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Equine sector comparison between the Netherlands, Sweden and Finland

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1 Introduction

1.1 Research context: a growing sector with special characteristics

The equine sector can be characterised as the exception to the rule in agriculture in many respects showing an impressive potential for transformation. It has been subject to enormous change over the last half of a century. While in the 1950s the sector was almost entirely embedded in agriculture (using the horse as a tractor), currently horses and ponies are kept for recreation and sports. Horses have become an important part of the modern life-style. The 'product' horse has thus acquired a totally different social meaning. Hence, there is a need for different qualities and attributes. Besides, the consumer has also changed. In addition to the quality of products, society today asks for more attention to the way how products are delivered. More and more attention is paid, for example, to the environment and welfare – also in the equine sector.

The equine sector is currently a highly diverse and, for many, an ambiguous sector. On the one hand, it is a matter of activities on a business-scale; on the other hand, it is simultaneously to a large extent a matter of recreation. It is also necessary to distinguish between different kinds of organisations and enterprises from the primary sector to the related industries which comprise its most important parts – breeding, sports and recreation. Additional activities are trade and slaughtering.

When talking about the contemporary equine sector, it is essential to bear in mind its distance from traditional agriculture. Namely, it is not within agriculture where most horses are to be found, although horse keeping and boarding stables are growing lines of on-farm business diversification. The main increase in the equine sector is a result of urban consumer interest, linked with the trend of the need to experience the interface between the human being and the nature. Eco-tourism is a case in point, and the equestrian industries play an important role in this growing branch (Bexelius 2003, 3; Svala 2002, 15-16; Femling & Jarlebring 2003, 5-7; Skr 2003/04:54, 3-6). In Sweden, about three out of four horses are owned by individuals and households for leisure and hobby but many of these also exercise some kind of riding sport activities (Persson 2005, 58). On all levels of the sector there are both professional

actors and those who are engaged purely on a hobby basis. This makes the sector differ clearly from most of agriculture.

Equine industries are among the few growing and most promising industries in rural areas of the European Union (EU) today. During the past two decades, the number of horses and equestrian activities has been steadily increasing. Horseback riding (jumping and dressage as the most favoured disciplines) and trotting are the most popular activities. Equestrian games and connected activities form an important part of the rural economy.

In comparison to the main sectors of agriculture which are still heavily subsidised and which common EU-wide markets shelter, the equine sector is market-driven with very little or no government intervention. In terms of direct annual turnover, it is estimated that equestrian industries generate about €1,100 to €2,800 per horse, according to studies from the Netherlands, United Kingdom and Sweden. The employing effects of the equine sector should not be ignored, either (HIUE 2001, 43), as horses and ponies generate also many kinds of services from farriers to vets and grooms. As distinct from bulk-production oriented agriculture, the equine industry has high value-added, since the consumer is more inclined to use considerable sums of money for hobbies than for his/her daily bread.

European agriculture is under profound change. The trend in crop production as well as in cattle breeding is towards bigger units and intensified production. In big production units, it becomes more and more common to keep the animals inside the whole year round – this development has taken place in poultry and pig production already, and is now spreading to dairy farms, as well. As a result, animals at pasture are disappearing from the European rural landscape, with all its effects on biodiversity and landscape.

Technical and (bio)chemical developments in agriculture are leading to the separation of land and cattle production: intensive production will to a growing extent take place in closed systems. The ground-bound characteristic is disappearing. This is, however, not the case with the horse. Horse breeding is of an extensive nature, and since the animal is seldom kept for its meat, the horse sector can hardly be

intensified. Hence, the horse is taking the place of the cow in the landscape. As a pasturing animal, the horse is even better than cows, since it is suitable also for sensitive spots, like nature protection areas or on the fringes of those areas. In northern parts of Europe like Finland and Sweden, there are already now problems with too little grazing at the same time just as over-grazing is an environmental problem in some other regions (HIEU 2001, 44).

The equestrian sector is peculiar also in the sense that it engages especially many women and girls, both as a leisure activity and as business. Many entrepreneurs and employees within the equestrian industries are women and about 80% of pupils in riding schools are girls.

As a rapidly growing and reshaping sector, the equine industry has also encountered problems. The growth of the sector has been in part 'wild': not all animals are registered, and as the animals are kept for hobby purposes, the group of owners and users is so diversely heterogeneous that they are, in practice, impossible to reach in the same way as EU-farmers are. Nor is the sector well-organised to communicate its opinion and needs to public authorities. As a sector, it often falls in between policy fields in an uneasy way. Problems arise both because of poorly designed inclusion under certain measures as well as because of not being taken into account (*e.g.* municipal land-use planning). Furthermore, a popular recreation activity attracts increasingly more people with no former experience of animals. This is challenging from both the view of human safety as from the view of animal welfare itself.

It is important to develop equestrian industries according to principles for sustainable development. As mentioned above, horse breeding is, in the main, extensive production, but high animal density may cause the environment to deteriorate in poorly managed enterprises. Education and extension are important for the management of environmental aspects within the heterogeneous equestrian sector. Broadly speaking, it is a matter of safety, welfare and sustainable development. The working report "The Horse Industry in the European Union" (HIEU 2001, 31) states that there has traditionally been a lot of knowledge about working with horses within agriculture and cavalry, but this knowledge is no longer available because the horse has been replaced with machinery in these areas and with new groups of consumers who are involved in current equestrian industries. Hence, there is a need for more

general horse knowledge as to behaviour, physiology, health, equipment, management, marketing and environment.

1.2 Aim and objectives

This study is a part of a larger equine-sector demonstration project (EquineLife LIFE04 ENV/FI/000299). The purpose of the sub-task is, first, to describe and evaluate the current state of environmental, rural and agricultural measures in connection with the equine sector as to its environmental, economic and ethical sustainability. Secondly, the aim is to make recommendations as to effective environmental, rural and agricultural policy measures to achieve sustainability objectives. The task results will be carried out in two separate reports – the first one introducing the main issues, problems and policy practices, and the second one, making policy recommendations.

In this report, the objectives are first to determine the problems and advantages the equine industry has in terms of sustainability in Finland, Sweden and the Netherlands. Secondly, this report gives an outline of what kind of environmental, rural and agricultural policy measures have been set in place in order to solve these problems. In this regard, attention is paid to what kind of role different actors (such as policy makers, governmental bodies, equine organisations, equine enterprises, land owners etc.) have in decision-making and action implementation in these countries mentioned above. In addition, the success of the stated policy measures will be assessed. Finally, the objective is to determine which policy issues should be targeted in order to improve the environmental, economic and ethical sustainability of the equine industries in the future.

1.3 Methodology

As the policy study is only a minor part of the whole demonstration project, it was already at the outset decided to prepare it in the form of a comparative policy analysis. A comparison of three countries allows the distinguishing of essential EU-wide issues from purely national problems and offers an outline of those policies valid for countries, where agriculture is under restructuring and the equine

industry is growing. As a case study, Finland was an obvious choice, because the rest of the demonstration project takes place there. As to its location and political culture, Sweden is a good point of comparison to Finland. In addition, the Swedish equine sector is larger and more developed. The Netherlands serves as a densely populated Central-European example of a country with severe agri-environmental problems. Besides, it is one of the leading horse breeding and horse trading countries in the world.

The methodology adopted to meet the project objectives was divided into three phases, as follows.

A literature review comprised of a study of core documents on equine sector policies in the three case countries. The study based on published material focused first and foremost on sustainable development, to set the background for the equine industries, and secondly on current policy documents.

An interview programme comprised of 20 semi-structured interviews across the case countries. The interviews were designed to gain an appreciation of the situation of the equine industry in national contexts, but more significantly to explore the most crucial problems and practiced solutions which have EU-wide relevance. The interviews were conducted in the spring and early summer of 2005. In addition, this task has benefited from the material collected for the whole project via a survey made among 82 stable owners.

A comparative analysis and conclusions involved analyses of the key problem areas from the point of view of an EU-policy for a sustainable equine sector.

1.4 Report structure

The material presented in this report is divided into four chapters.

Chapter 2 describes the context of the equine sector and the related policies in the case countries.

Chapter 3 presents the results of the comparative analysis, and distinguishes the special common problem areas in the equine sector.

Chapter 4 presents conclusions to the report.

2 Equine sector in Finland, Sweden and the Netherlands

2.1 Description of the sector

In the horse sector, professional activities (stud farms, trade and training stables, sports stables, riding schools and boarding stables) are intertwined with recreational activities to the extent that it is in practice not possible to deal with them separately. This is reflected also in the equine organisations.

The equine sector can be divided into breeding, sports, recreation, trade and slaughter. In addition, the sector is supported by different organisations, like education, research and extension. Breeding covers the keeping of mares, stallions and young horses. Studbook organisations guard the quality of the different breeds by tests and inspections, and select animals for breeding. In particular, stallion breeding and also mare breeding are increasingly turning into business activities.

In sports, the main disciplines are trotting and different kinds of riding. Recreation refers to equine sport activities without the competitive element. Recreation can be divided into riding schools and other organised events, as also the keeping of horses by private persons and to passive equine sports. Most of the people who have to do with horses are so engaged on a recreation or hobby basis.

Horse trading includes import, export and domestic trade. There are both professional traders and private persons. In Finland, Sweden and the Netherlands, horse meat is used for human or animal consumption or for other industrial purposes. In these countries it is not common to eat horse meat, but there in some parts of Europe specific horse breeds are bred for slaughtering.

All the above mentioned parts of the equine sector have their own organisations. In addition to these sector participants, the sector employs the services of, *e.g.*, fodder suppliers, stable builders, manure refiners, transport companies, sports equipment companies, insurance companies, and the media. All these participants have interests in the structure of the sector and in the policies concerning it.

There are approximately 400,000 horses and ponies in the Netherlands, 300,000 in Sweden and 69,000 in Finland. Characteristic to the sector as a whole is that the exact amount of animals is not accurately known in any of the case countries. The amounts of registered animals are thus somewhat lower. Nor are there reliable statistics as to where in these countries the animals are located. Based on available statistics, both Sweden and the Netherlands are among the European countries with the highest rates of horses per inhabitants while in Finland the number is around the European average.

The number of horses and ponies in an area is connected to the amount of people. It is estimated that almost three out of four horses live in the countryside adjacent to town. In Sweden, horse density is high in areas such as the island of Gotland. Stockholm differs from the other areas because of the lower number of horses per 1,000 inhabitants.

In the Netherlands, horses are spread all over the country with a slight concentration of riding and other pleasure horses to the densely populated west, and breeding horses more to the east of the country, where there is more space. The amount of horses increases especially in the southern provinces of Limburg and Brabant, because many former pig farmers have reacted to stricter environmental regulations and have converted their farms to boarding or riding stables in order to extensify their production.

In Finland (without including the Åland Islands), it is estimated that about a half of all horses live in southern Finland and one third is living in central Finland. In autonomous area of the Åland Islands, there are, roughly estimated, 26-36 horses per 1,000 inhabitants (S. Högman, Government of Åland January 14, 2004). According to Svala (2002, 12), Sweden has the third highest number of horses per 1,000 inhabitants in Europe, after Iceland and Denmark.

Table1. *Number of horses per 1,000 inhabitants in Finland, the Netherlands and Sweden, 2004 and 2001.*

Country	Total number of horses 2004	Inhabitants 2004 (est.)	Horses per 1,000 persons 2004	Horses per 1,000 persons 2001
Finland	65,000	5,200,000	12.5	11.0
The Netherlands	400,000*	16,400,000	24.4	25.3
Sweden	300,000	9,000,000	30.2**	28.1

* estimation by the board of Dutch horse sector

**according to Persson 2005

Table 2. *Number of horses and their relation to land area in Finland, the Netherlands and Sweden*

Country	Total number of horses 2004	Land area km ²	Horses per land area (km ²)	Arable land area (thousand hectares)	Horses per arable land area (1,000 ha)
Finland	69,000	304,473	0.21	2,200	0.03
The Netherlands	400,000*	33,883	11.8	905	0.44
Sweden	300,000	410,934	0.73	2,700	0.11

* according to HIUE 2001

Table 3 *The development of the number of horses since 1920 in Finland, Sweden and the Netherlands, according to the official statistics*

Country/Year	1920	1980	1990	2000	2004
Finland	390,000	31,500	45,400	57,600	69,000
Sweden	700,000	95,500	190,000	220,000	271,000**
The Netherlands				400,000**	

* registered horses

** according to HIUE 2001

2.2 The social and economic significance of the equine sector

The equine sector is strongly growing, in particular since the beginning of the 1970s. Its social and economic importance shows in the turnover of the sector, in employment, in the amount of enterprises, in the number of people engaged in the sector as a whole, also indirectly or as the amount of people taking an active interest in the sector. Comparisons to the size of other (agricultural) sectors complement the setting. Finally, equine sector contributes also to the biodiversity, landscape and liveliness of the rural areas (ex. Laurea 2003).

In Finland, the rate of growth has been about 1,100 new horses and ponies a year. Currently, there are about 13,000 stables of which 6,000 have more than three horses. As a comparison, there are 16,500 cow sheds, 2,500 pig houses, 1,000 hen houses and poultry farms, and 2,400 fur farms in Finland. There are horses on about 8,000 Finnish farms and most of the breeding takes place on these farms. About 60% of the horses live on farms, but 60% of the horse owners are urban people (Saastamoinen & Teräväinen 2003, 117). The equine industries give full-time employment to 3,500 persons and part-time employment to about 6,000 persons in Finland. If the employment generated by the production of fodder and other inputs are added up, there are another 1,000 persons with full-time employment and

about 3,000 part-time employees involved (Heiskanen *et al.* 2002, 50-52). In Finland, most riding horses and ponies are imported, their domestic breeding takes place only on a small scale.

Table 4 Equine sector turnover, employment and number of enterprises 2004

Country	Turnover	Employment	Number of enterprises
Finland	720 million euro****	6,500	6,000
Sweden	800 million euro**	10 000***	not known
The Netherlands	1,200 million euro	12,000*	6,800*

* Year 1997

** GDP 2002

***Year 2002

*** Year 2003

In Sweden, the Gross Domestic Product (GDP) (2002) for the equestrian industries was 7,991 million SEK (about €800 million) which counts for about 0.34% of the GDP, when the share of GDP for the agriculture was 0.68% (Andersson *et al.* 2004, 39) The corresponding value added per annual labour input is 484 thousand SEK for the equestrian industries, while the corresponding value for agriculture is 395 thousand SEK and, for production industries, on average about 616 thousand SEK (Andersson *et al.* 2004, 41). About three of four horses are owned by persons and households for leisure and hobby but many of these also exercise some kind of riding sport activities (Persson 2005, 58).

As for employment in Sweden, it is estimated that the sector generates directly and indirectly at least 19,000 annual full-time jobs and at most about 28,000 annual part-time jobs. Actually, the number of employees in equestrian industries is up to about 40,000 persons because most jobs are part-time (in this calculation, the AWU (Annual Work Unit) has been converted to correspond with the salary for a gainfully employed person.). The way of calculating can be a somewhat deceptive but it gives an illustration of the situation. The direct employment effect is about 10,500 annual full-time jobs. Equine tourism and riding make up a little more than a fifth. (Andersson *et al.* 2004, 42-46). There are 650

equine tourism enterprises in Sweden and their annual turnover is on average 0.5 million SEK (€3,000) (www.lrf.se/LrfNodeServlet?command=layout&n=2341).

Equine enterprises have an important role in rural areas in addition to the income generated. Svala (2002, 7) notices that many smaller urban adjacent farms have converted over to horses and ponies. This change is an important way of maintaining small-scale agriculture, rural landscape and buildings. Farms which are no longer interesting for large-scale agricultural business are often taken over by people interested in horses. An interest in horses can be a reason for moving to the countryside (Svala 2002, Heiskanen *et al.* 2002, 66). In addition, equine enterprises have often locally an important role in building networks, keeping up services and possibilities for development in the countryside, as it is noticed in the Finnish plan for the development of the equine sector (Hollmén & Mäenpää 2004, 2-4).

Within trotting and galloping, the main part (85%) of Swedish horse-keeper incomes comes from game activities. Global competition makes it more difficult to generate money from the sports by game activities, because event organisers in other countries can avoid the high level of totalizator taxes in Sweden. Trotting activities include also pony trotting activities - a new form of trotting activity is *monté* (trott riding) which started 2004 and has attracted women especially (Persson 2005, 56-58).

In Sweden, there was an expansion of riding school activities during the 1970s and 1980s when municipalities were engaged in sport activities. While development has been slower during the latest 5-10 years, the amount of pupils is quite constant. Most of the riding schools are located in the central parts of Sweden and in western Sweden, where they are important for a large public. Their customers are up to 80-90% girls without any immigrant background. In riding schools, safety aspects are especially important. (Persson 2005, 56-57)

In the Netherlands, where there are about 400,000 horses and ponies, the turnover of the sector has grown from €70 million in 1991 to €900 million euros in 1997 and to €1,200 million in 2004. In 1997, the turnover of the poultry sector was €1,140 million, and that of the bulb sector €450 million (www.rlg.nl/website/uitgaven/lezingen). It is estimated that there are around 400,000 persons engaged in the horse sector (Sectorvisie paardenhouderij 2000, 4). In comparison to Finland and Sweden, the

Dutch equine sector is more breeding and export oriented and this increases the value-added of the sector.

According to Heiskanen *et al.* (2002, 24), the equine enterprises tied up about €10,000 per horse in buildings, land areas and training areas, equipment and tools while the value of the horses was on average about €3,400. Most capital was tied to the riding stables because they own almost all of the horses used in the business. They also need to have both managers and riding tracks. Racing stables have less horses of their own because they train horses for their customers.

Racing stables employ double as many workers as the riding stables and their turnover is double the figures as well. Profitability has been quite low according to the stable owners. The current system of value-added taxes within the stable business may give rise to a grey economy (Heiskanen *et al.* 2002, 27).

Trotting gambling is important for the trotting sports. In Finland, the turnover from trotting gambling is divided between the players, the government and the licence-holder. There is a connection between the odds and turnover. Grants from the government to the equine industries are also important for breeding, sport activities and common conditions for the business. Expenses for the trotting races are far bigger than for other types of games. Furthermore, another kind of taxing practice is used for trotting gambling than for other kinds of gambling (Heiskanen *et al.* 2002, 35-36). In the Netherlands, the equine sector lost recently its annual share (€130,000) of tote incomes, as the gambling policies were concentrated under the Ministry of Justice (Marieke van der Lent, Sectorraad Paarden).

The Swedish horse gambling activities which are run by ATG (AB Trav och Galopp) have a turnover that is six times bigger than that of Finland. Trotting gambling accounts for a third of the whole gambling market in Sweden while in Finland, it only accounts for a tenth of the total gambling business. (Heiskanen *et al.*, 2002, 36).

The contribution of the equine sector to the landscape and biodiversity should not be underestimated during times of rapid withdrawal of other pasturing animals. In the countryside, equine enterprises also

strengthen the viability of the rural areas, enrich local economy and contribute to rural-urban interaction.

2.3 Equine sector related policies

EU level legislation especially written for the equine sector is scarce and considers mainly either breeding or sports. The objective of the EU-wide breeding legislation is to safeguard the free exchange of goods and services. Directive 90/427 sets the general zootechnical and genealogical conditions for the intra-Union trade of equine animals as well as the basic common rules for studbooks. Regulations 92/353, 92/354, 96/78, 93/623, 2000/68 and 96/79 specify the terms as to *e.g.* studbook organisations, registration of animals, pedigrees and identification documents. The main problems in the harmonisation of breeding have had to do with the fact that although it is clear which items have to be regulated, it is ambiguous which quality requirements should be used (Regelgeving en discriminatie in de paardenhouderij 2004, 10). In practice, an individual horse may be taken in to a studbook in one EU country although it would fail to fulfil the criteria of the same breed studbook in another EU country. This leads to discrimination in trade and is an obstacle for European equine breeding.

As to equine sports, Directive 90/428 and Regulations 92/36 and 92/216 state the terms concerning trade for sports horses and lay down the conditions for participating in equine sports events. The objective of this legislation is to forbid discrimination based on the country of origin of the horse and to guarantee that all horses are in an equal position when prizes are delivered. Directive 90/428 is, however, of very general character, and leaves member states a lot of room for interpretation. For example, the Directive does not make a distinction between events organised for breeding purposes and genuine sports events. It should not be allowed to place restrictions on the participation in competitions. However, this occurs because it is possible in breeding events. For example, horses which are not registered in France are not allowed to participate in highly-ranked competitions for young (up to seven years old) horses (the so-called classical cycle). France and Germany are leading European countries in equine sports, and as a result all young foreign horses have to be registered in France in order to have a career during their early years.

There is no special environmental legislation for the equine sector in the EU. The idea has been that the sector is covered by general environmental regulations and by agri-environmental measures which exist at the EU level. Yet, the relationship of the equine sector to agriculture is somewhat unclear. On the one hand, only a number of horses or ponies are kept in farms and hence policy measures for agriculture do not reach the whole sector. On the other hand, many policy measures designed for agriculture do not function well in equine enterprises, where land use is extensive and where the product is not a concrete sellable good (like litres of milk or kilos of meat) but where services and experiences are supplied. This has an impact on the sort of people who get involved as entrepreneurs or other kind of stakeholders. Neither is the sector as organised as the product-oriented agricultural sector. All this implies that the sector should be addressed differently.

Some national examples are given as follows as to how different policies relate or treat the equine sector. In 2004, the first European Horse Symposium was arranged. In the proceedings of this event, it is mentioned that, in particular, France finds the equestrian sector very important for rural development in Europe. In France, all horses are included in agriculture and will be included in the law on the development of rural areas, which they are working on in the French Parliament. All equine activities are concerned, from horse breeders, professional riders, trainers of racehorses and managers of riding schools to equestrian tourism, horses lodging and horse-drawn traction.

A farm with horses or ponies in Finland must have at least three hectares of cultivated soil (field or pasture, natural pasture areas are not being included) to be able to receive agricultural subsidies. In Sweden, the minimum acreage is two hectares. In the general instructions (1997:2) from the Swedish Department of Agriculture in connection with investment aid (1996:1431 and SJVFS:1996:157) to business enterprises within agriculture, horticulture or reindeer husbandry, the quartering and breeding of horses can be counted as agricultural activities if they are mainly based on fodder from activities on one's own farm.

When talking about environmental subsidies in Finland, there are differences between farms with animal breeding and farms with crop husbandry. Farms with a minimum of 0.4 animal units per land area are eligible for the subsidy if they have a minimum of 10 animal units on the whole contract area. All other farms are classified as arable farming (Niemi & Ahlstedt 2004, 61). According to the mid-

term evaluation of the program, the impact on water quality has not been as big as envisaged, and it is probable that conditions will be strengthened in the future. For example, farm-specific environmental planning may come into question (Niemi & Ahlstedt 2004, 64).

In Finland, horses are eligible for subsidies, with the exception of grants for breeds of origin (where only breeding mare and studhorses are included) within the national subsidy for southern Finland and within the grants for the northern areas (the so-called C-area). Tiilikainen (2004, 32) notices that if there is enough eligible land on an equine farm, it is possible to apply for Common Agricultural Policy (CAP) grants for crop husbandry, Less Favoured Area (LFA) compensatory aid and environmental aid which is divided up into a basic grant and special grants.

It is estimated (Lehtonen 2004) that the most recent CAP reform with its single farm payments (SFP) will not have any big impact on the position of farms with horses or ponies. Actually, some plots which have not been entitled for aid within the current CAP system (for example, grasslands with national grants and environmental aids only) may now be eligible. The proportion of fallowed area may increase in relation to grassland, because it is not necessary to produce anything in order to get the SFP. This may have some effects on horses' access to pasture and hay.

3 Special problem areas identified

3.1 Registration

According to both the written material and to the interviews with key informants in the case countries, it is evident that the sector itself does not regard environmental problems very seriously. In general, the sector finds that its activities are of extensive nature, and cause no serious damage to the environment, except in individual cases.

Although environmental sustainability is not considered as a burning problem, we were able to identify three main current problems encountered in all countries examined. They are the registration and identification of the animals, land use and manure. In this chapter, we shall describe the problems in the national contexts and assess the current state of respective policy measures.

The problem with the registration and identification of horses and ponies is not an environmental one in itself but has environmental implications. The first rules on registering equine animals were given in Directive 90/426/EC, and specified by Regulations 93/623/EEC and 2000/68/EC. The last Regulation rules that all utility horses and studhorses, irrespective of date of birth, have to be supplied with an identification document.

In spite of legislation, there are in each country thousands of horses and ponies, which are not registered. In the Netherlands, a new system of a combination of the passport and an electronic chip is proceeding well, but still many ponies, in particular, do not have it because the owners find the chip too expensive (about €35 each) in comparison to the value of the pony. In Finland and Sweden, the problem is that the owners do not have enough positive incentive for acquiring the passport. Because the horse owners are a very heterogeneous group, the authorities do not have the resources to cover the field completely.

In cases of infectious diseases especially but as well for the preparation and implementation of environmental measures and land use planning, it would be crucial to know how many animals there are and where they are located. Considering the size of the sector in the present EU, it becomes more and more difficult to manage the sector without a comprehensive registration system.

Today, systems for registering horses are still defective. In Finland and Sweden, the registration of trotting horses is almost complete, because it is not possible to participate in competitions and to be included in breeding programmes without registration. The situation among horses for riding and 'pet' horses is much less so. The question of registering is connected with environmental aspects because the slaughtering of unregistered horses is almost impossible. If a dead animal is not accepted at a slaughter house, it is common to bury it behind the stable or elsewhere in the surroundings. From viewpoints of safety and the environment, this is precarious. A missing identification is particularly common among animals which have been born before 2000, which do not participate in competitions and which no-one has yet tried to have slaughtered. A problematic owner group in this respect are those who have a horse or a pony just as a hobby. They have not yet understood that registration regulations also concern their animals.

In the Dutch case, where the insertion of chips in horses is proceeding rather well, the next problem has been identified by the fact that even after registration, the geographical location of the horse is not necessarily known. In the equine sector, the animal and the owner often do not live in the same municipality. To reach both the owner and to locate the animal would be needed for a good equine policy.

For the moment, identification and registration are taken care by equine organisations, and the costs are paid for by the owner. In practice, having an animal registered has been both a time-consuming and expensive experience for many owners. Sharing these experiences does not make registration any more popular among horse owners. Equine organisations would like to preserve their fairly autonomous position also in connection with identification and registration and they fear that the task may be given over to public authorities, resulting in even more complicated and bureaucratic systems, not feasible in the sector.

3.2 Horse manure

The issue of equine manure differs from the rest of manure problems (*e.g.* pig rearing) primarily because horse breeding is by nature extensive. Horses need a large pasture area. Thus the problem is actually not the amount of manure, but the handling of the manure. In the Netherlands, a substantial share of horse manure is sold to champignon growers, who need to have it before the manure is two weeks old. In addition, horse manure is widely used in allotment gardens, where there is considerable demand for this kind of natural fertilizer. Horse manure is valuable as a phosphorous fertilizer. However, there is only little easily accessible nitrogen in it (Falkhaven 2005).

The shortage of spreading acreage, moreover, often makes it necessary to transport manure for deposition. Both transporting and deposition may have environmental effects. The most economically rational alternative would be direct spreading on arable land, according to an economic analysis of manure handling systems by Hammer (2001). According to Hammer (2001, 8), composting costs are quite high for smaller establishments which makes composting unattractive. Compost from a compost mill is a good but very expensive alternative. It is economically feasible to transport the manure quite a distance for agricultural use if the alternative is disposal at a refuse dump. The best alternative according Hammer is to get in contact with a farmer within reasonable distance. In Sweden, there is an organisation (Hästnäringens Miljöråd) providing advice and contracts between horse owners and farmers.

Practices concerning the disposal and allowed use of horse manure differ in the examined countries. One problem in Sweden is the application of the Regulation (EC) 1774/2002 laying down health rules concerning animal by-products not intended for human consumption. Horse manure is included as a by-product that must be heated to 133 degrees Celsius before composting. There are also more demands for transport documents in Sweden than, for example, in Finland (SANCO/445/2004), mostly because of the different way of interpreting the character of horse manure or natural manure.

In Finland, under regulation (195/2004) of the Ministry of Agriculture and Forestry, horse manure is dealt with under the rules on the handling animal by-products and manure in technical establishments.

According to these rules, it is possible to send horse manure direct to humus earth producers with a permit from the environmental administration and it is also possible to send horse manure to composting and technical establishments without heating. The demands on transport documentation are easier in Finland than in Sweden, so far. In Finland, it is also possible to deliver smaller amounts of horse manure direct to consumers for soil. After 2005, it will be forbidden in Finland to deposit waste products where organic material is not taken care of separately for further use, which means that it will no more be possible to take manure and deposit it on dumps (Governments resolution 861/1997). The Finnish Ministry of the Environment has tentatively expressed its interest in experiments of burning horse manure (Fred Sundvall and Pekka Soini).

In Finland, a stable must have an environmental permit if it aims at keeping more than 60 ponies or horses; in some cases even less if the consequences for the neighbourhood or water resources would be unreasonable (YM 2003, 9). Regulations in the Law about waste products consider horse stables also (Waste Act 1072/1993), and horse manure and dead animals are included in the interpretation of the law. According to the law, horse manure should primarily be used as a fertilizer in plant production and secondarily, as energy (Waste Act 6 §.)

Also in the Netherlands and Sweden, professional stables need an environmental permission, where manure disposal and storage systems are also examined. The treatment of different kinds of stables is varied, depending on *e.g.* if there are also cattle on the farm or if the farm has more than 2-3 hectares of land. Policy measures concerning manure have predominantly been written with pig, poultry, beef cattle or dairy farms in mind. Equine enterprises have either been forgotten, or the measures have been applied to them irrespective of how well they function in connection to horses.

An example of the latter is the newest reform of the Dutch manure policy (Marieke van der Lent, PVE). Since the Netherlands has not been able to achieve the expected reductions in pollution caused by manure, the EU has obliged the Dutch to apply stricter rules governing all kinds of animals which produce manure. The new systems requires a precise measurement of different contents of the pure manure which is in practice very complicated with horse manure that normally gets mixed with straw – a quality which makes it much prized by gardeners. Dutch equine organisations find it unfeasible to apply the new measures to the equine sector, and advocate different treatment.

3.3 The equine sector and land use planning

The equine sector is partly connected to agriculture, but it is also often interestingly located on the borders of town and countryside. Horses are nowadays mainly used by people living in urban areas, but the animals themselves live mainly in rural areas adjacent to the town. In general, people do not have anything against horses and ponies, but as the sector is growing fast, problems with land use have arisen in all three countries examined (ex. Nukkala & Jansson 2004) . Common rules on where horses are allowed to move, where equine enterprises may be established and what kind of areas and buildings they require are missing. In addition, those responsible for planning land use do not necessarily understand the expansion of the sector. In the current situation it is no longer possible to leave individual municipalities to decide upon their own procedures. National guidelines at least for building and establishing equine enterprises and for the location for stables are needed.

In the case of Finland, Heiskanen *et al.* (2002, 20-22) state that 80% of the Finnish stables are located in rural areas and the rest of them on densely built-up areas or near them. About 60% of the total amount of horses in Finland are to be found on farms or on rural enterprises. Half of the stables are located on farms the southern Finland, in central Finland about a fifth. Riding is the most common activity in the Southern Finland, while the activities are more focused on horseracing in the other areas.

Stables located in the countryside are quite self-supporting as to fodder, some of them even producing fodder for sale. Stables located close to population centres and towns most often buy all the fodder needed. (Heiskanen *et al.* 2002, 23). Self-supporting farms in the countryside often are connected to environmental aid systems and in that way have the possibility of better managing manure and other environmental aspects than stables without a farm connection.

Ignorance, economic circumstances and begrudgery within land politics in connection with the creation of allotments sometimes lead to keeping horses on areas far too small. In many cases, the planning of land use lacks long-term vision. In population centres, well functioning equine enterprises find it very difficult to develop their businesses because they have gradually become tightly surrounded with housing and other activities. The expectation of the planners has probably been that these enterprises

would move away to the countryside instead of staying on the exploited population centres (Svala 2002, 29). However, a central location is in the interest the customers of these enterprises.

Land use planning instructions are often problematic, since they are again designed for (other kinds of) agriculture. In Sweden, for example, there are recommendations about how near a built-up area the equine establishments should be allowed. The criterion for the suggested 500 metres laid down in the law on planning and building (Plan- och bygglagen 1987:10) is, however, for a pig house with 500-4,000 animals. The distance was estimated on an examination of the estimated inconvenience caused by liquid manure, while horse manure most often is treated as solid (Svala 2002, 41). In the Netherlands, the equine sector represented by the Sectorraad Paarden has published a policy document on land use (Paardenhouderij en Ruimtelijke Ordening 2004), where they present the main aspects which should be taken into account and which should define different kinds of buildings needed for different kinds of equine activities depending on the scale of the business. The intention is to compose a handbook for municipalities so that the heterogeneous, uneven and partly out of control situation in connection with equine land use could be improved.

With the right conditions, horses can be good landscape conservators but as badly managed, they can, as all other kinds of animals, cause environmental damage. Too big a density of livestock always involves a danger to the environment. On the other hand, the damage caused by horses may be exaggerated, *e.g.* as when Emmervall (2000) noted that horse pasture was forbidden in Sweden on ancient remains and other places alike.

The rising interest for horse back riding has highlighted the problem with owners who have too small an area for riding and driving. Conflicts are created because they would need to ride or drive across land belonging to other land owners. In Sweden, an analysis has been carried out as to propositions for the development of tracks or ways for riding, bicycling and cross-country walking in the area around Flyinge, which, according to Svala (2002, 38), gives a good picture of the situation with car traffic and built-up areas as conflict areas (“En Landskapsanalys med förslag till utvecklig av stråk för ridning, cykling och vandring”).

Questions about allergies and odour are ticklish subjects and they often cause discussions between people interested in horses, those living around and community planners. Studies (Emenius *et al.* 2001, Brännström 2002) in Sweden suggest a protection area of about 100 meters around stables in densely built areas. For example, the county administration of Skåne in Sweden has issued some recommendations about protection zones depending on the size of the establishment. If we are talking about 100 horses or more in densely populated areas, there should be a protection zone of 200 to 500 metres from the stables to houses, schools and at least 200 metres from pasturing areas. For 30 to 100 horses, the protection area can be reduced to 200 metres to the stables and 100 metres for areas with horses which go outside the enterprise. When there are 10 to 30 horses, the rules are somewhat easier and when it is a question of establishments of less than 10 horses, the council administration leaves it to the local authority and to the municipality to make up the rules. It is seriously recommended that there should be a protection zone of at least 100 metres to the stables and 50 meters for horses leaving an establishment. (Pedersen 2004, 16-19.)

In Finland, there have not been any problems with keeping horses and stable buildings until recently, when some municipalities and local districts have started to change their rules on building activities. For example, there has been a proposal in a local district for a change which would make it impossible to build a stable or a riding ring for an equestrian business on a farm with less area than 5 hectares of land. Horse pastures and open exercise yards could not be nearer than 300 metres to neighbouring houses and their yards. In cases when the equestrian activities are not counted as business enterprises, it would be possible to build a smaller stable on a farm with an area of two hectares, but even then there must be a prohibited area of 200 metres between the houses and yards of the neighbours to the horse pastures and open exercise yards (Miljönämnden i Sjundeå, Protokoll 1/2005 www.siuntio.fi/yhdyskunta/miljonamnd/miljo_protokoll.htm.) The Finnish equine sector finds these local restrictions exaggerated, and urges the Ministry of the Environment to give sensitive, nationally binding guidelines as to land use planning and equine industries. But as in the case of the Netherlands (Jolinda van der Endt), the Ministry sees this as a domain of local authorities and is reluctant to intervene.

In Sweden, there are rules in the law about planning and building (8 kap 1 § PBL). In agriculture, it is not necessary to have a building permit for economy buildings and other establishments of the kind if

they are located outside of densely populated areas. Consequently, equestrian activities within an agricultural business in a juridical meaning can be taken as agriculture and the buildings used for the equestrian activities are economic buildings. Also a riding ring for training of horses kept on a farm which is managed as an agricultural business could pass for an economic building. If the ring is mostly used by riders / equipages for training without a connection to the farm, the ring becomes a sport hall, as is the case for riding schools. In this case, a building permit is needed because the establishment is then a sports establishment (Svala 2002, 32). In Finland, it is necessary to have some kind of building permit for every kind of farm buildings.

In Sweden, there is a law about environmental matters (Miljöbalken 1998:808) and regulations which together with other regulations include important rules for existing buildings and buildings that might be built in the neighbourhood for keeping horses, equestrian activities and riding business enterprises. The authorities responsible for controlling this are the local authorities and municipalities in Sweden. The most often confronted problems concern environmental damage and health aspects. According to 39 § in the regulations on activities that can be dangerous to the environment and protection of health (Förordningen 1998:899 om miljöfarlig verksamhet och hälsoskydd), it is possible for local authorities to make up their own regulations about keeping horses within densely populated areas. Local authorities also have the possibility of issuing their own regulations for some areas. The local government board also has the right to publish injunctions for keeping horses and issue orders for reducing or remedying inconveniences for the environment. Rules about this kind of injunctions can be found mostly in the law on environmental matters (Miljöbalken 26 kap.).

If stables in Sweden are going to be built for more than five animals, the Animal Protection Act and its regulations must be observed, also. According the Animal Protection Law in Sweden (1988:534) and the Animal Protection regulations (1988:539), there must be a preliminary examination before building is allowed to start.

The Swedish Board of Agriculture admits that the effects of horse keeping on the local environment caused by grazing, paddocks and manure handle are a growing problem. As noticed above, it is not necessary to have a building permit for constructing economic buildings on farms in Sweden. However, other equestrian business enterprises need to have a building permit. Maybe some of these activities

could be counted as agriculture instead. Because of problems like these the Swedish Agricultural Board expects to get more information about the problems of handling horse manure and a better definition for the term agriculture and agricultural activities to be able to know which activities within the equestrian industries can be taken as agriculture, which are not and which criteria are to be used for this distinction.

The legal right of access to private land is quite important in Sweden and Finland (the ancient Nordic right of common access). However, riding is forbidden on running and skiing tracks. For some reason, regional bodies responsible for official land use plans are in Finland reluctant to include riding tracks in the plan, although for example snow mobile tracks are included. Arguments can be made for both because of their potential for rural development and recreation.

In the Netherlands, riding tracks have not been a problem, since they are normally anyway on public land. The national body for forestry (*Bosbeheer*) takes care of these tracks. However, the equine sector finds it a serious problem that establishing equine enterprises is made very difficult. In a densely populated country, land use purposes are strictly ruled. If an area has been classified for agricultural production, it may in some municipalities be impossible to start equine businesses there. On the other hand, in some parts of the country it is very easy for farmers to convert their former cattle or pig farm to horse stables. The Dutch equine sector finds that this is not a good basis for an economically healthy sector, as different rules are applied to different actors.

In addition, some tensions have arisen when urban people buy small farms in the villages and start keeping a horse on their yard. Local people find in particular the rather common white fences ugly and strange in the traditional rural environment. The Ministry for Agriculture (Jolinda van der Endt) facilitates local discussion arenas for solving this kind of disputes, and there are already well functioning examples of this.

4 Conclusions

In all three countries considered, there are policies for maintaining sustainable development. In Finland and Sweden, separate programs for sustainable development have only been developed quite lately while the Dutch policy for has been integrated in all kind of political actions since the 1980s. In the Netherlands, the situation is somewhat different to Sweden and Finland because of the density of people and animals. The policies are quite similar though; some focuses are put on different ways. In Finland, efforts towards sustainability concern the water environment, in particular.

It is obvious that in Finland and Sweden, the horse population is increasing mostly in areas adjacent to towns and cities in the southern region, followed by environmental and planning problems. A practical problem hindering effective policy is still the lack of a comprehensive registration and identification system. The insufficient and uneven planning of land use in connection with equestrian activities is clearly a problem for a growing sector. Taking environmental aspects into account requires proper policy also in other related fields. Rural development programs and especially the agri-environmental aids should be better tailored for equine enterprises, as well. The latest CAP reform seems not to have much direct effects on equestrian industries, but it may have some indirect consequences in the form of CAP subsidies for permanent pastures.

In the discussions with key respondents, the unclear relation of the industry to agriculture was frequently mentioned. Some key actors were of the opinion that it would be easier if horses were always counted as part of agriculture. In Sweden, there is clearer water between the agricultural and equine sectors than in Finland. Interestingly enough, the sustainable equine sector seems to be more developed there than in Finland. A part of the problem is that the equestrian sector is dealt with in many different departments and administrative units and seems to fall in between stools more often than other kinds of business enterprises.

The main problem areas identified – registration, manure and land use planning – are intertwined and so their solutions should be integrated. However, because the sector is very heterogeneous it is important not to create too complicated and bureaucratic a system, since this would kill a well-

developing and promising field. The question of waste products and manure links into planning of land use at the municipal level. The question of manure seems to be a bigger problem in Sweden and the Netherlands than in Finland because of a more practical point of view as to natural manure and its handling.

Basic factors affecting sustainable development in the equestrian sector may be listed as follows:

- The sector needs public acceptance and status;
- The level of costs caused by sustainable performance must be reasonable;
- Extension and information is needed in particular among individual horse owners who have no former experience of animals.

It was frequently mentioned that the sector cannot afford a bad image. This is one of the reasons why the stakeholders are motivated to work in favour a sustainable sector. As there are more and more people with horses, and less and less ‘horse-people’, the risk for both environmental failures and safety problems arises. Extension and information were seen as the main means for improving the situation as formal rules and detailed regulations will never work well in the heterogeneous equine sector.

Finally, it is also necessary to facilitate internationally competitive equestrian sports because it is important for keeping up the development of the public interest in horses and equine sports. Success in international competitions creates interest both in the mass media and on the individual plane for the equestrian industries.

Only horse breeding is currently considered agriculture according to the EU rules. New environmental rules and animal welfare regulations require substantial investments in the sector. This could be included in investment subsidies to agriculture.

The demands directed at the equestrian industries should be reasonable and realistic in practice. It is noticed that the demands as to questions about the environment and the care for the landscape are increasing, especially near population centres. The need of horse passages and tracks clear in all examined countries. It is important as well to have working planning for building activities.

In Sweden, there is a separate organ for equestrian industries on environmental questions: Hästnäringens miljöråd (HMR “The environmental council of the equestrian industries”) which started in 1998. (Persson 2005, 38) It has developed an environmental manual for equestrian industries and has also started an environmental certification system of riding schools and other stables with public activities. In Finland, nothing similar has been done yet. In the Netherlands, the central body for equine sector (Sectorraad Paarden) works on this in cooperation with the municipalities and the Ministry, but resources are found to be too scarce for the need.

As well functioning existing systems the Swedish voluntary certification system as clearly increased the interest of horse owners on environmental aspects. In the Netherlands, the studbook system and breeding are very well organised. In Finland, the horse is somewhat more included in agricultural policy thinking than in the other three countries.

In the next phase of the study, the above stated main policy issues will be approached with policy recommendations, discussed first with stakeholders in Finland. In this phase experiences and experiments with for example the EMAS-system will be utilized.

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APPENDIX 1 Key actors interviewed

Country	Respondent	Organisation/position	Interview date 2005
Finland (Åland)	Sölve Högman	Province Government on Åland Islands /Bureau chief agricultural department	January 24
Finland (Åland)	Bodil Regårdh	Upper secondary school with agriculture and horse breeding as directions /Headmaster	January 26
Sweden	Camilla Linder	Profitable Equestrian Business /Project leader	February 1
Sweden	Bo Slättsjö	LRF (Farmers´ Union in Sweden) /Horse sector representative	February 1
Sweden	Bibbi Bonorden	Horse Tourism in Sweden/ Project leader	February 1
Finland (Åland)	Ronald and Maria Holmström	Stable Aftonsol/ Owners and instructors	March 8
Finland	Tauno Junttila	Ministry of Agriculture and Forestry/ Civil servant	March 16
Finland	Fred Sundwall	Riders' organisation in Finland/ General secretary	March 31
Finland	Nils-Anders Granvik	SLC (Swedish speaking farmers´ union in Finland) /Expert in the horse sector	April 4
Finland	Maarit Hollmen	MTK (Finnish speaking farmers´ union in Finland) /Horse sector representative	April 6
Sweden	Olof Karlander	National Foundation dealing with equestrian questions) /Managing director	April 21

Finland	Pekka Soini	Suomen Hippos (Finnish Trotting and Breeding Association) / Managing Director	May 2
The Netherlands	Harry J. Blokhuis	Animal Sciences Group, Wageningen UR / Researcher, Dr	June 13
The Netherlands	Jolinda van der Endt	Ministry for Agriculture, Nature and Food Quality, Section Countryside / Policy Coordinator Space and Quality	June 14
The Netherlands	Marieke van Lent	PVE; National organisation for horse sector / Sector secretary	June 14
The Netherlands	Jan Greve	Entrepreneur, Veterinarian, Representative of the union of stallion breeders	June 15

Discussions by e-mail

Country	Respondent	Organisation/position	Interview date 2005
Sweden	Kersti Linderholm	Swedish Environmental Agency	May
Finland (Åland)	Bertel Storsved	County Government on Åland Islands/ Agricultural inspector	Jan-Feb
Finland (Åland)	Kerstin Lundberg	Pro Agria (Agricultural advisory society in Finland) /Livestock adviser	April
Sweden	Agneta Nordgren	Ministry of Agriculture, Food and Consument affairs, Food and Animal Division/ Senior Administrative officer	June-July