164th CSO Meeting, 29-30 March 2006
Proposal for a new COST Action

COST ACTION 866

Green Care in Agriculture

Proposer: Prof. Bjarne O. Braastad
Department of Animal and Aquacultural Sciences
Norwegian University of Life Sciences
P.O. Box 5003
NO-1432 Ås
Norway
Tel: +47 64965162
Fax:+47 64965101
E-mail:bjarne.braastad@umb.no

COST National Coordinator: Bjørn Bjørnsen
The Research Council of Norway
Division of Innovation
P.O. Box 2700
St.Hanshaugen
NO-0131 OSLO
Tel: +47 22037372
Fax+47 22037362
E-mail:bb@forskningsradet.no

TC Agriculture, Biotechnology and Food Science Rapporteur To be appointed
MEMORANDUM OF UNDERSTANDING
For the implementation of a European Concerted Research Action designated as

COST 866

“Green Care in Agriculture”

The Signatories to this ‘Memorandum of Understanding’, declaring their common intention to participate in the concerted Action referred to above and described in the ‘Technical Annex to the Memorandum’, have reached the following understanding:

1. The Action will be carried out in accordance with the provisions of document COST 400/01 ‘Rules and Procedures for Implementing COST Actions’, the contents of which the Signatories are fully aware of.

2. The main objective of the Action is to increase the scientific knowledge on the best practices for implementing green care in agriculture with the aim of improving human mental and physical health and the quality of life.

3. The economic dimension of the activities carried out under the Action has been estimated, on the basis of information available during the planning of the Action, at EUR 45 million in 2005 prices.

4. The Memorandum of Understanding will take effect on being signed by at least five Signatories.

5. The Memorandum of Understanding will remain in force for a period of four years, calculated from the date of the first meeting of the Management Committee, unless the duration of the Action is modified according to the provisions of Chapter 6 of the document referred to in Point 1 above.
A. Abstract

‘Green care’ is the utilisation of agricultural farms – the animals, the plants, the garden, the forest, and the landscape – as a base for promoting human mental and physical health, as well as quality of life, for a variety of client groups. A multidisciplinary scientific effort is essential to develop green services as part of a multifunctional agriculture. The Action will coordinate research and develop new research on green care in biological, medical and health sciences, including conceptual, theoretical and methodological developments. The Action will also focus on economics and management of green care farming, as well as developing policies and discussing how green care can fit current and future national health and social care systems, and affect rural development positively.

Keywords: green care; farming for health; welfare farming; multi-functional farms

B. Background

‘Green care’ is the use of agricultural farms as a base for promoting human mental and physical health. The health sector and social services need alternatives to traditional medical treatment, therapy, rehabilitation and work training. In the countryside and on farms, the animals, the plants, the garden, the forest, and the landscape are used in recreational or work-related activities for psychiatric patients, mentally disabled persons, people with learning disabilities, people with burnout problems, people with drug problems, young people, elderly people, and clients of social services. Such activities may not be pure therapy but extensive experience suggests they may have therapeutic value. The numbers of such multifunctional farms offering green care services are increasing rapidly (figures for 2004: Norway: 600; Netherlands: 430; Italy: 300-350; Germany: 300; Austria: 250; Belgium: 140; Slovenia: 15). Many countries do not have good estimates and numbers are best estimates and depend on how green care is defined. In the United Kingdom, social and therapeutic horticulture in particular has a long history, and 836 active projects with 20 000 clients were recorded in 2003 (Sempik et al., 2003). Pure ‘City Farms’ and farms offering services to schools and the general public are not included in the context of this COST Action. The present status of green care services in 11 European countries and the USA is presented in the book Farming for Health across Europe (ed. by Hassink and van Dijk), which will be published during autumn of 2005. The book has articles by the majority of the experts who have expressed an interest in participating in this COST Action.

Multifunctionality is regarded as one of the future goals of agriculture that could be an alternative source of revenue for rural communities. Examples are: combine the production of

1 Concepts of green care services: several different terms are used to describe the different services within green care. The precise definition of terms is a specific task for Working Group 3.
cash crops or animal production with social functions, such as providing space for recreation, the care of landscapes, or care for disabled people.

Although there is much practical experience in the use of farms, farm animals, plants, gardens and the landscape for rehabilitation and therapy, there has been little scientific research investigating the effects on the various target groups, and next to nothing on farm animal research.

There is a growing interest among European scientists in starting or extending such research. This multidisciplinary effort should be coordinated through a scientific network to improve efficiency in order to establish best practice and to increase the scientifically validated output. This is a major reason for starting this COST Action.

Farm studies
In the Netherlands, several pilot studies have been performed that describe different aspects of green care farms. Different types were distinguished. The economic potential of these different types of farms has been compared (Hassink and Trip, 2000). The major limitations for green care farms have also been described (Ketelaars et al., 2002). A recent study has made it clear that a commercial setting of the farm with a farmer and production goals is generally a better environment for people with learning disabilities than an activity centre (Elings, 2004). This was also evident in a Norwegian research project (Fjeldavli, 2005).

In Germany, the structure and organisation of 167 green care farms has been described (Lenhard et al., 1997). In Austria, a comprehensive study on extra-mural care in agriculture and horticulture was conducted at the beginning of the 1990s (Wiesinger, 1991). The results of this research project brought about closer cooperation between different care schemes for disabled persons engaged in agriculture or horticulture (Wiesinger, 2003). In Slovenia, the main benefits from green care farms as perceived by parents of mentally disabled children are a variety of activities, contacts with nature, an increase in self-reliance and self-confidence and a gain in experiences and acquisition of skills (Vadnal, 2003a). In the Netherlands, a description of the health-promoting qualities of green care farms has been presented and linked with different psychological and pedagogic theories and experiences in rehabilitation projects (Hassink and Ketelaars, 2003).

Farm animals
A study in the Netherlands showed the unique qualities of working with farm animals. The animals can offer safety, challenges and specific bonding (Hassink, 2002). The German survey of care farms concluded that working with animals is a meaningful activity and an aid to engaging in social interaction (Lenhard et al., 1997). An exploratory study of 80 children at Green Chimneys educational farm outside New York showed that the children used the farm animals as if utilising the service of a therapist; they visited the animals to feel better (Mallon, 1994). In a Norwegian study, Berget and Braastad (1989) showed that working with farm animals helped mentally retarded persons to develop more responsibility and endurance. An Austrian study (Wiesinger, 1991) revealed that living and working on small family farms with social integration in the farm household, surrounded by nature and with close contact to farm animals may exert a positive impact on the health of psychically and mentally disabled people. A study of Animal Assisted Therapy (AAT) with horses, showed that riding a horse improved quality of life, self-esteem and social skills (Fitzpatrick and Tebay, 1997).

Animal-Assisted Therapy, by using companion animals (mainly dogs and cats) for people with mental diseases, has been reasonably scientifically well documented (Fine, 2000). For example in schizophrenic patients, psychotherapeutic sessions that involve the presence of a
dog can ameliorate anhedonia, which is not possible with standard treatments (Nathans-Barel et al. 2005).

For AAT using farm animals, it is generally recognised that positive effects on patients must be scientifically documented. There is no scientific documentation on how contact and work with farm animals affect patients with specific diagnoses, what types of interaction have positive or perhaps negative effects, the probability of success, and long-term effects. Therefore there is a strong need for multidisciplinary research with farm animals using similar or more refined scientific methods, to provide a scientific platform for the implementation of the optimal procedures within green care. Aspects of this are covered in ongoing research at the Norwegian University of Life Sciences (Berget et al., 2004) and Wageningen University and Research Centre, but this is only a start. At the Norwegian University of Technology and Sciences in Trondheim, master students in health science are engaged in examining self-evaluated effects for patients with mental disturbance and patients with senile dementia, using a qualitative methodological approach. The Austrian Council for Agricultural Engineering and Rural Development (ÖKL) initiated a research project on therapeutic benefits connected with the assistance of farm animals on green farms and in institutions for disabled (Scholl, 2003). This project started in 2003 with goats and should be extended to other animals (cows, pigs) in the coming years. The farm animals are trained by the Konrad Lorenz Institute for Evolution and Cognition Research.

Plants and gardens
Horticultural therapy (HT) or the use of therapeutic gardens is another topic that has produced some scientific results. Horticultural therapy is a young profession. Traditionally, horticultural therapy has been associated with plant cultivation as a tool of occupational therapy, for example it has been defined as “the use of plants by trained professionals as a medium through which certain clinically defined goals may be met” (Sempik, 2003). Today, a broader range of definitions is recognised, ranging from plant cultivation to the appreciation of landscape. While the term ‘horticultural therapy’ perhaps should be restricted to involving professional therapists, the term therapeutic horticulture may be used for work with plants that may have therapeutic value without involving therapy per se; for example defined as “the process by which individuals may develop well-being using plants and horticulture. This is achieved by active or passive involvement” (Sempik, 2003).

Horticultural therapy offers a range of applications. It can be used with psychiatric patients, people with learning disabilities, victims of abuse, people with drug problems, young people, elderly people and social service clients. In the USA and the UK, horticultural therapy is evolving into a professional organisation and is linked to several universities. The same applies to the use of forest and landscape. Relf and Lohr (2003) showed in their overview paper that plants can contribute to healthy communities and urban revitalisation, to individual health, and be used in healthcare facilities. Several studies indicated that plants or vegetation can contribute to better social functioning, better interpersonal relations, less verbal aggression and less violence (Kuo et al., 1998) and can support healthy development in children (Taylor et al., 1998). Other studies focused on the individual health and related plants to improved well-being and reduce stress (Relf et al., 1992). A commonly cited article (Ulrich, 1984) indicates that patients recovering from surgery complained less, requested weaker pain killers and had slightly shorter hospitalisation if the window view contained vegetation than if they were looking at a brick wall. That plants can contribute to healthy communities and individual health is in line with the outcome of an analysis of projects on horticulture and gardening in the UK. This analysis showed that there is clear evidence that the outcomes of social and therapeutic horticulture can be positive and multifaceted, for example, in promoting health gain, general well-being, social cohesion, and skills development (Sempik et al., 2003). A study on 15 adults with moderate and severe mental
disability, participating in horticultural therapy, revealed considerable improvements in their endurance, in ability in team working and in decision making, as well as in their self-reliance (Borštnik, 2003).

**Multidisciplinary research**

Green care is traditionally more directed to rehabilitation and work training on the farm, whereas animal assisted therapy and horticultural therapy are more directed to treatment and therapy, often not in a farm environment. However, in all cases the health-promoting qualities of working with plants and animals are used. Nowadays green care, AAT and HT are almost completely separated networks. Green care could benefit considerably from the experiences and lessons from and theories related to animal assisted and horticultural therapy, and vice versa.

There is a growing interest in scientific research in the area of green care in Europe. This area is inherently multidisciplinary. The reasons for launching this COST Action are the need to extend and strengthen a multidisciplinary scientific network across Europe and to stimulate the coordination of programme and project development in this area. The flexible and informal organisation of COST Actions is an excellent platform for this work to be effective. There is no other scientific organisation that could do this work. None of the previous or existing COST Actions or EU programmes has focused on green care in agriculture. COST Action E39: Forests, Trees and Human Health and Well-being is focusing on forests and city gardens whereas in this COST Action forests will be included only as part of agriculture-based services. Communication between the two COST Actions should be developed, through a possible joint seminar in which mutual aspects are focused and discussed.

The number of ongoing research projects in this field is low, yet all countries have the potential of improved mental health and quality of life in their populations if they can gain scientific knowledge on the most efficient manner of implementing green care. This is also important for the teaching and training of health personnel. The topic is beneficial to most countries, of particular interest to bodies that are responsible for mental health services, and it stimulates cooperation on a new, emerging and multidisciplinary scientific topic. It strengthens urban–rural relationships, emphasises new values for agriculture (the multifunctional agriculture concept and green care as amenity goods) and provides a perspective for farmers in need of new directions and ways of maintaining a farm faced with reduced direct payments under the reformed CAP.

**Community of Practice – Farming for Health**

A European Community of Practice network called Farming for Health was established at a workshop in Wageningen, The Netherlands, in March 2005. This network, which focuses on the relationship between research, policy and practice for the combination of farming and healthcare, will provide excellent background support for a scientific COST Action in this area. The Community of Practice (CoP) will carry out various tasks. It will develop a survey of how green care is organised in different European countries, translate quality and competence systems, develop guidelines for good practice, develop a newsletter, and exchange education and training programmes. This CoP will help to prioritise topics and questions for research that could be discussed in more depth within the COST Action.
C. 1 Objectives

Main objective
The main objective of the Action is to increase scientific knowledge on the best practices for implementing green care in agriculture with the aim of improving human mental and physical health and the quality of life.

There is a need to improve knowledge on how specific aspects of nature and the farm environment plus the way they interact, can affect specific features of the human mental, physical and social health. Themes that will be covered are:

- **Effects**: The quality of life and health-promoting effects of green care for people, related to elements such as animals, plants and gardens.
- **Services**: The nature of services offered: small-scale or normal farm enterprises; the entrepreneurship and innovations of farmers in local communities.
- **Professional attitudes**: The views and hypotheses on green care held by professionals in the agricultural and health/social care sectors.
- **Economics**: The cost-benefit effectiveness of green care across the entire scale of economic activity.
- **Organisation**: How green care fits into current and future health and social care systems, including the organisation of partnership between the general public, the target communities and farmers

Secondary objectives
1. Establish a well-functioning *multidisciplinary scientific network* of scientists working on, or interested in working on, scientific topics of relevance to green care in agriculture.
2. Develop an *international research agenda within green care* that will be proposed to EU institutions and to national research councils.
3. Increase the *scientific knowledge* on topics of relevance to green care, gain experience and knowledge on green care and discern how various scientific disciplines could cooperate to achieve this objective.
4. Improve the *relevance, efficiency and quality of current and new research* within green care in Europe.

C.2 Benefits

1. Improved human mental and physical health and the quality of life of people presenting particular problems, through low-cost therapy and rehabilitation activities. This is the major benefit.
2. Scientific knowledge acquired in the Action that will be made available for teaching and training health personnel such as psychiatrists, psychologists, psychiatric nurses, social service personnel, etc., and for teaching farmers.
3. Improved efficiency in future research, ensuring optimal value for money allocated to future research projects.
4. Spreading and promoting the green care concept may ultimately provide additional sources of income for farmers; who are in the process of adapting to the changes in European agricultural structure following CAP reform.
5. Increased rural–urban interactions and social cohesion.
6. Increased human–animal contact on farms may enhance animal welfare by reducing one of its components, the animal’s fear of humans. In addition, people may gain increased respect for animals and their nature, which may be of advantage to other animals that later encounter these persons.

D. Scientific programme
This COST Action will invite scientists from a number of disciplines and professions, including psychiatry, psychology, ethology, sociology, social economics, nursing, ergo therapy, as well as from the agricultural sciences: animal science, horticulture, forestry, landscape architecture, landscape ecology and agricultural economics.

The COST Action has a general Work plan directly related to the objectives to enable the Management Committee (MC) to ensure progress and deliverables in line with the plan and timetable of the Action. The final deliverables for most of the objectives must be based on the integration of the output from the Working Groups (WGs). It is therefore also necessary to organise plenary sessions across Working Groups.

Work plan
The work plan focuses on how to achieve the objectives of the Action:

*Establishing a well-functioning multidisciplinary scientific network of scientists working on, or interested in working, on scientific topics of relevance to green care in agriculture.*

Invitations for participation will not be too restrictive, but they will require that the participants work on topics of relevance to green care, either now or in the future. Participants will gather at an opening workshop, where competences and scientific interests can be declared and assembled. In addition, this workshop will define more precisely the multidisciplinary nature of the scientific work.

Details of the work plan will be discussed and later modified (if necessary) by the Management Committee (MC). After the initial discussions, the Working Groups (WGs) will start their work.

At later meetings, both multidisciplinary and interdisciplinary sessions (across WGs) will be organised, as it is important to continue discussions and exchange of knowledge across disciplines. The effects of the network will therefore partly arise from work within WGs and partly from plenary seminars across WGs.

*Development of an international research agenda within green care that will be proposed to EU institutions and to national research councils.*

Future research agendas will first be developed within WGs, but multidisciplinary aspects will be discussed at plenary sessions. The work will include analyses of current knowledge and methodological weaknesses obtained from secondary objective No. 4, and will indicate which research questions need to be addressed, preferably with a list of priorities.

*Increase the scientific knowledge on topics of relevance to green care, gain experience on green care and discern how various scientific disciplines could cooperate to achieve this objective.*

In order to share scientific competences and stimulate multidisciplinary cooperation, meetings will start with scientific papers or lectures. For this purpose scientists and experts may be invited from the areas of animal assisted therapy with companion animals, horticultural therapy or other neighbouring areas, for example COST Action E39: Forests,
Trees and Human Health and Well-being, relating to forests and city gardens. The outcome of this activity is particularly important for secondary objective No. 2.

*Improve the relevance, efficiency, and quality of current and new research within green care in Europe.*

The work related to secondary objectives Nos 1-3 should contribute to improvements in ongoing and future research. Methodological discussions with ongoing research as a case-study might be included. Coordination of current and new research projects in European countries within green care will add to the efficiency and quality of research.

*Training of young researchers*

Short-Term Scientific Missions (STSMs) will be sought to enable the exchange of young researchers. This will further enhance international cooperation between research groups, and contribute to the implementation of optimal and efficient scientific methods. Such missions are particularly relevant for PhD students and postdoctoral workers from research groups with little prior experience of research within green care, or who need to develop a cross-disciplinary approach. Because of the marked need for such mobility, other funding should also be sought, for example from national research programmes or councils.

*Working Groups*

Three Working Groups (WGs) will be formed to discuss and produce output for secondary objectives Nos 2-4. In all WGs, use will be made of experience gained in animal-assisted activities or therapy, horticultural therapy or therapeutic horticulture, landscape architecture or landscape ecology, and to a limited extent forestry or nature in general. This experience will come partly from scientists and partly from practitioners. The latter will be of importance when debating relevant research questions and discussing the practicability of research methods. The WGs will be based on discussions and competences across several scientific disciplines and professions. WGs are described below by presenting major works representing the state-of-the-art of several scientific disciplines, examples of present research projects, topics for work in the WGs, and milestones for this work. The presentation of the state-of-the-art also reveals the urgent need for conceptual development and development of new research with improved methods.

**WG1: Health Effects of Green Care**

The main aim of this Working Group is to coordinate research and develop new research in biological, medical and health sciences for the purpose of gaining new insight into the effects of various types of green care on several aspects of physical and mental health and quality of life. The work must include conceptual and theoretical discussions and developments, as well as discussions on research methodologies.

**Recent or present research in participating countries**


Scientifically documenting the health effects of various groups of human clients working on farms is inherently methodologically difficult. This is partly because there are a number of
factors on farms that cannot easily be controlled, and partly because of difficulties in establishing relevant control groups. Until recently, research on effects on mental health of working on farms with animals was almost non-existent. A pilot study at the Norwegian University of Life Sciences, Department of Animal and Aquacultural Sciences (Bjarne O. Braastad and Bente Berget), in cooperation with Department of Behavioural Sciences in Medicine, University of Oslo (Øyvind Ekeberg), confirmed the potential of animal assisted therapy (AAT) with farm animals, and supported the relevance of most chosen inventories (Berget et al., 2004). The results were in accordance with previous investigations on AAT using pets with regard to reducing anxiety or depression. Based on this pilot study, a large-scale randomised controlled experimental study is being undertaken with 70 patients. In addition to the psychiatric instruments, ethological video studies are conducted in order to investigate the relationship between the nature of the human-animal interactions and the observed health effects. This project exemplifies cooperation between the disciplines of ethology and psychiatry. Preliminary results point to both methodological and ethical difficulties that are open for discussion.

The Austrian Council for Agricultural Engineering and Rural Development (ÖKL) initiated a research project on therapeutic benefits connected with work with farm animals on green farms and in institutions for disabled people (Scholl, 2003). This project started in 2003 with goats and will be extended to other animals (cows, pigs) in the coming years.

Agrifood Research Finland, Environmental Research (MTT) has started a project focusing on the local breeds in the Farming for Health activities. Their research is especially concerned with what kind of advantages the local breeds have compared with ‘conventional’ breeds in the rehabilitation activities and what kind of added value is reached by combining the conservation of rare breeds with the Farming for Health activities. It is assumed that the native breeds would be suitable for this kind of activities because of their special characteristics. Pelso and Sukeva prison farms, for example, do have some experiences with Finncattle in the rehabilitation of prisoners.

There is clear evidence that the outcomes of social and therapeutic horticulture can be positive and multifaceted; for example, in promoting health gain, general well-being, social cohesion and skills development (Sempik et. al., 2003). A study of 15 adults with moderate and severe mental disability, participating in horticultural therapy, revealed considerable improvements in their endurance, ability for team work and decision making, as well as in their self-reliance (Borštnik, 2003).

At Wageningen University & Research Centre, a current research project aims at determining the effects of green care farms on the quality of life and social and mental health of people with chronic psychiatric problems and addiction history. It also compares the effectiveness with alternative day activities (Marjolein Elings and Jan Hassink, Plant Research International (PRI), and Nicole van Erp and Hans Kroon, Trimbos Institute). Another research project has started to develop hypotheses concerning the health promoting aspects of green care farms (Jan Hassink, PRI, Nicoline vd Windt Alterra and Majken van Dijk, Animal Sciences Group).

A third research project concerns the health-promoting aspects of working with plants on green care farms and in horticultural therapy sessions in institutions for people with psychiatric problems (Jan Hassink and Marjolein Elings, PRI). A book is being written to assemble all scientific and practical knowledge on the contribution of agriculture and nature in and around cities to the quality of life of urban citizens (Jan Hassink, PRI, and Piet Driest, Netherlands Institute for Care and Welfare).
In Switzerland, a project called Socialisation Under Changed Conditions - The Effect Factors in the Network Integration, conducted by Dr. Peter Frey, examines services for youth from problematic family situations in urban regions placed in farm families. The method of this study is based on empirical social research, and the objective is to study socio-pedagogic and system-therapeutic factors that contribute to the positive development of children and adolescents. A reduction of complexity by controlling the use of TV, video games, mobile phone, personal computer and the Internet is balanced by proximity to nature and physical work as a corrective to ‘head-dominated’ life in the city. There is quietness for growth: a calming influence on the behaviour of children and adolescents who were hyper-active and had attention deficit disorders, the experience of a slower pace, the natural succession of events and contemplation of the country life in a place away from busy urban centres.

Current research at the Department of Landscape Architecture, Norwegian University of Life Sciences (Gary Fry), links landscape preferences to specific features or elements of the landscape, develops visual indicators of the landscape for planning purposes, and links landscape preferences with restorative effects of natural environments. They are particularly interested in the generic preferences linked to affective responses. At the Department of Plant and Environmental Sciences, studies are in progress on the effects of plants and a window view as a part of the aesthetic indoor environment on the health and well-being of office workers and people in rehabilitation.

In addition to the health effects on humans, positive side-effects might be gained for the health of nature. In Germany, as part of a project called Optimising Nature Conservation on Organic Farms, farms that implement aspects of nature conservation in their daily work were investigated (van Elsen et al. 2002). One interesting result was that traditional family farms usually have less time and financial support to integrate such aims than farms that work together with people in their farming system. Some diploma work has been carried out to investigate this phenomenon and to collect basic information (Wietheger, 2003, Günther, 2005) for a new research proposal within the working group of T. van Elsen at FiBL (Research Institute of Organic Agriculture) and the University of Kassel in Witzenhausen. The topic of the project will be to combine the approach of Farming for Health with therapy for nature and landscapes.

The need to develop new research
Previous research on horticultural therapy (HT) and animal assisted therapy (AAT) suffers from a number of shortcomings in methodology and cross-disciplinary cooperation. Frumkin (Rollins School of Public Health of Emory University, Atlanta, USA) states this point this way:

There is evidence that some kinds of environmental exposures, including contact with plants, contact with animals, views of landscapes, and wilderness experiences, may have positive health effects. Indeed, this link is the basis for such clinical practices as horticultural therapy. However, the available evidence falls short of what is routinely required of a new medication or surgical procedure. Physicians, health policy experts, and regulators require rigorous evidence of the efficacy and safety of clinical practices” (Frumkin, 2004).

Based on 35 years of work in HT and related fields in the USA, Diane Relf concludes that “not only is there a significant lack of rigorous research but indeed the theoretical models on which to base both research and practice have not been clearly and concisely defined and utilized for testing and implementation” (Relf, 2005). Exemplifying HT, with relevance also for AAT, Relf (2005) suggests developing the research on ‘demographic and census data on the application of HT’, including data on programmes, data on professional development, and
criteria for evaluating the success of programmes. Furthermore, research is needed on ‘Quantified and qualified research data to support HT as an effective tool in evidence-based medicine’, including health-related outcomes measures for quality of life, social functioning, cognitive functioning, psychological functioning and physical functioning. There is a need to develop theoretical models for research and implementation, by modelling the definition of HT, the benefits of HT, the mechanisms of HT and the mechanisms of well-being or quality of life, to a large extent by adapting models from other disciplines.

**Milestones**

1. **Develop a conceptual framework and theoretical models for the health-promoting mechanisms of green care.**

Before the current research can be assessed and discussed, a new cross-disciplinary research programme must be defined that quantifies and qualifies the depth, the breadth, and the efficacy of green care activities in a treatment or other therapeutic context. A common set of concepts and terms needs to be developed to be used for the animal, plant, garden and landscape sciences when dealing with green care services. This includes defining the content of what green care is. Proper terms for the different types of services will be treated in WG3.

**Theoretical models** of the health-promoting mechanisms of green care services need to be developed and rigorously tested as hypotheses to assess their usefulness as predictors for the research outcomes, and also for the implementation of results in practice. These may come from a number of different scientific disciplines, and different models should be expected to apply to different types of services or different types of clients. Candidate theories are the biophilia hypothesis (Wilson, 1994), as a general background theory that may underlie more mechanistic theories, the attachment theory (Bowlby, 1984) for social mechanisms, and theories on restorative environments (Kaplan and Kaplan, 1989; Kaplan, 1995, Ulrich et al., 1991). Two main theoretical approaches to landscape preferences are landscape aesthetics and environmental psychology. The major theories in this field are related to evolutionary adaptation and include Appleton’s (1975) prospect-refuge theory and Kaplan’s (1995) information processing theory. However, other theories should be discussed upon suggestions from participants in the COST Action.

**Outcome:** Based on work in WG1, the intention is to produce two conceptual and theoretical papers for scientific journals.

2. **Comparison and discussion of ongoing research projects related to health effects on people.**

This comprises comparison of the research design and results of the studies in the participating countries with a focus on similarities and differences in tests used, how control groups are formed, as well as practical aspects. This discussion is expected to stimulate new approaches within existing research projects, and also stimulate mobility of PhD students and postdoctoral workers for short-term scientific missions in other countries.

3. **Establishment of a set of good research methodologies.**

This continues directly from Milestone 2, but focuses on how new research should be designed. It should be possible to make use of a wide range of research methodologies. Methods that must be discussed with regard to how and when they could be used include randomised clinical trial, quasi-experimental control, registration and monitoring, qualitative versus quantitative methods, interviews.

Furthermore, research with human patients may raise a number of ethical dilemmas that agricultural scientists are not familiar with, such as the freedom of patients which may be
considered more important than research considerations. How such dilemmas might be overcome must be discussed with reference to the various national rules that exist across Europe.

4. **Joint research project between participating countries.**
Based on the conceptual framework and theoretical models on the health-promoting mechanisms that are developed and adopted, a joint research project will start in which certain hypotheses will be tested; for example the significance of working with plants or animals for specific client groups. Several hypotheses will be defined, based on the experiences of past and present projects in different countries. Various hypotheses will be tested in various countries. This project must be based on available funding in the participating countries, and should initially be of short term to enable discussions of results before the end of the COST Action.

5. **Development of a research agenda – health effects for clients of green care.**
Based on conclusions from Milestones 1-4, a suggested agenda on the health effects of green care will be developed to be included as part of a national or European research programme. This should specify types of green care services, types of client groups, research questions that are given priority, major research methodologies that are recommended, as well as suggestions for necessary cooperation across scientific disciplines.

**WG2: Economics of Green Care**
The main aim of this Working Group is to coordinate research and develop new research on economics and management of green care farming. This includes the cost-benefit effectiveness of green care across the economic spectrum (micro, mezzo and macro levels) within the framework of multifunctional agriculture, market-based versus government- based economics, marketability of public goods and positive agricultural externalities, as well as measurements of the positive externalities of animal assisted therapy and horticultural therapy.

**Recent or current research in participating countries**
One of the first pieces of research on green care was conducted by Shaw et al. (1992). The researchers studied three different concepts of integration of mentally disabled people – model of qualifying for work, model of social and individual growth and model of life-long education – and assessed their suitability for the integration of mentally disabled people into green care programmes. They investigated the strong impact of the concept on the operative model of green care. They suggested that integration schemes have to follow one concept. Research on the operative models of green and other activities for mentally disabled people in Center Dolfke Boštjančič showed positive effects of the model of life-long education (Parazajda, 1998).

In Norway, green care (welfare) farmers achieve positive results on the economy of their services. A national survey among all welfare farmers shows that two thirds consider the economy of green care as better than the economy of traditional farming productions. According to the survey, welfare farming takes two person-labour years per farm on average. However, for 50% of the farms such service production represents less than one person-labour year. The main source of uncertainty about the future is short-term or lack of contracts for the services being provided (Fjeldavli and Meistad, 2004).

In the Netherlands, a research project is currently being conducted on the additional costs and income arising from the care activities of different types of green care farms (Jan Hassink, PRI, and Ger Trip, Agricultural Economics Department of Wageningen University and Research Centre).
At the Tuscia University, Italy, current research activities by the group coordinated by Saverio Senni are primarily oriented to understanding the potential of green activities and farming in the labour integration of people with special needs. The project ‘The labour insertion of people with disabilities in the agricultural sector’, which is conducted at regional level, aims to quantify the number and to characterise the social enterprises in agriculture (‘social farms’) that have explicitly been set up to integrate people with special needs into the labour market. It also aims to define the economic viability of agricultural enterprises that employ disabled workers. A second project ‘Social enterprises incubators’ aims to define models to set up rural enterprises for the labour insertion of formerly drug-addicted persons coming from therapeutic communities. A third project is ‘The impact on public social expenditure of programme-based green care farming’. In the fourth project ‘The presence of people with disabilities in agricultural families’, a survey is being carried out on farmers of the Province of Rome (one of the largest in the country) in order to quantify the presence of people of working age with disabilities as members of families that run an agricultural enterprise. The survey will also gather information on the kind and intensity of employment of these persons in farm activities.

In Slovenia, an applied research project ‘Models of and the feasibility study on occupations of and care for mentally disabled as supplementary on-farm activity’ is sponsored by the Association of the Societies for Helping Mentally Disabled, Sožitje – Slovenia, Agricultural and Forestry Chamber of Slovenia and Ministry for Science, Technology and Higher Education. The aim of the research is to assess the feasibility of care farming and to frame the most suitable model or models of provision of social services as a supplementary on-farm activity in Slovenia. The starting point of the research is the hypothesis that new paradigms of agricultural development (multifunctionality), as well as new developments in social care (inclusion), can increase the agricultural resources and effectiveness through differentiation of their target market. Research follows the methodology of the activity-oriented research and is conducted by a mix of qualitative and quantitative methods.

Milestones
1. Development of a methodology to determine the economic benefits of green care services for farmers, for other parts of the agricultural sector and for the health and social care sectors, and also the social returns of such services.

Work is needed to find optimal ways of documenting economic effects of green care services for various sectors. An analysis will be made to determine if green care farmers survive because of the income from care services and if this gives enough security to invest in their farm.

A major task is to develop an analysis by the method of Social Return on Investment (SROI). SROI can be used in stakeholder management, marketing strategies, strategic positioning and resource management. The method is useful to measure the impact of what is being done; not only the economic framework, but also the social, psychological and ecological frameworks are important. Green care projects throughout Europe can be compared by using SROI to investigate the influence of the projects on the environment and society. Effects on the environment can, for example, be experienced by clients working in landscape management.

Another concept which is suggested is ‘welfare farming’, which refers to agricultural production activities carried on to explicitly generate positive outcomes to a specific group of the population (Saverio Senni). Senni defines the effect of welfare farming in terms of social capital as follows: “Welfare farming fosters social inclusion that increases social capital defined as the institutions, relationships, attitudes and values that govern interactions among
people and contribute to economic and social development”. Conceptual development and economic research in line with this would be discussed in this Working Group.

2. Development of systems to support green care regionally and nationally.
Different systems to support green care regionally and nationally will be compared and evaluated for their effectiveness. This would be used to develop approaches to integrate agriculture and care in the healthcare sector.

Suggestions on the economic aspect of a research programme on green care will be developed, based on discussions and conclusions of Milestones 1-2.

WG3: Policies related to Green Care
The main aim of this Working Group is to investigate how green care fits into current and future national health and social care systems. This includes the organisation of the green care system and the building up of the network behind the health and social care systems. A further aim is to define how rural development is affected; for example, by the creation of new jobs and strengthening of the economic viability of rural communities, those of less-favoured and remote rural areas in particular.

Recent or current research in participating countries
In the Netherlands, there is a project on ‘Comparison of different methods to organise regional support systems for green care’ (Hassink, PRI), as well as a project on ‘Description of policies in long term care systems, rural development, local welfare, landscape planning, environmental quality etc. and the potentials of green care to contribute to their goals’ (Hassink, PRI, and Piet Driest, Netherlands Institute for Care and Welfare).

The Centre of Rural Research (Trondheim, Norway) has a project titled ‘Green care – flexible specialisation or traditional supplementary business?’ The project examines green care as a strategy of small-scale agricultural business and development. This project has examined a number of variables through a nation-wide survey (Fjeldavli and Meistad, 2004). Some results show that about 600 farmers offer welfare services (including green care and teaching). More than two thirds of them are females, working together with a spouse or other family members. Welfare farmers generally have had a higher education than other farmers, and have work experiences from work tasks similar to the public health care or education systems.

One of the most interesting results from an agricultural business perspective, is that the representatives of the municipal authorities buying the care farming services claim that the highest valued quality of the services is the offering of ‘real’ work on an authentic farm (Fjeldavli 2005, unpublished paper preliminary title: ‘Agriculture as cultivation of well-being – between policy of agriculture and the salutogenic factors of health’). Pure healthcare institutions in agricultural and countryside surroundings with ‘therapeutic’ animals and horticultural activities are not valued that high. The hypotheses of the failures of some of the governmental welfare services may be strengthened through such results and inspire and stimulate explorations of the knowledge of health and welfare sciences in a sociological perspective.

Concepts and terms for the services
Agricultural welfare services are a constructed description of the activities launched by farmers offering supplies and services on farms for people as a resource for a healthy lifestyle, social coping, empowering and learning activities. There are several different concepts and terms in use for the different services: green care, green co-operation, green
farms, into the courtyard, farming for health, social farms, holiday on farms, relieved farms, city farms, the farm as a pedagogical resource, the real schoolyard. The green colour in use in these kinds of activities should not be mistaken as being purely ecological or relating to other ‘amenity-producing’ landscape activities. Agreement on the proper term for the different service concepts is needed.

These examples of terms highlight problems regarding the definitions of the services and which sector or organisation has an interest in buying and paying for the services. Three main issues will be mentioned: The first is the challenge of care farms outside or within the scope of (health) institutions. The second is the overlap with and link to the business of agrotourism and country life in general. The third is the overlap with other aspects of family organisation and activities such as foster homes and childcare (Fjeldavli, 2005).

Milestones
1. Definition of terms and concepts for the different services of green care.
Mutual concepts and their proper terms for various types of services offered within green care, which could be adopted across Europe to ease international cooperation, will be defined. A proposal will then be discussed in a plenary session of the Action.

2. Evaluate the contribution of green care not only to rural and agricultural policies, but also to policies in healthcare and social care.
This involves discussions on the evaluation of social aspects of urban areas such as social cohesion, safety, feelings of annoyance caused by people with drug problems etc.

Different regions should be compared with each other.

Social entrepreneurship, social cohesion, quality of life, landscape and environment, social services, agriculture, citizens and governance, and education and research are important policy domains to be addressed, mainly at regional and national levels. There appears to be a change of paradigm from the traditional monodisciplinary, protocol-oriented medical approach of long-term care issues, to a more social, integrated approach. Green care fits into this main trend, as well as with the trend towards more informal family care.

Innovations in long-term care generally involve a shift from focusing on target groups to focusing on functions; this implies a need for cooperation between organisations specialising in different functions. Green care should therefore develop alliances with other sectors.

A challenge is to include people with different cultural backgrounds in green care projects.

A shift from national approaches in long-term care towards a more local orientation can be observed in many countries. The advantages of this change are more client-oriented responsibilities and more attention being paid to individual wishes and the needs of clients. But there is also a strong risk of ad hoc financial cuts. Depending on the country, either the government (with a tax-based health system) or the insurance companies will have more influence on the financial structure of healthcare, and therefore also on the market for green care services.

Suggestions for the policies part of a research agenda on green care will be developed based on discussions and conclusions of Milestone 1.


**Communication with stakeholders**

The success of the Action requires a good, efficient communication with various stakeholder groups, which are organisations for farmers, client groups and their organisations, medical, psychological and social professionals working with such clients, municipal health authorities, health insurance companies, governmental bodies organising healthcare systems and their funding, etc. Such groups are important users of the knowledge to be developed and therefore major targets for the dissemination of the Action’s output, but they may also give valuable input to the work to ensure that adequate questions are addressed. Therefore people from such groups will be invited to some of the meetings and workshops. Some of these persons may also qualify as full members of the Action.

**E. Organisation**

The Management Committee (MC) will plan the meetings and ensure the optimal organisation and work of the Working Groups (WGs). Most meetings will be formed as workshops within WGs, with a seminar or symposium part that could be attended in plenum and also include proper plenary meetings. Therefore WG meetings will usually be held at the same time and place. Much of the scientific work and documentation behind the development of the research programme will be done by participants between meetings.

A Website will form a major link for participants between meetings, and a scientific discussion forum will be included on this site. All aims, objectives, documentation, publications and minutes of meetings will be presented, with relevant links to other sources. The Website will be maintained for some time after the completion of the Action. Through this site, different stakeholder groups and other interested partners will have access to the final research programme developed by the Action.

**F. Timetable**

This Action has a duration of four years. The general time plan is shown in Table 1. In the fourth year, an additional dissemination seminar (not shown in the table) with external users will be held (if funding is obtained) before the final report is produced.

Table 1. Overall timetable
G. Economic dimension
The following COST countries have actively participated in the preparation of the Action or otherwise indicated their interest: Austria, Belgium, Denmark, Finland, France, Germany, Netherlands, Norway, Italy, Poland, Slovenia, Sweden, and the United Kingdom. In addition, the USA is involved.

On the basis of national estimates provided by the representatives of the collaborating countries, the annual economic dimension of the activities to be carried out under the Action has been estimated, in 2005 prices, at roughly EUR 10-12 million. With a four-year lifetime of the COST Action, the total economic dimension will be about EUR 45 million.

This estimate is valid on the assumption that all the countries mentioned above, but no other countries, will participate in the Action. Any departure from this will change the total cost accordingly.

H. Dissemination plan
The target audiences of output from the Action are scientists and professionals working with various aspects of green care including farmers, EU scientific committees and national research council committees working on development of research programmes, as well as international and national health authorities. Professionals from the health, psychology and social care sectors, working with clients in green care, as well as charity organisations for client groups, are also important stakeholders that may use the output from this COST Action. As explained in the last section of Section D Scientific programme, such stakeholders will be invited to Action meetings in order to establish good communication and exchange of ideas at an early stage. Other external users of the results of the Action may be invited to a final dissemination seminar to give input that could be used for the final report and research programmes. Stakeholder groups that actively join the Action will have their own dissemination strategy for relevant national contacts. This will contribute to a wider spread of competence achieved during the Action.

Information and results of the Action work will be presented on a public Website. This will include reports of seminars, minutes of meetings, publications from participants, contributions to other conferences, links to relevant information from other sources, and the final report that will include a proposal for research programmes on green care. Proposals for research programmes will also be sent to relevant research funding bodies.

A liaison will also be established between the MC of this Action and the governance of the FP6 priority 8 project on social farming (SOFAR). The COST Office will assist the Action in developing this link which will improve dissemination.

Sum of deliverables
In summary, this COST Action will
· develop a common conceptual framework on green care;
· coordinate and discuss ongoing research projects;
· develop common methodology to be applied in different countries to determine the health and social effects of green care;
· develop hypotheses to be tested, and start joint experiments to test them;
· compare approaches to support green care;
· evaluate the contribution of green care to rural and agricultural policies, and also policies in healthcare and social care.

During the Action’s lifetime, the following deliverables will be made:

· Good functional multidisciplinary scientific networks at two levels, a complete multidisciplinary network and three Working Group networks. This will first of all enable the participants to conduct better research work and provide students with more insight both during and after the Action’s lifetime, while the non-scientific Action participants will be able to perform their work with improved insight.
· At least one multidisciplinary research programme on green care in agriculture, which will be offered to EU and to national research councils or other funding organisations.
· Minutes of meetings, seminar reports, and conclusions on specific topics (conceptual definitions, research methodologies, etc.) will be available through the Website.
COST ACTION 866

"Green Care in Agriculture"

ADDITIONAL INFORMATION
NOT PART OF MoU
History of the proposal

In 1999, a project was started at Wageningen UR to characterise the diversity and economic potentials of sheltered farms, followed up by a new project starting in 2001 to explore the social care function of farm animals for persons with disabilities. In Norway, a pilot study exploring the effects on mental health of persons with mental disorders working with farm animals started in 2001, followed up by a larger project in 2003. In 2001, contact was established between these research groups. In 2003 the Agricultural University of Norway (now: Norwegian University of Life Sciences) funded an international research seminar on green care, aiming at promoting international cooperation in this field. On this seminar it was decided to apply for a COST Action on green care to establish a larger European multidisciplinary scientific network to coordinate efforts and to develop a research programme in this field.

At a pre-conference in Vorden, The Netherlands, in April 2004, aiming at planning a conference called “Farming for Health” to be held in 2005, several new collaborators met and decided to join the COST Action initiative. After feedback on the content, the proposal was revised (version 2). After some modifications suggested by the COST Office, version 3 was submitted and sent to TC for evaluation. The present version 4 is revised in accordance with requirements of the TC and its evaluation report, discussions at the ESF Exploratory Workshop “Farming for Health”, held in Wageningen 16-19 March 2005, and later input by the collaborators.

Green care is a new area of research with a limited scientific effort due to limited funding. Recent and ongoing research is briefly indicated in section A. The main objective of stimulating new multidisciplinary research by producing effective networks and producing a new research programme constitute an important part of the economic dimension of the Action. The potential of future economic importance to the society and to the multifunctional agriculture should also be considered.

As explained earlier, this is a new area of research with a limited scientific effort due to limited funding. Recent and ongoing research is briefly indicated in section A. The main objective of stimulating new multidisciplinary research by producing effective networks and producing a new research programme makes the present economic dimension of the Action rather small in comparison to most other Actions. The potential of future economic importance to the society and to the multifunctional agriculture should be considered.
List of relevant stakeholder organisations

The following are *examples* of stakeholder organisations and institutions that will be invited:

- Integration Foundation Emmenthal/Georegio, Switzerland
- Association for Horticulture and Therapy, Germany
- Trimbos Institute, The Netherlands
- Institute of Mental Health and Addiction, The Netherlands, Instituut voor Zorg en Welzijn, The Netherlands
- The Federation of Swedish Farmers (LRF), Sweden
- Norges bondelag (Farmers’ Union), Norway
- Mental Helse Norge (organisation for mental health clients), Norway
- Norwegian Council for Mental Health, Norway
- Innovation Norway, Norway
- NeuroCity Foundation, The Finnish Foundation for Rehabilitation and Development
- Center Dolfke Bostancic, Slovenia
- Šent-Slovene Association for Mental Health, Slovenia
- Ozara - National Life Quality Association, Slovenia
- LSR Lezajsk, Poland
- Thrive, UK
- Forum for the Future, UK
- Det jydskes haveselskab, Denmark,
- Omslag, The Netherlands
- Steunpunt Groene Zorg, Belgium
- Confederazione Italiana Degli Agricoltori - CIA, Italy
- Federazione Nazionale Delle Comunita Terapeutiche - FICT, Italy
- Dutch Patient and Client Platform, The Netherlands
- Rabobank and Triodosbank (health insurance), The Netherlands
- Amsterdam city, Departments of welfare and spatial planning, The Netherlands

List of experts

The following 51 experts (grouped by nations in alphabetical order) have actively participated in the development of the COST Action proposal or have expressed an interest in joining the Action (C, country ISO code; WG, Working Group numbers are suggested, * suggested as MC members):

Details of the experts (address; tel) are mentioned at the end of the following table.

<table>
<thead>
<tr>
<th>C</th>
<th>Institution</th>
<th>Contact persons</th>
<th>Expertise</th>
<th>WG</th>
</tr>
</thead>
<tbody>
<tr>
<td>AT</td>
<td>University of Veterinary Medicine Vienna</td>
<td>Josef Leibetseder*</td>
<td>Animal-assisted therapy</td>
<td>1</td>
</tr>
<tr>
<td>AT</td>
<td>Federal Institute for Mountainous and Less-favoured Areas</td>
<td>Georg Wiesinger*</td>
<td>Animal-assisted therapy</td>
<td>1</td>
</tr>
<tr>
<td>BE</td>
<td>Steunpunt Groene Zorg</td>
<td>Hilde Weckhuysen*</td>
<td>Green care</td>
<td>2</td>
</tr>
<tr>
<td>BE</td>
<td>Wallon Agricultural Research Centre</td>
<td>Nicole Bartiaux-Thill*</td>
<td>Animal science</td>
<td>1</td>
</tr>
<tr>
<td>CH</td>
<td>Integration Foundation Emmenthal/Georegio</td>
<td>Jörg Wetzel*</td>
<td>Green care and regional development</td>
<td>2</td>
</tr>
<tr>
<td>DE</td>
<td>Association for Horticulture and Therapy</td>
<td>Konrad Neuberger*</td>
<td>Horticultural therapy</td>
<td>1</td>
</tr>
<tr>
<td>C</td>
<td>Institution</td>
<td>Contact persons</td>
<td>Expertise</td>
<td>WG</td>
</tr>
<tr>
<td>----</td>
<td>----------------------------------------------------------------------------</td>
<td>--------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>----</td>
</tr>
<tr>
<td>DE</td>
<td>Research Institute of Organic Agriculture, FiBL Deutschland e.V., Thomas van Elsen*</td>
<td>Ecology, interactions of landscape and green care</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>DE</td>
<td>Research Institute of Organic Agriculture, FiBL Deutschland e.V.</td>
<td>Robert Hermanowski</td>
<td>Economical aspects of green care</td>
<td>2</td>
</tr>
<tr>
<td>DE</td>
<td>University of Kassel</td>
<td>Amelie Günther, Evelyn Maier</td>
<td>Survey on green care farms</td>
<td>1</td>
</tr>
<tr>
<td>DK</td>
<td>Det jydske haveselskab</td>
<td>Birgit Lindskov*</td>
<td>Horticulture</td>
<td>2</td>
</tr>
<tr>
<td>DK</td>
<td>IE Consult – People-plant relations</td>
<td>Henrik Saxe*</td>
<td>Plant physiology, people-plant relations</td>
<td>1</td>
</tr>
<tr>
<td>FI</td>
<td>MTT Environmental Research</td>
<td>Sirpa Kurppa,* Katriina Soini,* Ulla M. Partanen</td>
<td>Human-animal interactions</td>
<td>1</td>
</tr>
<tr>
<td>FR</td>
<td>Institut National de Recherche d’Agriculture (INRA), de Theix</td>
<td>Xavier Boivin*</td>
<td>Ethology, human-animal interactions</td>
<td>1</td>
</tr>
<tr>
<td>IT</td>
<td>University of Tuscia – Dept. of Agricultural Economics and Rural Environment</td>
<td>Saverio Senni*</td>
<td>Agricultural Economist</td>
<td>2</td>
</tr>
<tr>
<td>IT</td>
<td>Department of Animal Production, University of Pisa</td>
<td>Francesco Di Iacovo*, Paolo Pierini</td>
<td>Human-animal interactions</td>
<td>1</td>
</tr>
<tr>
<td>IT</td>
<td>Psychiatric Emergency Service of Grassi Hospital</td>
<td>Giorgio Guerani</td>
<td>Psychiatrist</td>
<td>1</td>
</tr>
<tr>
<td>IT</td>
<td>Farmers Italian Confederation of Lazio</td>
<td>Alessandro Salvadori</td>
<td>President</td>
<td>2</td>
</tr>
<tr>
<td>IT</td>
<td>Rete Fattorie Sociali (Italian Association of Social Farmers)</td>
<td>Alfonso Pascale</td>
<td>President</td>
<td>2</td>
</tr>
<tr>
<td>NL</td>
<td>Plant Research International, Wageningen University and Research Centre</td>
<td>Jan Hassink,* Marjolein Elings</td>
<td>Agricultural systems; human-plant interactions, green care, psychosocial aspects</td>
<td>1,2</td>
</tr>
<tr>
<td>NL</td>
<td>Animal Production Systems, Wageningen University and Research Centrum</td>
<td>Simon Oosting, Simone de Bruin</td>
<td>Human-animal interactions</td>
<td>1</td>
</tr>
<tr>
<td>NL</td>
<td>Alterra, Wageningen University &amp; Research Centre</td>
<td>Bas Pedroli, Gerard Kolkman</td>
<td>Landscape and humans, urban-rural interaction planning</td>
<td>1,3</td>
</tr>
<tr>
<td>NL</td>
<td>Louis Bolk Instituut, Driebrogen</td>
<td>Erik Baars</td>
<td>Medicine (epidemiology)</td>
<td>1</td>
</tr>
<tr>
<td>NL</td>
<td>Trimbos Institute. Netherlands Institute of Mental Health and Addiction</td>
<td>Nicole van Erp</td>
<td>Psychiatry, rehabilitation</td>
<td>1</td>
</tr>
<tr>
<td>C</td>
<td>Institution</td>
<td>Contact persons</td>
<td>Expertise</td>
<td>WG</td>
</tr>
<tr>
<td>----</td>
<td>-----------------------------------------------------------------------------</td>
<td>--------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------</td>
<td>----</td>
</tr>
<tr>
<td>NL</td>
<td>University Utrecht, Department of Clinical &amp; Health Psychology, Faculty of Social Sciences</td>
<td>M.J. Enders-Slegers*</td>
<td>Clinical Psychologist, Quality of Life, human-animal relationships</td>
<td>1</td>
</tr>
<tr>
<td>NL</td>
<td>Nederlands Instituut voor Zorg en Welzijn</td>
<td>Piet Driest</td>
<td>Social systems</td>
<td>3</td>
</tr>
<tr>
<td>NO</td>
<td>Norwegian University of Life Sciences, Dept. of Animal and Aquacultural Sciences</td>
<td>Bjarne O. Braastad,* Bente Berget</td>
<td>Ethology, human-animal interactions</td>
<td>1</td>
</tr>
<tr>
<td>NO</td>
<td>Norwegian University of Life Sciences, Dept. of Plant and Environmental Sciences</td>
<td>Grete Patil*</td>
<td>Horticulture, effects of plants on human health</td>
<td>1</td>
</tr>
<tr>
<td>NO</td>
<td>Norwegian University of Life Sciences, Dept. of Landscape Architecture and Spatial Planning</td>
<td>Gary Fry</td>
<td>Landscape ecology, landscape preferences</td>
<td>1</td>
</tr>
<tr>
<td>NO</td>
<td>Department of Behavioural Sciences in Medicine, University of Oslo</td>
<td>Øivind Ekeberg</td>
<td>Psychiatry</td>
<td>1</td>
</tr>
<tr>
<td>NO</td>
<td>Centre of Rural Research in Norway</td>
<td>Elsa Fjeldavli</td>
<td>Rural and Agricultural Sociology, and Sociology of Health and illness</td>
<td>3</td>
</tr>
<tr>
<td>NO</td>
<td>Centre of Rural Research in Norway</td>
<td>Torill Meistad</td>
<td>Entrepreneurship, business economy</td>
<td>2</td>
</tr>
<tr>
<td>NO</td>
<td>Faculty of Health and Social Studies, Lillehammer University College</td>
<td>Einar Strumse</td>
<td>Environmental psychology</td>
<td>1</td>
</tr>
<tr>
<td>SE</td>
<td>Swedish University of Agricultural Sciences, Dept. of Animal Environment and Health</td>
<td>Maria Andersson*</td>
<td>Ethology, human-animal interactions</td>
<td>1</td>
</tr>
<tr>
<td>SE</td>
<td>The Federation of Swedish Farmers (LRF)</td>
<td>Karin Abramsson, Britt-Marie Gustafsson*</td>
<td>Agricultural organisation</td>
<td>3</td>
</tr>
<tr>
<td>SI</td>
<td>University of Ljubljana, Biotechnical Faculty-Dept. of Agronomy</td>
<td>Katja Vadnal*</td>
<td>Agricultural economics</td>
<td>2,3</td>
</tr>
<tr>
<td>SI</td>
<td>CUDV Draga, Centre for training, work and care of persons with mental development disorders</td>
<td>Irena Borschnik*</td>
<td>Horticultural therapy</td>
<td>1</td>
</tr>
<tr>
<td>SI</td>
<td>University Paediatric Hospital, Dept. of Developmental Neurology, Ljubljana</td>
<td>Milivoj Veličković Perat</td>
<td>Developmental Neurology</td>
<td>1</td>
</tr>
<tr>
<td>SI</td>
<td>Šent-Slovene Association for Mental Health, Ljubljana</td>
<td>Vesna Švab</td>
<td>Psychiatry</td>
<td>1</td>
</tr>
<tr>
<td>SI</td>
<td>Ozara - National Life Quality Association, Ljubljana</td>
<td>Lovšin Borislava</td>
<td>Psychiatry</td>
<td>1</td>
</tr>
<tr>
<td>C</td>
<td>Institution</td>
<td>Contact persons</td>
<td>Expertise</td>
<td>WG</td>
</tr>
<tr>
<td>---</td>
<td>-------------</td>
<td>-----------------</td>
<td>-----------</td>
<td>----</td>
</tr>
<tr>
<td>UK</td>
<td>Department of Social Sciences, Loughborough University</td>
<td>Joe Sempik*</td>
<td>Horticultural therapy</td>
<td>1</td>
</tr>
<tr>
<td>UK</td>
<td>Director for Land Use and Resources, Forum for the Future</td>
<td>Carol Somper</td>
<td>Horticultural therapy</td>
<td>3</td>
</tr>
<tr>
<td>UK</td>
<td>Department of Clinical Veterinary Medicine, Cambridge University</td>
<td>Donald M. Broom, Anthony Podberscek*</td>
<td>Human-animal interactions</td>
<td>1</td>
</tr>
<tr>
<td>UK</td>
<td>Department of Biological Sciences, University of Essex</td>
<td>Jules Pretty</td>
<td>Physiology, Exercise and landscape effects</td>
<td>1</td>
</tr>
<tr>
<td>USA</td>
<td>Department of Horticulture, Virginia Tech University</td>
<td>Diane Relf</td>
<td>Human-Plant Interactions</td>
<td>1</td>
</tr>
</tbody>
</table>

**Complete addresses**

*Karin Abramsson*, The Federation of Swedish Farmers (LRF), Klara Östra Kyrkogata 12, SE-105 33 Stockholm, Sweden. E-mail: karin.abramsson@lrf.se Phone: +46 771-573 573

*Erik Baars*, Louis Bolk Instituut, Hoofdstraat 24, NL-3972 LA Driebergen, The Netherlands. E-mail: e.baars@louisbolk.nl Phone: +31-343-523860, Fax: +31-343-515611

*Nicole Bartiaux-Thill*, Wallon Agricultural Research Centre, Rue de Liroux, 9, B-5030 Gembloux, Belgium. E-mail: bartiaux@cra.wallonie.be

*Bente Berget*, Department of Animal and Aquacultural Sciences, Norwegian University of Life Sciences, P.O. Box 5003, NO-1432 Ås, Norway. E-mail: bente.berget@umb.no Phone: +47 64965226, Fax: +47 64965101

*Xavier Boivin*, Unité de Recherche sur les Herbivores, ResearchTeam ACS - Adaptation et Comportements Sociaux, Institut National de Recherche d’Agriculture (INRA), de Theix, F-63122 St.Genés Champanelle, France. E-mail: xavier.boivin@sancy.clermont.inra.fr Phone: +33 4 73 62 47 02, Fax: +33 4 73 62 41 18

*Lovšin Borislava*, Consultant of Ozara - National Life Quality Association, Private Psychiatric Clinic, Až betova 4, SI-1000 Ljubljana, Slovenia. Phone: +386 1 251 31 06

*Irena Borštnik*, CUDV Draga, Centre for training, work and care of persons with mental development disorders, 1292 IG, Draga 1, Slovenia. E-mail: irena.borstnik@guest.arnes.si Phone:+386 01 420 26 00, Fax: +386 01 420 26 26

*Bjarne O. Braastad*, Department of Animal and Aquacultural Sciences, Norwegian University of Life Sciences, P.O. Box 5003, NO-1432 Ås, Norway. E-mail: bjarne.braastad@umb.no Phone: +47 64965162, Fax: +47 64965101

*Donald M. Broom*, Department of Clinical Veterinary Medicine, Cambridge University. E-mail: dmb16@cam.ac.uk

*Majken van Dijk*, Animal Sciences Group, Wageningen University and Research Centrum, P.O. Box 65, NL-8200 AB Lelystad, The Netherlands. E-mail: majken.vandijk@wur.nl Phone: +31 320 2 38241
Piet Driest, Nederlands Instituut voor Zorg en Welzijn (NIZW), Postbus 19152, 3501 DD Utrecht, The Netherlands. E-mail: p.driest@nizw.nl Phone: +31 30 23 06 386

Øivind Ekeberg, Department of Behavioural Sciences in Medicine, University of Oslo, P.O. Box 1111, NO-0317 Oslo, Norway. E-mail: oivind.ekeberg@basalmed.uio.no

Marjolein Elings, Plant Research International, Wageningen UR, Postbus 16, 6700 AA Wageningen, The Netherlands. E-mail: marjolein.elings@wur.nl Phone: +31 317 475915

Thomas van Elsen, Research Institute of Organic Agriculture, FiBL Deutschland e.V., Nordbahnhofstr. 1a, D-37213 Witzenhausen, Germany. E-mail: Thomas.vanElsen@fibl.org Phone: +49 5542 - 98 – 1655, Fax: +49 5542 - 98 – 1568. http://www.fibl.org

Marie-José Enders-Slegers, Department of Clinical Psychology, Faculty of Social Sciences, University of Utrecht, P.O. Box 80140, 3508 TC Utrecht, The Netherlands. E-mail: m.enders-slegers@fss.uu.nl Phone: +31 30 253 6713

Nicole van Erp, Trimbos Institute, Netherlands Institute of Mental Health and Addiction. P.O. Box 725, 3500 AS Utrecht, The Netherlands. E-mail: nerp@trimbos.nl Phone: +31 30 2971100

Elsa Fjeldavli, Centre for Rural Research, NO-7491 Trondheim, Norway. E-mail: elsa.fjeldavli@bygdeforskning.no Phone: +47 73591729, Fax: +47 73591275

Gary Fry, Department of Landscape Architecture and Spatial Planning, Norwegian University of Life Sciences, P.O. Box 5003, NO-1432 Ås, Norway. E-mail: gary.fry@umb.no Phone: +47 64965362, Fax: +47 64948390

Giorgio Guerani, Psychiatric Emergy service of Grassi Hospital, Via Passeroni s.n.c., I-00122 Ostia (Roma). Email: g.guerani@fastwebnet.it

Britt-Marie Gustafsson, Swedish Farmers Federation (LRF), Box 421, SE-601 05 Norrköping, Sweden. E-mail: britt-marie.gustafsson@e.lrf.se Phone: +46 13 531 57

Jan Hassink, Plant Research International, Wageningen University and Research Centrum, P.O. Box 16, NL-6700 AA Wageningen, The Netherlands. E-mail: jan.hassink@wur.nl Phone: +31 317 4 75962, Fax: +31 317 4 18094

Robert Hermanowski, Research Institute of Organic Agriculture, FiBL Deutschland e.V., Galvanistr. 28, D-60486 Frankfurt, Germany. E-mail Robert.Hermanowski@fibl.org, phone: +49-69 71376990, Fax: +49 -69 71376999

Francesco Di Iacovo, Department of Animal Production, University of Pisa, Via delle Piagge, 2 – I-56100 Pisa, Italy. E-mail: francovo@Vet.Unipi.it Phone: +39 50 540260, Fax: +39 50 572511

Gerard Kolkman, Alterra, Wageningen UR, P.O. Box 47, 6700 AA Wageningen, The Netherlands. E-mail: gerard.kolkman@wur.nl Phone: +31 317 477726

Sirpa Kurppa, MTT/Environmental Research, FIN - 31600 Jokioinen, Finland. E-mail: sirpa.kurppa@mtt.fi
Josef Leibetseder, University of Veterinary Medicine Vienna, Veterinärplatz 1, A-1210 Vienna, Austria. E-mail: josef.leibetseder@vu-wien.ac.at Phone: +43 1 25077-3200, Fax: +43 1 25077-3290

Birgit Lindskov, Det jydske hasveselskab, Silkeborgvej 34, DK-8740 Brædstrup, Denmark. E-mail: Bls@hasveselskab.dk Phone: +45 75 75 45 55

Torill Meistad, Centre for Rural Research, NO-7491 Trondheim, Norway. E-mail: torill.meistad@bygdeforskning.no Phone: +47 73591729, Fax: +47 73591275

Konrad Neuberger, Association for Horticulture and Therapy, Obersondern 6, D-42399 Wuppertal, Germany. E-mail: G_GuT@t-online.de Phone/Fax: +49 202-2612130

Simon Oosting, Animal Production Systems, Wageningen University and Research Centrum, Bode 103, Postbus 338, NL-6700 AH Wageningen, The Netherlands. E-mail: simon.oosting@wur.nl Phone: +31 317 4 84594, Fax: +31 317 4 85550

Ulla Mirjami Partanen, MTT/Environmental Research, YHA L-talo, FIN-31600 Jokioinen, Finland. E-mail: ulla.partanen@mtt.fi Phone: +358 500 407 057

Alfonso Pascal, Italian Association of Social Farms (Rete Fattorie Sociali), Via Giulio Cesare, 137, I-00192 Roma. Email: a.pascale@alfonsopascale.it

Grete Grindal Patil, Department of Plant and Environmental Sciences, Norwegian University of Life Sciences, P.O. Box 5003, NO-1432 Ås, Norway. E-mail: grete.patil@umb.no Phone: +47 64965656, Fax: +47 64947802

Bas Pedrol, Alterra, Wageningen UR, P.O. Box 47, 6700 AA Wageningen, The Netherlands. E-mail: bas.pedrol@wur.nl Phone: +31 317 477833

Paolo Pierini, University of Pisa, Vle Piagge 2, I-56100 Pisa, Italy.

Anthony Podberscek, Department of Clinical Veterinary Medicine, Cambridge University. E-mail: alp18@cam.ac.uk

Henk Poppenk, Omslag, De Pas 40, 8121 GR Olst, The Netherlands. E-mail: h.poppenk@home.nl

Jules Pretty, Department of Biological Sciences, University of Essex, Colchester CO4 3SQ, UK. E-mail: jpretty@essex.ac.uk Phone: +44-1206-873323 http: www.essex.ac.uk/bs/

Diane Relf, Department of Horticulture 0327. Virginia Tech University, Blacksburg, VA 24061, USA. E-mail: pdrelf@pop.vt.edu Phone: +1 540/231-9279, Fax: +1 540/231-3083

Alessandro Salvadori, Farmers Italian Confederation of Lazio, Via Edorardo d’Onofrio, 57, I-00155 Roma. Email: presidente@cialazio.it

Henrik Saxe, IE-Consult, Engbaktevej 3C, DK-2920 Charlottenlund, Denmark. E-mail hsa@imv.dk Phone: +45 39642225

Joe Sempik, Centre for Child and Family Research, Department of Social Sciences, Loughborough University, Leicestershire LE11 3TU, UK. E-mail: J.Sempik@iboro.ac.uk Phone: +44 (0) 1509 223671 http://www.growingtogether.org.uk

Additional Information COST Action 866
Saverio Senni, Dipartimento di Economia Agroforestale e dell’Ambiente Rurale, Università degli Studi della Tuscia, Via S. Camillo de Lellis s.n.c., I-01100 Viterbo, Italy. E-mail: Senni@unitus.it Phone: +39 761 357278 or 761 357247, Fax: +39 761 357295

Katriina Soini, MTT/Environmental Research, FIN - 31600 Jokioinen, Finland. E-mail: katriina.soini@mtt.fi. Phone: +358 - 3 - 4188 3191, Mobile: +358 -40-7251 891

Carol Somper, Director for Land Use and Resources, Forum for the Future, 9, Imperial Square, Cheltenham, Glos GL50 1BQ, UK. E-mail: c.somper@forumforthefuture.org.uk Phone: +44 1242 266771 DD, Fax: +44 1242 262757. www.forumforthefuture.org.uk

Einar Strumse, Faculty of Health and Social Studies, Lillehammer University College, NO-2626 Lillehammer, Norway. E-mail: einar.strumse@hil.no Phone: +47 61 28 80 50, Fax: +47 61 28 81 90.

Vesna Švab, President of Šent-Slovene Association for Mental Health, Cigaletova ulica 5 SI-1000 Ljubljana, Slovenia. e-mail: vesna.svab@sent-si.org Phone: +386 1 23 078 30 Fax: +386 1 23 078 38

Carina Tenngart, Department of Landscape Planning, Health and Recreation, Swedish University of Agricultural Sciences, P.O. Box 58, SE-230 53 Alnarp, Sweden. E-mail: Carina.Tenngart@lpal.slu.se Phone: +46 40-415438, Fax: +46 40-415540

Katja Vadnal, Biotechnical Faculty – Agronomy Dept., University of Ljubljana, 1000 Ljubljana, Jamnikarjeva 101, Slovenia, E-mail: katja.vadnal@bf.uni-lj.si Phone: +386 01 423 11 61, Fax: + 386 01 423 10 88

Milivoj Veličkovič Perat, Professor of Developmental Neurology, University Paediatric Hospital, Dept. of Developmental Neurology, Vrazov trg 1, SI-1525, Ljubljana, Slovenia. E-mail: milivoj.velickovic@mf.uni-lj.si Phone: + 386 1 5229 219, Fax: + 386 1 5229 358

Hilde Weckhuysen, Steunpunt Groene Zorg, Remylaan 4b, B-3018 Wijgmaal, Belgium. E-mail: hweckhuysen@kvlv.be Phone: +32 16 24 49 22

Jörg Wetzel, Integration Foundation Emmental/Georegio, Gemeinde- und Regionsentwicklung, Gotthelfstrasse 54, CH-3400 Burgdorf, Switzerland. E-mail: wetzel@georegio.ch Phone: +41 34 423 56 39, Fax: +41 34 423 56 38

Georg Wiesinger, Federal Institute for Mountainous and Less-favoured Areas, Marxerg. 2/M, A-1030 Wien (Vienna), Austria. E-mail: georg.wiesinger@babf.bmlfuw.gv.at Phone: +43 1 504.88.69.20, Fax: +43 1 504.88.69.39  http://www.babf.bmlfuw.gv.at
Publications

Braastad, B.O. and Berget, B. 2004. Effekter av dyr på menneskets helse og dyreassistert terapi – teori og praksis. 17 s. (In Norwegian)
Erp van N. 2004. Sowing and harvesting on the care farm. Passage no. 3 pg. 49-56. (in Dutch)

Lebendige Erde 3: 231-235.
Meistad, T and R. Nyland 2005. Work training at farms for people suffering from mental deseases. Centre for Rural Research report 2/05. (in Norwegian)
International Association for People - Environment Studies. A Coruna: Publisedisa. ISBN 932694 - 1-7


Strumse, E (1996): The psychology of aesthetics: Explaining visual preferences for agrarian landscapes in Western Norway. A thesis submitted in partial fulfilment of the requirements for the degree Dr. philos., Faculty of psychology, University of Bergen. Published by the Research Center for Health Promotion, University of Bergen.


Vadnal, K., Borštnik, I., Bužan, V. and Uлага, J. 2002. Modeli in ocena izvedljivosti zaposlovanja in oskrbovanja oseb z motnjami v duševnem razvoju kot dopolnilne dejavnosti na kmetijah : končno poročilo o delu na raziskovalnem projektu v obdobju april


