

# Green Care in the Nordic countries – a research field in progress

Report from the Nordic research workshop  
on Green Care in Trondheim, June 2012



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## **Preface**

In the last decade an increasing number of persons with mental, physical and social problems participate in different Green Care services in the Nordic countries and other European countries. Despite that it is much practical experiences with the utilization of agricultural farms and its nature surroundings as a basis for promoting human health, the research is still scarce. The main goal for this first Nordic workshop on Green Care was to provide a status of research on Green Care, and how these services are organized in the Nordic countries. Furthermore the aim was to identify research goals on Green Care in a Nordic context. Finally, we also aimed to facilitate the potential development of a Nordic research network within Green Care.

The Nordic research workshop was held in Trondheim, Norway, by the 25<sup>th</sup> of June 2012. Totally 32 researchers from all the Nordic countries participated. The workshop consisted of key speakers from each Nordic country, giving a status of Green Care, and four working groups. These groups were divided in the following research fields: 1) Human-animal interaction 2) Horticulture and landscape 3) Green Care and public health, and 4) Planning, regional development and economics.

This report is a collection of abstracts, summing up the discussion and reflection in the different working groups, and point out suggestion for further collaboration.

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Bente Berget

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## **1. Introduction**

### **What is Green Care?**

Among most European scientists it seems to be a common understanding of the concept Green Care as the use nature and nature environments to provide health and social and educational benefits for various groups of vulnerable or socially excluded persons (Sempik 2010). Distinction is made between Green Care and other activities people undertake within the natural environment, e.g. walking, canoeing and mountain biking, because these activities have little or no emphasis on care and therapeutic outcomes. Furthermore it seem to be a common acceptance that Green Care is an inclusive term for a wide range of complex interventions e.g. care farming, animal-assisted therapy, and therapeutic horticulture. The diversity of interventions does also differ in the level of care. Some operate as structured therapy programmes with clearly defined patient-oriented goals (for example animal-assisted therapy and therapeutic horticulture), whilst others aim to have more wide-ranging benefits (Sempik et al. 2010).

Because many Green Care farms are rather small and less specialised compared with traditional farms, there is often a diversity of activities e.g. livestock management, crop production, forestry, horticultural and greenhouse activities. Preparing meals and dining together is a natural part of the stay at the farm. Other important recognized qualities of Green Care farms are the space and quietness and the protective and caring environment provided by the farmer's family and other persons connected to the farm.

## **2. Green Care in the Nordic countries – knowledge, spreading and organization in the Nordic countries. A short overview**

### ***Norway***

In Norway Green Care refers to adapted and quality-assured welfare services on farms. The term *Inn på tunet (IPT)* is a common used term that combines farming with teaching and care. The main goal is that the services shall provide coping skills, development and well-being. The service areas include child and youth services and education (general pedagogy, special needs education, leisure, etc.), health and care services (addiction, disability, mental health, dementia, immigrants and refugees etc.), and occupational training. By autumn 2011 there were approximately 1100 farms providing Green Care services in Norway (Strategic plan 2012). The Government's ambitions for Green Care are detailed in its Political platform (2009-2013). The platform highlights Green Care as a potential service offer to many sectors. A *quality assurance system* was established for Green Care farms during 2010, and an *approval system* for IPT started in 2012. All farms that want offer these services must gain approval based on the care quality assurance system. The greatest share of Green Care services were school and day care services for people with psychiatric disorders. Together these two categories constituted of approximately 40 percent of the services offered (Statistisk sentralbyrå (SSB) 2010). The farm as a pedagogical resource is farm-school cooperation for sustainable learning based on practical experience with societal relevance and mastery of skills (Jolly et al. 2004; Jolly and Krogh 2010). Farm-based interventions for persons with psychiatric disorders

have shown increased generalized self-efficacy (Berget et al. 2008; Pedersen et. al 2012) and decreased anxiety (Berget et al. 2011) in a three-month the intervention with farm animals. Similarly a 12-week intervention with therapeutic horticulture showed decline in depression and improved attention capacity (Gonzalez et al. 2009), as well as decline in state anxiety and positive correlation between change in anxiety and group cohesiveness (Gonzalez et al. 2011a, b). At the moment there are two ongoing research projects on care farming at the Norwegian University of Life Sciences. One is titled “The effect of the horse on adolescents’ self-efficacy, self esteem and social skills”. The PhD project comprises 80 teenagers aged 12-15 years from different areas of Norway. The main aim is to examine what teenagers can learn from being on a farm with horses, and how this can enhance their self esteem and feeling of mastery. Around 20 farms take part in the project, all being small, agricultural farms with horses as their main activity. The second project is a nationwide survey of people out of work participating in Green Care interventions on farms in Norway. The main objective is to systematically describe participants in, and content of, Green Care interventions on farms for people out of work in Norway. Elements that are perceived as important and effective for the participants will be documented and further associations of Green Care interventions on psychological and physiological factors important to stimulate return to work (RTW) will be investigated. There is also a research project at Møreforsk with the aim to identify knowledge and use of IPT in the municipalities and what, if any, success criteria or preclude such use. The aim is also to look at challenges for the implementation of IPT in municipalities in order to understand more of what is critical to integrate in public service production. At the University College of Hedmark it is ongoing a project titled “Mental Health Promotion by Recovery-Oriented Green Care Services”. The main aim is to obtain knowledge about factors that influence the way these services may enhance return to work and school for participants aged 16-30 years old suffering from of mental and/or drug related problems.

### ***Sweden***

In Sweden the concept of Green Care (Grön omsorg) has been developed over the last years, mainly through the work by the Federation of Swedish Farmers (LRF 2010). A survey of the knowledge of and interest in Green care among municipalities in Sweden showed that as much as 67 % had never heard about Green Care (CMA 2009). When the concept of Green Care had been presented to them 50% of the interviewed persons considered it interesting (CMA 2009). Representatives from handicap organizations were very interested in Green Care and want to take part in future discussions with the municipalities and offer their competence to enterprisers (Whitelock 2009). Until now the main focus on Green Care research has been related to gardens and other urban green areas, and Ottosson and Grahn (1998) found that such green areas appeared to play an important role in care institutions for the elderly, disabled and diseased. In Alnarp a rehabilitation garden has been created, where persons with stress related mental illnesses have been treated (The Behavioral Medical Unit at SLU, Rehabträdgården, 2012). However, until now there is no record of the number of farms offering Green Care services. Documentation on various Green Care project and nature based interventions are

now being systematically collected by the Green Rehab (Gröna Rehab) in the Botanical garden of Gothenburg and is presented at [www.vgregion.se/gronarehab](http://www.vgregion.se/gronarehab).

A new approach is now being taken by the county council of Skåne to test a new concept model of Green Care as nature based therapy for individuals with stress related illnesses. This is cooperation between the county council in Skåne, the Swedish Social Insurance Agency (Försäkringskassan), the Swedish Public Employment Service (Arbetsförmedlingen) and the Swedish University of Agricultural Sciences (SLU). The aim of the project is to bridge the barriers between sick leave and work/study through vocational rehabilitation offered by different agricultural services in the peri-urban area of Skåne. The project is funded by the European Social Fund (ESF) It started in 2011 and runs until 2014, and is being scientifically evaluated by SLU and Skåne University Hospital.

### ***Denmark***

Until now Green Care has not been a prioritized area in Denmark. However, there are several examples of pedagogical applications of Green Care in schools, using gardening and care-taking of animals as part of their teaching methods. Also care centers for young people with special needs, due to drug abuse, development disturbances and psychiatric diseases are starting to use animal-assisted activities as part of the daily life. These institutions receive public funding and supervision.

There are also some therapy gardens for people with stress related problems and they are primarily used as part of the treatment of people with stress related problems. Patients may be referred to the gardens by their own doctor or a specialized stress clinic, and usually cover the expenses themselves. Prisons also offer farm- based activities. Until now Animal-assisted activities are used primarily related to horses and visitor dogs.

There is a great potential for Green Care activities in Denmark, not least due to the profound farming traditions. The development in agriculture is going towards bigger and more specialized farms, but for some farmers it could be an alternative option to offer Green Care activities for different target groups instead of expanding - or closing down. Furthermore there is need for coordination and scientific documentation of effects. Both in order to goal-orient the interventions and get better treatment results, but also to be able to prove to the society at large and the politicians in particular, that Green Care is an area that should be prioritized in the future.

### ***Finland***

In Finland Green Care is currently understood as an umbrella-concept for all the nature-related methods aiming for human well-being and health (Soini et al. 2011). It is considered to be composed of three interacting elements: nature/environment, activities related to nature and community. The meaning and importance of each of the element for the human well-being may vary from caseses, however Green Care -services should be responsible in respect to clients and their family, to the farming environment and animals, and to the surrounding community. Green Care has rapidly become known by various actors. Especially the entrepreneurs/personnel already working or planning to work in the social sector in rural areas have found the concept interesting. Green Care is included in



the “Government report to Parliament on Rural Policy” in 2009 and “Rural Development Programme for Entrepreneurship 2020” in 2010. According to the register of small rural enterprises, there are approximately 300 farms providing social or health services (Mustalahti & Rantamäki-Lahtinen 2006), although only a part of them provide green care-type of services. It can be assumed that conscious utilisation of the farm resources for the social, health and educational purposes vary from farm to farm and case to case and a national association for Green Care, Green Care Finland, was established in June 2010. The association collect and deliver information at the national level and boost the networking of the actors. About fifteen to twenty research and developing projects are running/carried out under the topic of Green Care across country and new projects are being planned. One is the SENNI-project which is an entrepreneurship and product development project utilizing GC methodology in the Pohjois-Savo region. The project is targeted to 16-25 year old youth, at risk of segregation, and over 65 year olds in home care. The project started in August 2011 and will be finished at the end of 2013.

### ***Iceland***

Until now there have been no research on Green Care and nature based interventions in Iceland, and no systematic overview on how these are practised is available. There is a long tradition to send children to the countryside to farms or summer camps. For the younger generation, this is still is a popular way of spending the summer. Many farms offer “open house” for kinder gardens and school children where the children can meet close up the traditional Iceland husbandry animals in a farm environment. The closest they get to these animals is at the “Reykjavik Zoo and family garden”, but even these husbandry animals are sent to retreat in the countryside for restoration. Different projects on nature education have been established in Iceland using the various types of nature settings for *hands on* and *experimental learning* e.g. the coastline, in forest and woodlands, botanical gardens, allotment gardens, horse farms, general farm environments and the highland of Iceland/the wilderness. Homes and institutes for less fortune individuals or in rehabilitation (various types) are located in the country side that intentionally use nature and the surrounding as a social and mental restoration.

The first nature based project to be studied scientifically is the Janus nature health garden, where nature based vocational rehabilitation will take place. The nature health garden will be built in cooperation between Janus Rehabilitation Centre, the Icelandic Forestry Service at Mógilsá and The Swedish Agricultural University, Alnarp. A nature based rehabilitation model will be implemented, inspired by the work carried out in Alnarp rehabilitation garden. The 6 months vocational rehabilitation program is intended for individuals with disabilities due to stress related mental illnesses. Different types of nature will be included, as well as horticultural actives and work in the forest. Wild animals will be a natural part of the intervention and some hens will be in the garden. This evidence based research project is intended to start in 2013.

There is a great need of documentation on Green Care in Iceland and the use of nature as resources for meeting needs of different group of users. Benefits of Green Care and nature based interventions are great for social inclusion and general public health and well-being.

### **3. The working groups**

The aim for the working groups was first to inform each other of own research, both previous and ongoing projects. Secondly the aim was to sort out three research areas that may be a starting point for Nordic research projects. Suggestions for future research projects was presented for the audience, and discussed. Below is an overview of the different presentations from the working groups. The members in the different working groups are given in enclosure 1.

Working groups:

#### **1) Human-animal interaction**

- Need for understand the differences with and without animals at the farm. What are the added values with having animals at farms compared without?
- What are the specific effects on humans related to contact with the animals
- Time budget, the different activities with the animals involved during the time
- Animals as social catalysts and effects on human health
- Positive emotions in the interaction with the animals, both on the person and the animals including physiological stress and welfare measures on the animals

#### **2) Horticulture and landscape**

Three different perspectives on Green Care:

- a) Wide (holistic) perspective on Green Care
  - Consider all resources on the farm including the cultural landscape, physical environment, type of activity, social interactions
- b) Affordance perspective
  - Behavioral, perceptual and experience action opportunities - what do the environment afford for health promoting green activities?
  - Person-environment compatibility - what is it in our framework/settings? What contributes to the compatibility?
  - Will people develop a better compatibility
  - High person compatibility - Universal access/offer something for everybody – not only physical access, but all others
  - Environmental self-efficacy - Adding learned aspect to the affordance concept
- c) Restorative perspective
  - Theoretical framework
  - Do people consider environments restorative? (Perceived restorative scale, fascination, being away, extent, compatibility, cultural landscape - prospect and refuge, cultural aspect – connectedness to nature – home environment/change in environment
  - Psychological stress reduction, attention restoration/room for reflection/rumination, theories on flow

- d) System analytic perspective, what are the possibilities when the farm or the therapeutic horticulture (TH) activity setting is a part of the local community? What resources can they draw on?

### **3) Green care and public health**

- Green Care/Care farming – how are they defined /organized? – Nordic comparisons
- What are the motivation and opinions/views/aims /knowledge of the farmers?
- Methodological difficulties: Coordinating, exchanging and developing methods

### **4) Planning, regional development and economics**

- Evidence on effects; individual, social, rural systems (side effects)
- Contracts; legitimate by buyers and offers
- Attitudes to Green Care among political managements and buyers
- Cost-benefit analyzes including the users evaluation
- Best practice that may lead to universal concepts of Care farming
- Reintroduction of natural resources to human life; finding the small shift

## **4. Challenges in Green Care research**

The unique aspect of Green care is that it uses nature and the farm environment, including animals and plants as an arena for welfare services. The farm resources can strengthen the handling of society's welfare tasks. The services target a wide spectrum of sectors, including child and family protection, nursery schools and kindergartens, compulsory school, upper secondary school, adult education, after-school care, occupational training, outdoor and physical activities, adapted services for mental health, addiction, psychiatry, and services for the elderly and dementia patients. Although there are a lot of practical experiences, reports, some good single projects and studies in the field, the research on Green Care quickly faces methodological challenges related to non-standard measures and diverse user groups, which requires the research to also be theoretically based. Furthermore it is important to clarify the target groups, structure and scope of the measures, as well as the effects that may be achieved for mental and physical health, occupational abilities, coping skills, learning, cognitive functions and quality of life. There is also a need for knowledge on how the various farm resources can provide psychological rejuvenation as well as evaluations of the economic conditions for Green Care services.

## **5. Possibilities for Green Care research in the Nordic countries**

The mentioned challenges on Green Care research draw attention to the advantage on research across countries. Although the understanding of Green Care is somewhat different in the Nordic countries, the organization of the health sector is more similar among the Nordic countries than between Scandinavia and other countries in Europe and other

continents. The agricultural sector is also more similar in Scandinavia, with quite small farms with a diversity of productions, which is less common in other European countries.

Based on the discussions in the working groups as well in the plenary sessions, the following aspects on future research and topics were pointed out:

- Status of Green Care in the Nordic Countries, similarities and differences related to parties involved (providers, purchasers and users)
- Identify difficulties, exchange, coordinate experiences, develop quality assurance system
- Use common perspective and theoretical framework suitable to explain different mechanism within the Green Care context
- Develop methodology to explain why or why not Green care works and for whom
- Need a variation of study design e.g.:
  - evidence on effects of interventions using randomized standardised studies
  - surveys e.g. best practices that may lead to an universal concept of Green Care
  - identify side effects of Green Care e.g. rural systems
  - cost-benefit analyzes

To be able to design robust research projects in the Nordic context, there are some assumptions to be made.

1. There is need of a Nordic network that is moving the research forward, and shares the activities in the different countries.
2. There is a need of a working group with a representative person from each of the countries who are planning future workshops and seminars.
3. There is a need of organizations, managements and governmental authorities that are willing to financing Nordic research projects. Examples may be Research councils in the different countries, agricultural authorities, labour and welfare administrations, health directorates and assurance companies.

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## 7. National overviews of Green Care

### Status of Green Care in Denmark

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In Denmark Green Care activities are used in many different settings and with different target groups. However, until now the concept of Green Care has not been prioritised by the government, and many of the actors working with green care may not even be aware of the existence of Green Care as a concept.

The types of Green Care related activities provided are mainly concentrated in the areas of therapeutic and pedagogical gardening, education of children and young people, animal assisted interventions, and farming related and nature oriented activities. There is some research in the area and in general Green Care is a subject that seems to be getting more and more attention.

#### **Pedagogical and educational interventions**

In Denmark there are several examples of pedagogical applications of Green Care in schools, using gardening and care-taking of animals as part of their teaching methods. They are often independent institutions, supported by public funding. These schools are often for children with special needs, but as an example of an offer for ordinary school children “Gardens for Bellies” should be mentioned. Their aim is to “expand children’s competences and their knowledge of nature farming and food preparation” and is offered at three locations in Denmark, and the effects have been evaluated scientifically (Wistoft and Stovgaard, 2012).

Another target group is young people with learning difficulties and “Havredal Landbrugsskole” is an example of an institution, in this case farmer’s education, where the concept of *situated learning* is taken into use. Szulevicz (2010) reported that the students found it easier to relate to the teaching when it took place in relevant surroundings. A developmental project run by “Videnscenteret for Landbrug” (Skejby) directed at more or less the same target group, was carried out as a co-operation between farmers, advisors and the job centers, and aimed at offering a job or an education to young people that were somehow misplaced, mal-adjusted or handicapped and the results of the project has been very positive (Fuglsang, 2011).

In resident institutions for young people with special needs the use of these Green Care elements is often part of the activities or maybe even part of a treatment. The institutions receive public funding and supervision.

#### **Treatment interventions**

Therapy gardens are getting more common in Denmark as part of the treatment of people with stress related problems. Patients may be referred to the gardens by their own doctor or

a specialized stress clinic. In most cases patients pay for the treatment themselves, others may have coverage through private health insurance.

The use of interventions with therapy animals is a subject that gets a lot of media attention, but a low degree of acceptance from the established healthcare system. In a recent study it was found that the main part of the therapists used horses as therapeutic animals and that they usually treated persons with a range of problems or diagnoses (Thodberg and Christensen, 2010).

The research area of therapy animals and their effects of humans is getting more and more attention and in an ongoing study at the University of Aarhus, the acute as well as the long term effects of visitor dogs on elderly people is investigated in a multidisciplinary study with both ethologists and psychiatrists working together in a research team.

### **The potential for Green Care activities in Denmark**

There is a great potential for Green Care activities in Denmark, not least due to the profound farming traditions. The development in agriculture is going towards bigger and more specialized farms, but for some farmers it could be an alternative option to offer Green Care activities for different target groups instead of expanding - or closing down.

Denmark already has many Green Care related activities, however there seems to be a lack of coordination between the actors in the area.

Furthermore there is need for documentation of effects. Both in order to goal-orient the interventions and get better treatment results, but also to be able to prove to the society at large and the politicians in particular, that Green Care is an area that should be prioritised in the future.

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# Status of Green care in Sweden

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In Sweden the concept of Green care (Grön omsorg) has been developed over the last years, mainly through the work by the Federation of Swedish Farmers (LRF, 2010). Two inventories have been made to investigate if there is an interest by the municipalities in Sweden to use Green care (Whitelock, 2009; CMA, 2009). In the inventory performed by Centre of Market Analysis AB (CMA, 2009) random telephone interviews to 202 persons working in 104 Swedish municipalities were performed. Based on the results of the inventory it was concluded that there is a need of increased care for people with decreased abilities and older people, and that the need seems to be larger in small municipalities (less than 20 000 inhabitants) than in larger ones (CMA, 2009). More than 2/3 of the interviewed persons had never heard about Green care (CMA, 2009). When the concept of Green care had been presented to them 50% of the interviewed persons considered it interesting and 30% were neutral concerning Green care for disabled persons, persons with criminality and drug abuse, children and youngsters, whereas only 15% thought it was of interest for the care of elderly people (CMA, 2009). Green care was most interesting to use as family homes (around 70%) and daily activities (around 55%) (CMA, 2009). In the report by LRF (2010) four Swedish Green care farms are presented, and in a Google search three more farms were found (Högby Gård, Bustorps Gård, Sällegården). There is no national record of Green care farms in Sweden, as it is up to individual municipalities to buy the care directly from the farms.

In January 2009 Sweden got a new law, Lagen om Valfrihetssystem (LOV, Socialstyrelsen, 2009). This law was taken in order to make it easier for those in need of rehabilitation or care to choose where to get the care, and to make it easier for small enterprises and organizations to provide this care (Whitelock, 2009). An inventory was performed in four selected Swedish municipalities in collaboration with three regional organizations (consisting of several municipalities) in order to map which customers are willing to buy this type of care (Whitelock, 2009). The municipalities were positive to the whole idea, and they prefer that companies in the Green sector present a ready concept, which politicians and official officers can decide on and develop further (Whitelock, 2009). Representatives from handicap organizations were very interested in Green care and want to take part in future discussions with the municipalities and offer their competence to enterprises (Whitelock, 2009).

There is no money available for Green care in the regions, which only pay for medical rehabilitation, physiotherapy and psychiatric therapy (Whitelock, 2009). There is a very strong demand on evidence based scientific studies to support the effect of the different types of care (Whitelock, 2009).

Research on the effect of Green care in Sweden has mainly been developed by Professor Patrik Grahn at the Department of Landscape Planning in Alnarp, where the group "Health



and Recreation” has carried out research on how humans are affected by contact with nature (Abrahamsson and Tenngart, 2006). Gardens and other urban green areas appear to play an important role in care institutions for the elderly, disabled and diseased (Ottosson and Grahn, 1998). In an epidemiological study in Southern Sweden it was found that immediate access to natural environments with high recreational values was rare, but such access was associated with a positive assessment of neighborhood satisfaction and time spent on physical activity (Björk et al., 2008). In Alnarp a rehabilitation garden has been created, where persons with stress related syndromes have been treated (The Behavioral Medical Unit at SLU, Rehabträdgården, 2012). Several doctoral and master theses and other investigations have been made in order to demonstrate the positive effects of the green care offered at Alnarp since the rehabilitation garden was opened (see Rehabträdgården, 2012).

The research that we are presently involved in at SLU, Skara is the use of therapy dogs for persons living in homes for elderly people. We have recently received money to develop this further and contacts have been taken to build up a center for the use of animals in human therapy. We would also be interested in carrying out research on the effects of Green care provided to different groups of people allowed access to Green care by private enterprises in municipalities in Sweden. It is of course of extreme importance to evidence base such treatments.

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# Development of Green care in Finland

KATRIINA SOINI

15.5.2012

Similar to many other European countries various forms of nature interventions and therapies have been practiced in and by many social institutions in Finland for long. The concept of Green care was introduced in Finland in shortly after the mid 2000 from the other European countries especially through the European research and development networks and projects (COST 866 Green Care in Agriculture, Farming for Health, SoFar).

In Finland Green care is currently understood as an umbrella-concept for all the nature-related methods aiming for human well-being and health (Soini et al. 2011). It is considered to be composed of three interacting elements: nature/environment, activities related to nature and community. The meaning and importance of each of the element for the human well-being may vary from case to case. The green element, nature, however, should always be included in the green care service in some form or other. In addition, the Green care -services should be responsible in respect to clients and their family, to the farming environment and animals and to the surrounding community. The entrepreneur and/or the personnel should be committed with the good professional practices they represent and with the norms and the principles of the methods they use. Green care should also be thought to be long-term rehabilitation or empowerment instead of a single nature experience.

## **First steps of Green care in Finland**

Since its introduction Green care has rapidly become known by various actors. Especially the entrepreneurs/personnel already working or planning to work in the social sector in rural areas have found the concept interesting. Also many experts in the rural research, development, education and extension organisations consider it as a new opportunity for organising social and health services and promote rural viability, and the actors of the social and health sector have also increasingly become interested in. Green care has also gained attention in the media, in the regional and national newspapers and journals, and it has become a topic of discussion in a number of seminars and workshops linked with rural development.

Green care is included in the “Government report to Parliament on Rural Policy” in 2009 and “Rural Development Programme for Entrepreneurship 2020” in 2010. About fifteen to twenty research and developing projects are running under the topic of Green care across country and new projects are being planned. In terms of diffusion of social innovation social farming in Finland we can argue that Green care in Finland is now developing from “novelty” to “niche”. As a sign of multi-sectoral and -level interest in the topic, a national

association for Green care, Green Care Finland, was established in June 2010. The association collect and deliver information at the national level and boost the networking of the actors. Currently a national board aiming for promoting green care at the national policy level is being established.



## 1. Milestones of development of Green care in Finland

To conclude, we can argue that the concept of Green care has in Finland in a relatively short time given a name for activities that are clearly demanded by the various sectors of society and that are already provided by many enterprises, institutes and organisations. It has started process of “a social innovation”, and the next challenge is to manage the diffusion of this innovation.

### Care farming in Finland

Although the Finnish concept for Green care covers many type of nature interventions used for the promotion of human physical and mental health, care farming has been focused by many projects. Up to now there is no good census of farms providing green care services. According to the register of small rural enterprises, there are approximately 400 farms providing social or health services (MTT 2006), although only a part of them provide green care -type of services. It can be assumed that conscious utilisation of the farm resources for the social, health and educational purposes vary from farm to farm and case to case and that the entrepreneurs or personnel have not always until now considered farm as a therapeutic environment or a resource for the social work.

Care farming activities are organised in very different ways. The majority of the activities take place at private farms, which produce social services bought by the municipalities or

for the private clients. There are also farms owned by the public sector or foundations. Currently riding therapy is the only green care method that is recognized and financially supported by the Social Insurance Institution of Finland (Kela), which provides social security benefits for all residents of Finland.

### **Looking for the future of the Green care in Finland**

When looking for the future of the social farming in Finland, there seems to be many strenghts, upon which the development of green care in agriculture can be built on. Most important is perhaps a small, but very committed and enthusiastic and increasingly growing group of actors that are strongly convinced of the possibilities of the Green care in Finland and committed with developing it. The restructuring of municipalities and social and health sector that is currently going on throughout Finland, calls for innovations in the social and health sector, providing opportunities for the development and diffusion of social farming as a form of Green care.

Of course, there are also weaknesses and threats, which mainly arise from the novelty of the idea, lack of scientific knowledge and institutional structures for the activities. There is an urgent need to fill the knowledge gaps and to develop a handbook and quality management systems for the sector. Otherwise the promising start and the opportunities Green care provides for society might be lost.

*Soini, K., Ilmarinen, K., Yli-Viikari, A. & Kirveennummi, A. 2011. Green care - toiminta sosiaalisena innovaationa. [Green care as a social innovation in the social and health sector] Yhteiskuntapolitiikka 76, 3/2011: 320-330.*

## Green care – Iceland

### Naturunderstödd rehabilitering – Janus Hälsoträdgård i Heidmörk, Island – prospektiv kontrollerad studie

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Naturunderstödd rehabilitering har visat sig vara ett effektivt sätt för att stödja personer med stress relaterad mental ohälsa tillbaka till arbetslivet, öka deras funktion i vardagslivet, hälsa och livskvalité. Olika projekt som tar plats ute i naturen eller i speciellt utformade hälsoträdgårdar används som den bärande grunden för terapin och leds av yrkespersoner inom sjuk-och hälsovård tillsammans med naturvetare (biologer, skogsbruksingenjörer, trädgårdsmästare m.m.). På Island planeras nu den första hälsoträdgården som bygger på olika teorier inom miljöpsykologin om naturens och trädgårdens läkande krafter. Projektet inigerades av Janus Rehabilitation Center (JRC) som under ett antal år har arbetat i ett multimodalt team med rehabilitering av bl.a. personer som lider av stress relaterad mental ohälsa (ICD-10 F32, F41; 43). Hela interventionen genomförs inomhus vilket är det traditionella sättet på Island att arbeta med denna målgrupp. Tillsammans med forskare på Sveriges lantbruksuniversitet i Alnarp, planerar nu JRC en hälsoträdgård med naturunderstödd intervention som bygger på de resultat som forskningen i Alnarp har visat vara effektfulla i rehabilitering av denna målgrupp. Hälsoträdgården planeras ligga i natur och skogområdet Heidmörk ett känt friluft och rekreations område som ligger i utkanten av Reykjavík. Platsen ligger i en naturskön miljö med tillgång till skog, sjö och i den specialt designade trädgården finns huvudbyggnad och två växthus. Området kommer att innehålla platser för social samvaro och gemensamma aktiviteter men även platser där deltagarna kan dra sig undan och vara för sig själva. I hälsoträdgården erbjuds deltagarna aktiviteter och upplevelser i den omgivande naturen och i de strukturerade odlingsenheterna. All odling på området är ekologisk. Interventionen kommer att bestå av närmare 6 månaders naturunderstödd rehabilitering och ledas av ett professionellt hälsovårdsteam av arbetsterapeut, psykolog, sjukgymnas samt en naturvetare. Interventionen planeras för grupper av 8 personer och med två parallella grupper per termin och innehåller bl.a. stresshantering, stödjande samtal, aktiviteter för ökad fysisk aktivitet, social samvaro, struktur i vardagen, medveten närvaro och sinnesstimulering. Studien planeras som prospektiv kontrollerad studie med en interventionsgrupp i naturunderstödd rehabilitering (100 personer) och en kontrollgrupp som gengomgår sedvanlig behandling (400 personer). Hypotesen är att andelen som

återgår i arbete och studier är större för deltagare i naturunderstödd rehabilitering samt ger bättre effekt på funktion, hälsa och livskvalité jämfört med sedvanlig behandling.

## Research on Green care in Norway – an overview

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### What is Green care?

#### Definitions and goals

In Norway Green care refers to adapted and quality-assured welfare services on farms. In Norway the term *Inn på tunet (IPT)* is a common used term that combines farming with teaching and care. The main goal is that the services shall provide coping skills, development and well-being. Green care farms are defined as properties that are used for farming, forestry or gardens, and the activities offered are related to the farm and its daily life and operations. The service areas include child and youth services and education (general pedagogy, special needs education, leisure, etc.), health and care services (addiction, disability, mental health, dementia, immigrants and refugees etc.), and occupational training.

The Ministry of Agriculture and Food and the Ministry of Local Government and Regional Development have recently prepared a new national strategy of Green care (2012) to ensure development in important areas such as quality assurance, research, and the future division of roles and responsibilities. By autumn 2011 there were approximately 1,100 farms providing Green care services in Norway. An overview in 2009, including 152 providers and 13 different services in five counties, showed that the greatest share of Green care services were school and day care services for people with psychiatric disorders. Together these two categories constituted of approximately 40 percent of the services offered (Statistisk sentralbyrå (SSB) 2010).

#### Quality assurance and approval

To ensure legitimacy and predictability of IPT, a *quality assurance system* was established for Green care farms during 2010. The work was developed in collaboration between the agreement partners in the agricultural sectors, the Norwegian Association of Local and Regional Authorities, the insurance industry, the Norwegian farmers' association for HSE services, and the Norwegian Agricultural Quality System and Food Branding Foundation. The standard was developed as an Agricultural Quality System standard, and it is included in the list of Agricultural Quality System subsidiary standards. It has been decided that the Norwegian Agricultural Quality System and Food Branding Foundation shall operate and further develop the standard. The standard came into use in 2011.

An *approval system* for IPT started in 2012. All farms that want offer these services must gain approval based on the care quality assurance system. The Norwegian Agricultural

Quality System and Food Branding Foundation operate the system. The services must be designed based on requirements stipulated by the purchaser for the services, and must comply with professional/sector-based legislation and guidelines.

## Knowledge-status

### Finished research projects

Until now there is a wide range of research projects at different levels. A report of the status of knowledge and research needs for Green care in Norway pointed out that there is need for more evidence-based knowledge, and that future research must include all agricultural resources, including forestry and other nature-based resources, buildings, plants, animals and people (Berget & Braastad 2008a). Furthermore the report concludes that it is important to document positive effects of Green care, such as animal-assisted therapy, horticultural therapy, and pedagogical measures on farms in order to become fully legitimate and accepted by the health, education, work and welfare authorities, and by medical and pedagogical personnel. Below is a short description of finished research studies of Green care in Norway from 2006-2012 (table 1).

Table 1. An overview over research projects on Green care in Norway (2004-2012), author, design, journal, sample and main findings.

| <i>Author, design, journal</i>                                                         | <i>Sample</i>                     | <i>N</i> | <i>Intervention</i>                                                  | <i>Main findings</i>                                                                                                                 |
|----------------------------------------------------------------------------------------|-----------------------------------|----------|----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| <b>RCT-design</b>                                                                      |                                   |          |                                                                      |                                                                                                                                      |
| Berget et al. 2008b<br><i>Clinical practice and epidemiology in mental health, 4:9</i> | Adults with psychiatric disorders | 69       | 12-week farm animal-assisted intervention                            | Increase in generalized self-efficacy in intervention compared to control group six months after end of interventions                |
| Berget et al. 2011<br><i>Occupational Therapy in Mental Health 27(2), 50-64.</i>       | Adults with psychiatric disorders | 69       | 12-week farm animal-assisted intervention                            | Decline in state anxiety in intervention compared to control group six months after end of intervention                              |
| Pedersen et al. 2012b<br><i>Anthrozoös, Vol. 25 (2), 149-160 (July) 2012.</i>          | Adults with clinical depression   | 14       | 12-week farm animal-assisted intervention                            | Decline in clinical depression and increase in self-efficacy during intervention                                                     |
| <b>Quasi-experimental</b>                                                              |                                   |          |                                                                      |                                                                                                                                      |
| Berget et al. 2007<br><i>Occupational Therapy in Mental Health 23(2), 101-117.</i>     | Adults with psychiatric disorders | 35       | Behavioural study during a 12-week farm animal-assisted intervention | Among persons with affective disorders, increased intensity of work correlated with increase in self-efficacy and decline in anxiety |
| Pedersen et al. 2011<br><i>Issues in Mental Health Nursing, 32 (8): 493-500.</i>       | Adults with clinical depression   | 14       | Behavioural study during a 12-week farm animal-assisted intervention | Decline in depression and anxiety and increase in self-efficacy are related to performance of complex work tasks                     |
| Gonzales et. al. 2009                                                                  | Adults with clinical depression   | 18       | 12- week therapeutic                                                 | Decline in depression and improved attention capacity                                                                                |

|                                                                                                |                                       |           |                                                                                            |                                                                                                                                                                    |
|------------------------------------------------------------------------------------------------|---------------------------------------|-----------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Research and theory for nursing practice, 23(4), 312-328.</i>                               |                                       |           | horticulture intervention in a Green care context                                          |                                                                                                                                                                    |
| Gonzalez et al. 2010<br><i>Journal of Advanced Nursing, 66(9), 2002-2013.</i>                  | Adults with clinical depression       | 28        | 12- week therapeutic horticulture intervention in a Green care context                     | Decline in depression and improvement in attention capacity were mediated via fascination and being away                                                           |
| Gonzalez et al. 2011a<br><i>International Journal of Mental Health Nursing, 20, 119-129.</i>   | Adults with clinical depression       | 46        | 12- week therapeutic horticulture intervention in a Green care context                     | Decline in state anxiety and positive correlation between change in anxiety and group cohesiveness                                                                 |
| Gonzalez et al. 2011b<br><i>Issues in Mental Health Nursing, 32(1), 73-81 (9).</i>             | Adults with clinical depression       | 46        | 12- week therapeutic horticulture intervention in a Green care context                     | Depression severity declined during both intervention and follow-up. The therapeutic horticulture was described as meaningful and influential for the view of life |
| <b>Qualitative design</b>                                                                      |                                       |           |                                                                                            |                                                                                                                                                                    |
| Pedersen et al. 2012a<br><i>DOI: 10.3109/09638288.2011.650309</i>                              | Adults with clinical depression       | 8         | Qualitative study of persons who had completed a 12-week farm animal-assisted intervention | Flexibility and adapted work tasks important, also possibility to experience ordinary work life                                                                    |
| Bjørngen and Johansen 2007<br><i>Mental helse i Sør- Trøndelag. Prosjektrapport 1/2007.</i>    | Adults with mental disorders          | 15        | Stay at Green care farms with work rehabilitation                                          | The farmers' commitment and the social setting on the farm important                                                                                               |
| <b>Survey</b>                                                                                  |                                       |           |                                                                                            |                                                                                                                                                                    |
| Fjeldavli and Meistad 2004<br><i>Centre for Rural Research, NTNU. Report Vol. 2/2004, 0-50</i> | Farmers with Green care services      | 325 farms | Type of service, target group and motivation                                               | 30 % of Green care farms had a service for people with mental health problems.                                                                                     |
| Berget et al. 2008c<br><i>Journal of Psychiatric and Mental Health Nursing, 15(7), 576-581</i> | Health care professionals and farmers | 60<br>15  | Therapists with clients at farm animal-assisted interventions and farmers                  | Both groups thought that Animal-assisted therapy could enhance better communication with other people and improve mental health                                    |
| Berget and Grepperud 2011<br><i>European Journal of Integrative Medicine, 3 (2), 91-96</i>     | GPs, psychiatrists and psychologists  | 1100      | Questionnaire of Animal-assisted intervention (AAI) for psychiatric patients               | Strongest degree of usefulness was reported for mental retardation and belief in treatment effects highest for improved physically capacity                        |
| Berget et al. 2012<br><i>Society &amp; Animals, in press</i>                                   | GPs, psychiatrists and psychologists  | 1100      | Questionnaire of AAI for psychiatric patients                                              | Two thirds had some or significant knowledge of AAI and were motivated to adapt AAI to own practice.                                                               |



## **Ongoing research projects**

### **1. The effect of the horse on adolescents' self-efficacy, self esteem and social skills (2008-2013)**

*Norwegian University of Life Sciences*

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The PhD project comprises 80 teenagers aged 12-15 years from different areas of Norway. The main aim is to examine what teenagers can learn from being on a farm with horses, and how this can enhance their self esteem and feeling of mastery. Each teenager participating in the project is given an intervention with horses once a week for approximately 4 months. Around 20 farms take part in the project, all being small, agricultural farms with horses as their main activity. The teenagers learn to care for the horse, brush and handle it from the ground and through riding. The project has a cross-over design with control group where all participants are given the intervention with horses, but at different times.

### **2. A Nationwide Survey of People Out of Work Participating in Green Care Interventions on Farms in Norway (2010-2014)**

*Norwegian University of Life Sciences*

*Lina Harvold Dalskau, Bente Berget and Camilla Ihlebæk (Norwegian University of Life Sciences), Gunnar Tellnes (University of Oslo)*

The main objective is to systematically describe participants in, and content of, Green Care interventions on farms for people out of work in Norway. Elements that are perceived as important and effective for the participants will be documented and further associations of Green Care interventions on psychological and physiological factors important to stimulate return to work (RTW) will be investigated. A nationwide survey is designed specifically for this purpose. Relevant questions from a Dutch survey are also included. The study population are all adults out of work participating in different ongoing Green service programmes in Norway, who were on different kinds of welfare benefit arrangements from The Norwegian Labour and Welfare Administration (NAV). In addition, all farmers offering Green care services for adults with mental health disorders, addiction problems and occupational training answer a questionnaire regarding the farm, the interventions offered, and experiences with engaging in Green care interventions.

### **3. Inn på tunet” (IPT) in the municipal service (2012)**

#### ***Møreforskning***

The main aim is to identify knowledge and use of IPT in the municipalities and what, if any, success criteria or preclude such use. The aim is also to look at challenges for the implementation of IPT in municipalities in order to understand more of what is critical to integrate in public service production. The project is addressed to the western counties Hordaland, Sogn og Fjordane and Møre og Romsdal. Collected data will be systematized and analyzed on the basis of subject, organization, formal foundation, geography and demographics. The study will be completed by the end of 2012.

### **4. Mental Health Promotion by Recovery-Oriented Green Care Services (2010-2014)**

#### ***University College of Hedmark***

The main aim of the project is to obtain knowledge about factors of Recovery-Oriented Green Care Services that influence the way back to work and school for participants, and the improved functioning of defined indicators, and the recruitment model's impact on how early in the process participants are offered the services. Further, by use of the data gathered from users' subjective experiences, there will be identified which factors are most crucial in the recovery process, how the factors work together, how it is possible to build a flexible system in which individual needs are taken care of, and to what degree recovery-oriented green care services can constitute an alternative and supplement to traditional medical services. The project consist of four sub studies: i) a quantitative study of people between 16-30 years old who is out of work or school because of mental and/or drug related problems, and who are going through a Green Care program. The aim is to measure effects on connection to job or education, and other aspects of individual functioning before, during and after an intervention ii) a qualitative study of users experiences with Green Care iii) a qualitative process study of young people's experiences with Green care, and iv) discourse analytic approach of different languages and discourse among participants in the field such as farmers, activity leaders, participants, work and welfare officers, and health and agricultural professionals.

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## 8. Research projects – abstracts

### Abstract Groen Omsorg

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Groen Omsorg emerged from the founder, Carsten Ørting Andersen's participation in the COST 866 work, together with Professor Henrik Saxe. This work led in 2011 to an application to the Rural Fund for Research and Dissemination in collaboration with the Rural Districts Council, Union Of Associations For Equality, Knowledge Centre for Agriculture, Centre for Autism and individual players. The purpose of this application was to start an investigation of the number and type of Danish initiatives that fall within the definition of Green Care, to create a network and promote sharing of experience and to identify research needs. The application was rejected, but since the need to perform this task still seems urgent, Carsten Ørting Andersen established the company Green Care in an attempt to spread information about companies who practice Green Care, and to establish a collection of articles and links concerning research and practice experience. The goal is to show the potential of Green Care in a broad context in Denmark, and to raise awareness about the need for validation of methods and effects, and pinpoint the need for future research projects. The Danish nature is a cultural landscape that always has been characterized by a diversified agricultural production. The specialization and large scale production that have marked the past 20 years have left some farmers with a challenge of having to choose between expanding the production or investing in less production of higher quality. Here, social farming, agriculture-based teaching and therapeutic farming prove to be extremely important contribution to a future commercial and rural development, where production in small units of high quality products has the possibility to interact with other activities. Groen Omsorg is financed through provisionally private investment, publishing and advisory services offered to local authorities and private actors. The work still needs funding in order to get full attention and qualification.

# A Nationwide Survey of People Out of Work Participating in Green Care Interventions on Farms in Norway

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## Aim

In Norway there is a concern that a relatively high and increasing proportion of the population is permanently or temporary out of work and are dependent on different kinds of welfare benefits (NAV 2009). The costs and burdens of being out of work are major both for the individual, the employer and the society (Staal et al. 2002; Pransky et al. 2005). The overall goal of the project is to develop knowledge and documentation that could be useful to design and develop Green Care interventions on farms further, and to develop scientific competence on Green care in relation to health.

The main objective of the project is to systematically describe participants in, and content of, Green Care interventions on farms for people out of work in Norway. Elements that are perceived as important and effective for the participants will be documented and further associations of Green Care interventions on psychological and physiological factors important to stimulate return to work (RTW) will be investigated.

## Part aims:

1. Generate a demographic understanding of participants in Green care interventions on farms in Norway.
2. Reveal perceived success criteria among the participants on which elements or qualities of the Green Care interventions (animals, nature surroundings, social interactions, meaningful tasks, work training etc.) that are important to stimulate and promote health and working capacity.
3. Assess the relation of participating in Green Care interventions on farms to subjective health complaints, social support, function in daily life and working ability.
4. Assess the experience of the farmers who provide Green care interventions

## Method

The aims of the study will be answered using a nationwide survey designed specifically for this purpose. Relevant questions from a Dutch survey were also included, allowing for collaboration with researchers in Netherland, which is considered one of the pioneering countries in Green care intervention on farms.

The study population was adults out of work participating in different ongoing Green service programmes in Norway, who were on different kinds of welfare benefit

arrangements from The Norwegian Labour and Welfare Administration (NAV) (sickness absence, vocational rehabilitation, disability pension, social security and unemployed). There was an inclusion criterion that they had been on the farm for a minimum of one month at the time they filled in the questionnaire.

In addition, all farmers answered a questionnaire regarding the farm, the interventions offered, and experiences with engaging in Green care interventions.

An extensive mapping of all farms offering Green care interventions for people out of work was carried out. "Inn på tunet" (IPT)- coordinators in all 19 counties in Norway were contacted, and NAV provided information on farms offering green work. In addition, an extensive search on the IPT web page and other relevant web pages was conducted. A list of all possible farms was created and each one was contacted by phone to ensure that the farm had a relevant ongoing intervention and to collect information on the number of participants on each farm.

### **Preliminary results**

At the present time 100 farmers (65% response rate) and 173 participants (47% response rate) have answered the questionnaires. Preliminary results from the participant survey show that the study population consist of 55% women and the age ranged from 19 to 67 (mean = 37). The participants have been working for an average of 10 years and 46% of the participants have been out of ordinary work for more than two years when they started the Green Care program at the farm. There are 41% who anticipate that the process of returning to work would be longer than one year. Almost 95% of respondents report to be together with other participants on the farm. Further results on standardised measurements of self-efficacy, perceived social support, subjective health complaints and satisfaction with life will be analyzed as the project proceeds.

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# Therapeutic horticulture in a Green Care context

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Historically, asylums were surrounded by gardens, parks and open landscapes, and patients often participated in horticultural activities. Horticultural therapy (HT) and therapeutic horticulture (TH) are today widely known therapeutic strategies within mental health, despite the fact that formal research in this field is scarce. TH can be defined as *‘a process that uses plant-related activities through which participants strive to improve their well-being through active or passive involvement’* (1, p.4).

We do not know to what extent garden and horticultural activities are used in Green Care programs in Norway. Using the farm as a setting for TH implies that the farm yard, the nearby nature, forest and cultivated land serves as an environment to simply stay in as well as for doing horticultural activities. The aim of TH may range from restoration of mental, physical and social resources, via improvement of self efficacy through meaningful and creative activities, to development of vocational skills or learning of new motivating leisure time activities.

Research on TH within a Green Care context in Norway is limited to the PhD project by Marianne Thorsen Gonzalez (2) on the importance of TH for people diagnosed with depression and the following is a presentation of the project. Depressed individuals suffer from impaired mood, attentional impairment, rumination, reduced interest, inactivity and social withdrawal. Depression is highly co-morbid with anxiety and inversely associated with existential issues. The main aim of the project was to assess changes in depression severity, anxiety, positive affects, perceived stress, perceived attentional capacity and rumination during a TH program on urban farms. We also aimed to identify when during the program the most significant changes took place, and to investigate if the elements of attention restoring therapy, being away, fascination and group cohesiveness, acted as possible active components in a TH program. We further aimed to investigate the persistence of changes at 3-month follow-up. Two single-group design studies with multiple measurement points and convenience samples were used (2008 and 2009). The participants, all meeting the DSM IV criteria for major depressive disorder, completed a group-based TH program in twelve weeks, attending twice a week for three hours each time.

In both studies (3, 4), depression severity declined significantly during the intervention, and the most significant change took place during the first four weeks. The decline compared to baseline was still significant at 3-month follow-up in both studies. Perceived attentional capacity increased in both studies; the most significant change took place after four weeks in Study 1 and after eight weeks in Study 2. However, the increase dissipated by the 3-month follow-up in both studies. Rumination decreased significantly during the intervention in Study 2 (3). The participants reported high and stable values on the restorative qualities being away and fascination during the intervention. Those participants who were most fascinated by the intervention showed a significantly greater decline in depression severity. Decline in depression severity and increase in perceived

attentional capacity were mediated by change in the restorative qualities being away and fascination from home to the garden and farm context. Brooding acted as a moderator of decline in depression severity (4).

The improvements in anxiety, positive affects and perceived stress during the intervention were all statistically significant (5). The participants reported high levels of group cohesiveness, and the levels of group cohesiveness correlated positively, but not significantly, with the improvements in depression severity, anxiety, affects and perceived stress. The participants evaluated positively the social aspects of the TH intervention and more than a third of the participants reported increased social activity after having participated in the program (5). There were no significant changes in the two studies in the existential issues life regard and sense of coherence. However, more than two thirds of the participants evaluated that participation in the TH intervention had contributed to change in their view of life. The qualitative data supported these evaluations (6).

This research is limited by a lack of control group, small sample sizes in each study and a complex intervention performed at four different locations. The research is strengthened by double assessments at baseline, multiple measurement points and two data collection periods, enabling replication that increases confidence in the findings. It is also considered a strength that the statistical analysis used allowed for determining when the most substantial changes took place, and for examining possible mediators and moderators. Additional strengths were that the design allowed for investigating changes at 3-month follow-up.

TH is an activity that is easy to facilitate in a farm context. It makes use of both the nature and cultural context represented by the farm for restoring and renewing resources and for developing new skills in a coherent and meaningful setting. There is a need for quantitative studies holding benefits of farm based TH interventions against benefits of relevant control interventions, as well as for qualitative studies exploring the meaning and experiences of participating in TH programs.

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# The effect of the horse on adolescents' self-efficacy, self-esteem and social skills

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## Background and overview

Being young is a period of identity development. To ensure a good development during adolescence certain skills of mastery and empathy to develop pro-social behaviour is important (Gano-Overway et.al., 2009). Forsberg (2007) showed that young girls (14-16 yrs) developed their identity through experience of mastery with the horse. Experience of mastery is important for adolescents in developing social skills (Bandura, 1977).

The PhD project "The effect of the horse on adolescents' self-efficacy, self-esteem and social skills" comprises 80 teenagers aged 12-15 years from different areas of Norway. The main focus is the relationship between adolescents and horses. The overall aim is to examine what teenagers can learn from being on a farm with horses, and how this can enhance their self-esteem and feeling of mastery. Each teenager participating in the project is given an intervention with horses once a week for approximately 4 months. Around 20 farms take part in the project, all being small, agricultural farms with horses as their main activity. The teenagers learn to care for the horse, brush and handle it from the ground and through riding. The project has a cross-over design with control group where all participants are given the intervention with horses, but at different times.

## Method

The project uses two different methods, questionnaires with standardized psychological measurements and video records, once in the beginning and once in the end of the intervention. In addition the adolescents answer the same questionnaire either half a year before or after the intervention. The questionnaires include scales measuring self-efficacy, resilience, self-esteem, social skills and their relationship with horses.

The students participating in the project are allocated into two groups. Half of the students are offered intervention with the horse straight away, while the other half wait for half a year before they start the intervention, to provide a waiting-list control group for the questionnaire part of the project.

The adolescents are in pairs of two in their own session when at the farm. The intervention on the farm consists of different activities, the horse being the main focus. The students are taught how to handle horses through riding, grooming, putting on tack and stable work. The main aim for the intervention is to give the adolescents an experience of being on a farm with horses as close to a normal setting as possible.

## Video analysis

Seventy-five participants attended the intervention and of these students twenty-nine were successfully video-recorded twice during the intervention; in the beginning and in the end.

The videos are analyzed using The Observer<sup>®</sup> software which is mainly used for analyzing animal behaviour. This is done to be able to study the activities on the farm and the interaction between horses and adolescents. An ethogram, a list of behaviour categories, is produced consisting of the different aspects that are to be analyzed. It consists of the types of contact that occurs between horse and teenager, and how well the teenagers perform different tasks.

In the project we study mastery of tasks in relation to being on a farm and working with horses. The video analysis will give information about the relation between the adolescent and the horse and how the adolescents handle potentially difficult tasks presented to them. In addition to the video analysis the questionnaires will be used to study the effect of the intervention. In particular, we will analyze to which extent being on a farm and working with horses may affect self-efficacy among adolescents.

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## **Abstract: "Green care" services for persons living with dementia**

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Around 70,000 persons in Norway are estimated to have dementia and approximately half of them live in their own home (Engedal & Haugen 2009). This figure is expected to double within the coming 40 years (Ferri et al. 2005). Suitable health and care facilities for people with dementia are hence a huge professional and economic challenge for the municipalities, both now and in the near future. More than 180 Norwegian municipalities offer special day-time care options for people with dementia. Above 20 of these are farm-based (Eek & Kirkevold 2011). The national coverage is presently 9.3%, and a substantial effort is needed in order to make day-care activities available for all persons who want and need them. Hence a further strengthening of this field is highly recommended (Norwegian Directorate of Health 13.09.2011).

Experiences from Green care services based on international research (see e.g. Elings and Hassink 2006; de Bruin 2009) and also previous national projects (Strandli 2007) and mappings in Norway (Taranrød 2011) indicate that people with dementia living in their homes can benefit from day-care services on farms. This is very much in line with the conclusions of a recent Norwegian White Paper (NOU 2011:11). However, more research on this topic is warranted. We need more evidence-based knowledge concerning how the content and organization of Green care activities and the farm setting influence the users. It is also important to know how the activities may take the specific Norwegian national context into account (Strandli 2007). Such knowledge may contribute to good care options for the municipalities, the users and their next-of-kin.

The Ministry of Health and Care Services maintains that day-care activities to a large extent constitute a missing link in the chain of care services (circular/"rundskriv" no. 1-5/2007). According to this circular the municipalities should ensure that culture, a diversity of daily activities, and well-being as central elements in a comprehensive dementia care service. In a state-of-the-art report from the Norwegian Directorate of Health (13.09.2011), a preliminary summary of work on the Dementia Plan 2015 is provided. This report states that the rate of coverage of day-care offers designed for persons with dementia has increased in recent years, but is still far below what is needed. In a recent White paper on a new national strategy for Green care (2012) published by The Ministry of Agriculture and Food and the Ministry of Local Government and Regional Development, a need for evidence-based research on Green care services is stressed. There is widespread support for this work in other ministries as well, and with this strategic plan the government aims to further develop and strengthen Green care services.

Some studies support the assumption that physical surroundings may have a direct influence on socialization and the social life of persons living with dementia, that facilities with home-like characteristics are better for persons with dementia and other frail elderly (Hauge 2004), that facilities with a homelike physical surroundings "invites" people with

dementia to seek and remain in the social community, while long corridors contributes to unrest and apraxia (Bergland & Kirkevold 2011), and that the physical surroundings influence the very work and work organization of staff serving people living with dementia (Jacobsen 2010). A farm, although also a unit for production, may be said to possess important home-like characteristics, where buildings not originally design for health purposes, represent a meaningful architectural frame for care. Both the buildings and outdoor areas on the farm represent a recognizable and meaningful non-medical context with elements which may stimulate activities, memory work and conversations (Strandli 2007; De Bruin 2009). The wider surroundings of the farm enhances easy access to natural surroundings as well, and may positively affect the health and well-being of persons with dementia (Bergland & Kirkevold 2011), although one must recognize that too little is known about the influence on farm-related elements on those persons (Berget & Braastad 2008).

Place matters for health and well-being (Cattell et al. 2008), and care farm provides for therapeutic landscapes, and could be used both as a physical arena for assessment of physical or cognitive function (Geurts AC et al. 1991), as a treatment arena for people with dementia or other acquired braininjuries (haemorrhages, tumours, sequela), or maybe more importantly, as a recuperative landscape for social participation, community building, social interaction and well-being in normalized everyday environments (Hassink et al. 2010; Sudmann and Henriksbø 2011). Farms provide places for community building amongst participants, and between farmers, volunteers and participants (Hassink et al. 2010). Participants particularly value the normalized daily round of everyday living, the informal social interaction and ambience, and their integration and involvement in a local community.

The report *"Kunnskapsbehov og forskningsstatus for Inn på tunet"* (Berget and Braastad 2008) concludes that there is a strong need for evidence-based research on Green care services. In particular, the report calls for research perspectives that include the broader range of resources within the agricultural sector, from woodland and other natural resources to farm animals, plants and human resources. The research needs to investigate the experiences of various user groups related to the various farm activities and programmes, and, more broadly, physical and mental health and quality of life among the participants. An important aspect is to analyze the significance of the roles performed by the farmer and his/her family, the organization of meals and routines, nature and architectural surroundings, and other environmental factors on the experience of well-being and health among the frail elderly participants (ibid.).

Through a broad multidisciplinary approach, we plan a project which aims to provide new knowledge of the experiences of and effects on persons living with dementia and their next-of-kin by so-called Green care (farm based) services. The project combines a survey of all Green care facilities in Norway with an exploratory multi-site case-oriented study of a smaller selection of farms, aiming at creating an enhanced knowledge base for planning, organizing and developing apt care services for persons with dementia. The project involves a comparative dimension, where Green care services will be compared to "ordinary" day-care services for persons living with dementia.

This planned project is based on a pilot project in 2011 run jointly by the Church City Mission Oslo (SKBO, project management) and the Centre for Care Research – Western Norway (SOFV, scientific responsibility). The pilot project, titled «Green care as a model for care work among people with dementia in future care services» (*”Grønn omsorg som en modell for tilbud til mennesker med demens i fremtidens omsorgstjeneste”*), has been supported by a grant from Regionale Forskningsfond – Hovedstaden.

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# Farm-school cooperation for sustainable learning

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“How can we contribute to fostering hope, courage and resolve in children so that they may participate in a productive way in shaping their surroundings?” This was the question a group of teachers and students posed at the Agricultural University of Norway (now: Norwegian University of Life Sciences) in 1995. More precisely, the goal was to create pedagogical arenas to facilitate committed, caring and continuous work with nature, enabling an experience of connection and belonging which can serve as a foundation for sustainable education.

This was the start of our national project “Living School” (1995-2000) in which examples of such arenas were developed. One component consisted of schools using the school grounds as an extension of the classroom with school gardens as an essential element. Another component consisted of farms which developed an intensive co-operation with neighboring schools to allow the pupils to participate in taking responsibility for nature on a larger scale (Hugo 2000, Parow 2000, Jolly and Leisner 2000). It is this cooperation with farms, “The Farm as a Pedagogical Resource”, which we will present here (Jolly et al 2004, Jolly and Krogh 2010). We will describe some of the aspects of the work in Norway including our model for relationship-based experiential learning, site research on the relevance for sustainable education as experienced by pupils and former pupils, and also touch on recent development of this work in Tanzania.

On the basis of the first years of experience, we initiated courses for farm-school cooperation in 2000. The world of the teacher and the world of the farmer have similar challenges, but divergent cultures, frames and practices for learning. While small farmers in Norway have problems with recruitment and have also been marginalized in relationship to wages and positive interaction with the local community, the schools face problems with physical and teacher resources, relevance for daily life and motivation for learning. In Norway we have seen how these two arenas can supplement each other, providing a basis for concrete understanding of sustainability and motivating pupils to learn based on practical experience with societal relevance and mastery of skills. The farm can widen the scope of learning activities offered by the school and educate children/youth in a multiplicity of different forms of intelligence (Gardener 1983, 1999).

In order to implement such cooperation between schools and farms, we have offered accredited courses for the farmers and teachers through the University where they can develop a plan for integration of learning goals in the practical work of the farm. In these courses the teachers can obtain a basic understanding of the principles of sound environmental agriculture, whereas the farmers achieve insight in the goals and needs of the school. The participants are given a framework to form a lasting cooperation. Research on this type of learning has given us the opportunity to develop a model for learning – relationship-based experiential learning – inspired by William James, John Dewey, Lev Vygotsky, Maurice Merleau-Ponty, Abraham Maslow, Viktor Frankl, Roberto Assagioli, Aaron Antonovsky, Albert Bandura and others (Jolly 2009; Jolly and

Krogh 2010). The foundation for our model is that the pupil forms relationships connected to the task: social relationships with fellow pupils, teachers and instructors such as the farmer; relationships to tools and development of physical skills; relationships to the elements in nature such as soil, plants, animals, minerals, and weather. Together the relationships form the context for the task which is being done. The farm and the farm production is also placed within the overall organization of society, through the simple mode of production (Krogh 1999).

Research from questionnaires and interviews with pupils and former pupils supports our experience that this type of learning is a vital foundation for future decisions towards a sustainable life-style. According to the results of the inquiry through questionnaires and interviews with pupils and former pupils this type of learning also exercises a lasting influence in determining future actions. Documented in an extensive case-study, it seems that seeds have been sown for development of citizens who think and act according to the viewpoint of sustainability (Jolly 2009).

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# Mental Health Promotion by Recovery-Oriented Green Care Services

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The aim of this project is to contribute to the documentation of the possible health effects of various Green Care services and to focus on the practical implications of this knowledge. We will look for factors that are crucial to beneficial services in the long run, which can help in establishing the long hoped for Recovery-Oriented Green Care services as complementary supplements to medical treatment, therapy, rehabilitation and work training. We expect to obtain knowledge about factors that influence the way back to work and school for participants, and the improved functioning of defined indicators and the recruitment model's impact on how early in the process participants are offered the services. Further, by use of the data gathered from users' subjective experiences, we will identify which factors are most crucial in the recovery process, how the factors work together, how it is possible to build a flexible system in which individual needs are taken care of, and to what degree recovery-oriented green care services can constitute an alternative and supplement to traditional services. The last part of the project will be a discourse analysis in which we expect to identify some linguistic and epistemological conditions for communication and cooperation.

## **The project consists of 4 sub-studies:**

**I:** A quantitative study of people between 16-30 years old who is out of work or school because of mental and/or drug related problems, and who are going through a Green Care program. The aim is to measure effects on connection to job or education, and other aspects of individual functioning before, during and after the intervention/project period, for example related to social support and mental health. We also want to investigate how participants experience the stay on a Green Care farm, and what they point to as important for their benefits from Green Care.

**II:** A qualitative study: Users experiences with Green Care – participants from 18-64. Qualitative interviews with Green Care –participants and leaders/farmers, who is, or recently have, participated in a Green Care program. The aim is to document and compare users' and leaders'/farmers' experiences with Green Care. The sub-study recruit informants from Green Care farms in the Norwegian counties Hedmark and Oppland.

**III:** A qualitative process study: Young peoples' (16-24 years old) experiences with Green care. This study seeks to reveal beneficial factors and focuses on subjective experiences. The qualitative methods consist of participating observation, field conversations and semi-structured interviews with the participants at three different Green Care farms in the counties Hedmark and Hordaland. Altogether 30 days with fieldwork is carried-out in a period of 10-12 months, which is 10 days at each Green Care farm.



**IV: Discourse analytic approach:** Different languages and discourses among participants in the field such as farmers, activity leaders, participants, work and welfare officers, and health and agricultural professionals. Recovery-Oriented Green Care Services are based on communication among different groups, and it's a need to develop a language which can facilitate open dialogue and communication on equal basis. Ideas about illness and illness etiology, recovery, empowerment, responsibility, human dignity, rationality, etc. have been investigated in order to understand the mechanisms behind cooperation and communication.

The project also aims at investigating the recruitment process to Green care and other comparable services for the target groups, mainly by the use of qualitative focus group interviews.

## **Challenges**

During the project period we have discovered that Green Care in Norway is a complex and variegated field, which means that it's hard to define target groups as well as relevant services. Because of this it has been difficult to get exact information about how many Green Care projects is going on in Norway, or how many participants that are involved. This obstacle makes planning and designing of project complicated and time consuming.

Being in the nature and taking part in agricultural activities are by most people recognized as positive and beneficial. Some of the factors we find as effective are so universal for human beings, that it's hard to communicate their special scientific value. One of the sub-studies has formulated this as: "how can we present the common, sufficiently uncommon, and interesting in a scientific context?"

Related to this dilemma our research group has started to discuss different meanings of the concept quality assessment. It's interesting to reflect over the distance between quality as it's defined in different quality systems and treatment/service manuals on the one hand and which important recovery factors are described by users in literature from the recovery tradition.

## **Preliminary results**

The findings in the different sub-studies all point to some core factors:

- Safe personal relationships
- Environments that promote mastering abilities
- Holistic approach
- Being respected on equal basis
- Meaningful work tasks
- Experiences dignity
- Continuity between different parts of the help service systems
- Interaction with animals

# SENNI: an entrepreneurship and product development utilizing Green Care methods

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## Introduction

Green Care is a relatively common operational model for rehabilitation and providing care. GC is a large umbrella for several, diverse operations where nature, animals or rural environmental are used to produced well-being services. In Finland, the sector is new and there is growing interest, which is why training and pilot projects for operation are needed. SENNI is an entrepreneurship and product development project utilizing GC methodology. The project started in August 2011 and its main funder is the Pohjois-Savo Centre for Economic Development, Transport and the Environment through the European Social Fund (ESF). Other funders are the Savo Vocational College, Ylä-Savo Vocational College and University of Eastern Finland's Department of Biology. The project duration is 2.5 years and ends at the end of 2013. SENNI is a social entrepreneurship project, but it also serves natural resource entrepreneurs that need more diverse and customer-friendly approaches in their own operations. GC in Finland, can be very well-utilized at small farms.

## SENNI objectives

SENNI is being piloted in the Pohjois-Savo region. The aim of the project is to improve the knowledge of GC in the region and bring new possibilities to the entrepreneurs in the region to expand their operations and, in the future also create jobs especially in the rural areas.

SENNI has three focus areas: GC training for entrepreneurs, development of GC operation models with entrepreneurs and testing the models in customer care and their evaluation for example through customer feedback.

Within SENNI operational models are developed, packaged, implemented and their effectiveness shall be evaluated on a scientific basis. Packaging of the operational models shall be done together with the entrepreneurs and target customer groups. Towards the end of the project certain described GC operations shall be chosen for further development and practical indicators for evaluating the effectiveness of the operations shall be created.

SENNI is targeted to 16-25 year old youth, at risk of segregation, and over 65 year olds in home care. GC models shall be chosen with these targets in mind, but they are also modifiable for other customer groups.

## SENNI GC workers trainings

Training is being implemented as a 30 credit blended learning programme, having a diverse curriculum with complementary expertise. The training programme can later be

expanded nationally. 30 entrepreneurs and also soon-to-be entrepreneurs, already using GC methods or closely related to GC have been selected to join the training where they will be exposed to new viewpoints on using elements of nature in their own work. The training for entrepreneurs focuses on animals, plants, rural environments and their diverse utilization in well-being services. Entrepreneurs will use their own professional experience to develop their new service models. SENNI aims to provide resources through training to the entrepreneurs so that they can better enhance their well-being of their customers.

Animals have been used for centuries worldwide especially for rehabilitation and upbringing purposes, and their use in Finland is also increasing. Animal-assisted operations have effects on the well-being of animals. For this reason, the selection of animals for different GC operations and the requirements and means to maintain the welfare of animals are very significant in the GC training. The Department of Biology expertise competencies in this area will be utilized in this project.

Gardens, plants and rural environments are investigated from the point of view of relation between humans and nature and during the training, the possibilities offered over different seasons, in regard to use of nature to enhance well-being, shall be focused upon. Also included, are business skills and various seminars.

### **SENNI target groups and aims**

The youth targeted by SENNI shall be exposed to GC-focused exercises that activate their own resources, teaching them to take responsibility, trusting their own abilities and surviving through their daily activities. GC operations make it possible to take part in meaningful activities through animals and plants and regular, familiar routines bring rhythm and continuity in their lives.

The project aims to help elderly people stay longer at home through the increase of activity and refreshing activities. Evaluation is monitored using questionnaires directed to the elderly person, their caretakers and next of kin. It has been shown that even a visit to a farm can activate and cheer an elderly person suffering dementia and even gardening can be a pleasurable activity that increases physical movement and action.

### **SENNI: the current status**

At this point in the project, training has begun as has operations with the youth. Operations with the elderly will begin later in the summer. Collaboration with other elderly- and youth targeted GC-projects regionally and nationally has been activated and will be continued in the future.

# Farm animal-assisted intervention for people with clinical depression

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In this study the main aim was to examine the effect of a farm animal-assisted intervention on mental health in people with clinical depression. In total twenty-nine persons participated (6 men and 23 women), with a mean age of 37.8 years. All participants had a Beck Depression Inventory score on 14 or above at time of recruitment, indicating a clinical depression being present. After recruitment were the participants randomized into two groups; an intervention group with sixteen participants and a wait-list control group with thirteen participants (Pedersen et al. 2012b). All participants filled in questionnaires measuring levels of depression (BDI-IA), state anxiety (STAI-SS), and self-efficacy (GSE) at recruitment, start and end of intervention and at three months follow-up. Eleven farms were recruited to the study, all with dairy cattle as their main production. The intervention was carried out twice a week for twelve weeks, where the participants conducted ordinary work tasks in the cowshed at the farm, together with the farmer. Eight of the participants did also contribute to a qualitative study with individual thematic interviews (Pedersen et al. 2012a). In the qualitative study all the participants had finished the intervention, and the main objective was to obtain the participants' own experiences of the intervention. The interview questions addressed relevant themes connected to the participants' experiences with farm animal-assisted intervention, like their relationship to the farmer, the different work tasks, and the animal contact. Another aim in the study was to examine the associations between time spent doing various work tasks during the intervention and change in mental health (Pedersen et al. 2011). This was done via video-recording of 14 participants during their work in the cowshed, once early and once late in the intervention period. Figure 1 illustrates time spent doing various work tasks, animal contact and dialogue with the farmer early and late in the intervention in percent of total time used in the cowshed for the video recorded participants.

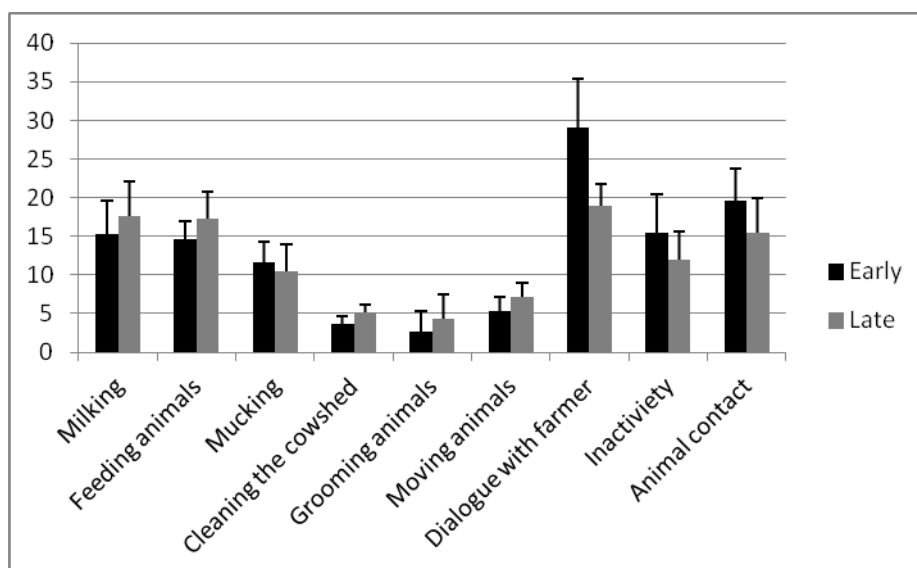


Figure 1. Time spent doing various work tasks, animal contact and dialogue with the farmer early and late in the intervention in percent of total time in the cowshed (mean and SE) (Pedersen 2011)

Figure 2 and 3 show development in scores of depression, state anxiety and generalized self-efficacy in the intervention and control group at the different measurement points from recruitment to follow-up.

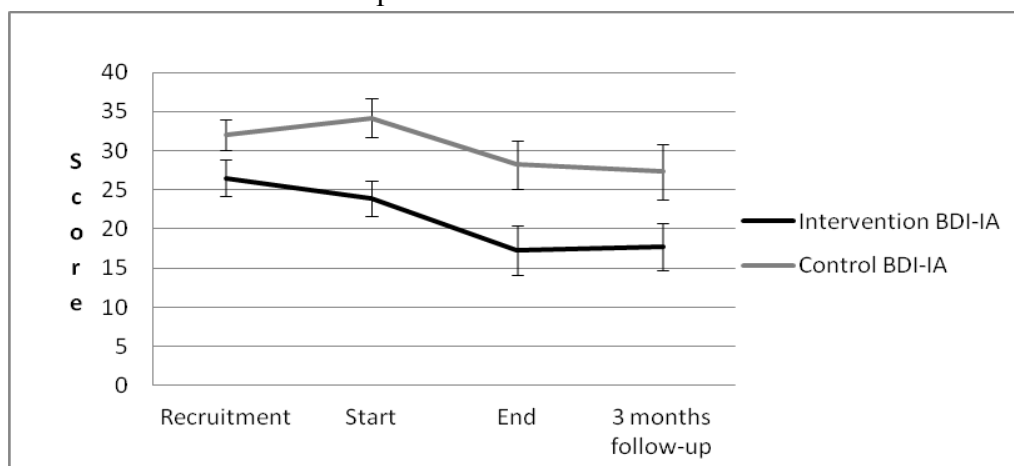


Figure 2. Development in scores of depression (BDI-IA) in the intervention and control group at different measurement points from recruitment to follow-up (mean and SE) (Pedersen 2011)

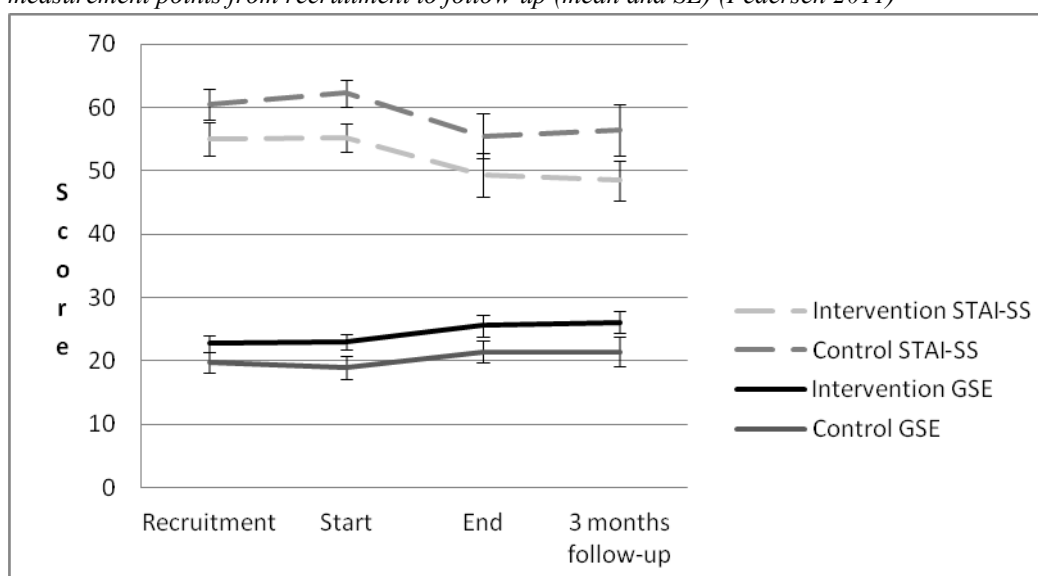


Figure 3. Development in scores of state anxiety (STAI-SS) and generalized self-efficacy (GSE) in the intervention and control groups at different measurement points from recruitment to follow-up (mean and SE) (Pedersen 2011)

## Results

In the randomized controlled trial a statistically significant decline in depression was seen in the intervention group but not in the control group between recruitment and the end of the intervention. During the same period of time change in self-efficacy was positive and statistically significant in the intervention group, but not in the control group (Pedersen et al. 2012b). An analysis of change in mental health measures between the two groups revealed no statistically significant differences (Pedersen et al. 2012b). In the video study change in depression, anxiety and self-efficacy were correlated with time spent in various behavioral categories (Pedersen et al. 2011). Time spent with milking procedures and

moving animals were favorably correlated with change in mental health. An unfavorably correlation was seen between change in mental health and mucking, grooming, sole animal contact and inactivity (Pedersen et al. 2011).

In the qualitative study the transcripts were analyzed, and resulted in four main themes: 'Ordinary life', 'Being sick', 'Flexibility', and 'Coping' (Pedersen et al. 2012a). Within 'Ordinary life' the possibility to experience ordinary work was emphasized as important. In the main theme 'Being Sick' the farmers' attitude towards the participants' situation was essential and it was also important that the intervention served as a distraction from the participants' illness. The intervention's 'Flexibility' was experienced as vital and made it possible for the participants to adjust the work in relation to their condition. A majority of the participants experienced 'Coping' as a central aspect at the farm. The participants felt they were given tasks they could manage, and this gave a positive feeling of accomplishment (Pedersen et al. 2012a).

## Conclusion

Changes in mental health measures in the intervention group were not significantly different from those in the control group. However; favourable correlations was seen between work tasks that could be described as complex and challenging and decline in depression and state-anxiety. This progress in working skills could be important, possibly connected to experience of coping. In the interviews the participants emphasized coping experiences as a central element in the intervention. A farm animal-assisted intervention could be beneficial for subgroups of clients and act as a useful supplement within mental health care.

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# Investigating and developing Green care in Finland

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Green care is rapidly developing field in Finland. At present there are about 10 regional projects running across the country promoting Green care - mainly as a part of activating sustainable rural development. In addition, Agrifood Research Finland is coordinating three R&D –projects, which aim for developing Green care at the national level. In the following we briefly introduce these three projects conducted by MTT.

## **Developing a framework for assessing the effects for Green Care (CareVa).**

Duration: 2009-2012.

Co-ordinated by Agrifood Research Centre, Finland, MTT, in co-operation with the University of Turku Future Research Centre. Project leader Katriina Soini,

Funded by: Rural Policy Committee

The CareVa project aims at developing a framework for assessing the multiple effects of Green care. Green care is understood as a social, health care or educational service, which produces added value based on utilisation of nature. The project is based on the assumption that while Green care has positive effects on human health and wellbeing and social inclusion, it also provides new livelihood opportunities for farms and other rural enterprises contributing to the rural viability and society at large. The project applies the principles of realistic evaluation: It is focusing not only what outcomes are produced from interventions, but also how they are produced, and what is significant about the varying conditions in which the interventions take place (Tilley, 2000). Therefore the focus has been in contexts, mechanisms and outcome patterns of Green care interventions.

The research started with literature study and series of the expert workshops. Based on this material a preliminary framework for effects of green care was designed. In addition, during this process a Finnish definition for Green care was discussed and developed.

In the second phase, the assessment framework has been applied and further developed by qualitative case studies conducted in five farms representing different types of care farming activities as well as form of organisation (public, private, foundation), locating at different type of rural area (urban fringe, core and distant). All the dimensions, health effects, social effects and economic impacts were assessed. The case studies have brought forth ‘weak signals’ of the effects identified in the first phase of the project, but also some unexpected impacts. The results of the project will be available in early 2013.

## **Rural viability from Green Care-activities (VoiMaa!)**

Duration: 2011 – 2013

Co-ordinated by Agrifood Research Finland, MTT, in co-operation with National Institute for Health and Welfare, Middle Ostrobothnia’s Cultural college and Rural Institute of University of Helsinki.

Project leader Anja Yli-Viikari

Funding: National Rural Development Funds

VoiMaa project is a developing project aiming for promoting the rural entrepreneurship based on Green care. The scope of the project is national, i.e. it aims for co-operating with

all the regional Green care projects and steering the overall development of Green care in Finland. VoiMaa! project is comprised of four work packages:

1) Promotion of the co-operation between the actors and coordinate the development of the Green Care -sector at the national level (including national Green care meeting every year and establishment of national board for Green care),

**2) Design of service models for arranging Green Care activities,**

3) Developing preliminary quality system of these services,

4) Creating a plan for developing the GC-education in Finland.

A range of regional and national events are arranged, where the models, quality system of Green care activities are jointly discussed and elaborated with various stakeholder groups. The Websites have been created and maintained in co-operation with the Finnish Association of Green care, Green Care Finland ry. The Association was established in 2010 for all the actors interested in developing Green care in Finland.

While the concept of nature- and animal-assisted methods in health care is still novel, we are mostly dealing with the pioneer entrepreneurs in the project. In addition our task is to inform the overall sector about possibilities Green care -activities. The main challenge of the project is to build institutional structures supporting the evolvement of Green care in Finland in co-operation with various stakeholder and interest groups.

### **Multifunctional Agriculture in Europe – Social and Ecological Impacts on Organic Farms (MAIE)**

Duration: January 2012 – December 2013

Project leader of Finland's part Elina Vehmasto

<http://www.maie-project.eu/index.php?id=2&L=>

MTT is conducting the project in co-operation with partners from Bulgaria, the Czech Republic, Italy, Portugal, the Netherlands, Finland and Germany. The project is lead by the German partner and funded by EU's Lifelong Learning Programme.

The aim of the project is to develop and disseminate knowledge and practices about social farming by 1) promoting the social farming movement, 2) supporting rural areas to work in well-organized networks, 3) developing fields of social work in combination with agriculture, and 4) establishing links between movements and activities in Europe.

The concrete target of the project is to develop a training material package addressed to farmers involved in Green care activities, and to other rural entrepreneurs from various sectors. The training course will include 120 hours. The training material will provide educational support for farmers working with various client groups.



# Finding one's footing on the farm

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## Focus and research questions

This project is inquiring into *how the ability to find one's footing within complex environmental and social conditions as a social farm, facilitate or constrain participation in and outcome of on-farm activities and social interaction*. The research is grounded in community work, where an interrelationship between bodies, places and participation is acknowledged, and people are seen as competent, creative actors, exercising agency.

The body of literature on social farming highlight potential benefits for farmers and participants [1, 2]. The literature is rife with discussions of what it takes to be or become a social farm/farmer, but conspicuously meagre in discussions of what it takes to be a participant. Being categorised as 'in need of services' seems to be taken for granted. The participants are referred to as individuals, 'named' by their lack or problem.

## Bodies, places and participation

Social farms represent complex environmental conditions [3] with heathland, fields, woods, rugged terrain, buildings, vehicles, props, people, animals, smells, sounds, co-presence/-mingling between and amongst material conditions and human beings and/or animals. Being able to walk around and take part in practical and social on-farm activities requires complicated and fine-tuned skills [3, 4].

Following Geurts [3] daily life performance is multi-various, i.e. often more than one task has to be performed at the same time. Movements are the end result of a fine-tuned interaction between perceptual, cognitive and motor processes. The Task Force [5] states that gait speed slows when organ systems are not working properly, and is a powerful predictor of survival, disability, dementia or falls. Gait speed is a vital sign, and as a rule of thumb a healthy adult should be able to walk 4 meters at usual pace on less than 5 seconds.

A farm challenges these skills, and may uncover impairments or hamper social interaction. Farms are geographic locations, invested with meaning and value, and social constraints [6]. Bodily performances are socially policed and place sensitive [7]. Participants' self-presentation is designed to challenge or conform to socially valued conduct, they are situated and emplaced [6]. Farms are also therapeutic landscapes or 'taskscape'; places that are constituted by the on-going interactions and negotiations of diverse elements [8]. Human are always on the move, and movements as walking, are means and ends for living as well as for research [9].

Social farms provide complex environmental conditions for restoration, wellbeing or learning, and emplace social situations, which foster social interaction and community building amongst participants, and between farmers, volunteers and participants. Farms may give participants new experiences with 'participation' and appropriation of own strengths. Literature refers to participants' sense of community, but do not discuss how this community is grounded or what it consists of, or what 'participation' denotes in farm based contexts. The concepts 'community' and 'participation' are in need of critical unpacking [10].

## Research design

The project has a three year funding, starting august 2012. Master and PhD students take part in the project. We will conduct on-farm observations, on-farm participation, informal and formal field interviews/focus groups (participants, next-of-kin, farmers) focussing on gait/ambulation history in relation to on-farm activities, everyday living, leisure, or other arenas. Gait will be assessed on/off-farm, with/without environmental manipulation.

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## **NATURE BASED THERAPY IN PERI-URBAN AREAS FOR PERSONS WITH STRESS RELATED ILLNESSES – A CONTROLLED PROSPECTIVE STUDY**

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Recent research results suggest that people affected by stress induced illnesses can benefit from rehabilitation in natural environment: harmful stress can be reduced, levels of function can increase and return to the labour market endorsed. The concept of nature based therapy is rapidly spreading in the western world. In peri-urban areas in Sweden, this new ecosystem services are under development, including various forms of businesses such as care farms, health gardens and rehabilitation in forests (multifunctionality in agriculture). In this study, a new rehabilitation model will be tested where a medical rehabilitation in a combination with nature based intervention “nature based rehabilitation” will be tested against a medical rehabilitation “treatment as usual” that includes traditional Cognitive Behavioural Therapy, CBT in a national rehabilitation program. In the model, the healthcare centers personnel are responsible for the medical intervention and the agricultural businesses responsible for the nature based intervention that include activities related to daily work at a farm, in a health garden or in a forest. These activities may include interaction with both farm animals and plants. The inclusion criteria for the study is a psychiatric diagnosis of adjustment disorders and reactions to severe stress (ICD-10 F43 diagnoses), anxiety disorders (F41) or depression (F32) that does not require further medical procedures. The study will be conducted as a controlled prospective study with an intervention group in nature based rehabilitation (150 persons) and a control group of treatment as usual (450 persons). The aim is to examine the effect of a eight week nature based rehabilitation as regards return to work, symptom reduction, coping, function and life quality. Further, the aim to obtain the participants own experience of the interventions. The hypothesis for this study is that natural based rehabilitation will provide greater returns to work than traditional CBT and positive effects on participants’ symptom reduction, coping, function and life quality.