

Capacity-building paper

Sustainable beach management and promotion of the local tourist industry: Can blue flags be a good driver of this balance?

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ABSTRACT

The aim of this paper is to analyse to what extent the recognition of sustainable management of coastal resources may act as a driver of local economic growth. To this end, the importance of Blue Flag certification in promoting the development of a local tourism sector is analysed. Using a natural experiment based on some localities increasing the number of their certified bathing areas through recognition of sustainable management, whereas other localities reduce them, we analyse the impact of that recognition on the evolution of the local tourism sector in Comunitat Valenciana (CV) in Spain. CV is the Spanish region with the largest number of beaches with this award, and tourism linked to beaches and marine activities represents a large share of its economy. The results confirm that in this case, Blue Flag recognition has a positive impact on the economic development of the tourism sector in those municipalities that have opted for more sustainable tourism, whereas municipalities that have not introduced any sustainable ecolabel schemes have had lesser development of tourism.

1. Introduction

Tourism is an extraordinary driving force of economic growth, both at national and local levels (Sequeira and Nunes, 2008; Fayissa et al., 2008, etc.). Furthermore, touristic initiatives promote the development of entrepreneurial activities either in rural areas or by groups of people that very often do not participate in other big economic projects (Ashley and Mitchell, 2009). Among the different motivations for tourism, enjoyment of coastal areas moves large amounts of people. In recent years, public concern that these areas must be used and managed sustainably has increased worldwide, generating a demand for use and management that makes utilisation by large numbers of visitors compatible with protection of the environment (UNEP, 1998 and 2005).

Beach and coastal tourism has often had a highly negative impact on the environment. However, changes in public opinion have compelled policy makers to combine the use of coastal resources in a sustainable manner with the local development of the municipalities in which they are located (Mieczkowski, 1995; Hunter, 1995; Buckley, 2004; Hardy et al., 2002; Holden, 2016; Hall, 2019).

The goal of developing the tourism industry in the 21st century can no longer be to exploit the existence of “sea, sun, and sand”. Introducing elements that add value to the mere existence of such resources has emerged as an additional source of economic growth. Among the

strategies to increase the added value of coastal areas for tourists, the ecolabel recognition of the cleanliness of these areas and their sustainable management could attract a special kind of tourists. Favouring values related to the environment (such as clean and certified beaches) boosts a higher quality tourism sector that targets a segment of the population that usually has a higher income, thereby promoting the local economy, and shows more respect for the natural resources and ecological values of the location (Romeril, 1985; Mihalič, 2000; Font, 2002; Liu, 2003; McKenna et al., 2011; Capacci et al., 2015). In this sense, there is evidence that those hotels that had environmental certification were less affected (in terms of financial performance, for example) by the reduction in travels and tourism that the 2008 financial crisis engendered (Cavero-Rubio and Amorós-Martínez, 2020).

The adoption of some kind of ecolabel scheme is a way of introducing economic, social, reputational, and environmental benefits to a country. Such schemes began around 1985 in Europe and they have spread worldwide, especially in developed countries (see Font, 2002). Among the best recognized are the Blue Flag and the Green Globe (Blackman et al., 2014). However, the use of ecolabels also has detractors who criticize different aspects, such as the labels either not encouraging the preservation (or return) of beaches or coastal resources in their wild state or including elements that are more related to the services available at the beach, e.g., lifeguards or accessibility for physically disabled

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visitors (e.g., Buckley, 2002; Synergy, 2000; Boevers, 2008). Despite the controversy, the importance of the ecolabel schemes is deeply-rooted today as a strategy for both differentiating locations and promoting more sustainable and environmentally respectful management (Honey and Rome, 2001; Honey, 2002; Martín-Rojo, 2009; Fraguell et al., 2016).

Nowadays, ecolabelling schemes for tourist attractions are common among developed countries because they allow the development of sustainable tourism promotion strategies at local, national, and international levels. On the one hand, the objective of ecolabels is not only to maintain but also to enhance the physical elements, encouraging the emergence of products and services compatible with sustainable environmental development in both the short- and the long-term (Morgan, 1999). On the other hand, ecolabels are good for the tourism industry, tourist companies, and tourists. The use of ecolabels is extremely beneficial in three respects (Sasidharan et al., 2002): (1) it reverses the negative impact of tourism enterprises on the environment by requiring compliance with the ecolabel criteria, which are usually more demanding than are those established by national/regional law; (2) it increases the sensitivity and responsibility of tourists towards the environment of the places visited and (3) it favours the appearance of new products and services compatible with a sustainable environmental development. Subsequently, an ecolabel such as the Blue Flag can also be a driver of the economic development of the municipality whose beaches are awarded it (Mavris, 2011; Blackman et al., 2014; Capacci et al., 2015).

Since the 1960s, governments in many developing countries have focused their development strategies on international tourism (Mitchell and Ashley, 2010; Scheyvens, 2002, 2011; Winters et al., 2013; Hampton and Jeyacheya, 2013). Developing countries with an incipient tourism industry must be aware that tourism related to either beaches or other natural resources often brings severe environmental consequences (Mieczkowski, 1995; Holden, 2016; Buckley, 2004; Blackman et al., 2014; Botero et al., 2015). The problem is especially acute in most of these developing countries because their environmental protection regulations are not very demanding and the extent of their application by local authorities is very low (Russell and Vaughan, 2003; Blackman, 2010). In these countries, the adoption of ecolabel schemes would be both highly desirable and recommended for several reasons. First, the Blue Flag scheme would allow them to address the problem of weak regulation by creating an environmental protection incentive system (Blackman et al., 2014). Second, their tourism industries would improve their international reputation by following the higher standards of environmental care (Mihalić, 2000). Third, there would be an increase in international tourists who are more exigent and have greater purchasing power, which, in turn, would encourage the development of a higher quality supply of touristic services (Capacci et al., 2015). Fourth, it would encourage the development of more demanding policies for protecting the natural environment (Hashimoto, 1999). Fifth, it can be a useful starting point for locations with either no or poor experience of beach environmental protection, in addition to providing networking opportunities and best-practice examples (Klein and Dodds, 2017).

The aim of this paper is to analyse the extent to which being awarded a Blue Flag (as an indicator of sustainable management of coastal areas) drives economic growth. We try to contribute to the scarce literature on the contribution of ecolabel systems to promoting economic development by presenting empirical evidence of the importance of Blue Flags to stimulate economic development at a local level. The existing literature has analysed whether a Blue Flag is an element that beachgoers consider in their decision to select a beach (Fairweather et al., 2005, for New Zealand; Lucrezi et al., 2015, for South Africa; and Saayman and Saayman, 2017, and Dodds and Holmes, 2019, for Ontario, Canada). However, the evidence regarding the total impact on the tourism industry is almost non-existent. Only one paper (to the authors' knowledge) analyses how Blue Flag certification affects the tourism industry (Blackman et al., 2014, for Costa Rican hotels). The present paper

contributes to filling the gap in this important field, as already remarked upon by some authors (Zielinski and Botero, 2019), to judge adequately the true value of the ecolabelling strategy.

This study analyses the case of Comunitat Valenciana (CV) in Spain; this region has the largest number of bathing areas with Blue Flag recognition in Spain, which, in turn, is the country with the largest number of such recognitions. The existence of municipalities that increase the number of beaches recognized with a Blue Flag, while others reduce their numbers, provides a natural experiment scenario to conduct an empirical test. The basis for the analysis is the comparison between the municipalities that increase the number of Blue Flag beaches and those that decrease them. Consequently, any effect due to the general variation of tourism in Spain, and, more specifically, the CV, where all the municipalities involved in the present study are (for reasons that go from the worldwide increase in tourism to the crisis situation of alternative destinations in the Mediterranean area for political reasons, for example) will not affect the conclusions, as all the localities under study are under the same general factors that determine tourism flows towards Spain. The methodology consists of comparing some variables that capture the economic development of the local tourism industry in each of the coastal municipalities of the CV. Basically, the aim is to analyse the extent to which the variation of the ecolabels in 2003–2013 affected the number of hotels and hotel beds, in addition to the number of workers in sector I of NACE Rev. 2 (accommodation and hospitality). Our results indicate that the variation in the number of Blue Flags is related to the average growth of hotels and employment in the set of municipalities that either increase, maintain, or reduce the numbers of Blue Flags. Obviously, additional and indirect effects can be generated in the local economy beyond the tourism sector, as tourists consume goods and services of other sectors of the local economy that provide the inputs and the extra income generated.

To that end, in section 1 we present the characteristics of the Blue Flag Programme (BFP). Section 2 describes the relevance of the Blue Flags globally and presents a revision of the empirical literature. In section 3, we test the importance of the Blue Flags as an engine of the local tourism industry in CV. Finally, we provide the main conclusions of the paper in brief.

2. The Blue Flag eco-certification program

The Blue Flag is one of the most important ecolabel programmes in the world (Dodds and Joppe, 2005) with recognized areas in 45 countries of the six continents. It is promoted by the Foundation for Environmental Education (FEE), an independent non-profit organization located in Copenhagen, Denmark.

Municipalities voluntarily submit their beaches for inspection each year to qualify for the award. To be eligible for Blue Flag certification, a series of rigorous environmental, educational, safety, and accessibility criteria must be met and preserved. The criteria are divided into either imperative or guideline. As most beach criteria are imperative, the beach must fulfil them to receive the award. In the case of guideline criteria, there is no obligation to attain them, but it is desirable that they are attained. The criteria are presented in Table 1. As can be seen, many of the criteria refer to the management of the natural resources of each locality. Meanwhile, other criteria that compel municipalities to provide information of the actual situation of the beach act as a tool to improve the quality of management, as the actual situation becomes public and the adequacy of the local authorities' management is exposed. Finally, some criteria refer to services available to beachgoers that are not linked directly to either the sustainability of the management of the area or the cleanliness of the water and the sand.

The recognition of the established criteria to be awarded with a Blue Flag is conducted every year by the FEE from the data provided by the Blue Flag applicant (local municipality, private hotel, national park, or private beach operator). The documentation is sent to the National Jury, which decides upon either the rejection or approval at the national level,

Table 1
Blue Flag categories and criteria for beach certifications.

Categories	Criteria	Imperative/ Guideline
Environmental, education and information	Information about the Blue Flag Programme and other FEE eco-label must be displayed	I
	Environmental education activities must be offered and promoted to beach users	I
	Information about bathing water quality must be displayed	I
	Information relating to local eco-systems, environmental elements and cultural sites must be displayed	I
	A map of the beach indicating different facilities must be displayed	I
	A code of conduct that reflects appropriate laws and/or regulations governing the use of the beach and surrounding areas must be displayed	I
Water quality	The beach must fully comply with the water quality sampling and frequency requirements	I
	The beach must fully comply with the standards and requirements for water quality analysis	I
	Industrial, waste-water or sewage-related discharges must not affect the beach area	I
	The beach must comply with the Blue Flag requirements for the microbiological parameter <i>Escherichia coli</i> (faecal coli bacteria) and intestinal enterococci (streptococci)	I
Environmental management	The beach must comply with the Blue Flag requirements for physical parameters	I
	The local authority/beach operator should establish a beach management committee	G
	The local authority/beach operator must comply with all laws and/or regulations affecting the location and operation of the beach	I
	Sensitive areas must be managed	I
	The beach must be clean	I
	Algal vegetation or natural debris must be left on the beach	I
	Waste disposal bins/containers must be available at the beach in adequate numbers and they must be regularly maintained.	I
	Facilities for the separation of recyclable waste materials must be available at the beach.	I
	An adequate number of toilet or restroom facilities must be provided.	I
	The toilet or restroom facilities must be kept clean	I
	The toilet or restroom facilities must have controlled sewage disposal	I
	There must be no unauthorised camping or driving and no dumping on the beach	I
	Access to the beach by dogs and other domestic animals must be strictly controlled.	I
	All buildings and beach equipment must be properly maintained	I
	Marine and freshwater sensitive habitats (such as coral reefs or sea grass beds) in the vicinity of the beach must be monitored	I
	Safety and services	A sustainable means of transportation should be promoted in the beach area.
Appropriate public safety control measures must be implemented		I
First aid equipment must be available on the beach		I
Emergency plans to cope with pollution risks must be in place		I
There must be management of different users and uses of the beach so as to prevent conflicts and accidents		I
There must be safety measures in place to protect users of the beach and free access must be granted to the public		I
A supply of drinking water should be available at the beach		G
At least one Blue Flag beach in each municipality must have access and facilities provided for the physically disabled		I

Source: <https://www.blueflag.global/>.

and hence to the International Jury of the FEE, which makes the final decision as to which beaches and marinas will be awarded the Blue Flag for the season. The National Operator and the FEE International audit beaches through control visits, and it is not uncommon for places that had received the recognition to have it removed if they fail to meet the audit requirements.

The goal of the Blue Flag is to attract more responsible users and improve attitudes and civic-environmental behaviour, in addition to compelling authorities to improve their environmental activities (for example sanitization, diffusion of environmental values of each location, etc.) and provide information on measurement scales, examples of best practices, and other aspects. Moreover, this kind of certification is good for the tourism industry, tourist companies, and tourists in the short term (an analysis of its effectiveness can be found in [Creo and Fabroni, 2011](#)). Tourists' concern about the sustainable management of coastal resources, in addition to the warranty of quality that certification indicates in terms of elements such as cleanliness, makes such elements feature in selecting a destination ([Cucculelli and Goffi, 2016](#)). In this sense, the Blue Flag recognition can drive the economic development of the location that receives it ([Capacci et al., 2015](#)).

3. The relevance of the blue flags

3.1. Blue flags in the world

Blue Flags are awarded in 45 countries worldwide, but their distribution by continents clearly favours Europe, which is where 93% of the

global total of Blue Flag recognitions are found, as can be seen in [Fig. 1](#).

As can be seen in [Fig. 2](#), most of the beaches with a Blue Flag are concentrated in Europe, where there are seven countries (Spain, France, Greece, Italy, Portugal, Denmark, and the United Kingdom) with more than 100 awarded beaches. Spain and France contain 26.7% of the total. Sixty two percent of the global total of Blue Flag beaches are concentrated on the European side of the Mediterranean Sea (in Spain, France, Italy, Greece, Portugal, Croatia, Slovenia, Montenegro, Serbia, and Malta). Conversely, the Eastern and Southern Mediterranean beaches have only 15% (Turkey, Israel, Jordan, and Cyprus) and 0.5% (Morocco), respectively, of the Blue Flags.

North Mediterranean countries have a long tradition of exploiting the benefits of the Blue Flag recognition, and the countries from the former economies of Eastern Europe are also intensively using the benefits of eco-certification systems such as Blue Flags (Slovenia, Croatia, Montenegro, Serbia, Romania, Poland, Estonia, Lithuania, Latvia, Bulgaria, Ukraine, and Russia).

Meanwhile, North Africa, with the exception of Morocco, is characterised¹ in general by the practical absence of these tourism promotion systems, partly due to a lack of political initiative and also due to the existence of problems of terrorism, corruption, and crime ([Sönmez and Graefe, 1998](#); [Manuela and de Vera, 2015](#); [Santana-Gallego et al., 2016](#); [Buigt et al., 2017](#)). In the rest of the African continent it is very relevant South Africa with 66 Blue Flags (1.5% over the total). In the rest of the

¹ See [Fourie and Santana-Gallego \(2013\)](#) for analysis of the determinants of African tourism.

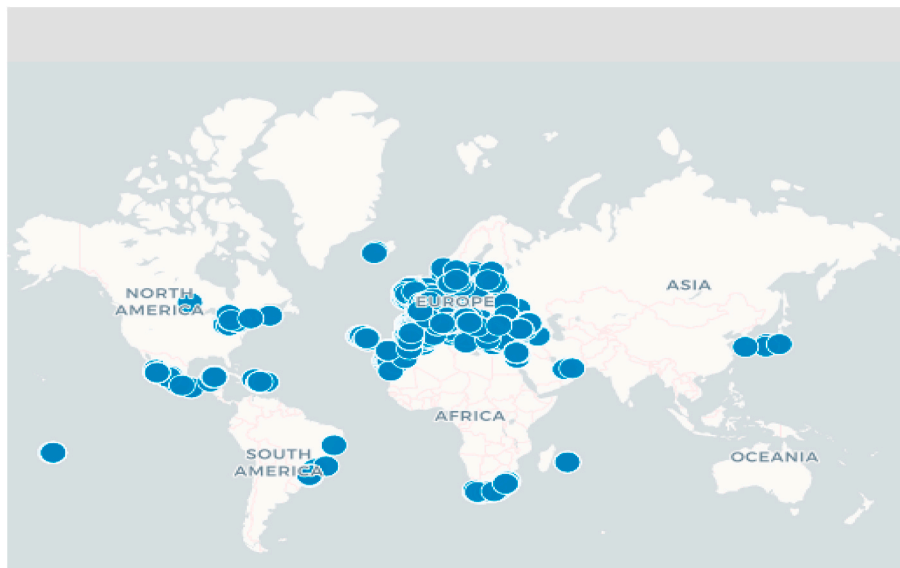


Fig. 1. Blue flags in the world (2019). Source: <https://www.blueflag.global/>. (For interpretation of the references to colour in this figure legend, the reader is referred to the Web version of this article.)

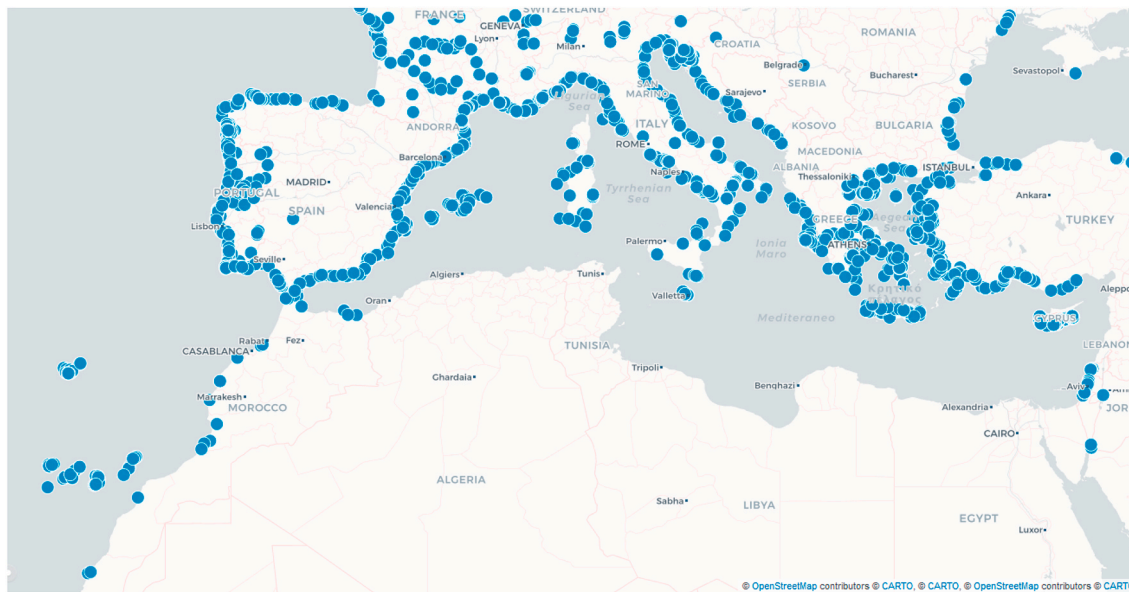


Fig. 2. Blue flags in the mediterranean countries. Source: <https://www.blueflag.global/>. (For interpretation of the references to colour in this figure legend, the reader is referred to the Web version of this article.)

world, countries like Mexico, Canada, and the Dominican Republic stand out, with 1.2%, 0.8%, and 0.6% of the total, respectively.

3.2 The evidence of the importance of the blue flags in the empirical literature

In recent years, the academic literature studying the benefits of the adoption of these schemes has been increasing, though it has been finding different evidence. Nevertheless, although the results are not conclusive in some cases, in general the evidence points to the advantages of supporting this type of recognition.

In Christchurch, New Zealand, Fairweather et al. (2005) studied the relationship between visitors' responses to ecolabels and their perceptions of the environmental value of these labels. Though their survey results showed that visitors' knowledge of ecolabels was low as well as their use was low among destinies, many visitors valued the importance

of these awards and were in favour of their development.

Blackman et al. (2014), used panel data to analyse the effects of the BFP in Costa Rica and found a statistically and economically significant effect on new hotel investment, mainly for luxury hotels. They concluded that the BFP has stimulated the construction of 12–19 additional hotels per year.

Mir-Gual et al. (2015) analysed 481 Blue Flag beaches of Spain's coastline from 2007 to 2012 to determine whether the BFP can influence the environmental and natural features of beaches, or if it is just a mechanism for improving the services and benefits to users. The results showed that the BFP is more focused on the services offered to the users of the beach than on the environmental and ecological issues related to beaches as natural and fragile systems.

Lucrezi et al. (2015) surveyed 579 beachgoers in South Africa to ascertain the importance of the Blue Flag award for beaches. In general, except in the case of one of the most important beaches of South Africa,

the participants affirmed to value more the degradation of water-quality at the beach than the loss of Blue Flag status. Though the participants stated that they valued positively that a Blue Flag recognizes the quality of the beach, this was not their main criterion for visiting a beach.

Saayman and Saayman (2017), in a survey using 374 questionnaires in South Africa, investigated the importance of the BFP in attracting new beachgoers. The results showed that beachgoers take the attributes of a beach, and especially the cleanliness of the water, into account when selecting it. The participants were sensitive to the existence of the BFP and could distinguish and appreciate the importance of the award.

4. Empirical analysis: blue flag as an engine of the local touristic industry in CV

We have conducted empirical analysis of the relationship between eco-labelled beaches and the evolution of the tourism industry for the CV, one of the 17 autonomous regions of Spain. According to the official statistics of the Spanish Ministry of Ecological Transition (which is in charge of environmental resources) the CV has 340 seashore beaches. It must be noted that the tourism industry in CV, which is based mostly on the beaches and complementary activities, is an important sector that accounts for close to 15% of the region's GDP (Morant and Monfort, 1992; Pearce, 1997; Yepes, 2002; Aznar and Nicolini, 2007; Such et al., 2011), and according to the TALC model it can be considered in the stagnant phase of the cycle of life of touristic destinations (when the touristic sector has an important weight and its growth is lesser than those of regions where tourism is incipient) according to Romão et al. (2013).

Traditionally, CV has more beaches that are recognized with the Blue Flag than do any of the other Spanish regions. According to the latest data from the FEE, (the 2019 edition), CV has 135 beaches with a Blue Flag (out the 340 recognized seashore bathing areas). It must be noted that the Blue Flag recognition is far from static, and from 2003 to 2013 there were 54 cases of non-recognition of beaches that previously had a Blue Flag and 82 cases where a beach that had not been awarded a Blue Flag the previous year received one. Besides, the fact that only approximately 40% of the beaches are recognized with a Blue Flag proves that this ecolabel implies requirements that are generally accessible but also highly demanding. The effort to improve the quality of the water and the coast, to monitor it, and to publish the results requires a specific strategy, usually undertaken by the municipalities, which is not always easy to implement successfully.

To understand how the Blue Flag recognition affects the tourism sector at a local level, we analyse the relationship between the variations in the number of beaches with a Blue Flag in each municipality from 2003 to 2013 with the evolution of the touristic industry from 2003 to 2019. We consider a longer period of time for the evolution of the local tourism sector, as the reaction in terms of economic activity will manifest beyond the yearly recognition of beach quality with the Blue Flag system.

The data for the number of beaches with a Blue Flag recognition in each town are published, among other places, in the statistical portal of Generalitat Valenciana, the regional government. Although Blue Flags

can also be awarded to marinas, they have been excluded from our analysis, as few localities have them, and not only are the implications for tourism different but also the requirements for marinas to be recognized with the ecolabel are different. The number of hotels and the number of available beds is also provided by the statistical database of the regional government based on the legal requirement to be registered.

The 518 km of coast along the CV are divided among 60 municipalities with at least one recognized beach (coastal areas where geographical reasons preclude safe access and bathing are not recognized as such). Eleven of these municipalities (almost 20%) did not have any beaches recognized with a Blue Flag during our study period.

We classify the 60 coastal localities according to the evolution in the number of bathing areas with Blue Flag recognition (increased, stable, and decreased) and analyse the evolution of their tourism industry from the perspectives of the hotel industry and the whole accommodation and food-service activities. As the analysis is based on comparison of the evolution of the tourism industry across localities of the same region, we can neglect other external factors, such as the increase of tourism due to the concerns that other Mediterranean countries generated for their political situation, promotion campaigns, impact of airfares, which can bias the results because all the localities will be affected equally. We have focused on the appeal that cleaner and more sustainably managed beaches can have both for tourists who spend several days in the locality (and then demand a hotel to sleep in) and for day-tripper beachgoers from other localities who do not require a place to sleep in, but go to restaurants and bars, etc.

The evolution of the hotel industry is measured by the number of hotels and the number of places the hotels have available. The whole accommodation and food-service activities (section I on the NACE Rev.2) are measured by the number of working people registered in the Social Security in this sector (note that registration in the Social Security is compulsory, both for employees and for self-employed people). All these data are provided by the regional government on a local basis for every year.

Although tourism is the most important industry in CV (close to 15% of GDP) (source: Spanish Statistical Institute - INE) and most of it is related to beach and coastal resources, the evolution of the tourism sector is not determined solely by beach-related activities in the case of largest cities of the region, which are also on the seashore. As this element may blur the results in the case of Valencia (the capital city, with close to one million inhabitants) and the other three largest cities (Alicante, Elche, and Castellón de la Plana), we present the same results excluding these four towns. Table 2 reports the evolution of the analysis of the evolution of the accommodation sector for the different municipalities of CV.

As can be seen in Table 2, from 2003 to 2013, twenty-two localities increased the number of beaches that were recognized with Blue Flags, three localities decreased the number, and thirty-five maintained the same number. The evolution of the hotel sector was more positive in those localities that improved the quality of their beaches and were recognized for it. Those municipalities that improved their beaches increased both the number of hotels (63% vs. 33% of those that decreased) and the number of offered beds by more. This shows that

Table 2
Evolution of hotels according the evolution of Blue Flag in localities of CV.

Blue Flag evolution	Number of localities	Change in the # hotels	Average of local growth rate in the # hotels	Change in the # beds	Average of local growth rate in the # beds
Decreased	3	7	33%	536	23%
Stable	35	45	22%	12,279	27%
Increased	22	70	63%	11,081	44%
<i>Excluding the top 4 largest cities</i>					
Decreased	3	7	33%	536	23%
Stable	33	35	22%	10,670	27%
Increased	20	19	59%	3586	37%

Source: Own elaboration

those municipalities that make the extra effort to manage their beaches according to the criteria for Blue Flag recognition increase their hotel industry by more than do those municipalities that do not make the effort. In this sense, we are providing some evidence that more sustainable management of beaches triggers (or strengthens) the appeal of that municipality for tourists, confirming the results of Blackman et al. (2014) for Costa Rica. This additional flow of tourists generates an increase in the hotel industry in the locality and, consequently, provides an additional stimulus for the local economy. As the results excluding the four largest cities show, the conclusions are robust to these cases since the result that localities that increase their Blue Flags increase more their touristic sector holds.

Table 3 reports the evolution of the whole accommodation and food-service activities. As indicated before, this variable captures not only the evolution of the hotel industry (which is related to tourists who spend more than one day in a location) but also the food and beverage service activities. Daily beachgoers that do not sleep in the location may also strengthen this economic sector if the appeal of beaches recognized with a Blue Flag is valued by them. As can be seen from the evolution of the number of jobs in section 1, the municipalities that have improved their beaches increase the number of jobs by more than do those municipalities that have not improved their beaches. Again, this result confirms that more sustainable beach management is a pulling force for the local economy.

5. Discussion

Beach ecolabelling is a strategy that reports certain characteristics of bathing areas and compels authorities, firms, and users to practice sustainable management of the coastal areas under their influence. Although management that allows preservation of resources is an act of responsibility towards future generations, it may have an impact on the current economic situation, in respect of the extent to which tourists and beachgoers place more value on these areas.

In this paper, we have focused on the implications of ecolabelling on the development of the local tourism sector. The existing literature has yielded mixed results on the appeal of some of the current ecolabels as determinants on the selection of a beach to go in different parts of the world, but the question on the effect on the whole tourist sector is necessary and, till now, not covered by the literature (see Zielinski and Botero, 2019).

The Blue Flag, managed by the Foundation for Environmental Education, has been used as reference for our empirical analysis as it is the most widely used ecolabel in this field. The empirical analysis has been conducted for Comunitat Valenciana, one of the Mediterranean Spanish regions in which tourism, based on the use of beaches, is a key element of the economy.

The empirical analysis has focused on the tourism industry from two perspectives: on the one hand, hotels as indicators of people who choose a location at which to spend several days and, on the other hand, the whole accommodation and hospitality sector, where food and drink service activities are also included. As Blue Flags are awarded every year, we have exploited the fact that some municipalities have increased

Table 3
Evolution of jobs in the tourism sector according the evolution of Blue Flag in localities of CV.

Blue Flag evolution	Growth rate (%) in the # jobs in touristic activities
Decrease	19.0
Stable	21.7
Increase	30.6
<i>Excluding the top 4 cities</i>	
Decrease	19.0
Stable	20.8
Increase	30.6

Source: Own elaboration

the number of bathing areas with a Blue Flag, whereas others have seen a decrease.

Among the 60 coastal localities of CV, 22 increased the number of bathing areas with a Blue Flag in 2003–2013, three reduced the number, and 35 maintained the same number throughout the decade. The evolution of the tourism sector (hotels and beds), in addition to the number of jobs in the whole tourism and hospitality sector from 2003 to 2019 shows that localities that increased the number of beaches awarded with a Blue Flag experienced larger growth of their local tourism sector than did localities that kept their number constant and even larger growth than did localities in which the number of Blue Flag beaches declined. This result is consistent with Blackman et al. (2014) for Costa Rica and contradicts the results of Lucrezi et al. (2015) and Saayman and Saayman (2017), who show that beachgoers in South Africa, although they value the quality of the water, do not pay special attention to whether the beaches have Blue Flag recognition.

6. Conclusions

One of the common features of economies in the 21st century is the need to incorporate sustainability schemes in their development. This is also applicable to the tourism sector, which needs to adapt its procedures and strategies accordingly. As is the case in other sectors, sustainable management of resources is often valued by potential customers, especially those with higher purchasing power.

In this paper, we have focused on the sustainable management of beaches, a key element of a large part of tourism. Even if these resources are managed following sustainable policies and principles, some kind of recognition is necessary, to serve both as a benchmark for the responsible stakeholders (firms, authorities, users) and as a reference for potential users.

Blue Flags are a widely used tool that serves this purpose. Blue Flag recognition implies a deep commitment to sustainable management of coastal resources and also promotes more environmentally conscious behaviour on the part of beachgoers. Our analysis has shown that the extension of this tool for these purposes is, as yet, scarce among countries. Moreover, in this paper we have shown in Comunitat Valenciana (CV), which is the Spanish region with the largest number beaches recognized with a Blue Flag, how localities that increase the number of Blue Flags they are awarded experience greater development of their tourism sectors than do those localities that either maintain a constant number or show a decrease. This result holds even excluding the top 4 largest cities that, although being touristic hotspots with large coastal areas, will also have a different kind of tourist service demand. We feel that this result is a valuable reference for the importance of Blue Flag recognition as a tool to promote a certain kind of tourism in coastal localities.

The results suggest some future lines of research. Although some evidence of the valuation of Blue Flag recognition is already available (e.g., Saayman and Saayman, 2017, for South Africa; Blackman et al., 2014, for Costa Rica), it is necessary to continue the analysis for other parts of the world, as this can reveal that more sustainable management of coastal areas does not conflict with the development of the local tourism industry and will help increase the value of the Blue Flag program (Zielinski and Botero, 2019). Moreover, the identification of some best-practice cases can serve as reference to local development plans in other parts of the world. Furthermore, a deeper analysis of the link between a sustainable management of beaches and the supply of additional services and complementary activities (e.g., diving, excursions in nature, sailing, yachting, or standard activities linked to leisure) seems to be valuable as, very likely, the kind of tourists that value a sustainably managed environment will have different preferences for certain complementary services.

Declaration of competing interest

The authors of the manuscript “*Sustainable beach management and promotion of the local tourist industry: Can blue flags be a good driver of this balance?*” declare they do not have any conflict of interest with any party related, directly or indirectly in the development of this research.

References

- Ashley, C., Mitchell, J., 2009. *Tourism and Poverty Reduction. Pathways to Prosperity*. Routledge, London.
- Aznar, J., Nicolini, R., 2007. El sector turístico en la Comunidad Valenciana: unos elementos de análisis de la demanda en el marco de la economía geográfica. *Rev. Estud. Reg. (Segunda Época)* 79, 43–72.
- Blackman, A., 2010. Alternative pollution control policies in developing countries. *Rev. Environ. Econ. Pol.* 4 (2), 234–253.
- Blackman, A., Naranjo, M.A., Robalino, J., Alpizar, F., 2014. Does tourism eco-certification pay? Costa Rica's blue flag program. *World Dev.* 58, 41–52.
- Boevers, J., 2008. Assessing the utility of beach ecolabels for use by local management. *Coast. Manage.* 36 (5), 524–553.
- Botero, C., Pereira, C., Tosic, M., Manjarrez, G., 2015. Design of an index for monitoring the environmental quality of tourist beaches from a holistic approach. *Ocean Coast Manag.* 108, 65–73.
- Buckley, R., 2002. Tourism ecolabels. *Ann. Tourism Res.* 29 (1), 188–208.
- Buckley, R., 2004. *Environmental Impacts of Ecotourism*. CABI Publishing, Cambridge, Mass.
- Buigut, S., Braendle, U., Sajeewani, D., 2017. Terrorism and travel advisory effects on international tourism. *Asia Pac. J. Tourism Res.* 22 (10), 991–1004.
- Capacci, S., Scorcu, A.E., Vici, L., 2015. Seaside tourism and eco-labels: the economic impact of Blue Flags. *Tourism Manag.* 47, 88–96.
- Cavero-Rubio, J.A., Amorós-Martínez, A., 2020. Environmental certification and Spanish hotels' performance in the 2008 financial crisis. *J. Sustain. Tourism*. <https://doi.org/10.1080/09669582.2019.1705316>.
- Creo, C., Fraboni, C., 2011. Awards for the sustainable management of coastal tourism destinations: the example of the blue flag program. In: Micallef, A. (Ed.), *MCR3-2010 Conference Proceedings, Journal Of Coastal Research*, vol. 61, pp. 378–381.
- Cucculelli, M., Goffi, G., 2016. Does sustainability enhance tourism destination competitiveness? Evidence from Italian Destinations of Excellence. *J. Clean. Prod.* 111, 370–382.
- Dodds, R., Joppe, M., 2005. CSR in the Tourism Industry? the Status and Potential for Certification, Codes of Conduct and Guidelines. Study Prepared for the CSR Practice Foreign Investment Advisory Service Investment. Climate Department.
- Dodds, R., Holmes, M.R., 2019. Beach tourists; what factors satisfy them and drive them to return. *Ocean Coast Manag.* 168, 158–166.
- Fairweather, J.R., Maslin, C., Simmons, D.G., 2005. Environmental values and response to ecolabels among international visitors to New Zealand. *J. Sustain. Tourism* 13 (1), 82–98.
- Fayissa, B., Nsiah, C., Tadesse, B., 2008. The impact of tourism on economic growth and development in Africa. *Tourism Econ.* 14 (4), 807–818.
- Font, X., 2002. Environmental certification in tourism and hospitality: progress, process and prospects. *Tourism Manag.* 23, 197–205.
- Fourie, J., Santana-Gallego, M., 2013. The determinants of African tourism. *Dev. South Afr.* 30 (3), 347–366.
- Fraguell, R.M., Martí, C., Pintó, J., Coenders, G., 2016. After over 25 years of accrediting beaches, has Blue Flag contributed to sustainable management? *J. Sustain. Tourism* 24 (6), 882–903.
- Hall, C.M., 2019. Constructing sustainable tourism development: the 2030 agenda and the managerial ecology of sustainable tourism. *J. Sustain. Tourism* 27 (7), 1044–1060.
- Hardy, A., Beeton, R.J., Pearson, L., 2002. Sustainable tourism: an overview of the concept and its position in relation to conceptualisations of tourism. *J. Sustain. Tourism* 10 (6), 475–496.
- Hampton, M.P., Jeyacheya, J., 2013. *Tourism and Inclusive Growth in Small Island Developing States*. The Commonwealth Secretariat, London.
- Hashimoto, A., 1999. Comparative evolutionary trends in environmental policy: reflections on tourism development. *Int. J. Tourism Res.* 1, 195–216.
- Holden, A., 2016. *Environment and Tourism*, third ed. Routledge, London.
- Honey, 2002. *Ecotourism and Certification: Setting Standards in Practice*. Island Press, Washington DC.
- Honey, M., Rome, A., 2001. *Protecting Paradise: Certification Programs for Sustainable Tourism and Ecotourism*. Institute for Policy Studies, Washington DC.
- Hunter, C.J., 1995. On the need to re-conceptualise sustainable tourism development. *J. Sustain. Tourism* 3 (3), 155–165.
- Klein, L., Dodds, R., 2017. Perceived effectiveness of Blue Flag certification as an environmental management tool along Ontario's Great Lakes beaches. *Ocean Coast Manag.* 141 (1), 107–117.
- Liu, Z., 2003. Sustainable tourism development: a critique. *J. Sustain. Tourism* 11 (6), 459–475.
- Lucrezi, S., van der Merwe, P., 2015. Beachgoers' awareness and evaluation of the blue flag award in South Africa. *J. Coast Res.* 31 (5), 1129–1140.
- Manuela, W.S., de Vera, M.J., 2015. The impact of government failure on tourism in the Philippines. *Transport Pol.* 43 (October), 11–22.
- Martín-Rojo, L., 2009. Economic development versus environmental sustainability: the case of tourist marinas in Andalusia. *European Journal of Tourism Research* 2 (2), 162–177.
- Mavris, C., 2011. Sustainable environmental tourism and insular coastal area risk management in Cyprus and the Mediterranean. *J. Coast Res.* 61, 317–327.
- McKenna, J., Williams, A.T., Cooper, J.A., 2011. Blue Flag or Red Herring: do beach awards encourage the public to visit beaches? *Tourism Manag.* 32 (3), 576–588.
- Mieczkowski, A., 1995. *Environmental Issues of Tourism and Recreation*. University Press of America, Lanham, Md.
- Mihalić, T., 2000. Environmental management of a tourist destination: a factor of tourism competitiveness. *Tourism Manag.* 21, 65–78.
- Mir-Gual, M., Pons, G.X., Martín-Prieto, J.A., Rodríguez-Perea, A., 2015. A critical view of the Blue Flag beaches in Spain using environmental variables. *Ocean Coast Manag.* 105 (March), 106–115.
- Mitchell, J., Ashley, C., 2010. *Tourism and Poverty Reduction. Pathways to Prosperity*. Earthscan, London.
- Morant, A., Monfort, V., 1992. La actividad turística y su promoción desde la Comunidad Valenciana. *Papers de Turisme* 8/9, 57–74.
- Morgan, R., 1999. A novel, user-based rating system for tourism beaches. *Tourism Manag.* 20, 393–410.
- Pearce, D., 1997. Tourism and the autonomous communities in Spain. *Ann. Tourism Res.* 24 (1), 156–177.
- Romão, J., Guerreiro, J., Rodrigues, P., 2013. Regional tourism development: culture, nature, life cycle and attractiveness. *Curr. Issues Tourism* 16 (6), 517–534.
- Romeril, M., 1985. Tourism and the environment—towards a symbiotic relationship. *Int. J. Environ. Stud.* 25 (4), 215–218.
- Russell, C., Vaughan, W., 2003. The choice of pollution control policy instruments in developing countries: arguments, evidence and suggestions. In: *International Yearbook of Environmental and Resource Economics*, vol. vol. II. Edward Elgar, Cheltenham, UK.
- Saayman, M., Saayman, A., 2017. How important are blue flag awards in beach choice? *J. Coast Res.* 33 (6), 1436–1447.
- Santana-Gallego, M., Rosselló-Nadal, J., Fourie, J., 2016. The effects of terrorism, crime and corruption on tourism. *Economic Research Southern Africa (ERSA)* 595, 1–28.
- Sasidharan, V., Sirakayab, E., Kerstetter, D., 2002. Developing countries and tourism ecolabels. *Tourism Manag.* 23, 161–174.
- Scheyvens, R., 2002. *Tourism for Development: Empowering Communities*. Prentice Hall, London.
- Scheyvens, R., 2011. *Tourism and Poverty*. Routledge, London.
- Sequeira, T.N., Nunes, P.M., 2008. Does tourism influence economic growth? A dynamic panel data approach. *Appl. Econ.* 40, 2431–2441.
- Sónmez, S., Graefe, A.R., 1998. Influence of terrorism risk on foreign tourism decisions. *Ann. Tourism Res.* 25 (1), 112–144.
- Such, M.P., Rodríguez-Sánchez, I., Capdepón, M., 2011. Los espacios naturales protegidos litorales de la Comunidad Valenciana: una oportunidad para la diversificación de los destinos turísticos consolidados de sol y playa. In: Diego López Olivares (coord.) *Renovación de destinos turísticos consolidados*. Tirant lo Blanch, Valencia (Spain), pp. 683–700.
- Synergy, 2000. *Tourism Certification: an Analysis of Green Globe 21 and Other Tourism Certification Programmes*. Report prepared by Synergy Ltd for WWF-UK, London.
- United Nations Environment Programme UNEP, 1998. *Ecolabels in the Tourism Industry*. United Nations Publication, UNEP, Paris (France).
- United Nations Environment Programme UNEP, 2005. *Making Tourism More Sustainable. A Guide for Policymakers*. United Nations Publication, UNEP, Paris (France).
- Winters, P., Corral, L., Moreda Mora, A., 2013. Assessing the role of tourism in poverty alleviation: a research agenda. *Dev. Pol. Rev.* 31 (2), 177–202.
- Yepes, V., 2002. Estrategias y política turística de la Comunidad Valenciana: su incidencia en el litoral. *Cuad. Tur.* 9, 165–173.
- Zielinski, S., Botero, C.M., 2019. Myths, misconceptions and the true value of Blue Flag. *Ocean Coast Manag.* 147, 15–24.