The Economics of Green Care in Agriculture

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Joost Dessein
Institute for Agricultural and Fisheries Research

Bettina Barbara Bock
Wageningen University & Research

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The Economics of **Green Care** in Agriculture

COST866 Green Care in Agriculture

Editors:

Joost Dessein
Bettina Bock

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Web: www.cost.esf.org

Authors

Bettina B. Bock

is Associate Professor for Rural Sociology at Wageningen University. Her recent research projects examine care and social farming, the social acceptability of animal farming and food production, rural-urban relations as well as citizens' engagement for sustainable agriculture and the (urban) food movement. She teaches on various subjects, including the sociological and political aspects of health.

Mieke Calus

is a member of Ghent University's Department of Agricultural Economics. Her PhD research is titled 'Factors explaining farm succession and transfer in Flanders'. She works on projects related to farm management aspects such as social farming, broadening in agriculture and structural changes in the agricultural sector.

Anna Carbone

is Associate Professor at Università della Tuscia (Viterbo, Italy). She is director of the Manlio Rossi-Doria Association, which promotes interdisciplinary studies focusing on development issues for southern Italian regions. She is consultant for the National Institute for Agricultural Economics. Her research includes food quality, agri-food trade, rural tourism, food-chain design and ethical attributes of food markets.

Joost Dessein

has a PhD in Social and Cultural Anthropology (2002, Katholieke Universiteit Leuven). He is scientific co-ordinator of the Social Sciences Unit at the Institute for Agricultural and Fisheries Research (ILVO) in Ghent, Belgium, and professor at Ghent University. His current research occurs in the field of rural development. His work focuses on the public services of agriculture, regional branding, governance of change processes and value chains.

Sverre Grepperud

graduated from University of Oslo's Department of Economics in 1990. His work there related to development and environmental economics. From 2000-2004 he was employed at the Health Economics Research Programme at the University of Oslo (HERO). Professor Grepperud now teaches economics at University of Oslo's Institute of Health Management and Health Economics.

Lisa Holmes

is a Research Fellow at the Centre for Child and Family Research (CCFR). She has worked as a researcher at Loughborough University since 2000. She has undertaken a body of research funded by the Department of Health and the Department for Children, Schools and Families (DCSF) to inform policy and practice. Lisa currently manages the Costs and Outcomes research team at CCFR.

Evy Mettepenningen

obtained a Master's degree in Bioscience Engineering at Ghent University in 2005. She is now doing research in Ghent University's Department of Agricultural Economics. Her research focuses on different aspects of multifunctional agriculture and rural development. She approaches this research mainly from the point of view of institutional economics.

Simon Oosting

is assistant professor at Wageningen University's Animal Production Systems department. His field of work includes social sustainability of animal systems, Green Care farming, societal perception of animal production systems, and system innovation in tropical animal production.

Stephen Parsons

is an economist interested in the development of public policy affecting farming, the countryside and food supply, particularly in relation to England. He works as an adviser for the National Care Farming Initiative (NCFI, UK).

Aïde Roest

has worked as a researcher at LEI, the Netherlands, since January 2008. In the course of her Animal Science studies she built up a large national and international network. The results of her bachelor's thesis were presented in the Cost Action Green Care in Agriculture conference in 2006. She has also participated in the European project SoFAR. At LEI, she leads several projects in the field of multifunctional agriculture.

Saverio Senni

is Associate Professor at the University of Tuscia (Viterbo, Italy). He represents Italy in the COST Action "Green Care in Agriculture". His major fields of research concern social farming within a rural development framework. He has directed a Master's programme in Ethical and Social Agriculture run by the University of Tuscia.

Katja Vadnal

is professor of agricultural economics and marketing at the University of Ljubljana, Slovenia. The problems of efficiency in Slovene agriculture in terms of multifunctional agriculture and rural development form the centre of her research. During the last ten years, she has been active in researching, teaching and promoting Green Care programmes as a feasible solution for sustainability of small-scale farming systems and diversification of social services available to people with special needs, particularly those with mental disabilities.

Guido Van Huylenbroeck

is professor in agricultural and rural environmental economics at Ghent University, where he is also Dean of the Faculty of Bioscience Engineering. His research focuses on the role of institutions and policies on the developments within agriculture.

Andrea van Schie

is an independent project manager who is frequently involved in developing policy for non-profit organisations. She also leads collective policy development, network programmes, and the process of cooperation in regional and sustainable development with the network as an organising principle.

Gabe Venema

is head of the "Economic performance and perspectives of agricultural sectors" research unit at LEI (the Netherlands). A senior economist with over 20 years of professional experience, he is frequently involved as project leader and/or researcher in studies of the impacts of changes in agriculture, rural and fiscal policy. This research focuses on evaluation studies of policy instruments and multifunctional agriculture (structure, turnover and economic impact).

Contents

The Economics of Green Care in Agriculture

1 Introduction

Joost Dessein and Bettina B. Bock

The Memorandum of Understanding of the COST Action 866 'Green Care in Agriculture' defines Green Care as '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'.

Taking this statement as a starting point, this COST Action's Economics of Green Care working group has gathered a group of European researchers who are occupied with Green Care in one way or another. Although all of them have been in touch with Green Care, we can clearly observe that very few researchers, if any, take the economics of Green Care as a core element. Researchers in the fields of multifunctional agriculture, public health economics and others occasionally take Green Care as an example. Others might study the health effects of Green Care, and only deal with the economics in a very limited way. A thorough analysis of the economics of Green Care is lacking so far. This is striking, as the phenomenon as such is gaining importance all over Europe. The mere existence of this European COST Action shows the relevance of the topic. In different contexts, at different speeds and along diverse trajectories, Green Care is developing in practice, is gaining economic impact and is attracting policy attention at different levels.

Given the near-absence of research on the economics of Green Care, and hence the evident lack of empirical data, the authors were challenged to reflect on the economics of Green Care based on their own expertise and perspective. This challenge resulted in a fascinating variety of contributions. Some are rather theoretical reflections; others are based on the little data available and one is even based on personal experience.

The book is structured as follows. After this introduction, Chapter 2 classifies the different Green Care arrangements in Europe in terms of their underlying philosophy and organisation. Three discourses can be distinguished, e.g., multifunctional agriculture, public health and social inclusion.

The emergence of Green Care in Europe is inspired by socio-cultural developments and trends. The changing function of the countryside, novel

role of farmers and innovations in the health care sector all contribute to new alliances between society, agriculture and care. Chapter 3 describes this fertile breeding ground for the development of Green Care.

Chapter 4 comprises seven contributions and presents a variety of case studies that represent different discursive settings and different points of view. Taken together, they give insight into how costs and benefits of Green Care are experienced, evaluated and dealt with.

The book concludes with a summary of what we have learnt from the various cases, and which questions are still left open. The open questions address both the levels that have yet to be studied as well as the areas where comparison and integration across levels and 'discourses' or sectors are still lacking. This examination then naturally results in a research agenda.

2 A classification of Green Care Arrangements in Europe

Bettina B. Bock and Simon J. Oosting

Interest in Green Care arrangements is increasing among scientists, politicians, health professionals and farmers, as well as among potential clients. There is a widely-held belief in the positive interaction between 'green' and 'care' (or nature and health), although it is difficult to explain and scientifically prove the relationship (De Bruin 2009; Pinder et al. 2009; Bokkers 2006; Fjeldavli 2006). Further, no agreement exists on the exact meaning of 'Green Care' - what kind of 'green environment' is meant and what kind of 'care'? This is reflected in the variety of names used for describing Green Care activities by referring to 'Green Care', 'care farms' or 'social farming' or more specific terms as 'gardening therapy' or 'animal assisted therapy'. Recognising the wide variation in arrangements and combinations of 'green' and 'care' has not led to agreement about what 'Green Care arrangements' have in common and what distinguishes them from other 'care' or 'green' arrangements.

This study is based on the work done in Working Group #2 of COST Action 866. The objective of that working group is to coordinate research and develop new research on the economics and management of Green Care farming. More specifically, we aim to develop a methodology to assess the economic benefits of Green Care services for farmers, for other parts of the agricultural sector and for the health and social care sectors, as well as to assess the more general social returns of such services. This methodology should allow us to compare the benefits generated for various groups and sectors, as well as at various levels of analysis. Ideally, it will also allow for a comparison of benefits across arrangements and countries. We therefore need to understand and structure the meaning of the various concepts used to describe Green Care activities. Once we do, we will be able to develop a classification of the characteristics of European Green Care Arrangements (GCAs). The classification would be built on the characteristics most relevant for the functioning of the various arrangements, as these characteristics capture the core of the different arrangements.

Research and earlier COST meetings have demonstrated the wide variety in GCAs (di Iacovo 2008; di Iacovo and O'Connor 2009).We try to

understand which differences are relevant for understanding and analysing the functioning of Green Care and what could serve as the basis of a classification system. The classification is based on literature research as well as on our discussions during COST Action meetings and Community of Practice meetings. In addition, we made use of the public reports of the SOFAR project (www.sofar.unipi.it; di Iacovo and O'Connor 2009) which inventoried, analysed and compared social/care farming arrangements in Italy, France, Germany, Ireland, Slovenia, the Netherlands and Belgium.

2.1 Three discourses of Green Care: multifunctional agriculture, public health and social inclusion

The Dutch model of Green Care often serves as an example of a 'professional' Green Care arrangement. It has many participants, it is well organised, officially recognized and registered, and is well-paid through official fees (Roest 2005 and 2007; Elings & Hassink 2006; Hassink et al. 2007). We therefore began our study by using the Dutch model as a point of departure to develop a classification system. However, when comparing green arrangements across Europe, it became obvious that the Dutch model is far from common. In many countries Green Care arrangements develop in different ways and follow a different logic (di Iacovo and O'Connor 2009). The variety of GCAs cannot be covered by the Dutch model. Moreover, taking the Dutch model as a point of reference gives the impression that it represents the most desirable model that others may not have fully achieved. As a result, the (socio-economic) value of other types of GCAs will not be understood and may possibly be underestimated.

When comparing the different ways in which Green Care is presented and discussed throughout Europe, the different ways in which it is organised, and the different parties involved, three main models come to the fore. These three European 'discourses' about Green Care are: 1) the model of multifunctional agriculture, 2) the model of public health and 3) the model of social inclusion.

In sociology, the concept of 'discourse' is used to conceptualise the basic premises on which social practices are built. They typically include the public representation of how something is and ought to be (the meaning), as well as the public organization of phenomena (Edgar and Sedgwick 2003).

Discourses are ideal-types, which means that discourse research focuses on and extrapolates differences and correspondences in order to understand the particularity of different systems. In practice, differences can be less clear and organisational forms can overlap. The same is true for the three main discourses of Green Care presented in this chapter. In describing them, we aim to understand which different frames of reference are guiding Green Care arrangements and explain why Green Care is defined, perceived and regulated differently in different countries. Not all arrangements will fit perfectly into these categories and we may find multiple systems and discourses in each country. Furthermore, the situation will most probably become more mixed in the future as ideas from other countries and systems are adopted. However, without clearly perceiving the differences, it is difficult to understand and acknowledge the core substance and value of different arrangements. This is necessary to model and calculate both economic and social costs and benefits in a meaningful way.

The discourse of multifunctional agriculture

Most research in the Netherlands views Green Care activities as one of many forms of producing extra income. Researchers calculate the amount of income generated through this activity and analyse its relative contribution to the farm's function of costs and benefits (Hassink et al. 2007; Oltmer and Venema 2008; Roest 2005 and 2007; Van der Ploeg and Roep 2003; Van der Ploeg et al. 2002). Within this frame of reference, Green Care is perceived as part of the agricultural sector and one of the new sources of farm income. At the same time, Green Care is presented as one of the multiple new functions that agriculture can fulfil in an urbanising society (Wiskerke 2007 and 2009). Green Care is typically represented as 'care farming', which highlights the importance of the setting within the farm sector. Economic studies aim to demonstrate that Green Care now constitutes one of the most important sources of income for multifunctional farmers (Hassink et al. 2007).

The farm-focused discourse is reflected in the description of the Dutch Green Care *philosophy*, which portrays the green and natural environment as healthy and curative. But great importance is also attached to the immersion in an 'ordinary' farm context, the involvement in 'normal' and hence relevant and useful work and the social interaction with 'normal' farmers and a 'normal' family or family-like group of clients and farmer

(Elings and Hassink 2008; Hassink and Ketelaars 2003). Farmers should of course know how to deal with their clients/patients, but they should not become health professionals and they should not engage in explicit therapeutic interaction. They should remain themselves, 'real' farmers (Enders-Slegers 2008; Elings 2004). Ferwerda-Van Zonneveld et al. (2008) described how important the farmer is for autistic children as role model and attachment figure. They also concluded that farmers are important in the care chain i.e., as personal intermediary between care institutions and parents and for monitoring and evaluating the behaviour and performance of clients in a non-institutional setting. Care farmers aim to provide 'care' in a new way, namely, on a small scale, with personal attention and individual care. This approach differs from institutional care and other forms of health care. Although care farming is an economic activity and often an indispensable source of income, farmers often mention social motives as the most important driver to initiate care activities on their farm (Roest 2005).

Placing 'Green Care' in the context of multifunctional agriculture makes sense if one examines the *organisation* of Green Care activities in the Netherlands. Most Green Care activities take place on private farms under supervision of the farmer (which can be male or female). Traditionally, farmers have engaged in care activities on a voluntary basis, motivated by feelings of social responsibility. In the course of the 1990's, a growing number of farmers started care as a commercial activity as one of several diversifying strategies (Van der Ploeg 2003). In most cases, farmwomen initiated such activities in order to create their own employment, as many of them had experience working in the health care sector (Bock 2004). Care farmers are paid for their activities by health care institutions, which send their clients to the farm as an alternative location for 'daily activation programmes' (occupational activity). They may also be paid by health insurance (AWBZ) or directly by a customer using his/her personal health care budget (PGB) (Elings and Hassink 2006). In all these cases, the payment originates directly or indirectly from health insurance. Some farmers also earn money out of Green Care activities by positioning their care engagement as an added value to their agricultural products. In this way, they can justify and receive a higher price. Care farming was institutionally stimulated and supported by the Ministry of Agriculture, Nature and Food Quality and the Ministry of Health, which (among others) subsidised the foundation of a National Support Centre for Agriculture

and Care, in existence from 1998-2008 (Elings and Hassink 2006). During that period, care farming has not only grown but also become more professionalised. This has resulted in the development of certification systems and education programmes, among others. A new national association has now taken over their work (http://www.landbouwzorg.nl). In addition, various regional associations have been set up.

The Dutch situation is unique in the European context. Based on the SOFAR inventory and COST meetings, we may expect that the situation to be similar only to Flanders (Goris et al. 2008) and Norway (Haugan et al. 2006) and potentially Slovenia (di Iacovo and O'Connor 2009). In Flanders, most green-care activities take place at 'ordinary' farms. The payments are low, but regulated and fixed (40 euro per day) and paid for by the Ministry of Agriculture. The payment for Green Care services is considered as a compensation for loss in production (income). The Flemish Ministry of Agriculture promotes Green Care but there are no institutional arrangements with the health sector that take care of the financial organisation (Goris et al. 2008). In Norway, farmers offer a wide range of care services that include health care, child care, and educational and recreational activities. Farmers are paid by the relevant public-sector departments and are encouraged to sign an agreement with the local authorities (Haugan et al. 2006). When the farmers have no health care related education, they cooperate with health professionals. However, there is also a growing number of Green Care oriented training courses developed for farmers. In Slovenia, new rural development policies recently started to offer some support for care farming as part of the promotion of multifunctional agriculture and diversification (di Iacovo and O'Connor 2009).

The discourse of public health

Other European countries frame 'Green Care' within the discourse of public health and as being part of health promotion activities. This is the case in Germany (Neuberger et al. 2006) and Austria (Wiesinger et al. 2006), and probably also the UK, although Green Care in the UK demonstrates characteristics of all three discourses (Hine 2008). The immersion in nature and green labour is considered of therapeutic value and is part of a medical plan of treatment. Green Care is one of many activities that should warrant caring and curing, or in other words health restoration and protection,

disease prevention and health promotion (Hine 2008; Hine, Peacock and Pretty 2008). Farmers may be involved as providers of the green (farm) environment but are not perceived as important actors in the therapeutic process. Green Care arrangements may take place at various locations but always under the responsibility of health professionals.

Green Care is often part of holistic health care approaches, which attach importance to recognising how health is embedded in specific physical and/or socio-cultural contexts. This *philosophy* gives most importance to the restorative effect of being in a natural environment (De Bruin et al. 2010; Verheij et al. 2008; Kaplan 1995; Sempik and Aldridge 2006). Various studies have been done which try to prove the health effectiveness of Green Care. For example, they have shown how being on a farm stimulates physical activity among elderly clients (De Bruin et al. 2009), which in turn stimulates their appetite (De Bruin et al. 2010b). But some also consider the mental and emotional benefits that results from caring for living objects – be it animals (Ferwerda-van Zonneveld et al. 2008; Berget et al. 2008; Berget and Braadstad 2008a/b; Bokkers 2006) or plants (Putz 2006; Ziwich et al. 2008; Elings 2006). Some also underline the beneficial effects of 'healthy' landscapes (Van Elsen and Schuler 2008) and the importance of the (physical and spiritual) experience of growth and change in natural cycles and seasons (De Vries 2006). Losing contact with the earthly basis of our existence may also be seen as a cause of illness; re-establishing this context is perceived as restoring physical and mental well-being. In Germany and Austria, this philosophy stems from the anthroposophist movement but has also spread into conventional health care institutions.

In Austria and Germany, Green Care activities are generally located at health care institutions and *organised* through hospital gardens and institutional farms (Wiesinger et al. 2006; Neuberger et al. 2006). There are few 'ordinary' farms involved in Green Care activities at their farm; most of them are anthroposophist or organic farms. Given the relation to innovative or 'alternative' health care paradigms, this is not surprising. In the UK, Green Care activities are often part of institutional health care arrangements but are increasingly also offered by private providers, including farmers (see chapter 4.6).

How do these arrangements function economically? In many cases, Green Care activities are paid for from institutional budgets just like any other therapeutic activity. They may be financed by the Ministries of Health,

health insurance, private health associations, and directly by clients. The professionals involved are formally employed and receive wages. Some of them may work as independent professionals that are paid official fees. Institutional farms are part of the health care institution and financed through regular budgets. In cases where a farmer is involved, he or she is most probably also formally employed by the institution and paid for according official wages. The primary farm products may be sold or used in the institution. In both cases, the 'profit' (in cash or kind) is generally property of the institution and not the farmer, even when reinvested into the farm.

It remains to be seen if there are also more entrepreneurial arrangements where (self-employed) farmers are paid for the delivery of 'care products' and function economically separate from the health care institution (similar to the Dutch model). In the UK the 'social entrepreneurship' model seems to enable such a provision of Green Care by private farmers within a public health discourse (see chapter 4.6).

The discourse of social inclusion

A third discourse can be described as the discourse of social inclusion. In most European countries, Green Care involves not only the caring and curing of clients who are in 'ill health'. Other activities such as school visits, involvement of unemployed persons, prisoners or former drug addicts are also grouped under Green Care (di Iacovo 2003). Some of these activities, such as school visits, may also be grouped under the discourse of public health as they provide education about healthy food and nutrition and stimulate physical exercise and the experience of nature as part of health promotion (Schuler 2008). Other activities explicitly mention social (re)integration and social justice as their main objective.

Social inclusion is the main discourse of Green Care in Italy (di Iacovo 2008; di Iacovo et al. 2006; di Iacovo et al. 2009). Italian Green Care is often organised by cooperatives, which engage in such activities as part of their voluntary civic and political engagement. In addition, the increasingly popular engagement in urban agriculture in the UK and the Netherlands may be classified under the discourse of social inclusion. They promote the participation in food production and experience of nature as contributing to individual health and well-being, but also social cohesion and inclusion

of marginal groups especially in the poorer metropolitan districts (Jarosz 2008; Stobbelaar et al. 2006; Wiskerke 2009). Also in France and Ireland, civic and voluntary engagement is an important driving force for the provision of Green Care, which is organised by individual farmers and civic associations generally without institutional support and in the absence of formal regulations (di Iacovo and O'Connor 2009).

The engagement of long-time unemployed persons, former drug-addicts and/or ex-prisoners in farm labour are part of a *philosophy* of social reintegration, participation and social inclusion. The goal is to re-establish the habit of working, build up knowledge and skills and build self-esteem. These aspects should eventually enable them to find employment in the regular labour market and re-integrate into society. Part of the philosophy is also the belief that manual physical labour generates well-being as well as the capacity for work (Hine 2008). Agriculture offers the type of manual, unskilled labour that is running low on regular labour markets. Again, the immersion in 'normal' work and working hours as well as the interaction with 'normal' people are important values of Green Care arrangements. Looking at those activities from the viewpoint of the providers of care, social justice and an ethic of care are important elements of the philosophy. They feel motivated and responsible for rendering modern society more inclusive and offering a home and sense of belonging to those living on the margins of society (di Iacovo 2008; Hine 2008).

The *organisation* and payment of such activities takes many forms. Some Green Care is organised by formally recognised organizations, e.g., rehabilitation centres, prisons or social services. In this case, public social services budgets pay for the activities in question. The clients may also receive compensation for their labour as part of the reintegration process. This is the case in institutional farms that belong to a prison or are set up for the purpose of social integration. When inmates work for 'ordinary' farmers, the farmers may also pay them for their labour. Farmers can receive payment from social services as an encouragement (or compensation) for employing 'difficult' labourers. The commoditisation of 'care' in the sale of ethical products also provides a kind of payment to the farmer (Carbone, Gaito and Senni 2007). In many cases where Green Care activities are part of the voluntary sector and organised as part of the civic engagement of individuals, groups or social movements. In these cases, there is no formal payment and monetary costs and benefits are not considered to be important (di Iacovo 2008).

2.2 Conclusion

These three discourses structure the wide variety of Green Care arrangements into three major streams based on organisation and philosophy. They also differ in financial arrangements and recognition of costs and benefits, which we have shown to the extent possible based on the limited information available. Chapter 4 contains a more detailed analysis, with a discussion of the costs and benefits of specific Green Care arrangements representing the three main discourses. Again, this classification is ideal-typical. It describes Green Care arrangements as belonging to one of three discourses. In practice, of course, Green Care arrangements share characteristics of different discourses. Normally, however, one discourse is prominent, as in the example of defining organisation and payment. We have also described certain discourses as dominant in certain countries. This does not exclude the presence of different arrangements and it does certainly not exclude the possibility of change. The main purpose of the classification is to analyse and clarify the wide variety in Green Care arrangements in Europe in terms of organisation and philosophy. Understanding how and why the different arrangements function differently allows us to learn more about each one. Each way of providing Green Care has different costs and benefits. One best solution does not exist.

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3 Socio-cultural processes as breeding ground for Green Care

Joost Dessein and Bettina B. Bock

Chapter 2 presented three main discourses that underlie Green Care arrangements in Europe, i.e. multifunctional agriculture, public health and social inclusion. These discourses reflect not only the definition, organisation and regulation of Green Care arrangements, but also the expectations in terms of the benefits and specific contributions that Green Care can and should deliver. Green Care is expected to offer new solutions and to respond to specific problems in the areas of agriculture, health care and society. Understanding what these expectations and problems are will allow us to understand which benefits society is likely to pay for.

The emergence of Green Care in Europe is inspired by socio-cultural trends. The changing function of the countryside, novel role of farmers and innovations in the health care sector all contribute to new alliances between society, agriculture and care. This concurs with Risgaard et al. (2007), who state that economics does not provide an all-encompassing explanation for the development of new (types of) economic activities. Socio-cultural processes lie behind all emergent economic phenomena.

This chapter describes some of the socio-cultural processes in which the emergence of Green Care activities in Europe is embedded. The focus here is on three domains: social change (3.1.), agriculture (3.2.) and health care (3.3.).

3.1 Social change

The evolutions within the agriculture and health sectors (see 3.2 and 3.3) create ample opportunities for the development of Green Care in Europe. These developments find a fertile breeding ground in some evolutions that characterise societal change in rural Europe. This 'rural restructuring' (Floysand and Jakobsen 2007: 208), involves a shift from a rural economy centered on agriculture and manufacturing towards a more service-centered economy. This results in the commodification of the countryside. In other words, the countryside is evolving from 'landscapes of production to landscapes of consumption' (Cloke 2006: 19).

Several specific phenomena contribute to this overall pattern. Without attempting to be exhaustive and with a focus on the relevance for Green Care, we will underline the importance of demography, mobility and changing urban-rural relations.

European societies are ageing. The International Monetary Fund has shown that the population of the 25-member European Union (EU) in coming decades will likely become slightly smaller and much older. The region's old-age dependency ratio (the number of people 65 and over relative to those between 15 and 64) is projected to double to 54 percent by 2050, meaning that the EU will move from having four persons of working age for every elderly citizen to only two (Carone and Costello 2006). This implies a rising of the median age in Europe from 37.7 years old in 2003 to 52.3 years old by 2050 – compare this to the median age of Americans, which will rise only to 35.4 years old (Bernstein 2003). The ageing population poses significant risks to future economic growth and puts substantial upward pressure on public spending, including health and welfare provisions. As the IMF states, 'ageing may pose even more complex policy challenges in the area of health care and long-term care than pensions, especially when the effects of non-demographic drivers of spending, such as investment in medical research and in modern technologies, and the increasing demand for most advanced treatment are also considered' (Carone and Costello 2006).

The phenomenon of mobility, or the increasing flows of goods and services, people and knowledge between different regions, has created marked change in Europe (ESRS 2009). Extensive migration, inter- and intra-regional, characterises rural areas across Europe. These migration flows involve not only rural areas and small towns, but cities as well. Much of the periphery of Europe – southern Europe, Scandinavia, and eastern Europe – continues to experience net rural depopulation. As the young, the educated and the economically active out-migrate, the rural communities are declining and ageing. Other areas are experiencing counter-urbanisation as affluent middle-class people move in search of the rural 'good life'. These forces of labour migration, depopulation and counter-urbanisation are differentially transforming the social structure and culture of rural areas. The complexity of flows and contexts produces a wide diversity of rural areas in Europe, ranging from prosperous places afflicted by a shortage of affordable housing and limits on access to key services such as schools and elderly care, to ageing and debilitated communities reliant on external

support and transfers (ESRS 2009). This diversity creates opportunities for several different tracks of Green Care development that use different welfare models and occur in a variety of agricultural contexts.

The rise of mobility (physical and virtual) leads to a space-time compression, resulting in complex social, political, and economic restructuring (Floysand and Jakobsen 2007). The urban-rural divide is becoming blurred, with movements of urbanisation, gentrification and counter-urbanisation, of commoditisation of rural places (Woods 2005) and (renewed) identity creation (Paasi 2003), new forms of poverty and coping mechanisms (Meert 2000), new forms of exclusion (Shucksmith and Chapman 1998), and individuals being influenced by events and processes at various geographical levels (Floysand and Jakobsen 2007).

Pilzer (2007) claims that there are discernable trends toward healthier living, such as (amongst others) a strong desire by a growing number of people in western societies to take control of their future health, and the growth of new (often alternative) types of medical assessments and treatments that 'confront' the current medical model based on pharmaceutical-based solutions to ill health. This 'wellness' phenomenon (Lawrence and Burch 2010) - a positive term associated with vitality, fitness and well-being – inspires and influences the global agri-food systems as well as the welfare and health industries. Health concerns and agricultural and food industries have common interests in fulfilling the consumers' desire for the purchase of 'clean and green' foods and healthier life styles, including stress management, hedonistic activities and new leisure activities.

3.2 Agriculture

It is widely acknowledged that agriculture in Europe is going through a tremendous process of change at the economic, social, political, environmental and cultural level. Agriculture is thus forced to realign to meet the rapidly changing needs and expectations of European society (Marsden et al.1993; van der Ploeg et al.2000; van der Ploeg 2003). Burton and Wilson (2006) capture this process with the productivist/post-productivist/multifunctionality model (the P/PP/MF-model). They show how modern agricultural regimes have moved from 'productivism' to 'post-productivism' and more recently from 'productivism' to 'multifunctional' agricultural regimes.

The concept of multifunctional agriculture within a process of integrated rural development (Marsden 2003) may help to provide a solution for a sizeable group of farmers and market gardeners. This process may occur along the tracks of 'broadening', 'deepening' or 'regrounding' (Ploeg et al. 2002). The concept of 'broadening' describes the development of new non-agricultural activities. Such activities widen the income flows of the farm enterprise, whilst they simultaneously imply the delivery of goods and services society is willing to pay for. Agri-tourism and nature and landscape management are the most common strategies. Green Care in agriculture one type of broadening.

'Broadening' changes the role of farmers and requires a new mode of operation and culture. Primary production is no longer regarded as the (only) yardstick of success. Furthermore, production is no longer supply-driven but demand-driven, while the product not only has value in itself (as a 'commodity'), but is also value-added because consumers gain specific experiences from the product.

The most far-reaching effect of Green Care is that it transforms the consumers themselves. For example, consumers may adopt a healthy lifestyle as a result of the visit of a care farm.

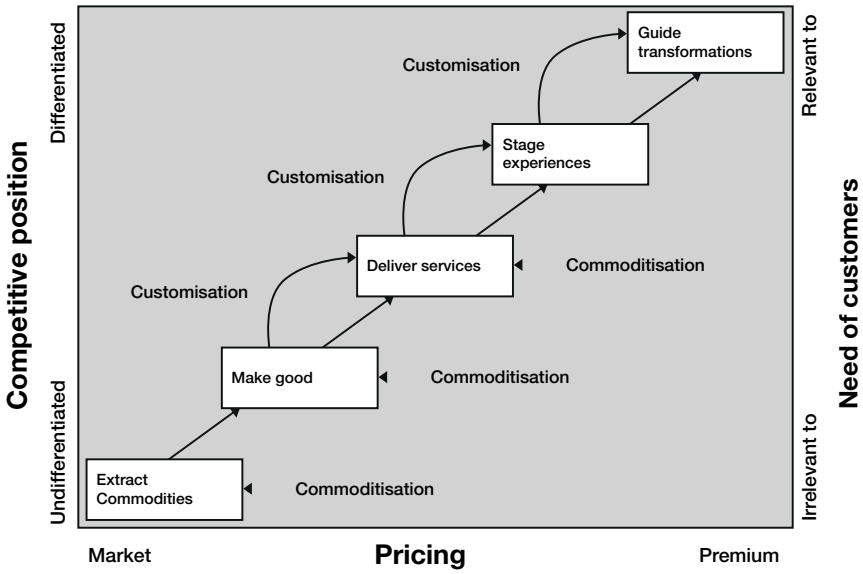

Figure 1. Different stages in the commoditisation of agricultural production (based on Pine and Gilmore 1999: 229, reproduced in Mathijs and Sturtewagen 2005)

Figure 1 illustrates this reasoning (Pine and Gilmore 1999: 229, reproduced in Mathijs and Sturtewagen 2005). The 'old agriculture' merely produces commodities. They have a low price (X-axis), lead to an undifferentiated competitive position (left Y-axis) and are not tailored to the needs of the customer (right Y-axis). A successful future agriculture will differentiate more and tailor what they offer to the needs of the customers. This leads to higher prices. Mounting the value ladder of Gilmore and Pine replaces or completes the production of goods with offering services (such as clean water and air), directing experiences (such as recreation) or guiding transformations (such as offering care).

It is important, however, that the services, experiences or transformations are valued - in a monetary or non-monetary way. Value created in this way is called 'sustainable value added' (Figge and Hahn 2005). How this value can be acknowledged by paying the service provider for what he or she produces is a thorny issue in most European countries (see Havlik et al. 2005, amongst others). The graph also shows downward pressure through commoditisation - the standardisation of the offer – which leads to a loss of value.

3.3 Health care

In recent years, the crisis in the health care sector has been repeatedly announced and discussed. Costs are rising with the growing number of elderly people and the increase in chronic disease, in part caused by unhealthy diets, smoking and lack of physical exercise (Pierce 2005). Both lead to an increase in demand for protracted care. The ongoing discussion concerns not only the logistics and financial organisation of health care but also its underlying philosophy. There are discussions about the dominance of the biomedical model, the negative effects of medicalisation and institutionalisation, the need for more community-based care and re-integration of patients (Bachrach 1996; Bauduin et al. 2002; Lamb and Bachrach 2001), which is often linked to the concept of participation and empowerment (Barnes 2006; Barnes and Bowl 2001). Growing numbers of people are becoming interested in all kind of alternative treatments, often in combination with regular treatments. Alternative treatments offer a more personal reception with more time for individual attention and a more holistic approach that offers psychological and spiritual comfort (Aupers 2000). Similarly, interest is growing in the restorative effect of a green and

natural environment and the contact with natural 'living beings' such as plants and animals (see Sempik et al. 2010, for example).

Proponents of 'regular' and 'alternative' health care often disagree fundamentally and passionately. At the same time, there is considerable agreement about the need for re-direction and improvement of health care services. General agreement exists that change should move in the following direction: less and shorter institutionalisation; more extra-mural and ambulant care in order to support clients in living as independently as possible; smaller units in institutions that allow for more bonding and interaction; less and shorter courses of medication; more activation and engagement in meaningful activities; and more tailor-made treatment that fits the needs and demands of individual clients.

The dynamics in the health care sector have led to a constant search for balance between effectiveness and efficiency, and between quality care and practical feasibility (including financial feasibility and the problem of capacity). New organisational settings and financing mechanisms are key aspects of this dynamic. Lamb and Bachrach (2001) consider the introduction of managed care and the provision of privately instead of publicly organised services as one of the biggest changes in care in the past decennia.

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4 Case studies: costs and benefits of Green Care in agriculture

4.1 Introduction

Society, agriculture and health care are all faced with diverse and complex challenges and potentials (see Dessein and Bock, this volume). In different ways, and on different levels, Green Care initiatives may address some of these challenges and potentials.

Chapter 2 situates the practice of Green Care within three ideal-typical contexts: the discourses of multifunctional agriculture, public health and social inclusion. This chapter presents and interprets a variety of costs and benefits as well as their interpretation while focusing on one discursive setting and one particular point of view. The data provided below differ not only in style and method, but also in the availability of scientific evidence. It is difficult to valorise the very important non-economic benefits, which are nevertheless experienced as essential characteristics and healing factors of Green Care. We present the cases separately here, but the concluding chapter summarises the diverse costs and benefits and integrates them into an overarching scheme.

The first three cases relate to the discourse of multifunctional agriculture. Vadnal (4.2.) tells a very personal story about her experience with Green Care on a multifunctional farm. She tells how her grandson, who has Down syndrome, has been affected by his involvement in Green Care activities in Slovenia and in the Netherlands. Mettepenningen et al. (4.3.) approach the same question from an economic perspective. Their approach, which is based on production theory, elaborates an analytical framework for the economics of Green Care at farm level. Roest et al. (4.4.) examine whether the methodology of Social Return On Investment (SROI), applicable at farm level, can be adjusted to a Social Cost-Benefit Analysis (SCBA) applied at regional level. The combination of these two methods would provide a more complete analysis of the economic effects of Green Care.

Three other contributions relate to the discourse of public health. Holmes (4.5.) illustrates a cost effectiveness methodology developed in the United Kingdom in the context of care provision to vulnerable children.

She investigates how that methodology could be adapted to better understand the relation between the costs and benefits for the clients of Green Care services. Parson's contribution (4.6.) explores the possibilities of social entrepreneurship as an organisational model for economic development in the context of the competitive advantages of the countryside. Grepperud (4.7.) tackles the question of whether Green Care can contribute to social welfare. In particular, he examines whether the social benefits that accrue from Green Care services exceed the social costs of producing the same services, where the social costs reflect the opportunity costs of society.

The final contribution relates to the social inclusion discourse. Carbone and Senni (4.8.) use the ethical characteristics of agriculture as a point of departure. They show that specific aspects of farming activities may foster both social inclusion of vulnerable people and integration of people marginalised from the labour market. They also show that significant market opportunities exist for the 'ethical food products' produced on care farms.

4.2 Added-value of Green Care – a personal story

Katja Vadnal

Background

Luka, my grandson, has marked my life since his very birth. His diagnosis with Down syndrome is a challenge I have had to face and cope with. To begin with, the doctors told us that he was not likely to live to see his first birthday. He celebrated his first birthday, then the second, and I started to ask myself what I can do for him, not only as his devoted grandmother but also as a professional agricultural economist. Being familiar with the concept of multifunctional agriculture, I started to search for references based on the key words "multifunctional agriculture" and "mental disability". There were few results in those times (1999). I still remember the only one I found: "Mentally disabled involved in mushroom production in the Philippines." Science did not provide me with the information I so greatly needed. Luckily, social networking through parental organisations did. Through contacts with them at home and abroad I have discovered diverse brilliant practices that interlace agriculture and social care. These are now collectively referred to as 'Green Care'.

Green Care – the first step

When Luka was two years old he started to crawl, but crawling was not equally easy on all surfaces. A smooth floor was easy to master, but crawling on grassy terrain was another story. Such a challenge demanded a lot of motivation, encouragement and practice. Step by step, Luka gained mastery over crawling through meadows in his grandmothers' garden. In this way he was developing his gross motor skills. There were flowers in the grass – little white daisies. One day he picked one – with the precision of fine pincers (fine motor skill) – and gave it to me (communication skills). I felt pure and overwhelming happiness.

Green Care – the next step

At age three Luka took his first steps; after another year he could walk independently. His world became larger and more challenging. His perspective changed. From his high perch on his push-chair, encounters with dogs were fun for him. But facing them eye to eye was quite another story. He was afraid of dogs that were taller than he was. Sheep, from his perspective, were terrifying creatures. Grandmother's arms were the most secure refuge from these huge monsters. But, step by step, he built friendships with dogs, sheep, goats, pigs, and ultimately horses. He spent three years practicing hyppo-therapy with his physiotherapist. His muscular hypotonia improved during this time, and he became ready for new challenges.

At age eight, Luka moved with his family from Slovenia to the Netherlands. Joining the Dutch special school was a mere trifle for him. Advancing himself within the well-developed Dutch Green Care system was a treat. At the "Zorgboerderij" he became a real horseman. When entering the farm, he waved his grandmother away (Luka has never been verbal), which meant: I can do it myself. And he really could. Once again I felt pure and overwhelming happiness.

			
Luka has to pick up the correct tool	Luka has to curry the horse	Luka has to saddle the horse	Finally, he can ride the horse
(fine motor skills, receptive language skills; problem solving skills)	*(fine motor skills, receptive language skills, problem solving skills, social skills)*	*(gross motor skills, receptive language skills, social skills)*	

Luka, his grandmother and Social Return on Investment

As Luka was discovering the world I became more and more involved in researching Green Care, particularly the economics of it. I understand quite well that economic vitality is essential for the development of Green Care. I am also well aware of the questions that economics constantly raises: could the same effects be achieved otherwise at lower costs and/or could greater effects be achieved at the same costs? The tricky part of these equations is defining the effect.

If I try to formulate Luka's "green" activities in basic terms of the SROI (see also Roest et al., this volume), the result will be as follows:

How can I, as a stakeholder, attach specific value to the outcomes? How can they be expressed in monetary units? What should the period of calculation be? All the outcomes of Luka's green activities are only demonstrated over a long period of time and are detected by his family and by the specialists. We know these slow and small steps are paramount. Their value is infinite.

	Luka becomes familiar with grass	Luka becomes a horseman
Inputs - resources invested in the activity	Costs of creating and maintaining the meadow	Costs of equestrian operation
Output - direct and tangible products from activity	Number of users, value of hay production	Number of users, value of the provided equestrian service
Outcomes - changes to people resulting from the activity	Learning through new experiences, improved gross and fine motor skills, more developed communications skills for Luka, and a more productive and better quality of life for his grandmother	Luka's greater self-dependence, stronger self-esteem, effective communications and social skills, improved physical condition, and a more productive and better quality of life for his grandmother
Impact = outcomes less an estimate of what would have happened anyway	Luka might learn motor skills otherwise (gym), but the deprivation of his life experience would reduce his quality of life and make his grandmother miserable	Luka would be deprived of an experience as the subject of multilateral interaction. This would diminish his viable social skills and make his grandmother miserable

To measure the impact is even trickier. Estimation of what would have happened anyway is quite complex. During my 11 years of observing Luka, I have frequently asked myself, "How much does his development result from the opportunities he had, and what would have happened anyway?" In addition to his Green Care experiences, Luka was also learning fine motor skills, receptive language skills and problem-solving skills (matching, sorting and selecting) with his therapist in a classroom. This therapy was based on arranging different objects on the table in front of him. Time and again, Luka would refuse to do what was asked. He showed his reluctance by throwing things all over the room. Sometimes he would even start to cry or withdraw entirely. He never, ever waved me away so he could get on with his activities. Quite the contrary: he had to seek refuge in my arms once again.

When I compare this to a similar learning situation on the farm (picking out the correct tool), motivation is clearly what makes the difference. Through Green Care, Luka learned the same skills without any trouble,

effort or frustration. His shining eyes were telling me: “I know I can!” His body language showed beyond any doubt how proud he was of himself and how empowered he felt. One obvious but often overlooked fact is that skills learned in a pleasant, fun way are more likely to be repeated and incorporated in other contexts. Increased self-esteem is another important but overlooked outcome of Green Care. Self-esteem is the cornerstone of both assertiveness and sound social skills, which are indispensable for people with mental disabilities.

Not many activities provide sufficient incentives, particularly in an inclusive environment, to provide our mentally disabled (grand) children the opportunity to express their ability in spite of disability. Green Care is surely one of them. Without Green Care, Luka and many others would have been deprived of pleasant social contacts, fruitful experiences, and the possibility of discovering and developing their abilities. The impact of Green Care is enormous, particularly in the fields of fostering inclusion and transforming disability to ability.

What is the added value of Green Care?

I see the added value of Green Care as the variety of motivating situations and the variety of choices that are available to Luka. And what is this added value worth? All the money in the world would not be enough to pay for it.

How is it possible to attach a monetary value to Luka’s happiness and content as well as to the good will of the tutoring farmer? This is beyond conventional economics, and I am not clever enough to reconcile the economic ratio with my perceived value of Green Care. But one thing is certain: economics must come second when discussing Green Care issues. Green Care is first about human rights and social inclusion. Through provision of individualised and personalised services based on the social model of disability and community-based social assistance, Green Care makes it possible for Luka, and all other people excluded from mainstream society, to participate in a life-enhancing context that recognises, values and enhances their personal potential. The real problem here is to define ‘the economics of human dignity’.

4.3 Green Care in the framework of multifunctional agriculture

Evy Mettepenningen, Joost Dessein, Mieke Calus and Guido Van Huylenbroeck

Introduction

Positioning Green Care in the framework of multifunctional agriculture first requires a clear understanding of the concept of multifunctionality. OECD (2001) defines multifunctional agriculture as the delivery of non-commodities or non-tradable outputs when producing food or fibre. Within multifunctional agriculture, the different functions can be categorised into five colour categories. First, the *white functions* represent a contribution to food security and food safety. Second, *green functions* represent the contribution to nature, the environment and the landscape. Water management by farmers and the creation of energy on farms are respectively categorised as *blue and red functions.* The final category is the *yellow functions,* which have a more social focus. Green Care belongs to the group of yellow functions. Considering this colour-based definition of multifunctionality, many farms can be labelled as being multifunction. A different term describes the purposeful combination of various functions to gain an income from them: diversification (Van Huylenbroeck et al. 2007). In other words, provision of care on a farm can be one of the functions of multifunctional agriculture, but when its economic aspect starts to play a role, it becomes a form of diversification. A few decades ago, farms were more integrated in the village life and it was common practice to take care of local disabled people on the farm (Van Schaik 1997). Nowadays, however, although non-economic motivations definitely play a role, farmers usually expect financial compensation for this service. Some may even develop Green Care as a full economic activity on the farm. Green Care is becoming more and more a form of diversification.

There are different models for Green Care, each differing in the importance attached to the classical agricultural activity. On one side of the spectrum, an economically competitive, active farm that participates in the market, hosts a limited number of people in need of care. On the other side, a professional care institute keeps a small number of animals or grows some agricultural crops on a small scale as a source of contact for clients or patients with animals or nature. There is no economic profit to this

agricultural activity. In between these two extremes, various models can be found with a differing importance of the traditional (productive) agricultural activity. Not all models of Green Care should be considered as multifunctional agriculture. However, where should we draw the line between a farm and a care institute? Should, for example, the Italian model of institutes specialised in Green Care that use farming outputs to finance their activities be regarded as a form of agriculture? Or should this type of firm be categorised in the social sector?

It is clear that Green Care activities can make a farm multifunctional, but it may also open possibilities for enhancing some other functions of agriculture, such as landscape management, supporting biodiversity, animal welfare, etc. This is due to the presence of extra labour to assist with these tasks (which otherwise would not be done), or by the specific interests of the care receivers to engage in these kinds of activities. Therefore, at that moment, the inclusion of Green Care as activity makes farming more multifunctional as defined by OECD (i.e. higher non-commodity production from the used inputs).

Farm-level economics of Green Care

The framework of multifunctional agriculture can be translated into different economic questions. In this chapter, the focus will be on the farm level economics of the incorporation of Green Care. The analysis of costs and benefits of Green Care on farm level is important, because these factors can determine whether a farmer will include this type of function on the farm. Costs involved in offering Green Care on a farm will mostly be *opportunity* costs related to the time needed to guide people during their activities on the farm. But it also takes time to plan their work in consultation with the supervising care institute, and to do the administration required for remuneration (transaction costs). In some cases, the Green Care activity might also require hiring extra personnel (Hassink et al. 2007) and taking an *extra insurance.* Hosting clients on the farm also leads to *extra costs for gas, electricity, water and food.* In addition, *investments* (with interest and depreciation costs) might have to be made on farm level to increase safety or accessibility for disabled people, or to provide extra opportunities for therapy (like special animals, plants or tools). These costs are largely described by Oltmer and Venema (2008), who make a distinction between fixed and variable costs.

Of course, Green Care also benefits the farmer. In specific areas (such as Flanders or the Netherlands), the farmer receives *compensation* or *income* for Green Care services. In the former case, a subsidy is given, in the latter case the care receiver pays the farmer from a 'personal budget'. Depending on the type and commitment of the users of the care, the farmer also benefits from extra labour. This may not only support traditional agricultural activity, but may also create opportunities to perform landscape or nature management, recreation, educational activities or farm tourism. The farmer can use the farm's social commitment when marketing the farm products, thus increasing profits (Di Iacovo 2008). Finally, research done in Flanders (Ampe 2008; Goris et al. 2008) also shows the important non-monetary benefits for the farmer. For most farmers in this study, the main motive behind Green Care was not the financial compensation, but rather non-economic benefits like its contribution to the quality, significance and appreciation of their lives.

The different costs and benefits connected to Green Care on farm level are presented in the following table. Bear in mind that a detailed analysis of costs and benefits of Green Care based on a larger sample is still lacking.

Farm level	
Costs	**Benefits**
■ Opportunity costs because of own labour for: ▪ Looking after the people ▪ Planning activities ▪ Administration for recruitment or remuneration ■ Extra personnel ■ Extra insurance costs ■ Extra costs for gas, water, electricity, food ■ Investments (interest, depreciation): ▪ Increasing safety and accessibility ▪ Therapy-related ▪ Additional on-farm activities	■ Direct remuneration for Green Care through subsidies or market ■ Extra labour ▪ For traditional agriculture ▪ For other functions, e.g., nature management or tourism-related ■ Indirect remuneration for Green Care through extra possibilities for marketing farm produce ■ Non-economic benefits ▪ Quality, significance, appreciation of life

Analytical framework for economics of Green Care at farm level

Given the insufficient amount of knowledge about the costs and benefits of Green Care, its economic impact on the farm can best be understood theoretically, such as through production theory. The profit ∏ a farm can obtain will depend on the production of several products Y_x on the farm (e.g., agriculture and Green Care all depend on the available capital C, labour Lb and land L), the prices the farmer can get for his products p_x, other revenues like premia or subsidies OR, and the costs for the inputs on the farm (equal to the price per unit wx multiplied by the number of input units X_x):

$$\prod = f(p1, \ldots, pn, Y1, \ldots, Yn, OR, w1, \ldots, wm, X1, \ldots, Xm)$$

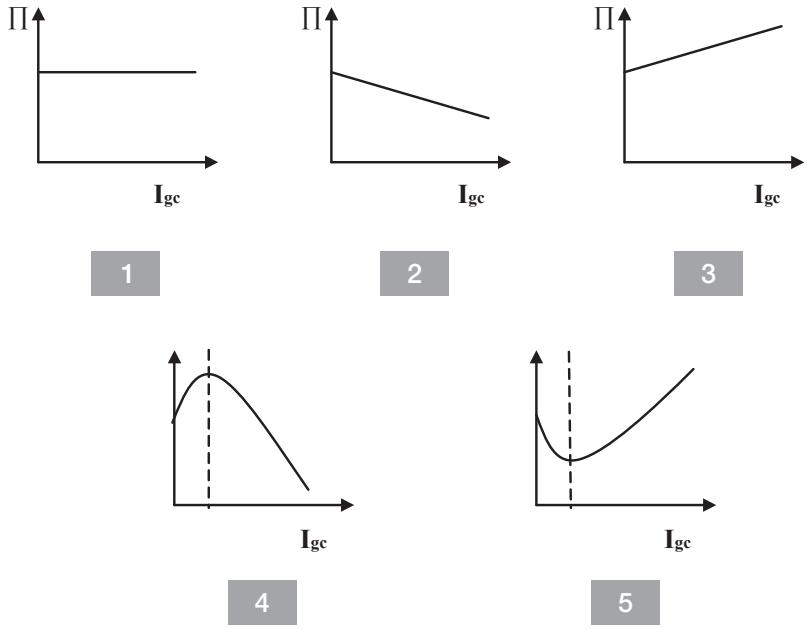
With $Y_x = f(C, Lb, L)$

Engaging in Green Care on the farm will influence the profit ∏ first through the competition for inputs between agriculture and Green Care. Some of the inputs normally used for agricultural production, like labour, land, buildings, etc., will now have to be invested in the care activities. Because of this competition for inputs, when no extra inputs are foreseen, a loss in agricultural production can be expected. However, the use of inputs may lead to economies of scope. Land on which the care receivers perform their activities can at the same time be used for agricultural production or nature management (for which the farmer can receive subsidies). Labour invested in Green Care can be invested simultaneously in production activities (e.g., when a farmer shows the care receiver how to perform tasks on the farm, the task is already being done). The same is true for capital invested in Green Care. An example would be the equipment care receivers use to process farm products. When the products are sold, they provide an extra source of income for the farm. In this case, even synergy is possible, because these products can be sold at a higher price due to the ethical aspects of the production process (see for instance Carbone and Senni, this volume).

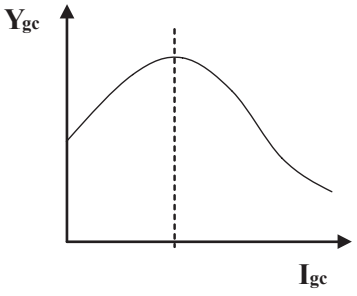
On top of an expected competition for inputs, there is the cost of extra investments for Green Care. However, as mentioned before, Green Care can provide extra labour as well. Moreover, it offers opportunities for new forms of production like nature management, recreation, education, and direct marketing on the farm. This might compensate to a certain extent

the loss in the traditional production activities. The profit ∏ is also affected by the compensation the farmer gets for providing Green Care. Depending on the compensation, the type of farm and the number and type of people in need of care, the total influence of Green Care on the profit ∏ will be different. The following graphs give some possibilities of profit curves with increasing inputs used for Green Care on the farm Igc (which can be expressed in some monetary value). The latter variable will depend on several factors such as the number of care receivers on the farm, the nature of their condition and the choice of therapy.

The profit on the farm can stay the same with increasing inputs spent on Green Care (1) if the marginal costs of investing one extra unit of input equals the marginal revenue. However, the profit could also decrease with increasing inputs spent on Green Care (2), because the extra cost for the farmer per extra input unit is not (fully) compensated by an increase in compensation or production. It can also be the other way round, where profit increases with increasing inputs spent on Green Care (3), because the extra cost for one extra input unit is lower than the increase in benefits. Finally, it is also possible that a certain crucial amount of inputs spent on Green Care exists, beyond which this activity becomes unprofitable (4). Alternatively, a certain crucial amount of inputs may need to be spent on Green Care in order to make it profitable (5).



Another possibility is to express the economic effect of Green Care through a kind of transformation curve, which shows the effect of increasing inputs used for Green Care Igc on the level of agricultural production Yagr. There are two possibilities here, which again depend on the type of farm. The first possibility is that agricultural production and Green Care are complementary: more people in care means higher agricultural production. The second possibility is that agricultural production and Green Care are substitutes: a higher number of people in care means lower agricultural production. The graph below shows a possible situation in which agricultural production first increases with an increasing amount of inputs spent on Green Care, but from a certain threshold level there is competition between the two activities.



The production analytical framework also allows for investigating differences in efficiency between farms with and without Green Care, among different Green Care models or among farms within the same Green Care model using the production frontier or DEA (data envelopment analysis) approach (input oriented approach). Further, the framework may also be used to analyse the efficiency of farms with and without Green Care (or among farms offering Green Care) on non-commodity outputs of agriculture (output-oriented efficiency analysis, with commodity output on the one hand, and non-commodity outputs (e.g. animal welfare, landscape management, biodiversity) on the other hand). In this way, it becomes possible to theoretically and empirically analyse how much of a difference Green Care may make in this respect.

Conclusions

Production theory gives us the basis for deriving some conceptual ideas for analysing the economics of Green Care delivered according to different models, as well as either diversification or multifunctional activity.
The economics of Green Care at farm level is a complex issue and more research is needed to identify the proper compensation for Green Care. Correct remuneration of the Green Care activities will stimulate farmers to guarantee the quality of the care provided, as the high level of quality may influence the inflow of clients and hence their future income. In addition to the direct remuneration for Green Care, however, attention should also be paid to the indirect benefits. Green Care can provide the farmer with extra labour, the possibility of getting subsidies for nature management, opportunities to sell processed farm products at a higher price, and so on. Correct remuneration for farmers will especially benefit potential users of Green Care, who appear to be increasingly willing to pay for this type of care, through increased supply and quality of this service.

Development of Green Care benefits agriculture's position in a society with changing expectations of farming. Green Care fits perfectly within the notion of rural areas changing from a productive to a consumptive area, and could lead to society rediscovering agriculture.

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4.4 Using SROI and SCBA for measuring social return of Green Care in Agriculture

Aïde Roest, Andrea van Schie and Gabe Venema

The Green Care in Agriculture (GCA) sector has developed rapidly over the last decade. Care farms address various socially relevant issues material to both the health-care sector and the agricultural sector. The most important of these are tailoring health-care service to individual clients, containing health-care costs, adding value to the rural economy (by supporting the continuation of farming activities), and conserving rural characteristics. The value generated by Green Care is thus not limited to the remuneration farmers receive for services rendered to the health-care sector - the sector also generates benefits or returns to society. The Social Return on Investment (SROI) method systematically charts these social benefits on farm level. A similar approach, used on a regional or national level, is the social cost-benefit analysis (SCBA) method. This paper describes these specific methods of valuation as they could be useful when determining the generation of societal value by Green Care.

Social return on investment

As the term suggests, SROI is an extension of the principle behind the conventional ROI (Return on Investment[1]) financial indicator. SROI rests on the three following premises (Anonymous 2008; Olsen et al. 2005; Scholten and Fransen 2007):

1. The first and most important premise is that *every* contribution to a project is considered as an investment, whether this contribution is extended on a commercial basis (loan or equity stake) or on a non-profit basis (soft-loans and grants). Every contribution is therefore traceable to the concept of returns.

2. The second premise is that of "blended value", which is a division of value into three distinct categories. These categories, i.e., ecological, economical, and social value, are also referred to as the triple bottom line of Planet, Profit, People (PPP). An enterprise's impact on these three

[1] ROI is a conventional financial ratio, which is used by funding agencies as a tool for judging the viability of investment projects. ROI compares current investments with future returns, mostly over a period of 5 to 10 years. Based on projections of a project's income and expenditures (also known as cash flow), an indication is made whether a project will realize net-positive returns with the period of 5 to 10 years. If the returns are positive, then a project is considered viable and the investment will be made.

categories ranges from positive to negative, whether the impact is direct, indirect, intentional or happens by chance. Each enterprise, whether for-profit or not-for-profit, generates value. The main challenge to the "blended value" concept is to make that value apparent, measurable, and (ideally) quantifiable, so that value is recognised by all relevant stakeholders. Examples of stakeholders for the Green Care sector would be care farms, their clients, health insurance agencies, government providers of capital and others. SROI methodology is able to translate the concept of "blended value" to the domain of economics and finance by converting abstract notions of societal value to financial values.

3. The last premise of SROI is that the method is directed at asserting the *impact* of a project rather than its output. Impact can be defined as the added value that can be attributed to the activities and consequent outputs of an executive organisation. Impact discerns itself from the "dead weight" components of an outcome, e.g., those events which would have occurred regardless of whether the project was carried out or not (Figure 1).
The resulting SROI-ratio is the value of impact realized divided by the total value of investments made (i.e., input) (see www.SROI.nl). In order to assert whether perceived impact has been realized, it is highly important to execute both *ex-ante as ex-post* evaluations based on the same impact analysis framework. Only then does it become possible to determine whether an organization's activities actually generate social value.

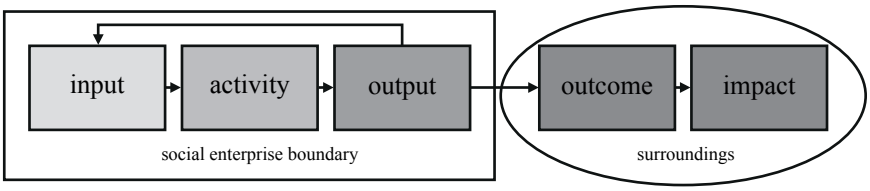

Figure 1. The SROI framework

Many of the measurements of qualities and results of Green Care are output-based. Examples include statistics on Green Care published by *"Stichting Landbouw en Zorg"* (the Dutch Green Care foundation) concerning the number of care farmers and numbers of clients in the Netherlands. These statistics convey a notion of progress in the development of Green Care. They are thus often employed as an indicator to depict the success of investment in the sector. However, using this output indicator for inference of social impact is as misleading as it is tempting. First, there is no basis for arguing a causal relation between this output and social impact. Second, if

there is no basis for the valuation of units of output, there is no basis for valuing impact, i.e., determining the social value of investment.

SROI addresses both of these issues. SROI can be used to determine a basis for causality between output and impact. SROI achieves these arguments through stakeholder dialogue, e.g., which effects are relevant and which indicators to use for measuring effects. Once there is consensus on the mechanism of causality and its indicators, the measurement of output can be converted to assessment of impact.

SROI also uses stakeholder dialogue for valuating or "monetising" the social impact of each unit of output. There is a risk, however, that these ratios for valuation will be interpreted differently by stakeholders or beneficiary. In addition, not all impact can be asserted based on monetised output alone. Some aspects of impact can only be expressed in terms of qualitative information. It should therefore always be stressed that valuation ratios in SROI only capture the value expressed by the immediate stakeholders and concern only the context of the object under study.

In a recent publication about the qualities and effects of the care farm 'De Hoge Born' (Baars et.al. 2009) the effects on clients was made by using the following three methods: i) Heart Rate Variability (HVR) to measure stress, ii) a weekly Behavioural Health Status (BHS) questionnaire to measure the well-being of the clients, and iii) the Global Assessment Functioning (GAF) score to measure the overall functioning of the clients. These methods still need to be evaluated and optimised for measuring the impact of Green Care on clients. Furthermore, this type of indicators could be validated and used in SROI analyses.

In summary, SROI determines a basis for formulating indicators that convert output into impact and for "monetising" units of output for determining social value. The authority of any SROI is built on the embeddedness of the arguments for causality and monetisation in the reference frame of relevant stakeholders. SROI is thus not a stand-alone instrument, but rather a process for arriving at assertion of social value. Asserting social value with the SROI method will vastly strengthen the position of care farms, because the results of the evaluation will be traceable to all stakeholders, whether they are from the public or private sector, for-profit on not-for-profit. In the case of Green Care, it would be interesting to estimate the social value generated through measuring the

social impact of a sample of care farms. Further research is needed that investigates the possibilities of using outcomes of SROI to give an insight into a regional-level true SCBA.

An example of a SROI analysis on farm level: Thedinghsweert

The Green Care farm 'Thedingsweert' is a care farm with arable farming, a green house, grazing cattle, sheep, horses and a bakery located in Kerk-Avezaath, the Netherlands. The farm's activities are divided into three types: the farm, the bakery and the overall organisation. The divisions have 20 clients, 24 clients and 8 clients, respectively. An SROI analysis of this farm took place for the year 2005. During that year, the capitalised added value was 16.8% of the expected returns. The strength of this care farm lies in the range of the activities that take place on the farm. This variety enables the farm to offer tailor-made care programmes for the clients. Interestingly, most of the returns went to stakeholders who did not give any input. The Ministry of Social Affairs had for example less people who needed a social benefit due to the care on the care farm (Rebergen 2005).

Social cost-benefit analysis (SCBA)

The local or regional social benefits of GCA can be measured by using the cost-benefit analysis (SCBA). The SCBA systematically outlines the costs and benefits of a project or policy initiative. SCBA, an evaluation method rooted in welfare economics, adds up the economic gains and losses. As long as the benefits of a service or amenity exceed the costs at the margin, it should be provided. Social benefits are measured by surplus, i.e., the difference between the cost of providing a good and the benefits that people receive. SCBA rests on the following assumptions:

1. Only marginal changes are valued;
2. No significant distortions in other markets;
3. Distribution of income is given;
4. Tastes, income and wealth of current generation are starting point for desires and ability to pay of future generation;
5. All individuals are treated equally;
6. Uncertainty is absent.

Similar to the SROI, SCBA would involve comparing the situation of Green Care (plan alternative) with the situation of no Green Care (reference situation). A SCBA has the following steps which are steering for the approach (Reinhard et al. 2003; Eijgenraam et al. 2000):

1. description of the reference situation and the plan alternative;
2. identification and quantification of the physical effects resulting from the plan alternative;
3. identification and monetisation of the welfare effects arising from the physical effects;
4. cost and benefits that occur at different moments made comparable by discounting. The result is a net present value of cost and benefits arising from implementing GCA;
5. sensitivity analysis.

Conducting an SCBA is ultimately about the balance of social costs and benefits, and about determining the Net Present Value to have an idea about the order of magnitude of the project proposal. Similar to SROI, if the balance is positive, in social terms it may be profitable to choose the alternative variant (increased well-being of us all). In addition to a SCBA, a financial analysis can be made to provide insight into the cash flows (income and expenditure) of the actors concerned. The results of a financial analysis can be used in the regions studied at a later stage (in discussions regarding the redistribution of the advantages and disadvantages). Such a financial analysis will overlap to some extent with the outcome of a SROI.

SROI and SCBA

The methods described above can be seen as mutually enhancing. SROI analyses of different care farms in a specific region or for a specific target group give input to make a SCBA that is well-rooted in practice. On the other hand, the financial part of a SCBA may give input for making a SROI analyses on a farm level. Both methods include a point of reference (in SROI it is called dead value and in SCBA it is the autonomous development or reference situation), type of impacts (people, planet, profit), non-monetised benefits (willingness to pay) and outcome (on basis of cost-

benefit analysis). The main difference is that SROI includes a larger input of involved stakeholders on a local level and is farm/project based, while SCBA includes a broader range of social aspects on a larger scale.

Concluding remarks

To give a better insight of the social effects of GCA on a farm and regional level, SROI and SCBA can be combined. More research is needed to reveal which indicators are important for different stakeholders involved in Green Care.

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www.SROI.nl

4.5 Costs and benefits of Green Care at the micro level, a case from United Kingdom

Lisa Holmes

Introduction

The past 20 years in the UK have seen an increasing emphasis on the need to understand how best to allocate resources when providing services for vulnerable children. A central government-funded national research initiative on the subject was commissioned in the late 1990s. These studies increased the understanding of the cost effectiveness of services provided to vulnerable children and also emphasised the need for transparent and comparative methodologies for cost effectiveness and cost benefit analysis (Beecham and Sinclair 2007).

Also during the same decade a number of UK policy initiatives, such as Best Value (Local Government Act, 1999), Choice Protects (Department for Education and Skills 2002-5), and Investing to Save (Department for Education and Skills 2004), aimed to make better use of limited resources for children's services.

This paper summarises a cost effectiveness methodology developed by the Centre for Child and Family Research (Ward, Holmes and Soper 2008) and suggests how it could be adapted to better understand the relationship between the costs and benefits of care farms at the micro level.

Methodology

In 2000 the Centre for Child and Family Research (CCFR) started a research study to explore the relationship between costs and outcomes of services provided to looked-after children (Ward, Holmes and Soper 2008). The research team is now carrying out a wider research and development programme to explore the relationship between costs and outcomes of services provided to vulnerable children by a range of agencies.

The research programme uses a 'bottom-up' approach (Beecham 2000) to costing services. Essentially, all the costs are built up from the level of the individual child and are based on all the support and services that the individual receives.

The approach identifies the personnel associated with each support activity or service and estimates the time they spend on it. These amounts of time are costed using the appropriate hourly rates. The method therefore links amounts of time spent to data concerning salaries, administrative and management overhead costs and other expenditures. The costs of management and capital overheads are based on those outlined in an annual compendium of Health and Social Care costs (Curtis 2008). These overhead costs are currently being explored in further detail as part of the wider research programme (Sempik et al. forthcoming).

This methodology allows for the development of a detailed and transparent picture of costs of providing a service, and of the elements that are necessary to support service delivery. This method facilitates comparisons of costs and allows for exploration of variations in costs according to the needs of children, placement type, decision making processes and approaches to service delivery.

Case Study

The methodology outlined can be used to explore the costs and benefits of Green Care, and to compare the unit costs and benefits with alternative interventions. Much of the data required to carry out cost benefit analysis of care farms in the UK has been gathered as part of a care farm survey (Hine, Peacock and Pretty 2008). Further analysis of the data could facilitate the beginnings of a cost benefit analysis of the 76 care farms included in the survey.

The three types of data required to conduct a cost benefit analysis of care farming at the micro level are outlined below. The first relates to the needs, backgrounds and outcomes of the clients. Examples of possible data items are outlined in Box 1 below. All of these data items have been collected by Hine et al.

Box 1: Client level data items

- Age
- Gender
- Length of time client has been attending the care farm
- Client group
- Needs of client
- Reason for attendance at care farm
- Rosenberg Self-Esteem score (prior to and following attendance at care farm)
- Profile of Mood States score (prior to and following attendance at care farm)

For seven of the care farms, Hine et al. analysed the Self-esteem and Mood Disturbance scores to show the health benefits for clients (Hine et al. 2008). More widespread collection and analysis of this information would facilitate a more comprehensive understanding of the benefits of care farms.

Two other sets of data are required to carry out the calculation of unit costs, i.e. service level information and finance data. Information is required about the frequency and duration of the visits to care farms, along with details about the type of farm and how clients are referred. Again, this information has been collected by Hine et al. The programme of research being undertaken by the Centre for Child and Family Research at Loughborough University has highlighted the importance of understanding the unit costs of different referral routes as well as the unit costs of specific services (Holmes and Mcdermid, forthcoming). This information can then be used to form the basis of a service level conceptual frame to identify and describe all the elements to be costed, using the four-stage approach outlined by Beecham (2000).

As indicated in the above methodology, unit costs can be assigned to the identified elements of care farms using either a 'top-down' or 'bottom-up' approach. The better approach will depend on the availability of cost/expenditure data and whether there are identified variations in activity and referral routes according to the needs of the clients. It is evident that Hine et al. have a detailed breakdown of the funding for the care farms, and the fees paid for Green Care services. If additional finance information were to be made available in relation to salaries of referrers and other key personnel along with overhead costs, full 'bottom-up' unit costing would become possible.

Strengths and weaknesses of the bottom-up approach

One of the fundamental strengths of the bottom-up costing approach is the possibility of exploring costs in relation to the needs of the clients. Furthermore, it is possible to explore variations in use of services and any impact this may have on outcomes. When the sample is sufficiently large, it becomes possible to build from the individual (micro) level costs to the group level. Here, the cost effectiveness of care farming for either groups of individuals with similar needs or groups with similar needs receiving different types of intervention, can be determined.

The biggest disadvantage of a full bottom-up costing exercise is the large amount of time required. Previously, unit cost calculations within the area of children's services have been carried out using a 'top-down' approach (Commission for Social Care Inspection 2006). Difficulties also arise when sourcing and accessing sufficient data at the individual client level, with data often being recorded at service level. Hine et al.'s work indicates that this is not necessarily a difficulty if the methodology was replicated for the care farms included in the survey; the required client level data items have already been collated (examples in Box 1).

Another difficulty often encountered with small samples is that too many variations result in a lack of meaningful analysis across groups. This can be overcome by aggregating groups.

Conclusion

This chapter outlines how the data already collected during a survey of care farms in the UK could be used as the basis of a full bottom-up cost-benefit analysis at the micro level. However, full analysis would only become possible when supplemented by more comprehensive outcome data across a larger sample of care farms plus the required finance data outlined above.

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4.6 Economic growth and health policy: a context for Green Care

Stephen Parsons

Introduction

This paper describes the relationships between income growth and the health status of the population that have led to state involvement in the provision of care. Economic policy considerations have led to a reappraisal of the nature of this involvement and can be illustrated with particular reference to the evolution of the British 'Welfare State'. In this context Green Care in Agriculture is viewed as emblematic of the social contribution of entrepreneurship.

Economics, Income and Health

The benefits of economic growth manifest themselves both in levels of household income and in standards of individual health. As household incomes increase, so do the standards of diet and shelter that result from increased spending. Enhanced standards of diet and shelter have contributed to increasing longevity; and this has both benefits (e.g. the availability of grandparents to provide childcare or to dispense wisdom) and drawbacks (e.g. the vulnerability of the elderly to physical injury or mental frailty).

Furthermore, an environment in which the general level of income is increasing may generate issues of social interest and importance. For example, problems of 'externalities' related to economic growth have been raised: whether directly observable (e.g. visible pollution in the form of unwanted waste) or indirectly inferred (e.g. results attributed to climate change). And specialisation improves productivity not just in material goods but also in care: for example, the reduction in peri-natal mortality rates (due to specialist medical attention) has increased human population; and increased concentration of this population has led to health problems linked to congestion (i.e., to health 'externalities').

Government and Markets

Government involvement in the economic system is implied by the desirability of a legal framework to provide a social context within which markets can function, as well as the requirement for a vehicle by which externalities may be addressed.

As rising incomes have brought about increases in population, so externalities in the guise of public health risks have emerged associated with congestion and (relative) poverty (i.e. infestations of pests and diseases). Government action to combat these public health externalities has had dimensions of housing (building regulations and construction standards; social housing) and income distribution (social insurance and welfare payments) as well as health directly (via hospitals and medical service delivery).

Economic analysis following Adam Smith (1776) has emphasised the requirement for competition amongst alternative suppliers to ensure that the cost-reducing benefits associated with scale of output are transmitted to consumers in the form of lower prices rather than to shareholders in the form of higher dividends. This emphasis upon consumer choice (variety amongst providers; personalisation of provision) conflicts with the cost-reducing benefits of scale associated with universal (and uniform) state delivery (i.e. monopoly supply).

In order to resolve this dilemma, a role for the state as commissioner of services (purchasing agent) on behalf of citizens/consumers is allied with encouragement to social enterprises (private companies offering to deliver public services, on behalf of the state, paid for from government revenue).

Farms and Social Enterprise

In rural areas, the resources most required by social enterprises (premises and labour) are precisely those being liberated from agricultural production, as output-increasing techniques in farming become ever more capital-intensive (e.g. through mechanisation), and as demand for primary food production is (relatively) much diminished, which in turn depresses relative incomes for farmers. This fortuitous coincidence, allied to the health benefits associated with the countryside, makes farms an environment favourable for social enterprise to be commercially successful.

Health and Social Care in England

Although the creation of a 'Welfare State' in the UK is conventionally ascribed to the post-war Labour government (1945-51), there are lengthy antecedents (Timmins 1995). Nevertheless a socially inclusive (universal) system of delivery for health and social care (which can include justice and rehabilitation) augments state educational services to which all citizens are entitled, (whilst being permitted to purchase supplementary or alternative provision, e.g. private schooling), and this approach (in which HM Government assumes responsibility for financing universal provision via taxation and/or a 'national insurance' scheme) defines the understanding of the term Welfare State in the UK. Whilst this does not constitute a totally pure monopoly of supply by the state (due to the absence of compulsion that allows, for example, non-state or 'public' schools to remain in business) it does mean that, quite naturally, some of the disadvantages of monopoly provision are quite apparent in the operation of the Welfare State (especially, it may be observed, in the field of health care).

This is of particular concern in areas of engagement where rising national income and standards of living should be reflected by increasing variety and choice in relation to care services, and where the conflation of universal delivery with uniform standards or practices results in the stifling of innovation. The experimental or evolutionary understanding of economic progress (Alchian 1950) requires that the process of 'trial and error' inevitably includes error! Fear of legal liability for failure may inhibit innovation in health and welfare services under conditions of state monopoly or near-monopoly supply. This having been said, the understandable sensitivity of the state to citizens' concerns regarding standards of human welfare services, and consequent requirements for regulation in this regard, might be just as likely to inhibit innovation in this sector of economic endeavour even were the state not to be involved in direct delivery.

Despite the strong theoretical grounds for expecting that a competitive price-based system is an optimum discovery-mechanism for revealing best-practice in resource-allocation generally, after (Hayek 1945) there has been considerable opposition to the successive attempts at introduction of such approaches to health and social care services in the UK; for example 'competitive tendering' within the National Health Service (Timmins 1995). However, as the theoretical benefits have been increasingly

supplemented by resistance to the fiscal consequences of continued state delivery (especially given demographic trends such as extended life-spans, with their attendant implications for health-related expenditure), with the presumptive political impossibility of gaining electoral endorsement for increases in taxation, government policy has become codified into encouragement for social enterprise and all the main political parties' programmes have coalesced to take account of this.

Social Enterprise and Farming in England

In the UK context, Social Enterprise is characterised less according to the sort of socially-relevant purpose being pursued than as a form of business organisation in which there are no profits returned as dividends to shareholders or to owners. It captures the benefits of an enterprising approach to socially-orientated activities and allows the entrepreneurial function to be rewarded for its managerial labours (paying wages and salaries) whilst requiring that profits or surpluses are retained for reinvestment in the operation's business-like engagement with social concerns.

Again in the UK context, care-farming (as evidenced by participation in the National Care Farming Initiative) fits well with the SoFar Project's definition of activities ("those farming practices aimed at promoting disadvantaged people's rehabilitation and care, and/or towards the integration of people with 'low contractual capacity'; i.e. psychophysical disabilities, convicts, drug addicts, minors, in-migrants") and can thus be described as social enterprise based on farms. In fact an even more general description of care-farming, encompassing any social enterprise that captures value-added generated from the therapeutic qualities of the countryside that are produced as a by-products or co-products of farming (i.e. capturing positive externalities of agricultural production) can be justified.

The Competitive Advantage of the Countryside and its impact on government policy

There may be good reasons to suppose that the rural environment confers a therapeutic advantage to health-related rehabilitative treatments, perhaps especially in relation to mental health (Hine et al. 2008). This effect is

often ascribed to the natural landscape (as opposed to the built environment which dominates urban areas). Initiatives such as the introduction of 'individual budgets' for the purchase of health, educational and social care services are proceeding in the UK as they have already done is some continental countries. The objective of this practice is to devolve the purchasing power of public funds to the level of the citizen who is thus viewed explicitly as a consumer and encouraged to exercise choice amongst service providers (analogous to the steps taken as part of the process of privatisation undertaken with regard to public utilities in the 1980's). There is some evidence that this results in clients preferentially choosing to take advantage of services offered in a farming or rural context, e.g. in the Netherlands (Hassink et al. 2007).

From the point of view of governments, it may be sensible particularly to encourage social enterprise in the countryside (perhaps especially on farms) since these may be predisposed to provide successful examples owing to the therapeutic advantage conferred by the rural environment. However, in this connection, it should be noted that there may be therapeutic advantages due to rurality that are only rather indirectly due to farming (e.g. seclusion).

Conclusions

Increasing income per head is a common indicator of economic growth. Economic growth is characterised by both greater volume and greater variety of goods and services provided for consumption by the population at large. It is synonymous with increasing standards of living and contributes to achievement of increasing longevity (through better nutrition and shelter as well as improvements in medical care).

For increasing incomes to be shared by people at work in all economic sectors, the working population has to spread itself into new areas of engagement, thus apparently shrinking the significance of employment in traditional occupations such as farming or house-building.

Green Care in Agriculture reconciles two dilemmas presented as consequences of economic growth. The first dilemma presents itself because labour is required to move out of agriculture in order that incomes per head in the sector can rise; even though this might result in undesirable levels of rural depopulation or urban congestion. The second dilemma

presents itself because greater longevity results in increased age-related demands on health and social care services; in addition to which the stress associated with the pace of economic adjustment itself creates demands on those services. Commercial exploitation of the therapeutic potential arising from farming practices (as occupational therapy) or from the environmental quality of the agricultural landscape can reconcile these two dilemmas without recourse to additional demands on the public purse, by harnessing positive rural externalities to offset some of the negative ones associated with economic growth. By these means, Care Farming by Green Care provides opportunities for entrepreneurship to demonstrate its value as a key social resource.

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4.7 Social objectives and Green Care

Sverre Grepperud

Introduction

No discussion of Green Care would be complete without answering the question "why Green Care"? A start to finding the answer is gaining agreement on the social objective of Green Care. Economists would say that Green Care should be supported if and only if it adds to social welfare (i.e., if such services are "welfare-enhancing"). Green Care would be welfare-enhancing if the social benefits that accrue from such services would exceed the social costs of producing the same services (where the social costs reflect the opportunity costs of society).

Value judgements and economic evaluation analysis

The process of defining what is desirable or adequate introduces a normative dimension, in the sense that it refers to some values that are anchored in a particular overriding system. One value judgment common to economists is the Kaldor-Hicks criteria (conditional Pareto-optimality), where the social benefits and social costs are defined as the (weighted or unweighted) additive sum of all benefits and costs that follow from a particular project (Mishan 1971; Johannson 1991). This means that all costs and benefits for each member of society being affected by a project should be taken into account.

Some of the methodologies that build upon this particular value judgment are economic evaluation analysis such as cost-benefit analysis, cost-utility analysis and cost-effectiveness analysis (Donaldson et al. 2002; Drummond 2005; Sloan 1995; Johannesson 1996). Such methodologies aid practical decision-making by establishing a set of procedures for judging alternatives, where an intervention is considered to add to social welfare if its net present value is positive. In other words, the discounted future stream of social benefits exceeds the discounted future stream of social costs. The virtues of explicitness as concerning the objectives postulated and the assumptions adopted together with consistency are common for these methodologies. Explicitness in such analysis also extends to the treatment of uncertainty. It is convenient to identify uncertainty in relation to parameters of parts of the analysis and uncertainty in relation to the data themselves.

Does Green Care add to social welfare?

Green Care services are diverse. They range from work-training and rehabilitation to nursing and socio-pedagogic services. In addition to this diversity, farms can be organised and structured in various ways with respect to target groups (*farm models*). There is also a question how Green Care services should interact with conventional services (Wiesinger 2007; Rappe 2007). For a given Green Care project, economic evaluation analyses can answer two questions. First, what is the optimal size (dimension) of this project? Second, is this project (of a given dimension) welfare-enhancing? Before addressing those two questions it is important that the resources invested into any project are invested in a cost-effective manner. This means that no more resources are used than is technically necessary to attain a given output, and that a given output is produced using the least costly combination of inputs. Ensuring cost-efficiency, *ceteris paribus*, increases the social value of any project.

The optimal size of a project defines issues such as number of clients, levels of service and quality, and the amount of resources to be invested. The optimal size is identified by choosing the dimension which equates the marginal social benefit of the project with the marginal social cost of the same project. If so, then the net social value that arises from this particular project is maximised. Then, if the net social value that arises is positive, the project can be said to add to social welfare, and should therefore be implemented.

In many cases, however, not all socially desirable projects can be financed due to limited public budgets. An alternative approach is thus to compare particular Green Care projects with "competing" projects. Various clients (target groups) can both be part of Green Care projects and ongoing conventional projects. A natural question would then be whether a particular Green Care project is socially preferable to a conventional project. This question can be answered by comparing the two projects concerning their social costs and social benefits. A Green Care project will be preferable to the extent that it produces more social benefits per unit of resources consumed than a competing project. This will clearly happen if a Green Care project produces (i) the same social benefits for less resources, or (ii) higher social benefits for the same amount of resources. A Green Care project can also be preferable even if the social benefits are lower compared to a competing project in the event that the costs are significantly lower.

To the extent that Green Care services outperform competing conventional services, replacing conventional services with Green Care services will add to social welfare and (often) sidestep the problems created by constrained public budgets.

The lack of evidence

At this time, there is limited scientific knowledge about the effect of Green Care on health and well-being (Gezondheidsraad 2004; Kruger and Serpell 2006). Literature reviews confirm that few articles on documented effects have been published in clinical and medical journals (Relf 2006; Rapp 2002; Frumkin 2004). Because of this, agents such as client families and relatives, professionals, regulators and third-party payers cannot access sufficient information to make informed choices. More research with respect to the effectiveness of Green Care is in demand, and controlled studies are probably the preferred methodology for identifying possible therapeutic effects. [2]Documentation is essential for undertaking sound matching decisions and gives such decisions legitimacy. The fact that many conventional services are not evidence-based means that competing alternatives, given that they can be supported by evidence, may become attractive for decision-makers.

It is important, however, to be aware that the confirmation of positive effects alone is not a sufficient condition for introducing particular interventions. The interests of society are better represented if resource implications are taking into account as well. This is necessary when it is a policy goal to maximise welfare gains within a given budget. Methodologies that consider the significance of benefits (effects) along with costs are well-suited practical tools that can guide decision-makers when setting priorities.

Conclusion

The question whether Green Care is socially desirable is difficult to answer, because of the general lack of effect studies and economic evaluation analysis for such services in general. However, Green Care services targeted at particular client groups certainly have the potential

[2] For more on controlled studies see Manning (2004). A less optimistic view on the role of randomly controlled studies (RCTs) and Green Care is available from Sempik (2008).

to outperform or complement certain services traditionally supplied by conventional institutions, as many researchers believe Green Care services to be low-cost alternatives to conventional projects. If this is indeed the case, the application of Green Care services can provide a higher number of clients with satisfactory services within the same budget constraints. Future research will reveal whether Green Care is indeed a preferable alternative to conventional projects.

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4.8 Consumer attitudes toward ethical food: evidence from social farming in Italy

Anna Carbone and Saverio Senni

Introduction

Consumer demand for food is increasingly diversified and includes a wide range of attributes. Among these are ethical considerations. The search for ethical characteristics tends to define consumers' lifestyles in specific market segments. Food buyers are becoming increasingly concerned with fair trade, genetic modifications, environmental impact, gender issues and human rights in food production. From the supply side, ethical production may represent a path to innovation and a way to improve farm competitiveness in the context of globalisation (Fridell 2005).

One neglected ethical characteristic of agricultural activities is food produced in a way that fosters social inclusion of vulnerable people and integrates individuals marginalised from the labour market. These "Social" or "Care" farms tend to sell their produce directly to consumers or through a short supply chain.

The emerging interest among consumers for the ethical quality of products suggests that the social role played by this kind of farm could explicitly be remunerated, at least to some extent, through the marketing of the food produced. The success of "fair trade" products and the growing attention for Corporate Social Responsibility (CSR) certification evidences some of the market potential for social farm products (Maietta 2003; EU 2001; Forstater, Lingayah and Zadek 1998).

This paper aims to present some qualitative results of an empirical analysis concerning consumer knowledge of social farm products, consumer interest in such products, and consumer attitudes toward them. We further discuss some implications of the contribution of the direct marketing of these products to strengthen the social network in which social farms are operating.

Marketing ethical food

As a consequence of increasing attention on the wide economic and social impact of the way of producing and consuming, several terms such as Moral or Civil Economy, Ethical Consumption, Anti-consumerism, Firms' Social Responsibility, Ethical Trade, Purchase of Moral Satisfaction, and Ethical Finance are gaining more and more attention in economic studies as well as in the political arena (Carrigan, Szmigin and Wright 2004; Kahneman and Knetsch 1992; Srnka 2004).

Ethical consumerism is a complex phenomenon. Empirical surveys are not always able to reflect its real dimension and features. It has been written that ethical consumption is more celebrated than practiced (Tallontire, Rentsendorj and Blowfield 2001). This indicates the existence of a gap between the awareness on ethical issues among individuals as 'responsible' citizens and their actual purchase behaviour as ethical consumers.

When one aims to examine the potential market opportunities for food produced in social farms (SF), one should clarify to what extent consumers sensitive to ethical and civil issues could be interested in these products and would consider buying them. It is then essential to consider the conditions under which the market for social farm food (SFF) would exist and succeed in creating value for these products.

Unlike many non-agricultural production activities, involving people with limited capabilities in farming does not usually hamper production of high-quality products (Di Iacovo and Senni 2005). The quantities are generally limited, so SFs commonly sell their products in a local market and/or directly to consumers.

On-farm shops are rather common on SFs. The shop has a multiple role: it contributes to the added value of the sales, and it induces people from the local community to enter the farm and get in touch with the on-farm activities and the people working there. Furthermore, it may contribute to the self-esteem of the individuals who participate to the production process, as they perceive first-hand the value of their work through the sale of the product. Direct contact between producers and clients is thus a key point when selling SF products. From the consumer side, direct contact with a SF enforces the sense of moral satisfaction that the consumer obtains together with SFF (Franco et al. 2002).

Marketing the produce through on-farm shops can be limited by:

i) SF are too remote to be reached frequently by a sufficient number of clients

ii) the farm supply is not sufficiently diversified and constant over time to justify, from the consumers point of view, the time needed to shop there.

For these reasons, some SFs deliver their produce directly to consumers. Another retailing opportunity is to sell products via informal so-called consumer buying groups. A consumer buying group (CBG) is a self-organised group of people - usually about 10-30 families - who buy directly from mainly, but not exclusively, locally-based producers. CBGs select farms, usually organic farms, and tend to create a stable relationship with them, setting agreements on quality, quantities, prices, deliveries, and so on.

The group-purchase aspect of a CBG often makes it possible for individual consumers to purchase food that is more coherent with their moral, social or civil values.

The CBG movement is spreading in many developed countries as part of the so-called critical consumption or anti-consumerism movement (Lamine 2005; Valera 2005). It is difficult to have an exact measure of its dimension because it is in the philosophy of these groups to "not to be part of the system". They wish to avoid being used by multinationals or other strong economic powers that could exploit them as a new target market.

The few features highlighted above clearly illustrate that, CBGs tend to be sensitive to the ethical content of products. In particular they are interested in environmental issues, social justice and inclusion, income distribution, economic diversification and preservation of local, small traditional farms (Saroldi 2003). Our hypothesis is that they could be a starting point for SFs seeking a market niche for their products.

The empirical analysis

Our empirical analysis, a field survey, aimed to reveal the actual and potential market opportunities for SFF. Our goal was to improve our understanding of aspects such as:

i) knowledge and appreciation of social farming;

ii) actual clients of social farms and their satisfaction;

iii) the socio-economic profile, the behaviour and attitudes of these consumers;

iv) potential for expanding this market and the role played by consumer information.

The first step taken (summer 2005) was to perform an explorative survey by interviewing consumers as they exited a supermarket. This provided the first important empirical evidence: among the Italian consumer population, almost no one was able to answer questions on social farming and related subjects.

The second step was to select two different groups of consumers: i) persons belonging to CBGs and ii) university students. We chose CBGs because they establish direct contact with farms and are deeply involved in issues concerning ethics in the economy.

The students were chosen following two criteria:

i) to be significantly different from CBGs. Our aim here was to choose a more typical group with respect to consumption habits and involvement in social issues;

ii) to target consumers who, in principle, could be open to new and complex quality attributes[3].

During the period September 2005 - March 2006, 233 Italian consumers were asked to fill out a questionnaire[4], namely, 150 university students and 83 persons belonging to CBGs[5],[6].

The survey revealed that about 11% of the respondents has already tried social farm food (SFF). Consumers of SFF were more common within the CBGs (18.1%) than among university students (7.3%). Furthermore, only

[3] It is worth to say explicitly that the strong distortion of the sample, if referred to the entire population of Italian consumers, is a necessity deriving from the peculiarities of the market niche explored which refers to a very recent and limited supply segment.

[4] Questionnaires were mostly sent by e-mail; some were given to the CBG coordinators that handed them out to group members.

[5] In the case of CBGs every single person interviewed represents not only himself, as a consumer, but his whole family.

[6] A description of the sample may be found Carbone et al. (2009).

3.3% of students buy these products on purpose, but in many cases they do it on an occasional basis, such as at fairs or other occasional markets. This first evidence from the survey is the reason why the following discussion on SFF consumers will concentrate on CBGs[7].

About half (53%) of the SFF consumers that belong to CBGs started buying these products within the last two years, while the remaining half (47%) started long before. These data suggest existence of both a dynamic, growing niche market, as well as loyal customers.

Furthermore, data show that buying SFF is limited in importance even in such a targeted sample: only 20% of SFF buyers spend more than one-third of the total purchases made through CBG on SFF; for 80% of them SFF is a quota of less than one-third of total expenses made by the group.

Consumers buy many kinds of products in SFs, and each consumer tends to buy more than one category among the following: fruits, vegetables, olive oil, wine, meat, eggs, cheese, salami, pasta, bread and preserved fruit or vegetables. Consumers affirmed to be 100% satisfied with these products: no one stated dissatisfaction nor stopped buying SFF. The same indication of comprehensive satisfaction could also be ascribed to the following finding: more than one-third of SF customers (37.5%) said they pay more for SFF than for products of similar quality; another 33% said the relative price of SFF can vary, whereas the remaining consumers find SFF less expensive. In actuality, the quality of these products is relevant in the buying decision of 40% consumers, though it is not so important as the ethical attributes: more than 90% said they have bought SFF for a sense of solidarity towards the farm and/or because they want to be "responsible consumers"[8].

It is worth noticing that among clients of SFs, issues related to social responsibility and to solidarity are even more frequent than in the remaining CBGs interviewed: 73.3% versus 61.8%. Also the involvement in volunteer activities is more frequent: 86.7% versus 64.7%. Moreover, there are differences with regard to the incidence of what has been declared to be their main concerns as consumers. For almost every respondent, concern for the environment and social justice is far more important than fears about personal welfare like the future level of savings or consumption.

[7] The results presented are of a qualitative nature due to the small number of cases.

[8] It was possible to select up to two options among the following: I buy SFF because: i) I feel solidarity with the people who carry out these activities; ii) I like the quality of the products; iii) I want to be a responsible consumer; iv) I trust these farms more; v) I find these products cheaper.

Issues of social justice are far more important for SFF buyers than for the non-buyers group (80% and 57%, respectively). The non-SFF-buyers group reported more fear of food safety than the SFF buyers group (61.8% and 33%, respectively).

One more distinctive characteristic between SFF buyers and non-buyers concerned their buying behaviour: 93.3% of SFF buyers buy Fair Trade products, in contrast with a lower percentage of non-SFF buyers (79.4%).

Non-buyers of SFF do warrant our attention, however. It may be possible to highlight the factors that prevent them from buying these products, and examine whether some non-buyers may potentially become interested in buying SFF. What follows is a consideration and comparison of university students and people participating in CBGs.

Among people who have never bought nor tasted SFF, only 18.5% knew about social farming and can correctly say what it is about. This confirms that we are dealing with a relatively unknown phenomenon even in consumer segments that are sensitive to ethical issues and critical consumerism.

The lack of knowledge emerged as the main reason why these consumers never happen to think of buying them. When they were asked to explain why they do not buy SFF, they said either that they had never heard about these products (42%) and/or that they do not know of any social farms (59.3%). Hence, at the present moment, it can be said that the lack of information is by far the main limiting factor for a market for SFF. At the present stage, factors like price, product availability and variety are not relevant in preventing consumers from buying these products. Naturally, these questions about the conditions under which they would buy SFF do reveal that these aspects would become important.

Interestingly, almost no one in either group was totally uninterested in the topic, while a significant share said they might consider buying these products in the future: 60% in the CBGs and 82% among students. Further, they said that they would consider buying SFF in the future only if more information on the aims of these farms and the social and productive activities they undertake could be provided. This aspect is important in the opinion of many people (about 57-58%), more than, for instance, the number of those who would ask for certification (only about 17-19%) or those who took convenience or price into consideration (27-36%).

It is interesting that the two groups are significantly different with respect to several aspects of their behaviour related to their involvement with ethical issues. When asked about what they mainly fear as consumers, students selected, in a larger share, food safety (51%), whereas people in CBGs are relatively more concerned about environmental issues, social exclusion and injustice as a consequence of the prevailing economic organisation. Consistent with these concerns, within the CBG a higher share of people buying Fair Trade products (79.4% versus 37.2) and organic produce (100% versus 67.6%) and a higher share of people are devoted to volunteer activities (64.7% versus 37.9%).

Some final remarks

Many European countries are seeing an emergence of the relevance of the values created by social farming (Van Elsen forthcoming).

The product sales represent a non-secondary aspect of SF, one which both achieves its social goals and improves the economic viability of the initiative. This study explored the attitude of specific segments of consumers towards the produce of social farms, which are assumed to be products with ethical attributes. The survey was mainly qualitative and the figures obtained stem from a rather small sample due to the tiny dimension and novelty of the market niche explored.

The survey results have shown that the Italian consumer population is largely unfamiliar with social farms and their products. Consumer Buying Groups (CBGs) buy SFF in a higher proportion than other consumers. Among them this phenomenon, though small, is highly dynamic.

SFF buyers that belong to CBGs appear to be characterised by an overall strong concern for ethical issues and by the desire to responsibly participate in the economic system. The survey has also shown that 100% of buyers asserted that quality is important in their motivation for buying SFF and that they are fully satisfied with the quality of these products.

At present, the survey seems to indicate that lack of information is the main factor that limits the SFF market: many people in the sample showed interest on the topic, though they had never heard before of this activity and/or never happened to be in contact with a social farm, while almost

everyone said they would ask for more information as a necessary condition for considering purchase of these products. This result is consistent with the literature (Grunert 2005). Literature stresses that information is an essential prerequisite in ethical consumerism in order to move from expressing interest to taking to concrete action.

Certification did not emerge from the survey as a relevant requisite for SFF marketing. Again, this evidence is consistent with the economic literature that, on the one hand, indicates direct knowledge of the producers as a trust substitute of formal certifications for trust and on the other hand, considers the non-profit nature of the firm as a guarantee in itself for actual and potential ethical consumers when asymmetric information is present (Borzaga 2000; Hansmann 1996).

More research is required on this subject to gain less partial and more statistically significant data. Further analysis should be devoted to different aspects. Some examples of information needed are: a better understanding on how on-farm shops work, who their clients are, the share of production sold through the different channels, the limits of each one, and how they could complement each other.

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5 Conclusions and suggestions for future research

Bettina Bock and Joost Dessein

In Chapter 2 we developed a classification of Green Care arrangements that explains the different Green Care arrangements in Europe in terms of their underlying philosophy and organisation. We have distinguished three discourses, i.e., multifunctional agriculture, public health and social inclusion. These discourses are ideal-types: they extrapolate differences in order to understand the different systems of belief and functioning that guide Green Care arrangements in Europe. In practice, there are many intermediary forms or hybrid arrangements, although we also clearly see that countries differ in their preference for certain discourses (see also Di Iacovo and O'Connor 2009). More research is needed to explain this differential prominence but we may expect that the public health care system and its history play an important role (see for instance Wiesinger et al. 2006).

In Chapter 4 we presented case studies that give insight into the experience of Green Care and the evaluation of its costs and benefits. The contributions reflect different analytical levels. The micro level refers to the impact of Green Care on the client. The meso level refers to the intermediate structures that are engaged in Green Care initiatives, such as the farm or the institution providing health care. Finally, the macro level stands for either society as a whole, local communities or the region involved.

Ordering the different Green Care arrangements in an analytical grid helps to discover and understand the nature of costs and benefits and their origin, size and distribution. The different discourses form the base of this grid; the three levels of analysis (micro, meso and macro) constitute the second ordering principle. We use this grid to unravel and capture the variety of costs and benefits produced in different Green Care realities and seen and experienced from different levels of analysis. Obviously, the reality of Green Care is more complex and less rigid than this analytical framework suggests.

The next section (5.1) analyses the costs and benefits of Green Care arrangements for clients, providers and society at large as organised in the three Green Care discourses, making use of the case studies presented in Chapter 4. By comparing across analytical levels and discourses, we try to

get a better insight into overall costs and benefits. The following paragraph (5.2) presents the need for further research.

5.1 Analysis of Green Care costs and benefits at different levels

In this section, we first inventory the recognised costs in the different discursive arrangements and their coverage (Table 1). We limit ourselves to monetary costs, and to the payment of costs related to providing care. We then present Green Care benefits for all parties involved and at various levels (Table 2). Here we use a broad definition of benefits that includes many benefits that are (still) difficult to translate into monetary terms.

Green Care costs

Comparing costs across the three Green Care arrangements demonstrates that the multifunctional agriculture and public health arrangement easily defines and appoints monetary costs at every level of analysis. At the client level, use of Green Care services results in monetary costs. It is equally easy to calculate meso- or enterprise-level costs for providing services and to define those costs in monetary terms. At the macro level, costs may be defined in terms of the amount of public budget that has been spent by the ministry of health and/or agriculture.

In contrast, monetary costs are difficult or impossible to define for Green Care arrangements based on the discourse of social inclusion. We may cautiously conclude that most of the care provided here involves voluntary work, with no official calculation or coverage of costs at the level of the client nor at the level of the enterprise or society at large.

We may thus also conclude that the professional recognition and positioning of Green Care is currently limited to Green Care offered within the context of public health or multifunctional agriculture. Here, client fees are charged and investment and opportunity costs are calculated at the meso and the macro level. Not surprisingly, this is most well-developed within the context of public health. In this context, Green Care arrangements are often embedded in official health care settings and their well-developed system of financial administration. It is also here where the analysis of monetary costs and benefits is common practice and most elaborated at all levels. Cost-benefit, cost-utility and cost-effectiveness analysis can be done

at micro, meso and macro levels as well as comparatively across all levels.

Within the discourse of multifunctional agriculture, cost-benefit analysis is limited thus far to farm level economics. This sort of analysis only occurs when monetary costs and benefits become considerable and worth calculating as a particular item in the farmers' administration. Where clients get costs reimbursed from public health budgets (such as in the Netherlands), cost effectiveness could easily be analysed in the same way as is now done with other health care spending.

Table 1: Costs of Green Care such as organised within the three discourses

COSTS	Multifunctional agriculture	Public Health	Social inclusion
Micro (client)	Care fee through PHB or through health insurance	Care fee through PHB or through health insurance To be calculated per client: Time x hourly rate per support/service activity METHOD: cost-effectiveness method;	So far no evidence of costs to be paid by clients
Meso (institute/ farm)	Investment in place and buildings (safety and accessibility, extra rooms), (extra) animals and (extra) therapy related activities Opportunity costs (extra) personnel (extra) insurance (extra) education (extra) costs water & food, gas & electricity METHOD: farm profit with profit or transformation curve	Salaries, administrative, management and capital overheads and other expenditure (translated into hourly rates per support/service/activity); frequency and duration of farm visits; specific service costs and referral routes; service fees; farm funding METHOD: cost-effectiveness method for public or private health-care providers; social entrepreneurship	So far mainly voluntary work without any payment for time and/or private investments?
Macro (local/ regional/ society)	Subsidies for organisation of care farmers and some information campaigns	Opportunity costs of society: quality control of experimental (private and innovative) health care providers and services; development of new quality standards and regulations; development of new expenditure structures; Marginal social costs: number of clients, service – and quality levels x invested resources (➔ net social value) METHOD: cost-benefit analysis, cost-utility analysis; cost-effectiveness analysis	So far no evidence of any public payments; possibly subsidies/ project support; Continued payment of social benefits and/or unemployment payments to clients in future rehabilitation/re-integration fee's to service providers?
Integration methods	Cost-benefit analysis, cost-utility analysis; cost-effectiveness analysis) can be calculated per level and across levels		

PHB = Personal Health Budget

Green Care benefits

In Table 2 we inventory the benefits realised by Green Care arrangements across the three discourses, as well as benefits experienced and defined at different levels of analysis. In a way, this table mirrors Table 1 – monetary costs, when covered, turn into monetary benefits. This is clearly visible in the salary paid to providers of Green Care services at the meso level within the discursive setting of multifunctional agriculture and public health. At the macro level, monetary benefits are most clearly defined within the discourse of public health, when Green Care services contribute to either containing health costs or offering cheaper or more efficient health care services. Such a contribution results in higher net social values. In a similar way, one could argue that Green Care services also result in monetary benefits at the macro level within the discourse of multifunctional farming as they contribute to the viability of rural areas, rural employment and the continuity of farms. When care farms are already successfully linked to the system of public health, benefits in terms of health cost containment (etc.) could be calculated just like within the discourse of public health.

Looking at the Green Care arrangement within the discourse of social inclusion, we can observe that monetary benefits can be calculated despite the impossibility of calculating these costs. They differ, however, from the monetary benefits listed and calculated within the other discourses as they concern potential monetary benefits. At this moment they are not actually disbursed in cash (yet); but they have the potential to result in real economic advantages, such as work training and capacity development at the individual level and reintegration of the unemployed at the macro level. As the services offered voluntarily are not recognised and integrated in a publicly funded system of social services, no remuneration takes place and therefore there is no visible creation of monetary benefits. But clients as well as society profit from the services that they would need to pay for if offered by a commercial provider.

Table 2 also includes non-monetary benefits. They are included as they are brought up time and again as the most important and essential benefits for all Green Care arrangements at all levels. Being a relatively new and ‘alternative’ phenomenon, it is not surprising that those benefits are considered important – they reflect the strong intrinsic motivation that drives pioneering providers and clients to establish Green care and get it recognised by society. At the meso level, providers refer to feelings of

moral responsibility and satisfaction to help those in need and the desire to offer new and promising therapies that support healing and social inclusion. But also the development of new farms and new farm products with an added value is often mentioned. Within the discourse of multifunctional agricultural, the need for social respect and a new 'license to produce' is mentioned as well. At the macro level of society reference is made to the broadening of choice in health care (public health discourse), social cohesion and solidarity as well as responsible citizenship and consumption (social inclusion discourse), the conservation of rural landscape and cultural heritage (multifunctional agriculture discourse). The non-monetary benefits defined at the (micro) level of the clients recapture the high expectations regarding the beneficial effects of the farm, nature and the belonging to a community.

In summary, we may conclude that the definition of non-monetary benefits at all levels reflects the philosophy or discursive embeddeness of the three arrangements.

The examples discussed in Chapter 4 mention several methods of calculating benefits. Monetary benefits would be part of the systems of cost-benefit calculation presented above. For the non-monetary benefits, however, only few calculation methods are available.

For health improvements, there are some established scientific methods available which measure health benefits at the individual level, such as heart rate variability, behavioural health status and profile of mood state scores. They have also been used to compare the achievements of Green Care compared to other treatments. The problem with these methods is that they only measure benefits in one dimension, whereas the clients experience many different benefits that cannot be measured.
The question is then if classical methods adequately measure what Green Care simultaneously achieves by offering not only a different treatment but a totally different physical, social and emotional context.

Within the context of multifunctional farming, researchers attempt to measure non-monetary benefits in two ways – the Social Return on Investment (SROI) and a Social Cost-Benefit Analysis (SCBA).
Both methods are explained more in detail by Roest et al. in Chapter 4. More research is needed to further elaborate and refine methods to capture the multidimensional and multi-level benefits of Green Care that established cost-benefit calculations fail to measure.

Table 2: Benefits arising from Green Care such as organized within the three discourses

BENEFITS	Multifunctional agriculture	Public health	Social inclusion
Micro (client)	**Non-monetary:** More choice in health care & tailor-made treatment Social skills, self-dependence, self-esteem, motor skills, quality of life, physical health, emotional well-being, improved functioning METHOD: HVR, BHS, GAF	**Non-monetary:** More choice in supplementary or alternative treatments and personalised treatment, nursing, socio-pedagogic, and therapeutic services Health: self-esteem & mood METHOD: RSS, PMS	**Monetary (potential):** Work training, social rehabilitation; de-institutionalisation; capacity development **Non-monetary:** social inclusion, quality of life, self esteem, well-being/health; Experience of nature, useful activities
Meso (institute/ farm)	**Monetary:** Income, extra labour, value-added products, compensation payment METHOD: production theory: profit curves, transformation curve **Non-monetary:** Appreciation, quality of life of farmers, moral satisfaction, self development farm image, social respectability, 'license to produce'	**Monetary:** Income of health care provider, access to more and different clients, distinction in the market	**Non-monetary:** Corporate social responsibility; moral satisfaction; added value of ethical production and direct sale
Macro (local/ regional/ society)	**Monetary:** Viability of rural areas: continuity of farms; rural employment; increase local HC services; containment of health care costs **Non-monetary:** Conservation of rural landscape; conservation of agricultural cultural heritage, METHOD: Social Return On Investments, Social Cost Benefit Analysis	**Monetary:** Containment of health care costs; higher net social value (lower costs or higher benefits); combination of public health care system with extra private services; cheaper and/or more efficient alternative health treatments **Non-monetary:** More variety and choice in health care service delivery; wider access to therapeutic qualities of green areas	**Monetary (potential):** Alternative use of labour liberated from agriculture; reintegration of people with low contractual capabilities; new offer for labour rural/local development: quality of life; provision of services **Non-monetary:** solidarity; responsible (active) citizenship; responsible consumption; social renewal/change

HVR: Heart rate variability; BHS Behavioural Health Status; GAF: global assessment functioning; RSS Rosenberg self esteem score; PMS Profile of Mood states scores

5.2 The need for further research

In order to better understand the economics of Green Care, it is important to develop methods that are capable of measuring more than the usual economic parameters. As we have discussed above, these economic methods need to be able to grasp the essentials of Green Care and the specific arrangement under study. So far, all we have to fall back on is agricultural or health economics and some new and experimental models developed to measure 'social impacts'. Such experimental models need much more development and refinement, as more traditional economics approaches Green Care from one specific angle and tends to overlook the others. We may thus safely conclude that more research is needed. This final section points to the fields of research that we find most important. These fields concern further development of the analytical toolbox for Green Care economics as well as more fundamental research into what the goods are that Green Care actually produces, consumes and distributes. In turn, they examine how then basic economic concepts such as Green Care costs and benefits can be defined or calculated. After all, one of the fundamental problems obstructing the analysis of Green Care economics is the definition and measurement of costs and benefits. It is relatively easy to include traditional monetary costs and benefits such as salaries and fee payments, but these reflect only part of what is experienced as the essence of Green Care. Once again, traditional economic models originating from agronomics or health cannot grasp the whole picture.

One of the gaps in our knowledge regards the scale and nature of monetary, but particularly non-monetary, costs and benefits. A systematic analysis of Green Care practices is needed in order to be able to define, conceptualise and measure the most relevant costs and benefits across discourses. Within the discourse of multifunctional farming, this may for instance include the non-monetary cost of privacy loss resulting from the presence of clients on the farm which is also the private residence and family home, or identity conflicts that may cause distress and disorientation when a farmer enters a caring profession. At the same time, regaining status within society can be a benefit for the farmer.

We also need a systematic analysis of the positive and negative impact of agriculture on green care and vice versa. Thus far, it has generally been presented as a win-win situation but systematic research is lacking. This includes the inventory and analysis of various (novel) ways to create added

value and the possibility to do so in the different discursive arrangements discussed above.

In economics, money is the usual parameter to measure and commensurate costs and benefits. This is reflected in recently developed methods that attempt the transfer of non-monetary units into monetary units, such as willingness-to-pay methods, hedonic pricing methods and contingent valuation. In our view it is important to study more in depth what is 'lost in translation' when monetary currency is used to express those costs and benefits which are often perceived as 'price-less'. To what extent are we still able to grasp the novel ways and multiple dimensions of Green Care when transferring them into one (monetary) dimension and adding them up? Are there other methods available to capture the diverse effects of Green Care and to integrate them? It might be useful here to exchange experiences with other health care innovations such as integrative psychiatry or community-based health care centres, where social inclusion and cohesion are among the new benefits beyond the traditional physical or mental health and measured at novel levels beyond the individual. Other social innovations may also shed light on new concepts and tools which measure the added value created through the cross-fertilisation of disciplines or sectors. Understanding the emergence of Green Care as part of broader transitions in agriculture, health care and society at large may also help us to mobilise supporting forces as well as overcome obstructions that are part of any process of transition where multiple social innovations meet.

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