable push. This shelling left much destruction as is clearly shown in the aerial photographs. The archives and interviewees also mention the destruction which they found when they returned after the war. Some respondents name specific locations affected by the bombardments, like R3 talking about castle Doorwerth. R3 describes in detail the destruction caused to the castle and surrounding trees and the aerial photographs confirm this destruction.

The shelling heavily damaged the woodlands rendering most wood usable only as firewood. Though the least damage trees are salvaged to be sold for specialised functions like mine wood. These were very much needed and their sale generated more income. A practice R3 mentions as well in his interview.

The damages caused by the shelling influenced the woodland in the post-war period forcing much cutting and replanting and, in the case of Estate De Duno, a whole new management plan.

When comparing damage done by shelling and damage done by close quarter fighting during the battle of Arnhem, it seems that most damage resulted from the shelling. Most of this fighting was concentrated in Arnhem and around the perimeter of Oosterbeek leaving the studied areas mostly unharmed. Only the locations near Oosterbeek, like the Westerbouwing, saw heavy fighting. While in the other areas only a few skirmishes took place. The intensity of the shelling was greatest near the river. This means that Estate De Duno and Boswachterij Doorwerth suffered more in comparison to the other two locations.

Theft

During the war there was a constant lack of fuel leading to the theft of wood from the woodlands. The archives portray warnings and measures taken against this. These measures had some effect according to the archive information, but the theft remained an issue. This also returns in R3s narrative about R3s family use of wood. Here R3 tells freely about stealing wood during the war. R3 also mentions the illegality of this and the need to be careful not to get caught. Something R3 never was, showing the partial success of the measures.

R3s openness might seem strange since stealing is illegal, but for R3 the theft was a necessity to stay warm in the winter. It next to that was considered acceptable since R3 stole from the Germans and not from the Dutch. This last part is objectively perhaps not true, but considering R3s age and the time it seems a logical conclusion. R3 probably never realised what kind of problems R3 caused for the woodland owners.

The theft of wood is not distinguishable on the aerial photographs, since the removal of individual trees is difficult to see and impossible to link to a specific action. When the removal of a single tree is observed it could be due to many reasons, from thinning to theft, but from the air this reason is not distinguishable.

Where R3 clearly knows he stole wood, R4 remembers a different story. According to R4 the use of wood by local people was normal and accepted. R4 and R4s father went into the woodlands regularly to cut wood, usually without asking. This difference could be the result of living on a different locations and dealing with different woodland owners, though it could also point towards a different view upon usage and stealing.

The amount of wood stolen by the Dutch population during the war is considered rather large nationwide. This loss especially occurred during the severe winter of 1944-1945. However during this time the studied areas were evacuated, meaning that no large scale theft could have taken place. Indicating that relatively little wood was stolen when comparing it with other not evacuated locations.

Management plans

Boswachterij Oostereng was bought during the war by the State Forest Service. It was done with German approval in order to professionalise the forestry sector and to do rational forestry. The subsequently established plan foresaw in a long term transformation to a rational managed woodland, which could be used by the LHS to experiment and to train its students. The plan also left some room for other functions like tourism and natural beauty. The execution of the plan progressed slowly during the war. After the war the State Forest Service recognised that too much wood was cut during the war and recognises the need to rehabilitate the woodland by cutting less. A process, they claim, that takes time. They do however start with the cleaning of the woodland. Which in practice means cutting large amounts of trees, making the previous statement on less cutting ring hollow. In the end most of the management plan proposed measures were implemented after the war.

Boswachterij Doorwerth is in many aspects the little brother of Boswachterij Oostereng. It was also bought during the war by the State Forest Service to be managed rationally. Differences are the reason of purchase and management plan content. Where Boswachterij Oostereng was purchased for a large extent for the LHS Boswachterij, Doorwerth was purchased to protect the local natural beauty. This is rather contradictory since it was only a year earlier purchased by the municipality for that exact same reason. Apparently the State Forest Service did not trust the capability or intentions of the municipality. It is also possible that the State Forest Service was pushed by its then German superiors, but no prove of either can be shown.

Although purchased under the banner of protecting natural beauty the State Forest Service implemented rational forestry which focuses on production not on natural beauty. Since Boswachterij Doorwerth was never managed in one piece, and neither for production purposes, it became evident that a lot of the woodland needed to be cut down and replanted to adhere to the rational standards. In practice this meant a lot of cutting and replanting destroying the beauty present there. On a side note it can be argued that the cutting and planting was to maintain natural beauty for future generations. Boswachterij Doorwerth had a screwed age distribution with many old trees. Although it can be imagined that these tree looked beautiful, it must be clear that old trees die

out leading to a less beautiful woodland image. By cutting and replanting parts of these old trees, and thus rebalancing the age distribution, the State Forest Service can attempt to keep the forest beautiful longer.

In contrast to Boswachterij Oostereng and Boswachterij Doorwerth, Estate De Duno remained true to its pre-war plans during the war. These plans were executed using governmental subsidies. Interestingly these subsidies continued until spring 1944. This means that they continued under Germans control, even when in 1943 Schnell came to power and the influence on the Dutch woodlands intensified through *Besluit staatstoezicht bossen 1943*. Where on Boswachterij Oostereng and Boswachterij Doorwerth the focus was on rational forestry, no such demands were made on Estate De Duno. It did provide wood for the Germans on several occasions, for which it was presumably paid, but seemingly no rationality was forced upon the estate. Although no reason for this difference is found, it seems likely that both the German Government and the State Forest Service did not really care about rationally managing Estate De Duno, as long as it provided enough wood. The origin of the estate and its location might also have played a part. The plans to restore the woodland to a more natural and historical accurate woodland fitting for the estate and soil might have been interesting and preferred. The plans for Boswachterij Oostereng already shown a certain interest in natural beauty and the touristic function, which were both also present on De Duno. The fact that the estate was privately owned can also play a part, since private owners always had more control on their own land. This also shows from the sales of wood during the war. While all wood sale was regulated the estate owners were allowed to sell wood to the people living on the estate without government interference. Showing a certain leniency in the strict rules present during the war. The fact that the government continued to subsidise the execution of the plan also shows that they accepted this plan.

No reasons are given for stopping the subsidies in spring 1944. It most likely does not have to do with a change of mind on the reform plan, since no change concerning management or carried out measures can be found. If the government or State Forest Service had decided to change the reform plans, then notifications should have been present or a change in carried out measures would be observed. It therefore most likely has to do with the losing war in the east and the imminence of the Allied invasion in France.

The war brought much destruction to Estate the Duno nullifying all process made for the reform plan before and during the war. Although the Geldersch Landschap could have continued with the reform plan they instead opted for a wholly new plan. This abrupt change is socially and economically. The economic reasons are obvious. The economy was damaged, raw materials were needed and the woodland was damaged. Much wood was needed making it lucrative to replant quickly. The government also subsidised reforestation, making it relatively cheap to reforest directly. The Geldersch Landschap had next to that many more damaged woodlands and buildings increasing the need for money, which increased the need for a more profitable woodland. Something the estate had never really been before and during the war.

The social reasoning sounds interesting and might definitely have some truth in it. The population was stricken and needed to unwind and regenerate their physical and mental strength. Which is something the respondents remember as well. The woodlands could provide this function. It is however doubtful that this could only be done in a forest reserve. The woodland proposed in the

reform plan would most likely also served the same function. For it is unlikely that a different specie composition and planting form would have prevented this mental healing.

Interestingly enough it is also mentions that the forest reserve achieved by a natural growth is the ideal forest. Something not shared by all foresters who in the post-war period preferred rational and controlled production over natural free growth.

Friction between organisations

As the war progresses some friction between the State Forest Service and the professors at LHS about Boswachterij Oostereng is observed. While in theory the professors where in control, the foresters of the State Forest Service started to take control as the war progressed. The reason for this is most likely the stricter regulation of the Germans and the need to produce more wood.

After the war some friction can be observed between Geldersch Landschap, the State Forest Service and The Public work programs agency. This seems logical given the situation where the plan for Estate De Duno is first approved, only to be rejected afterwards. At the same time it is possible that there were other influencing factors. Both the State Forest Service and The Public work programs agency had been actively employed by the German government to do their bidding. This must have strained the relations between these organisations and those they worked with, since they usually had to enforce unpopular regulations. After the war these organisations continued to do the same job they had during the war, which could have leads to some additional friction.

It next to that might have to do with the overall licentiousness of the just freed population. Both R1, R3 and R4 mention this licentiousness and a general lack of rules among both adults and children. It is possible that this also partly was the case within organisations, who felt irritated and frustrated by the occurred events.

Measures taken in the woodlands

Considering the cutting and (re)planting measures during and after the war, it becomes clear that most measures occurred in the post-war period. During the war there is an increase in measures till the battle of Arnhem. After the war all location start with their cleaning process, which increases in intensity as the years progress. (Re)planting always linger behind the cutting. This seems logical since cut plots are meant to lay bare for at least one year before replanting. This means that planting always lingers behind in time. Next to that there where clear problems with seed availability, the lack of skilled labourers, the abundance of rabbits and the bad weather. This lead not only to less planting, but also to less survival of the planed seeds and young trees.

Given the problems after the war, all owners had to prioritise their targets. An example of this are Boswachterij Oostereng and Boswachterij Doorwerth. Directly after the war Boswachterij Oostereng gained most seeds for replantation while it took some time before Boswachterij Doorwerth gained these seeds needed for planting. Boswachterij Oostereng gained the priority as it had suffered less damaged and had a higher production potential. As a result many seeds used on Boswachterij Doorwerth originated from Boswachterij Oostereng.

The reason for the intensity of measures after the war, is most likely the damages occurred by the shelling. Almost every action in the first few years after the war are cleaning actions, yielding mainly damage wood used as firewood. The cut plots are consequently repaired and replanted. The lack of measures during the war might also be a result of a lack of documentation. The documentation during the war might not have been as extensive as after the war, due to daily life problems.

After the war the amount of clear cutting increased. This led to an increase of undergrowth species like bramble and fern. R1 mentions how the woodlands were difficult to access when R1 helped planting Douglas fir on a nearby estate. The presence of this thick undergrowth in multiple areas leads to the expectation of a wider spread occurrence of this. Since the cut areas are laid bare for one year fast growing species like bramble and fern get a chance to overgrow these areas. Its removal costs additional money, manpower and time again slowing the replanting process.

The usage of exotic species also increased after the war, leading to many plots including exotic species like Douglas fir, Japanese larch and *Prunus serotina*. This interest in exotic species was also present before the war, but with the destruction of so much wood and the need to replant anyway, many exotic trees were planted due to their money making potential.

The highway's influence

Estate Hoekelum is unique in this setting due to the highway, which was built straight through the estate dividing it in half. As mentioned in chapter 4 paragraph The highway question this should not be considered a result of the war. The war might have worked as a catalyst, but it did not change the end result. It can however still influence actions on the estate. Estate Hoekelum included several non-woodland plots and several of these were converted into woodland. This happened both during and after the war. The reason for this might be the regulation by the government or it could be economically. It can however also be related to the highway. Due to the highway construction many woodland plots disappeared. The replantation might be compensation for this. The reason for the change into woodland is however not stated in the found archive pieces.

One effect of the highway construction is mentioned in the archives of Boswachterij Oostereng, where the labour shortage is partially blamed on the construction of the highway.

Comparing the case study areas

Generally speaking the effects of the war are the same for the four different case study areas. Most main effect mentioned in this paragraph, occur in all case study area or are expected to have taken place, even though no direct sources were found to prove this.

There are four main effects that occur in all areas namely, cutting in the war, building of defence works, damage due to shelling and fighting and measures taken in the woodland. There are two events that occurred on three out of two case study areas namely, theft and the presence and change of management plans. Theft was not mentioned on Boswachterij Doorwerth while no management plan of Estate Hoekelum was found. Given the situation and the information surfacing in the other case study areas, it is expected that theft also took place on Boswachterij Doorwerth and that Estate Hoekelum also made a management plan. This also counts for the occurrence of forced cutting and the presence of ammunition. These are not mentioned in all case study areas but most likely did occur there, as discussed in the previous paragraphs.

Unique is the friction observed on Boswachterij Oostereng during the war and the friction on Estate De Duno in the post-war period. These frictions occur locally and are only occurring because of specific events that took place on those locations at that time. It is possible that other types of friction took place in the other case study areas, but there is no evidence to support this. Also unique is the highway question which had a big impact on Estate Hoekelum, but cannot be seen as a war effect. Table 7 shows the comparison between the different case study areas.

Table 7: The comparison between the different case study areas. The similar colours portray similar effects.

	Boswachterij Oostereng	Estate De Duno	Boswachterij Doorwerth	Estate Hoekelum
Obligatory cutting	Thinning and clear cutting	Thinning and clear cutting	Thinning and clear cutting	Thinning and clear cutting
Forced cutting	No mention of forced cutting, even though it most likely took place.	Written prove of forced cutting on several occasions including who cut, when and what.	Written prove of forced cutting, when the Germans fail to collect the cut wood.	No mention of forced cutting, even though it most likely took place.
Defence works	Present in the form of trench systems bunkers and mines.	Present in the form of trench systems bunkers and mines.	Present in the form of trench systems bunkers and mines.	Present in the form of trench systems bunkers and mines.
Ammunition	No mention of ammunition, though it was most likely present in the German positions.	Mention of the removal of ammunition from the woodland after the war.	No mention of ammunition, though it was most likely present in the German positions.	No mention of ammunition, though it was most likely present in the German positions.
Damage due to shelling and fighting	Most damage from shelling.	Most damage from shelling. More damage near the river.	Most damage from shelling. More damage near the river.	Most damage from shelling.
Theft	Written prove of theft and measures taken against it.	Written prove of theft and measures taken against it.	No mention of theft, even though it most likely took place.	Written prove of theft and measures taken against it.
Presence and change of management plans	Present. Plan unchanged due to the war.	Present. Plan changed due to the war damage.	Present. Plan unchanged due to the war.	Not present.
Friction	Present during the war.	Present in the post-war period.	No mention of friction.	No mention of friction.
Measures taken in the woodlands	Most measures occurred in the post-war period. Planting linger behind the cutting. More exotic species used when replanting.	Most measures occurred in the post-war period. Planting linger behind the cutting. More exotic species used when replanting.	Most measures occurred in the post-war period. Planting linger behind the cutting. More exotic species used when replanting.	Most measures occurred in the post-war period. Planting linger behind the cutting. More exotic species used when replanting.
Highway	-	-	-	Location split by highway, large influence on the estate, but not a war effect.

The respondents from the interviews do not talk about the specific case study areas but mention most of the effects discussed above. All respondents mention the defence works, the damage due to shelling and fighting and one or more measures taken in the woodlands. R1, R3 and R4 talk about ammunition and R3 and R4 talk about theft. R3 also mentions forced cutting. They do not talk about the management plans or friction. This seems appropriate since that information is not available for them, given their age and position. Neither do they talk about the highway which seems also appropriate since none of them lived near the highway.

Considering the overlap between the case study areas and the stories of the respondents, it appears that these main effects occurred on a wider scale than just in the case study areas. Closer inspection of the result chapters however show large differences between the case study areas as well. An example are the management plans which were all influenced by the war. Their influence however differs greatly between the case study areas portraying one of the many differences between the case study areas.

6.2. Critical Reflection

This paragraph gives a critical reflection of the methods used in order to show the weaknesses of this study. First some weaknesses concerning the sources are named after which some overall considerations are discussed.

Archive literature

The reliability of the data is always an important factor to check when conducting research. To do this a strong theoretical basis combined with the right methodology and analysis methods are needed. Using these, several discrepancies were found in the archive material especially within the annual reports. Here amounts cut in the text can differ from the table, even though these numbers should be the same. The same happens with income and expenditure. The difference can be as small as an income difference of 2 guilders, or larger like a 10 stère additional wood cut. Discrepancies like these, make the detailed data found in the annual reports less reliable. Preferably this data could be checked in another source, but this is often not possible. Most literature sources discussing these subjects originate from the original source. It is next to that impossible to take new measurements in order to find more reliable data. As a result some detailed data could not be used, or were used while portraying the discrepancy.

Another difficulty while using archive material is the incompleteness of the data. This incompleteness can have several different forms and origins. It can be that the data is not fully present, which for example occurred in the correspondence about Estate De Duno in 1946 and 1947 between Geldersch Landschap, the State Forest Service and The Public work programs agency. The beginning of the correspondence portrays friction between these organisations. Yet the correspondence is incomplete, making it unclear what the conclusion was. This loss of data makes it difficult to portray a complete picture of what happened.

It is also possible that data is not present at all, which was the case with Estate Hoekelum where the compulsory business plans were not found. This lack of data can be problematic when no other data is available. In the case of Estate Hoekelum this missing data could partly be compensated by using

other data available. It does however make it difficult to discuss Estate Hoekelum in light of the other studied areas, since not all data is there and not all data has the same level of detail.

The final problem is all data that was left out on purpose. It seems likely that some data were left out of the archives when the archives were made. An example of this is the prove of direct Wehrmacht cutting during the war on Boswachterij Oostereng. That this happened seems likely, considering that it occurred more than once in the other studied areas including Boswachterij Doorwerth, which was also owned by the State Forest Service. Yet since no proof was found it cannot be proven or rejected with certainty. Knowing this with more certainty could lead to an interesting discussion. If cutting by the Wehrmacht could be proven, the question raised would be as to why the State Forest Service left it out of their records. Visa versa, if no cutting by the Wehrmacht has taken place, it would be interesting to find out why Boswachterij Oostereng was exempted from this practice. Knowing either of the two could shine a different light upon the findings.

A solution to missing or unreliable data is to combine it with other data. This was done where possible, but could have been done better. A possibility for this would be to also access German written sources. There are several large German archives with information on the war and occupied areas. It might be possible that new information about the studies locations are hidden there. The lack of German literacy of the researcher prevented this.

Interviews

When setting up this research it was proposed to find and interview up to two respondents per selected location, who worked or lived there during or directly after the war. Quickly it became clear that those who worked in the woodlands could no longer be found. The focus shifted therefor to people who lived near or in the woodlands. Yet finding these proved a challenge as well. Eventually four people were found. These respondents were children during the war, which is quite different from adults who worked in the woodlands. As a result the stories told and details remembered differ. Although it does not have to be a problem, it does influence the outcome of the research. It could be argued from an information standpoint, that the use of woodland workers would be more informative. For this information could be better combined with the information found in the archives and aerial photographs. On the other hand it can be argued that using people who lived there as children are interesting to use, since they remember different things. Their stories are not focussed in the technical aspects of the woodlands like woodland workers most likely would and the archives are. In this way a broader story is told, including the experiences of normal people in the woodlands during and after the war.

The problem of finding interviewees was already mentioned in the methodology and consequently taken into account. As a result the analysis method also worked with these interviewees. If it however becomes important to interview a specific group or type of people, one should make sure those people are still alive. To increase the reliability of the interviews it would also have been better if more people had been found and interviewed.

A subsequent problem with the respondents is their advanced age in combination with the interview subject, since it took place a long time ago. This means that the respondents have to think back and remember which can lead to remembering events wrongly and the mixing of memories experienced, read or heard. It also meant that some details were remembered vividly while others were not

remembered at all. Everyone interviewed remembered the damage because of the war, the evacuation and defence works, but no one even mentioned wood gas powered cars. Even R2 who talks about cars on several occasions. This is quite interesting from a narrative standpoint as clearly wood gas powered cars were not interesting enough to remember while other things were. The advanced age of the respondents and the subject also increased the length of the interviews. The respondents told a lot more than was relevant for the study. This however served a purpose as it was assumed that by telling about the time and remembering one thing the respondents would remember other things as well. In this way an irrelevant thing could lead to a relevant one. In practice this worked sometimes while other times it did not.

Aerial photographs

When using aerial photographs it became clear that the quality of the different photo series differs greatly. The better the quality the better the details and the more information can be found on the photographs. Since not all photographs were of sufficient quality a selection had to be made. It is possible that because of this some events or changes were missed.

A second issue concerns what can be observed and what cannot. Clear cutting and the removal of groups of trees are clearly visible and growth in clear cut areas can clearly be observed. The removal of individual trees is often not seen unless the crown coverage breaks open because of it. As a result it is difficult to see proof of actions like thinning or the theft of wood. Most tree removal was done by thinning during the war, which was difficult to see from the air. Combining with this are the differences between summer and winter. The pictures in winter differ greatly due to the loss of leaves deciduous trees have. This made it difficult to compare winter and summer pictures.

A weakness in this research is the lack of photographs from the post-war period. The aerial photographs from the war and pre-war period, clearly showed the effects of the war. Yet using post-war aerial photographs could have shown the scale of the post-war cleaning process. This would have helped to portray visibly the effect of the cleaning measures talked about in the archives.

Concerning the analysis it would have been interesting to include a quantitative part, making use of programs like GIS. Using a program like this to determine changes in woodland cover which might have helped to put the information from the archives into perspective. No such analysis took place due to the lack of GIS knowledge of the researcher.

Overall

Looking back at the case study areas it could be argued that there are still too many selected areas. Fewer areas would have allowed a more focused approach. Resulting in more photographs and interviews of one area, which allows for a more detailed story to be told. This narrow focus is however not without its problems as it makes it even more difficult to find respondents. Having more pictures might also not lead to a different story especially given the quality. The fundamental question however is when a study becomes too focussed to be useful within its field. Given the limited timespan of a master thesis in combination with the long search for information coinciding with an archive study and it is recommended to use a maximum of two or three areas.

The found results make it look like most events occurred after the war, yet it is unclear if this picture is truthful, since important information might be missing. It is quite possible that certain information

is lost over time and it is possible that some information was left out of the archives on purpose. This missing information can misform the picture shown. It is however difficult to prove missing information with the sources used. The intensive shelling during the last half year of the war also does not help since it erased a lot of prove from earlier actions and events.

The differences in sources found per case study area can make it look like the areas differ, even though in reality it might be the result of missing information. It does however show that nationwide and locally can differ greatly. Nationwide information portraying for example the theft of wood during the winter of 1944-1945 shows a large amount of wood lost. Locally, in this case, it seems to be minimal since the area was an exclusion zone. The influence of the theft will next to that be relatively small when compared to the nationwide figures. This is the result of the damage from shelling. Three stolen trees in a plot might be much, but the loss of these trees does not matter when a week later the whole plot gets shelled. When this shelling destroys the trees on the plot the three threes lost are negligible since all the trees are damaged or destroyed. Had the trees not been stolen too would have been damaged or destroyed. Leading to a rather equal result regardless of the theft occurring or not.

The last issue is the lack of time. With both the archive study and interviews taking more time than expected, less time was left for the analysis. Some potentially useful sources have next to that remained unused, like photographs from after the war. Decreasing the number of case study areas could have potentially changed this. However, an archive study remains a search in which the timeframe is unknown and influenced by both research qualities and luck.

6.3. Conclusion

In this paragraph the main research question is answered. Following from this are several new insights. The paragraph ends with some strong points and recommendations.

This study answers the following research question:

What were the main effects of war related activities during the Second World War ('40-'45) on some selected woodlands of the southwest Veluwe?

Several events effected the woodlands both during and after the war. These effects can be chronologically ordered in firstly the occupation period, from May 1940 to August 1944. Secondly the fighting period, from September 1944 to May 1945. Thirdly the post-war period from summer 1945 to 1950. All period saw different events with or without effects in the following periods.

Effects in the first period

The first effect during the first period originated from the new Germans rules and regulation. These forced the woodland owners to provide a minimum amount of wood. These regulations also allowed organisations like the State Forest Service to buy Boswachterij Oostereng and Boswachterij Doorwerth and influence their future.

The second effect is the forced cutting by or for, the Wehrmacht. Although most of it remains undocumented it seems most likely that this happened on all four studied locations. Owners could

not prevent cutting done this way, but where presumably paid afterwards according to the then normal rates.

The third effect during this period was the theft of wood by Dutch civilians. The exact amount of wood stolen is unknown, but it is mentioned as a problem that continues throughout the full first period.

The fourth effect are the shortages that occur during the war. These shortages include mainly skilled labour and seed availability, both hampering the cutting and planting process.

Effects in the second period

None of the above mentioned effects mattered much during the second period. The fighting that occurred and the consequent evacuation and fortification of the region, brought new events that greatly affected the woodland.

The biggest effect during this period was the damage due to shelling. This occurred during most of the period and caused most damage of all. Due to this damage, much of the earlier events are nullified. It consequently also led to many of the post-war events.

The second big effect was the construction of the defence works. These affected the woodland by their construction through them, and by the use of local wood in their construction. German soldiers manning these defence works also used wood during the winter to stay warm. The amount of wood lost due to the construction of defence works and the burning of wood is unknown. Yet it is considered considerable due to the extent of the defence network.

The final effect is the damage due to close quarter fighting that occurred during the battle of Arnhem. This damage is located very locally unlike the shelling of the region.

Effects in the third period

All events of the second period affected the third period. No single one event was seen as the cause, instead it was the overall damage that affected the third period. Part of this damage might be the result of the events from the first period as well, since an overexploitation is mentioned. Yet it is not fully specified. The result is however an acceleration and change in management plans. The acceleration took place on Boswachterij Oostereng and Boswachterij Doorwerth. The damage caused allowed the State Forest Service to implement their plans more efficiently and with governmental subsidies. The change of plans occurred on Estate De Duno, where the damage nullified all progress made on the estate. As a result it was changed into a forest reserve.

The damage led overall to a process called cleaning on all locations. This cleaning meant the removal of the damaged trees and preparation of the soil for replanting. It therefore also included the removal of defence works. The removal was followed by the (re)planting of new trees. Planting was often done with exotic species and always lingers behind the cutting process. The amount of woodland cut after the war in this way is greater than the measures taken during the war.

Other effects occurring in this period is damage as the result of ammunition clearing. This damage is local and relatively insignificant compared to the overall damage done by for example the shelling in the second period. Yet locally the ammunition clearing damage was rather large and its result is still visible today.

An effect that returns from the first period is the shortage of seeds and skilled labour. The shortage of seeds is most pressing directly after the war. As time progresses it becomes less pressing. The shortage of skilled labour is not present directly after the war. Yet as time progresses and the

economy strengthens a shortage arises. Its effect on the implemented cutting and planting measures is however hardly observable.

The main effect

To reach the main effects the found effects are ordered considering their influence on the war and post-war period. This means that the main effect in this case study area was the damage due to shelling. Its impact was most widespread and it effected most measures taken in the post-war period. It next to that had a large nullifying effect on the events that happened earlier during the war. After that it becomes less certain to perfectly grade the other effects. Given the information found it is likely that the second biggest effect was the creation of defence works and the wood used in them by the German soldiers. The third effect is the forced cutting by the Germans, followed by damage due to fighting, the theft of wood, the clearing of ammunition and the shortages in and after the war.

The construction of the highway and the plantation of exotic species are not a result of the war. The highway construction was already decided upon before the war. The use of exotic species was also already considered useful before the war.

The friction occurring during and after the war can also not be linked to the war specifically. Although it could very well be a result, there is not enough evidence to support this linkage.

Comparing the war with the post-war period it becomes clear that most measures in the woodland took place in the post-war period. Most of these are the result of the damage done to the woodland during the last six months of the war. The events of the first period were important since they formed the basis for what occurred in the post-war period, through for example the acquisition of Boswachterij Oostereng and Boswachterij Doorwerth and the obligatory of management plans.

The locations differ from each other on several fronts but many similarities can be found. These similarities can be linked to several common factors that affected all locations. These are the equal sizes of the researched location, meaning that they all were subject to the German rules. The evacuation and fortification of the area and the shelling, which all took place on all locations. These events greatly impacted the area's leading to similar results in the war and post-war period.

Insights gained

This thesis brought together known information that had not yet been combined in a single study.

During this process four new insights were uncovered which are mentioned below.

The first new insight is that the damage caused in the last months of the war had the largest impact on the selected case study areas. These damages are however not due to just one source. In this way this thesis shows that there are different sources of damage which all differ in impact depending on the location. It also shows that proper post-war documentation of the situation is necessary to be able to distinguish between the different sources of damage and their impacts.

Secondly it is shown that the impact of the war is only partially visible from the air. The aerial photographs hold much information, but it is difficult so see small changes, due to proper thinning measures. These can often not be clearly seen from the air.

Thirdly it is shown that the forced cutting, which was expected to be impactful when starting this thesis, is badly documented. The written proof was not in the archives even though one would

expect it there. Whether it was lost on purpose or by accident remains unknown as does its true impact.

In the end this thesis shows that that the effects on the woodland differ locally, even though they might look similar overall.

Strong points and recommendations gained

Looking back upon this research some strong and weak points are found. One strength of the research lies in the use of a narrative analysis. This analysis type is not often used in the research field of forest and nature conservation. Hopefully this thesis showed the potential use of this analysis method as an new way of looking at stories told by people. Secondly this research combines aerial photographs with these stories in order to strengthen and refute them. Aerial photographs on their own only show what occurred, without giving inside as to why it happened. Using them in combination with a narrative analysis, provided an additional mean to give meaning to these aerial photographs. The third strong point is the collection of scattered research material, which will be useful in future historical research.

The use of a narrative analysis in combination with other sources has however much more potential in the forest and nature research field. Especially well documented events have potential to be researched this way. An example of this would be the development of woodland in the province of Flevoland. When combined with a narrative analysis of local people who lived in this newly claimed land, one could find out what woodland meant for them.

It is however recommended to execute research like this sooner rather than later, due to the age of and number of possible respondents. The respondent pool of my research could have been stronger, if the research had been executed earlier.

Following this research it would also be interesting to research the influence of the Indonesian war of independence (1945-1949) on the woodland of the Netherlands. The post-war period saw a great push in the production of raw materials like wood, and during this research the question arose if this also had to do with the war of independence. Indonesia had always provided wood and many foresters worked in the colonies. The war of independence cost the government a lot of money, and the fear of losing the colony might have fuelled the need to produce more wood in The Netherlands. Knowing this influence could shine new light in the post-war period.

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- 028_04_3046 (08 April 1945) The Boersberg south side.
- 028_01_4046 (08 April 1945) The Boersberg north side.
- 028_05_3005 (08 April 1945) Boswachterij Oostereng south side.
- 028_02_4005 (08 April 1945) Boswachterij Oostereng north side.
- 046_09_4199 (23 March 1945) Estate Hoekelum.
- 114_08_4152 (12 September 1944) Picture series from Castle Doorwerth to Estate De Duno.
- 114_08_4153 (12 September 1944) Picture series from Castle Doorwerth to Estate De Duno.
- 114_08_4154 (12 September 1944) Picture series from Castle Doorwerth to Estate De Duno.
- 114_06_3124 (12 September 1944) Picture series from the Boersberg to Estate the Duno.
- 114_06_3123 (12 September 1944) Picture series from the Boersberg to Estate the Duno.
- 114_06_3122 (12 September 1944) Picture series from the Boersberg to Estate the Duno.
- 114_06_3121 (12 September 1944) Picture series from the Boersberg to Estate the Duno.
- 114_06_3120 (12 September 1944) Picture series from the Boersberg to Estate the Duno.
- 114_05_4128 (12 September 1944) Boswachterij Oostereng north side.
- 114_04_4061 (12 September 1944) Estate Hoekelum.
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- 215_08_4155 (15 March 1945) Picture series from Estate De Duno to the Boersberg, south side.
- 215_08_4156 (15 March 1945) Picture series from Estate De Duno to the Boersberg, south side.
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Appendix A: The Second World War: Effects on the study area

"As long as there are sovereign nations possessing great power, war is inevitable"

Albert Einstein (WW2 Quotes, 2013).

This chapter gives a global overview of the events taking place in western Europe during the Second World War. First: The military campaigns undertaken by Nazi Germany and the Allied forces are explained. Secondly: The consequences for civilian life and the woodland are shortly discussed. Both paragraphs are ordered chronologically and in both paragraphs a close up is made into the southwest Veluwe. This summary is done to place the events discussed in the results chapters in perspective (Bader, 2011).

A.1. Military campaign

September first, 1939; after six years of Nazi rule Germany is ready for war. Its military machine rearmed and retrained and new tactics invented. It would be a new type of war which incorporated the lessons learned from the First World War two decades earlier. The Germans called this war blitzkrieg (Lightning war) which relied on a fast decisive attack. The attack would be spearheaded by large numbers of armoured vehicles, like tanks and other armoured fighting vehicles, which were backed up by the Luftwaffe (German air force). New troop types like paratroopers (Fallschirmjäger) were used to quickly conquer key positions behind enemy lines. After confiscating Austria and Czechoslovakia it was Poland's turn to fall. On the first of September 1939 Germany attacked Poland under the pretext of self-defence. Great Britain and France responded by declaring war on Germany, but neither nation could prevent the defeat of Poland one month later. In April 1940 Denmark and Norway were attacked and conquered by Germany, who then turned its eye on France. On the 10th of May it commenced operation Fall Gelb (Case Yellow). In this operation the German army intended to conquer the Netherlands, Belgium and Luxembourg, in order to avoid the French Maginot line and flank the French and British troops in France (Shaw, 2000; Beevor, 2012).

The Netherlands invaded!

The Dutch government always intended to remain neutral during the Second World War, just as it had been during the first. In order to remain neutral the Dutch army relied on a strong defence consisting of three major defence lines, namely the IJssel line, Grebbe line and Water line. These were combined with the inundation of large parts of the land (see Figure 20: **Dutch defence lines 1940 (Bosboom, 2006)**). With the outbreak of the war in 1939, the army mobilized and the defence lines were manned and strengthened. With time it became apparent that neutrality would not be achieved due to new war tactics and units like paratroopers. These severely weakened the value of the inundation tactics. The Dutch army had been neglected during the pre-war period and used out of date equipment. It was therefore not up to date, nor was it ready for war. It tried to reorganize and modernize during mobilization, but was unable to fully achieve its goals before the German army invaded on the night of the 10th of May (Amersfoort & Kamphuis, 2005; De Jong 1982-4).



Figure 20: Dutch defence lines 1940 (Bosboom, 2006)

The Dutch defence was meant to stand its ground for two to three weeks with the help of British and French troops. In reality it survived no more than four to seven days. The IJssel line fell on the 10th of May and the first German troops reached Wageningen by nightfall. The IJssel line was weak as it lacked depth. It was next to that manned by badly trained and poorly equipped troops who lacked the moral to fight. The area between the IJssel line and Grebbe line was only defended by one regiment Hussars (on bicycles). It was their task to slow the German advance with hit and run attacks before retreating behind the Grebbe line (Amersfoort & Kamphuis, 2005; De Jong, 1982-3). A handful of skirmishers took place in the afternoon and around 16:00 hours the Hussars dug in at the bottom of the Wageningse berg. Here they stopped the German advance for 2 hours before retreating (Jansen 2013; Amersfoort & Kamphuis, 2005).

The Grebbe line stalled the German advance for two days but fell on May 13th. One day later Rotterdam was bombed by the Luftwaffe to force the Netherlands to surrender, which it did. The Province of Zeeland fought on three more days with the help of French troops hoping for British support to turn the tight. The Germans however proved to strong and bombed Middelburg on the 17th of May forcing the surrender of Zeeland (Amersfoort & Kamphuis, 2005; Gelders genootschap, 2011).

Germany's victory

Operation Fall Gelb succeeded and the British were driven from the continent on the 4th of June. A day later operation Fall Rot (Case Red) intended to conquer France, started. Three weeks later on the 22nd of June France surrendered. Germany started a campaign against Great Britain later that year, but failed to gain air superiority. The invasion of Great Britain was put off in May 1941 because of this. Germany then turned its attention to the eastern front and invaded the Soviet Union on the 22 June 1941 (Shaw, 2000; Beevor, 2012).

Military wise it became relatively quiet on the western front between 1941 and 1944. Except from Allied bombing runs no major hostilities took place (Van Blankenstein, 2006). The Germans started building the Atlantic wall to defend western Europe against an allied invasion. The Atlantic wall was a string of fortifications running from Norway's Atlantic coast to the Atlantic south coast of France. It consisted of bunkers, trenches, beach obstacles, barbed wire and land mines. Where possible the natural terrain was used to strengthen the line. Due to the shortage of troops, the line was built to be manned with as few soldiers as possible. It therefore relied heavily on artillery, machineguns and static devices like land mines (Atlantic Wall, 1999). To prevent Allied glider landings Rommel's asparagus (Holzpfähle) were placed in the fields behind the Atlantic wall. Rommel's asparagus are wooden poles with a length of 4 to 5 meters. They are dug in vertically about a meter deep with approximately 10 poles per hectare. Rommel's asparagus were usually connected with tripwires and/or land mines (Rademaker, 1988; The Atlantic Wall, 1999).

In the meantime the Allied forces continued their bombing runs on strategic German targets in western Europe. These bombing runs took place during the full 6 years of the war and intensified as the war progressed (Van Blankenstein, 2006; Beevor, 2012).

Turning point and Allied invasion

When The United States of America (USA) entered the war on the side of the Allies and the German army failed to quickly subdue the Soviet Union the tide turned. In Africa the Allies slowly gained the advantage which led to the invasion of Italy on 3 September 1943. Less than a year later, on 6 June 1944, the Allies invaded France in order to force Germany to her knees. Germany defended itself to the best of its capabilities and started shooting V1 and V2 rockets (*Vergeltungswaffen*) at Great Britain and other strategic locations. Many of these jet powered missiles were launched from the Netherlands. Although these caused a lot of fear and destruction it did not slow the Allied advance. On the 25th of August Paris was liberated and Belgium followed soon after. With these successes piling up Allied command made plans invade Germany in order to force her surrender before Christmas that year (Clark, 2004; Van Blankenstein, 2006; O'Reilly, 2009).

Market Garden

To achieve this operation Market Garden was created and executed from 17th September onwards. Operation Market Garden included two components. The first component called Market included several airborne divisions, which would be dropped behind enemy lines in the Netherlands. These airborne divisions included paratroopers and gliders with equipment and personnel. Their task was to capture all the bridges and other key positions, needed to eventually cross the Lower Rhine river (Nederrijn) at Arnhem (Clark, 2004; O'Reilly, 2009).

The second component called Garden included mechanized ground forces, which would drive north over the conquered bridges and turn east at Arnhem in order to invade Germany (Clark, 2004; O'Reilly, 2009).

The attack was meant to circumvent the German Siegfried Line and occupy the Ruhr district which housed a large part of Germany's manufacturing industry. At the same time would it trap the main body of German soldiers in the West of the Netherlands cutting them off from the rest of the German army. This would make it easy to force their surrender, free the Netherlands and stop the V1 and V2 launches (Clark, 2004; O'Reilly, 2009).

The original plan assumed the Garden force could reach Arnhem, the most northern bridge, within two to three days. It would be a challenge for the airborne divisions to hold out that long without

support. Yet Allied command assumed the German defences weak and unorganised, due to their heavy losses and unorganised retreat from France (Clark, 2004; O'Reilly, 2009).

Operation Market succeeded only partially. The bridge over the Wilhelmina canal and the railway bridge over the Lower Rhine were blown up by the Germans before they could be conquered. The bridge at Nijmegen could neither be conquered until the first ground forces arrived. The ground force itself was delayed by successful German resistance and an overextended supply line. They were delayed further as they needed to build a pontoon bridge over the Wilhelmina canal (Clark, 2004; O'Reilly, 2009). In the end it took till the evening of 20 September to conquer the bridge at Nijmegen. Moving on to Arnhem was by that time out of the question, as there was not enough material and man power to force the crossing of the Betuwe which was still firmly in German hands. This was mainly the result of the successful German counterattacks and the delay experienced by the main ground force (Clark, 2004).

The battle of Arnhem

Although the ground forces of operation Garden never reached Arnhem, the 1st airborne division did. On 17, 18 and 19 September over 10,000 personnel landed by parachute and glider. They landed 6 to 14 kilometres west of Arnhem with the objective to capture and hold the bridges over the Lower Rhine (see Figure 21: **Battle for Arnhem 1945 (Clark, 2004)**). Only one small battalion, between six and seven hundred men, was able to reach the bridge and hold a small perimeter around the northern bank. The rest of the 1st division was stopped by the German defenders. The battalion at Arnhem fought intensely to maintain the bridgehead from 17 to 21 September, after which supplies and manpower ran out. Those able retreated to the perimeter formed around Oosterbeek, while the wounded surrendered. The 1st airborne division fought on as best as they could in the Oosterbeek perimeter, but the situation worsened quickly. The Germans outnumbered them and were better armed and organised (British 1st Airborne Division, 2005; O'Reilly, 2009; The National WWII Museum, n.d.). Especially the SS-Panzer Division proved difficult to overcome by the lightly armed paratroopers (O'Reilly, 2009; pers. com. Arnhem veteran, 18-09-13). Some parts of the ground army did reach Driel on 22 September, where the Polish detachment of the 1st airborne division had landed. Yet both the Polish and newly arrived ground forces were unable to cross the river. This was mainly due to the lack of boats and the strong German force in the Betuwe and south of Nijmegen. The latter constantly attacking the road from liberated Belgium to Nijmegen. Two crossings of the Lower Rhine river were made on the night of 23 and 25 September, but these proved to be too small to turn the tide. The ground forces in Driel did successfully provide support by shelling the German positions around Oosterbeek. Yet important supplies ran out inside the perimeter and the troops became exhausted. The Oosterbeek perimeter was abandoned on the night of 26 September when the remaining Allied soldiers crossed the Lower Rhine and retreated to Nijmegen (Clark, 2004; O'Reilly, 2009).

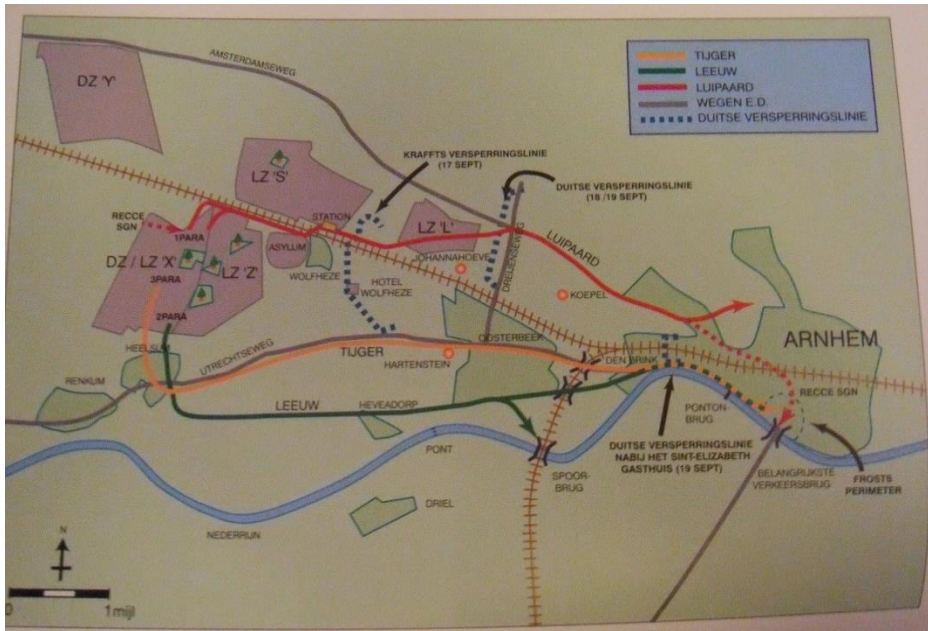


Figure 21: Battle for Arnhem 1945 (Clark, 2004).

After Arnhem

With the Allies retreat the Germans dug in and consolidated their defences (De Jong, 1982-2; Bouwer, 2008; Jansen, 2013). The northern bank of the Lower Rhine became an exclusion zone (Sperrgebiet). All civilians who had not fled the intense fighting where forced to evacuate the area (Van Iddekinge, 1981; Gelders genootschap, 2011).

The rest of the autumn and winter were used to dug trenches and build bunkers while the Allied forces shelled the German positions intensely throughout this period (Bouwer, 2008; De Jong, 1982-2).

The Netherlands liberated!

In April 1945 the Canadian 1st army started an offensive to liberate the northern part of the Netherlands. One part of the Canadian 1st army advanced into Germany and turned directly west from there. It liberated Deventer and the army was split. One section crossed the river IJsel south of Deventer, the other moved north to liberate the northern provinces.

The other part of the Canadian 1st army cleared the Betuwe and prepared to cross the Lower Rhine near Oosterbeek. This plan was changed due to the German defences on the northern banks of the Lower Rhine. Instead the Allies crossed the Rhine east of Arnhem and attacked Arnhem from the east. Arnhem was liberated on 14 April after two days of house to house fighting. Moving north the Allies encircled Apeldoorn and eventually reached the IJselmeer. This left only the Grebbe line and Fort Holland in German hands. The Allies did not attack these positions but did clear the rest of the Veluwe area, liberating Wageningen at 20th of April. Two weeks later the German forces in the Netherlands surrendered (Canadian Army Newsreel 69, 1945; Munbo, 1945; Van Iddekinge, 1981; De Jong, 1982-2; Canada at war, 2007; Juno Beach Centre, 2013).

A.2. Civilian life and the woodlands 1940-1945

The war and German occupation of the Netherlands effected the Dutch population in various ways. With the thread of invasion in 1939 the army was mobilized, creating an 280.000 man strong army. It

also mend that the focus of Dutch finances and production move towards the war effort (Amersfoort & Kamphuis, 2005).

Rademaker (1988) recognises three phases during the war. The first phase, 1940-1943, is a period of ease. The second phase, 1943-1944, is a period of pressure. The last phase, 1944-1945, is a period of chaos. In this paragraph these three phases and the pre- and post-war situation are described.

Interbellum

After the First World War the government realised it was too dependent on foreign import. It therefore tried to become independent. This led to a growth in the industry and raw material sector and an expansion of the Dutch infrastructure network. This period also saw a large population growth (Rademaker, 1988).

The Netherlands however remained a trading nation and when the Great Depression (1929-1939) started it was dragged along. At the height of the crisis in 1936 over 480.000 people were unemployed on a population of nearly 9 million (Rademaker, 1988; Buis & Verkaik, 1999). The wood prices were low during this period which made forestry unfavourable for economic reasons (Stoffel, 1939). During this period the woodlands were therefore seen as more than just production forest. Recreation and protection were also important (Houtzagers, 1940; Bouwer, 2008). Many forestation projects did take place despite of the low prices for wood, as these projects were set up to battle the unemployment of the population and were subsidised by the government (Sprangers, 1939; Buis & Verkaik, 1999).

Forest products also saw new usage in for example wood gas. This gas produced from so called generator wood which was used as a fuel to power trucks, cars and tractors. Waste and rest wood proved especially useful for this, and in 1939 the cost for driving a petrol powered truck and a gas wood powered truck were practically equal (Wormgooi, 1939; Rademaker, 1988).

The outbreak of the war saw a rise in wood prices due to the heightened demand and lower import. Woodland owners wanted to sell their wood due to this price rise. The government controlled the wood cutting and sales in order to prevent all wood to be cut and sold at once. They deemed this both economically and ecologically unwise. This attitude of both woodland owners and government remained largely the same when the Germans came to power in 1940 (De Koning, 1941; Rademaker 1988; Bouwer, 2008; Jansen, 2013).

1940-1942

With the fighting over, the Dutch returned to their normal life. School reopened and most adults returned to their jobs (Rademaker, 1988; Buis & Verkaik, 1999; Van Dam, & Vuijsje, 2011). As R2 put it:

“Ik, een late leerling, ging in 1940 naar school en de eerste schooldag dat ging nog wel, maar toen een paar dagen later was de oorlog. Mei 1940. Nou ja en dat duurt dan één of anderhalf of twee dagen en dan moet je weer naar school. Ja die scholen die blijven open.” (l. 238-241).

The German military occupation government was replaced at the end of May by a civilian puppet government led by Austrian born Arthur Seyss-Inquart. Several important posts were given to Nazi sympathizers, but most of the Dutch civil servants returned to work like they had done before the war. In this way several important organisations for the forestry sector remained controlled by non-Nazis/collaborators. Examples of this are the State Forest Service (Staatsbosbeheer), National

planning agency (Rijksdienst voor het Nationale Plan) and Land reclamation and Public work programs agency (Nederlandsche Heidemaatschappij) (Buis & Verkaik, 1999; Van Dam, & Vuijsje, 2011; Bouwer, 2008). The ultimate power remained firmly in German hands, but the Dutch followed the rules. As a result the Germans mainly supervised during this period (Dam van & Vuijsje, 2011).

Reforms were however deemed necessary also within the Dutch forestry sector. The production needed to increase in order to supply enough wood for the economy and war effort (Bouwer, 2008). In order to do this the *abteilung für Forstwissenschaft und Holzwirtschaft* (Department of forestry and forest products) was created. This department regulated the forestry sector, including production, hunting and natural beauty (natuurschoon). It was led by Oberforstmeister Hageman and relied heavily on the State Forest Service and Land reclamation and Public work programs agency, for both information and implementation (Rademaker, 1988; Buis & Verkaik, 1999; Bouwer, 2008). One reform was the obligation for woodland owners who owned more than 5 and later 10 hectare, to make a business plan (Bedrijfsplan). This plan was used to inventory the area and determine future plans. It was also used to determine the to be harvested amount of wood (Staf, 1943; Rademaker, 1988; Bouwer, 2008).

As the war progressed the function of the woodlands became more centred on production (Houtzagers, 1940; De Koning, 1941). Important wood uses in the beginning where fuel, the mines, defence works and rebuilding the war damages (Rademaker, 1988; Gelders genootschap, 2011; Jansen, 2013). Wood prizes were determined by the government and all woodland owners who owned more than 5 hectare where forced to supply wood. Refusal could lead to a fine and imprisonment. Logging could only be done with a permit from the State Forest Service (Eshuis, 1940; Drost, 1941; Bouwer, 2008). Problems during this period where the lack of skilled workers, lack of seeds and fierce and long winters which shortened the planting season. These problems worsened over the course of the war (De Koning, 1941; Van Lonkhuyzen, 1942; Staf, 1943; Bouwer, 2008; Dam van & Vuijsje, 2011). In these winters a lot of wood and woody products were robbed by the local population (Rademaker, 1988; Bouwer, 2008). As R3 put it:

“[Toen] het steeds moeilijker [werd] om aan brandstof te komen. Dat wij dus langzamerhand steeds meer op het bos waren aangewezen en dat ik met een paar broers van mij, om de haverklap met een paar karretjes altijd [de] bossen introk om hout te halen.” (l. 48-51).

1943-1944

When the German forces remained unable to force the Soviet Union to surrender and the USA entering the war, things changed. The relative leniency which the Dutch had enjoyed so far was replaced with stricter rules. Everyday resources became scarce and rationed (De Jong, 1982-2; Bouwer, 2008; Dam van & Vuijsje, 2011).

The attitude in the forest sector also changed. Hageman was replaced by Schnell and the *besluit staatstoezicht bossen 1943* (act state supervision forests 1943) was implemented. This allowed Schnell to fully control the location and amount of wood cut. The State Forest Service was responsible for upholding the rules and quota of 1 million m³ set by the Germans. When the State Forest Service failed to reach this quota the German Wehrmacht started to cut wood themselves as well. Meanwhile the cost for cutting and planting increased while the prizes paid decreased. The result was intensive logging and the logging of trees before their time had come. The lack of skilled workers led to damages of remaining trees. This lack of workers, the lack of seeds and planting

equipment also prevented the reforestation of the logged locations (Smits, 1944; Rademaker 1988; Buis & Verkaik, 1999; Bouwer, 2008; Gelders genootschap, 2011).

The stealing of wood and woody products became more common as well (Rademaker 1988; Bouwer, 2008).

1944-1945

With the liberation of the south of the Netherlands a lot changed. The Lower Rhine became the new border from which all civilians were evacuated. The winter that year was cold and long and occupied Netherlands ran out of supplies very quickly. Food and fuel became scarce leaving the people to suffer and die (De Jong, 1982-2; Bouwer, 2008). The risk of famine in occupied Netherlands was also high (Juno Beach Centre, 2013). The shortage situation often led to pillaging, also within the woodlands since wood made good fuel for burning (Rademaker, 1988). Both Allied and German militaries also plundered the Dutch cities when they advanced and retreated (Van Iddekinge, 1981; De Jong, 1982-2; Bouwer, 2008).

The people living in the Southwest Veluwe area, positioned on the front line, where all evacuated northwards. After which the Germans fortified the front line as best as possible. For this they used trenches, barbed wire and land mines (De Jong, 1982-2; Bouwer, 2008; Jansen, 2013).

Both the evacuation and fortification were remembered by the interviewees. As for example R3 put it:

“...nadat het [de slag om arnhem red.] ongeveer tien dagen geduurd had, hier in het centrum van Oosterbeek zaten wij, toen zijn [we] door de Duitsers uitgezet en toen moesten we allenmaal evacueren.” (l. 10-12).

R4 remembering the German fortifications:

“...daarginds op het land daar zaten loopgraven, en daar zat de nodige huisraad [in].” (l.270-271).

To build these defensive works wood from the surrounding areas was used. The woodlands were also damaged by Allied artillery shelling and fighting between the Germans and Allies during the liberation of the Netherlands.

Post-war period

With the end of the war the civilian population returned to their homes, or what was left of them. The Allies brought in the much needed food and fuel, lifting the worst shortages. It took however years before the food and fuel economy ran normal again (Van Iddekinge, 1981; De Jong, 1982-2; Canada at war, 2007).

The Netherlands was one of the most woodland poor countries in Europe before the Second World War as is shown in Table 8. Only Great Britain had less woodland cover before the war (4.3% of total land surface, excluding all overseas possessions) (Houtzagers, 1940).

Table 8: Woodland situation in 1940.

Woodland situation 1940 (Houtzagers, 1940; Houtzagers, 1946-1)

Total forest (ha)	Coniferous high forest (ha)	Deciduous high forest (ha)	Coppice (ha)	% of total land surface
255.000	160.000	20.000	75.000	7.75

When conducting durable forest management a manager cuts no more than the forests annual growth. In the Netherlands this would have been between 500.000-550.000 m³ every year. During the five war years around 30.000 ha (12%) was cut. This results in a loss of around 6 million m³ twice as much as admitted when cutting the annual growth (Houtzagers, 1940; Houtzagers, 1946-2; Rademaker, 1988; Buis & Verkaik, 1999; Bouwer, 2008). According to Van Blankenstein (2006) this amount was less, namely 22.000 ha (+-8%). She bases this on a State Forest Service report from 1945 and a global estimate of the ministry (agriculture, nature management and fishery) from 1949. For the southwest Veluwe area Bouwer (2008) estimated that around 14.000m³ wood was cut. According to him these numbers would have been much higher if organisations like the State Forest Service had not committed passive resistance.

Damages in the woodlands mainly occurred due to the fighting and stealing. The fighting includes: Allied artillery shelling, crashing V1's and defensive works like trenches (GldA-6; Gelders genootschap, 2011).

Many German rules surrounding the forestry sector remained in use after the war. This allowed the government to regulate the amount and location of the logging. The government also started compensating woodland owners for the damages and started subsidizing reforestation (Houtzagers, 1946-1; Bouwer, 2008; Gelders genootschap, 2011).

Production remained the main goal in woodlands during this period. Rational forestry introduced by the Germans was embraced and implemented (Houtzagers, 1946-1; Bouwer, 2008). Natural beauty regained some importance, but it would take almost 20 years before it rose to prominence again (Bouwer, 2008). As a result one third of the deforested area was already reforested in 1947 (Van Lonkhuyzen, 1948).

Appendix B: Anonymous interview transcription of R4

1 TZ: Dus, uhh wat heeft u zoal beleefd hier in de bossen, kan u nog wat van vertellen, tijdens de
2 oorlog of daarna?

3 R4: Ja ik heb uh natuurlijk eh, ik heb de binnenkomst heb ik meegemaakt, dat ze kwamen met
4 huifkarren met paarden (TZ: wie?) de Duitsers (TZ: de Duitsers) ja ja en die-uh die kwamen zeg maar
5 van over het spoor (TZ: mhmmh) van de Amsterdamseweg binnendoor (TZ: ja) en toen gingen ze zo-
6 uh richting de grebbeberg, ja (TZ: ja). maar die waren echt met huifkarren en paarden, ja. En ja die
7 hadden natuurlijk al dat spul bij zich, dat geschut, alles en ja. Dat was in het begin erg primitief hé?
8 (TZ: ja ja) Ja (TZ: dat is zeker zo) ja. En-uh ja dat heb ik dus-uh dat heb ik dus meegemaakt en daar
9 waren dus-uh ja ook veel-uh oudere mannen bij he, ja. Ze hebben eigenlijk alles ingezet toen hé (TZ:
10 ja). Denk ik wat er voor handen was in Duitsland, ja. Ja en dat waren ook de, eigenlijk die wij hier
11 meegemaakt hebben, dat waren gewoon de de minder agressieve eigenlijk die ook moesten he. (TZ:
12 ja) ja. Ja en later-eh kreeg je natuurlijk die-uh die ss en-eh ja die mensen met die bruine pakken an, ik
13 weet niet meer hoe, wat voor een onderdeel of dat was (TZ: geen idee) allemaal van die van die
14 bruinachtige pakken hadden ze aan (TZ: ja). Ja en dat waren de echte, de echte fanatiekelingen he. Ja
15 en-uh ja dan zo zachtjes aan kwam je onder-eh onder het juk he, te zitten (TZ: van de Duitsers) van
16 de Duitsers ja. (TZ: en wat hield dat in?) nou ja dat er een hele hoop dingen natuurlijk eh verboden
17 werden en-uh, ja dat ze eigenlijk-uh eigenlijk alles bestuurden (TZ: ja) ja. Ja dan mocht eigenlijk toen
18 heleboel mocht niet meer. Ja maar goed voor de rest-uh, ik was natuurlijk ja een kleine jongen, voor
19 de rest had je er eigenlijk niet zo veel last van. Nee. Dat-uh dat viel allemaal eigenlijk wel mee, ja. En
20 later begonnen ze natuurlijk ja hier-uh ook de mensen weg te voeren, de Arbeitseinsatz (TZ: jaja). Ja,
21 en-uh toen werd het natuurlijk voor een hele hoop mensen werd het werd het veel-uh ja linker
22 gevaarlijker, ja. Toen deden ze echt het juk merken he. Maar eerst in het begin uh ja ging alles
23 gewoon door, er was eten alles was er eigenlijk. Ja, maar na mate het ging vorderen werd het
24 allemaal minder he (TZ: ja) ja. ja, maar dan zeker als kind had je er eigenlijk niet zoveel mee, niet
25 zoveel-uh in het begin niet zoveel last van he. Nee (TZ: leven ging gewoon door) het leven ging
26 gewoon door ja. Ja, ja.

27 TZ: Dus wat deed u al zoal toen in die tijd, als klein jochie?

28 R4: Uhh ja, natuurlijk naar school hier gewoon aan de weg, iets verderop staat die school. Van
29 Aschool heet ie. Daar kom je wel langs als je hier met de fiets gaat (TZ: ja inderdaad) het is dat
30 middelste gebouw, dat grote gebouw. Er zit nu een kunstenaars familie in. (TZ: ow oke) ja. die
31 schilderen daar wat, en-uh. Maar ja weleens ja was hier-uh natuurlijk uh buitenaf vrij rustig ja. Je
32 had-uh der woonde hier weinig mensen he (TZ: ja). Nou ja je had hier dan een hotel maar dat was
33 alleen in in de zomertijd eigenlijk he (TZ: mhmmh) ja. En verder speelde we wat in het bos en zo he
34 ja. (TZ: u kwam veel in het bos of? Kwam u veel in de bossen?) ow altijd, ik zat altijd in het bos ja dat
35 vond ik prachtig. Ja. boompje klimmen achter eekhoorns aan, ja. Ja zoals je wel als kinderen doet
36 natuurlijk. (TZ: mhmmh) ja. En ook wel verstoppertje spelen met de-eh kinderen die hier dan waren
37 zeg maar. Of school vriendjes van school kwamen er dan mee. Ja. Maar verder was het hier een
38 rustige tijd he. Verkeer was er niet, (TZ: nee) nee het was hier-uh het zijn nu harde wegen maar het
39 was toen allemaal zand he, gewoon allemaal zandwegen (TZ: ja), met de nodige gaten erin met
40 water. Ja wij, maar auto's die-eh ja die waren er niet he tenminste waren er nauwelijks he. Wie had
41 er een auto? De hoteleigenaar, aan de overkant (TZ: mhmmh) maar verder niemand (TZ: oké) nee.
42 We moesten alles met de fiets (TZ: ja) ja. Maar dat was-eh ja, hoofdzakelijk in het bos geweest was
43 eigenlijk de bezigheid. Ja.

44 TZ: En merkte u, wat kan u zich nog herinneren van van de bossen zelf? Kan u zich iets herinneren
45 van de staat of van hoe het eruit zag, hoe het veranderd is. (7.47)

46 R4: Ja het is heel erg veranderd he. Oh ja de natuur die is zoveel veranderd. Dat is-uh eigenlijk met
47 geen pen te beschrijven (TZ: hehe) nee dat als je hier stond zeg maar, de overweg, dan keek je
48 bijvoorbeeld-eh naar Wolfheze toe dat is twee kilometer (TZ: ja) kon je de auto's gewoon zien rijden
49 gewoon over de overweg (TZ: oké) ja. Nu is dat allemaal begroeid maar dat was toen allemaal kaal. Ja
50 (TZ: oke) net zoals hier hier staat nu aanplant voor (TZ: ja) maar dat was ook gewoon een open
51 vlakte, dat was ook een open vlakte ja. En de bossen die waren veel mooier he (TZ: veel mooier) ja
52 veel mooier (TZ: hoe waren ze mooier?) uhh nou ja de begroeiing en zo nou-eh ik hou persoonlijk
53 hou ik van grote oude bomen. (TZ: mhmh) Ja als er een een beetje groot en dik is dan zagen ze hem
54 eruit he (TZ: en dat was vroeger niet zo?) dan dat was eh nee dat, in ieder geval veel minder. (TZ:
55 oké) veel minder. Toen was het veel minder eigenlijk productie bos he (TZ: mhmh) ja zoals nu. En
56 dat is eigenlijk-uh want zo, dit is zoals toen in particulier handen dat stuk hier** (TZ: ja) maar-uh ja
57 dat werd wel netjes bijgehouden en zo ook de wegen, de paden zeg maar (TZ: mhmh) het is toen
58 overgegaan naar eh de Staatsbosbeheer nou ja die verzieken het gewoon he. (TZ: oke) ja, die
59 verzieken het gewoon. (TZ: door, waardoor?) Nou door de, het niet bijhouden en-uh ja die die zagen
60 maar aan he. Want ook die moeten natuurlijk productie leveren (TZ: ja) ja. Want er is overal-eh
61 chronisch geld tekort he dat zo denk ik (TZ: daar lijkt het op ja) daar lijkt het op he, ja (TZ: ja) ja. En
62 dan moet het uit die bossen komen maar dat is-eh dat vind ik niet dat zal dan niet ten goede komt
63 dat he, van de natuur zeg maar (TZ: ja) ja.

64 TZ: Kunt u zich herinneren dat die verandering zich al inzette in de oorlog of na de oorlog? Of is dat
65 vooral

66 R4: Uh dat is na de oorlog (TZ: na de oorlog) ja. Ja na de oorlog is dat eigenlijk-eh eigenlijk is die grote
67 slag begonnen. (TZ: oké) ja. Ja (TZ: dus tijdens de oorlog niet, of amper, of merkte u dat niet) nou ja,
68 kijk wij-eh wij stookten natuurlijk ook altijd hout (TZ: uiteraard) hierzo, maar dat was allemaal uh dat
69 was gewoon dood hout. Vaak-uh mijn vader en ik gingen zondag 's morgens kijken waar er wat
70 dunne, dode bomen stonden of zoiets en dan-uh 's maandags 's avonds als hij weer terug kwam van
71 zijn werk, want hij werkte bij de NS (TZ: ja) en-eh dan was het de kruiwagen en de zaag en dan-uh
72 gingen we natuurlijk eh er op uit na het eten. En-eh ja dan moest ie eerst voeren want we hadden
73 geiten hier voor de melk, en mijn moeder die karnde boter, van die geitenmelk. (TZ: jaja) en-uh we
74 hadden meestal-eh twee varkens of soms drie dat was wel net na de financiële toestand maar dan-
75 eh dan werd er één geslacht, per huisslacting in-uh zeg maar november, en die andere die werd
76 verkocht he, of die andere twee, en dan had je net je eigen varken had je voor niks. (TZ: hoe bedoelt
77 u voor niets?) nou dan dat die opgebracht (TZ: ow zo), wat die andere twee oprachten, dan was die
78 ene van je zelf was dan betaald. (TZ: jaja precies) ja, zo werkte dat.

79 TZ: En als u dan de bossen in ging voor uh hardhout mocht dat gewoon?

80 R4: ja, jaja dat mocht. Ja en jha dat werd ook niet altijd gewoon gevraagd, nee dat was gewoon-eh
81 heel gewoon eigenlijk. Ja.

82 TZ: En-uhm even naar september 44, u was geëvacueerd tijdens de geallieerde landingen?

83 R4: uh nee toen de landingen hier kwamen toen woonden wij hierzo, ja.

84 TZ: En wat kunt u zich nog herinneren van dat moment dan?

85 R4: Jawel dat was ook een heftig moment he, ja dat was op een-uh op een zondag, heel mooi weer.
86 En-uh mijn vader en ik wij zouden net, zouden we zeg maar het bos weer intrekken en toen-eh stond
87 er hier zo voor op de weg** daar stond een-eh Duitse officier op de fiets, heel mooi in pak, zoals ze
88 konden zijn (TZ: jajaja) en-eh nou die begon te praten tegen mijn vader en ze hebben een praatje

89 gemaakt en-uh ja over de over de Krieg zei die. Ja, maar mijn vader kon er wel aardig mee praten
90 hoor dat Duits. (TZ: mhmmh) en-eh nou meteen zo het-uh over de oorlog de toestand en dit en dat
91 en-eh toen stonden we zo te kijken en ja toen kwamen er vanaf Wolfheze hier langs de spoorlijn op
92 (TZ: mhmmh) er kwamen een paar formaties vliegtuigen zeg maar en-eh wij staan dan zo te kijken en
93 zegt dan dat zijn de tommy's. (TZ: dat zei de Duitser) dat zei die Duitser ja, (TZ: oké) die zeiden altijd
94 tommy's ertegen (TZ: jaja ja) en-eh, hij heeft het nog niet gezegd, of het was nacht het was echt
95 helemaal donker en-eh dat bleek later van de bommen he(TZ: oké). Toen zijn we hier enorm
96 gebombardeerd he (TZ: ja) ja echt enorm en-eh (TZ: ook hier of?) ja ook hier (TZ: oké) deze spookant
97 en eindelijk om het huis, maar niet het huis (TZ: oké) maar hiervoor het begin van het pad hier, daar
98 stond uh lag, mijn vader die heeft mij gepakt want er is een bom gevallen en dan krijg je het zand zeg
99 maar wat er uit komt en-uh je kon precies de afdruk van ons in het zand zien (TZ: zo) waar wij
100 gelegen hadden. We zaten helemaal onder het zand (TZ: ja) en-eh ik kreeg ja wat dat weet ik niet,
101 angst waarschijnlijk. Dus ik vlucht hier langs het huis naar de overkant van de overweg (TZ: mhmmh)
102 en daar is dan-uh nou-uh wij zeggen spoorloot zeg maar, waar ze het zand uitgegraven hebben om
103 de dijk op te hogen (TZ: ja) en-eh daar ging ik tegen de kant zitten of liggen en-eh we hadden zo'n
104 klein hondje die liep daar bij me en toen-eh zo zachtjes aan begon dat spul weer op te trekken en er
105 viel dus dat-uh dat stof dat zand, maar daarbij voel ook allemaal van die ja witgele poeder zeg maar
106 (TZ: mhmmh) maar dat is van die bomexplosies gekomen, wat niet helemaal geëxplodeerd is
107 natuurlijk (TZ: mhmmh) en dat regent het ook zeg maar (TZ: oké) dat ook (TZ: ja ja). En-eh nou toen is
108 het weer een beetje, zo zachtjes aan trok het op toen werd het weer wat helderder, toen ben ik weer
109 naar huis terug gegaan. Nou ja en toen zagen we dus wat hier gebeurd was. Toen liepen mijn moeder
110 en mijn zuster, want we woonden hier met zijn vieren, die liepen al te zoeken en me vader, en toen
111 kwam ik daar vandaan en ja, toen waren we weer bij elkaar. En-eh maar dat was zo'n beetje tegen 12
112 uur, we hadden hier een schuur staan met ja een stookhok waar we dan een kachel hadden staan en
113 zomers kookte mijn moeder daar altijd zeg maar (TZ: oké) en ook toen, toen. En-eh ik weet het nog
114 wel-eh aardappels met-eh met peertjes, stoofperen (TZ: mhmmh) en die-eh ja daar is de deksel die is
115 er op een of andere manier afgevlogen en toen werd het etenstijd maar ja, we hadden de buik al vol
116 van het gebeuren, maar mijn vader niet. Die was wel nuchter en die zei: ik wil toch wel een beetje
117 eten. Ja en-eh maar op die peren daar lag-eh ook het nodige stof en zand en zo (TZ: ja) hij schept het
118 eraf en daaronderuit pakt ie gewoon de goede peren, jaja. En die heeft nou wel gegeten (TZ: oké).
119 Maar toen hadden we dus-eh we hadden geiten en die pinden we altijd aan de paal. Aan een ketting
120 om te eten he (TZ: mhmmh) en die stonden hier achter tegen het spoor en de geit die liep bij huis. De
121 ene helft van de ketting zat nog aan de pin en de andere helft die hing aan de geit. (TZ: maar de geit
122 leefde nog?) ja die leefde nog, had niks. Alleen die ketting is doormidden geslagen zo, door een gr-
123 bombscherf, want de pin stond op de rand, zeg maar, van het gat (TZ: zo) nou en is die doormidden
124 gesneden zo. Ja. ja dus ja hierzo en daar het bos, (TZ: mhmmh) nou dat was, en hier tegen over dat
125 was toen hei met een enkele vliegden, dat was helemaal omgeploegd van de bomgaten. (TZ: oké) ja,
126 er waren bomgaten ook eh ze hadden ja dat noemde ze kettingbommen. Dat waren vier aan vier zeg
127 maar, gewoon vier en dan zaten verbonden met elkaar dus die vielen als als pakket naar beneden
128 (TZ: oké) ja. (TZ: voor een extra grote explosie of) ja waarschijnlijk waarschijnlijk ja (TZ: mhm oké) ja.
129 en-eh ik heb een ding heb ik n ooit kunnen begrijpen. Want ik heb-eh verder in de oorlogstijd heb ik
130 natuurlijk heel veel bombardementen gehoord en explosies en dingen (TZ: mhmmh) maar toen wij
131 dus dat hier eigenlijk eronder zaten, is het gewoon muisstil. Je hoort die explosies niet, dat is heel
132 vreemd (TZ: toen toen jullie zelf gebombardeerd werden?) ja, ja je zou zeggen dat zijn toch enorme
133 knallen (TZ: ja) maar, hoe of dat komt dat weet ik niet, maar het is gewoon muisstil. Je hoort dat niet

134 die explosies en dat vind ik heel vreemd. (TZ: ja dat is) ja ja (TZ: dit was dan ook de eerste keer dat
135 jullie echt gebombardeerd werden hier?) dat was de eerste keer dat wij gebombardeerd werden ja.
136 ja. Je hoorde het natuurlijk toen in die tijd hoorde je wel eens explosies want-uh we hadden
137 hierachter Deelen zeg maar (TZ: ja ja) het vliegveld (TZ: ja) afijn als je in Arnhem woont dan weet je
138 dat ook wel, maar-eh daar werd-eh dat werd ook regelmatig gebombardeerd he door die door de
139 Engelsen, een aanval dus (TZ: ja) en-uh ja dan hoorde je dat wel. Dan hoorde je dat wel en hierzo-eh
140 door het afweergeschut van die Duitsers (TZ: ja) die begonnen hier al op die vliegtuigen te schieten
141 he (TZ: stond het afweergeschut hier in de buurt of?) nee dat stond daar bij Deelen (TZ: dat stond
142 daar al) om Deelen heen (TZ: jaja) en dan zag je allemaal die-eh die explosies die wolkje he (TZ: ja) ja.
143 En dan moest je nog uitkijken want die stukken van die granaten die vielen ook naar beneden he (TZ:
144 uiteraard die moeten ergens blijven) die moeten ergens blijven ja. Dus dat was altijd het gevaarlijke
145 ja (TZ: ja). En-eh maar goed dat werd natuurlijk-eh dat werd steeds heftiger zeg maar. De gevechten
146 in de buurt he (TZ: ja) dat werd steeds heftiger. En-eh want toen hebben ze een lijntje aangelegd
147 bommenlijntje he noemden ze dat vanaf Wolfheze naar Deelen (TZ: naar Deelen) ja (TZ: ja) en-eh ja
148 daar is toen veel gebouwd en gedaan en zoiets. Dus-eh eigenlijk het geheel dat werd steeds heftiger,
149 want we gingen een keer op de fiets naar Renkum (TZ: ja) mijn vader en ik boodschappen doen, maar
150 ook dan was je niet veilig hoor want dan, die vliegtuigen die schoten ook op je he (TZ: Die schoten op
151 alles wat) alles wat bewoog daar schoten ze op. Ja dus-eh daar verderop heb je een rij bommen zeg
152 maar*** en-eh dan hoorde je gewoon die hoorde je door die bommen heen ketsen he, ja, ja dan werd
153 er gewoon op je geschoten (TZ: ja) ja, want een neef van me is zo omgekomen (TZ: oké) die is ook zo
154 in Ede ook door-eh Engelse jagertjes (TZ: oke) ja, die was ook wel in dekking tegen de slootkant, maar
155 ze hebben hem toch geraakt he. (TZ: ja dat kan natuurlijk) ja dus het is, wou zeggen het was toen een
156 gevaarlijke tijd he (TZ: ja) ja toen maar ja de tijd werd steeds gevaarlijker he (TZ: naarmate de oorlog
157 vorderde) mhm ja, naarmate de oorlog vorderde kreeg je ook meer ja van die van die ss weet je wel
158 en dat waren hele fanatieke moffen he (TZ: jazerker) ja ja. Ja die-eh die landmacht of de ja uh ze
159 noemden dat anders maar dat was eh dat waren eigenlijk oude mensen (TZ: de de weermacht) ow
160 weermacht ja. Ja en-eh die waren ook veel gemoedelijker dat waren niet van die fanatieke, zoals die-
161 eh zoals de ss-ers. Nee maar ik denk dat die ss ook-eh ook meer een korps was-eh wat eigenlijk een
162 beetje ook uit vrijwilligers bestond he, en de weermacht ik denk dat die moesten he (TZ: ja, over het
163 algemeen) over het algemeen ja, ja, ja. Ja dus ja en toen-uh na de bombardement, 1 uur denk ik dat
164 het was toen kwamen die-uh die zweefvliegtuigen die werden getrokken, dat zag je dan. Nou die
165 kabels kwamen dan uit de lucht suizen die maakte heel veel herrie en toen kwamen die-eh zo
166 zachtjes aan de parachutisten, ja. En-eh die kwamen toen in grote groepen kwamen ze van het land
167 af en die kwamen ook hierzo en toen-eh ja toen werd het een beetje avond enzo iets. Mijn vader die
168 verbouwde tabak dat was, waren van die hoge dingen zeg maar (TZ: ja) en daar lagen ze onder te
169 slapen ja. En mijn moeder die ging thee zetten en zo weet je wel. Ze hadden van die blikjes en dat
170 was instant he (TZ: jajaja) dat was alles bij elkaar (TZ: ja opwarmen en dan) ja zelf melk en suiker en
171 alles zat erbij en daar hoefde alleen water bij (TZ: jaja) van die poeder, instant poeder. En die hadden
172 ze natuurlijk genoeg he die, nou ja chocola, snoepjes ze hadden van alles dus dat had je als kind in de
173 oorlog ook niet zoveel natuurlijk (TZ: nee) en-eh tenminste in die tijd dat was, ja al een beetje aan
174 het eind van de oorlog natuurlijk (TZ: jaja zeker) 44, september 44 (TZ: ja). En-eh nou ja daar was je
175 blij mee he, ja. Je kreeg chocola en zo want die lui hadden op dat moment zat, ja. Van die zuurtjes, ja
176 dat was-eh. Maar toen ook-eh was zondags die eerste landing 's maandags de tweede landing en
177 toen liepen ze allemaal met van die driehoekjes voor en-eh ja mijn zuster die zegt waar is dat
178 eigenlijk voor die driehoekjes, die kon dan goed Engels. Oww zeiden ze dat is dat de troepen ons

179 herkennen dat het eigen troepen zijn (TZ: jaja) ja en dus daarom liepen ze met van die dingetjes voor
180 (TZ: ja dat ze herkend werden) dat ze herkend werden ja dat het eigen troepen waren (TZ: ja). Maar
181 ze waren goed-eh goed te pas hoor, ze liepen met van die grote oranje afrikanen hadden ze in de
182 loop van het geweer he. Hadden ze het geweer zo over de schouder met de loop naar boven en daar
183 zat een grote afrikaan zat erin (TZ: oké) ja. Ja dat hadden ze voor de aardigheid gedaan (TZ: oké)
184 hadden ze meegebracht uit Engeland he (TZ: ja) ja dat was wel-eh wel mooi. En-eh ja ze begonnen
185 toch een beetje hier weg te trekken en we horen hun zeg maar in Wolfheze en Oosterbeek kwamen
186 hoorden we wel hevig schieten enzo he. Ja (TZ: ja) en 's avonds zag je het licht van die
187 vlammenwerpers he, die hadden ze ook daarmee spoten ze vuur mee en zo (TZ: ja). En-eh ja eigenlijk
188 de, het militaire gebeuren dat werd hier steeds minder he. Dus-eh het laatste wat ik gezien heb hier
189 voor het huis daar was een afritje konden ze en een beetje achter de achter de overweg zich lag
190 verschuilen en daar stonden ze te kijken met de verrekijkers naar de volgende overweg da's een
191 kilometer verder (TZ: ja richting Ede) richting Ede (TZ: ja) richting Ede, ook dat was helemaal vlak daar
192 stond ook geen boom. En-eh kon je zo kijken en-eh toen zei mijn vader, nou hij zegt tegen mij ik wil
193 ook wel eens kijken. Nee, nee dat mocht niet. Maar wat wil nou het geval, toen zaten die die moffen
194 die zaten al bij de volgende overweg (TZ: oké) ja (TZ: ja) die waren al aan het oprukken zeg maar (TZ:
195 jajaja) en dat deden ze dan in linie zeg maar van de Amsterdamseweg tot aan de Bennekomseweg,
196 helemaal in linie naast elkaar met de geweer in de aanslag rukten ze op. En-eh toen zijn wij hier, mijn
197 moeder me zuster en ik zijn hier weggegaan mijn vader is hier nog een poosje gebleven en-eh toen
198 waren we bovenop het spoor hier want daar stond ook een huis daar woonde de familie Vos, ook
199 een-eh een van de NS (TZ: mhmmh). Nou dan beginnen ze zo op ons te schieten he (TZ: de Duitsers?)
200 de Duitsers, die zagen natuurlijk beweging (TZ: jaja) en daar begonnen ze op te schieten dan toen
201 hebben we tegen het huis aangelegd en de kogels die ketsten tegen het huis aan he, ja. Nou toen
202 zijn we verder gegaan en-eh toen zijn we terecht gekomen in de schuilkelder bij, ja dat was een heel
203 groot landgoed B (TZ: oké). Het huis was in brand geschoten maar de schuilkelder die was intact en
204 dat was een echte schuilkelder met-eh zeg maar een meter dik beton helemaal (TZ: jaja) en
205 helemaal-eh bovenop met zand. En daar hebben we toen denk ik, hoelang hebben we daar gezeten,
206 een week, denk ik. Toen was inmiddels ook hier alles Duits (TZ: jajaja) mijn vader die moest-eh water
207 putten. Wij hadden dan-eh geen pomp maar zo'n draaiput met een puls, weet niet of je dat kent dat
208 systeem (TZ: nee) emmer aan een kabel in de wel en dan moest je zeg maar dat was een pul en dan
209 had je ongeveer een halve emmer water per keer. (TZ: owja klassieke voorbeeld van een waterput)
210 klassiek ja heel klassiek (TZ: ja) we hadden hier geen andere water, alleen van dat ding hadden we
211 water he (TZ: oke) en-eh dat moest hij dus voor die moffen die kwamen toen-eh nou die kwamen
212 toen in die tijd waren de moffen ook-eh gemoderniseerd die hadden auto's die hadden tanks en alles
213 he (TZ: ja) ja. En-eh toen heeft ie, uit de schuur heeft ie een knijptang weten te halen en toen heeft
214 die de kabel heeft die doorgeknipt van die put. Toen was de put buiten werking, jaja. Kon die ook
215 niets aan doen dat de kabel was geknapt he (TZ: nee kan gebeuren) ja kan gebeuren (TZ: hehehe) ja
216 heh. En die kwam toen later. We hadden hier een beetje kippen en een beetje vee en zo (TZ:
217 mhmmh) en-eh dat hebben we, hebt ie toen opgehaald, en daar bij B daar stond ook eh want die had
218 een groot hertenkamp en zo. Ja je weet hoe die beter gesitueerde mensen het hadden (TZ: jajaja) die
219 hadden een groot huis (TZ: ja) ja en dat was daar ook. En bij die B daar werkten een oom en tante
220 van mij. Zij was dan-eh ja koken en zo deed ze, voor die mensen. Mijn oom die was huisknecht en-eh
221 chauffeur, ja. Want hun hadden daar hadden ze ook een auto he, ja, zulke mensen zeg maar. (TZ: ja
222 landhuis ja) ja zeker een heel groot landhuis een hele grote want ze hadden dan ook een stuk daar
223 woonde dan ook de tuinman en zo weet je wel ja (TZ: mhmmh) ja dat was B. Was eh, die hadden, zij

224 geloof ik, had-eh in Indië plantages en hij had een hele grote fabriek hier daar maakte ze stalen
225 ramen (TZ: ow oké) ja. Ik dacht in Amsterdam of Rotterdam dat, ja (TZ: ja) maar goed dat waren dus
226 eigenlijk de beter gesitueerden. En die hadden twee dochters, *C* en *D*, en van één van die dochters
227 heb ik mijn eerste fiets gekregen (TZ: echt waar?) ja een klein fietsje ja. Ja, en ik heb van hun een
228 spaarboekje gekregen met een rijksdaalder daarop (TZ: hehehe, oké) ja. Ja, nou in die tijd was dat
229 een (TZ: ja) ja dat was fors he (TZ: ja jazeker) voor ons mensen (TZ: jaja precies) voor hun niet maar
230 voor ons soort mensen wel (TZ: ja). Want de post die kwam altijd, want dat zei mijn oom wel eens en
231 die mocht geen 1000 euro of gulden meebrengen maar 999 en dat bracht die post iedere maand
232 mee (TZ: oké) ja. Ja (TZ: waarom 999?) omdat 1000 niet mocht (TZ: ow oke omdat 1000 niet mocht,
233 ja op die manier) ja dat mocht de post niet mee nemen (TZ: dus het maximale wat wel mocht) het
234 maximaal wat wel mocht, ja (TZ: ja) ja. Ja en dat-eh zulke dingen stond hier allemaal te gebeuren
235 toen he (TZ: ja) ja. En toen zijn we daarvandaan-eh daar werden we dan 's nachts uit de schuilkelder
236 gehaald door die-door die Duitsers, en dan moesten ze kijken of er geen tommy's bij waren he (TZ:
237 jajaja) die ze telkens zochten. Ja. Want o ja toen-eh waren hier natuurlijk allemaal parachutes hele
238 mooie parachutes want je had allemaal verschillende kleuren he. Voor containers met eh munitie en
239 apparatuur en zo dat waren van die hele donker groene, van grof goed. En de-eh soldaten die
240 hadden van die, van dat, dat lichte lichte zijde ook groen (TZ: ja) en dan had je officieren en-eh ja dat
241 was naar rang, natuurlijk had je blauwe, witte, rode (TZ: oke) ja. Had je van allerlei parachutes en we
242 hadden hier-eh wat verzameld van die dingen en-eh ja toen kwamen die Duitsers en-eh ja hoe of dat
243 kon dat wij parachutes hadden hadden ze tegen mijn vader gezegd (TZ: ja) nou had me vader gezegd
244 nou als hun die meebrengen kan ik toch niks aan doen, als jullie hier binnen willen kom je toch ook
245 binnen, hij zegt ik kan- ik kan daar niks tegen inbrengen (TZ: mhmmh ja) nou ja dat-dat geloofde ze
246 dan (TZ: oké) dan gingen ze het huis, hebben ze helemaal onderzocht of er geen tommy's waren
247 weet je wel (TZ: ja) ja. En-eh dus toen werden we daar uit die schuilkelder gehaald en-eh daar zaten
248 ook eh meer mensen uit de buurt hier onder andere ook een familie *E* die woonde onder de rijksweg
249 door links en dat was *F* en *G*, *H*, dat waren allemaal zoons zeg maar en die oude lui waren er dan bij.
250 En er was ook een dochter ze hadden één dochter en drie zoons. En-eh toen kwamen ze ook een
251 keer 's nachts: ist hier eine *F* *E*? *F* heette die (TZ: mhmmh) en ja, ja ja *F* die was der wel en die werd
252 al bang natuurlijk (TZ: mhmmh) ja dan moest die meekomen, want het zwijn dat liep op het land.
253 Hun hadden ook een varken (TZ: mhmmh) maar dat varken hebben die Duitser dat uit het hok we-
254 willen halen en dat ding is er vandoor gegaan (TZ: vandoor gegaan, ja) en-eh maar het zwijn liep nou
255 op het land en-eh nou ja met een paar man hebben ze dat varken weer gevangen, weggebracht naar
256 het hui-het hok goed dichtgemaakt en ja hoor de-eh een dag later kwamen de Duitsers met zo'n
257 grote gamel met soep, dat was van het zwijn ja. Van dat ding hadden ze soep gemaakt (TZ: jaja) ja
258 want daar aan de Binderkamp stond een hele grote-hele grote keuken zeg maar, daar in een heel
259 dicht beukenbomen dicht begroeid (TZ: ja) en daar stonden hun onder werd dus nooit door
260 vliegtuigen gezien he (TZ: mhmmh) en-eh daar kookten ze (TZ: oke) en daar hebben ze dat varken
261 natuurlijk in-eh helemaal klaargemaakt he (TZ: jaja) en soep daarvan dat brachten ze netjes bij ons ja
262 (TZ: dus jullie kregen ook nog wat?) wij kregen ook nog wat, ja. Ja. En van daaruit zijn we, op een
263 gegeven moment moesten we daar weg toen werd het Sperrgebied zeiden ze he (TZ: mhmmh) en-eh
264 toen zijn we naar Ede gegaan. (TZ: oke) in Ede daar-eh kwam mijn moeder vandaan en daar woonden
265 een hele hoop ooms en tantes, ja. En daar zijn we toen naartoe te gegaan.
266 TZ: Oké. En toen u terug kwam, wat trof u hier aan?
267 R4: Hierzo? Een grote puinhoop. Een oom en-en mijn vader die zijn daar vooruit gegaan en die
268 hebben het uh want het hele huis dat stond vol met munitie (TZ: oke) ja, die grote kis- zulke granaten

269 en die hebben ze allemaal hebben ze die daaronder aan de weg opgestapeld in het bos en-eh het
270 huis een beetje op orde gemaakt zover als dat kon (TZ: ja). Er zaten daarginds op het land daar zaten
271 loopgraven, en-eh daar zat de nodige huisraad (TZ: ja) van die moffen en zij hadden dat opgehaald
272 ook wel van hun eigen en-eh nou dan haalden we stoelen en een tafel hadden ze en-eh een bed van
273 ons ze hebben alles bij elkaar geschanst zeg maar, ja. En de-eh de ruiten die waren natuurlijk uit het
274 huis en-uh het glas hebben ze bij B gehaald want die had-eh ja die verbouwde ook groente en zo
275 maar dan hadden ze van die ramen met ja plat glas noemde ze dat. Dat is zeg maar-eh daar-eh daar
276 zaaide ze dan spul onder en dan had je het eerder he. (TZ: ja kasachtig) broeikassen (TZ: ja) maar dan
277 was het, ja een kas hadden ze ook wel, maar daar zaten druiven in (TZ: ja) maar dit-eh dit was
278 eigenlijk-eh dat noemde ze platglas he (TZ: ja van die lage) omhoog gemetselde schuin zeg maar (TZ:
279 ik weet wat u bedoelt) op de zonkant, ja (TZ: ja). En dat was mooi glas en-eh een oom van me en
280 neefje in Ede die waren van huis uit schilder en die hadden nog wel een beetje spul zeg maar om ruit
281 te snijden en zo (TZ: ja ja) en die hebben hier toen-eh dat glas in-eh in huis gezet. Omdat met dat
282 bombardement al dat glas was gesprongen, kapot natuurlijk (TZ: ja uiteraard) door de luchtdruk (TZ:
283 ja) ja.

284 TZ: Wat is er- weet u wat er is gebeurd met die loopgraven allemaal en die heidens en weilanden?

285 R4: Ja die hebben ze- hadden ze met hout gemaakt, allemaal hout uit het bos (TZ: ja) en dat hout
286 hebben ze eruit gehaald en-eh de loopgraven hebben ze dichtgegooid (TZ: oke) ja. Ja want er kwam
287 hier altijd-eh later een man met een bus zo'n Volkswagen bus ja school was er niet dus-eh ik was er
288 altijd bij en dan mocht je meerijden en als kind vond je dat harstikke leuk he, ja. (TZ: ja) je mocht
289 eens een keer sturen en zo als je dan-ja. Ja en dan kwam hij iedere dag kwam die-eh met een hele
290 hoop van die-eh van die mannen en die gingen die loopgraven dichtgooien en zoiets ja. Ja. En de- en
291 de bomgaten (TZ: jaja) hebben ze ook weer-eh ja dichtgegooid. Ja. Dus hebben ze zelf weer een
292 beetje-eh hersteld zeg maar (TZ: ja) ja.

293 TZ: En het bos? Want dat moet natuurlijk ook hebben geleden onder de situatie.

294 R4: Jawel er waren ook een heleboel bomen kapot natuurlijk he (TZ: oke) die hebben ze allemaal
295 opgeruimd ja (TZ: door wat te doen?) Door het hout-eh zeg maar er uit te halen (TZ: ja oke) ja. Ja. Ja
296 dat hebben ze ook weer netjes gefatsoeneerd en ook de bomgaten in het bos hebben ze netjes
297 dichtgemaakt (TZ: oke) ja, ja. Nee dat hebben ze goed gedaan toen (TZ: ja) en dat waren, ja wat voor
298 een mensen dat waren, of het krijgsgevangenen waren ik weet het niet wie dat allemaal waren maar
299 een hele hoop mensen waren er. Een hele bus vol (TZ: ja) ja uit Arnhem (TZ: ja) kwamen die. Ja en-eh
300 we hadden hier een man, die was kapper in Wolfheze en die was, na de oorlog was-eh bij de
301 mijnopruimingsdienst zeg maar. Die had er aardig aardig kennis van en-eh die had altijd eh die had
302 zo'n grote ja zo'n bosjeep zo'n zo'n grote jeep zeg maar (TZ: mhmmh jaja) en die-eh die had ie met
303 een open bakkie en dan had ie altijd er een paar mannen bij en dat waren, dat waren Duitsers (TZ:
304 oke) die ze gevangen genomen hadden en die moesten dan-eh zeg maar-eh deden die munitie
305 opruimen. Bij elkaar verzamelen en dat vond ik wel mooi want ik scharrelde overal rond natuurlijk
306 (TZ: ja) en dan vond ik weer wat en dan me vader die-eh die ging naar / nou-eh hij hebt weer een
307 beetje en dan kwam / weer en dan mocht ik mee met die auto crossen door het bos en zo he (TZ:
308 jaja) en dan werd het bij elkaar gedaan en dan-eh werd het de lucht in geblazen (TZ: jaja) ja. Ja denk
309 erom hij zegt, je zat er natuurlijk veilig vandaan, hij zegt maar je moet altijd de mond open doen, met
310 open mond (TZ: want?) dat is voor de luchtdruk (TZ: oke) dan kan de luchtdruk die kan weg (TZ:
311 jajaja) ja, hij zegt want anders heb je kans dat je longbeschadiging krijgt (TZ: ja) ja. Dus-eh dat heb ik
312 toen van hem geleerd (TZ: hehehe) ja. Hadden we nog zo'n grote bom gevonden ook me vader en ik,
313 dat was een blindganger. Die was zo de grond ik gekomen en een stukje zo der weer uit**** (TZ: ow

314 wow) zo hoog stond die erboven zeg maar (TZ: zo) de helft erboven en de helft in de grond. Die
315 hebben ze op de plaats hebben ze die laten exploderen (TZ: ja) ja. Daar zit nou nog een heel groot
316 gat. Ja maar daar waren allemaal die krijgsgevangenen voor. (TZ: die moesten) Die moesten het vuile
317 werk opknappen ja (TZ: ja) ja. Ja en-eh daar was heel wat te doen toen (TZ: ja) ja heel wat, ja.
318 TZ: Wat was er allemaal nog meer te doen naast het opruimen van loopgraven en munitie en
319 dergelijke?

320 R4: Nou het herstellen van de spoorlijn (TZ: o ja natuurlijk) want-eh die was natuurlijk ook-eh daar
321 waren ook de draden vanaf (TZ: mhmmh) dat draad en-eh dat hadden die Duitsers natuurlijk ook-eh
322 er af gehaald want ook je-eh je moest ook als gezin alles inleveren he (TZ: jaja) koper en-eh al het tin
323 (TZ: ja) al het spul dat ze konden gebruiken voor de oorlogsmachine (TZ: ja) ja. Ja. Dus-eh ja zo was
324 het. En er kwamen hier-eh dat was dan ook-eh 3 een gegeven winter ik denk 43 nee 44, winter 44
325 toen-eh was ook op een zondag morgen, was er een man op de fiets hierzo en we hadden kippen en
326 zo die scharrelde hierzo rond en-eh hij zegt-eh hebben jullie eens niet wat eieren zeg hij tegen me
327 vader. Kippeneieren. Nou zegt me vader ik heb niet zoveel kippeneieren, want het was een norm als
328 je zeg maar-eh 20 kippen had die eieren die moest je leveren he (TZ: oke jaja) voor de (TZ: voor de
329 Duitsers of voor de) voor de Duitsers ja waarvoor precies dat weet ik niet, maar je moest ze leveren.
330 Ze konden dat een beetje uitrekenen hoeveel eieren je dan ongeveer (TZ: zou hebben) zou hebben
331 na een maand of na-eh twee weken geloof ik en dan moest je zoveel eieren moest je leveren. En die
332 moesten ze dan hier naar Renkum brengen, daar had je zo'n man die verzamelde dat. En-eh ja die
333 werden wel betaald he, ja (TZ: oke) dus ja zegt ie ik heb misschien wel eens een paar eieren, ja want
334 hij had zoveel onderduikers die-eh ja toch al niet te teveel te eten hadden en zoiets (TZ: ja). Nou ja
335 zegt mijn vader ik-eh ik wil wel eens vragen aan onze bakker onze J de bakker kwam altijd met de
336 fiets met een mand voorop (TZ: ja) vanuit Renkum en die kwam brood brengen en die had toen
337 bonnen he, alles ging op de bon (TZ: ja alles was op de bon) maar hij zegt-um er kan zo wel eens wat
338 tussendoor bij jullie, die kende hij al jaren al van ver voor de oorlog (TZ: jajaja ja) en-eh die bakte dan
339 eens een extra brood en dat nam die, die man die kwam dan op de fiets, met zijn leren jas aan (TZ:
340 hehe) een hoed had hij op en dan kwam die het brood halen bij ons huis weet je wel. Maar wat bleek
341 nou het was helemaal geen man van de onderduikers maar het was een SD-er (TZ: oké) die zich
342 voordeed als (TZ: als) ja. En-eh ja ow hoe heet je dan en zo weet je wel zo gingen de gesprekken want
343 dan kwam hij hier ook wel eens-eh ja koffie drinken en dan praatten ze zo wat over de oorlog (TZ:
344 natuurlijk) maar naarmate dat vorderde, meer eigen werd, hadden we daarginds hadden we een
345 divan staan, en-eh dan zaten toch de pistolen zaten hem een beetje moeilijk, en die pakte die dan
346 zeg maar uit zijn dingen hij had er twee, zo en zo***** (TZ: oke) en-eh die gooide die zo op de diva
347 en-eh ja de munitie eruit (TZ: ja) en dan kon ik met die dingen spelen he (TZ: hehehe ja) ja. (TZ: maar
348 wist u toen al dat het een SD-er was of?) Nee (TZ: nee toen was het nog gewoon?) toen was het nog
349 een voor de onderduikers (TZ: jajaja) en-eh toen kwam er op een gegeven moment toen kwam er
350 een maat van hem mee en toen zaten we in de, we hadden zeg maar de woonkeuken en we hadden
351 een nette kamer he dat had je toen in die tijd (TZ: ja ja), daar werd dan zaterdags in het weekend
352 werd daar de kachel aangemaakt en dan zat je daar. En daar was een haard zo met zo'n klep erop en
353 daar stond in K dat was de fabriek. Nou ja hij zegt zo heet ik, die man die later meekwam (TZ: oke)
354 zo'n grote kerel, zulke handen, bruin bruin was die (TZ: oké) getint getint wat ze tegenwoordig
355 zeggen (TZ: jaja) en-eh zo'n kerel was dat (TZ: oké). Is die afgelopen? (TZ: is die afgelopen? Nee,
356 volgens mij loopt die nog steeds) ow. En-eh maar die man die ging hier naar de overkant daar
357 woonde mevrouw L en zoon zoon M en daar kwam hij terecht (TZ: oke). Toen kwam die K niet meer
358 hier (TZ: maar ging die daarheen) ging die daarheen. Met hetzelfde ja (TZ: ja) heb je nog wat? (TZ:

359 hetzelfde verhaal). Maar die man die hier kwam die wou ook zijn echte naam niet zeggen, ahn zegt ie
360 zeg maar *N*, die noemde zich als schuilnaam *N* (TZ: ja) nou dat was *N*. En-eh een klein beetje verder in
361 de tijd kwam hier *O* en *P*. Nou weet je van die *P* dat weet je misschien wel (TZ: nee) dat ze die later
362 opgepakt hebben want dat was een echte ondergrondse (TZ: oké) die hebben ze opgepakt en die is
363 gefusilleerd (TZ: ja) bij wat nu de *P*weg in Renkum (TZ: oké ik wist niet dat dat daarvandaan kwam) ja,
364 daar komt dat vandaan (TZ: oké) *P*. Die *O* die was eh die was eh automonteur bij de garage (TZ: ja)
365 ook in Renkum maar die kwam hierzo en-eh even praten maar die kwam ook in-in contact met die SD
366 man weet je wel (TZ: jajaja). En-eh, maar ook die hadden de nodige wapens wel in de zak en-eh wat
367 die SD man ook deed dat was weer later die heeft een beetje een fout gemaakt want we zaten onder
368 de Duitsers hier (TZ: ja) en toen was hier, de rijtijd van de hazen de rijtijd noemde ze dat als de hazen
369 achter elkaar aangaan om te dekken zeg maar (TZ: jajaja) en die liepen hier zo overal rond want die
370 zaten er genoeg (TZ: ja) en-eh daar stond ie gewoon met pistool op te schieten. (TZ: hehe oké dat is
371 niet echt ja) dat is nou, dat is in die Duitse tijd natuurlijk vreemd he (TZ: ja klopt) ja dat is heel
372 vreemd. Dus-eh toen kwam die, kwam die mevrouw *L* die kwam hier zo bij elkaar natuurlijk en-eh
373 tegen me vader zei die dan: nou al die *N* weer eens komt dan moet je mij roepen dan zal ik hem eens
374 vragen of die nou werkelijk van de goede of van de verkeerde kant (TZ: oké) nou zegt me vader: maar
375 ik wil geen gedonder hier in huis (TZ: nee precies) want-eh ze zijn het zijn rakkers hoor (TZ: ja). Nee
376 nee zegt ze dan neem ik hem mee, mee naar buiten en dan wandelen we zo wat en dan-eh zal ik het
377 hem vragen. En op een goed moment - keer toen kwam die toen zei me moeder of zo dat weet ik
378 niet meer, maar die zei tegen mij ga mevrouw *L* maar halen. En-eh ja die kwam en die hebt hem
379 meegenomen want ze zegt ik wil u eigenlijk wel wat onder vier ogen vragen. Ow zei die dat kan. En
380 die heeft hem meegenomen en die heeft dat gewoon gevraagd he (TZ: oké) ben je nou van de
381 verkeerde kant of ben je van de goede kant. Ja waarom kan een goede Nederlander niet voor de
382 Duitsers werken had die gezegd (TZ: ja) en toen was het duidelijk (TZ: ja) vanaf dat moment zijn ze
383 niet meer geweest.

384 TZ: Dus-eh jullie hebben er zelf daarna eigenlijk geen last van gehad?

385 R4: We hebben er zelf geen last van gehad (TZ: oké) nee, wel die twee ondergrondse *P* en die *O* (TZ:
386 jaja natuurlijk) en die twee, zeg maar die *K* en die *N* die hadden met elkaar afgesproken ze zouden
387 een keer een kleine conferentie houden (TZ: oké) en dat zou gebeuren daar in die bossen**. Ja dat
388 waren-zeiden ze altijd de dennen van *Q*, want dat was de eigenaar toen (TZ: oke ja). En-eh daar in
389 het bos hebben ze toen-eh met elkaar eh een conferentie gehouden. Maar onderweg gingen ze met
390 de fiets en toe-eh hadden ze al gehoord dat ze die twee verkeerde zeg maar, gezegd hadden zullen
391 we ze gelijk maar omleggen. (TZ: oké dus toen was dat wel duidelijk) dus toen was het duidelijk maar
392 die andere die waren behoorlijk op hun qui-vive en toen hebben ze bij die ene, nou weet ik niet mee,
393 maar bij die *K* of die *N* hebben ze een zakboekje uit de zak weten te halen, en daar stonden allemaal
394 onderduikadressen in. Ja, dus die hebben ze toen als een, als een idioot allemaal gewaarschuwd
395 natuurlijk (TZ: jajaja) en-eh toen is er ook hier razzia geweest (TZ: oké daarna) ja. Ja, dus dan kun je
396 nagaan hoe je dan eigenlijk op een gegeven moment in de val kan lopen (TZ: ja ja natuurlijk) ja. Ja
397 (TZ: dat is zeker zo) ja, dat is-eh dat is heel heftig geweest, maar toen wij hier weer terug mochten
398 komen dan, of toen het weer vrij was of zoiets, toen moest mijn oudeheer die moest wel in-eh Ede
399 waren we toen moest die wel bij de gemeente komen toen (TZ: ja. Waarom?) Omdat die SD-ers hier
400 geweest waren (TZ: oké om zichzelf te verantwoorden) om zichzelf te verantwoorden ja (TZ: dat die
401 wel goed was en niet) ja. Maar toen hebben die *O* want die *P* die hadden ze al opgepakt en
402 gefusilleerd maar die *O* zegt nou-eh want die is er nog even geweest en die zeg nou er is met-eh met
403 R^{*1} is niks aan de hand hoor. En toen kregen ze, want je moest een pas hebben om hier naartoe te

404 komen he (TZ: mhmh, om weer terug te mogen) ja want hier bovenop zat de hulppolitie, dat waren
405 Hollanders zeg maar die waren toen zeg maar geen politie maar hulppolitie. Dus ze hadden echt een
406 kleine bevoegdheid (TZ: even tijdelijk voor) ja even tijdelijk voor de zaak een beetje te bewaken (TZ:
407 ja) het stond aan deze kant van het huis. Want me vader die kwam toen weer thuis toen waren ze
408 hier aan het werk geweest, toen had ie chocola. Goh zegt ie hoe kom je daar nou aan? Nou zegt ie, ze
409 hebben bij het huis bij ons bovenop staan zeg maar. Er een mof bij de pomp was gekomen om water
410 te halen, die had zich verborgen in het bos. En-eh die had naar zijn pistool gegrepen en die
411 hulppolitie was ook bewapend, dus-eh die had ze eigen niet over willen geven toen hebben ze hem
412 doodgeschoten. Ja bij de pomp he he (TZ: ja) en die had van alles had die in zijn ransel zitten, chocola
413 en koekjes en wat allemaal (TZ: ja) dus die hield zijn eigen in het bos in het leven natuurlijk (TZ: ja
414 natuurlijk) ja, ja. Ja. En ik ben nog een keer met een neef van me, want wij waren altijd aan het
415 schiemen (TZ: mhmh) en me neef dat was echt net zo'n, ja zo'n mannetje als ik graag in het bos
416 weet je wel overal schiemen en zo. Hadden we een oude fiets, ja zonder banden of zoiets daar
417 hadden we een paar-eh kisten met munitie hadden we gevonden, en die hadden we mee achterop
418 de fiets en-eh toen reden we daar en aan de overkant liep-eh ja dat was dan de brandweg noemden
419 ze dat weet je wel (TZ: jajaja) hadden ze een strook tegen de branden (TZ: ja tussen de trein) ja. En-
420 eh aan de andere kant was eikenhout en daar liep ook een Duitser en ook die die zijn eigen
421 schuilhield (TZ: ja) wij laten de hele zoi vallen en als een sodemieter naar huis toe. En mijn vader die
422 ging toen zat er hier de RAF die alle vliegtuigwrakken ophaalde (TZ: oké, ja) die zaten in het hotel (TZ:
423 ja) en-eh nou die kwam en toen ben ik nog mee geweest, toen gingen ze overal in het bos gingen ze
424 zoeken (TZ: op zoek naar) ja op zoek naar hem, maar das zo, die kun je niet vinden he (TZ: nee je kunt
425 je er goed verstoppen natuurlijk) ja dat kan altijd he (TZ: ja) (wc pauze tot 1:04:22) Ja dus het was
426 eigenlijk een-eh ook net nadat we na de bevrijding hier kwamen een vrijgevochten bende zeg maar
427 he. Ja er was nog nergens geen toezicht er was niks (TZ: oké) want die-eh die hulppolitie die daar
428 zaten die verveelden zich ook en die pakten die grote granaten en zo en die zetten ze daarzo op de
429 hei rechtop** (TZ: ja) en panzervuisten zaten erbij (TZ: ja) en-eh gingen ze erop staan schieten zeg
430 maar (TZ: jaja) en als ze ze dan goed raakten nou dan (TZ: beng) beng ging het ja en ja dat was als
431 kleine jongen vond je dat natuurlijk prachtig, ja. (TZ: jaja) ja, en die panzervuisten ook man, als je die
432 goed raakte dan vlogen die koppen die vlogen er zo af, ja dat was mooi, een heel erg vrijgevochten
433 tijd was het ja (TZ: ja) ja, een heel vrijgevochten tijd. En er was overal-eh ja van die verbrande gliders
434 want die hadden ze in brand geschoten dus ja er was zoveel rommel man dat was ongekend he, ja
435 (TZ: ja) ja.
436 TZ: dat begrijp ik. Um ik heb in principe wel alles gehad, we zijn ook al een uur bezig dus-eh (R:4 ja
437 heb je een beetje-uh) ja ik heb heel veel interessante dingen gehoord. Heeft ie zelf nog iets gemist
438 dat u nog wilde vertellen of waar u het nog over wilde hebben?
439 R4: nee, dat ik-eh, ik heb me zegje denk ik wel gedaan.
440 TZ: oké.

** Visible from the front window, now owned by the State Forest Service.

*** Positioned on the Telefoonweg.



***** Left and right underneath the arm.

R*¹ R4s father.

Appendix C: Aerial photograph of Boswachterij Oostereng



Figure 22: Boswachterij Oostereng in 1939 (edited excision of 1925).



Figure 23: Boswachterij Oostereng in September 1944 (edited excision of 114_05_4128).



Figure 24: Boswachterij Oostereng in September 1945 (merged edited excision of 028_05_3005 & 028_02_4005)