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A Cultural Biography of the Coversand Landscapes in the Salland and Achterhoek Regions. The Aims and Methods of the Eastern Netherlands Project

Keywords project description, Salland and Achterhoek coversand landscape, eastern Netherlands, biography of the landscape, interdisciplinary, diachronic view of landscape, archaeology, historical geography

Abstract In archaeological and historical geographical terms, the Salland and Achterhoek regions are among the least well known areas of the Netherlands. They still appear as 'white spaces' on the research maps used in both disciplines. Urbanisation, industrialisation, water management measures and nature development are rapidly beginning to take their toll on these coversand areas, and the buried history and landscape heritage they represent are coming under increasing pressure. This trend is only set to increase over the coming decades. An interdisciplinary project entitled 'A cultural biography of the coversand landscapes in the Salland and Achterhoek regions' has been launched in order to build a broad scientific base to allow the heritage values in the area to be dealt with in an appropriate manner in the future. The project forms part of an NWO (Netherlands Organisation for Scientific Research) incentive programme entitled 'Protecting and Developing the Dutch Archaeological-Historical Landscape' (*Bodemarchief in Behoud en Ontwikkeling*). The specific academic objective is to produce a biography of this coversand landscape from the Late Palaeolithic to the beginning of the nineteenth century. By analysing existing databases and studying four areas in detail, and on an interdisciplinary basis, an attempt will be made to gain an understanding of the development of settlements and the layout and exploitation of lower-lying parts of the landscape. Together, this information will for the first time give us a comprehensive picture of the history of the coversand landscape of the eastern Netherlands. In collaboration with local authorities and civil society organisations, the researchers are now analysing how this information on our cultural heritage can be incorporated into spatial plans for the region.

INTRODUCTION

For many years, archaeologists and historical geographers have, quite independently of each other, been aware of the huge research deficit associated with the coversand landscape of the eastern Netherlands. Urbanisation, industrialisation, water management measures and nature development are having a growing impact on this landscape – a trend that is likely to continue over the coming decades – and the buried history and cultural heritage of this region are coming under growing pressure. A catch-up operation is therefore needed to lay a firm basis for the proper management of the cultural heritage values in the future. Wageningen University and the National Service for Archaeological Heritage have therefore set up an interdisciplinary research programme focusing on the Salland region (in the province of Overijssel) and the Achterhoek region (in the province of Gelderland). The present project, 'A cultural biography of the coversand landscapes in the Salland and Achterhoek regions' (known for short as the Eastern Netherlands Project), was launched in January 2004. This paper sets the questions to be addressed in the research programme, its objectives and the methods to be used. Both authors have been involved in the project in their capacity as PhD students, in the fields of archaeology and historical geography respectively.

The Eastern Netherlands Project is part of the Netherlands Organisation for Scientific Research's

'Protecting and Developing the Dutch Archaeological-Historical Landscape' incentive programme. The conceptual principles underlying this programme, which aims to ensure that the cultural heritage and cultural identity are reflected in spatial planning, were published in 2001.[1] The present project has two objectives. First, to foster interdisciplinary, fundamental research. The long-term history of the landscape is a key factor in this, the main conceptual basis being the 'cultural biography' or 'biography of the landscape'.[2] The interdisciplinary nature of the Eastern Netherlands Project is reflected in the fact that it incorporates archaeological, historical geographical, physical geographical, historical ecological and toponymic research. Combining fields of study in this way is also referred to as 'internal integration'.[3] Second, it is important that knowledge be exchanged with policy-makers, planners, landscape architects and the local population, to ensure that the information gathered actually has an impact on the way cultural heritage values are dealt with in spatial planning. This process has been dubbed 'external integration'.[4]
The next section looks at the project's objectives and problem definition. The subsequent section deals with the theoretical framework within archaeology and historical geography. The research methodology is then explored and the reader is introduced to the physical landscape and historiography of the research area. The second last section takes a more in-depth look at the potential offered by the integration of different fields of study, while the last section turns to the issue of external integration.

THE EASTERN NETHERLANDS PROJECT: OBJECTIVES AND PROBLEM DEFINITION

General objectives of the research programme

The 'cultural biography of the coversand landscapes in the Salland and Achterhoek regions' project has two objectives. The foremost, fundamental scientific objective is to produce an interdisciplinary biography of the coversand landscape of Salland and the Achterhoek. The period studied runs from the Late Palaeolithic to the beginning of the nineteenth century.[5] The exploitation, layout and perception of the landscape in this period are to be reconstructed. Although the objective is actually to study the landscape as a whole, it has been decided that extra attention should be focused on the Pleistocene wetlands, such as brook valleys, coversand valleys, peat areas and coversand basins. This decision was prompted by the large gap in our knowledge of these parts of the landscape.
The second objective is to incorporate the information brought to light into future spatial planning processes in the eastern Netherlands, and more specifically in the Salland and Achterhoek regions. This is in line with the recent trend towards allowing the cultural heritage a greater role in planning, as laid down in the Belvedere Memorandum.[6] At the moment, this is not possible given the current state of research in the fields listed above. An important goal of the Eastern Netherlands Project is therefore to create a scientific cultural heritage basis and 'translate' it to local actors.
Given the diachronic landscape approach of the study, and the generally poor level of knowledge at present, the research themes must be well-founded and clearly defined. The themes are interdisciplinary, with the greatest emphasis on archaeology and historical geography, though physical geography, toponymics and historical ecology also play an important role. The interaction between these fields within this study is discussed in the second last section. The research themes were drawn up on the basis of consultation between several researchers in the project team. For the sake of clarity, the problem definition has been divided into archaeological and historical geographical questions. Information from other fields of study will often be indispensable in addressing the problems defined, however.

Archaeological research questions

The archaeological component of the study can be broadly divided into two themes. The first involves a reconstruction of settlement development in the Salland and Achterhoek regions, focusing on the period

1 Bloemers & Wijnen 2001.
2 Hidding, Kolen & Spek 2001.
3 *Idem.*
4 *Idem.*

5 The period prior to the Late Palaeolithic has not been included, as very few finds from that period are known in the research area.

from the Late Neolithic to the end of the Middle Ages (c. 2900 BC-AD 1500). The aim is to gain an understanding not only of long-term developments in settlements (in terms of both layout and choice of location) but also into the layout and use of the landscape in which they were situated, considering factors like the position and exploitation of wooded areas and arable, pasture and meadow land. The relationship between settlements and associated grave fields will also be examined. In addressing these issues, detailed physical geographical and paleaoecological data are essential. For instance, the impact of human occupation on the landscape can be discerned from studying pollen diagrams. The historical geographical study will provide valuable extra information on the period ranging from the High Middle Ages to the beginning of the nineteenth century. This will, for example, give us more insight into the process by which villages were formed. There will, incidentally, be no detailed examination of the development of the large towns in the region, such as Deventer and Zutphen, although their influence on settlement development in nearby rural areas will be studied. Although the period of study begins in the Late Neolithic, earlier periods of prehistory will not be overlooked. Sites from the Late Palaeolithic to the Middle Neolithic will be identified and analysed during the study of the 'detail areas'.
The second theme focuses on the use and layout of the low-lying areas of the Salland and Achterhoek regions, such as brook valleys, coversand valleys, peat areas and coversand basins. This theme obviously overlaps with the first to some extent, the lower-lying parts of the landscape having also been a major component of the settlement territories. These two themes should together produce a comprehensive picture of the coversand landscape of Salland and the Achterhoek. It has been acknowledged that there is a major gap in the knowledge concerning the lower-lying parts of the landscape, since past archaeological research concentrated mainly on the settlements and grave monuments on the coversand ridges in the area.
Ad-hoc finds and small-scale excavations in the area have shown not only that conditions at these lower-lying findspots may be better for preservation, but also that the findspots are likely to be of a different type than those on the higher sandy ground.[7] They might thus provide important extra input for the hitherto rather one-sided data that have been gathered on the higher parts of the landscape. Physical geographical and historical ecological studies will play a major role in enhancing our knowledge of the character and exploitation of these wetlands. The historical geographical component of the study will be essential for the reconstruction of the situation from the High Middle Ages onwards.

Historical geographical research questions

The historical geographical study will also focus on settlement development and the layout of the lower-lying parts of the landscape. The study will analyse how settlement development proceeded between the High Middle Ages and the nineteenth century. To identify the decisive factors, research will largely be conducted at micro-level, revealing both individual choices related to particular settlements and trends driven by socio-economic and institutional factors. Examples of the latter include the rise of towns in the research area and the influence of pre-Reformation religious institutions on the development of settlements in outlying areas. Other important themes include the creation of country estates, the impact of major landowners on the layout of the landscape, the development and character of the road network (figure 1) and the process by which villages formed, whereby the role of the church will receive special attention.
The study of the lower-lying part of the landscape will focus, among other things, on the study of toponyms. Furthermore, an extensive study of the 'mark' archives will be made for each area that is to be studied in detail, examining the role of smallholders, major landowners and 'regular' farmers. Clearly, each of these groups had their own specific impact on the way the landscape was shaped. Subjects such as water mills, the development of brooks and the parcelling of the brook valleys will also be studied (figure 1).

6 Belvedere Memorandum 1996. A publication by the Ministry of Education, Culture & Science, the Ministry of Agriculture, Nature Management & Fisheries, the Ministry of Housing, Spatial Planning & the Environment and the Ministry of Transport, Public Works & Water Management.

7 See, for example, for the eastern Netherlands Hulst 1981; 1984; Groenewoudt *et al.* 2001; Groenewoudt 2004. For palaeoecological studies, see among others Out 1999.

Figure 1 This photo shows the droveway for sheep at Lettele (Overijssel) which used to connect the village green (now disappeared) around the present-day Oerdijk with a patch of heath to the south of the *Letteler enk* (a former arable field). The view is towards the south. The droveway has been worn down to a hollow road in the *enk*.

THEORETICAL FRAMEWORK

Landscape in archaeology

From the early 1990s, in particular, the concept of landscape began to play an increasingly important role in archaeology. Landscape archaeology is now recognised as a separate branch of research. That is not to say, however, that 'the landscape' had been entirely overlooked prior to this. The difference lies in the approach. Following on from Hidding, Kolen and Spek, we can say that, prior to the 1990s, study of the landscape was inspired by earth sciences and biology, with the consequence that the natural landscape was regarded simply as a substrate. From the 1990s onwards, anthropology, ethnology and social and cultural geography began to play an ever greater role.[8] There was a shift from a physically deterministic approach to a greater focus on the perception of landscape.

8 Hidding, Kolen & Spek 2001, 26.
9 Kopytoff 1986.
10 Kolen 1995; 2005; Hidding, Kolen & Spek 2001; Roymans 1995.
11 See, for example, the recent PhD research by Kolen (2005) on the biography of the landscape.

The introduction of the term 'cultural biography' was a key moment.[9] The anthropologist I. Kopytoff used it to describe the 'life history' of artefacts, but it was soon realised that the concept could also have implications for the study of landscape.[10] The 'biography of the landscape' metaphor was thus introduced into Dutch archaeology.[11] This metaphor had in fact already been introduced in 1979 by the geographer M.S. Samuels.[12] It is interesting to note, incidentally, that agricultural historian J. Bieleman used the term 'biography' in describing the history of the landscape in and around the village of Heino (Overijssel) in 1980.[13] The biographical approach, with a greater focus on the attribution of meaning, process, cognition and cultural dimensions was an important addition to the interpretation of landscape as an exclusively physical and natural phenomenon, or a substrate on which occupation took place.[14] The biography concept also creates awareness of the need to study the processes occurring within a landscape over a longer period, rather than concentrating on individual points in time. These principles also underpin the 'Protecting and Developing the Dutch Archaeological-Historical Landscape' programme.

Turning now to the archaeological study of the eastern Netherlands' coversand landscape, it is clear that the area has until now been studied almost exclusively from a geographical and biological angle. The cognitive side, which includes the perception of the landscape, has thus far been largely overlooked. Studies of the subsoil and vegetation as physically deterministic factors dominated: occupation potential was linked exclusively to the nature of the subsoil. Examples include the studies of the positioning in the landscape of early prehistoric findspots in central Salland and northeast Twente by J. Musch and H.B.G. Scholte Lubberink respectively.[15] They seem to have been prompted partly by the fragmented nature of the area, which meant that only a small percentage of the overall area was habitable in the past.

There have been virtually no diachronic studies from an archaeological perspective focusing on the interaction between landscape and occupation. As a result,

12 Samuels 1979.
13 Bieleman 1980, 7.
14 Hidding, Kolen & Spek 2001, 28.
15 Musch 1991; Scholte Lubberink 1998.

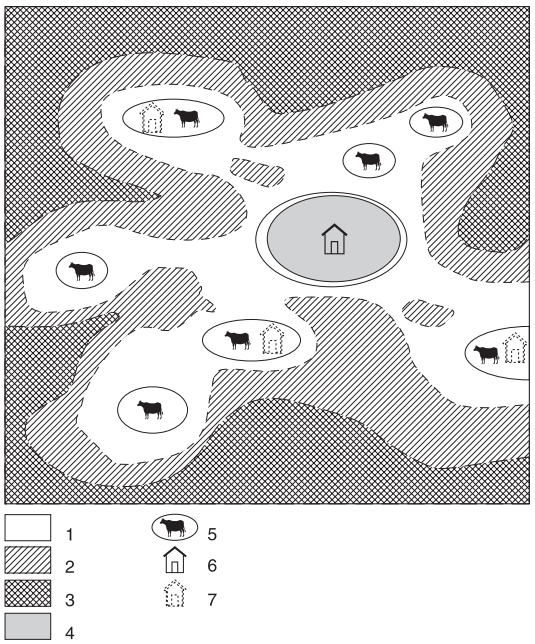

Figure 2 Model of the occupation of central Salland during a contraction phase. Occupation on the medium-sized coversand ridges and hummocks has disappeared and these sites are now used as pasture. Key: 1 open landscape with relics of woodland (park landscape); 2 woodland affected by timber felling and grazing; 3 dense woodland vegetation; 4 arable fields; 5 major pastures; 6 settlement; 7 former settlement. After Groenewoudt *et al.* 1998, fig. 9.1.

we know very little of long-term processes in the region. One of the few exceptions is the 'model of expansion and contraction' produced partly in response to a major interdisciplinary settlement excavation in Raalte.[16] The model is based on the assumption that only the largest, most fertile and most favourably situated coversand 'islands' (later arable fields, or *enken*) in central Salland would have been occupied for longer periods from late prehistory onwards, and that they would have served as a base for the periodic 'colonisation' of the surrounding smaller coversand islands (figure 2). However, this pattern would have been prompted not only by geological and hydrological factors, but also by cultural processes. Even if we narrow our view to specific points in time, the relationship between various cultural elements (settlements, graves, deposits, arable land and pasture) have received scant attention in the context of the landscape. When the landscape has been considered, it has been almost exclusively through botanical research (analysis of pollen or macro-remains) or description of the physical geographical situation in the area under study. One exception was the study by R. van Beek into the relationships between settlements, graves and deposits in the northeast Netherlands in the Middle Bronze Age, which analysed factors determining the choice of location for barrows.[17]

Landscape in historical geography

In analysing how historical geographers have dealt with the concept of landscape in the past, we cannot avoid the fact that this discipline can only be viewed in light of – and indeed was derived from – other geographical sciences, such as physical, social and economic geography, which all have their own branch of history studies, too. Moreover, they are not all associated with the landscape as an object of study. However, physical geographers, in particular, have always retained their connection with the landscape, even in the 1960s-80s, when many geographers were in search of general patterns, which led them to overlook specific regional situations and the landscape angle.
Historical geographers have always felt a need to define their field of study in terms of geographical boundaries. The present study on the coversand landscapes of the Salland and Achterhoek regions is no exception. One advantage of this approach is that the boundaries of geographical regions or sub-regions are often the same as old administrative boundaries, which offers advantages in terms of source material in archives. The study of political boundaries was indeed for many years a major element of historical geography.[18]
From the early twentieth century historians and geographers like H.J. Keuning (University of Groningen), B.H. Slicher van Bath (University of Groningen and Wageningen Agricultural University) and A.W. Edelman-Vlam (Soil Survey Institute, Bennekom and Wageningen) had demonstrated the potential of multidisciplinary landscape research. Nevertheless, historical geography long remained a monodisciplinary affair albeit that, certainly within the Wageningen tradition, historical geographers frequently made use of

16 Groenewoudt *et al.* 1998, particularly 147-149 and figure 9.1.
17 Van Beek 2005.
18 Renes 1999.

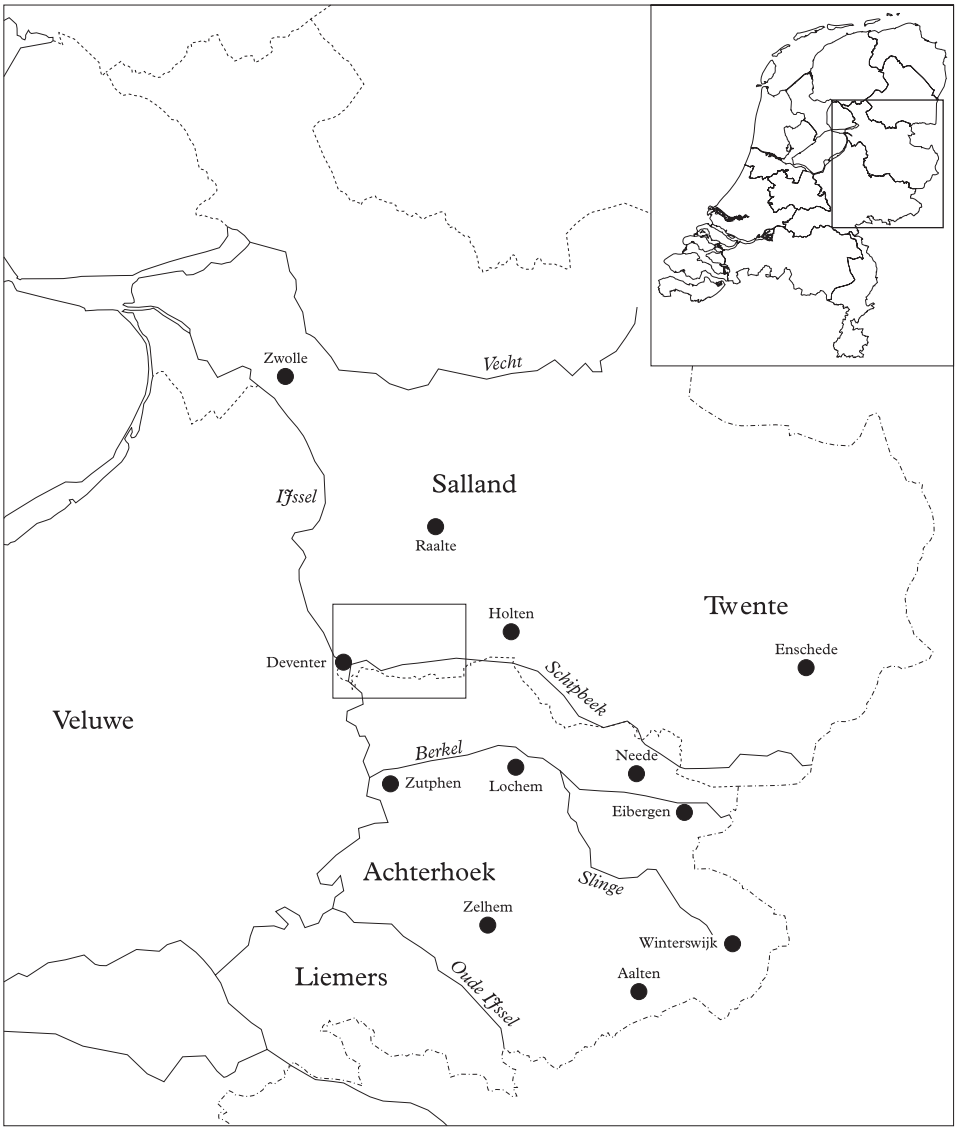

Figure 3 Location of the Salland and Achterhoek regions in the Netherlands, with some of the most important cities and villages, rivers and brook systems mentioned in the text. The first detail area (Colmschate) is indicated by the grey rectangle.

pedological and archaeological data. The late twentieth and early twenty-first century has seen a sharp rise in the number of multidisciplinary historical geographical publications, the highlight of which so far has been T. Spek's 2004 PhD thesis on the *esdorp* open field landscape of Drenthe.[19] Many of these publications focus strongly on the regional or even local level, while still taking full account of the implications of the results at the supra-regional level. One good example is the series on dikes in the Betuwe area.[20] The introduction of the concept of 'cultural biography', or 'biography of the landscape' from archaeology will undoubtedly contribute to the further integration of different disciplines into the study of the landscape, allowing the multidisciplinary to evolve into the interdisciplinary.

RESEARCH METHODOLOGY

The first stage of research involves studying the theor-

19 Spek 2004.
20 Mulder, Gazenbeek & Van der Linden 2001; Mulder, Spaan & De Wolf 2002; Mulder 2002; Mulder *et al.* 2003; Mulder, Keunen & Zwart 2004.

etical concepts and models developed so far for the interdisciplinary study of the landscape. The principles underlying the 'Protecting and Developing the Dutch Archaeological-Historical Landscape' programme, in particular, are the guidelines that have largely determined the design of the project. The key features are the interdisciplinary nature of the programme, the study of the long-term history or 'biography' of the landscape and the landscape perspective. As indicated above, the results of the Eastern Netherlands Project should provide ways of integrating the cultural heritage into future planning processes. With this in mind, ten public sector and civil society organisations involved in such processes were contacted at an early stage. Potential key themes were identified in consultation with these parties. A number of these themes – the development of farmsteads in the eastern Netherlands being a good example – were immediately incorporated into the questions to be addressed in the fundamental research. 'Applied' projects are being set up to address the other questions that could not be directly addressed in the Eastern Netherlands Project as such. These projects are being carried out by external parties under the supervision of members of the research team.
This orientational phase was followed by a general analysis of the existing dataset on the geological structure, archaeology and historical geographical development of the eastern Netherlands' coversand landscape, and the Salland and Achterhoek regions in particular. This gave us a picture of the composition and origins of the knowledge available on the research area at the outset, and of the degree to which that information is representative. It also enabled us to pinpoint any gaps in the knowledge. The questions set out in section 2 were defined on the basis of the study of the theoretical concepts, the composition of the available data and consultation with the above-mentioned organisations. The precise location of the research area was also determined at this stage (figure 3).
Although the research area covers the entire coversand landscape of the Salland and Achterhoek regions, this area is in fact too large to study in detail. It was therefore decided to focus on the southern part of Salland and the northern part of the Achterhoek, an area that is transected by two major brook valley systems. This is in fact the catchment area of the Schipbeek, Dortherbeek and Buurserbeek brooks in the south of Salland and the catchment area of the Berkel and Slinge in the northern Achterhoek. Focusing on these two areas allows us to disregard a number of landscape units that are not in fact typical of the eastern Netherlands coversand landscape. These are the Eastern Netherlands Plateau in the eastern Achterhoek and the river dune landscape of the Oude IJssel river in the southern Achterhoek (figure 3).
To analyse the occupation history of the eastern Netherlands, besides looking at this larger basis, it is also important to study smaller areas in detail, in order to reconstruct local patterns. Four 'detail areas' are therefore to be subjected to detailed study.[21] The smaller scale of these areas will allow us to catalogue the geographical position, function and dating of archaeological sites, and to reconstruct the occupation history of the farmsteads by studying the archives (figure 4). The selection of the detail areas is based on the representativity of the landscape, the scientific representativity, and planned future developments. Although the study of the four detail areas will be placed in the context of the entire eastern Netherlands coversand landscape, it is important that together they constitute a representative selection of the landscape of the entire research area. Two of the areas will therefore be in the downstream and two in the mid- or upstream sections of the brook valley systems mentioned above. Two will be in Salland and two in the Achterhoek. All landscape units that are representative of the coversand landscape, such as coversand ridges and hummocks, coversand plains, brook valleys, coversand valleys and peat areas will be represented. In some areas, the transition from the coversand landscape to the riverine area and the ice-pushed ridge area will be studied, although the emphasis will remain on the coversand area. Alongside the study of the diachronic cultural development of the detail areas, any opportunity to gather extra historical ecological and geomorphological data will also be exploited, where possible (figure 4).
In scientific terms, too, the detail areas must be able to provide a representative picture for the biography of the eastern Netherlands' coversand landscape. For instance, there must be sufficient archaeological data from different periods, as well as written records and

21 At the time of writing, only one detail area had been finalised: the Deventer-Colmschate area. It is also likely that the area around Zutphen-Warnsveld and the Eibergen-Neede area will be chosen. The fourth detail area is still under discussion.

Figure 4 Late Medieval farmsteads in the vicinity of Essen, part of the first 'detail area'. The farmsteads are all located on the edge of an extended coversand ridge.

map material to form a basis for the historical geographical research. From an archaeological point of view, collaboration with the local archaeological departments in Deventer and Zutphen will, for example, allow us to benefit from a large, up-to-date body of data and to participate in ongoing research. It is also important to choose areas both close to towns and cities, and in more rural parts of the research area. This will help us understand the impact of institutions on the landscape, such as the effects that the towns developing in the Early Middle Ages had on settlement development in the surrounding area. With a view to the objective of helping to incorporate fundamental scientific information into planning processes, it is useful to study areas where developments are likely to occur in the near future. In this respect, detail areas in the vicinity of the rapidly growing towns of Deventer and Zutphen are a logical choice.

Given the fact that there are considerably more historical geographical sources than archaeological sources, differences in the size of the detail areas defined for each discipline are unavoidable. The detail areas subjected to historical geographical study will form the core of the larger archaeological detail areas, ensuring that the two fields of study complement each other, not only in a physical sense, but also in the choice of research themes. The historical geographical study will be based above all on historical data, including various

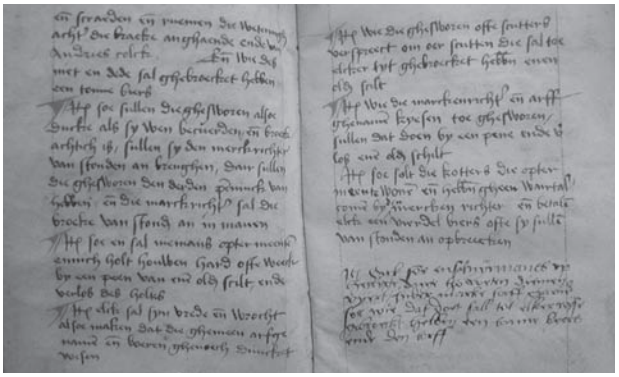

Figure 5 Example of historical geographical source material: the 1499 bye-laws of the mark of 'Dorth, Oxe and Zuidloo'.

types of maps and written sources (figure 5). The archaeologist will base his study mainly on the existing literature, combined with data from ongoing excavations and centralised archaeological databases such as Archis.[22] Important museum and amateur collections will also be analysed. In the detail areas it will be possible to address any specific questions raised by the archaeological and historical geographical study by means of field surveys or small-scale excavations. Where possible, these will tie in with current research programmes being run by the local authorities in Deventer and Zutphen.
The data obtained from the detail areas will be compared and placed in the broader context of the research area. The archaeologist will also analyse a number of unprocessed and unpublished small-scale excavations in the study. It is believed they may help to provide answers to the research questions being addressed. Ultimately, the aim is to set out the results in a cultural heritage framework that can be used for spatial planning purposes. To this end, a landscape architect will be involved in the study, working both with the more detailed information from the detail areas and with the general pictures of 'the' characteristic layout of the eastern Netherlands' coversand landscape. The process will be finalised once the first detailed study is complete.

THE PHYSICAL LANDSCAPE

The research area can be divided into various types of landscape based on differences in genesis, age, relief and terrain form (figure 6). The main types are the

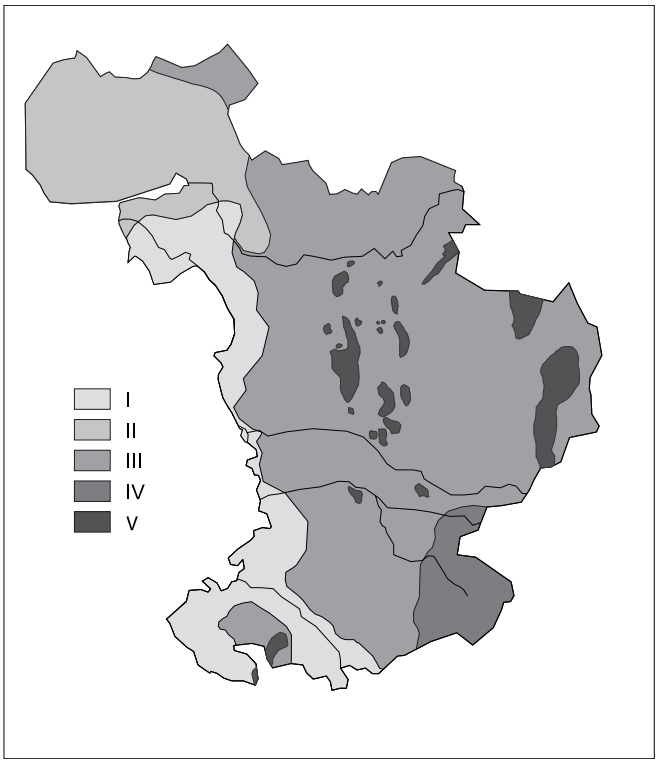

Figure 6 Simplified view of the physical geography of the province of Overijssel and the Achterhoek region. See figure 3 for the exact geographical position of the mapped area.
Key: I riverine landscape; II coversand landscape, covered by Holocene deposits (peat and marine sediments); III coversand landscape (brook deposits and peat deposits not mapped); IV 'Eastern Netherlands plateau'; V ice-pushed ridges.

coversand landscape, the ice-pushed ridge landscape and the riverine landscape. The study will focus largely on the coversand landscape. The river IJssel forms the western boundary of the research area, while the various ice-pushed ridges provide marked differences in relief. Given the fact that the IJssel and the ice-pushed ridges also played an important role in the occupation history of the coversand landscape, these landscape features are also examined briefly below.
The majority of the Salland and Achterhoek regions can be regarded as part of the coversand landscape. The origins of the coversand deposits lie in the last Ice Age: the Weichselian (approx. 120,000-11,000 years ago). In contrast to the Saalian, the eastern Netherlands was not at that time covered by land ice,

22 ARCHaeological Information System, National Service for Archaeology, Cultural Landscape and Built Heritage (RACM).

though the climate and the landscape were being affected to a great extent by the presence of the ice cap. During the extremely cold Middle Weichselian (Pleniglacial), an extensive polar desert formed. The absence of vegetation made the subsoil highly vulnerable to drifting, causing large parts of the eastern Netherlands to disappear under coversand. The deposits that formed in these periods are known as Old Coversand.[23] Clear differences in height occur in these deposits, as much as several metres in some places. Very flat areas are known as coversand plains; where there are height differences of less than 1.5 metres, the terrain is referred to as coversand undulations or plateau. Where the differences in height are greater, we can distinguish between coversand ridges and coversand hummocks. Coversand ridges have a long axis, while coversand hummocks are more or less round.[24]

A new period of drifting occurred in the Late Glacial, when large quantities of coversand were deposited. These deposits are known as Young Coversand, and are generally coarser and less loamy than Old Coversand. Some of them consist of redrifted Old Coversand, but sand also drifted in from the open valley plains of the Oude IJssel, IJssel, Berkel and other river and brook valleys. Pre-glacial deposits at the surface of the ice-pushed ridges also drifted. They formed ring-shaped deposits at the edges of the ridges – the coversand belts. The character of the new landscapes was determined to a large extent by the relief, the wind direction, the source of drifting and the location and type of vegetation. Young Coversand was not deposited throughout the eastern Netherlands. One good example is the flat coversand area in the centre of the Achterhoek region, where elongated ridges at the edges fixed the Young Coversand.[25] With the deposition of Young Coversand the landscape of the eastern Netherlands arrived at the form it would largely retain throughout the Holocene, with the exception of some local drifting or Holocene river deposits, for example. Major local differences can be seen in the eastern Netherlands' coversand landscape in terms of the height, orientation and structure of the ridges, depressions and plains. This gives the region a small-scale, fragmented character, which had a significant bearing on the potential for occupation and exploitation. By the end of the Middle Ages, and in the following period, *plaggen* soils were formed on many coversand ridges to improve the farmland.

Peat and marshland formed in some parts of the coversand landscape. This process occurred mainly in broad depressions where there was an abundant influx of seepage and surface water, combined with slow drainage downstream. Such locations are found mainly in transitional zones in the landscape: ice-pushed ridge to coversand, Old to Young Coversand and riverine to coversand area.[26] Marshy areas of varying character and size developed, depending on the local landscape. Originally, much more of the eastern Netherlands would have been covered by marshland than is the case today. The decrease is the result of large-scale land reclamation operations and changes to the water management regime from the Late Middle Ages onwards.

The eastern Netherlands' coversand landscape is criss-crossed by a fine mesh of brook valleys and coversand valleys. The main brook valley systems are those of the Schipbeek, Dortherbeek and Buurserbeek brooks in southern Overijssel and the Berkel and Slinge brooks in the Achterhoek region. These systems all issue into the IJssel in the west of the research area. According to Spek, there is a major difference between the drainage in Salland and in the Achterhoek. He has argued that geology and pedology have yielded absolutely no evidence for the existence of natural brooks in Salland. The only exception is the Dortherbeek brook.[27] Most of the watercourses that now drain the Salland region, such as the leats (*weteringen*), were either dug in or connect valley-like coversand depressions. These coversand depressions must either originally have formed an extensive area of peatland (given the stagnation of drainage) or have had a wet sandy base if the water could sink through the subsoil. There are natural brooks in the Achterhoek region, although many are also known to have been dug. In natural circumstances the brooks on the sandy soils follow a meandering pattern, which is caused by a slight sloping of the terrain, a low influx of water and sediment and relatively fine material in the brook bottom and banks.[28] As a result of major interventions in the brook

23 Brus 1985b; Spek 1996b.
24 Brus 1985b, 112.
25 *Idem,* 112-113.
26 Spek 1996b, 41-42.
27 *Idem*, 34-37.
28 Wassink 1999.

valleys of the eastern Netherlands, nowadays virtually none of the brooks retains its natural character intact. There are several ice-pushed ridges in the research area, which were created in the Saalian as the ice ground its way across the land. At the Salland-Twente border are three ice-pushed ridge complexes, at Holten-Nijverdal, Lemele and Archem, and Luttenberg. There are ice-pushed ridges at Lochem and Neede in the Achterhoek part of the research area.[29]
The land ice spread mainly through the Pleistocene riverine landscape, which extended beneath the current IJssel valley and the Salland coversand landscape through a valley over 25 kilometres wide. The tongue of ice cut deep, pushing up sediments at the sides to form ridges. The movement of the ice caused the sand and stones beneath to become finely ground, forming boulder clay. At some spots, layers of boulder clay are still present just below the surface of the ridges themselves, though in the majority of the research area these layers have eroded or are covered by thick sediments.[30] The research area is bordered to the southeast by the 'eastern Netherlands plateau', as it is known. The steep edge at the western boundary of this plateau extends from Aalten towards Eibergen to the north.[31] Given the fact that the genesis of this landscape feature is so different that it cannot be regarded as part of the coversand area, the eastern Netherlands plateau has not been included in this study.
The western boundary of the research area is formed by the riverine landscape of the IJssel. This dynamic landscape has a complex history, which cannot be reconstructed in detail at the present time. One of the issues still under discussion, for example, is the age of the connection between the Rhine and the IJssel to the east of Arnhem.[32] The present riverine landscape can be divided into several landscape units. Firstly, a fairly high area of river dunes and levees, partly consisting of flood plains. River dunes are most common in the stretch of the IJssel between Deventer and Zwolle,[33] and were formed mainly in the transition from the Weichselian to the Holocene. Most are elongated and have a north-south or northwest-southeast orientation. In more recent times, too, river dunes were still forming at some places to the east of the IJssel. In a large part of the Salland and Achterhoek regions a continuous series of levees runs to the east of the IJssel. The formation of the levees continued well into the Middle Ages. Another part of the riverine landscape – the IJssel flood basin – consists of heavy clay deposits at a greater distance from the river.[34]
Following Spek, we can distinguish various river patterns in the IJssel river basin. Between Westervoort and Deventer the river is winding, with many meanders, and relatively narrow. Between Deventer and Zwolle the river is largely straight, and has a dynamic system of main and side channels. In some periods, several main channels will have functioned simultaneously. River dunes are considerably more common here than between Westervoort and Deventer. The stretch of river between Zwolle and the IJssel mouth at Kampen is meandering and issues into a river delta.[35]

HISTORIOGRAPHY

Historiography of archaeological research in the eastern Netherlands[36]

In archaeological terms, the Salland and Achterhoek regions are one of the least well-known areas of the Netherlands. The *National Archaeology Report* 2002 describes the Overijssel-Gelderland coversand area as follows: from a national perspective knowledge of this area is average, though there are differences within the area. Little is known, for example, of the Achterhoek region.[37]
In the eighteenth and nineteenth centuries, no professional archaeology was practised in the eastern Netherlands. Reports of finds, travel journals and a number of publications do however indicate that there was interest in antiquities, particularly among the

29 Spek 1996a, 13; Brus 1985b, 111.
30 Spek 1996a, 13.
31 Brus 1985a.
32 For a discussion of this debate, see Spek 1996c, 50.
33 The same applies to the Oude IJssel, but that region has not been taken into consideration.
34 Spek 1996c, 47.
35 *Idem* 1996b, 55-60.
36 It has only been possible to give a brief outline of the research history in this section. For further information, see among others Hijszeler 1944; 1961; Brongers 1976; Verlinde 1978; Borman 1978; 1981.
37 Lauwerier & Lotte 2002, 42.

higher social classes.[38] These aristocrats, clergy, historians and classicists, some of whom were members of associations and clubs, investigated many barrows, above all. This trend appeared to be strongest in the Twente region. Important finds were also occasionally made when peatlands were reclaimed. For instance, a Late Bronze Age hoard was found in 1847 when bog oak was being dug.[39] In Gelderland, archaeological interest focused from an early stage on the Roman finds from around Nijmegen. The first professor of archaeology, C.J.C. Reuvens, performed the first high-quality excavation, at the *Wittewievenbult* barrow at Eefde.[40] His advanced research methods and detailed documentation were however an exception in that period.

At the end of the nineteenth century, the archaeology of the eastern Netherlands began to attract interest outside the region for the first time, particularly at the universities of Leiden and Groningen and at the National Museum of Antiquities in Leiden. The first research in Overijssel by Leiden academics was organised by the Twente Chamber of Antiquities in Enschede in 1905. As a result, Twente became an important area of work for researchers J.H. Holwerda, F.C. Bursch and W.C. Braat, with Bursch in particular focusing on the eastern part of the Achterhoek.[41] As in previous periods, investigations concentrated mainly on urnfields and barrows. C.C.W.J. Hijszeler was appointed to the Twente Chamber of Antiquities in 1938. He continued the tradition of studying barrows, but also conducted research into the well-known Late Palaeolithic Federmesser site at Usselo. In 1935 and 1936 Bursch excavated an Early Medieval grave field at Lievelde, in the Achterhoek.[42] This excavation actually prompted the establishment of a small museum.

A.E. van Giffen of the Biological Archaeological Institute in Groningen also showed up in the eastern Netherlands, albeit not in Twente itself. Around 1930 he conducted excavations at burial sites in Stegeren and Holten (Overijssel).[43] He then turned his attention to Gelderland, focusing mainly on the Veluwe region, although he did investigate the urnfield at Aalten-De Kroon, for example. Since the early twentieth century a number of active amateur archaeologists have also made their mark. The most famous are J. Butter, who focused mainly on South Salland and G.J. ter Kuile, who worked in Twente.

Major changes occurred in the period following the Second World War. Initially, and largely at the initiative of the newly-established ROB, research focused mainly on town and city centres and churches that had been damaged in the war. Investigations were conducted in the centre of Deventer and an excavation was carried out in the church at Zelhem.[44] The introduction of the dragline in the 1950s allowed large excavation areas to be exposed for the first time. During one such investigation in 1954 at the *Margijnenenk* in Deventer P.J.R. Modderman became the first person to excavate a Bronze Age settlement in the Netherlands.[45] Thanks partly to this technical innovation and to the introduction of the first Monuments and Historic Buildings Act in 1961, which gave many barrows protected status, there was a marked shift towards settlement research. However, the interest of the universities never again reached the level of the early decades of the twentieth century, and research was restricted mainly to ad-hoc, generally small-scale excavations. While major research programmes were taking shape in neighbouring areas like Drenthe, there was no overarching framework for the eastern Netherlands.

From this time onwards, research in the eastern Netherlands was performed mainly by the ROB, often in collaboration with local history societies. Provincial archaeologists were appointed in Gelderland and Overijssel in the 1960s, as in most of the other provinces. R.S. Hulst was appointed provincial archaeologist for Gelderland in 1966, and A.D. Verlinde was appointed to the same position in Overijssel three years later. In roughly the same period, eastern Netherlands sections were being established at the national associa-

38 It is for instance reported that, in 1856, a *hunebed* was still visible on the southern slope of the Friezenberg near Markelo, although it cannot be said for certain whether this report is reliable (Bakker 1988, 68).
39 Verlinde 1980.
40 The results of the excavation were not published in the end. See for a brief discussion Brongers 2002 111-112.
41 For instance, he excavated the urnfields at Eibergen-Hupsel (1935-1936), Eibergen-Mallem (1938), Zelhem-Wolfersveen (1941) and Winterswijk-De Bataafse Molen (1942). However, the results of these excavations remained largely unpublished.
42 Bursch 1938.
43 Both excavations remained unpublished, as did the investigation at Aalten-De Kroon.
44 Renaud 1959.
45 Modderman 1955.

tion of amateur archaeologists, the *Archeologische Werkgemeenschap Nederland* (AWN).[46] Nevertheless, amateur archaeologists operating individually remained important, particularly in the Achterhoek region.[47] From this point on the archaeological database was better organised and grew significantly, while the Archaeological Chronicals of Overijssel and Gelderland provided a forum for informing the general public about the finds made in the region. Several studies, such as the excavation of a Mesolithic site with a number of grave pits at Marienberg and the long-running study at the *Colmschater Enk* near Deventer, gained national recognition. In the past decade, town archaeologists have been appointed in the rapidly expanding urban centres of Zwolle/Kampen, Deventer and Zutphen. The local archaeology departments have focused not only on town centres, but also on the archaeological sites at risk in surrounding rural areas. As a result, we know much more about the western parts of Salland and the Achterhoek, in particular, and our knowledge of this area is better balanced than the fragmented dataset on the eastern areas of the coversand landscape.[48] Although Twente originally had a headstart in terms of research, and despite the presence of several rapidly growing towns in the region, no local archaeology departments have been established there to date.

The introduction of the Malta Convention and the rise of commercial archaeology in recent years have prompted a sharp increase in the number of excavations. Although the dataset is growing and some gaps in the knowledge are gradually being filled,[49] there is no balance.[50] In terms of the themes studied, settlement archaeology clearly dominates, although the study of diachronic patterns of settlement archaeology is still in its infancy. The vast majority of data on burial practices were gathered prior to the 1960s, and were rarely, if ever, published. In terms of the landscape, we know most about processes on the higher sandy ground. The low-lying parts have received only ad-hoc interest, although there has been a greater focus on the brook valleys in recent years. Our understanding of landscape and vegetation development in the area is minimal. We can thus conclude that there is a particular lack of synthesising, interdisciplinary studies that give us a greater understanding of the settlement history of the coversand landscape of the eastern Netherlands.

Historiography of historical geographical research in the eastern Netherlands

In terms of historical geography, the coversand landscapes of the eastern Netherlands are virtually uncharted territory. Only a few historians and historical geographers have ever studied the genesis of the landscape of the Salland, Twente and Achterhoek regions, mostly focusing only on a small area. For instance, in the eighteenth century, G. Dumbar described the history of *Het kerkelyk en wereltlyk Deventer* (religious and secular Deventer), tracing the history of the town back to the foundation of Rome.[51] One important local folklore and history specialist in the Achterhoek region was teacher H.W. Heuvel. He wrote mainly about daily life in the region. His local history books *Geschiedenis van het Land van Berkel en Schipbeek* (1903), *Volksgeloof en volksleven* (1909) and *Oud-Achterhoeksch boerenleven het geheel jaar rond* (1927) became standard works on Achterhoek life and folklore. Master Heuvel, as he was known, was one of a broad circle of schoolmasters, notaries and other local dignitaries who, in the late nineteenth and early twentieth centuries, attempted to record local village life, sometimes from a historical perspective. Such individuals were active in many parts of the Netherlands.

46 Currently divided as follows: (1) South Salland, IJsselstreek and Veluwezoom, (2) IJsseldelta-Vechtstreek, (3) Twente and (4) South Veluwe and East Gelderland. For more background information, see Van den Band & Cordfunke 2001.

47 One of the most important publications to ensue from the work of amateur archaeologists was Peter Schut's cataloguing of Neolithic finds from the Achterhoek region (Schut 1987). In Overijssel, B.H. Brouwer described the occupation history of the Holten mark (Brouwer 1980).

48 See, for example, Appels 2000 (Deventer-Epse), Groothedde 1996, Groothedde *et al.* 2001 (both Zutphen).

49 The various excavations in Raalte, Salland (Groenewoudt *et al.* 1998; Groenewoudt, Deeben & Van der Velde 2000) and Zelhem in the Achterhoek (Van der Velde & Kenemans 2002a; 2002b), in particular, have yielded a great deal of new information on the transition from late prehistory to the Roman period (Raalte) and the Early Middle Ages (Zelhem).

50 See Groenewoudt, Groothedde & Van de Velde, in prep. for a discussion of the state of research ranging from the Roman period to the Early Modern Period, written for the purposes of the National Research Agenda.

51 Dumbar 1752; *Idem*, 1788.

Few academic publications have examined the regional or provincial level. In 1936 Keuning published a series of papers on settlements in the area (*Nederzettingsvormen in diluviaal Nederland ten noorden en ten oosten van den IJssel*), which are considered classics of historical geography.[52] In these publications, Keuning described his typology of the *esdorp* landscapes in Drenthe, Overijssel and Gelderland. Despite the fact that, certainly during the earliest stages of his research, he had little knowledge of historical source material and still regarded Drenthe's *esdorp* landscape as the original state of the coversand landscapes, the broad definition of landscape used today also formed the basis of his work. In this broad definition, it was not only the physical nature of the landscape that determined its development, but also economic and social factors. In this respect, Keuning's typology was innovative and – despite some heavy criticism – would be used until the 1960s.[53]
One notable – and still oft-cited– work is *Mensch en Land in de Middeleeuwen*, Slicher van Bath's two-volume 1944 thesis on people and landscape in the Middle Ages. With his interdisciplinary approach to reconstructing settlement histories, Slicher van Bath's work can rightly be called a milestone in the recording of the history of landscape (and that of the eastern Netherlands in particular). He combined large quantities of historical source material with toponymic, archaeological, folklore and geographical information. He looks, among other things, at the emergence of the mark organisations, making him one of the first to attribute them not to ancient Germanic origins but to the Late Middle Ages – specifically to the second half of the thirteenth century. Slicher van Bath also developed a model for the settlement history of the eastern Netherlands which, although it is now somewhat outmoded, was cutting-edge in his day. It was based mainly on the study of place names, which he divided into four chronological groups that were then used to explain the occupation history of the landscape. While, in the rest of the Netherlands, researchers from the Soil Survey Institute (*Stichting voor Bodemkartering*) in Wageningen and Keuning's students in Groningen were applying morphogenetic theories, things were remarkably quiet on the research front in the eastern Netherlands. There, any research was mainly in the hands of regional historians like H. Hagens, who described the water mills of the eastern Netherlands, and G.J. Schutten, who wrote about the navigation of the various brooks to the east of the IJssel between 1300 and 1930.[54] Terhalle had previously laid the foundations for Schutten's work in neighbouring Germany.[55] Occasionally, genealogical publications – usually weighty tomes – made an important contribution to the study of landscape history.[56]
Historical geographical research on the Winterswijk plateau always seems to have occurred in isolation from other studies, partly because of the fascinating history of that landscape under the influence of the freeman farmers (*scholtenboeren*) who lived and worked there. Recently, academic interest in the eastern Netherlands seems to be on the increase again. T. Spek, F.D. Zeiler and E. Raap have written a history of the Salland water board from the Late Middle Ages from a spatial perspective.[57] P. van Cruyningen has analysed estate management around Ruurlo in the nineteenth and twentieth centuries,[58] while Spek has studied the Medieval landscape of Raalte at a micro-level.[59] For this purpose, he used the method developed in the late 1980s by Groningen Medievalist P. Noomen. At the core of this theory lies the stability of land ownership in the Middle Ages, which allows Late Medieval source material to be used to trace Early Medieval settlement locations. Noomen demonstrated this using the city of Groningen, among others, by way of illustration.[60] Spek also used this method in his dissertation on the *esdorp* landscape of Drenthe.[61] Following Spek, L. van Exter also used this method in her historical geographical study of the Medieval landscape of the hamlets of Heeten and Pleegst, near Raalte.[62] Spek and Van Exter's papers will serve as an important guideline for the forecast of Early and High Medieval archaeological values in the former parish of Raalte.
The exchange of knowledge and research methods

52 Spek 2004, 88.
53 Keuning 1936.
54 Hagens 1978; Schutten 1981.
55 Terhalle 1975.
56 Te Vaarwerk 2001; Aarnink 2003.
57 Spek, Zeiler & Raap 1996.
58 Van Cruyningen 2002; 2003; 2005.
59 Spek, in prep.
60 Noomen 1990.
61 Spek 2004.
62 Van Exter, in prep.

between archaeologists, Medievalists and historical geographers is an illustration of the multidisciplinary approach that landscape scientists have been calling for over the past few years. The study of the coversand landscapes of the Salland and Achterhoek regions should also be seen in this context.

POTENTIAL FOR INTERDISCIPLINARY RESEARCH

Interdisciplinary research is essential if we are to produce a reliable biography of the eastern Netherlands' coversand landscape. Historical geographical sources, including various sets of records and map material, are limited mainly to the period after the Early Middle Ages. Archaeological sources in the areas outside the major towns in the region, on the other hand, are particularly scarce for the period after the twelfth century. Combining information from these two fields of study could therefore substantially increase our knowledge. For instance, archaeological observations could significantly enhance our knowledge of the development of the farmsteads mentioned in the records. The interaction between archaeology and historical geography will be facilitated by the fact that the research questions have been coordinated and that the same areas are to be studied in detail.
Historical geography and archaeology are not however the only fields of study that can increase our understanding of the layout and exploitation of the landscape. J. ter Laak's toponymic study *De taal van het landschap* (The Language of the Landscape) will provide important input for the Eastern Netherlands Project. The pilot project for this study in the Berkel area clearly showed that many of the geographical names contain descriptions of the landscape (vegetation, soil, morphology), and the way humans used the landscape.[63] Several 'toponymic strata' can be identified, the oldest dating from before the Christian era. Clearly, the combination of this information with archaeological observations and archive and map research can give us a new understanding of the landscape. The toponymic study is to be extended to the entire research area. The aim is to ascertain the extent to which studying the toponymic records, which span many centuries, can help us reconstruct the history of the cultural landscape. Detailed knowledge of the physical geography of the research area is equally vital for the archaeological, historical geographical and toponymic research. For instance, in order to reconstruct the occupation history and layout of the landscape, one must understand the precise geographical location of archaeological findspots, toponyms and farmsteads identified in the records.
A physical geographical landscape map of the entire research area is therefore being produced on the basis of various sources, such as geomorphological and pedological data, and also the AHN, an up-to-date elevation model of the entire country. The four areas being studied in detail will be highlighted and mapped more closely, and extra field surveys might be conducted, including a landscape-oriented borehole survey.
The possibility of involving more disciplines in the project is also being studied. A palaeobotanical inventory might be one option. This would give us an understanding of the quantity and nature of the data gathered thus far in the eastern Netherlands (pollen research, botanical macro-remains, relics of old woodland), and ultimately lead to a reconstruction of the development of the vegetation in the various landscape units in the area. The questions set out in the second section will continue to guide the research. Smaller 'sub-themes' might be identified during the course of the research; these can then be examined on an interdisciplinary basis. Examples might include the impact of the spread of Christianity on the layout of the landscape, or a reconstruction of the road system. The character and age of road systems can, for instance, be reconstructed by studying the position of archaeological sites (e.g. settlements or barrows), historical sources (archives, maps), toponyms and the physical geography.
The study of the first detail area, which was not yet complete at the moment of writing, has already given us some idea of the potential benefits of interdisciplinary research. It focuses on the area that was formerly the sheriffdom of Colmschate, now part of the municipality of Deventer (Overijssel). The archaeological data gathered so far appear to tie in well with the historical geographical data that had previously been gathered from the historical records.[64] For instance, we now have a good picture of the *Hoge Wetering* and

63 Ter Laak 2005.
64 The archaeological data so far available come from an initial survey. The detailed archaeological investigation got underway in 2005.

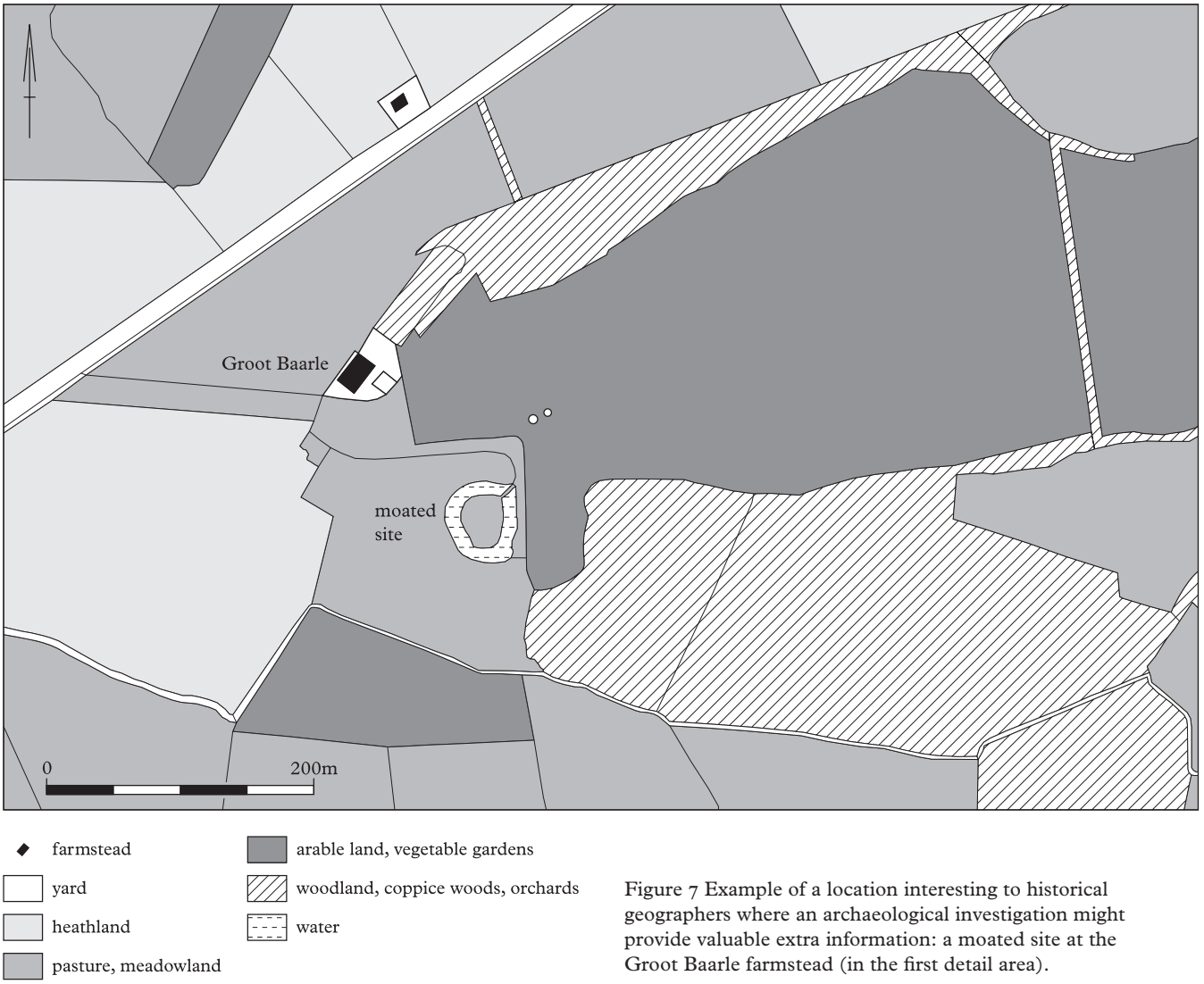

Figure 7 Example of a location interesting to historical geographers where an archaeological investigation might provide valuable extra information: a moated site at the Groot Baarle farmstead (in the first detail area).

Lage Wetering settlements near Deventer.[65] It has been found that forerunners of several farmsteads (some still in existence) known from historical sources have been found during excavations.[66] They have provided valuable information about these farmsteads in periods for which no historical sources are available. Archaeology and historical geography not only complement each other in terms of content and chronology, the combination also provides benefits in terms of methodology. For instance, the historical geographical study has pinpointed locations where archaeological field surveys using test pits might yield valuable information (figure 7). In the detail area in question, collaboration with the Archaeological Department in Deventer, an official partner in the investigation, could be highly beneficial. Archaeological surveys can for example give us a picture of farmsteads and stately homes which are known from the historical records but which no longer exist. They can also give us an idea of the predictive value of the Late Medieval domanial situation in terms of the landscape history in the Early Middle Ages.[67] The municipality of Deventer's Archaeological Depart-

65 Keunen 2005.
66 One good example is Colmschate-Groot Swormink (Ten Bosch, Groothedde & Groenewoudt 1997).
67 Keunen 2005.

ment is also carrying out large-scale excavations in the Epse-North planning unit to the south of the town. The results of these excavations could play an important role in answering the research questions in the first detail area. A combined archaeological and historical geographical publication has already appeared on an earlier phase of this particular research, based on information from several test trenches, archive research and interviews with the last residents of this rural area.[68]

POTENTIAL OF 'EXTERNAL INTEGRATION'

Given the major changes set to take place in the Salland and Achterhoek regions as a result of urbanisation, industrialisation, water management measures and nature development, it is important that the information on our cultural heritage revealed by the project also be incorporated into spatial planning. One of the main objectives is therefore to achieve precisely this kind of 'external integration'. To ensure this process proceeds as smoothly as possible, a number of meetings were held in 2004 and 2005 with ten public authorities and civil society organisations. Participants discussed both what themes they felt were important and precisely what type of information they wanted. It became clear that these parties were largely interested not so much in specific issues particular to certain locations as in a broad scientific framework for the occupation history of the eastern Netherlands.
It has not been possible to incorporate some themes, such as the history of the farmsteads in the outlying areas, into the questions to be addressed in the fundamental research. A number of questions have therefore been translated into specific projects that are now being carried out by external researchers, students or agencies under the supervision of members of the Eastern Netherlands Project team. One such 'applied project' is examined briefly below.
Representatives of the Rijn en IJssel water board stated at a meeting that the organisation had too little information on the cultural heritage values in the brook valleys in their area. There was a need for such information, particularly on the brook valleys where work was planned in the near future. This ties in perfectly with the 'Archaeological Heritage Management and

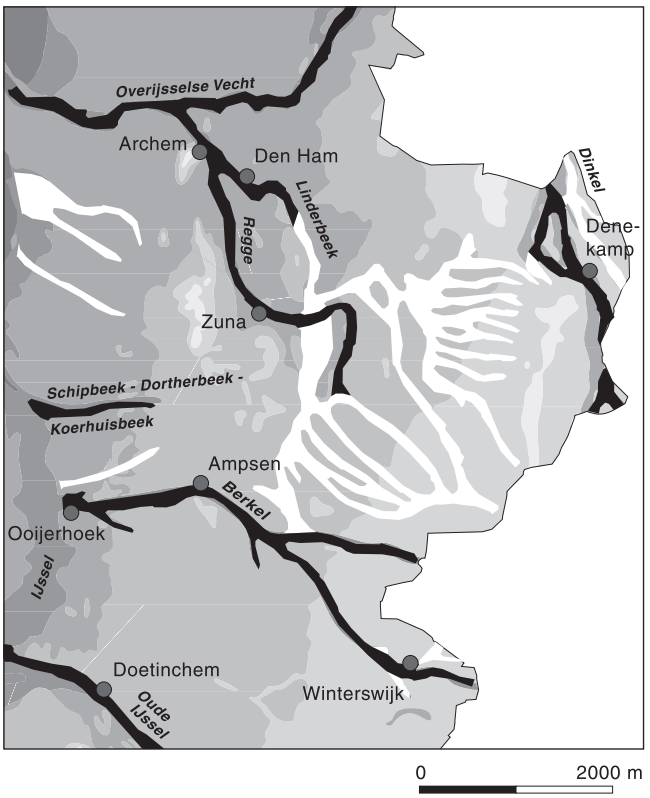

Figure 8 Result of an earlier study of brook valleys in the eastern Netherlands: predictions of the archaeologically most promising brook valleys, or sections thereof, in the eastern Netherlands (black). Predictions refer to the likely presence of prehistoric sites/find complexes with well-preserved organic material (Groenewoudt 2004, figure 3).

Pleistocene Brook Valleys' project launched by the RACM in 2003 under the leadership of E. Rensink.[69] The Eastern Netherlands Project has requested collaboration with this programme, and a research path has been decided upon in consultation with the water board. This will involve a desk study by an external agency, under the supervision of a committee on which members of the Eastern Netherlands Project will sit, concerning those parts of the brook valleys that are likely to be affected over the next few years. Predictive maps will be produced on the basis of geomorphological data, the AHN, the position and nature of archaeological findspots, and historical geographical features (figure 8). Follow-up research on each of the brook valleys selected will then be discussed. In the case of the culturally important parts of the brook

68 Appels 2002.

69 See for the initial results Gerritsen & Rensink 2004.

valleys, the plans might be adjusted or relocated, and where this is not possible, further research might be carried out.

CONCLUSION

The Eastern Netherlands Project is one of the projects being conducted as part of the NWO's 'Protecting and Developing the Dutch Archaeological-Historical Landscape' incentive programme. The main aim of this programme is to make a contribution to the incorporation of archaeological and historical values into spatial planning. This issue is also central to the Eastern Netherlands Project, which was launched in January 2004 and will run until mid-2008. Specifically, it involves the production of an interdisciplinary biography of the coversand landscapes of the Salland and Achterhoek regions, and an exploration of the possibility of incorporating this information into spatial planning processes.
From a scientific point of view, settlement development and the exploitation and layout of the lower-lying parts of the landscape are the key themes of the study. The period under investigation extends from the Late Palaeolithic to the beginning of the nineteenth century. The research will take a landscape perspective. It will also be conducted in an interdisciplinary manner, with an archaeological and historical geographical study as a basis. Toponymic research will be carried out in the research area, a detailed physical geographical landscape map will be produced and the possibility of carrying out palaeoecological and historical ecological studies will also be explored.
Although the initial intention was to look at the whole of the Salland and Achterhoek regions, this area was found to be too extensive to be studied in detail. The research will therefore focus on the southern part of Salland and the northern part of the Achterhoek, areas that are typical of the coversand landscape. The research questions will be addressed using the data available at the outset and by selecting four smaller representative 'detail areas', where the long-term history of the landscape will be reconstructed in greater detail. The preliminary results from the first detail area indicate good prospects for interdisciplinary research.
A broad-based inventory of the academic research conducted to date indicates that the state of knowledge is poor in all fields of study. There have been few studies of a synthesising, interdisciplinary or diachronic nature. Nevertheless, even with the current poor state of knowledge, it is clear that the area holds great archaeological potential.
As a result of our poor understanding of the landscape in the area, the 'translation' of knowledge into spatial planning processes requires some bolstering. Given the early stage of research at the time of writing, it cannot be said with any certainty what precise form this 'translation' process is likely to take. However, meetings with representatives of ten local authorities and civil society organisations have given us a clear picture of their questions and needs. Some of their issues have been incorporated into the academic research questions. Others which, for practical or technical reasons, cannot be addressed directly within the academic research framework are being addressed in specific projects being conducted by external researchers, students or agencies under the supervision of members of the Eastern Netherlands Project team.

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