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Assessment methods for sustainable tourism declarations: the case of holiday farms

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ABSTRACT

Farm-based tourism has a long tradition in Europe. Using farms to host tourists has become more widely seen as an effective means of supporting local economies and contributing to the preservation of landscapes and cultural heritage in the countryside. Furthermore, farm-based tourism is considered one of the most environmentally sustainable activities among touristic options. Nevertheless, the environmental sustainability of holiday farms still must be assessed. No applications of an environmental assessment method to touristic farms can be found in the literature. The only reference for such application is the PCR (Product Category Rule) basic module on "Accommodation, food and beverage services" developed for the Environmental Product Declaration system®. This document can be used as a reference for declarations for several hosting structures or catering services, nevertheless the performance of this module on touristic farms has not been validated yet.

This study therefore aims to discuss and give practical recommendations when the PCR on accommodations is used for holiday farms thorough an actual case study in Northern Italy.

The farm adopted as case study covers 15 ha of orchards managed according to the organic production protocol. In order to precisely evaluate the farm, the performance of three functional units was tested applying a full Life Cycle Assessment, in accordance with the guidelines and requirements of the ISO 14040. Among other impact categories, the global warming potential of the whole farm in 2011 is 112 tCO_2 eq, which corresponds to 232 kg CO_2 eq/(guest * night) and 3.32 kg CO_2 eq/€. Considering the services in the farm, 81% of the global warming potential is related to the breakfast service, 2% to the room services and the remaining 18% to the agricultural parts of the system.

The results allow us to highlight general key aspects to be considered for the definition of product category rules for such activity including the importance of the choice of the modelling approach, the system boundaries and the functional unit.

1. Introduction

1.1. Background of the study

Tourism is responsible for about 5% of global emissions of CO_2 (UNWTO, 2008), and it was estimated to contribute 7.9% of global warming (medium-range estimate) in the year 2005 (Scott et al., 2010). Tourism has been called a "non-negligible" emissions sector (UNWTO, 2008), but this view can be challenged considering the sector's observed and projected growth: up to 2035, emissions from tourism are expected to be more than double (UNWTO, 2008).

Furthermore, tourism is the fastest growing sector in the economy, and special attention should be given to energy use and CO_2 emissions by the sector (Gössling, 2013). The calculation of greenhouse gas (GHG) emissions from tourism is complex and not always realistic. Studies that investigate GHG at the sectorial level, often environmental data, suffer from the weaknesses of top-down methods such as the environmental extended Input–Ouput

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Analysis (Gössling et al., 2005; Perch-Nielsen et al., 2010). On the other hand, environmental impact assessment at the level of touristic activities or residential systems is generally difficult to compare, because they use different system boundaries and allocation principles, omitting or including life cycle emissions and GHG other than CO_2 (Gössling, 2013).

As reported by a recent study (Filimonau et al., 2013), the traditional techniques for environmental assessment of tourism impacts are immature as they fail to holistically assess the additional, 'indirect' carbon requirements, during the life cycle of the whole touristic service. As there are few methods for assessment (De Camillis et al., 2010), the literature underlines the necessity to refine existing and to develop new and more advanced techniques for environmental assessment in the tourism sector (Warnken and Buckley, 1998; Schianetz et al., 2007).

The most significant omission of the current methods for appraising the carbon impacts from tourism is the limited capability to estimate the 'indirect', life cycle-related GHG emissions (Patterson and McDonald, 2004). The literature suggests that the magnitude of the 'indirect' carbon footprint can be high (Frischknecht et al., 2007), and this needs to be investigated for tourism products and services requiring the revision of current assessments to extend their scope and account for the 'indirect' carbon footprint.

In the context of sustainable tourism, more and more importance is given to holiday farms (Lane, 1994; Swarbrooke, 1999). This occurs mainly because holiday farms are linked to an idea of eco-friendly living and organic farming (Garruti, 2006), although specific environmental impact assessments of such systems are rare in the scientific literature. As no specific guidelines for environmental assessment have been developed yet, several vague and unclear environmental declarations of holiday farms can be found. These environmental declarations are based on green practices (such as the ones described in the framework of EU ecolabels for touristic activities) and clearly help to reduce resource consumption, but give no indication about life cycle-related GHG emissions. The only reference for the development of an environmental declaration for a tourist farm is the PCR (Product Category Rule) basic module on "Accommodation, food and beverage services" developed for the Environmental Product Declaration (EPD) system® (The International EPD® System, 2013). This document can, however, be used as a reference for declarations is several hosting structures or catering services and it is not specifically designed for hosting services in farms.

Therefore the aims of this paper are: (I) to validate recommendations given in the PCR basic module on "Accommodation, food and beverage services" for holiday farms thorough an actual case study; (II) to highlight key issues and to (III) give practical recommendations for the application of an environmental assessment method in holiday farms as a touristic activity.

1.2. Holiday farms

In Italy, holiday farms as part of agricultural systems are allowed only in accordance with specific rules that govern the connection with an agricultural activity, in fact, according to the Italian Civil Code (art. 2135); this kind of system is considered as mainly a food production system. According to the Italian Law 96/2006, agri-tourism activities are activities involving reception and hospitality performed by farmers, also in the form of a corporation or association, or associated with each other, through the use of their farms in connection with the activities of cultivation of the soil, forestry and animal husbandry. The market success of holiday farms in recent years is due to a number of factors; the most important is the possibility for the visitor to spend time in contact with nature, a difficult condition to achieve, especially in large cities (ISTAT, 2011).

The opening of a holiday farm, especially in areas that do not allow high agricultural production, may become an alternative source of income for the farmer and can also provide an opportunity to promote and protect the landscape and rural traditions. Moreover, the obligation to use their own agricultural production to feed their customers often leads farmers to cultivate ancient cultivars that would be unprofitable on the usual market, but may be a high value for self-sufficiency because they symbolise the defence of ancient traditions (Garruti, 2006).

The typical target for the holiday farms is represented by people between 30 and 40 years of age, with an annual income of medium–high level, who use the accommodation with their families for a period of about 10 days. The reasons that drive people to stay on a farm can be represented by the proximity with sites of cultural, artistic, religious and geographical interest (Garruti, 2006). For a farmer who wishes to undertake agri-touristic activities, education regarding the available rural heritage and demonstrating the value of its links with the territory is fundamental.

1.3. The need of indicators for sustainability labelling in touristic services

The purpose of the ecolabelling and/or certification schemes in tourism is to highlight the best practices for products and services, as well as to ensure more sustainable management or sustainable consumption in the tourism industry (Kapiki, 2012). Lee et al. (2010) conclude that incorporating green positioning into hotel operations is a prerequisite for the creation of a green hotel image that becomes a powerful operational tool in attracting and retaining more guests. Environmental labelling for tourism products is well known and widely used today. Most commonly, ecolabels in tourism refer to the (reduced) negative influences of tourism on the natural environment (Mihalic, 2003).

The last few years have seen a few key trends in ecolabels. One is the huge number of different ecolabelling programs worldwide and across different business sectors, covering social, ethical and safety issues, as well as environmental issues (Jordan et al., 2003; Rubik et al., 2005). This has generated some confusion amongst consumers and brand awareness of most labels (i.e. EU ecolabels) remains low (D'Souza et al., 2007). The second key trend can be seen in the business-to-business sector with the diffusion of voluntary ecolabels and sustainability standards (Rubik et al., 2005). The international society on the whole demands that the standards be global and well documented, transparent and trustworthy. This has led to the growth of a few 'super standards' that have become major global brands and are likely to cut out some of the smaller standards and labels (D'Souza et al., 2007). Key examples are the Fairtrade label, the Forest Stewardship Council and the Marine Stewardship Council. All have become well-known consumer brands as well as key supplier filters for global buyers (Jordan et al., 2003; Rubik et al., 2005). Today there are more than 800 different green certification programs for ecotourism, hospitality and tourism around the world. One of these is the ISO 14001 Environmental Management System (EMAS) that is the most commonly used worldwide (Lagodimos et al., 2007). The Reference Document on Best Environmental Management Practice in the Tourism Sector (European Commission, 2013), explains that EMAS and ISO 14001 are the most widely recognised environmental management systems (EMS). The document shows that, as of 2010, 254 tourism organisations had achieved EMAS registration. The 'hotels and similar accommodation' category has the largest number of EMAS registrations within the tourism sector, and the countries of Spain, Italy

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