



Mass Tourism vs. Sustainable Tourism in the Balearic Islands: Measuring Social and Environmental Impact in Mallorca

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Abstract

Mallorca is the largest of the Balearic Islands and enjoys significant economic benefits of tourism estimated at over €8bn per year [1]. However, this needs to be balanced with concern for social, economic and environmental sustainability [1] the impacts of which are largely undetermined. Recent Balearic government reports and statistics tend to focus on the economic impact of tourism [2]. This paper reviews the latest concerns about the environmental and social impacts of tourism on Mallorca and identifies gaps between the WTTC (2014) [3] recommended ESG framework and indicators referred to in the Govern de les Illes Balears Tourism Yearbook (GOB, 2015) [2]. The paper recommends ways in which these gaps can be bridged including which data can be gathered to better inform decisions. The focus of the research is Calvia municipality as this area has been criticised for its development policies in the past; and set a pioneering trend for using sustainable development indicators in 1995 though adopting Local Authority 21 indicators (LA21) based on the UN 'Earth Summit' convened in Rio de Janeiro.

In a region like ours, where tourism has a highly significant economic impact, it is essential to have reliable data. But the information needs to extend beyond mere visitor numbers. We need more specific data on the different market segments and on visitor preferences... Another key aspect is the sustainability of tourism - social, economic and, most importantly, environmental sustainability. It is well known that mass tourism impacts on the islands' nature and landscapes, but we currently have no data that can serve as a scientific basis for a more in-depth analysis of this situation.

Gabriel Barceló iMlta, Govern de les IllesBalears [2].

Keywords: ESG Indicators; Mallorca; Social and Environmental Indicators; Sustainable Tourism

added bonus might have been an increased spends per head from more affluent eco tourists.

Introduction

Sustainable Tourism in Mallorca is under scrutiny due to the increasing numbers of tourists placing greater strain on local resources including energy and water; and acute problems over waste and pollution. The focus of this paper is thus on the measurement of social and environmental impacts and the need for sound indicators. Academics such as Royle (2009) [4] have used Richard Butler's (1980, 2003) [5,6] tourist area cycle of evolution as a basis for recognising the impact of mass tourism on the environment, culture and heritage of Mallorca. According to Royle, the emphasis on eco-tourism on Mallorca has had the bonus of attracting a different market sector; more interested in trips to forests, wildlife, walking, and golf and cycling. Plus, an

For example, total annual income to the Balearic Islands from golf tourists rose from €198m to €234m between 2003 and 2008; and income from cycle tourists increased from €71m to €92m for the same period [7]. In fact, there has been a €187m turnaround campaign by the Government of the Balearic Islands (GOB) to change the face of parts of the island. However, one reporter for Reuters argues there is still little to suggest that resorts such as Magaluf are changing from 'alcohol-fueled fleshpots' [8]. What is clear is that the government needs to measure the impact of its policy; as Barcelo [2] starkly identifies above: there is an absence of reliable data to make decisions.

This paper identifies which indicators of sustainability have been used on the island thus far; and presents recommendations

for new indicators as the GOB moves away from LA21 indicators (over 1,000) to Calvia 2020 objectives and beyond [9]. The paper provides implications for all islands grappling with the issues of mass tourism; and provides a basis for improved planning towards achieving 2030 goals [10]. The paper also recognises the significance of enterprise and entrepreneurship to building and maintaining a culture of innovation; including for responsible/sustainable tourism [11]. For an earlier review of Sustainable Tourism in Calvia see Dodds (2007) [12].

Background

The Balearic Islands, the most western archipelago in the Mediterranean, are made up of four main islands, Mallorca, Menorca, Eivissa and Formentera, as well as some one hundred other small islets. The island region boasts a diverse geography, with unique landscapes of vast beauty where seaside cliffs come together with beaches and white-sand coves. The Balearic Islands are the second most popular tourism destination in Spain, with over 11.6 million international tourists in 2015 [2]. The Islands are a leading cultural haven thanks to their rich architecture and heritage, which gives them a special personality and charm. This explains the innovative spirit that permeates the Balearic society and positions it as a benchmark for international culture. Mallorca is famed as a summer holiday destination but also unfortunately for ‘hordes of boozing Brits’. More intrepid visitors might be cyclists or hikers. Some visitors will know the names of famous celebrities that have homes on the Island such as tennis ace, Rafael

Nadal, model Claudia Schiffer, or film actors Michael Douglas and Catherine Zeta-Jones.

More recently Mallorca was the location for *The Night Manager* TV series based on the book by John Le Carré (2013) [13]. However, very few visitors are likely to know about the history or cultural heritage of the Island or to have read *Winter in Majorca* by George Sand (1855) [14] or know about the Chopin museum or where Valldemossa is located. Indeed, very few visitors are likely to be familiar with the Islands detailed geography, maritime and trading relations, occupation by the Romans, the siege of Palma and the building of the Cathedral; or know how to find the ethnographic or archaeological museums, nor prehistoric sites.

Tourism Industry

The tourism sector is the most important business sector in the Balearic Islands. Despite its limited surface area, the island boasts noteworthy climatic differences due to its relief and its location, leading to vastly diverse ecosystems and very different landscapes. This variety is manifest in three clearly distinguished areas. The first of these areas is the Serra de Tramuntana, an elevated mountain range that shapes the northern coast of the island. This area includes the highest peak in the entire archipelago, known as the Puig Major, which towers at a height of 1445m, as well as countless caves carved out of the rock, creating magnificent shapes sculpted by the wind, sun and water. In June 2011, the cultural landscape of the mountain was declared a World Heritage Site by UNESCO (figure 1.)



Figure 1: 3D image of Mallorca, Google images, 2018.

The next area is known as the Serres de Llevant, with small rounded hills that mark the landscape, creating white-sand coves and green pine forests. The third area is the Pla, or flatland, located between the two mountain ranges, with its own distinct morphological features, where the island’s rural charm has remained virtually intact.

The ecological wealth of the archipelago is the main economic asset of the Balearic Islands. The environment is the subject of various protection policies as the promotion of the rational use and saving of resources and the use of advanced treatment systems and waste disposal (figure 2).

Protected natural areas in the Balearic Islands, 2013 (Ha)				
	Balearic Islands	Majorca and Cabrera	Menorca	Pitiüses
Marine protected area	25,592	9,828	1,736	14,028
Terrestrial protected area	74,149	67,832	3,331	2,986
Total land surface	498,478	363,570	69,475	65,432
% Total land surface protected	14.9%	18.7%	4.8%	4.6%

Source: General Directorate of Natural Areas and Biodiversity and Ibestat.

Figure 2: Protected natural areas in the Balearic Islands [15].

In recent years, the Balearic Islands have been confronted with the challenge of sustainable and diversified growth. The objective of such challenge is to complement the ‘sun and sea’ supply [16] with new modes of tourism, so as to create a new demand for quality that still contributes to increasing tourist expenditure. The ultimate aim is to enhance the Balearic competitive edge by making use of innovative management methods and improving the professional training of the sector’s workforce.

The Balearic Islands were pioneers in the application of environmental management systems to the tourism sector, by introducing the EMAS system (Eco-Management and Audit Scheme). Among other initiatives, the EMAS system has implemented waste treatment by staff and clients, which entails the separation of hazardous waste for its transfer to specialised companies; water and energy conservation; the use of more environmentally friendly products, the use of biodegradable products; and bulk purchasing to reduce packaging. This campaign has also led to the installation of double glass in rooms and the shutdown of heating systems when guests are not in the rooms. Though, there is now a need to look beyond such tick box schemes [11].

One example of benchmark sustainable tourism management is the ‘Balearic Sustainable Hotel Network’, a non-profit organization made up of hotel sector companies that have made the commitment to protect the environment and that wish to promote the exchange of environmental experiences and contribute to

sustainable development. For example, Garden Hotel is a family owned chain that has been awarded ‘Travelife Gold’ and has adopted a Zero km sourcing policy.

Rural Tourism

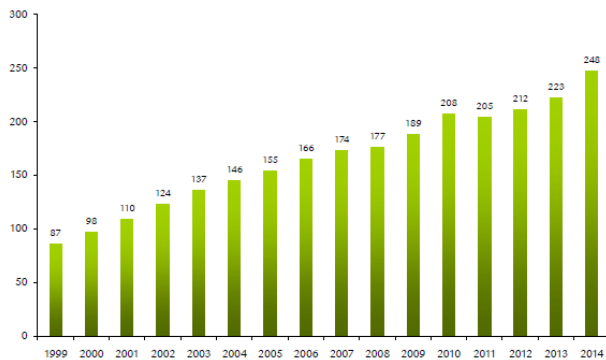
Rural tourism has enjoyed remarkable growth since the mid-1990s. In 2015 rural accommodations opened are 222 and with the number of people estimated to be 4,327, the occupancy rate is 51, 43%, 35 points above the national average. In the Balearic Islands, this new form of tourism offers great potential, thanks to a number of qualities including: a good climate all year round; a qualified workforce; and a high daily expenditure.

Agri Tourism

Unlike rural tourism, agritourism is based on a home with a limited number of beds, located in the countryside and at an agricultural farm, a livestock farm or a forest estate. These types of stays are generally longer and, therefore, generate greater revenues for the businesses. Moreover, this type of tourism affords guests the option of combining business with pleasure. Agritourism guests usually return for another holiday, and 60% of the time, they make their arrangements without going through intermediary agents.

The Balearic Islands have 248 agritourism establishments, and in 2014, the lodging capacity came to 3,886 beds (11.2% and 13.4% respectively from the previous year) (Figure 3).

Growth in the number of agritourism establishments in the Balearic Islands



Source: Ibestat.

Figure 3: Growth in agritourism establishments. Ibestat, 2014 [15].

The people of the Balearic Islands have an enterprising and innovative spirit. The Balearic Islands are the third autonomous region in Spain with the largest number of businesses per 1,000 inhabitants.

They are the headquarters of internationally renowned fashion and design firms that use quality production systems equipped with innovative, environmentally friendly technologies. The Balearics are home to powerful educational centres. In this sector, the role played by the Balearic Islands University [17] is essential, as it offers a wide variety of professional degrees to satisfy the needs for specialists in all areas of business and industry. Business Administration and Management, Economics, & Tourism have the largest number of students with 2,335 in 2015. One of the primary underpinnings of the Islands' outreach to the knowledge society is the Balearic Technological Innovation Park [18]. The natural setting of the park is a privileged backdrop for R&D&i, which account for much of the park's activity. The park also houses a technology business incubator, which serves professors, researchers and entrepreneurs with projects, offering them the opportunity to generate technology-based spin-offs.

Turistec (2018) [19] is a group of companies and institutions that produce and implement technological solutions for the tourism sector. This cluster brings together a knowhow equivalent to over seven hundred years of experience in the development and improvement of tourism destinations, and it is backed by an extensive portfolio of clients that includes leading companies in the hotel, air transport and maritime transport industries, tourism, leisure and culture, complementary services, travel agencies and virtually the industry's entire chain of value. Headquartered in the Balearic Islands, this cluster is made up of 67 members, many of which are companies located in the Parc Bit. The bulk of the Balearic Islands' companies are individual entrepreneurs (49% in 2015), followed by private limited companies (37%), while other

business models account for the small remaining percentage. They are large international hotel chains, including Sol Meliá, Riu, Barceló and Iberostar, among others, are clear examples of the Balearic work model in the tourism sector.

Eco-entrepreneurship

The use of renewable energies is currently being promoted, with the aim of improving energy efficiency and introducing new sources of energy that enable the use of cleaner fuels. In the specific case of the Balearic Islands, the renewable energy technology with the greatest potential for development is photovoltaic's followed by wind power. Biomass, due to its low energy output for the generation of electricity, has a potential for development in thermal applications. The aim is that in the long-term electricity production in the Balearic Islands comes from 100% renewable sources. Therefore, the attainment of environmentally sustainable transport would require the gradual replacement of liquid petroleum products with other environmentally sustainable fuels such as green tariff electricity, CNG and/or LNG and LPG. For this to be attained three courses of action can be taken into consideration.

- General use of electric vehicles for private road transport; the Balearic Islands are an ideal location for the development of this type of vehicle due to their geographical peculiarity and short distances.
- General use of industrial vehicles using natural gas or LPG/hybrid/electric vehicles for haulage.
- Research into the use of natural gas as an alternative to liquid petroleum products as fuel in the maritime sector, especially the commercial sector.

All of the above requires the development of a comprehensive infrastructure for recharging electric vehicles, the extension of the natural gas network throughout the region and an increase in the number of CNG, LNG and LPG filling stations. The application of the international and European regulations to climate change and the ensuing effects on the environment entail the implementation of initiatives that target compliance with the international and EC obligations regarding information, the commitment to reduce greenhouse gases, a control of atmospheric pollution and air quality, the steadfast commitment to more environmentally friendly energy sources and public transport. In this sense, according to the calculations of the European Union, the environmental sector is generating more jobs than the automobile and pharmaceutical industries. The global market for environmental products and services is projected to double from US\$1,370 billion per year at present to US\$2,740 billion by 2020 [20].

Current Tourism Economic Data

In 2015 some 68 million tourists visited Spain and figures were expected to exceed 70 million in 2016. The Balearic Islands

are the overall top choice of tourist destination (22% of Spain's total in 2015) with 8.3 million registered overnight stays, principally from Germany (38%) followed by UK (28.1%).

This places pressure on the Balearic Island government (GOB) to support the building of more holiday accommodation. Yet, Palma is set to be the first city in Spain to ban rental of flats to tourists due to over-tourism concerns [21]. The latest available official statistics [2] from The Institute for Tourism Studies (IET), the Statistical Institute of the Balearic Islands (IBESTAT) and the Balearic Ministry for Innovation, Research and Tourism, through the Spanish National Tourism Survey (Frontur) for tourist arrivals data and the Tourism Expenditure Survey (Egatur) indicate that tourists to Mallorca expended €8.124.448 of a total of €11.420.745 i.e. 92% for the Balearic Islands as a whole.

Such is the concentration of expenditure on Mallorca this also places pressure on the Balearic tourism authorities to ensure that the economic benefits of tourism are put to good use; providing jobs to local people, funds for infrastructure projects, conserving heritage, and supporting community projects. This is an economic issue as local people could be left unemployed and or priced out of owning their own property. However, this is also a sustainability issue as tourism in the long term relies on maintaining its image as a destination of choice for its unspoiled beauty. Thus, tourism needs to be 'responsibly' managed to ensure that the environment is not damaged and is protected for future generations. And decisions on tourism will increasingly need social and environmental data to be fully informed and impact evaluated.

Gabriel Barceló iMila, Govern de les IllesBalears (GOB, 2015) [2] recognises the government has a commitment to promoting the development of socio-environmental statistics in this regard as an essential tool for strategic planning across the region. The aim would be to integrate this information into the operation of public administration and use it as a key element in developing and evaluating public policies, enabling tourism in the islands to be transformed into sustainable tourism.

Responsibility to Generate and Analyse Socio-economic and Environmental Data

The first issue is whose responsibility is it to generate the data on sustainable tourism and manage tourism responsibly? Is it the tourist? Is it the tour operator? Is it the owners of holiday properties? Is it the local or national government? Is it the indigenous population? In one sense the responsibility is shared by all these parties. However, ensuring that this responsibility is acted upon can be fraught with difficulty. Many tourists might be just interested in having a good holiday away from the pressure and strains of everyday life, enjoying the sunshine and wanting to relax on the beach or in the hotel pool [16]. The availability of affordable hotels, food, restaurants, cafes and bars might be a prime consideration in their choice of holiday destination rather than answering questions on their social and environmental habits. Tour operators and the owners of holiday properties might simply be responding to this demand. Local citizens might blame the tourists or the government for the negative consequences of mass tourism [22]. The local and national government has an obligation to care for the environment (through environmental protection legislation) but what about the social and cultural environment? Do they have a duty towards sustainable tourism? Should this duty be codified and action towards meeting sustainability targets be measured and accounted for? What guidance is available to do this?

The Problem with Economic Indicators

At a global level The World Travel & Tourism Council (WTTC, 2016) [1] is the global authority on the economic and social contribution of Travel & Tourism. WTTC promotes sustainable growth for the sector, working with governments and international institutions to create jobs, to drive exports and to generate prosperity. Nevertheless, despite gathering data on Travel and Tourism for 25 years their reports are still dominated by data on economic impact (see Figure 4).



Figure 4: Model of Travel & Tourism contributions, WTTC, 2016 [1].

According to WTTC, the direct contribution of Travel & Tourism to GDP is calculated to be consistent with the output, as expressed in National Accounting, of tourism-characteristic sectors such as hotels, airlines, airports, travel agents and leisure and recreation services that deal directly with tourists. The direct contribution of Travel & Tourism to GDP is calculated from total internal spending by ‘netting out’ the purchases made by the different tourism industries. This measure is considered by WTTC to be consistent with the definition of Tourism GDP, specified in the 2008 Tourism Satellite Account: Recommended Methodological Framework [23].

Results for Spain 2016

The basic message of the WTTC report cited above is that ‘Money Travels’ and ‘Travel Pays’. However, by focusing solely on economic indicators this overlooks key data on social and environmental impact. One of the key contentions of this paper is therefore that the WTTC should integrate economic impact with social and environmental impact producing annual triple bottom line reports from which governments and tourism agencies can make more informed decisions. Further, that by providing such data on a global level will allow national governments and local and regional governments a consistent methodology for comparing practices; and recognising the increasing significance of performance in this regard (Figure 5).

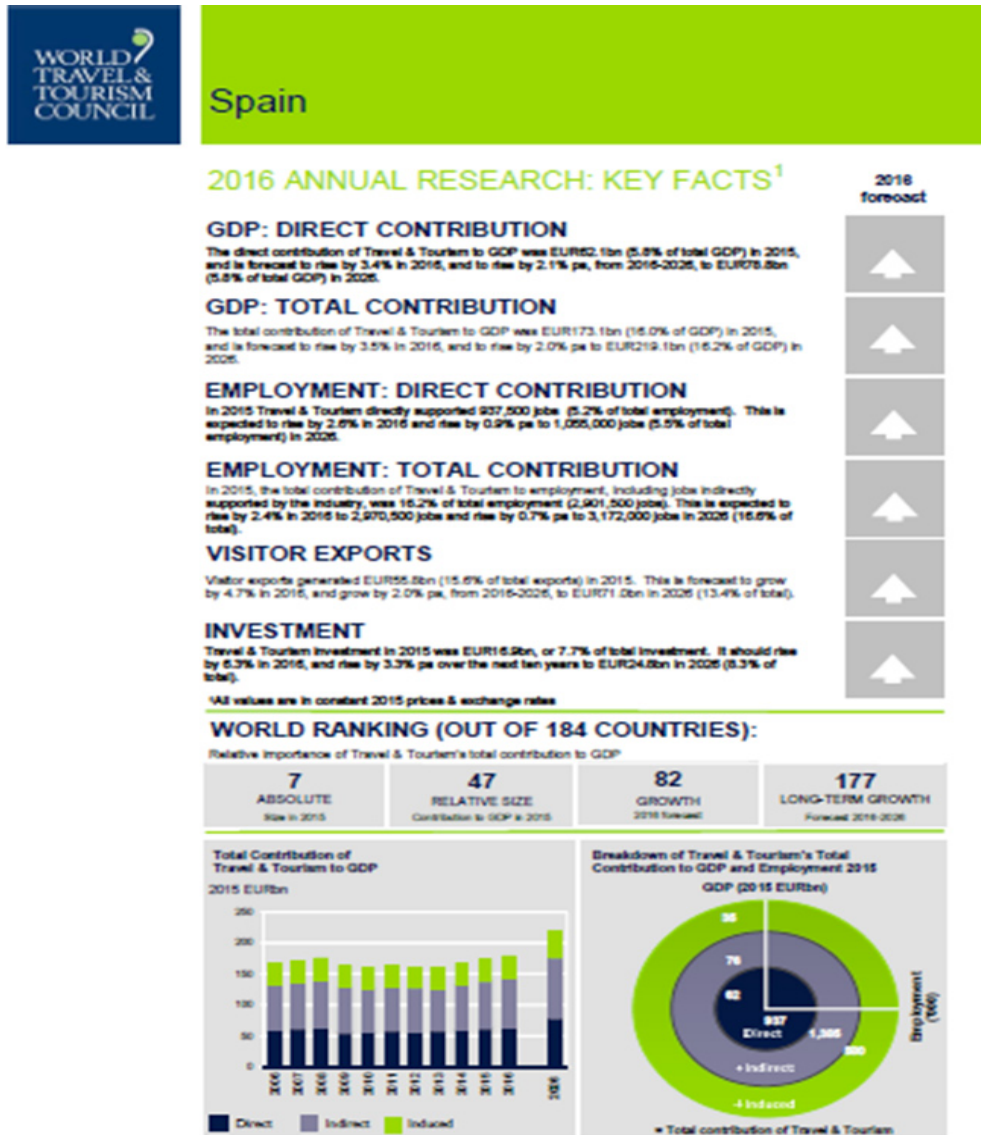


Figure 5: 2016 Annual Research: Key Facts, Spain, WTTC, 2016 [1].

Social and Environmental Impact Indicators

During 1995, in collaboration with the Ministry of Commerce and Tourism, the Calvià Town Council introduced the Calvià: Local Agenda 21, based on the 'Rio 92 Summit', aimed at defining a new integral long-term policy to reorganise tourist and local development on a sustainable basis (see appendix 1).

- **Appendix 1:** Calvià: Local Agenda 21: A sustainable strategy for a tourism destination In the South West of the Mediterranean is placed Mallorca. On the western coast of the Island of Mallorca, is situated the Municipality of Calvià. Calvià has a surface of 145 sq. Km and 56 Km of coast.

80% of the Municipality are natural areas. Its coastline with 5 lineal Km of sandy beaches and numerous cliffs has an important environmental value. As tourism municipality Calvià is a privileged area in terms of facilities and infrastructure with many sport resorts, 5 marines, maritime promenades, 4 golf courses and leisure centres. Calvià has 40.000 inhabitants and more than 1.6million visitors each year.

The tourist development of Calvià, the most important in the Balearic Islands, began with the first boom of international tourism in Spain at the sixties. Since then, especially in the first two decades, the model of tourism development has been based on short-term interests, unlimited building out of tune with local conditions, and an unsustainable exploitation of exceptional natural resources.

It was only at the end of the eighties that the effects of this inharmonious development became apparent. The [impact] of sun and beach type, the keystones of an activity that helped to finance the development of the Island, are degraded, the demand is falling off, and more significantly, the quality, not only in terms of tourism spending, is in decline. Calvià grew from 3.000 to 40.000 inhabitants. In the eighties the Town Council of Calvià adopts a double policy: on one hand it has made an exceptional effort of investment to reduce the debt carried over from the earlier years, and on the other, it implemented a policy of town planning designed to uphold new tourist operations in the hope of modernising, improving and diversifying the local tourist industry. At the same time, the effect became evident: the deterioration of the environment and of the landscape, gross overcrowding of the tourist zone, the difficulties of bringing the installations to update, a steady decline of the allure of the region and the threat to local development which is heavily dependent on the tourist sector.

In the nineties, the town hall of Calvià launched a series of programmes designed to improve the environment, reorganise the flow of visitors, reclaim the coastal area and clear out the huddled town centre, even demolishing hotels that were offensive to the environment. This plan was called “Calvià for Excellence”. And at the beginning of 95 in collaboration with the Ministry of Commerce and tourism, the Town Council decided to unify the tasks in hand, freezing the approval of new urban-plans, and introduced the Calvià: Local Agenda 21, based on the Rio 92 Summit, aimed at defining a new integral long-term policy to reorganise tourist and local development on a sustainable basis, and in which the key factor for future projects is the environment.

A key factor of the local agenda has been to bring together the viewpoints, right from the start, of the different sectors with interests in the zone. Several channels of participation have been envisaged for this purpose: for general matters, The Forum of Citizens; for thematic affairs, Special Commissions; and even on subjects of general interest, polls and consultations of the public. The most important aspect for the final strategy of the Local Agenda 21 is that it counts on the widest possible voluntary support of the population. The method used by the experts is the one known in the planning sphere as “methodology of alternative scenarios”, widely used in long term planning because of its descriptive capacity and for the possibilities which it offers to compare possible future alternative situations, to which can be reached through the application of different policies.

In this way, three alternative scenarios emerged from each one of the key topic areas: the present one, and two future scenarios; the tendency one and the one known as integral rehabilitation scenario, which emerge is the correction of the undesirable tendencies by the introduction of suitable decisions. For each one of the areas the same methodology has been applied in order to get an identical result.

Using more than 1000 indicators, this methodology has allowed us to identify which sectors are in a balance situation and which ones in an unbalanced situation.

- **10 Strategic Action Lines**

1. To Contain the Human Pressure, Limit the Growth and Help Integral Rehabilitation of the Territory and Its Coastline.
2. To Support the Integration and the Quality of Life of the Resident Population.
3. To Preserve the Natural and Marine Heritage.
4. To Recover the Cultural- Historical Heritage.
5. The Integral Rehabilitation of the Urban Areas.
6. To Increase the Quality of Calvia as A Tourism Destination: To Substitute the Growth for Sustainable Development and Look for the Increase of the Tourism Expenditure.
7. To Improve The Quality of the Public Transport and to Promote Cycling and Walking.
8. A Sustainable Management of the Environmental Key Factors: Water, Energy and Waste.
9. To Invest in Knowledge Resources, to Dynamise and Diversify the Economic System.
10. Innovation of the Municipal Government and the Widening Of Joint Public-Private Capacity of Investment.

- **From the 40 initiatives the Forum of Citizens agreed to begin with 15 initiatives they considered urgent**

- 1- To ensure sustainability of the Municipality through the main Urban Plan.
- 2- Stabilizing in 10 years the drinking water consumption to 1997 levels.
- 3- Elaboration of a local plan to save energy.
- 4- Impulse to save up, recycle and reuse of solid waste; fixing aims to separate waste at short, medium and long term.
- 5- Set up of a pilot project for rehabilitation of quarries due to the closing of the Dumping site for rubble; and separation, recuperation and recycling of material before March 1999.

- 6- Begin public actions to transform the situation of public transport before December 1998-07-16.
- 7- A Moratorium for 5 years of important works on the coastline as well as road infrastructures of high impact.
- 8- Conclusion of the “Calvià Walk Way” in 5 years.
- 9- Housing Plan “To live in Calvià” Construction and/or funding 150 homes/year.
- 10- Pilot action to conserve the beaches in a natural way before June 1999.
- 11- Creation of a helpline to start business before 31 December 1998 and widening the stimulation measures to small and medium size enterprises.
- 12- To start a working plan to dynamise the rural world and constitute an award and a call for proposals “Rural initiatives in Calvià”.
- 13- Environmental audit of the Municipal building before 31 December and engagement of future facilities “eco-responsible”.
- 14- Creation of the archaeological site “Puig de Sa Morisca”. Start before 31.12.1998.
- 15- Creation of an office in Calvià: Local Agenda 21; to assess the citizen’s promotion and awareness in the saving up of resources.

The Observatory for the Local agenda 21 proposed to collect and offer summarised, periodical and easily understandable information on the evolution of Calvià at social, economic and environmental level, taking as a reference the sustainability of development and local quality of life. Comparing to 1997, in 2000 the indicators and the initiatives that have been again measured, the results indicates that Calvià on the one hand has improved in the Areas of Cultural heritage, Economy and Tourism, and in Local town planning system, but on the other hand still have the Areas of Natural and rural land and marine systems, and key environmental sectors (transport, water, energy, and waste), which need to be improved. But in general the global evaluation has improved.

As a mature tourism resort in the Mediterranean all parts of the project could be applied in the Mediterranean region, from the methodology used to the environmental decision taken. We believe our case could serve as an example for emerging tourism municipalities and also for mature ones, on how not to repeat unsustainable practices and how to integrate local population in the process.

Comparing 1997 to 2000, results indicated that Calvià on the one hand had improved in the areas of cultural heritage, economy and tourism, and in the local town planning system; but, on the other hand, still had the areas of natural and rural land and marine

systems, and key environmental sectors (transport, water, energy, and waste), needing to be improved. Since then there has been much debate on how to evolve the system of reporting and which new indicators should be used. The authors of this paper thus look to more broadly used indicators in the travel and tourism industry.

WTTC (2014) [3] report on trends, outlook and guidance for Environmental, Social and Governance Reporting (ESG) indicating that transparent public reporting on material environmental, social and governance (ESG) risks, opportunities and performance is now both a common practice within, and even an expectation of, companies across all sectors, including those in travel & tourism. Nevertheless, although WTTC (2015) [24] shows that reporting in general has increased within travel and tourism, in number of actual reports published, this indicates quantity rather than quality.

Govern de les Illes Balears, (2015) [2] do provide an annual report of tourism. This *Tourism Yearbook* is produced by the Regional Ministry of Innovation, Research and Tourism as a compilation of the main indicators for tourism in the Balearic Islands. Indicators include: rural tourist accommodation not just hotels and apartments; golf courses not just bars and restaurants; passenger arrivals by sea not just by air; flight origin not just destination.

For example, the distribution of accommodation in (figure 6) reveals that, although hotels H account for 53%, other types of accommodation include: hotel apartments HA; tourist apartments A; hostel residence HSR; holiday villages CV; hostel HS; rural hotel HR; and city hotel HC. This distribution is also broken down by municipalities which aid an understanding of the spread of different types of accommodation across the Island.

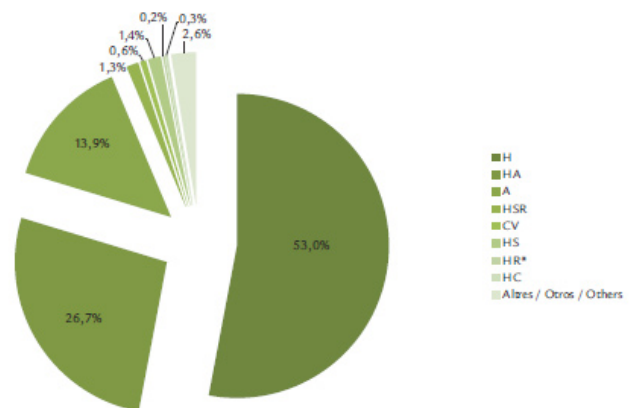


Figure 6: Distribution of accommodation capacity according to type of establishment in Majorca, Govern de les Illes Balears, 2015 [2].

Nevertheless, such aggregate statistics do not provide the necessary level of detail to fully inform decisions. For example, from the above figures agro-tourism AG, guesthouses CH,

campsites TC, holiday villages CV, Fonda F, and inland tourism TI (in pre-1940 properties) are not adequately represented. Thus, other than aggregate statistics there is a need for more depth of understanding of social and environmental impact to inform practice.

Another perspective is to field information from sustainability narrative generated from events and interviews across the Island. For example, “Dreaming Mallorca” took place Oct 16-18 [25], near Selva, the ancient capital of Mallorca in the middle of the country.

Satish Kumar, editor of Resurgence Magazine, and Vandana Shiva, Indian environmental activist, invited a group of international visionaries to brainstorm with a group of 100 or so Mallorcans from all walks of life on the question of how to achieve a sustainable Mallorca. The group included various NGO’s, farmers, business people, including the tourist industry, foreigners having settled on the island, filmmakers, journalists from Eco-habitat and Namaste, two eco-magazines-a famous Mallorcan comedian and clown, and even a deep-sea diver wanting to build an ecovillage on the bottom of the sea.

The visionaries included Susan George from Attac France, Herbert Girardet, leading UK ecocity designer, José Bové, peasant leader from France, and Ross Jackson, Denmark, one of the leaders of the global ecovillage movement. The group considered a series of problems:

- An economy 85% total dependent on tourism, with entry through the enormous Palma airport (ca. 12 million per year).
- High energy dependence on gasoline and coal coming from distant places by ship. Mallorca has the highest number of cars per person in the world.
- 99% of the food is imported. Traditional agriculture and fishing are disappearing.
- Most wastewater is dumped directly into the ocean.
- Land is very expensive; and ownership is concentrated, with many absentee landlords.

Various ideas were generated to tackle the above problems such as: land reform along the lines of what Denmark has, where

owners have a residential obligation and must cultivate the land following perm culture principles.

An airport tax and donations, with the money used to make Mallorca greener and cleaner, for example with improved waste water treatment. To introduce more wind and solar energy, and micro hydro systems in the mountains, to provide electricity for households and electric cars; and thereafter for drip irrigation in the plains and valleys. That tourism could be focused on longer stays, retreats for seniors, health tourism and bicycle tourism. Also, some hotels might be transformed into eco villages with pools, village centres, etc.

However, whilst such events can galvanise the human spirit and inspire various stakeholder actions, they do not provide the scientific basis or statistical platform upon which to base governmental decisions on tourism sustainability in general. Interestingly the group even felt that certain data was being repressed. From a methodological point of view, such a phenomenological approach can be highly illuminative for brainstorming creative approaches to tackling social and environmental issues but lack the level of assurance needed on which to base national or regional decisions. What is needed is a model for transforming from mass tourism to sustainable tourism such as that provided by the author in (figure 7).



Figure 7: Transformational model of sustainable tourism, author figure (Appendix 2).

Appendix 2. Data needs for sustainable tourism to 2020 and 2030, author table.

Wtte Esg Indicators	La21 Indicators, Calvia Ff. 1995	Calvia 2020 Objectives	Proposed 2030 Data Needs & Author Recommendations for New Indicators
Child Labour, Forced Labour, Human Trafficking & Sex Tourism	To Contain the Human Pressure Limit the Growth And Help Integral Rehabilitation of the Territory and Its Coastline	Protect. Preserve, Reforest, Preserve, Reforest and Replant the Forests with Endemic Flora and The Sea with Sea Grass.	Decrease in Numbers of Lap Dancing and Strip Clubs, Etc. Increased Number of Blue Flag Beaches. Decreased Number of Waste Arisings from Litter, Etc. Monitor Beach Density in Peak Periods.
Income Inequality	To Support the Integration and The Quality of Life of The Resident Population	The Council Will Establish A Network of Businesses for Climate. Mobility Plan.	Increased Numbers of Jobs for Locals, Increased Number of Happy Residents and Less Complaints. Increased Tourism Tax Spend on Eco, Social & Community Projects.
Water and Resource Scarcity	To Preserve the Natural and Marine Heritage	Green Corridors	Number of Water-Saving Measures in Tourist Accommodations. Zero Discharges to Sea.
Cultural and Heritage Protection	To Recover the Cultural-Historical Heritage		Uptake in Visits to Museums, Galleries, Cathedrals, Villages, Farms as A Result of Incentives.
	The Integral Rehabilitation of The Urban Areas	Residential Plan; Residual Waste Management Plan; Plus Improving the Energy Efficiency of Street Lighting and Switching Mercury to Led	Increased Area of Green Spaces in Urban Areas, Less Complaints About Graffiti.
Extreme Weather Events	To Increase the Quality of Calvia As A Tourism Destination: To Substitute the Growth for Sustainable Development and Look for The Increase of The Tourism Expenditure.	Adaptation Measures	Increased Numbers of Active Tourists as Opposed to Sun And Beach Tourism, Increased Number Of Cyclists, Hikers, Golfers, Other Sports, Agri/Rural Farm Stayers, Families, Campers, Etc.
Air Pollution	To Improve the Quality of The Public Transport and To Promote Cycling and Walking	20% Reduction of Calvia’s Ghgs by 2020.	Number of Eco-Friendly Car Bookings and CO ₂ Saved. Number of Electric Charging Points Across the Island.
Rising Material Costs	A Sustainable Management of The Environmental Key Factors: Water, Energy and Waste	Continue Switch to Natural Gas in The Tourism Sector, Especially Hotel Chains. Plus Encourage More Solar Energy, Thermal and Pv.	Number of Tourist Accommodations with Solar Panels or Other Renewable Energy Systems. Increased Water Saving, Local Sourcing.
	To Invest in Knowledge Resources, To Dynamise And Diversify the Economic System	The Council Will Launch Various Projects in Schools That Will Promote Energy Efficiency in Schools, Better Water and Waste Management and More Sustainable Access to Schools.	Numbers of Eco Schools Gaining Green Flag Status. Numbers of Businesses Adopting Sustainability Management Systems and Independent Verifications. Increased Numbers of Hotels with Highest Sustainability Certification & Ratings.
	Innovation of The Municipal Government and The Widening of Joint Public-Private Capacity Of Investment	25% Reduction of Calvia Council’s Ghg by 2020; Favour Contractors That Comply with The Council’s Sustainability Standards.Substiute Pcs for Virtual Desktops.	Numbers of Electric Vehicles Used by Council Staff and Charging Points On The Council Hq. Increased Number of Home Workers and Flexible Workers, Local Sourcing.

Conclusions

Mass tourism is alive and well in Mallorca. And the main driver of tourism policy still appears to be economic impact. However, there are signs that particular localised initiatives are having an impact in changing policy and action in regard to social and environmental concerns. Calvia municipality is a good example of how concerns over the poor image of Magaluf in the press, and a refocus on improving the local environment can have an effect on the quality of tourism experience provided [9].

Nevertheless, apart from LA21 and other such initiatives there is little direct evidence of the use of social and environmental indicators influencing Balearic government policy on tourism as a whole. For example, eco and sustainable tourism is still considered a marginal rather than mainstream activity across the Island.

If social and environmental indicators were more widely adopted then this would encourage more tour companies, accommodation providers and activity leaders to endorse these values and promote more proactive changes in lifestyle.

Recommendations

The main recommendation of this paper is to improve the quality of data capture on social and environmental impact across the Island. This would include more active collection of statistics on energy consumption, water consumption, the reduction of waste, and recycling. However, there needs to be an improved system to report and recognise such performance in order that tourist businesses across the Island regard this as more than window dressing. Island Sustainability indicators can be developed attuned to the most critical issues affecting the Island. Large and small businesses can thus integrate the indicators into policy and practice. And the best performers and those demonstrating new and creative ways to improve can be recognised in Island events and publications.

By adopting a consistent metric across the Island and including baseline and improvement statistics in the annual yearbook of tourism this will help to stimulate change. Yes, the Island needs to attract tourists for a longer season, even all year round, but sustainability means much more than increasing numbers of tourists and per capita spend. The sustainability agenda means developing new ways to convince tourists to take a more responsible approach to their entire holiday. This is likely to include more walking, hiking and cycling, and spending more time visiting nature and cultural attractions than drinking by the pool, but also needs to include a much higher regard for reducing energy, water and waste. Some suggestions for indicators are:

How many charging points are there on the Island for electric vehicles?

How many eco-friendly cars are being booked on the island and what CO₂ is being saved?

How many tourist accommodations have solar panels or other renewable energy systems?

What water saving measures is being adopted by tourist accommodations?

What incentives are provided by Balearic government and municipalities to encourage cycling across the Island, hiking, and use of public transport to and from the airports and during vacations?

What measures are taken to reduce waste packaging, litter and graffiti?

What is the increased uptake in alternatives to mass tourism such as visits to museums, galleries, cathedrals, villages, farms, etc?

What alternative tourist destinations are being taken up and why? How many are attending retreats, craft and art classes, music and other festivals, in or out of the city?

What new and smart measures are being taken across the Island to raise awareness of social and environmental impact; and how many new smart ideas are being implemented to improve sustainability e.g. education, ICT, etc?

The Balearic government can also set an example as a role model for sustainability by collecting data on its own performance including: number of employee journeys undertaken by car share, number of eco-friendly government vehicles being purchased, procurement of local organic produce for staff restaurants, office recycling rates, energy savings in buildings or CO₂ targets met. KPIs can even be integrated into official and officer performance plans and appraisals; and updated made available to the public.

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Biographies

Removed for anonymity.

Prizes awarded

- “Sustainable European Cities Award 97”. Brussels, November ’97. Awarded by the European Commission (DG of Environment) and the “Sustainable Cities and Towns Campaigns”.
- “Good practice for improving the quality of town life”. Dubai ’98. Selected by the United Nations.
- “Green Globe Award”. London, World Travel Market, November ’98. Awarded by the “World Travel and Tourism Council” –WTTC.

- “Award for the best initiative, work and municipal effort in support of the environment”. Barcelona, March '99 Awarded by Arthur Andersen and Expansion.
- “World project, Expo 2000 Hannover”. Hannover, March 2000.

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