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The well-being benefits of sensory-rich farm visits

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ABSTRACT

There is increasing evidence to show that exposure to nature positively affects health and well-being of individuals in society. This paper is based on the evaluation of Let Nature Feed Your Senses (LNFYS), an English project to encourage people with disabilities, from areas of high social deprivation, and older people to access and enjoy the natural environment through sensory-rich farm visits. The evidence of positive health and well-being impacts from the project is assessed, and the wider implications for policy and practice are discussed. Qualitative data from 38 follow-up interviews conducted with group leaders one to six months after a visit; testimonies and quotes from visit evaluation forms and letters and comments received by host farmers; and a focus group with 10 group leaders were analysed. The results revealed that enhanced mental well-being and social inclusion were consistently reported as a benefit of the farm visit. Participants particularly referred to the calming impact of the farm environment; an increase in self-esteem and independence; improvements in memory function and reminiscence ability; and increased communication. The paper concludes that whilst there is a clear benefit and demand for such on-farm experiences, in order to secure future funding evidence of their economic impacts and longitudinal follow-up studies of benefits are required.

KEYWORDS: health benefits; farm visits; well-being; social inclusion; sensory engagement

1. Introduction

The last decade has witnessed increasing recognition of the multifunctional potential of farming to produce not only food, but many diverse environmental and recreational services. Furthermore, there is a growing realisation that rural areas, including farmland, are also able to provide health services. In the UK, recent publications, such as the UK National Ecosystem Assessment (NEA, 2011), acknowledge the importance of health services from the countryside. Also public bodies and third sector organisations in European countries are actively promoting the health benefits of natural landscapes, and the need for initiatives which strengthen the connection between people and nature (Defra, 2011; Hine *et al.*, 2008; Di Iacovo *et al.*, 2009).

This paper is based on the evaluation of Let Nature Feed Your Senses (LNFYS), an English project⁵ to encourage people with disabilities, from areas of high social deprivation and older people, to understand, access and enjoy the natural environment. The project has been run since May 2009 in partnership by two UK charities, LEAF (Linking Environment And Farming) and the Sensory Trust. As of January 2013, the project had organised 670 sensory farm visits for over 11,800 visitors on 75 farms across England. The majority of the

farms are commercial holdings, with farm sizes ranging from one to over 1,000 hectares. Whilst educational visits to farms for children in many mainstream schools are relatively well established, the LNFYS initiative is different because it provides opportunities for groups of people who are often unable to access the countryside. Project visits have been highly variable, lasting from one to five hours, involving three to 80 persons, with activities varying from pond dipping and bark rubbing to assisting with practical farm tasks, such as sorting lambs for market or digging potatoes. Host farmers are encouraged to engage all visitors' senses, including taste by cooking farm produce during a visit (e.g. making pancakes or bread after milling wheat and collecting eggs). Host farmers are also encouraged to communicate the links between food, farming and nature in novel and engaging ways, using approaches developed by the Sensory Trust, a UK charity dedicated to enriching outdoor experiences and learning through sensory engagement.

Whilst a growing evidence base demonstrates that contact with nature can have health and well-being benefits for the general population (Sempik *et al.*, 2010), less is known about these benefits for vulnerable groups who often have fewer opportunities than others to access the countryside. Some evidence exists of the health and well-being impacts of one-off visits to farms

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by the general public (Hine and Pretty, 2008); of repeated visits on farms by school groups (Dillon *et al.*, 2005); and the therapeutic value particularly of longer-term, structured 'care farm' experiences (Sempik *et al.*, 2010). LYNFS has sought to test and understand the impacts of individual farm visits (predominantly one-off but also including some repeat visits) upon the mental and physical wellbeing of the groups mentioned above, including the disabled and older residents in care. In this paper, we assess the evidence of positive health and well-being impacts from the project, and discuss its wider implications for policy and practice.

2. Literature Review

There is increasing evidence to show that exposure to nature and green space positively affects health and well-being of individuals in society. Exposure to nature can reduce stress levels, improve mood and self-esteem, decrease mental fatigue and restore mental clarity and concentration, and increase a sense of well-being (Hartig *et al.*, 1991; Kaplan and Kaplan, 1989; Bird, 2007; Barton and Pretty, 2010; Emmett *et al.*, 2011; Wilson, 1984; Ulrich, 1981). For example, research has shown that children with a high number of stressful life events were less stressed and had a higher global self-worth with increasing opportunities to experience nature (Bingley and Milligan, 2004; Wells and Evans, 2003). Furthermore, children undertaking outdoor activities in nature exhibit 30% lower levels of the symptoms of ADHD compared to those undertaking urban outdoor activities, and a threefold reduction compared to those whose activities are confined to an indoor environment (Taylor *et al.*, 2001; Kuo and Taylor, 2004).

Three key theories offer explanations of these phenomena, related to human interaction with nature. All focus on the restorative effects of the natural environment, suggesting that some level of contact with nature contributes to enhanced well-being, mental development and personal fulfilment (Barton *et al.*, 2009). One such theory is the Biophilia hypothesis, which suggests there is an innate evolutionary basis to the positive relationship between humans and nature derived from peoples' fundamental dependence on nature and conscious and unconscious desire to connect with it (Wilson, 1984; Kellert and Wilson, 1995; White and Heerwagen, 1998). An alternative theory is Attention Restoration Theory (ART), which focuses on the cognitive changes associated with restoration. According to Kaplan and Kaplan (1989), contact with the natural environment contributes to a restoration of attention from attention fatigue, by providing an opportunity for people to take a physical and temporal break from routine tasks and thoughts ('being away') and to focus attention on something different, without thinking about it ('soft fascination'), thus giving the neural mechanisms underlying 'directed' attention a chance to rest and replenish. In addition, Psycho-Evolutionary Theory (PET) of stress reduction argues that the restorative effects of nature are derived from a reduction of stress (blood pressure, muscle tension and pulse rate) associated with views of nature, which are the result of an inherent reflex shaped by what proved an adaptive benefit during human evolution. It posits that throughout human evolution, individuals that possessed

this capacity for immediate recovery in response to nature had a greater chance of survival by remaining mentally alert after stressful situations (Ulrich, 1981; Ulrich *et al.*, 1991). In all these theoretical perspectives, an enduring interdependence between people and nature is reflected.

Other empirical research has identified health benefits from farm visits. One example is repeated educational visits to farms, which Dillon *et al.* (2005) showed benefited students not only cognitively, in learning about farming practices and gaining an appreciation of nature, but also in learning about themselves and working with others, which then led to an increase in confidence and improved social skills. Hine and Pretty (2008) conducted a study to observe changes in (*inter alia*) visitor well-being and connectedness to nature during LEAF's 'Open Farm Sunday' campaign, in which the public is encouraged to visit a farm on the second Sunday in June each year. The study used three methods of assessment: an adapted form of the 'connectedness to nature' psychological scale to assess whether visiting a farm increased an individual's sense of being connected to nature, a Profile of Mood States (POMS) questionnaire to enable any changes in health parameters to be evaluated, and a Total Mood Disturbance (TMD) score to make an overall assessment of emotional state change from a visit. The majority of participants (91%) reported improvements in their overall mood after visiting the farm and the authors concluded that spending time on a farm is effective in enhancing mood.

Not all farm visits are of this one-off kind. Some individuals experience longer-term, structured 'care farm' contact. Care farming (also called 'social farming' or 'green care farming') can be defined as the therapeutic use of farming practices⁶. There is much variety in care farms, with differences in the type and extent of farming and care activities that they offer, the biophysical and social context, the client group and the type of farm involved (Sempik *et al.*, 2010). Care farms can provide services for diverse groups, including people with learning difficulties, people with psychological problems, older people with dementia and young people with behavioural problems. While each group requires a different sort of care, activities and guidance (Elings, 2012), there is growing empirical evidence that care farming has the potential to increase health and well-being for a wide range of individuals. Hine *et al.* (2008) undertook a survey before and after 72 participants spent time on care farms and found an increase in participants' self-esteem after spending time on the farm, with the majority (88%) also reporting improvements in their overall mood. Elings cites a study by Hassink (2011), which researched the effects of a combined study-work programme on farms for troubled young people between the ages of 16 and 20. The farm programme was found to have had a positive effect on behavioural problems and self-respect, effects that remained visible a year after finishing the farm programme.

These studies suggest that a programme of one-off or repeat farm visits, that provide close contact with

⁶ <http://www.carefarminguk.org/>

nature, could have restorative or therapeutic value. However, it is not possible to identify from existing research whether single visits have lasting benefits; Hine and Pretty (2008) relied upon questionnaires conducted on the day of a visit, whilst the other studies measured impacts from longer-term repeat visits. Secondly, none of these studies focused attention upon the type of interaction with nature encouraged by the various approaches and its relationship to perceived benefits. Thirdly, we are unaware of studies which have examined the potential for visits to farms by older people in care homes to enhance residents' well-being. The LNFYS project, therefore, offered a valuable opportunity to learn more about the well-being potential of farm visits, as discussed in this paper.

3. Methodology

There are methodological challenges in seeking to isolate the important variables in the causal chain between farm visits and health and well-being benefits. The evaluation of LNFYS visits between 2010 and 2012 attempted to capture both impacts and their causal influences through a mixed-methods approach combining quantified indicators with qualitative feedback from group leaders and individual visitors. Quantitative scores of well-being were self-reported in 'before' and 'after' visitor questionnaires developed by University of Essex, providing a 'snapshot' indicator of impact upon visitors' own positivity or happiness status immediately before and after a visit. Whilst such evaluative research traditionally uses quantitative approaches to collect data there are recognised difficulties of trying to gather such ex-post quantitative data from vulnerable groups (Curry *et al.*, 2009). There were some practical difficulties encountered with the completion of the questionnaire upon arrival and before departure, which for a typical 2 hour visit took a disproportionate amount of time to administer and was often filled out in haste, which limited their capacity to provide a detailed understanding of outcomes. Also the original set of questionnaires included questions measuring changes in mood which were inappropriate for some of the vulnerable visitors. Thus a growing sense of the limitations of this kind of quantitative assessment led the LNFYS project team to undertake further, separate data collection exercises in the weeks and months after a visit, to capture longer-term and more contextualised narratives of impact which could provide insights into how and why certain types of benefit might arise, and in what temporal patterns. This richer, qualitative data was used to help identify where and how LNFYS visits had been successful in affecting well-being and to provide lessons of wider relevance to future work of this kind. Although it is acknowledged by adopting such methods it was only possible to gather secondary data (the views of group organisers) instead of primary feedback from the beneficiaries themselves.

Qualitative data was gathered through 38 follow-up interviews conducted by the LNFYS team with group leaders, from one to six months after a visit, selected at random from lists collated by LNFYS staff. Testimonies and quotes were also gathered from visit evaluation forms and letters and comments received by host

The well-being benefits of sensory-rich farm visits farmers. Furthermore, a focus group was held with 10 group leaders and facilitated by the authors in January 2012. Such a method is useful to gain an understanding of a group's views and experiences and has effectively been used in the past to explore the experiences of carers of people with learning disabilities (Thornton, 1999) and to elicit views on generic mental health services (Powell *et al.*, 1996). Table 1 provides details of the participants attending the focus group and the groups of people that they accompanied on the farm visits.

The 10 participants to the focus group came from six different groups that had participated in LNFYS visits within the West Midlands region in 2010 or 2011. Four of the groups represented worked with vulnerable children, one supported adults with special needs and one worked in a care home for older people. Discussions in the focus group aimed to provide an in-depth analysis of LNFYS visit experiences for groups and individuals within those groups, as recalled by the qualified group leaders, including impacts in the days and weeks following a visit. A semi-structured approach to facilitation was adopted, ensuring discussion focused around the broad themes of: the overall LNFYS visit experience; the contrasting impact upon visitors initially and over a longer time period; and the perceived relationship between the quality of experience and the actions and conduct of the visit host(s). The semi-structured format also allowed respondents to raise additional, unplanned themes in respect of their groups' experience, its therapeutic value and its links to the wider context of the LNFYS approach.

The focus group discussion was tape-recorded and transcribed in full. The transcription was then analysed following an iterative and reflexive process using, Nvivo, a qualitative data analysis software package as suggested by Bryman (2008) and Bazeley and Jackson (2013). Using a priori deductive codes, the data was first coded into four broad categories for analysis: visitor characteristics, host characteristics, positive visitor experiences, barriers' to visits. The second stage of the analysis took an inductive approach to further coding, capturing different patterns and themes within the broad categories. A theme represented 'a pattern in the information that at minimum describes and organises the possible observations and at maximum interprets aspects of the phenomenon' (Boyatzis, 1998, p.161).

It was possible to triangulate the findings from the focus group with follow-up interviews conducted with group leaders and the visitor interviews to identify the main health and well-being benefits of the farm visits.

4. Results

The interpretive analysis of the interview and focus group data suggested that the LNFYS visits had delivered a number of different health and well-being benefits due to the particular characteristics of the visits. Rather than any singular characteristic contributing to the health and well-being benefits, it was a combination of different factors that led to these benefits. These characteristics are summarised in the table below and focus on the nature of the host, event structure, activities and environment (Table 2).

Table 1: Details of focus group and farm visit participants

Focus group participants	Details of farm visit participants
Youth Service and Targeted Support Programme	Children (11–16 years) who have been permanently excluded from school, missing education or recently moved into the area and identified as requiring alternative education.
Special School	Children on the autism spectrum with specific needs or unrecognized specific needs or un-met specific needs.
Residential home for elderly	Mainly 80 to 90 year old residents, many with dementia.
Special school	School for children ages 4 to 18 year with learning difficulties
Voluntary support group for children with disabilities	Children with range of disabilities from profoundly disabled children to those with moderate disabilities and those in the autistic spectrum.
Centre for people experiencing depression and other Mental Health problems	Group of adults experiencing depression and other mental health problems aged between mid-30s and 70 years.

Making connections across the different categories it was possible to identify different benefits of the visits, such as physical and educational benefits. However, two benefits were particularly consistently reported as benefitting health and wellbeing and thus will be explored in the next section in more detail; enhanced mental well-being; and social inclusion.

Mental well-being

Three themes emerged from the data, representing positive mental well-being outcomes from a LNFYS visit;

- A calming impact of the farm environment, which was seen as relaxing and stress-reducing
- An increase in self-esteem and independence
- Improvements in memory function and reminiscence ability

Group leaders and visitors reported a calming influence upon children from being in the open air, from the sense of space and freedom of the farm environment and from a lack of noise. As one carer reflected:

“We always find it a very calm environment. It just automatically makes you calm down. It is amazing. Some of our kids admit to anger issues, they both said how much calmer they felt. It’s just walking around in the fresh air with not a lot of noise.” (Carer, young people with learning difficulties and/or disabilities).

Visitors experience the farm as an environment with different stimulations to the urban areas where many of them live. Elements of the farm visits added to a calming effect, especially the care, sensitivity and personalised attention given to visitors from host farmers combined with fewer distractions, for example, from the shops and cafes that are often found on farms which are managed principally as commercial visitor attractions.

“I think it changes attitudes about what the countryside has to offer you. I think people think it is boring, especially children and

young people and I think it really does change your attitude. I think because everyone is so patient there and so calm. I think living in the city, you are rushing and thinking about everything and when you are there you are so much calmer that you can open yourself up to learn something.” (Carer, young people with learning difficulties and/or disabilities).

“Every time it is a positive experience. For the children who find it difficult and find it hard to relate to anybody socially. There was one child who was “I hate everything, I hate, I hate, I hate,” but in that environment it was “I don’t really want to go back”, “can’t we stop a bit longer”, so we stopped a bit longer, and then “please can we stop a bit longer!” Then coming home and seeing that rosy look about them, that healthy look and carefree, sort of like a rag doll - that the tension had gone.” (Carer, young people with learning difficulties and/or disabilities).

It was not just children that benefitted from the calming effect of a farm visit, but also older visitors with dementia, as one carer related;

“The farm visits had an extremely calming and therapeutic effect on the residents. People with dementia can often be withdrawn, distressed or confused, but you really notice the difference it makes when you visit a farm. The huge variety of things to see, touch, smell and hear really helped engage the residents. For many it helped evoke childhood memories.” (Carer, dementia specialist care home).

These observations in relation to the calming effect of the farm environment may relate to the theory based theme discussed earlier of the restorative properties of nature allowing recovery from mental fatigue.

Participants also reported the benefits of a relaxing and stress-reducing environment. The absence of other people who may judge visitors that look or behave differently was noted. Also the fact that visits were designed for a group’s specific needs meant that visits were not only less stressful for the group participants, but also for the group leaders. One clear advantage voiced was the lack of expectations for visitors to behave in a particular way. The socially determined expectations of what people with disabilities are and how they should be treated have been shown to have a

Table 2: Identification of specific characteristics of LNFYS visits

Host	Event	Activities	Environment
Personal connection Respectfulness Patience Non-judgmental	Flexible timings Informal structure Exclusive event Tailored event	Interaction with animals Freedom to explore Excitement of tractor rides Risks of pond dipping	Calming environment Sense of space Lack of noise

great effect on the lives of people with disabilities (Smith, 2005). The farm visits offered an opportunity for both the visitors and their carers of freedom from often reported stigmatisation or prejudices towards their disabilities (Olney and Kim, 2001).

"Our children are very slow and when they walk with their walkers they take ages. They walk very methodically and slowly and we found that it didn't matter. So with the calm they felt like they weren't being hurried. It wasn't like 'you've had your turn, now get lost,' it didn't matter about anything." (Staff member, special needs school).

"We found the children with high autism when we took them to another farm [managed as a visitor attraction] they would see the sweet shop and be running around. It was really hard and then you don't get much of an experience out of it because it is hard to manage it. We found out about these [LNFYS] farms and when we did go there was nobody else there, it was just our group. For them to have fresh air and get really close to the animals and the activities set for them to be outside. They were really calm. When you are there we don't really have to hold onto them and if they wanted to run they could have, but they were really calm..." (Carer, support group for disabled children).

Visits were designed so that individuals could choose the extent to which they participated in activities and were able to experience them at their own pace.

"It is really accessible because there are some people who want the full hands-on experience and some from a distance. It is all there and everyone can have their own individual access. There are no set boundaries. It is up to them how close they get." (Carer, support group for disabled children).

"Well organised, everything worked. It was relaxed. The farmer that was there let us go at our own pace, the students could lead the day in their own time. Our students can take a long time to settle and feel comfortable, which they had. Not rushing from one thing to another." (Staff member, visually impaired students).

A further benefit of the visits reported by group leaders was a noticeable increase in self-esteem and independence of usually shy or aggressive individuals. For some disaffected children the activities on the farm provided an opportunity to let down their guard and express themselves.

"The one week [farmer] actually suggested pond dipping and I wasn't sure how it was going to go and they absolutely loved it, they were like kids again. I couldn't catch my breath. I was amazed how well it had gone, it was wonderful to see them be like that and let their guard down and actually enjoy themselves and learn at the same time. It's an opportunity for them to forget their reputation and just be children and do what children do best." (Carer, working with disaffected youth).

The visits also provided an opportunity to encounter new experiences and to confront fears which can boost self-confidence.

"They have talked about everything and remember a lot. Particularly the young man who had been frightened, he felt proud of himself, really boosted his confidence and self-esteem." (Staff member, visually impaired students).

An important quality is the attitude of the host farmer. The LNFYS initiative encourages farmers to approach visitors as normal people, rather than as patients and they therefore experience respect with no prejudice.

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"We found at these farms were that they were slow in how they approached and spoke to them [visitors] and they actually treated them as human beings. That was something all of them came back and said. It wasn't like raising your voice as if they had a hearing aid, it was in a normal voice which is what we enjoyed." (Group leader, care home for people with dementia).

There was also evidence that the visits had a positive impact on memory function and reminiscence ability. The experience of being on the farm stimulated reminiscence in some older visitors, giving some the opportunity to recall their experiences of living and working on farms. Sensory visits seem to have had a particular effect on older visitors with dementia, reconnecting them to their memories of past experiences with nature, helping them to reminisce and increasing communication with other group members and staff.

"They have [talked about the visit since], which is incredible. They have dementia and usually don't remember anything, so it's amazing that the visit stimulated them like it did." (Group leader, care home for people with dementia).

"The reminiscence by the group. One gentleman had been a pig farmer and he was in his element when seeing the pigs." (Group leader, care home for people with dementia).

Social inclusion

Analysis of the data indicated that visitors not only bonded with each other, group leaders and farm staff during their visit, but also experienced increased communication with friends and family or with other people in a care setting since the LNFYS visit(s). All of this goes some way to reducing social isolation and to increasing feelings of belonging, both of which are essential elements of well-being.

A number of carers report improved communication amongst visitors during the visit;

"We are always very concerned that K may run off when we take him out of [residential home]; he doesn't speak to many of the other residents and can be very unpredictable and aggressive. During the visit to the farm, however, he was very relaxed and friendly; he held hands with another resident whom he usually doesn't speak to! When we had afternoon tea he sat down for the entire duration, which is not in his character as he is usually restless and anxious." (Activities co-ordinator, residential home for people with dementia).

"It wasn't about learning as much as the experience. We saw deer running in a big field - one boy still talks about it now. One child is autistic, he doesn't talk, but he got close to a cow and said 'cow.'" (Staff member, children and family centre).

"Eileen, a lady with late stage dementia, who finds it very difficult to communicate, and who has a very short attention span, was fully engaged throughout the day. Eileen stayed with the group throughout the trip and loved seeing the cows and lambs. She was talking lots to a member of staff's little boy who came along with us. She also enjoyed looking through the reminiscence objects over afternoon tea; it was lovely to see Eileen so happy and content in herself." (Activities Co-ordinator, residential home for people with dementia).

Two of the quotes reflect findings from other studies (Mallon, 1994; Berget *et al.*, 2008) of the importance of interaction with farm animals for both children and adults in producing psychological and well-being benefits, including improved communication.

There was also evidence of improved communication during the time following a farm visit. The quote below

highlights how the farm visit had enhanced one visitor's confidence, trust and social capability to communicate within her group, which afterwards helped her treatment and well-being.

"It wasn't just going to the farm, it is what it brought back into the home that I found beneficial. One of my ladies wasn't very well at the time and her health just went way up because of the interest when she came. She wasn't a lady that gave a lot and ... she could actually say 'I did this and I did that' and it was, you know what they say, that you see light and I got a lump in my throat because she so wanted to give. That to me, it was just worth it. She has got so much more confidence now, to come and say her views because she had been there [farm]." (Group leader, care home for people with dementia).

For some visitors the farm visit also increased feelings of belonging;

"Made them feel part of the community again. Their opinion was appreciated. Boosted morale and self-worth." (Group leader, residential care home).

For this group the visit seemed to overcome the reported evidence that people with disabilities can feel marginalised and excluded from the community (Sayce, 1998). The non-judgemental and respectful attitude of the hosts and the sense of a personal connection in particular was reported to help improve the participants feelings of self-worth and belonging.

5. Discussion

In this paper we describe the experiences in England of a particular initiative, LNFYS, that aims to provide sensory-rich experiences on farms for groups of people who are often not readily able to access farm visits. The evidence from case studies, testimonials and a focus group highlights not only the well-being benefits from a LNFYS farm visit on the day of the visit, but also the more enduring benefits in the weeks and months after a visit takes place. For some visitors a farm visit led to an increase in self-esteem and independence beyond the visit. Visits seem to have had a particular beneficial effect on older visitors with dementia, often reconnecting them to their memories of past experiences with nature, helping them to reminisce and increasing their communication with other group members and staff.

This finding is consistent with literature indicating that involvement in nature, animals, and outdoor activities provides opportunities for reminiscence (Filan and Llewellyn-Jones, 2006; Gibson *et al.*, 2007), of reality orientation by reminding patients with dementia of facts about themselves and their environments (Douglas *et al.*, 2004) and providing a source for multi-sensory stimulation (Bossen, 2010; Chalfont, 2008)). It is suggested that green care may evoke memories, stimulate the senses, and help retain the link with reality (Bruin *et al.*, 2009). However, not all empirical evidence on this topic is positive: although one study found that older people with dementia at care farms showed fewer behavioural problems, on average used fewer psychotropic drugs, and were more actively involved in normal daily activities than their counterparts participating in nursing home day care (Schols and van der Schriek-van Meel, 2006); another study (de

Bruin *et al.*, 2012) found no significant change over time in functional performance, and disease and medication incidences between patients with dementia attending day care at care farms and regular residential day care facilities. This suggests that further in-depth work on this particular topic is required.

The findings also identified other benefits of the visits related to the calming effect of the environment on the participants. As indicated earlier multiple studies provide strong indications that the natural environment improves people's mood. Feelings of fear and anger are reduced while positive feelings are enhanced (Hartig *et al.*, 1991; Ulrich *et al.*, 1991). The LNFYS results also indicated that the helpful, accommodating and respectful attitude of the host farmers, with a lack of expectations or prejudice, added to the calming effect of the farm visit. This attitude, along with the interaction with farm animals was shown to improve communication and made some participants feel less socially excluded.

The success of LNFYS has depended upon active engagement by willing host farmers. Many farms are looking to broaden their economic base through pluriactivity and on-farm diversification. Sensory farm visits could provide a new source of income for the farms and nature reserves involved. The LNFYS project is majority-funded by the National Lottery and the payments received by each host contribute towards the costs of running a visit (between £100 to £150 per visit⁷, depending on the size of the group). However, many host farmers are highly motivated by the social benefits they are able to offer, and indeed host farmer motivation was a criterion used in the project's host selection process. Projects such as LNFYS are also able to offer farmers support and advice in carrying out such visits successfully, including safety management information. This is a valued element, as there is evidence that some farmers are deterred from hosting farm visits due to concerns relating to the safety of visitors and the fear of being sued in a case of personal injury on the visit (Dillon *et al.*, 2005).

The views expressed by the group leaders involved in farm visits demonstrate that there is a clear demand for such experiences. In part, this is because such visits are able to provide services better tailored to the specific needs of visitors, compared to mainstream welfare systems which are under increasing financial pressure (O'Conner *et al.*, 2010). There is also strong qualitative evidence of the mental well-being benefits of such visits. However, crucial for the further development of such initiatives is the need for appropriate policy and institutional developments as regards health care funding, ensuring that financial resources are available. In England, there are now opportunities in some parts of the country for consortia of host farmers to bid for contracts with the new GP-led Clinical Commissioning Groups (which arose from the 2012 Health and Social Care Act) although commissioning priorities vary greatly across the country.

In England, the type of social or care farming offered by LNFYS hosts is yet to be recognised as a system in social care, as in some EU countries, such as Belgium,

⁷ At the time of writing (May 2014) £1.00 was equivalent to approximately €1.21, \$US1.68 and \$AUS1.83.

the Netherlands, Norway and Italy (see Di Iacovo *et al.*, 2009). In these situations, financial support for such activity is available from public health budgets. In Britain, the move to patient-led personalised health budgets has provided some scope for established care farms to tap into this kind of funding, but it is not yet available for farm visits of the type discussed here. Many farms thus still face difficulties in sourcing such funding through social and health networks. For example, one of the current challenges in England for consortia of hosts wanting to secure funding from some of the new Clinical Commissioning Groups is a requirement to gather robust impact evidence and monetise the benefits of farm visits. This would entail a new form of quantification of the types of benefit discussed in this paper; which is not a simple task, given the sensitive nature of the beneficiary base. As well as capturing benefit during and soon after each visit, there would also be a need for well-designed longitudinal follow-up studies (Social Return on Investment or similar) to provide more evidence of positive visitor outcomes in the longer term. The resources and skills to undertake such analysis will generally be beyond the scope of individual farmers.

Despite various policy frameworks and financing schemes across Europe (Di Iacovo and O'Connor, 2009; Hine *et al.*, 2008; Dessein, 2008; and Gallis, 2007), historically care or social farms have existed largely in spite of government policy, rather than because of it (Hine *et al.*, 2007, p.134). In the present context of particular public financial stringency, it is likely that new business models will need to be developed to enable the economic continuity of the services provided by initiatives like LNFYS, for the well-being of society. Potential may exist for the use of alternative business models through, for example, private sector contributions in the form of Corporate Social Responsibility (CSR) and Creating Shared Value (CSV) initiatives. But perhaps the biggest obstacle to making these things happen is the lack of sustained resourcing for the co-ordination and evaluation functions which projects like LNFYS only provide for their limited lifespan. LNFYS was initially funded for only three and a half years, the first of which was devoted largely to establishing the network, leaving relatively little time from which to learn and reflect upon the value of the visits achieved. The evidence discussed here suggests that investing more time and effort to help projects such as this to demonstrate the monetised benefits of their actions over a longer timespan than has previously been recognised could help to sustain these actions through longer-term health funding, for the benefit of society as a whole.

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