Application of the European Tourism Indicator System (ETIS) for Sustainable Destination Management. Lessons from County Clare, Ireland

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Purpose – Despite indicators being regarded as ideal tools to help achieve sustainability in tourism, their application within Ireland remains under researched. Therefore, the purpose of this paper is to advance the knowledge base in the hospitality and tourism field by presenting baseline research from the first application of all forty-three of the indicators that make up the ETIS in County Clare, Ireland.

Design/methodology/approach - This study utilised the pre-existing visitor, enterprise and resident surveys that accompany the ETIS indicator system in a number of honey pot destinations within County Clare. This approach was complemented further through desk research to gather the necessary data on all forty-three core indicators of the ETIS.

Findings – While the application of the ETIS in County Clare constitutes a significant advancement towards evidence informed planning for tourism. There does exist a number of information gaps relating to specific core indicators of the ETIS. Which, if not monitored and benchmarked over time, could have serious ramifications for the future sustainability of tourism in Ireland.

Originality/value – This paper not only discuss the findings from the application of all forty-three core indicators of the ETIS in one specific destination, but also develops new knowledge on the use of tourism indicators and the move towards evidence informed planning for tourism. Furthermore, this study contributes significantly to the theoretical development of our field, as the ETIS has not been applied in its entirety throughout Europe.

Keywords: Sustainable planning for tourism; Destination management; European Tourism Indicator System (ETIS); Tourism indicators; Evidence informed planning for tourism; Ireland

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Introduction

In Ireland, the tourism industry had its best year in 2016, with sentiment across the sector at levels not seen since the days of the 'Celtic Tiger'. Fáilte Ireland (2016a) further state that tourism can deliver significant employment and foreign earnings towards 2020 and beyond. Undoubtedly, however, there will be more demands on Ireland's natural environment and the irreplaceable resources of many local communities. While the connection between tourism, sustainability and planning has never been closer (UNWTO, 2004) and continues to garner increased attention within academic circles (Dredge and Jenkins, 2011). Without an evidence informed approach to tourism planning, policy makers would be unable to anticipate future planning needs, thus potentially damage the future long-term sustainability of the tourism product (McLoughlin, 2017). While a series of sustainable tourism indicators applied in the field has been proposed at international level (Tudorache et al, 2017); which includes the European Commission's (EC) European Tourism Indicator System (ETIS) toolkit for sustainable destination management. To date, there is has been limited research on the application of such tools at local level throughout Ireland.

The aim of this study is to apply a recognised tourism indicator system (ETIS) at local level to both monitor tourism activity and facilitate an evidence informed approach to future tourism planning. The need for improved planning and policy when it comes to sustainable destination management is paramount as destinations are facing challenges with tourism intensities (Byers, 2016; Clampet, 2017; Goodwin, 2016; Jordan, 2016). In addition, the economic viability of tourism also needs constant monitoring, as it is an essential element of sustainability (Dwyer and Spurr, 2011). There has been limited research on examining the use of tourism indicators at local level throughout Ireland (McLoughlin, 2019). Therefore, this paper aims to address this gap in literature by discussing the application of the ETIS in County Clare. For the purposes of this study, the authors have defined 'local level' as the County of Clare, which includes a number of well-known tourist destinations (Cliffs of Moher, Shannon etc.). This definition also corresponds to the legal remit of the Local Authority and Fáilte Irelands definition of a destination for both data collection and operational issues. The Wild Atlantic Way Research Group (WAWRG) spearheaded the application of the ETIS as part of a wider project to provide a smart platform to drive the sustainable planning and management of tourism destinations based on evidence through recognised and established tourism indicators systems (ETIS). This multi-disciplinary group consists of researchers from several different institutions throughout Ireland (Institute of Technology Sligo, Shannon College of Hotel Management, National

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University of Ireland Galway, Letterkenny Institute of Technology and the Western Development Commission). The results from the indicators presented and discussed by the authors in this study are due in part through collaboration with the National Tourism Development Authority (Fáilte Ireland), the Central Statistics Office (CSO) and the Environmental Protection Agency (EPA) , together with the pre-developed ETIS resident, visitor and enterprise surveys. While the ETIS has been applied in, twenty-nine different destinations across Europe (see http://ec.europa.eu/growth/sectors/tourism/offer/sustainable/indicators_en). This is the first study to apply all forty-three indicators of the ETIS in one small destination, namely County Clare located along Irelands West Coast and on the Wild Atlantic Way. With the UNESCO Burren site and Cliffs of Moher Geopark together with historic towns such as Ennis, Bunratty and an international airport in Shannon, as a destination County Clare received over a million visitors in 2016 (Fáilte Ireland, 2016b). As such, this destination was chosen in consultation with the different partner institutions and the Western Development Commission.

Tourism Indicator Systems

The development of tourism has undoubtedly produced several negative effects, on the natural environmental (Lee and Hsieh, 2016; Needham and Szuster, 2011), economical (Cooper et al, 2008; Hanrahan and McLoughlin, 2015), social, cultural and seasonal income/employment (Logar, 2010; McLoughlin et al, 2018) impacts. Sustainable development has therefore become a necessity in the field of tourism planning, and destination management. The UNWTO together with the UNEP (2005, p12.) define the concept of sustainable tourism as:

> "Tourism that takes full account of its current and future economic, social, and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities"

One of the main challenges to emerge from these discussions has been the fixing and monitoring of the limits to growth in tourism (Sharpley, 2009; Torres-Delgado and Saarinen, 2013). Liu (2003) commenting on sustainable tourism development, warns that the measurement of sustainability is one of the issues that has to be addressed, as there is an urgent need to develop policies and measures that are not only theoretically sound but also practically feasible. With the above definition of sustainable tourism, the question remains whether it can actually be measured at local level (Modica et al, 2018). Mowforth and Munt (2016) did identify tourism indicator systems as one of their tools of sustainability that can be utilised in

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the tourism planning process. Yet it was Blancas et al (2015) who further clarified it is necessary to have in place a system of sustainable tourism indicators to both promote a sustainable form of tourism and stimulate the competitiveness of the sector. Indicators of sustainable tourism can be defined as:

> 'A set of measures that provide the necessary information to better understand the links between the impact of tourism on the cultural and natural setting in which this take place and on which it is strongly dependent' (WTO, 1996, p4).

This definition also shares similar characteristics with one of the earliest explanations of indicators put forward by Ott (1978) who discussed their ability to reduce complex data into a more logical form.

As noted by Blancas et al (2018) sustainable tourism indicators are quantitative measures of a sustainability dimension, while not conceived in an isolated manner, must be integrated into a coherent system of interrelated measures. A view similarly shared by Conaghan (2013) who discusses their ability to be flexible to existing management structures. Enabling them to quantify, assess, monitor, measure and communicate relevant information (Roberts and Tribe, 2008). Collectively, both definitions above view indicators as variables, which summarise or simplify relevant information. As such, the design of sustainable tourism indicators has become a common working strategy for many institutions (Torres-Delgado and Saarinen, 2013). Historically, as noted by Tudorache et al (2017) since the early 1990's, the UNWTO has developed several initiatives to apply sustainable tourism indicators for example, the publication "What Managers Need to Know: A Guide for Indicators in Sustainable Tourism", "indicators for Sustainable Development of Tourism Destinations: A Guidebook". More recently, with the support of the United Nations Statistics Division, the UNWTO (2017a) launched their Measuring Sustainable Tourism (MST) that aims to develop a framework for measuring tourism's role in sustainable development. However, research by Mcloughlin (2017) into the adoption of global tourism strategies by Local Authorities in Ireland, who are legally responsible to plan for tourism, has found none to date has penetrated into the legally required Local Authority development plans.

Aside from the UNWTO, several academics too have proposed and developed a number of dynamic indicator systems that are both theoretically and practically rigorous and useful. Blancas et al (2018) presented a vectorial composite indicator, called Differential Dynamic

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Index (DDI) that is defined via two components, which the authors applied on the coastal municipalities of Andalusia in Southern Spain. In addition, Torres-Delgado and Palomeque (2018) proposed the ISOST Index as a tool for studying sustainable tourism, which are based on a system of indicators calculated in municipalities that are representative of the different tourist areas and environments of Catalonia, Spain. One benefit of their ISST Index according to Torres-Delgado and Palomeque (2018) is its ability to define thresholds and apply the methodology to other destinations in order to establish their level of sustainable tourism. In Ireland, tourism indicator systems have been discussed at national level. The DIT ACHIEV Model received funding of €317,000, and was designed to mitigate the impacts of tourism (Griffin, Morrissey and Flanagan, 2010), and is endorsed by Fáilte Ireland (the national tourism development authority for Ireland). Despite this, this comprehensive and detailed indicator system still has not been implemented within Ireland or elsewhere. McLoughlin (2017) concluded that despite the importance of such tools in ensuring the future sustainability of the local tourism industry through data collection and monitoring, few studies have been conducted on the use of tourism indicator systems in Ireland.

Regarding the role of the European Commission (EC), it continues to place sustainable development at the core of its policy framework when it comes to tourism. As far back as 2006, the statistical office of the European Union – Eurostat – developed a Manual on Sustainable Development Indicators of Tourism (Eurostat, 2007). As noted by Tudorache et al (2017) this manual contained a set of 20 core indicators of sustainable tourism, together with descriptions of each indicator. While, previous studies have used social, economic, and environmental indicators of sustainability to assess sustainable tourism practices, their findings do suggest that they are necessary to objectively measure the degree of such practices' sustainability (Choi and Sirakaya, 2006; Lee and Hsieh, 2016; Lozano Oyola et al., 2012). Furthermore, the continued growth of tourism numbers to EU member states, including Ireland, has resulted in a greater awareness of the importance of destination management. Consequently, many destinations have had to adapt their approach to tourism planning in order to ensure the long-term sustainability of the industry. However, despite indicators acting as a catalyst in supporting a future sustainable planning process through an evidence based approach (Twinning-Ward and Butler, 2002). Sirakaya et al (2001) do warn that indicators are not a panacea for poor development and planning. In fact, their effectiveness is dependent on the quality of the indicators themselves and the effectiveness of their use (Sirakaya et al, 2001:25). McLoughlin (2017) also alluded to the lack of legislative enforcement and funding as key

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issues affecting the implementation of indicators at local level. Furthermore, Torres – Delgado and Saarinen (2013) in their study of using indicators to assess sustainable tourism development highlight issues relating to data availability and baseline knowledge affecting the ability of indicators to achieve the ideals of sustainable tourism development. This appears to contradict the view that using quantitative tools can improve the level of sustainability through the interactions between social, economic and environmental aspects (Penny and Li, 2013; Blancas et al, 2018). Despite the aforementioned difficulties relating to tourism indicator systems, developing a system of indicators for the sustainable management of a destination was in fact a key theme in the political framework for tourism in Europe launched by the EC back in 2010 (Tudorache et al, 2017). The EC then expanded on this, and in 2013 launched the European Tourism Indicator System (ETIS), a complete downloadable toolkit, for the sustainable management of tourism destinations.

The European Tourism Indicator System (ETIS)

The European Commission launched the European Tourism Indicator System (ETIS) in 2013, with the aim helping destinations to monitor and measure their sustainable tourism performance, by using a common comparable approach (EC, 2016). As Volo (2015, p.227) puts it:

> 'An indicator is a measure of the existence of some issues or phenomena of interest used to describe an aspect of a society, macro-societal activity or geographical area or to point out to changes in these factors' (Volo, 2015, p. 277).

While composite indicators are a combination of individual indicators that characterise different dimensions of a particular concept (Saisana and Tarantola, 2002; Mendola and Volo, 2017). Elementary or individual indicators however, as argued by Volo (2015) are developed from a single input variable, thus allowing for easy comparisons over time. The feasibility and practicality of this elementary indicator toolkit was tested through two pilot phases over a 2-year period. More than 100 destinations across Europe implemented and tested ETIS and provided the EC with feedback about their experience. The current 2016 edition of the ETIS Toolkit is the result of this revision and according to the EC (2016), it provides destinations with a fully tested system and a more realistic set of core indicators. In this current edition, the indicators are divided into a number of categories (Destination Management, Economic Value,

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Social and Cultural Impact and Environmental Impact). The study, through its application in County Clare, sought to obtain data on all 43 indicators.

Destination Management

The first category of the ETIS contains the indicators relating to destination management. While research shows that policymakers have begun to embrace behavioural economics in decision-making (Bhargava and Loewenstein, 2015, Park et al, 2018). There has been a radical change in the perceptions of local people towards tourism and in many destinations; a tipping point has been reached where mass tourism has become a political issue (Goodwin, 2017). While the destination management indicators of the ETIS could provide valuable data on tourist satisfaction levels to aid policy makers in future planning decisions (McLoughlin, 2017). According to both Cernat and Gourdon (2012) and Miller, Simpson and Twinning-Ward (2012), the destination management indicators of the ETIS have also benefited from significant progress in the definition of indicators for the sustainable management of tourism destinations.

Economic Value

There continues to be a symbolic relationship between tourism arrivals and the generation of income, employment and regional and local development (Mason, 2016). Moreover, according to Cooper et al (2008), the economic impact of tourism activities tends to be estimated based on the number of arrivals, receipt per tourist, average length of stay and other economic indicators. However, the low dispersals of visitor arrivals to Ireland's west coast, away from the overcrowded Dublin market, is a cause for concern. Despite the attractiveness of the WAW, and the heavy marketing campaigns and infrastructure development. Arrivals to destinations along the WAW was just over two million domestic and overseas visitors generating revenue of €499 million. Whereas, if you compare that to Dublin who received over seven million visitors in 2017, generating €2 billion in revenue (Fáilte Ireland, 2018). It is clear there is an uneven geographical dispersion of visitors. Therefore, the economic indicators contained within the ETIS can allow policy makers across Ireland to determine both the expenditure of tourists within the destination and their overall length of stay. These are considered essential components of any sustainable planning approach to tourism (McLoughlin, 2017). While also providing tourism enterprises in county Clare with valuable information on spending patterns. However, while the economic benefits of tourism for the host community and destination are considered by the ETIS as the degree of sustainability's most decisive economic aspect

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(Blancas et al, 2015). Considering that Andersson and Lundberg (2013) documented that visitor expenditure always has an alternative use to that identified by the collection of information. Therefore, the tourism demand, the influence of tourism activity on the employment level registered in other economic sectors and the sector's contribution to the economic activity in the destination are also important (Blancas et al, 2015). Besides, an assessment of this opportunity cost is imperative for the complete estimations of the economic impact of tourism (Crompton, 1995).

Social and Cultural Impact

Increasingly tourism destinations are having to tackle many social and cultural challenges. Pearce (2000) identified that, with any indicator system, the social dimension quantifies the involvement of local communities in the various tourism activities. While Lee and Hsieh (2016) in their development of indicators of sustainable tourism for Taiwan's wetland focused on the affect and disruption of tourism on residents' way of life. The ETIS, on the other hand, reflects on the issues of overcrowding in tourist destinations and its relationship with environmental destruction, a topic that has been discussed in previous studies (Hughes, 2002; Mazanec, Wöber, and Zins, 2007; Santana-Jiménez and Hernández, 2011). In addition, with Ireland looking to grow visitor numbers to 10.8 million (Tourism Ireland, 2017b), issues of overcrowding may materialise, particularly in destinations similar to County Clare located along the WAW if not properly managed. Reflecting on the connection between tourism and heritage, both Sasaki (2004), Alberti, and Giusti (2012) discuss how regions are building their competitiveness by leveraging their cultural heritage. In fact three out of five (64%) overseas holidaymaker's point to Ireland's history and culture as a crucially important factor in their choice to come here, with three quarters (74%) registering a high satisfaction rate with what they find here (Fáilte Ireland, 2013). The ETIS can however, provide essential data on the relationship between tourism and social and cultural sustainability at local level, which policy makers can benchmark year on year.

Environmental Impact

The environmental impact caused by tourism on destinations has for decades been at the core of several theoretical discussions (Amuquandoh, 2010; Buckley, 2011; Davenport and Davenport, 2006; Geneletti and Dawa, 2009; Griscom and Ashton, 2011; Hiltunen, 2007; Holden, 2008; Hanrahan and McLoughlin, 2016). While the environmental indicators that

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make up the ETIS do cover a number of aspects relating to environmental protection. Many of these are in fact essential in insuring Ireland's clean green image abroad, such as: reducing the impact of transport, waste treatment and energy use. However, the environmental behaviour of tourists often depends on socioeconomic and demographic factors. For example, Dolnicar, Crouch and Long (2008) identified a consensus in the literature that tourists with pro-environmental attitudes who leave a low environmental footprint at the destination are more educated and have a higher income, while the relationship with age, gender and socio-demographic characteristics is mixed. Thus, a good position in one of the environmental indicators may reflect a different composition of tourists. Besides Ireland's, natural landscape is often a key motivational factor for tourists. With many exhibiting a pro environmental behaviour. Such data could also prove beneficial in helping to establish the root causes of negative environmental impacts from tourism along the WAW.

Methodology

Study site and sampling

The authors focused the application of the ETIS on the destination of County Clare, located in Ireland's Mid-West region. County Clare, being an active tourism destination, was chosen in collaboration with Western Development Commission (WDC) and with the support of the WAWRG. The authors used the Local Authority county boundary as the destination parameter due to the legal remit for Local Authorities in planning for tourism related infrastructure.

As noted by Denscombe (2003), surveys are a popular method for investigating attitudes and actions. Therefore, the authors utilised the three pre-existing surveys (resident, visitor and enterprise) that accompany the ETIS tool-kit. Similar to Modica et al (2018), for this study, the authors followed a stratified random sampling procedure, when carrying out the resident, visitor and enterprise surveys in County Clare. Besides, Pulina, Meleddu and Del Chiappa (2016) in their study on the factors that influence resident's choice of a tourism in Italy also employed a stratified sampling approach. While Xu et al (2016) also used this procedure to study residents' perceptions of wine tourism development in terms of personal benefits and community impacts within the United States. This study therefore, employed stratified random sampling to ensure an adequate cross section representation of both tourists and enterprises.

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Data Collection

The ETIS website contains of a number of tools to collect and collate information on tourist destinations. This includes the pre-developed surveys, destination indicator data sheet together with a destination profile sheet. The purpose of this study was to gather the necessary data on the 43 indicators of the ETIS in County Clare. This includes the 21 core indicators and the 22 optional indicators. Preliminary research was desk-based and the authors investigated the availability of information held by organisations (CSO, Fáilte Ireland, etc.) on the various indicators. In some instances, data was not directly available in literature for specific indicators but involved calculations based on available data through formulas provided by the ETIS for the calculation of a variety of indicators (these are all contained within the ETIS Data Sheet http://ec.europa.eu/DocsRoom/documents/15849). It should be noted that the authors determined the individual indicator data calculations, including those from the three pre-developed surveys, through the formulas provided by the ETIS in the Data Sheet. By employing a 95% confidence level with an 8%, standard deviation, the authors carried out the resident and visitor surveys in 'honey pot' destinations along the WAW in County Clare over the months of August and early September 2017, this resulted in a sample of 157 visitors, 157 residents and 108 tourism enterprises (see Table 1). The decision to carry out the data collection at these locations was due the high footfall, thus facilitating expeditious and efficient collection of data on tourism activity.

Table 1.0 Demographic Breakdown of Sample

All visitor and resident surveys were completed face to face, and all questions were read out in full and explained were necessary. Regarding tourism enterprises, the sample included different businesses such as accommodation, catering, entertainment, and outdoor recreation and transport providers to encompass a suitable cross section of tourism enterprises. As such, the authors determined that the most suitable option was to conduct the surveys over the phone. However, a number of these were conducted face to face. The response rate for all three surveys was exactly the recommended sample size.

Analysis

All the elements collected from each of the three surveys were recorded into numerical variables using SPSS Software. Once analysed, all data was then manually inputted into the ETIS datasheet for County Clare. Following the data analysis, the findings were then explored

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and discussed in the context of current theory, starting with the destination management indicators (Section A), followed by the economic value indicators (Section B), the social and cultural indicators (Section C) before concluding with the environmental impact indicators (Section D). However, while the ETIS does provide targets for several indicators, it is necessary for destinations to establish and agree their own if comparative information already exists.

Results

Section A: Destination Management

Discussions on certification have highlighted its usefulness as a key tool in the sustainable management of tourism (Bien, 2007; Conaghan, 2013; Honey 2002). Results from indicator A.1.1 illustrate that over half of tourism enterprises in County Clare had an independent verification of their sustainability practices in place. Specific certification did differ from business to business and covered voluntary certification, labelling for environmental quality and corporate social responsibility, all potentially contributing to greater levels of sustainable destination management. Besides, Esparon, Gyuris and Stoeckl (2014) do note how customers of certified providers generally state higher satisfaction levels.

Table 2.0 Destination management indicators

Findings from indicator A.2.1 did in fact emulate findings from Fáilte Ireland's visitor attitude surveys (Fáilte Ireland, 2015). Furthermore, successful destination management can be a major factor in determining repeat visitors. In County Clare, the percentage of repeat/return visitors (A.2.2) was in fact found to be low (22%). Repeat visitors tend to revisit a destination when they feel satisfied with the particular attributes (Pereda, 2003; Kozak, 2000, 2001). This could help ensure the future ongoing sustainable economic growth of the local tourism industry in County Clare.

Section B: Economic Value

Tourism is often viewed as an important instrument for economic growth and development (Hanrahan and McLoughlin, 2015; Tang and Tan, 2013; Webster and Ivanov, 2014). Data from indicator B.1.1 illustrate that County Clare is receiving a significant number of both overnight and same day visitors per month. These arrivals can make a significant contribution to the local economy reflected in the contribution of tourism to Irelands national GNP, achieved through

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visitor spending, which was €153.96 per tourist (B.1.4). In comparison to same day visitors, again there was a substantial level of tourist expenditure with an average daily spend being €58.75 per same day visitor (B.1.5).

Table 3.0 Economic value indicators

It is this visitor spending and the frequency of overnight stays together with day trips that support employment in the tourism sector. Through the enterprise surveys, it was determined that 11% of jobs in the tourism sector in County Clare were seasonal (B.3.2), a figure well short of the suggested average noted by the EC (EC, 2016). In terms of destination management, findings could suggest that County Clare with its wide quantity and variety of tourist and para-tourist activities is not heavily exposed to seasonal variations. As noted by Franzoni (2015), tourism as an industry gives significant weight to employment creation. Results from indicator B.3.1 help to support the relevance of tourism as a driver of direct employment in County Clare (13%). This finding helps to support Fáilte Ireland's (2016a) claim that tourism in Ireland is well placed to deliver significant employment and foreign earnings towards 2020 and beyond. However, this indicator would need to be constantly monitored going forward. Yet, according to Fáilte Ireland (2017a), the occupancy rate across all commercial accommodation providers (hotels, caravan parks, hostels etc.) for the year in County Clare was 51% (B.2.2). Nevertheless, this figure is well below the suggested target of 64% (for all accommodation types) discussed by the EC (EC, 2016). Data from Table 4.0 (below) shows that for every 100 residents in County Clare, there is 849 visitors (C.1.1). While the popularity of the informal accommodation sector (Airbnb) could be influencing the official figures for occupancy rates in County Clare. Future sustainable destination management needs to consider the high penetration rate of tourists to residents, as this could, according to both Gravari-Barbas and Guinand (2017) and Nieuwland and Van Melik (2018), have other significant social and cultural impacts such as overcrowded city centres and rising rents.

Section C: Social and Cultural Impact

The ever-increasing popularity of key tourism products in county Clare such as the Cliffs of Moher can potentially create problems for destination management. Despite the high densities of tourists and second home ownership, through the ETIS, the authors were able to determine that for indicator C.1.2, 68% of locals were satisfied with tourism, with 48% of locals were satisfied with tourism's impact on the county's identity (C.5.1). This supports findings from

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previous studies were residents often perceive tourism development as affecting cultural identity, traditions, and regional character (Andereck et al., 2005; Ap, 1990; Nunkoo and Ramkissoon, 2011). However, the authors were unable to get seasonal variations due to the nature of the pre-developed resident survey.

Table 4.0 Social and cultural indicators

According to Buckley and Klemm (1993), fear and insecurity are major barriers to travel, with personal security a major concern with most tourists willing to seek safe and secure destinations (Liu and Pratt, 2017). Data published by the Irish Tourist Assistance Service (ITAS) (2016) shows that Clare is not experiencing some of the safety and security issues evident in other destinations around Europe. However, sustainable management of tourism not only aims to address safety and security but other key challenges such as gender and minority opportunities and seasonal employment (Baum et al, 2016). Although tourism presents both opportunities and challenges for gender equality and women's empowerment, females occupied over half of all general manager positions of the enterprises surveyed (C.3.2). This finding could act as a baseline for future studies focusing on gender equality and sustainability in the Irish tourism industry.

Inclusion and accessibility were also major themes within the context of equality and sustainability. As noted by Israeli (2002) for people with disabilities a foundation of any experience is having accessible destinations. However, destination specific data was not available regarding the accessibility of the public transport network (C.4.3); the authors had to include an overall national figure for Ireland. Furthermore, Darcy (2002, 2010) highlights the need for locating appropriate accommodation. While more than, half of rooms in commercial accommodation were accessible to people with disabilities (C.4.1). The uptake of recognised accessible information schemes by commercial accommodation was low, with only half of tourist attractions found to be participating in such schemes (C.4.4). Future destination management needs to acknowledge that greater accessibility by tourism enterprises and attractions not only makes good financial sense, but also has the potential to promote social and environmental objectives.

Section D: Environmental Impact

Travel is a key component of tourism, and one of the principal sources of environmental impacts (Buckley, 2011). Indicator results on distance travelled and mode of transport point to

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travel having a significant impact on the average carbon footprint of visitors to County Clare. This figure was analysed by the authors using the EPA recommended calculator (Carbon Footprint Ltd) and accounted for tourist air travel, sea travel car and public transport from home to the destination of County Clare. When accounting for the return journey (436kg CO2) and compared to other destinations this figure is relatively low. Juvan and Dolnicar (2017) do suggest that tourists can actively reduce their emissions by choosing sustainable modes of transport; however, this needs to be addressed within destination management policy. While the ETIS indicators on the selection of the green transportation modes do appear vague. This study does suggest a need for more detail and measurement on environmental transport modes when it comes to tourism in Ireland.

Table 5.0 Environmental impact indicators

As discussed by Siddiqui and Imran (2018) in their study on the impact of climate change on tourism, extreme weather events due to climate change (flood, drought, wildfire, etc.) can influence tourist activity as well as their safety. With more than a quarter of tourism enterprises in Clare located in "vulnerable zones", this does raise the possibility of climate related vulnerability in the future. Destination management in Clare needs to recognise the impact climate change can have on the future economic viability of tourism. Furthermore, there is a low uptake of climate mitigation schemes by tourism enterprises. The authors must stress the importance of the integrity of the enterprises here as can be easy to state you are mitigating this with a tokenistic gesture. These enterprises are genuine and seem to be avoiding any potential move towards greenwashing.

The relationship between tourism growth and waste generation has been the subject of limited research (Arbulú, Lozano and Rey-Maquieira, 2015). Indicator data here does provide baseline data on tourist activity and waste generation, thus contributing towards the future sustainable management of tourism. However, the ETIS survey does not require information on the level of segregation i.e. dry recyclables vs. organic waste. In addition, information was currently unavailable on the percentage of waste recycled per tourist (D.3.3) and this area requires further investigation. Murava and Korobeinykova (2016) noted how the problem of sustainable waste management is becoming increasingly relevant in many tourist destinations. Data was obtained from the EPA for the various wastewater treatment plants in County Clare and the authors related this figure to the population equivalent served by each plant and the treatment level achieved. It was found that while wastewater management within destinations is a key indicator

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of sustainability (EC, 2013); this is not a significant problem for County Clare. Gössling et al, (2012) notes that tourists in Ireland consume approximately 150 litres of water per tourist night, which is similar to both Austria but less than the UK (200 litres per tourist night). With baseline data acquired on water saving programmes in County Clare. Looking forward, the UNWTO (2013) stresses the need for continued awareness on the importance of water conservation among tourists and tourism establishments.

Discussion

Discussions within academia highlight issues relating to both measuring sustainability (Liu, 2003) and whether it can actually be measured (Modica et al, 2018). However, results from the application of the ETIS in County Clare have shown that elementary indicators can provide a starting point to assess the impact of tourism at local level, thus contributing to improving future sustainable management. McLoughlin et al (2018: p87) suggests that this evidence informed planning for tourism is the way forward to help ensure its future sustainability. Such an approach as noted by McLoughlin and Hanrahan (2019), unfortunately suffers from a lack of enthusiasm among Local Authorities who are legally responsible for managing and developing tourism at destination level throughout Ireland.

According to Lejárraga and Walkenhorst (2010), visitor spending throughout the different sectors drives tourism economic growth. This spending supports the local tourism industry, and provides real benefits to the local population, thus one of the more prevalent reasons for destinations to seek out tourism as a form of economic development (Nickerson, Jorgenson and Boley, 2016). So when the visitor spending patterns in County Clare are compared to European averages and taken together with the average length of stay, it is clear that as a destination, County Clare is receiving a significant yield from the presence of overnight and same day visitors. Similarly, according to data available from Eurostat (2015) the occupancy rate in commercial accommodation in County Clare shares similarities with other coastal destinations within Europe such as Nordjyland in Denmark (45-55%), Mellersta Norrland in Sweden (35-45%) and Lansi -Saomi in Finland (55-65%). However, discussions on tourist spending patterns have in fact suggested that the rationale behind engaging in such studies falls within the purely ‘formal’ or economically driven mind-set where destinations are trying to maximize tourism expenditures for economic development (Nickerson, Jorgenson and Boley, 2016). With 13% of total employment directly derived from tourism, together with low seasonality and 43% of tourism enterprises sourcing local good and services, it is evident that

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tourism is playing a significant role in economic development in County Clare. However, as noted by the EC (2016), how tourism should use natural and social resources to gain economic benefits continue to be an integral element of the ongoing debate around the principles of sustainable development and sustainability.

Issues associated with overcrowding in tourism destinations; together with the associated environmental destruction has been the focus of several academic studies (Hughes, 2002; Mazanec, Wöber, and Zins, 2007; Santana-Jiménez and Hernández, 2011). As such, one possible origin for low resident satisfaction with tourism in County Clare could be down the number of tourists per 100 residents (i.e. penetration ratio) which the authors established to be 849 tourists per 100 residents. Such encounters, as highlighted by both Bimonte and Punzo (2011) and more recently by Lin, Chen and Filieri (2017), can lead to potential conflicts between visitors and hosting population. Therefore, future research needs to examine visitor travel patterns further, and the potential impacts on the identity of County Clare, using benchmarks and indicators from other destinations affected by anti-tourist sentiments.

Miller (2001) previously examined the suitability of measuring gender equality in tourism through indicators, were he discussed its importance in redressing the imbalance of gender within the industry. While women in County Clare might encounter barriers to participating in the tourism economy, the results show that 41% of women are employed within the local tourism sector. Gender equality in tourism, is an under-researched area in Ireland. Perhaps future research could examine this issue reflecting on the findings from this study and building on research by Costa et al (2017) who highlight how the number of women participating in the tourism industry has increased, mainly through tourism development programs that encourage women to become female entrepreneurs.

Regarding inclusion and accessibility in tourism, a growing body of work has examined the processes required to incorporate disability related considerations within tourism policy, planning and development (Vila, Darcy and Gonzalez, 2015). The reason why people with accessibility requirements are not served adequately by the travel and tourism industry is a combination of both a lack of tourism product supply and inadequate information (Sustainable Tourism Cooperative Research Centre, 2008). The authors were able to generate data on the percentage of rooms in commercial accommodation accessible to people with disabilities, which is not far off the number of hotel establishments in the city of Famagusta on the east coast of Cyprus (Visit Cyprus, 2018). While there has been momentous achievements towards

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making tourism accessible for visitors with disabilities in Ireland (Cavan County Council, 2017). Data collected over time by destinations through the ETIS can inform long-term strategy and policy and integrated into future marketing and communication plans.

The average carbon footprint of tourists and same day visitors travelling to County Clare is relatively low. In comparison, the average tourist carbon footprint found for Iceland was 1.350 tons of CO2-eq (Sharp, Grundius and Heinonen, 2016) and was 925kg of CO2 for the average German tourist beach holiday to Majorca (WWF 2002). The EC inclusion of average Domestic tourist CO2 into the ETIS CO2 formula for this indicator and the close proximity to the largest source market (Britain) could have influenced the 436kg CO2 for County Clare. While air transportation to County Clare may have accounted for most of the CO2 emissions. Reducing the transport impact and the reliance on the close British market may very well play a crucial role in keeping CO2 emission from tourist transportation low. However, given the large number of Chinese and Indian travellers who are now travelling globally, and possibly to Ireland, the authors cannot suggest recommending a reliance on the British tourist since their carbon emission are the lowest. Focusing on the British tourist would perhaps not lead to the same level of economic benefit as a higher spending international tourist from China or India. How the ETIS or any other indicator system account for the interplay between indicators, as opposed to looking at the indicators individually is perhaps a shortcoming of any study, and this need acknowledgement by the authors.

Adequate wastewater treatment systems are critical to guarantee environmental quality of coastal regions and according to Gabarda-Mallorquí et al, (2016) require an actual political commitment by public administration through adequate investment. Nationally across Ireland, raw sewage ‘still enters the environment untreated each day in forty-four urban locations around Ireland’ (Kevin O’Sullivan, Irish Times 24/10/2017). At the time of carrying out this research, a number of wastewater treatment plants in County Clare are undersized i.e. not originally designed to treat the volume of wastewater currently it was receiving. Yet, it needs to be stressed that the under capacity of these wastewater treatment plants was not taken into account by the authors. While previous studies have examined the environmental cost of sewage treatment from hotels in Hong Kong (Chan, Wong and Lo, 2009). Through the application of the ETIS, destinations could move towards safeguarding the long-term sustainability of tourism by measuring and monitoring the impact of wastewater over time.

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Scott (2011:27) notes, "dealing with climate change is increasingly considered a prerequisite to sustainable development". Given there is a drive towards the sustainable management of tourism destination's within the EU (McLoughlin and Hanrahan, 2015). The connection between the tourism industry, water and energy consumption in Clare remains unclear. Becken and Hay (2007) noted in their discussion on risks and opportunities in the context of tourism and climate change, that tourism enterprises in Queensland adopted a range of carbon mitigation actions in reducing energy use, improving energy efficiency, increasing the use of renewable energy sources, and sequestering carbon through sinks. While results from this study share similar results among tourism enterprises in County Clare. Several studies have discussed various barriers faced by tourism businesses in adopting carbon mitigation schemes (Carmody and Zeppel, 2009; Nelson, 2010; Zeppel and Beaumont, 2014). Future research on mitigation of climate change within the Irish tourism industry should be initiated and the relationship between energy consumption per tourist night and level of service and occupancy rate in county Clare should be investigated.

Conclusion

This study contributes to an under researched area on evidence informed planning for tourism, by demonstrating that the application of the ETIS provides a useful tool for monitoring the economic, social and environmental performance of destinations, while aiming to improve future sustainable management. Findings reveal the importance of working with stakeholders within the destination boundary of County Clare. The support of the National Tourism Development Authority (Fáilte Ireland), the Central Statistics Office (CSO) and the Environmental Protection Agency (EPA) eased the collection of centrally compiled statistics for the indicators within the toolkit (see Table 6.0 in appendix 1). While the core indicators, which compromise the ETIS, cover the main dimensions of sustainability. Tudorache et al (2017) were the first study to discuss the difficulties and challenges in applying the ETIS in Brasov County in the Romanian Carpathians. Based on the application of the ETIS in County Clare, the authors do recommend that a few simple modifications in the statistical culture and collection of this data by agencies, at local level in Clare and at national level in Ireland, could also improve the implementation of joint procedures, supported by new technologies that facilitate the collection of statistical data. At the EU level, it is necessary to compound the implementation of standard indicator systems and perhaps provide an in-depth manual or an interactive online teaching tool to increase sustainability policies and facilitate planning processes. In addition, it is recommended that indicator systems would benefit from the

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development of practical methodologies to support their use. The continued support and assessment of destinations experiences through the evaluation of the ETIS could also be of significant support for both public and private planning processes.

This study conducted by the WAWRG is the only application of all forty-three elementary indicators that comprise the ETIS in this tourist destination, at local level and is thus different from Torres-Delgado and Saarinen (2013) and Modica et al (2018) studies. Yet, to ensure future compliance and the effectiveness of indicator data in the tourism planning process, it is essential to implement a regulatory instrument at EU, National and Local level, requiring the benchmark use of these sustainable tourism indicators. This will, however, require investment in education, promotion, and training as previously noted by McLoughlin (2017). Furthermore, research on tourism's contribution to climate change is hampered according to Scott and Becken (2010) by issues relating to data availability. Based on the results from this study in County Clare, from an evidence informed planning and destination management perspective, the ETIS tool clearly has significant potential in providing valuable data to address some of the concerns raised.

Appendix 1

Table 6.0

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Table 1.0 Demographic Breakdown of Sample

Demographic Breakdown of Sample		
Visitors (n= 157)	**% share**	**n**
Male	50%	n=78
Female	50%	n=79
Age		
>25	25%	n= 39
25-34	25%	n= 39
35-44	25%	n= 40
45+	25%	n= 39
Country of origin		
United Kingdom (Britain and Northern Ireland)	25%	n= 39
Mainland Europe (France, Germany, Italy, Spain, Netherlands, Belgium, Denmark, Sweden, Switzerland, Austria, Norway, Poland and other)	25%	n= 40
North America (USA and Canada)	25%	n= 39
Rest of the World (Australia, New Zealand, Other Oceania and Other areas)	25%	n= 39
Residents (n= 157)	**% share**	**n**
Doolin	25%	n= 40
Lahinch	25%	n= 39
Crusheen	25%	n= 39
Doonbeg	25%	n= 39
Tourism Enterprises (n=108)	**% share**	**n**
Accommodation	18%	n= 20
Catering	17%	n= 18
Entertainment Provider	15%	n= 16
Outdoor Recreation Provider	19%	n= 21
Transport	16%	n= 17
Other	15%	n= 16

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Table 2.0 Destination management indicators

Criteria	Indicator Ref	Indicator	Suggested Target	Destination Result
A.1 Sustainable Tourism Management in Tourism Enterprises	A.1.1	Percentage of tourism enterprises/establishments in the destination using a voluntary certification/labelling for environmental/quality/sustainability and/or Corporate Social Responsibility measures	No EC Target	53%
A.2 Customer Satisfaction	A.2.1	Percentage of tourists and same day visitors that are satisfied with their overall experience in the destination	99%	99%
	A.2.2	Percentage of repeat/return visitors (within 5 years)	No EC Target	22%

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Table 3.0 Economic value indicators

Criteria	Indicator Ref	Indicator	Suggested Target	Destination Result
B.1 Tourism Flow (volume & value) at the Destination	B.1.1	Number of tourist nights per month	No EC Target	203,250
	B.1.2	Number of same day visitors per month	No EC Target	34,916
	B.1.3	Relative contribution of tourism to the destination's economy (% GDP)	No EC Target	4.4% (N-GNPI)
	B.1.4	Daily spending per overnight tourist	€64	€153.96
	B.1.5	Daily spending per same day visitor	€42.84	€58.75
B.2 Tourism Enterprise(s) Performance	B.2.1	Average length of stay of tourists (nights)	5.4	3.1 (overseas) 4.3 (domestic)
	B.2.2	Occupancy rate in commercial accommodation establishments per month and average for the year	64%	51%
B.3 Quantity and Quality of Employment	B.3.1	Direct tourism employment as percentage of total employment in the destination	3.3%	13%
	B.3.2	Percentage of jobs in tourism that are seasonal	24%	11%
B.4 Tourism Supply Chain	B.4.1	Percentage of locally produced food, drink, goods and services sourced by the destinations tourism enterprises	No EC Target	43%

Source: modified and adapted from (Fáilte Ireland, 2017ab; Central Statistics Office, 2011; ETIS visitor, resident and enterprise surveys)

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Table 4.0 Social and cultural indicators

Criteria	Indicator Ref	Indicator	Suggested Target	Destination Result
C.1 Community/Social Impact	C.1.1	Number of tourists per 100 residents	446.3	849
	C.1.2	Percentage of residents who are satisfied with tourism in the destination (per month/season)	No EC Target	68%
	C.1.3	Number of beds available in commercial accommodation establishment per 100 residents	5.7	8.5
	C.1.4	Number of second homes per 100 homes	No EC Target	10.8
C.2 Health and Safety	C.2.1	Percentage of tourists who register a complaint with the police	No EC Target	>1%
C.3 Gender Equality	C.3.1	Percentage of men and women employed in the tourism sector	49% F	41% F
	C.3.2	Percentage of tourism enterprises where the general manager position is held by a woman	22%	53%
C.4 Inclusion/Accessibility	C.4.1	Percentage of rooms in commercial accommodation establishments accessible for people with disabilities	No EC Target	62%
	C.4.2	Percentage of commercial accommodation establishments participating in recognised accessibility information schemes	No EC Target	28%
	C.4.3	Percentage of public transport that is accessible to people with disabilities and with specific access requirements	No EC Target	70% (N)
	C.4.4	Percentage of tourist attractions that participating in recognised accessibility information schemes	No EC Target	50%
C.5 Protecting and Enhancing Cultural Heritage, Local Identity and cultural Assets	C.5.1	Percentage of residents that are satisfied with the impacts of tourism on destination's identity	No EC Target	48%
	C.5.2	Percentage of the destination's events that are focused on traditional/local culture and heritage	No EC Target	56%

Source: modified and adapted from (Fáilte Ireland, 2016, 2017a; CSO, 2011, 2016, ETIS resident and enterprise surveys, ITAS, 2017; Clare Tourism, 2016; Tourism Ireland, 2017a)

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Table 5.0 Environmental impact indicators

Criteria	Indicator Ref	Indicator	Suggested Target	Destination Result
D.1 Reducing Transport Impact	D.1.1	Percentage of tourists and same day visitors using different modes of transport to arrive at the destination	No EC Target	31%
	D.1.2	Percentage of tourists and same day visitors using local/soft mobility/public transport services to get around the destination	15.1%	20%
	D.1.3	Average travel (km) by tourists and same day visitors from home to the destination	No EC Target	2584km
	D.1.4	Average carbon footprint of tourists and same day visitors travelling from home to the destination= TV (For International only see IV. The ETIS requests one way, for a round trip the figures need to be doubled).	No EC Target	TV=218 kg CO2 IV= 333kg CO2
D.2 Climate Change	D.2.1	Percentage of tourism enterprises involved in climate change mitigation schemes—such as: CO_2 offset, low energy systems, etc.—and "adaptation" responses and actions	No EC Target	9%
	D.2.2	Percentage of tourism accommodation and attraction infrastructure located in "vulnerable zones"	No EC Target	29%
D.3 Solid Waste Management	D.3.1	Waste production per tourist night compared to general population waste production per person (kilos)	No EC Target	R=0.73kg T=1.5kg
	D.3.2	Percentage of tourism enterprises separating different types of waste	No EC Target	78%
	D.3.3	Percentage of total waste recycled per tourist compared to total waste recycled per resident per year. R= residents	23%	R=67%
D.4 Sewage Treatment	D.4.1	Percentage of sewage from the destination treated at least at secondary level prior to discharge	No EC Target	82%
D.5 Water Management	D.5.1	Water consumption per tourist night compared to general population water consumption per resident night	No EC Target	150(N)
	D.5.2	Percentage of tourism enterprises taking actions to reduce water consumption	No EC Target	30%
	D.5.3	Percentage of tourism enterprises using recycled water	No EC Target	22%
D.6 Energy Usage	D.6.1	Energy consumption per tourist night compared to general population energy consumption per resident night. R= residents T= Tourists	No EC Target	R=49.68MJ T=226MJ
	D.6.2	Percentage of tourism enterprises that take actions to reduce energy consumption	No EC Target	60%
	D.6.3	Percentage of annual amount of energy consumed from renewable sources (Mwh) compared to overall energy consumption at destination level per year	No EC Target	9.1% (N)
D.7 Landscape and Biodiversity Management	D.7.1	Percentage of local enterprises in the tourism sector actively supporting protection, conservation, and management of local biodiversity and landscapes.	9%	22%

Source: modified and adapted from (EPA, 2016; Fáilte Ireland, 2015, 2016b, 2017ab; Central Statistics Office, 2011, 2016, 2017; ETIS visitor and enterprise surveys, Southern Waste Region, 2015; Gössling et al, 2012; SEAI, 2016; UNWTO, 2017b)

Table 6.0 Data Sources used to calculate the ETIS in County Clare

Data Sources Classification	Source	Reference Number of ETIS Indicator
Available data from official sources	Fáilte Ireland Visitor Attitudes Survey 2015	A.2.1
	Fáilte Ireland (2017) overseas tourism by County	B.1.1
	CSO Household Travel Survey	B.1.2
	Fáilte Ireland (2017) Tourism Facts 2016	B.1.3, D.1.3, D.1.4
	CSO Survey of Overseas Travellers 3-year rolling average weighted to CSO (2016) CSO Household Travel Survey (2017)	B.2.1
	Fáilte Ireland (2017) Occupancy Survey 2016	B.2.2
	Fáilte Ireland (2017) Tourism Facts 2016 and CSO Area Profile County Clare	B.3.1
	Fáilte Ireland (2016) Regional Tourism Performance 2015 and CSO Area Profile County Clare	C.1.1
	Irish Tourist Assistance Service (2017) Annual Report 2016	C.2.1
	Fáilte Ireland (2017) Accommodation Capacity by County and CSO Area Profile County Clare	C.1.3
	CSO (2016) Permanent housing units by occupancy status by province county or city	C.1.4
	Tourism Ireland (2017)	C.4.3
	Clare Tourism (2016)	C.5.2
	Southern Waste Region (2015) Waste Management Plan 2015-2021	D.3.1, D.3.3
	EPA (2016) Urban Waste Water Treatment 2015	D.4.1
	UNWTO (2017) Average hotel energy consumption per guest night by region	D.6.1
	SEAI (2016) Renewable Electricity in Ireland: 2015	D.6.3
Pre-Developed ETIS Surveys	Residents Survey	C.1.2, C.5.1
	Visitor Survey	A.2.1, A.2.2, B.1.4, B.1.5, D.1.1, D.1.2
	Enterprise Survey	A.1.1, B.3.2, B.4.1, C.3.1, C.3.2, C.4.1, C.4.2, C.4.4, D.2.1, D.2.2, D.3.2, D.5.2, D.5.3, D.6.2, D.7.1

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