

Horse Keeping in Peri-Urban Areas

Changing Land Use with Possibilities and Conflicts

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Abstract

The number of horses in Sweden has increased from 70 000 to almost 300 000 in 30 years. Today these horses are to a large extent kept for the purpose of hobby and leisure and create a substantial land use but link a diverse and a large amount of activities in peri-urban areas in Sweden. The sector contributes with new economic, social and physical possibilities, but also with conflicts between various stakeholders and interests.

The overall aim of this work was to contribute to increased understanding of the new and diverse equine sector as a factor for peri-urban landscape development, with stakeholders' as well as public perspectives. Specific objectives were to map out the influence of the equine sector on the development of multifunctional land use in peri-urban areas and to analyze stakeholder experiences and attitudes towards horse keeping as a land use. Further to outline specific features of horse keeping in peri-urban areas as a new and expanding area of research and to determine the significance of the issue within the broader context of land use and spatial planning.

The thesis focuses two issues connected to the Swedish context; set back distances between residential areas and horse keeping and the right of public access. Methods used were questionnaire studies, interviews, participatory observations and studies of media reports.

The results show a substantial land use not well described by current methods for analyzing and managing land use change. The results from the Swedish issues set back distances between residential areas and horse keeping and the right of public access illustrates both in different ways the partly problematic meeting between the current system for spatial planning and the emerging equine sector as a new land use with conflicts both between involved stake holders and also within the planning system itself. In conclusion a need for spatial planning with both a top down and a bottom up perspective is suggested for managing this sector allowing it to take place at a local as well as at a regional and national level.

Keywords: horse keeping, equine, spatial planning, multifunctional land use, conflict, right of public access, set back distance

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To my family

Writing a book is an adventure. To begin with, it is a toy and an amusement; then it becomes a mistress, and then it becomes a master, and then a tyrant. The last phase is that just as you are about to be reconciled to your servitude, you kill the monster, and fling him out to the public.

Sir Winston Churchill

Contents

List of Publications	7
Preface	9
Introduction	11
Structure of the thesis	13
The equine sector - an overview	13
A growing and diversifying industry	13
Deficient basic statistical data	16
The new equine economy	16
Swedish equine industry in figures	18
Contextual considerations	19
Multifunctional land use, horse keeping and landscape change	19
Horse keeping as part of peri-urbanity	20
Spatial planning in Sweden	22
Aims of the thesis	25
Materials and Methods	27
Investigation 1	28
Regional level - inventory survey	29
Local level - case study	29
Media survey	29
Investigation 2	30
The use of the horse on privately owned land	33
Investigation 3	34
Set-back distance and perceived disturbances	34
Selections of case study areas, categories and respondents	35
Methodological considerations	35
From the perspective of the author's prior knowledge	35
Connecting theory and practice	37
From the perspective of equestrian landscape development	38
Connecting epistemology to methodology	39
Results	41
Summary of the most significant findings	41

Discussion	43
The use of the horse on privately owned land	43
Set-back distance and perceived disturbances	45
The results in a wider perspective	46
Social implications	48
Spatial implications	49
Policy implications	51
Horizontal and vertical cooperation between actors and authorities	54
Conclusions	57
Areas for Future Research	59
Sammanfattning på svenska	61
References	63
Acknowledgements	73

List of Publications

This thesis is based on the work contained in the following papers, referred to by Roman numerals in the text:

- I Elgåker, H. (2010) The new equine sector and its influence on multifunctional land use in peri-urban areas. *Geo Journal*. DOI:10.1007/s10708-010-9398-y.
- II Elgåker, H., Pinzke, S. and Nilsson, C. (2008) *The conflict between the Right of Public Access, equine activities and the planning system in Swedish peri-urban areas*. Proceedings of the ECLAS Conference New Landscapes - New Lives. New Challenges in Landscape Planning, Design and Management. SLU Alnarp, 93-100.
- III Elgåker, H., Lindholm, G., Pinzke, S. and Nilsson, C. Challenges posed by horse riding to the Swedish Right of Public Access. (Resubmitted to *Land Use Policy*).
- IV Elgåker, H., Pinzke, S., Lindholm, G. and Nilsson, C. (2010) Horse keeping in urban and peri-urban areas – New conditions for physical planning in Sweden. *Geografisk Tidsskrift - Danish Journal of Geography* 110(1), 81-98.

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The contribution of Hanna Elgåker to the papers included in this thesis was as follows:

- I Planned the investigation, carried out the investigation, processed the data and wrote the paper.
- II Planned the investigation, carried out the investigation, processed the data and wrote the paper in collaboration with co-authors
- III Planned the investigation, carried out the investigation, processed the data and wrote the paper in collaboration with co-authors
- IV Planned the investigation, carried out the investigation, processed the data and wrote the paper in collaboration with co-authors.

Preface

Horses and the culture connected to horses have followed me through life as I have been an active rider and horse person since I was a small child. This interest in horses has taken different forms due to my own situation in life, from being an active competitor in show jumping as a young adult to having children of my own and introducing them to horses. Nevertheless, horses have always been my companions in different shapes.

It was not so much my interest in horses as my trained eye as a landscape architect that made me wonder about the diminishing capacity of the peri-urban landscape to host an increasing amount of horses and equine activities. This resulted in the present work, which provided an opportunity to combine my profession as a landscape architect with my interest in horses.

When working on this thesis I recalled an event from my childhood that says something about the changes and developments I have experienced during my time as a horse person and in my profession as a landscape architect. My parents hired a neighbouring farmer with a steam excavator to carry out work on their farm. At the same time they asked him if he could just flatten a piece of our horse pasture to make a simple riding ground for us. The neighbour thought this was one of the silliest things he had ever been asked to do and he referred to the exercise as “tosinga fora”, which could effectively be translated as “crazy cockamamie”. That was in the 1980s. Today, in 2011, riding grounds and other equestrian facilities have become such common features in the peri-urban landscape that the space this sector requires is becoming a more urgent issue in an already crowded landscape.

Introduction

This thesis deals with land use and landscape issues concerning the rapidly emerging equine sector in peri-urban areas. The work is based on a series of observations of rapid landscape change, including an increased amount of land use conflicts deriving from an expanding horse keeping sector in Swedish peri-urban areas. The problems involved are not easily defined or related to a specific field of knowledge and have no general solutions. Rather, they are formed by specific circumstances, yet having in common their relations to law and land use regulations.

The relationship between humans and horses has been an important factor for landscape development in Europe and in other parts of the world. However, this relationship has undergone a dramatic change from using the horse for transportation and agricultural work to using the horse as a 'partner' in leisure activities and sports. In Sweden the number of horses has experienced a tremendous increase over the last 30 years, from 70 000 in the 1970s to almost 300 000 in 2004. A similar development has taken place in the rest of Europe, as well as in Northern America and Australia (Wilton, 2008; Buxton and Low Choy, 2007; Elgåker and Wilton, 2007).

The tremendous change during the last 30 years has resulted in horses going from being rather rare to the present situation with horses all over the countryside influencing land use, the economy, lifestyle patterns and ecology, as well as planning, policy and management. The expansion of the equine sector has happened without much attention from society. Today, however, there is a newly awakened awareness of this sector, which is being discussed from the perspective of rural economy and countryside development, as well as from a land use planning perspective.

The horse industry is highly diverse and supports a wide variety of activities in peri-urban and rural regions, creating new economic assets in these areas, as well as a new land use deriving from horse keeping, horse-

back riding and associated economic activities. The horses occupy large tracts of land, mostly in areas where the competition for land is already high due to infrastructure, agriculture, housing and other developments.

In parallel to the expanding equine sector, other overlapping and coinciding economic and land use processes are together resulting in a rapidly changing landscape. Landscape development as the result of natural, cultural, social and economic changes in land use is currently gaining more response from the (municipal) planning authorities in Sweden, but also from the regional authorities, which distribute the EU subsidies for rural management and development.

An expanding equine sector is a positive factor for rural development, *e.g.* by adding to the number of grazing animals for the benefit of biodiversity, keeping the landscape visually open, and contributing to economic diversification at farm level and on a larger scale. In other areas, however, the equine sector may clash with accustomed conceptions, lifestyles and land uses and can be perceived as a threat and a source of conflict.

This work is inter-disciplinary and is based on the assumption that knowledge about conditions for horse keeping, rural development and land use planning (which has its foundation in land and water resource management) has to be gained from a context where the equine sector in the future might well be an important driving force for rural lifestyles, for the exchange between the city and the countryside and as a factor developing both the economy and public health.

The misinterpretation (or even non-existence) of horse keeping in rural statistics reveals another assumption that the leisure horse sector, in numbers as well as in value and land use, is a 'negligible' category that is only relevant in discourses on leisure and recreation. Thus, the point of departure of this dissertation was not only to map and analyse horse keeping in the interface between the rural economy and landscape change, but also investigating the links between this field of research and the discourses of rural planning and contemporary planning theory.

Regardless of method or field of research, landscape studies are not easy to perform and interpret. On the contrary, the ground is covered by layers that are open to interpretation historically, but the same surface also links various contexts and uses. These layers exist at the same time, in cooperation and in conflict, visible and invisible, sometimes with synergistic effects and sometimes with severe social consequences.

Spatial planning and the associated policies and legal frameworks have traditionally functioned as a tool to regulate the expansion of 'urban' building blocks and infrastructure out into what has traditionally been labelled 'rural' areas, these planning tools are not yet sufficient for coping with rural areas in change. However, the present work did not have the intention of coming up with new planning tools for rural areas. Instead, it aimed to help understand the relationships between the expanding equine sector as a widespread land use and other interests in peri-urban areas; between private and public interests as well as between different private interests. Thus it also aimed to widen the discourse on rural development and planning.

Structure of the thesis

The four Papers (I, II, III and IV) on which this thesis is based deal with issues related to the increase in land use for horse-related activities in peri-urban areas. Paper I, a broad state-of-the-art review based on the literature and case studies, functions as a basis for the other three papers and clarifies their focal points of connecting equine development with peri-urban development and spatial planning. Papers II and III describe and discuss different attitudes concerning horseback-riding in relation to an increasing number of land use conflicts between stakeholders concerning the Right of Public Access. Paper IV presents a discussion on the role of spatial planning, based on an investigation of set-back distances between horse keeping and residential areas.

The equine sector - an overview

A growing and diversifying industry

Horses have been present in the landscape for thousands of years as companions in war, means of transport and farm animals. In developing countries the horse is still providing power along with other draught animals, but in the developed world the use of the horse has changed and today horses are primarily used for leisure and sports (Hall, 2005).

The transformation of horse keeping in the USA from being mostly a rural phenomenon to being a widespread peri-urban activity was noted by Collins (1978), who concluded that there was a strong commitment by a large population segment, with a broad spectrum of society involved. Collins (1978) also warned against underestimation of the importance of equine development. A few years later that issue was raised again by Layton

(1982), who focused on this new land use dilemma in peri-urban areas. At the present time, the equine sector is regarded as part of a larger shift towards a post-productive rural landscape. However, horse farms and horse keeping are not only a new kind of a primary land use in peri-urban areas but also, and mainly, a lifestyle and leisure activity (Franklin and Evans, 2008; Mather *et al.*, 2006).

The equine sector has some fundamental features that are similar throughout the Western world. At the same time, there are specific conditions on national, regional and local level, such as land use and environmental regulations, population density and landscape, that create the framework for how the equine sector evolves in a certain land or region.

Estimates indicate that the number of horses has increased rapidly in Europe and Northern America (Wilton, 2008; Buxton and Low Choy, 2007; Elgåker and Wilton, 2007; Collins, 1978). Specific examples of this development are available for a number of individual countries such as the UK, Sweden, Finland, France, Australia, USA and Canada (see Table 1) (Low Choy *et al.*, 2008; Buxton and Low Choy, 2007; Elgåker and Wilton, 2007; Eklund *et al.*, 2006; Mather *et al.*, 2006; American Horse Council, 2005; Rantamaki-Lahtinen and Vihinen, 2004; Quetier and Gordon, 2003; Bailey *et al.*, 2000; Legér 1996; Ravenscroft and Long, 1994; Ilbery, 1991).

A high number of horses is connected to factors such as high income level, combined with high educational level and low unemployment rate (Liljestolpe, 2009). As regards regional differences, Germany and the UK have the largest total number of horses, Sweden has the highest number of horses per capita and Belgium and the Netherlands have the highest horse population per unit area (Liljestolpe, 2009).

The current policy within the equine sector seems to be not to expand to keep more horses but to diversify the types of businesses (Liljestolpe, 2009), corresponding to the varying needs and interests from both leisure and professional use.

There are strong indications that the economic importance of the equine industry is increasing both directly and through induced effects in developed nations around the globe (see Table 1) (American Horse Council, 2005; Defra, 2005; Haring, 2005; Johansson, 2004; Gordon, 2001). However, the lack of data on the global horse industry makes it difficult to determine whether this trend is generally valid.

Table 1. Examples from different countries showing some figures from the equine sector with number of horses/1000 inhabitants, number of full time employments equivalents and annual economic impact. The figures are estimations and based on approximations of the number of horses and their economic impact hence the span will be quite large in some countries.

Country	No of horses/1000 inhabitants	Full time employment equivalents	Annual Economic impact in US \$	
			Directly	Indirectly
USA				
USA (American Horse council, 2005)	30	702 000	39 billion	102 billion
Australia				
Australia (Atkinson, 2007; Gordon, 2001)	42-85		6.3 billion	1.7 billion
Canada				
Ontario (Wright, 2005; Evans, 2003)	26	70 700	465 million	
Europe				
Austria (Schnider and Mahlberg, 2005)	10-12	15 000	1.6 billion	820-880 million
Belgium (Haring, 2005)	22	na	na	
Denmark (Haring, 2005)	28	na	na	
England and Wales (Defra, 2005)	11-19	50 000	4.4 billion	
Finland (Haring, 2005)	11	na	na	
France (Haring, 2005)	8	na	na	
Germany (Haring, 2005)	12	na	na	
Greece (Haring 2005)	3	na	na	
Ireland (Haring, 2005)	16	na	na	
Sweden (Johansson, 2004)	30	9 500	5.3 billion	2.6-6.9 billion

Deficient basic statistical data

The wide range of activities related to horses and the diversity within the industry create difficulties in finding appropriate and accurate comparable statistics (Liljestolpe, 2009; American Horse Council, 2005; Haring, 2005; EU Equus, 2001). There is a lack of reliable statistical information on the equine industry world-wide and economic reports are often based on estimated numbers of horses, as well as their location and use.

The number of horses and horse farms may be underestimated since they are often not 'farm units' (a statistical category) and hence outside the typical annual census in various countries (Wilton, 2008; Mather *et al.*, 2006; Bills, 2004; Quetier and Gordon, 2003; Svala, 2002). This is exemplified by Bills (2004), who described a gap between the published statistics, with states with crop and pasture acreage reporting at least 5% lower acreage in the census than in the USDA 5-year National Resources Inventory (NRI). This discrepancy is explained by the fact that many horse farms look like traditional farms, covering a considerable acreage, but they are not organised primarily to generate business.

Others do generate revenue, not from farm commodity sales but from the provision of services, such as boarding, training of riders and horses, or buying and selling horses (often combined). These kinds of business lie outside current farm definitions and are not counted in the annual census (Bills, 2004), which results in a substantial land use not being accounted for. There is also a lack of reliable information about the management of the sector, for example economics, legal practices, ecology, environmental impact and health and safety (Franklin and Evans, 2008).

The new equine economy

The economic base in peri-urban areas outside expanding cities has undergone a major change, from being dominated by agricultural production towards more diversified production of leisure and other farm-based activities, with their proximity to urban centres acting as a key to a wider market for services (Busck *et al.*, 2008a; Short *et al.*, 2008). Ilbery (1991) defines farm diversification as farm-based activities that may not directly involve producing crops or livestock but rather involve marketing connections outside the agricultural industry.

Garkovich *et al.* (2009) describe how the economy of the equine sector can be understood using the idea of economic clusters, where specialist businesses provide specialist inputs and services to the core firms of the clusters. In the case of horses this can be exemplified by farriers,

veterinarians, sellers of farm equipment and horse tack, producers of fodder etc.

These are accompanied by market goods and services that complement the core economic sector, including for example sales of horse insurances, transportations firms, etc. The third economic component of the equine clusters described by Garkovich *et al.* (2009) are the firms that depend on the density and customer stock within an existing cluster and provide equine acupuncture, equine massage, equine art, dry cleaners cleaning horse rugs etc., together with professionals and service firms with staff specialising in meeting the specific needs of the equine sector; insurances, solicitors, architects and farm real estate brokers.

The clusters differ depending on the character of the equine sector locally and regionally, as this depend on local and regional conditions. Every cluster is dependent on support from public institutions and on attracting public investment. A decline may begin by the emergence of competing clusters elsewhere; flaws in international conditions (*e.g.* cartels or breakdown of shared norms); government regulations that restrict the adaptability and flexibility of the business in the cluster or intervene in international competition; the failure to implement public policies that nurture and sustain the clusters; and, last but not least, failure to make public investments in essential infrastructure (Garkovich *et al.*, 2009).

The economic importance of horses in Finland for leisure, not just for sport or gambling, was pointed out by Sumelius (1991). Leisure activities, *e.g.* horseback riding, have become an important factor for development (Jenkins, 1998) and these activities form part of new institutions that grow and flourish in the countryside (Clark, 1994). Some indicators are found in certain regions, such as Scandinavia, where it has been noted that equine industries bring new market-driven opportunities to local farms and businesses, as the people involved in equine farms tend to 'out-source' a significant amount of farm-related functions such as fieldwork, feed and bedding (Rantamaki-Lahtinen and Vihinen, 2004; Johansson, 2004; Bixelius, 2003).

Providing equine services has the advantage of being a known area for the farmer, making use of existing machines, land and labour. Another advantage of the equine industry is that the market is relatively closed, meaning that the competition is limited (Bailey *et al.*, 2000). As long as the population density is large enough to provide for a sufficient customer base within easy travelling distance, equine services will provide a viable 'land using' alternative to traditional commodity production for many farmers (Bailey *et al.*, 2000; Ilbery, 1991).

Swedish equine industry in figures

In Sweden the number of horses has increased over the last 30 years from 70 000 to approximately 300 000 in 2004 (Swedish Board of Agriculture, 2004). The most common types of horses in Sweden are the Swedish Warmblood for leisure and competition, with approximately 60-70 000 individuals, the Warmblooded Trotter, with approximately 70 000 individuals, and the Coldblooded Trotter, with 15 000 individuals (figures derived from various breeding registers).

Approximately 500 000 (5%) people in Sweden are involved in horse-back riding, many more have regular contact with horses (11%) (Swedish Equestrian Federation, 2009; Swedish Sports Confederation, 2008) and from a gender perspective 90% of active riders are female (Swedish Equestrian Federation, 2009; Swedish Sports Confederation, 2008). The exception to this is harness racing, where the majority of those involved are men (Hedenborg, 2007; Swedish Sports Confederation, 2005).

75% of all horses and 66% of all horse establishments in Sweden are situated within larger cities and in peri-urban areas (Swedish Board of Agriculture, 2004). These horses are primarily kept in densely populated city regions (Elgåker and Wilton, 2007; Swedish Board of Agriculture, 2004). At the same time, the amount of publicly accessible land where horses can be ridden generally decreases with proximity to the city and city size (Statistics Sweden, 2000).

The picture of the equine sector that emerges is as:

- A world-wide development shaped by local traditions, regulations and landscape conditions, but for purposes other than production of food and fibre.
- A new large land use category not necessarily visible in census statistics and land surveys.
- A new and important emerging economic factor that does not fit into traditional models on rural economic development.

Contextual considerations

Multifunctional land use, horse keeping and landscape change

New activities in rural areas, as exemplified by locally produced food, short supply chains, nature conservation and land management, as well as agri-tourism and leisure activities are all characterised by multi-dimensionality, multifunctionality and a high degree of integration. Multifunctional land use may promote sustainable development by contributing Commodity Outputs (CO), *e.g.* yields, and Non Commodity Outputs (NCO), *e.g.* landscape aesthetics (Wiggering *et al.*, 2006).

Multifunctional land use is a concept that has recently become popular from different perspectives, *e.g.* small-scale farmers wanting to differentiate their production and nature and wildlife support organisations.

This concept has also spread across disciplines such as geography, economics, landscape ecology, forestry, agriculture and rural development. As various disciplines take a new concept on board, its meaning and values change, drawing from different basic ideas and entry points.

This has also happened to the concept of multifunctionality (Gulinck, 2004 pp. 64-72). The new equine sector can be perceived as both an effect of the multifunctional trend and as contributing to the concept, since it is an increasing economy of mainly small actors at local and regional level but still interlinked in larger processes at a global level (Garkovich *et al.*, 2009; McManus, 2008).

The change in land use from monofunctional to multifunctional has been described as a re-prioritisation of production, consumption and protection, with a transformation from entirely production towards a more complex pattern and mixture of the three (Holmes, 2006). This is similar to the more widespread triad within the concept of 'sustainable development', namely economic, social and ecological issues (Brundtland, 1987).

Leisure activities and farm-based recreation help fulfil these criteria and are often mentioned as a potential area for farm diversification (Marsden and Sonnio, 2008; Pfeifer *et al.*, 2008; Mather *et al.*, 2006; Gallent *et al.*, 2004; Cloke, 1996; Johnson and Rasker, 1995; Ilbery 1991;) based on rural goods and services (Andersson, 2007; Fleury *et al.*, 2004). Furthermore, there has been a shift from solely primary production towards secondary and tertiary economic sectors, as well as an increase in new and alternative agricultural practices. A more holistic view of rural diversification is thus emerging (Kelly and Ilbery, 1995) that can be connected to the notion of multifunctional land use.

Compared with land use for (industrial) food production, which over a period of a hundred years decreased landscape diversity, multifunctional use fosters a new kind of landscape. This landscape may still be dominated by large tracts of agriculture and/or forestry, but these are complemented with other activities and functions, developing gradually (and apparently arbitrarily), often from private and small-scale initiatives. Together, however, these activities achieve quite an impact, as they fulfil a great number of functions at different levels from the individual (farm) household and farm to society at large. Even activities that on a local scale have marginal importance can result in a new resource base at a regional level by direct and indirect multiplier effects, although these can also be negative by substitution or replacement of activities (Knickel and Renting, 2000).

The peri-urban, post-industrial landscape could be described as being fragmented and the landscape as being consumed by the visitor, mostly by sight as the first and most important means to experience and less by the traditional way of viewing landscape from the perspective of its functions (Saltzman and Svensson, 1997, pp. 10-11). The use of landscapes for equine enterprises allows the person in contact with the horse to experience the landscape in more than one way; from the perspective of the user and of the visitor, but most importantly through the dimension of being with the horse and using the horse in the specific conditions of a particular landscape (Franklin and Evans, 2008).

Horse keeping as part of peri-urbanity

Rural areas surrounding cities have specific qualities, with features that are traditionally urban, traditionally rural and unique to these in-between areas. They depend on *e.g.* lifestyle, work and commuting opportunities, infrastructure, population density and agriculture. These areas have been named peri-urban, rurban, urban-rural hinterland, urban-rural fringe, etc.

The concept of peri-urban is used by different authors and in various contexts but for this work the term peri-urban is used to refer to, and includes, the transition zone between traditionally urban and traditionally rural areas in a wide sense.

Peri-urban is defined according to the Swedish National Rural Development Agency (2008) by the travel time by car to the nearest settlement with more than 3000 inhabitants;

- < 5 minutes is defined as city area.
- 5–45 minutes are defined as a peri-urban area
- > 45 minutes is defined as remote rural area.

This definition is based on the possibility to reach services and work opportunities and was used for the purposes of this thesis. For a more complex review of the concept of peri-urban see other authors (*e.g.* Bocz *et al.*, 2008; Adell, 1999; Errington, 1994; Bryant, *et al.*, 1982; Pryor, 1968; Pahl, 1965).

Peri-urban areas have to meet complex and multiple societal demands on land use, especially in densely populated areas, and there is currently increasing interest in studying these multifunctional land uses and the landscapes created at different levels (Marsden and Sonnio, 2008; Holmes 2006; Antrop, 2006; Brandt and Vejre, 2004; Fry, 2001; Naveh, 2001).

The changing peri-urban landscape can also be regarded from the perspective of physical planning in change (Qviström, 2007; Voogd, 1997; Friedman, 1993) Increased commuting (among other things) has forced an increase in regional planning initiatives (Wheeler, 2002), and there is a growing tendency for municipal comprehensive planning to include rural areas, proposing different kinds of land use regulations and new ways of assessing the landscape (County Administrative Board, 2009; Swedish National Board of Housing, Building and Planning, 2008; County Administrative Board, 2006).

Existing planning instruments assume a clear-cut boundary between the city and the countryside. This can be connected to the problem of administrative decentralisation concerning land use, see for example Buciega *et al.* (2009). However, the distinction between urban and rural is not functional and the specific character and needs of peri-urban areas from a planning and management perspective have been neglected (Allen, 2003).

This thesis focuses on the equine sector. From a planning perspective, this can be perceived as a case for exploring land use and landscape change in peri-urban areas. However, the equine case was not chosen randomly as one of many increasing activities in peri-urban areas, but because it is very unique in its way of uses the land and changing the landscape. Being trans-boundary in more than one sense, including both private and public interests, formal and informal economies and recreational and agricultural

land use, the equine sector and its conditions are especially interesting to study as regards planning in peri-urban areas.

Spatial planning in Sweden

Spatial planning in Sweden to date has mainly been a municipal, local and urban activity, traditionally performed by *e.g.* architects and engineers for infrastructure, buildings and development and more recently also by *e.g.* ecologists and other groups with skills in managing nature resources (Nilsson, 2001, p. 27 ff).

Legislation has mostly been directed towards protecting natural and cultural landscapes against the use of natural resources within modern agriculture, modern forestry and the production of cheap energy. The Swedish system for spatial planning gives the municipality a strong right of determination while the state and region have a weaker influence, for example in questions concerning land use, compared with *e.g.* Denmark or the Netherlands (Busck *et al.*, 2008b). Spatial planning in Sweden is strongly decentralised and the municipality, which is the smallest government unit in Sweden, holds a planning monopoly. Swedish municipal planning uses three kinds of planning tools (Swedish National Board of Housing, Building and Planning, 2010).

- Local plan (*Sw. detaljplan*) which is a legally binding document established on the development of built-up areas, as a condition and a base for building permission.
- Comprehensive plan (*Sw. översiktsplan*). All municipalities are bound to have a comprehensive plan considering the entire area of the municipality. Not legally binding, it is still an important strategic instrument for resource management, not least the dialogues and discussion preceding a decision in the plan.
- Specific area regulations (*Sw. områdesbestämmelser*) an instrument used in areas without local plans, to protect certain values without a specifying framework for possible building initiatives.

The Environmental Code (*Sw. Miljöbalken*) is legislation for protecting the environment regardless of land use, land ownership and the urban-rural divide. The most relevant part for planning purposes is the EIA (*Sw. MKB*), the environmental impact analyses required before any building enterprise or infrastructure installation may be carried out. By means of the Environmental Code, the authorities are able to prescribe special conditions

for economic activity that aim to minimise the inconvenience for other parties in the surroundings.

Spatial planning is mainly a question for municipalities, but questions concerning *e.g.* specific infrastructure questions, climate and energy and residential matters may arise due to increased inter-municipal commuting within and between regions. This kind of planning is still performed to a limited extent and when it occurs the government assigns the responsibility for the work to a regional organ (Swedish National Board of Housing, Building and Planning, 2010).

From a regional planning perspective two issues are becoming increasingly important; environment and infrastructure (Alfredsson and Wiman, 2002) as stated by the official website of the Swedish National Board of Housing, Building and Planning (2010). However, there are also indications of the growing need to take into account comprehensive land use issues emerging outside the traditional rural land use, especially in peri-urban areas, *e.g.* leisure activities and new lifestyles.

Rural areas have traditionally been viewed as part of agricultural politics and remote rural areas have also been the subject of regional developmental politics. In the report *The Landscape as Goal and Means*, the County Administrative Board of Skåne talks about the landscape being traditionally treated as a function of sectoral interests, *e.g.* agricultural, environmental and rural development policies and politics (County Administrative Board, 2009). These areas of politics have mostly been concerned with goals and means for rationalisation of the areal industries, but due to new forms of land use, economics and lifestyles emerging, spatial planning might now be more relevant for the countryside and in need of revitalisation (Reiter, 2004).

This is in line with the European Landscape Convention (ELC), which aims to 'encourage public authorities to adopt policies and measures at local, regional, national and international level for protecting, managing and planning landscapes throughout Europe' (European Landscape Convention, 2000). It covers all landscapes, both outstanding and ordinary, that determine the quality of people's living environment, on January 5th 2011 the Swedish government decided to ratify and it will be entered into force on May 1st 2011. Although not yet implemented and proceduralised, this is a sign of landscape issues being given more consideration in planning. This provides for a flexible approach to landscapes, the specific features of which call for various types of action, ranging from strict conservation through protection, management and improvement to actual creation (European Landscape Convention, 2000). Some initiatives have been taken towards a

new and more coherent agenda for rural and peri-urban landscapes. For example in the region of Skåne, the County Administrative Board has begun formulating goals for countryside development with a point of departure in landscape characteristics, anticipating the ELC (County Administrative Board, 2009).

At a strategic and practical level, spatial planning is one arena for managing the challenge of converting political goals into physical reality (Nilsson, 2001). From a legal perspective, this is also the arena where deliberations are made between different public interests, between public and private interests and between different private interests (SOU, 2005).

The rapid development of the equine sector in Sweden, especially in the vicinity of the larger cities, has resulted in pressure on planning to create solutions for a peri-urban land use situation with increasing conflicts (see for example County Administrative Board (2004), Association of Local Authorities (2007) and Johansson and Bramryd. (2008). Two main kinds of land use conflicts have arisen: 1) between the landowner's right to his land and the public's right of access to land for recreation (*Sw. allemansrätten*) and 2) the management of set-back distances between equine activities and local residents.

Together, these developments have led to the evolution of two issues specific to the equine sector in the Swedish context: the use of the horse on privately owned (by someone else) land according to the Right of Public Access (further developed and discussed in Papers II and III); and set-back distance between horse keeping and housing (further developed and discussed in Paper IV).

Aims of the thesis

The overall aim of this work was to contribute to increased understanding of the new and diverse equine sector as a factor for peri-urban landscape development, with stakeholders' as well as public perspectives.

Specific objectives were:

- To map out the influence of the equine sector on the development of multifunctional land use in peri-urban areas (Paper I).
- To analyse stakeholder experiences and attitudes towards horse keeping as a land use (Papers II-IV).
- To outline specific features of horse keeping in peri-urban areas as a new and expanding area of research and to determine the significance of the issue within the broader context of land use and spatial planning (Papers I-IV).

Materials and Methods

The thesis is based on three investigations (1, 2 and 3 in Figure 1). The first investigation, which examined how the equine sector influences multifunctional land use in peri-urban areas, identified the themes for the following two investigations.

Four themes were identified through investigation 1:

- The use of the horse on privately owned land according to the Right of Public Access.
- Set-back distances between horse keeping and housing.
- Accessibility for riding connected to safety issues.
- The equine imprint on the landscape.

All themes were studied in a questionnaire but only the questions about the right of public access and set-back distances are further investigated in present work (see Papers II, III and IV). The latter two themes were analysed but not developed further.

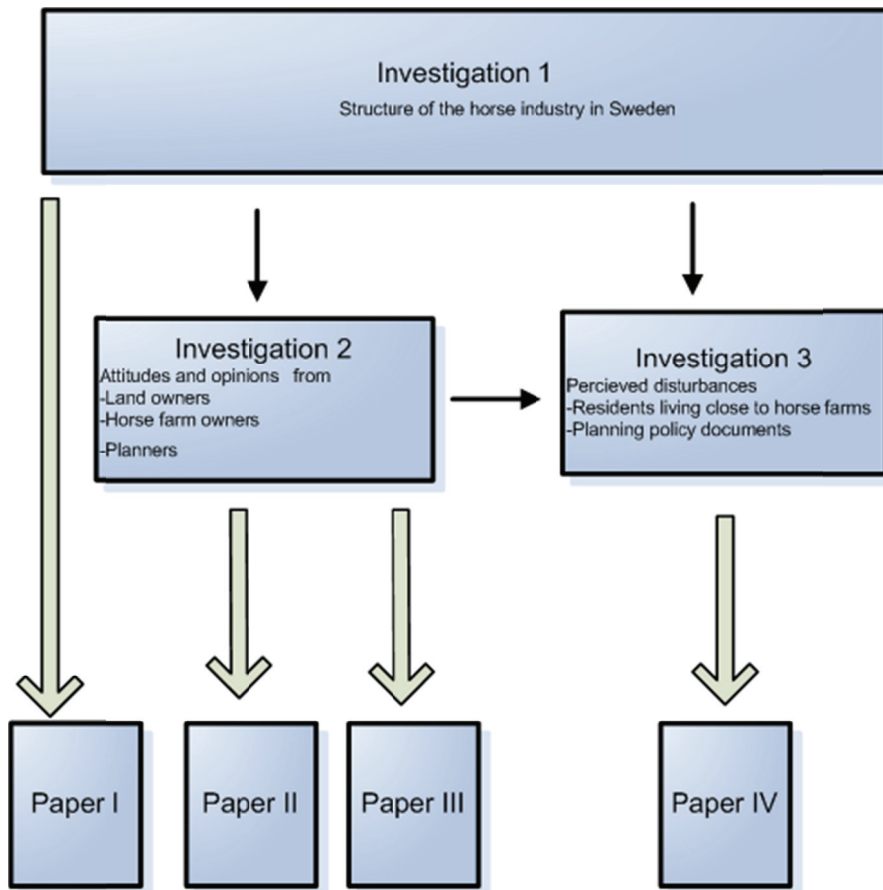


Figure 1. The layout of the investigations 1, 2 and 3, in relation to Papers I-IV.

Investigation 1

The main objective of investigation 1 was to examine the influence of the equine sector on the development of multifunctional land use in peri-urban areas, using specific examples gathered from Sweden. Other objectives were to outline some of the specific features of the associated new and expanding area of research and to determine the position of the issue within the broader context of land use and planning. This investigation framed the following two and was structured in two levels based on regional and local material, respectively.

The material created was based on five sources of evidence (Yin, 2009, p. 102):

- Archive records from authorities providing statistics about the equine sector.
- Documentation (in the shape of municipal documents and news clippings).
- Interviews with stakeholders (both at local and regional level).
- Direct observations (on the interview occasion with stakeholders involving photo documentation).
- Participant observation at meetings (both at regional and local level).

The bullets below indicate the level at which each method was used, for a deeper description of this investigation see Paper I.

Regional level - inventory survey

- Mapping of the physical structure at the regional scale in Sweden using available statistical material. This was combined with a survey on the number of horses in 18 different municipalities within the regions represented by the regional networks and the area of Stockholm.
- Participatory research where the author (Elgåker) actively participated in meetings with the regional network of Skåne (region in southern Sweden).
- Open-ended and semi-structured interviews with representatives for regional equine networks.

Local level - case study

- Mapping of the physical structure of horse facilities and number of horses together with strategic photo documentation in the case study area.
- Semi-structured interviews with equestrian stakeholders in the case study area.

Media survey

- Analysis of Swedish newspaper articles specifically about the perceived interface between horse keeping and society; conflicts as well as benefits reported.

Investigation 2

Investigation 2 explored and analysed differences between stakeholder perceptions on the four themes identified in investigation 1. This section provides a short description of how the entire investigation was performed; the part focusing on the Right of Public Access can be studied further in Papers II and III.

A questionnaire was sent to 632 respondents in three different Swedish regions: Skåne (South), Västra Götaland (West) and Gävleborg (North-East) (Figures 2 and 3). The regions were selected in order to gain information from different types of landscapes and different parts of Sweden. Within each region, three municipalities were selected. They represented areas with a dense horse population and had an available and sufficiently updated register of horse farm owners.

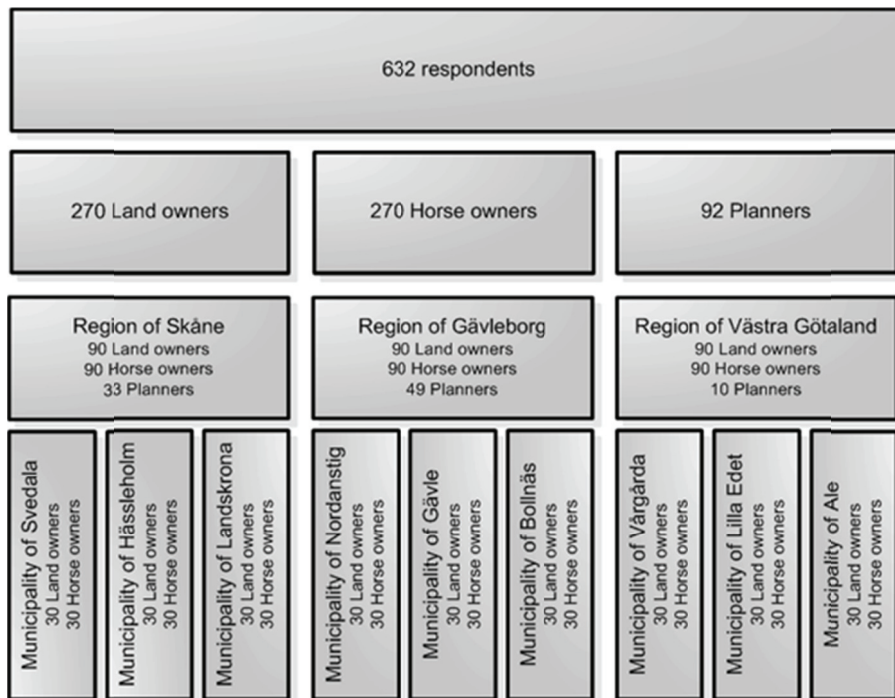


Figure 2. Set-up for questionnaire in investigation 2.



Figure 3. Selected regions in Sweden for investigations 1, 2, and 3.

The questionnaire consisted of two parts; one with common questions for all categories to answer and one specific part for each category. The first part was used for giving a comparative variable to measure if the attitudes differed between the categories, while the parts specific for each category of respondents gave further information about the specific objectives. The material obtained was used together with written comments from the respondents (Figure 4).

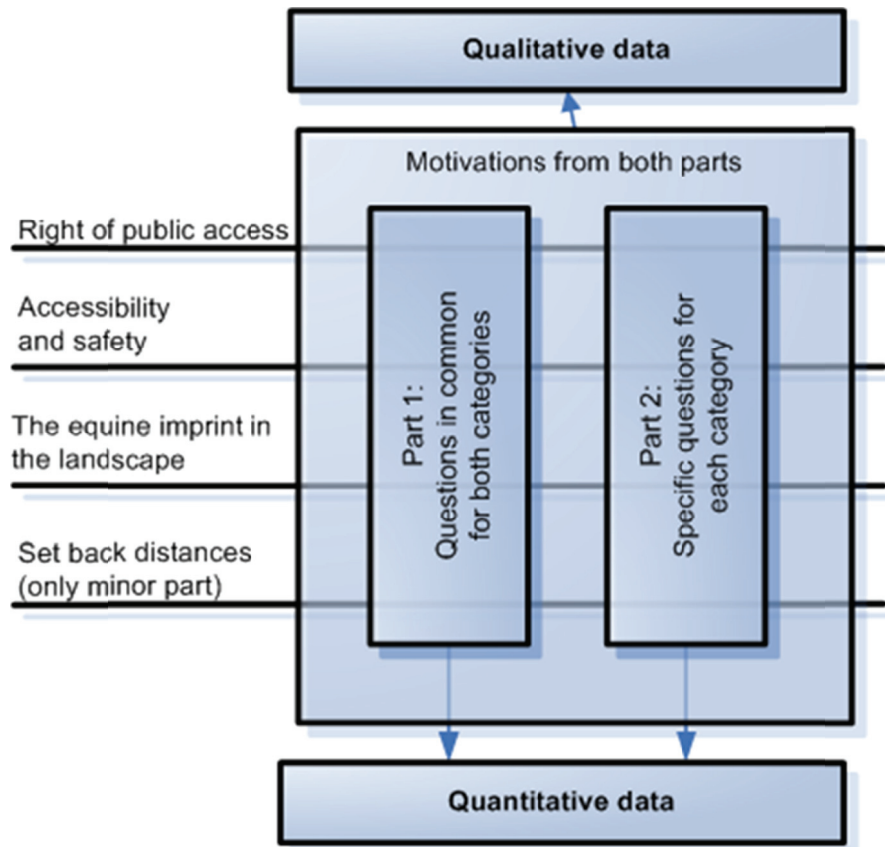


Figure 4. Schematic diagram showing data collected through questionnaire in investigation 2.

There were nine questions referring to the right of public access, 11 questions referring to accessibility and safety and 10 questions referring to the factor called the equine imprint in the landscape, forming three new variables. These variables were tested by Cronbach's alpha to evaluate the reliability of a multi-item scale of the internal consistency (Cronbach, 1951). The questionnaire also provided basic information on respondent age and sex according to their different categories (Table 2).

Table 2. Response rate, age and gender distribution among stake holders in questionnaire 1.

Response rate	Planners	Landowners	Horseowners
Sent out	92	270	270
Possible responses	91	268	257
Returned	75	173	166
Response rate (%)	82	65	65
Males/Females/Missing information	39/29/7	103/39/31	61/92/13
Age on remaining respondents (Mean)	50.0	55.6	46.8

Anova and T-test tests were used to determine whether the new variable showed any difference between the categories. Due to the large amount of information obtained, the part that focused on the Right of Public Access was selected for a deeper analysis (Papers II and III). A T-test on the new variable was also conducted on landowners who reported some kind of connection with horses or horse people (either when they were younger, as a hobby, or as income source) and landowners who did not report any such connection. A minor part consisting of four questions about perceived disturbances from horse keeping was developed further when addressing the set-back distances (see Paper IV).

The use of the horse on privately owned land

Specific objectives of this part of investigation 2 were to provide a deeper understanding of the potential conflicts arising due to an expanding equine sector and assess how they can affect the Swedish Right of Public Access and land use planning.

The set of questions in the first part of the questionnaire formulating the variable describing the Right of Public Access was analysed together with the separate questions in the second part that were specific for each category. The material was divided into two groups; one focusing on the planner's perspective on the Right of Public Access, the other on the

perspective of the landowner and the horse farm owner. For a deeper description of how the research was set up see Paper II and III.

In this material both qualitative and quantitative data were used through statistical analyses of the material and the respondents' written motivations for their opinions were also studied. In this investigation the method consisted of:

- Statistical comparison between landowners and horse farm owners according to their experience of the use of the horse and the Right of Public Access, as well as the range of opinions of planners in this matter.
- Written motivations from the respondents (landowners, horse farm owners and planners).

Investigation 3

Set-back distance and perceived disturbances

The first objective of investigation 3 was to explore perceived disturbances from equine activities in urban areas. The second objective was to compare policies in municipal planning policy documents and the attitudes of municipal planners concerning disturbances from horse keeping in the shape of allergens or sanitary problems. The third objective was to put the development of the equine sector into a discourse of land use and planning.

Information about the nature of the problem was gathered by examining whether the residents experienced any disturbances (without specifically asking about disturbances from horses or about allergies to horses) and by asking the planners how they experienced the problems associated with planning for equine activities, as well as examining how this was expressed in various planning policy documents.

For a deeper description of this investigation see Paper IV. In this investigation the method consisted of:

- Statistical analysis of differences between the areas concerning disturbances and allergies.
- Oral questions posed to all respondents about the best quality in their livelihood.
- Analysis of planning policy documents managing set-back distances in a number of municipalities.

Selections of case study areas, categories and respondents

The horse riders included in the investigation were people (mostly females) who have their own horse farm, but may not be representative of riders overall. Selection of the horse riders may also have overlooked an invisible factor, namely that equestrian businesses are populated by people who are not connected to the place at all, apart from keeping their horse or going riding there (*e.g.* a riding school or livery stable). This group is hard to access in this kind of survey, since they are not available in any official register, but may have an impact on the overall land use. If anything, this group could be assumed to be less responsible and considerate regarding trespassing on land in the neighbourhood, since they do not have any neighbourly relations with the landowners.

The two case study areas with horses chosen for investigation 3 (Paper IV) had the situation of the horses being present first. It is possible that the disturbances reported would have been of a different pattern if areas had been chosen where the horse keeping had been added or expanded later in the process after the settlements were developed.

The category of planners chosen for this investigation could be replaced by *e.g.* politicians but the benefit of using the planners as a category is that they have probably been confronted with the equine planning issue at practical and policy level and have experienced the issue from both perspectives.

Methodological considerations

From the perspective of the author's prior knowledge

How a person develops knowledge may be described as an evolution through the levels of 1) novice, 2) advanced beginner, 3) competent performer, 4) proficient performer and 5) expert. At the lower levels of knowledge the student is aware of his or her actions. As the student progresses in levels of knowledge, he/she becomes more at one with the phenomenon under study (Flyvbjerg, 2001, p. 10). Experts asked to explain and rationalise their actions formulate rules that are often not congruent with what is really happening, because experts simply do not use rules, but recognise cases directly, holistically and intuitively based on their collective experience and practice (Flyvbjerg, 2001, p. 20).

As the author is a person who knows horses, riding and the attached culture at an expert level (although not as an expert rider), the task of investigating the phenomenon of equestrian landscape development also had

to be a task of questioning one's own prejudices and presumptions. Added to this is the task of incorporating understanding of the issue as a landscape architect into the research and finding its limitations and possibilities. One category of respondents in the research were municipal planners, who may have a similar background to landscape architects but also other backgrounds such as environmental inspectors, physical planners, engineers and the like. However this part of the thesis deals with the author's own starting point and background information on the issue and not what was known to the informants.

Instead of trying to perform this research independently of one's own preconceptions, these preconceptions were used, tested and developed during the course of the research by both qualitative and quantitative methods. Awareness of the potential benefits and problems connected to prior knowledge of the topic proved crucial for selecting methods and allowed a hermeneutic/phenomenographic approach to the topic, where the understanding of the author was permitted to enter into the process of elaborating on how parts of the equine sector are perceived by the stakeholders involved, with the focus on land use. This was combined with surveys of larger populations in order to determine whether the perceptions were common to many or just expressed by a few and elaborated on in, for example, the media debate.

Within science there are different ways of posing questions about how reality is disposed; research questions can either revolve around what reality looks like and why, or on how people experience and think around this reality (Alexandersson, 1994, p. 111). What needs to be clarified within each research project is the kind of knowledge produced and the interests this knowledge serves. This is basically a normative positioning connected to ontological and epistemological considerations (Johnson and Onwuegbuzie, 2004; Åsberg, 2001).

Larsson (1994) approaches the problem of quality and validity in qualitative studies. The pragmatic criteria (Larsson, 1994, p. 185) consider the value of research to practice and to the world outside the research community. One aspect of this is how the results are communicated to practitioners and what they mean in practice, the 'so what' value.

The methods used for the present investigations were imbedded in a hermeneutic approach with the aim of gathering the respondents' thoughts about what was happening and their experiences, but also taking into consideration the prior understanding of the researcher (Patton, 2002, p. 113-115) in forming the focus and starting points of the research questions. Connecting this to the physical landscape through mapping and

photography involved elaborating on the relationship between understanding and that which is understood.

Connecting theory and practice

Paget (2008) describes the role of the landscape architect as: 'Practicing common sense combined with a general theoretical knowledge. In other words; the ability to evaluate the common practice and guiding principles of landscape architecture in each individual case and the ability to consider and determine what a good solution is in each individual case and in the end communicate this with the stakeholders'. The role of landscape architects is to consider negotiations and valuations (be it social, environmental or political) and from the deliberations create a physical solution to a problem or foresee a development. The current work not only dealt with describing the problem but also sought ways forward.

The core of the expected role of a landscape architect is not only to formulate the question and find some answers, but also to find practical guidelines and solutions. One of the deliberations in this work was how much of the (practical) solutions should be included in the material or whether it was enough just to describe the issue. The answer to the latter question would be no, following the pragmatic criteria posed by Larsson (1994, p. 185), as the wider implications of the results could be validated by the potential practical use of them.

Being a practising landscape architect is to create a broad overview of the issue at hand and to make deliberate and informed decisions and negotiations about physical land use. The overview is complemented with some deeper understanding but what is determined to be important is essentially the choice of the planner. In doing this, a broad perspective has to be taken, but the perspective can never cover the entire reality, as put by Hillier (2007, p. 142):

'Plans can never completely embrace everything. There is always an outside constituted by modes of thought other than those of the author/speaker'.

Still, the planner seems to have a function to fill in society and in polemics, with Wildavsky (1973) claiming that the idea of planning as an instrument for development and progress must always fail due to its inclusion of everything, Lucy (1994) claims that planning has an important role to fill since urban and regional planning has a central principle that healthy places nurture healthy people and that public policies need to address both to function well. A second theme described by Lucy (1994) is that planners should expand rather than limiting their roles and subjects and a third is that

‘to achieve intimate connections through healthy places, planning needs to address physical design and environmental sustainability’.

From a practical point of view it is easier said than done to nurture healthy places and healthy people because of the practical fact that health (also in its widest sense) is a vague and ambiguous concept. Planning as a profession already has the benefit and the curse of being generalist rather than specialist. The secret may be to specialise in being generalist and then fill the gaps that appear between disciplines and lines of thoughts, as well as using them in new ways.

From the perspective of equestrian landscape development

In order to put the topic of equestrian development into a research framework and a landscape context, the ideas developed here had to be framed from various viewpoints derived from material contextualised by geography, sociology, economics, ecology and planning theory. Fotheringham (1997) draws attention to the importance of local constituents and away from attempts to find general laws that can be applied in all places in all times. This is a notion that seems to be relevant from the perspective of the equestrian issue, as it can be concluded that the development of the equine sector is a phenomenon present in many developed countries, but it develops in different ways due to local regulations and traditions, land uses, climates, demographics, etc. This means that perceived benefits and problems may be interpreted differently due to the local context from which they originate.

This work became interdisciplinary *e.g.* by using and elaborating on practical measures of how equine allergens are dispersed, put into a planning discourse (Paper IV), as well as using or elaborating on how the planning system interferes with a legalised custom (the Right of Public Access) with respect to the expanding equine sector (Papers II and III).

This interdisciplinarity arose from the assumption that knowledge about conditions for horse keeping, rural development and land use planning (which has its foundations in land and water resource management) has to be considered in a context where the equine sector in the future is a driving force for rural lifestyles, for the exchange between the city and the rural and as a factor developing both the economy and public health. However, this assumption is problematic from a scientific point of view; there is no scientific foundation with clear-cut theories to lean on or to reject, no clear-cut methods and fields of application for the practices to be used to their full extent where the empirics are fully understandable and the methods are fully

relevant. What remains is to use several perspectives, making some findings and perspectives easier to distinguish and others fuzzier as they are covered by several layers of interpretation.

Connecting epistemology to methodology

Mixed method research has advanced and become more articulated as attached to research practice and is described as the third major research approaches (Johnson *et al.*, 2007).

Connecting back to the pragmatic criteria (Larsson, 1994, p. 185), Johnson and Onwuegbuzie (2004) claim that pragmatism takes an explicitly value-orientated approach to research as it offers a practical and outcome-orientated method of inquiry and an immediate and useful middle position philosophically and methodologically. This approach suited the present work well, since the topic of the societal perspective of equine development has few references and hence also few descriptions of the character of the issue. For this reason, the methods chosen for the investigations contained more than one data sampling strategy. They combined qualitative and quantitative data, gathering statistical facts in various ways and obtaining descriptions of how the issue is experienced by the stakeholders involved, as described by Alexandersson (1994).

The mixed method approach was also chosen in order to validate and evaluate the findings from the perspective of the researcher's own understanding and from the perspective of creating results that are applicable in practice. As an investigator the researcher is engaged in a process of interpreting data, whether these data be qualitative or quantitative, and also engages in a subjective phenomenological/hermeneutic process, so the nature of the inquiry can merge the two traditions (Dzurec and Abraham, 1993).

One criticism of using mixed methods is the risk of not genuinely mixing the methods, but instead performing two parallel studies (Yin, 2006). To avoid this, Yin (2009) suggests five procedures with regard to how a study should be performed:

1. Research questions should address both process (qualitative) and outcome (quantitative) questions.
2. Awareness is needed of how the unit of analysis is performing in the particular study (integrated within the project or isolated in different levels).
3. Samples of each method should be nested within that of the other.
4. Instrumentation and data collection should have both a common ground and non-overlapping items.
5. Analytical strategies should be designed and carried out as so-called counterparts, enforcing and explaining (or questioning) each other.

The goal when gathering quantitative data is to generate measures that are reliable, generalizable and unbiased. In gathering qualitative data the goal is to generate knowledge that 'elicits an insider's view' from the study group (Steckler *et al.*, 1992). As research is shaped and valued by the culture from which it emanates, the risk may be that some paradigms hold more value than others (Giddings, 2006). According to Giddings (2006), mixed methods offer the best of both worlds but her criticism lies in how mixed method researchers actually use qualitative methods and also in how qualitative methods that go beyond description can be used in this paradigm. She points to the importance of not marginalising qualitative methodological designs that have their focal points in meaning, symbolism and the power of words, and putting forward the understanding of the unique, the contradictory and the contestable; 'that need words, not numbers to hold their place among the many'.

Results

Summary of the most significant findings

The general structure at both regional and municipal level indicates large variations in the number of horses per unit area and in the number per thousand inhabitants. Even municipalities and regions that are close to each other display quite large variations. The results at local level from the case study of the municipality of Lund showed that there were 3600 horses in Lund and that these horses were dispersed evenly across the municipality. Approximately 450 horse farms were identified, most of which had fewer than 10 horses. If only fodder produced within the municipal borders were consumed, these horses would use 15% of the total land area for their sustenance (Paper I).

The reporting in media describes both benefits and conflicts. The benefits mostly concern new market opportunities for farmers, new rural entrepreneurs and horses as tools for landscape preservation, management and protection. The conflicts mainly concern various conflicting interests regarding land use, such as various opinions regarding horse riding and the Right of Public Access and accessibility and the safety of riders in traffic situations. Environmental issues are also raised, such as set-back distances between residential areas and horse farms or handling of horse manure (Paper I).

The investigations on stakeholder attitudes revealed that there are significant differences between landowners and horse farm owners in their perceptions of the legal framework creating the Right of Public Access and its practical field of application (Paper III). The planners are aware of the conflicts created between landowners and horse owners with respect to riding on privately owned land (Paper II). From the perspective of set-back distances, the horses were not a major source of allergy problems or

disturbances, given the condition that the horse farm was present before the residential areas were built (Paper IV). The horses were perceived as an additional quality in the residential areas investigated (Paper IV). The planning policy documents referring to horse keeping and set-back distances differed between municipalities regarding how the set-back distances should be managed and interpreted (Paper IV).

Municipal activities concerning equestrian issues seemed to be dissociated and could be detected among leisure and sports, environment, health and safety, land use and infrastructure (Paper I). This finding was also reflected in the results from the interviews with the operators at regional level, which revealed some key features in development of the equine sector and its incorporation with other parts of rural development. There was expressed a need for strong and independent leadership, within a governing culture, encouraging bottom-up initiatives. Also, there is a need for a learning organisation with the capacity to maintain a dialogue within the equine sector and to bring issues further into society. Planning tools are requested, but in a way that appreciates equine activities to take place.

Discussion

The general picture of equine development indicates diversity in performance, due to local circumstances. The two land use issues specific to the Swedish context that were scrutinised in this work are connected to 1) the Swedish “right to public access” and 2) the “set-back distance” as a planning tool for controlling environmental hazards. These issues are both related to the task of ‘protecting public interests with respect for the freedom of the individual, with good social living conditions as well as good and sustainable long-term development of the living conditions for the people of today and for forthcoming generations’ (author’s translation), the major aim of the Planning and Building Law chapter 1, §1 (SFS 2010:900). A challenging question, emerging with the studies, is how to establish a viewpoint, from which it may be possible to facilitate the equine development while preventing negative impact on other private or public land use.

The use of the horse on privately owned land

The Right of Public Access as a customary law is regulated by the law of criminal procedure, *i.e.* in that what is not prohibited can be assumed to be allowed. The possibility to walk, cycle and ride freely as long as one does not disturb the landowner is often pointed out as a special national asset and the accessibility to forests, lakes and coasts is highly appreciated, not only by Swedes but also by many thousands of tourists every year. In each case a silent agreement between the landowner and the visitor is taken for granted. As long as there is a surplus of land compared with the number of visitors, the risk of disturbance or damage is low. However, as the results of the present investigation show, landowners and visitors can have different opinions on how far-reaching the Right of Public Access should actually be.

These results indicate a risk that the emerging equine sector is changing a balance between landowners and visitors that were previously taken for granted. What in the past might have been two easily identified parts, without differing interests, are now much more difficult to categorise. This raises the question, on the very local level, of who is responsible for maintenance of the land?

Riders are obliged according to law to be considerate both to the natural environment and to other persons accessing outdoor life (Bengtsson, 2004). The law entitles the landowner to compensation for damage arising from the use of horses. This applies in particular to riding arranged in groups as a commercial activity (Bengtsson, 2004). The presumptive organiser (*e.g.* stable owner or horse leaser) is liable for any damage that occurs due to his or her activity; it is possible to get compensation for damage and inconvenience caused by the use of the Right of Public Access for commercial purposes (Åslund, 2008). A problem that is not solved by the legislation surrounding what applies in the Right of Public Access emerges when *many users together* create wear and tear. This kind of problem is known within economics and environmental science as ‘the tyranny of small decisions’ (Kahn, 1966) and ‘the tyranny of small steps’ (Odum, 1982). When no-one is an organiser and everyone is a private person exercising their right to use other people’s land according to the Right of Public Access, then no-one can be held responsible for the damage that may occur since it is impossible to: 1) define how much damage should be tolerated and 2) identify who actually did this damage.

This problem would be difficult to solve through more legislation or by better information, as it ultimately comes down to measures impossible to follow through in real-life situations. As the problem is not the Right of Public Access itself, but the application of the rules that stipulate this right, it seems necessary to prevent conflicts, possibly in new ways. If the legal rules controlling what stipulates the Right of Public Access are not enough to provide land for riding, this issue needs to be solved in other ways. This issue is not dealt with in detail here, but informants asked for *e.g.* better cooperation between the stakeholders and the support of a well-functioning planning system.

Horseback riding as representing a separate interest may be easy to interpret as an issue for the equine sector to solve internally, since the problems are individual (see Paper III and IV). At a larger scale these problems grow more important as every conflict and new system for solving the conflict may, for example, risk altering the Right of Public Access, changing the meaning as well the acceptance of it. Alongside planning,

some municipalities have decided on 'local guidelines', *e.g.* for riding, which restrict the validity of the Right of Public Access. The question then arises of how development of the equine sector should be managed, since the horses (and the conflicts) already exist. The problem does not disappear by introducing restrictions and special rules for riding, as the need for accessibility still remains and grows larger. Hallgren (2003) describes a land use conflict as an interaction between stakeholders sharing the same space while having diverse land use goals. Conflicts occur when stakeholder trust in the interaction decreases. This has less to do with the cultural characteristics of the persons involved (being *e.g.* 'rural' or 'urban', horse people or landowners) than with the new situation in the absence of governing traditions, rules or facilitating authorities. This development may or may not be beneficial for the areas affected, but will probably demand more effective planning tools, as well as political awareness and readiness.

Set-back distance and perceived disturbances

The second specific issue investigated in this work was the set-back distance between residential areas and horse keeping. This investigation searched for conflicts and found none, yet a number of municipalities have various guidelines on how to manage disturbances between horse keeping and residential areas by means of set-back distances. The case of a riding school can serve as an example to show that set-back distance does not 'respect the individual's freedom' or 'protect public interests', *i.e.* this planning tool seems to work against the stated aim of the planning and building law!

A riding school as an item of urban real estate can be moved out of town on the basis of planning legislation, *i.e.* it transforms to a 'rural' issue, with seemingly more freedom for owners to use both their own land and surrounding areas. But moving horses out from the city decreases the accessibility to these horses for the users, *e.g.* children, attending the riding school. They will either need to go by car or use a bus connection. Especially for children the car option creates an unequal situation where the horses are only accessible to children with car-owning parents with the time and commitment. This solution also decreases the children's possibility to perform leisure activities independent from their parents and a reduced life quality for the children (Freeman and Quigg, 2009). Furthermore, this solution is not satisfactory from an environmental point of view, since it actually leads to increased car traffic. The bus option may create more allergy problems than the horses kept in the city, due to people sitting in an

enclosed environment wearing riding clothes. This can result in the bus being contaminated and may cause problems even after the person with riding clothes have left it (Association of Local Authorities, 2007). Thus urban children with horses as their main interest will keep the riding school an urban issue.

This example shows the mismatch arising from having separate land use regulations for urban and rural situations, and also represents an evident example of what Rittel and Webber (2008) call 'wicked problems', where the search for a scientific basis for handling problems of social policy is bound to fail due to the nature of these problems. A wicked problem can 'always be considered as a symptom of another problem' and the 'existence of a discrepancy representing a wicked problem can be explained in numerous ways, as the choice of explanation determines the nature of the resolution of the problem' (Rittel and Webber, 2008). By moving horses out to the countryside or not allowing them near where people live, the new problem of accessibility arises. This is an urgent question for the planning system in the era of pollution and widespread attempts to reduce the use of fossil fuels for (unnecessary) transportation (Banister, 1997). The story of the riding school is anecdotal, but serves its purpose to clarify that the emerging equine sector is not 'rural' or 'urban' but both.

The results in a wider perspective

A perpetual ambiguity to manage in this work has been on the one hand the need for small case studies, where all significant factors can be revealed and on the other hand the insight that the target for these studies is the (peri-urban) countryside development in a large scale. In addition, the overall issue of rural development connected to the concept of sustainable development must be outlined in relation to multifunctionality, which has recently acquired an even more multi-layered character. Therefore, the discussion below brings in some contextual facts and circumstances relevant for this 'big picture', but not considered in the separate papers.

Some of these facts and circumstances are specific for Swedish land use regulations and procedures and some can be more generally applied. The results from the present investigation show that the equine sector has both visible and invisible effects on land use. Together, they contribute to an increasingly clear picture of countryside in change, a countryside that we do not yet understand to its full extent. The worldwide transformation from an industrial to a post-industrial society, together with the unknown

consequences of climate change, will most likely open up new possibilities for spatial organisation. This requires a holistic approach to rural change, where economics are connected to broader aspects of rural restructuring (*e.g.* social processes and development of agriculture at large) (Cloke and Goodwin, 1994).

Sustainable development as defined by Brundtland (1987) is, as the expression itself suggests, not to be seen as a goal, but as a process. In order to develop sustainable cultural landscapes through ecologically sound management and decentralisation of rules and legislations, according to Vos and Meekes (1999) there is a need to consider society's demand for multifunctionality; the inclination of farmers to meet this demand if it is economically profitable; and support from authorities (both at local and national level, as well as from the public). The social and geographical gap between producers of land products (mostly farmers) and consumers needs to be smaller, but how to implement and practically use our knowledge of the multifunctional character of landscapes in the contexts of planning, legislation and financial subsidisation is one of the most important factors for further research about multifunctionality (Vejre *et al.*, 2007). The study (and management) of complex and adaptive systems must itself be evolutionary and dynamic (Newman, 2006), acquiring the potential for quickly adapting to and understanding change.

As the equine sector has such a vast impact on land use, by consuming what the land produces, by adding and changing both how and for what purpose the land is used and landscape appearance, this sector provides an interesting case for implementing the European Landscape Convention. The equine landscapes are to great extent everyday landscapes for everyday use and are thereby a factor that must be taken into consideration as an aspect of sustainable development. The ELC also stresses the importance of local involvement and bottom-up activity.

Land use by the equine sector may be one factor that actually creates new landscapes but also protects and manages landscapes and improves them, in tune with the ELC. This might be the beginning of organised collaborative action on a landscape basis, alongside existing sectoral and administrative organisations.

The importance of this approach is especially evident in the case of how to manage accessibility for riding to solve ongoing and sometimes severe conflicts between new land use (here in the shape of riding) and traditional land use (in the shape of production). This is not simply a question of what applies according to law but equally a question of new agreements and new production of services in rural areas.

There is also a search for new and improved functional coherence in the fragmented peri-urban landscapes. In these areas the dichotomy between urban and rural seems blurred, but the cultural dichotomy between urban and rural is still strong on the political agenda (Gulinck, 2004). Landscapes should not only be valued according to what Gulinck (2004) refers to as 'back references' on what has been (*e.g.* pristine nature and traditional agricultural landscape), but also to more neutral multifunctional assessments of today. What may be at risk when society does not fully comprehend what the landscape contains is shown by *e.g.* the fundamental lack of data on the equine sector and its contribution and influence on the landscape, as described by Bomans *et al.* (2010). The equine sector has become a by-result in research, having grown large enough to appear without being sought.

Available statistical material and census questions are designed to view land use not from a landscape perspective but from a production perspective. The ongoing landscape changes, of which the development of the equine sector is one, are difficult to grasp other than on a local scale and they perform differently in different landscapes, making them even harder to fit into a statistical census. The categorisation used today in various forms, *e.g.* the annual agricultural census, land use monitoring, land use planning programmes and other statistical systems, fails to acknowledge how open space is used and additional data are greatly needed for a more integrated vision on how land is used today (Bomans *et al.*, 2010).

Social implications

The countryside is a valued common resource in the many countries with social norms that prescribe its use (Hall and Pretty, 2008). Horse farms occupy a unique space in the rural landscape, as there is so much interaction between 'rural' and 'urban'. Cloke and Goodwin (1992) argue for a holistic approach to rural change, where economics are connected to broader aspects of rural restructuring (*e.g.* social processes and development of agriculture at large).

New social groupings experience the countryside differently, which may cause tensions, and their relation to lifestyle issues is a valuable case for creating understanding of development in rural and peri-urban areas (Clark, 1994; Långstedt, 2008).

The results from investigation 1 support the findings by Tillberg-Mattsson (2004) that the interest in horses as a hobby is the reason for the majority of working people moving out to the countryside, but this is also the starting point for some small-scale businesses.

These businesses are often started by women since they provide the possibility to combine children, lifestyle and an income while working from home. Important driving forces for this are reported to be quality of life and the possibility to live close to animals. Even though equine facilities, such as the smaller 'hobby' farm, would not have any 'farm income' to report, their importance for the development of the equine industry could well be underestimated.

The hobby farms create a customer potential for the larger equine and equine-related enterprises. They may also contribute to stabilisation of the economy in rural areas, providing a consumer base to rely on and a diversified economic structure. From a municipal management perspective, there may be advantages in encouraging small equine facilities as these 'hobby farmers' will pay their taxes, enrol their children in the local school and buy products locally (Elgåker and Wilton, 2007).

There may be conflicts between the newcomers and long-term residents due to their different goals (*e.g.* lifestyle orientation or production orientation), but also among different categories of newcomers. Newcomers may have social activities and physical access to a green environment as their motives for settling in peri-urban environments (Busck *et al.*, 2008a) and it may be fruitful to categorise them according to what the landscape means to them (Mormont, 1990). Thus, instead of dividing activities into urban and rural, it seems relevant to focus on permissible activities and criteria by which legitimate users can be defined (Långstedt, 2008). A cautious approach should be taken to the idea of parallel cultures presented by Cloke and Goodwin (1992). Their suggested newcomer-local dualism is contradicted by a current trend towards greater heterogeneity (Busck *et al.*, 2008a; Cloke, 1996). It has been reported that socio-cultural differences are smaller and less important than suggested by *e.g.* the media and that conflicts between stakeholders should not be extrapolated to all members of community groups, *e.g.* horse farmers and traditional farmers (Smith and Krannish, 2000).

Spatial implications

There is considerable heterogeneity within the horse industry, ranging from 'hobby' farmers who may keep a small number of horses for personal enjoyment through small-scale entrepreneurs to professionals who may be involved in a large range of sport, breeding and racing industries. Horse keeping uses land for a large number of various activities; some directly and visibly connected to horse keeping in the landscape, others invisible and affecting the landscape in a more indirect way. The horse keeping has both

a visible and an invisible impact, filling in the gaps in this landscape, enabled partly by rural rationalisation and restructuring and partly by the new and efficiently unexplored incentive to keep horses for leisure.

Although horse keeping is just one of many possible examples of new rural land use, it is hard to think of any other kind of land use with such a profound impact on the landscape. A golf course, for example, totally restructures the landscape, but just within a defined locality. Horse keeping, on the other hand, accomplishes change in different ways, in different places and with different distances from the source through for example horse farms, riding grounds, horse pastures, indoor riding arenas, bridle-ways, land used for production of hay and silage, land used for production of straw, shavings or other materials for bedding, land used for production of oats and other grains for feed. Added to this various surrounding activities such as veterinary clinics and producers and vendors of tack, horse trailers *etc.*

This is what makes the thinking model ‘the tyranny of small steps’ valid not only in a specific conflict situation (see Paper I), but also in the larger scale, on the impact of horse keeping on the peri-urban landscape, perhaps reformulated as ‘the tyranny of small locations’ or ‘the tyranny of small enterprises’. This does not necessarily mean that *e.g.* the visual impact is very strong or remarkable. Land use following horse keeping could be very similar to other rural activities and is not a distinct anomaly like the golf course. To some extent it is ‘invisible’, for example forming and formed by actors, dwellers and visitors and the changes are mostly noted by those experiencing the landscape every day and not by land surveys or the agricultural census (Bomans *et al.*, 2010). Still the changes occur in several scales and in small steps. Each individual change, when causing a conflict, is easily interpreted as a specific problem, maybe even a personal problem or a lifestyle problem. It is not until many conflicts of the same kind have become cases in the courts that it also becomes possible to think of them as a systematic and even cumulative problem. ‘The tyranny of small steps’ (Odum, 1982) not only refers to invisibility, but also to the way a spatial problem can increase; not linearly, but logarithmically. Since each of the establishments does not make much difference, the actual landscape change is not noticed until the amount of establishments and associated new land uses is so large that the potential benefits are not managed properly and the potential conflicts can by then have grown unnecessarily large, unnoticed and unresolved.

Spatial planning is area-based, *i.e.* restrictions or guidelines always have strict boundaries, whether or not these are relevant for the ongoing (sometimes conflicting) activities. This is important for understanding that linear arrangements, such as a bridleway, may need special management throughout the planning procedure. The number of projects arising by private, municipal and regional and national initiatives and working on how to gain access for riders and compensate landowners is growing large.

Today, the County Administrative Boards in Sweden provide different forms of support for rural development, many of them deriving from EU money. Some of the support is regulated by certain criteria (*e.g.* environmental), while other forms of support require a bottom-up organisation, *e.g.* local action groups forming LEADER (Liaisons Entre Actions de Developpement de L'Economie Rurale) projects. The funding for these projects also originates from various sources and the projects are often limited in time (for example LEADER projects or rural development projects funded by *e.g.* the Swedish Board of Agriculture). The underlying intention with underpinning initiatives, *e.g.* LEADER projects, directed towards rural areas, is to strengthen and enhance economic activity in these areas and/or to enhance and strengthen cooperation and belonging between individuals as well as communities. Thus, new kinds of local and regional activities are going on in the countryside, engaging new groups of people with different rights to the land they use.

In addition to the agenda of rural development, there is a demand for societal responsibility in the form of new planning tools in rural areas (as expressed by the operators for the regional networks, see Paper I). Since there are problems with implications on several levels – the estate, the neighbourhood, the municipality, the county and the landscape (in which the conditions for riding are also the conditions for land use conflicts) – the solutions will probably involve closer co-operation between municipal planning, regional development initiatives and local landowners and users. To achieve this, new planning tools are required at societal level and at farm level.

Policy implications

The equine industry exemplifies the diminishing relevance of the rural-urban dichotomy that is deeply ingrained in planning systems (Allen, 2003; Antrop, 2004; Qviström, 2007; Taylor, 1998). In the Green Paper on the Urban Environment (1990), the importance of the interrelations between the city and its hinterland is pointed out, as is the importance of a strategy based on an overview and integrated decision-making for the urban system

and the region as a whole. This requires an administrative structure that ensures such integration.

The legal task for municipal planning is to take responsibility for the land resources within a municipality and make considered decisions that take into account private versus public interests, and private versus other private interests. In planning practice, this responsibility is mostly taken for urban areas and for areas planned for urban development. Outside this area much more responsibility is left to landowners themselves, as long as they behave according to the Environmental Act (SFS 1998:808). However, increasing regionalisation in peri-urban areas concerning *e.g.* commuting and infrastructure is influencing the need for planning and regulations even in the countryside. In Skåne, the southern part of Sweden, nine out of 33 new (less than five years old) spatial plans contain clear strategies for rural development, within which *e.g.* goals for concentrated building projects or restrictions on areas of great importance for recreation or biodiversity are expressed in a municipal development perspective, but also taking into account the landscape perspectives on a more regional level. Together with strategies, some spatial plans also include more specific guidelines for building permits.

Land use planning, including the expanding needs of the equine sector, is complex and has to deal with different issues on different scales from conflicting private interests in the case of *e.g.* building permits, to weighing up private economic interests and common land use interests in a comprehensive plan and analysing production, conservation and experience concerns on a regional or national policy level. The tasks for a planning department might be very different when comparing *e.g.* the small change in land use due to an increasing amount of small family-based horse activities with the establishment of a large-scale establishment. Both types of equestrian activities have an impact on current land use, but their aims and conditions differ. This rather fractionated industry is also reflected in the societal bodies of management coping with this industry at both local municipal and regional level. This is exemplified by the actors in the network from Skåne (Paper I). They represent a variety of organisations and government bodies, all with their specific interest spheres but lacking the structural and political mandate to create appropriate planning policies and tools for the horse industry.

To date, planning in Swedish rural areas has been limited to specific area stipulations, mostly connected to new built-up areas (concerning the appearance and position of buildings) and environmental assessments (for example positioning of windmills). The current system for spatial planning

in Sweden lacks tools to facilitate multifunctional use of the landscape or, as Hillier (2007, p. 19) expresses it;

‘the utopian goals of the master plans are not questioned in either case, rather the lack of regard for the process by which such goals are to be achieved’.

In densely populated areas the concept of rural planning is emerging and municipal plans in these areas have started to also include the countryside in a more deliberate and nuanced way.

The County Administrative Board of Skåne has started a discussion on rural planning based on a landscape perspective, 1) acknowledging that even with a new economy and land use, rural activities will be connected to the properties of the landscape and 2) mediating between deliberating different land use interests and taking into account the economic subsidiaries (County Administrative Board, 2007). The multifunctional landscape may need a planning system, not so much to arrange built-up areas as to combine overlapping land uses and facilitate use of resources in functional and clever ways. Such land use-based planning demands inter-municipal cooperation and coordination, for example by the County Administrative Board.

This initiative might be an answer to what Nilsson (2006), in tune with Hillier (2007), describes as an error of judgement where ‘the strategic planning has been inhibited by an overabundance of goals combined with an acute lack of efficient means’. The task for the land use planning system in peri-urban areas may be to find ways of connecting interests in an integrated and qualitative way for various space-using functions (Albrechts, 2004). As exemplified by the set-back distances and horse keeping (Paper IV) this is not an easy task, as the available planning tools are more adapted to managing land use towards a specific measurement (be it odour from pigs or allergens spread by horses) and the weighing of potential harm for some against benefits for others. The set-back distances and the problems these policies create are not only impractical for planners, but also potentially risk violating the principle of legal security, as each municipality may choose how these recommendations should be used and the application differs more between municipalities than between situations.

There is also the potential risk that the policies are open to wide interpretations, not just by municipal planners but also by stakeholders interested in land use. This may provide a flexible and powerful tool for making informed decisions on how to negotiate between different interests, but it may equally easily be a tool that creates a system allowing legal

insecurity and that makes it difficult for stakeholders to understand and see through the system.

Horizontal and vertical cooperation between actors and authorities

The data from the field inventory suggest that there are large variations in the structure of horse keeping at regional level, but also at municipal and local level. From the trends derived from investigation 1 and from knowledge of these regions, the differences in *e.g.* number of horses per unit area may be explained by factors such as land price, available farm buildings and suitable land for horse keeping, as well as a short distance to markets, as explained by *e.g.* Bailey *et al.* (2000), but also local regulations and practices, as explained by Garkovich *et al.* (2009). Conditions such as existing horse establishments creating hotspots and a market for new enterprises and opportunities for hobby and leisure riders to access professional training and horse keeping may be other factors determining the structure of the development (Garkovich *et al.*; 2009; Elgåker and Wilton, 2007).

So far, research and theory on peri-urban landscape development, as well as on rural development and rural planning issues, frequently concerns fragments and sectoral perspectives, but seldom concerns 'the whole picture'. New ideas revolving around planning and regional development can be connected back to the concept of territorial cohesion. This involves how to achieve positive development and change in 'vertical' and 'horizontal' coordination and cooperation on different scales and levels, adapting to the need to 'promote cooperation, dialogue and partnership between different levels of government as well as between these and organisations and people on the ground directly involved in the development process' (Commission of the European Communities, 2008).

Land use planning, including the expanding needs of the equine sector, is complex, as mentioned above. Thus, instead of dividing activities into urban and rural, it seems relevant to focus on permissible activities and criteria by which legitimate users can be defined (Långstedt, 2008).

In Sweden, the final report from 2005 on how to develop the Planning and Building Act regarding physical planning emphasises the need for connecting municipal spatial planning documents to regional strategic development and highlights the importance of inter-municipal cooperation (SOU, 2005). These initiatives appear to represent an attempt to break loose from an urban planning tradition and urban land use ideas, working on strategies and goals without an analysis of how to achieve these goals.

In order to capture the essence of current development, there seems to be a need for both a top-down and bottom-up perspective (Figure 5). The

municipality plays a crucial role in this work due to its position as the smallest and effectively only unit with a possibility to execute spatial planning. Due to the local character of the changes in the equine sector, various land use and planning systems have to incorporate the sector differently at a national level but, equally importantly, at a regional, municipal and local level. Since there are problems with implications on several levels – the estate, the neighbourhood, the municipality, the county and the landscape (in which the conditions for riding are also the conditions for land use conflicts) – the solutions will probably be about closer co-operation between municipal planning, regional development initiatives and local interests, forming functional local units.

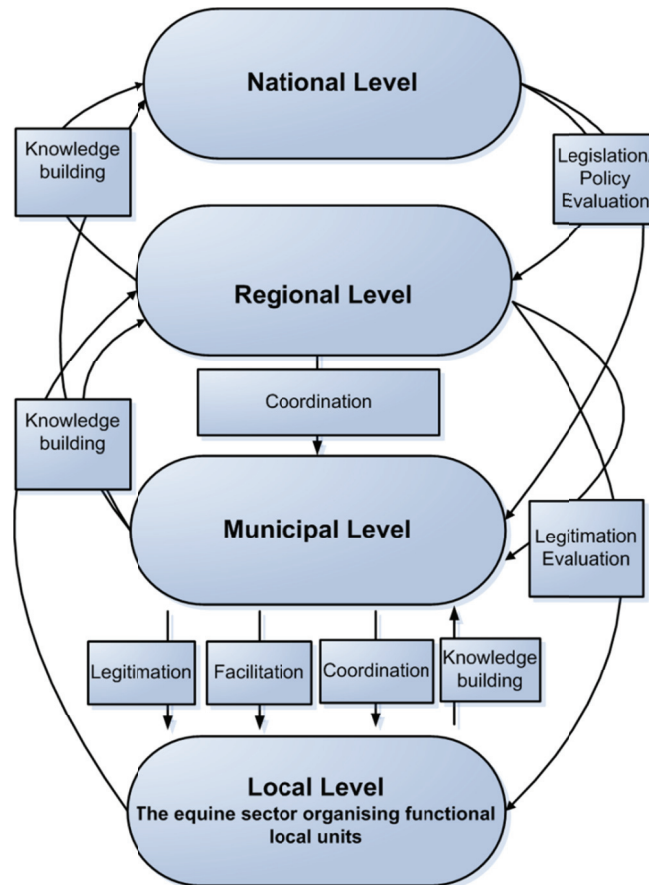


Figure 5. Schematic illustration of the top-down and bottom-up approach between different levels.

To achieve this cooperation, new planning tools are required at societal level and at farm level. In order to create these tools, a thorough analysis of

the current status of the multifunctional approach is needed, including good knowledge of the attitudes to this from the stakeholders involved. What is indirectly obvious in the results is the diversity in responses and thereby the significance of the mutual interdependence of actors, which is not easy to extrapolate to a larger population. This indicates that it is not only the estate boundaries or the administrative borders of the municipal plans that are important for coming negotiations, but also the very character and valued qualities of the landscape, whether in mutual agreements or as municipal or super-municipal recommendations.

One image of spatial planning is that it should provide the tools for coordinating different views and an arena for these views to meet, not so much for understanding as for reaching sufficient agreement to be capable of acting, where the role of the planner shifts between being an expert, coordinator and facilitator (Nilsson, 2001). This could also be incorporated into different societal levels where spatial planning needs to be performed, evaluated and developed.

Conclusions

The rapid growth of the equine sector in peri-urban areas is causing pervasive changes that have both visual and invisible features. It affects the landscape it occupies in various ways that differ due to the physical, economic and social conditions at different scales. This study contributes to the discussion on how to handle equine issues in society, not only in spatial planning on the municipal level, but also in terms of land use regulations and management on a regional level. The results reveal a need for compiling relevant statistics and mapping land use.

The visible and invisible aspects of horse keeping are closely related to a complementary land use to traditional agriculture, with the two sectors sometimes conflicting and sometimes reinforcing each other. This is in line with the discourse on the emerging 'consumer countryside' and 'multifunctional landscapes', with diminishing relevance of the urban/rural dichotomy rendering traditional planning strategies obsolete. Therefore, the emergence of new land uses and their relationship to ecological functions and to the concept of sustainable development need further investigation, as these are identified here as important features influencing development.

If the new countryside management is a combination of production, consumption and protection, the equine sector affects all three aspects, being part of different economies, different kinds of public service and different kinds of legal restriction. The complexity of the equine sector makes it hard to distinguish from other categories of activity, which may be one explanation why the land use of this sector seems difficult to handle within the planning system at different levels.

Regional land use monitoring with a landscape perspective appears to be a promising way to success, combined with accurate ways of co-ordinating initiatives from different levels of public administration. The Swedish landscapes where horses are most prevalent are also those that need to be

preserved, managed and, in the words of the ELC, 'created' to meet the needs of new and old actors and interest groups.

In some densely populated areas characterised by a wide variety of land use interests, the Right of Public Access is already inadequate and new solutions are emerging to deal with the changing situation. It is important that there is an awareness of this trend among politicians and public servants at different levels of decision. The differences in attitude between landowners and horse farm owners' towards the framing concept of the Right of Public Access indicate that informal solutions are not always possible, which calls for responsible authorities to act. Today, such conflicts are solved in court, which might be an unnecessary resource-demanding procedure.

What is happening is not necessarily wrong or bad, but needs to be acknowledged in order to foresee its future consequences and to respond if required. There seems to be a strong need for intervention and actual creation of new ways of handling the accessibility question, where both a bottom-up and top-down approach may be useful. In order to do this, a transparent system of evaluation and feedback between different levels of organisation is crucial, one essential aspect being adequate monitoring of equestrian land use and landscape change.

Areas for Future Research

The complexity of the opportunities, impacts and risks associated with the physical distribution of various activities within the increasing equine sector demands much more in-depth investigation than was possible here. The equine sector is influential in different scales and includes environmental, social and economic issues. The characteristics of the sector are generally site-specific, but it also contains elements interesting for rural development in general. There is, however, a great need for basic information, relevant statistics and land use mapping before such general issues can be fully understood. Such information is necessary for further research, but can also provide valuable input for the planning discourse and the discourse connected to rural development.

Different disciplines have landscape as their focal point, such as geographers, landscape planners, foresters and environmentalists, but links between these disciplines are often missing. This makes it difficult to apply and make use of the findings from these different research fields in society. Furthermore, the concept of landscape is not used or specifically defined within economics or law. Future land use planning needs to understand and explore the role of the entire equine sector as embracing landscape multifunctionality in both rural and peri-urban regions. Research is needed to understand how different groups of stakeholders and societal bodies at different levels can co-operate to create new agendas for rural and peri-urban development and land use planning, as exemplified by the equine sector.

The growth of the complex but clearly delineated equine sector in terms of land use provides an interesting opportunity to study peri-urban development. The sector currently lies outside the annual farm census and receives no areal subsidies. It is especially important to explore trajectories of

development occurring in parallel to, but mainly outside, traditional agriculture.

The research strategy adopted must be interdisciplinary and strongly tied to land use. The need for monitoring and evaluating local projects is vast. Research is also needed on regional and local regulations and customs in order to transfer experiences and similarities between projects performed in a local context. This is in line with the on-going discussion about regional enlargement and the increasing importance of more inclusive land use planning. The research issues include economics, environmental impact, land use policy and landscape planning, gender perspectives and lifestyle issues – all happening in the physical landscape that we use every day. Mixed methods and interdisciplinary research seem to be one way forward to grasp this new wide and complicated topic.

Sammanfattning på svenska

Hästsektorn är diversifierad och sammanlänkar en stor mängd aktiviteter på den peri-urbana landsbygden såväl i Sverige som i övriga västvärlden. Den skapar nya ekonomiska möjligheter och nya former av markanvändning, men också konflikter mellan olika intressen.

Syftet med avhandlingen har varit att bidra till kunskap om hur den expanderande hästsektorn är en viktig del av pågående markanvändnings- och landskapsförändringar i peri-urbana områden, sett i relation till en samtidigt pågående förändring av den fysiska planeringen, i riktning mot ökande regionalisering och kommunal samverkan.

De specifika målen var att kartlägga hur hästsektorn influerar utvecklingen av en mångfunktionell markanvändning i peri-urbana områden, att analysera intressenters upplevelser och attityder till hästhållning som en markanvändning. Vidare att översiktligt identifiera specifika drag hos hästhållningen i relation till markanvändning som ett nytt och ökande forskningsfält liksom att bestämma dess signifikans i den större kontexten av markanvändning och översiktlig planering.

Den metodik som använts är enkätundersökningar, intervjuer, deltagande observationer samt rapportering i media och fotodokumentation. Undersökningarna riktades mot olika intressentgrupper (häst ägare, markägare, kommunala planerare, boende runt hästanläggningar). Utöver detta samlades data in via deltagande observationer på olika nivåer och via statistik.

Resultaten visar att hästhållningen står för en omfattande markanvändning av ekonomisk och social betydelse. För att tillvarata de positiva effekterna av den expanderande hästsektorn och dämpa uppkomna markanvändningskonflikter finns det ett behov av fysisk planering med såväl ett ”uppifrån och ned” som ett ”nedifrån och upp” perspektiv, på kommunal, regional och nationell nivå.

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