

Luxury Tourism and Environmental Awareness: A Case Study in Alifu Dhaalu Atoll, Maldives

The Republic of Maldives is a leading global tourism destination. Indeed, Maldivian resort-islands embody the so-called «lure of islands» (Baldacchino, 2012) over European visitors, largely due to the attractiveness of their coral reefs and coral sand beaches. Nevertheless, the effects of climate change directly threaten this key sector of the Maldivian economy, given that WTO has listed the Maldives as a disappearing destination. Reconciling luxury tourism with the need for sustainability is a keenly debated issue among scholars (Cowburn and others, 2018; de-Miguel-Molina, de-Miguel-Molina and Rumiche-Sosa, 2014; Luppis, 2016) it has been argued that environmental awareness combined with targeted management strategies may elicit a «resort effect» (dell'Agnese, 2019), a positive feedback loop contributing to the conservation of local marine species and environments under threat. The International Ocean Literacy movement, which is supported by UNESCO, is growing steadily and encouraging the public to adopt respectful environmental behaviors. We present the findings of fieldwork conducted in 2019, analyzing and discussing data gathered via the administration of interviews and questionnaires in Diamonds Thudufushi (Alifu Dhaalu). The aims of the study were to investigate the level of environmental awareness among tourists, and to evaluate the environmental information strategies implemented by resort management. The paper contributes to the current debate on tourism and environmental awareness (Crossley, 2020) as well as offering critical insights and scientifically informed recommendations for sustainable practices.

Turismo di lusso e consapevolezza ambientale: un caso di studio nell'atollo di Alifu Dhaalu alle Maldive

Le Maldive sono considerate una destinazione leader nel mercato turistico globale, le sue isole-resort incarnano la «lure of islands» (Baldacchino, 2012) dei viaggiatori europei, grazie ai reef corallini e alle spiagge tropicali. Gli effetti del cambiamento climatico minacciano direttamente un settore economicamente rilevante, tanto che il WTO ha incluso le Maldive nella lista delle future disappearing destination. La relazione tra sostenibilità e turismo di lusso è un tema dibattuto tra gli studiosi (Cowburn e altri, 2018; de-Miguel-Molina, de-Miguel-Molina e Rumiche-Sosa, 2014; Luppis, 2016) che sostengono che le strategie di gestione unite all'informazione ambientale possono stimolare un «effetto resort» (dell'Agnese, 2019), ovvero un feedback positivo che contribuisce alla protezione degli habitat marini. In parallelo, il dibattito sull'Ocean Literacy promosso da UNESCO, sta progressivamente aumentando la consapevolezza dei cittadini sui temi della tutela ambientale. Lo studio presenta i risultati di un lavoro sul campo condotto nel 2019 – attraverso interviste e questionari – presso Diamonds Thudufushi (Alifu Dhaalu) al fine di comprendere il livello di consapevolezza ambientale tra i turisti e di valutare le strategie di informazione ambientale promosse dal management. L'articolo contribuisce al dibattito sul ruolo dell'informazione ambientale nel turismo (Crossley, 2020) e riporta raccomandazioni, scientificamente supportate, che possono contribuire a introdurre pratiche sostenibili.

Turismo de lujo y conciencia ambiental: un estudio de caso en el atolón de Alifu Dhaalu en las Maldivas

La República de Maldivas es un líder del mercado turístico mundial. Sus resort-islands encarnan el «lure of islands» (Baldacchino, 2012) de los turistas europeos. Esta posición se basa en el atractivo de los reef y de las playas de arena coralina. Por consiguiente, los efectos del cambio climático amenazan directamente al sector clave de la economía nacional. El WTO incluyó a Maldivas entre los futuros disappearing destination. La coexistencia de la sostenibilidad y el turismo de lujo – especialmente en los Estados Insulares – es una cuestión debatida por los estudiosos (Cowburn y otros, 2018; de-Miguel-Molina, de-Miguel-Molina y Rumiche-Sosa, 2014; Luppis, 2016) que sostienen que las prácticas de los lugares turísticos pueden causar un «resort effect» (dell'Agnese, 2019) preservando las especies marinas locales y el medio ambiente. Asimismo, el debate sobre la Ocean Literacy está alentando al público en general a adoptar comportamientos mediambientales correctos. En este documento se presentan las conclusiones de un trabajo de campo realizado en 2019 en Diamonds Thudufushi (Alifu Dhaalu). Los objetivos del estudio eran comprender el nivel de conciencia ambiental de los turistas y evaluar las estrategias de información y educación ambiental promovidas por la administración. Además, el documento ofrece ideas críticas y recomendaciones para crear prácticas sostenibles y desarrollar el debate actual sobre el deseo de protección ambiental en el turismo (Crossley, 2020).

Keywords: luxury tourism, Maldives, sustainability, marine environment, Ocean Literacy

Parole chiave: turismo di lusso, Maldive, sostenibilità, ambiente marino, Ocean Literacy

Palabras clave: turismo de lujo, Maldivas, sostenibilidad, medio ambiente marino, Ocean Literacy



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1. Island Tourism and Island-Resorts: The Maldivian Route to Luxury Tourism

After the first resorts in the Maldives (*Kurumba* and *Bandos* in the Atoll of Kaafu) opened for business in 1972, the country became a leading global tourism destination within the space of a few decades. Following an initial pioneering phase, Maldivian governments began to regulate – in the early 1980s – the national tourism sector via a body of acts, bills, and regulations, known as *Tourism Master Plans*¹. State-driven/controlled tourism development (Domroes, 2001), while monitoring and attracting foreign investors and stakeholders, has made a decisive contribution to the consolidation of a sophisticated and competitive international tourist industry. Within this sector, often publicly stigmatized as environmentally unsustainable and socially exclusive, resorts remain the most widespread hospitality structure, accounting for over two-thirds of total bed capacity in the Maldives (National Bureau of Statistics, 2019). The leadership of resort-islands is underpinned by the successful «One island, One resort» model (dell’Agnese, 2018), based on a leasing system through which the government grants the exclusive management of an uninhabited island to a company: one island, one hotel. Geographically speaking, resort-islands may be categorized as enclaves (Minca, 2009; Cohen and Neal, 2012; Saarinen, 2017): mono-functional places shaped by physical boundaries, intentionally operating as separate entities from the endogenous environment. Furthermore, the Maldivian resort-island is a «planned heterotopy» (dell’Agnese, 2019), where nature, bodies, time, and spatiality are managed to meet guests’ expectations, and designed to reinforce the illusion of enjoying a holiday – a hedonistic

experience – surrounded by a tropical paradise² (dell’Agnese, 2018).

Maldivian resort-islands offer all-inclusive luxury holidays. Essentially, luxury operators sell tourists a gratifying experience (Luppis, 2016). This market segment has recently undergone the so-called «democratization of luxury» (Moscardo and Benckendorff, 2010), with a larger number of consumers acquiring luxury goods and services. In the meantime, the quest for sustainability has become the new frontier of luxury, and, although luxury and sustainability appear to be incompatible, it is possible for them to function interdependently (Aybaly and others, 2017) given that luxury tourism may be designed to sustainable standards (Luppis, 2016).

The Maldives embody the «lure of islands» (Baldacchino, 2012) thanks to their attractive coral reef ecosystems, extraordinary biodiversity, and white sandy beaches. Climate change and anthropogenic stressors are severely impacting this fragile environment, leading the World Tourism Organization to list the Maldives among future disappearing destinations. Nevertheless, the profit margins of a luxury resort are large enough to cover the cost of conserving and regenerating the natural environment (Luppis, 2016), thus making it feasible to protect marine life (Moritz and others, 2017).

The apparently antithetical relationship between environmental crises and tourism development makes the Maldives an interesting case study in combining sustainability and luxury. Based on a comparative study of the three most successful international models of luxury island tourism (Maldives, Seychelles, and French Polynesia), de-Miguel-Molina and colleagues (2014) observed that resort-island managers mainly plan for sustainability by modulating the range of ac-



tivities proposed to tourists (sports, excursions, talks, special events, charity and projects), without compromising the level of service on which their luxury offering is *de facto* based. In light of this pattern, the authors discuss the role that such collateral activities (based on environmental information and active tourist involvement) may play in positively influencing visitors' level of environmental awareness, while enhancing the so-called «resort effect».

2. Citizen Science and «Resort-Effect»

According to the recent *Maldives Visitors Surveys* conducted by the Ministry of Tourism (2020), over 70% of visitors list underwater landscapes, flourishing coral reefs, sunny weather, and coral beaches among the factors that attracted them to the country. On the other hand, guests at Maldivian resorts are high-end tourists with corresponding levels of resource consumption (in terms of food, water, land, etc.). If not sustainably managed, growing tourist volumes can potentially lead to coral damage, island ecosystem pollution, and overfishing (Moritz and others, 2017; Burke and others, 2011). While the *Fourth Tourism Master Plan* (2007-2013) introduced a set of basic standards for environmental-friendly accommodation, some resorts have independently implemented policies for attaining environmental sustainability and enhancing guests' environmental awareness. Indeed, combining environmental programs and active visitor involvement appears to be a potential strategy for developing «sustainable luxury offerings». Citizen science and the «resort-effect» are the twin pillars of this strategy. The former is defined as «scientific work undertaken by members of the general public, often in collaboration with or under the direction of professional scientists and scientific institutions» and can contribute to the broader dissemination of scientific and environmental knowledge (Branchini and others, 2015). The latter is the positive impact of tourist resorts' environmental measures on the health of coral reef species that are threatened by anthropic stressors (Moritz and others, 2017).

Cross-fertilization between Ocean Literacy and environmental information acts to shape guests' environmental awareness (Lyon, Bidwell and Pollnac, 2018). Ocean Literacy plays a crucial role in fostering people's ocean citizenship³ (Santoro and others, 2017); it enhances awareness of the sea and marine issues, encouraging respectful behaviors, especially among those who do not encounter the

ocean in the course of their everyday experience but mainly interact with marine environments when on holiday⁴. Environmental information can directly convey the importance of ecosystems to the general public. Citizen science initiatives can play a key role in involving the members of the broader community in scientific projects, conducted in collaboration with researchers and scientists. It should be noted that, despite a well-established interdisciplinary debate (in the fields of education for sustainable development, tourism studies, and communication sciences), the terms «environmental education» and «environmental information» continue to be in tourism.

In this paper, we focus on environmental information, acknowledging the difference between educational projects and actions intended, via practices and knowledge, to facilitate changes in people's environmental behaviors (environmental education), and activities designed to disseminate facts about specific environmental issues and topics, thereby enhancing Ocean Literacy (environmental information).

While environmental programs can contribute to enhancing the sustainability of resorts, from a geographical perspective, maintaining the required levels of customer satisfaction nevertheless implies that resort-islands will continue to function as high-consumption systems in relation to energy, water, food, and waste management (dell'Agnese, 2021; Malatesta, 2021). In the Maldives, as the successful case of the Soneva resort illustrates, sustainability is being assigned progressively higher priority in resorts' business plans and policies. As earlier noted, these plans and policies often leverage the interaction between top-down measures and the direct involvement of guests. Income earned on luxury offerings can be re-invested in the conservation of marine resources, while citizen science and environmental information initiatives can significantly reduce visitors' impact on marine and insular habitats.

The fieldwork presented in the following sections was designed to investigate both the potential connections and the current gaps between reef protection activities (which come under the «resort effect») and the practical impact of environmental information campaigns. In the context of luxury tourism, are these synergic layers or should they be viewed as separate strategies?

3. The Case Study: Diamonds Thudufushi

The project was conducted between the 20th of



September 2019 and the 16th of December 2019 in Diamonds Thudufushi (3.786268N; 72.731228E), a resort island located in Alifu Dhaalu Atoll, in the Republic of Maldives. The aim of the study was to assess levels of environmental awareness among the resort's guests, while evaluating the effectiveness of environmental information strategies implemented by the management, with a view to generating feedback and feasible recommendations. Diamonds Thudufushi is on the front line of the battle to protect and conserve the marine ecosystem via the deployment of a range of citizen science and environment information actions and strategies:

- a) the establishment of a Marine Lab, a focal point informing guests about the reef's ecosystems and environmental best practices;
- b) weekly meeting and events designed to generate dialogue between experts from a range of fields (biologists, geographers, marine scientists) and guests;
- c) beach cleaning events;
- d) charity and cooperative projects.

The resort's resident marine biologist plays a key role in its environmental programs. Employed by the facility to manage its Marine Lab and conservation activities, the marine biologist also delivers guided snorkeling sessions and excursions, oversees the Coral Conservation Project (CCP), and coordinates citizen science activities whose aim is to «preserve the coral reefs and generate and encourage responsible tourism» (<http://coralf-rame.planhotel.com>; last accessed: 01.IX.2020).

4. Methodological Framework: Sampling and Tools

With regard to the study's methodological structure, the team used a sequential mix of data gathering methods that reflected the theoretical domains of the Theory of Planned Behavior (TPB; Ajzen, 1991). TPB posits that personal attitude, subject norms, and perceived behavioral control, taken together, shape an individual's behavioral intentions and resulting behavioral output. Hence, we set out to explore the guests' «stance» on environmental issues, by adopting a research design that was explanatory, bottom-up, sequential, and mixed-method (Creswell and Plano Clark, 2017).

In keeping with the multi-strand, mixed-method research tradition (fig. 1), as a first step, the team organized two pre-departure small-group interview-based discussions, each with three key informants with professional training and experience in the field of ocean sciences. During the sessions, the team used a photo elicitation method (Clark-Ibáñez, 2004) to draw out crucial topics surrounding the relationship between individual behaviors and the marine ecosystem. Thematic and in-depth analysis of the interview data informed the second strand of the study.

Specifically, the interview output was used to develop questionnaires to be completed by guests at the resort; and identify thematic areas to explore with members of the resort staff with significant experience of marine conservation. The questionnaires were designed in keeping with the

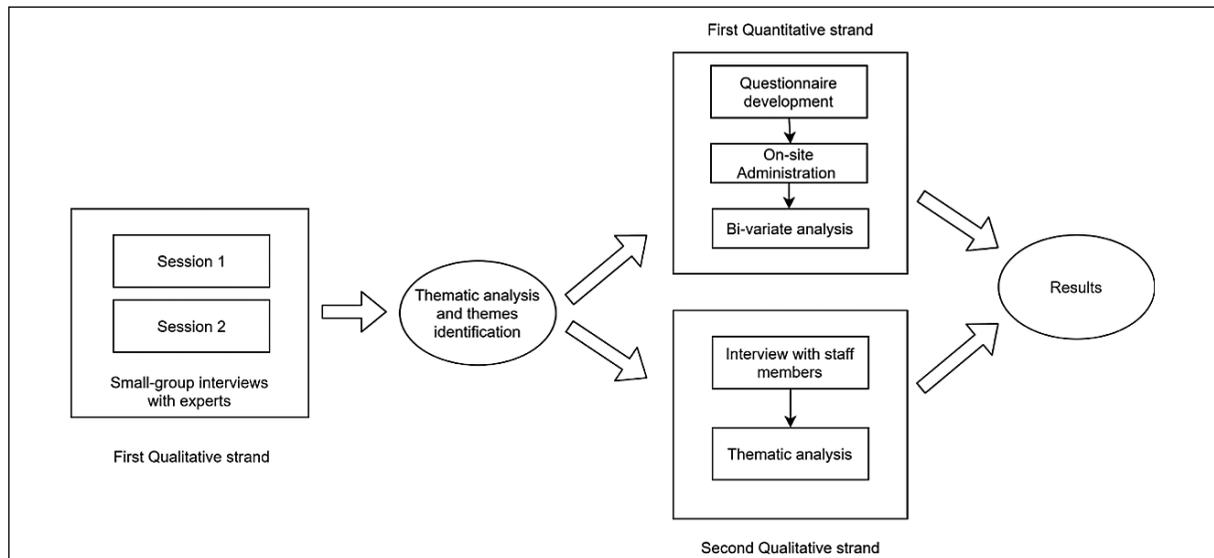


Fig. 1. Summary of the sequential mixed-method research design

Source: authors elaboration



Tab. 1. Structure of the questionnaire administered to participants

Section	Item	Aim	Domains
a) Demographic	7	Identify (antecedent) variables that could impact on environmental awareness	Demographic data of guests (age, nationality, level of education, gender) and their interests (diving, license, purpose of visit, number of visits to the sea and visits to the Maldives)
b) Knowledge and awareness	5	Evaluate knowledge and awareness of the marine environment	Marine life (turtle, shark, and coral reef) and about the correct behaviours to engage in at the seaside
c) Involvement and previous experiences	2	Assess respondents' interest in taking part in environmental activities and previous experience of same	Beach cleaning, snorkelling, Coral Conservation Project, biology nights
d) Evaluation	4	Perception of the role of the resident marine biologist and the relationship between guests and the marine lab	Importance of biologists, impact on marine environment, interest in receiving updates about activities

Source: authors elaboration

model used by Branchini and others (2015). The items were divided into four different sections, each covering a key TPB domain. In particular, sections *b*) and *c*) were designed to access knowledge about, attitudes towards, and awareness of environmental topics, as key indicators of an individual's intention (i.e., plans) to behave in a specific manner (Yadav and Pathak, 2016).

The questionnaire for the first quantitative phase of the research was initially devised in English. However, due to the high proportion of Italian guests at the resort, a suitably adapted Italian version was also developed, following the principles of back-translation (Brislin, 1970). During the second qualitative phase, semi-structured interviews comprising ten core questions were conducted with staff members, who were also allowed to digress from the protocol to explore other related topics (Lune and Berg, 2017), with a view «to understand[ing] how individual people experience and make sense of their own lives» (Flowerdew and Martin, 2005, p. 111).

The questionnaires were administered to guests during their stay at the resort but across a range of different settings. Respondents were selected using a non-probability convenience sampling technique (Lune and Berg, 2017; Lyon, Bidwell and Pollnac, 2018). Response rate was 100%. All participants were briefed about the aims of the survey and provided informed consent; they did not receive any kind of financial or monetary reward for completing the questionnaire and were aware that they were free to withdraw from the research at any time. The research was carried out in accordance with the ethical principles of the declaration of Helsinki (Goodyear, Krleza-Jeric and

Lemmens, 2007) and the code of conduct of the American Psychological Association (APA, 2010).

In keeping with the proprieties (i.e., nomothetic and idiographic information; Hurlburt and Knapp, 2006) of the collected data, the team used a range of different analytical tools.

First, standard bi-variate statistics (i.e., t-test analysis, parametric and non-parametric zero-order correlations) were calculated from the quantitative data, in order to explore potential associations between participants' demographic characteristics, antecedent factors, and target outcomes. The antecedent and target variables were evaluated via participants' cumulative scores for «knowledge», «awareness» and «involvement». In the case of nominal/ordinal variables, the Pearson correlation (*r*) coefficient (a dimensionless index used to measure bivariate association; Rodgers and Nicewander, 1988) was computed, while in the case of metric/scale variables, the Spearman correlation coefficient was calculated. With regard to the magnitude of the association between variables, the following thresholds were adopted: weak correlation ($0 < r < 0.35$), moderate correlation ($0.36 < r < 0.67$) and strong correlation ($r > 0.68$).

Second, the team analyzed the qualitative data collected (i.e., the transcripts of the initial small-group interview and interviews with staff members) using two different methods: thematic content analysis (first qualitative phase) and plain frequency count of word occurrences (second qualitative phase). The number of occurrences was represented using a word-cloud program to facilitate identification of the words used most frequently by guests to express their preferences.

As required prior to performing any quantitative analysis of textual data, we first carried out standard data-cleaning procedures to remove items that were irrelevant to our research questions (including two-letter words and connectives such as «and», «because», «they», or «could»). The outcomes of the interviews with staff members, combined with the insights gained from the interviews with small groups of key informants and the open-ended questionnaire items administered to guests, were then drawn on by the researchers to develop a set of recommendations and best practices.

5. Data Analysis

The questionnaire was completed by 122 volunteers. The sample was balanced by gender (62 women). Age was distributed as follows: 31-45 years old (45.9%), 46-60 years (26.2%); 16-30 years (18.9%), and over 61 years (7.4%). In line with the property's marketing strategy, over half the respondents were Italian (59.8%), followed by informants of Swiss (11.5%) and British (7.4%) nationality. Participants' level of education was more varied, with the highest proportion holding a master's degree (39.3%), and a similar – lower – proportion having obtained high school diplomas and bachelor's degrees (23% and 23.8%, respectively). Nine informants held a PhD (7.4%), six had only completed compulsory schooling (4.9%), and two did not state their educational status.

The majority of respondents (81.1%) did not hold a diving qualification. Additional guest information is summarized in table 2.

Over two-thirds of respondents were on their first visit to the Maldives (69.4%). A further 11.6% had already visited the country once and some 10.7% between two and four times; only seven informants had already been between five and ten times (5.8%), and three over ten times (2.5%). The 30.6% of guests who had already been to the Maldives had spent their previous vacations at a number of different resorts, including Thudufushi (22 respondents).

Regarding the purpose of their visit, the guests' leading motives for coming to the country were to relax (40%) or celebrate an anniversary (37.6%). Enjoying the local underwater beauty and practicing snorkeling or diving were cited by 18.8% of respondents as leading them to choose this destination. Only four guests declared an interest in water sports (2.4%), while two guests were there for other purposes (1.2%). These findings are in line with the most recent *Maldives Visitor Survey* (Ministry of Tourism, 2020).

Over half of respondents (57.4%) correctly answered three or four of the four «knowledge items». Mean scores and standard deviations on the individual questions are reported in table 3.

The t-test analysis (tab. 4) conducted to explore the association between guests' demographic characteristics and their scores on the knowledge, awareness, and involvement scales revealed mainly non-statistically significant associations.

Tab. 2. Additional background information on guests

Items	Categories	Percentage
Visits to coastal areas in the past year	1 - 2 times	29,5%
	3 - 5 times	30,3%
	> 6 times	39,3%
Visits to the Maldives	0 times	69,4%
	1 time	11,6%
	2 - 4 times	10,7%
	5 - 10 times	5,8%
	> 10 times	2,5%
Main purpose of current visit	Leisure or relaxation	40%
	Personal celebration	37,6%
	Snorkeling or diving	18,8%
	Water sports	2,4%
	Other purposes	1,2%

Source: authors elaboration



Tab. 3. Questionnaire structure and summary of scores: mean scores and standard deviations

Questions	Item	Mean	St Dev
Awarness	Divers and snorkelers damage corals by touching them	4,06	1,17
	It is allowed to feed fish	4,50	0,68
	It is allowed to touch big marine organisms (turtles, dolphins...)	4,44	0,95
	Collecting creatures from coral reefs (shells, starfishes...) is a good thing to do	4,86	0,35
	Buying souvenirs from coral reefs (shells, starfishes...) is a good thing to do	4,48	0,88
Involvement	Snorkeling	4,66	0,78
	Beach cleansing	2,98	1,02
	Coral conservation	2,98	0,93
	Biology nights	3,82	1,00
Previous experiences	Snorkeling / Beach cleaning / Coral conservation / Other	4,65	0,64
Evaluation	Importance of marine biologist	4,70	0,50
	Impact on the marine environment	4,68	0,57

Source: authors elaboration

Tab. 4. Associations between demographic variables and scores on the questionnaire subscales: results of t-tests and ANOVAs

	Kwnoledge			Awarness		Involvement	
	df	t	P	t	P	t	P
Diving	119	2.33*	.021	.784	.435	.267	.790
Gender	119	.546	.586	1.09	.274	1.08	.281
Education	114	.586	.711	1.41	.227	2.79*	.031

* statistically significant differences, baseline for diving certificate 1=NO

Source: authors elaboration

Tab. 5. Zero-order correlations among the study variables (N=121)

	1	2	3	4	5	m	ds
1. Age	-					39.69	11.96
2. Education	-.168*	-				-	-
3. Knowledge	-.086	.064	-			2.67	1.05
4. Awarness	.139	.158	.309**	-		9.68	2.10
5. Involvement	-.110	.094	.021	.137	-	16.52	2.19

* $p < .05$. ** $p < .01$

Source: authors elaboration

The only exception was a statistically significant difference in scores on the «knowledge» scale, between guests that did not hold a diving certificate and those that did. More specifically, the 23 participants who reported having earned a diving qualification ($M = 2.21$; $SD = 1.12$) displayed significantly greater knowledge of the marine environment than did the 98 non-diver guests ($M =$

2.77 ; $SD = 1.01$) [$t(119) = 2.33$; $p = 0.021$; Cohen's $d = 0.52$]. A further positive association was found between level of education and involvement in activities such as coral conservation, biology nights and snorkeling [$t(114) = 2.79$; $p = 0.031$; Cohen's $d = 0.52$].

Zero-order correlations are summarized in table 5. Age was significantly related to level of edu-



cation ($r = -0.168$; $p = 0.041$) with younger guests reported higher levels of education. Level of education was also (often) positively associated with awareness ($r = 0.158$; $p = 0.068$). Finally, knowledge was moderately associated with awareness ($r = 0.309$; $p = 0.001$), meaning that the more guests knew about marine environments, the more they were aware of the need to protect marine life.

6. Discussion and Outcomes

We now examine our main findings – obtained, as outlined above, via the combined use of a range of methodological tools – in greater depth, with a view to identifying critical insights that can inform a set of sustainable recommendations.

According to Lyon and colleagues (2018) «background information affects general beliefs, which, in turn, influence specific attitudes that have a direct relationship with behaviour» (p. 494), hence knowledge and demographic characteristics can contribute to shaping responsible choices. In our own study, we found that, despite their generally high level of environmental knowledge, respondents were not so clear about which behaviors are appropriate while diving or snorkeling above a coral reef: the lowest mean score (4.06) obtained was on the item «divers and snorkelers damage coral reefs by touching them». Despite scientific consensus that coral reefs are endangered at the global level, with large areas under threat from climate change and anthropogenic stressors (Burke and others, 2011), most people remain unaware of how they themselves can negatively affect the marine environment. Indeed, as observed by our expert informants during the focus group discussions, tourists do not understand that their presence in the water can be potentially dangerous for marine species. Even if they know that they are not supposed to touch them (obtaining a mean score of 4.44 on the item «it is allowed to touch large marine animals»), swimming close to sea creatures is not seen as particularly dangerous. Yet, «all situations that can alter the normal behaviors of marine animals are potentially dangerous for them» (L. – resident marine biologist): for example, bringing large groups of guests into the waters directly above the reef directly affects the level of disturbance to the habitat. Unregulated tourism can amplify this negative impact.

The questionnaire outcomes showed that most of the guests were interested in going snorkeling (92.5%), albeit mainly with a view to seeing and

admiring the reef rather than learning about it. Teaching tourists how to observe the reef and how to behave while visiting it should be a priority, with a view to both enhancing their levels of knowledge and protecting the reef. Individual should be aware of how their actions can, positively or negatively, affect the marine ecosystem conceived as a common good to be safeguarded (Fletcher and Potts, 2007).

The results of the t-test analysis suggested that visitors with a diving certification are more likely to be knowledgeable about the marine environment than other tourists. This finding was in line with the opinion of the key informants, who stated that they believed divers in general to have a better knowledge of ocean issues. It would therefore be desirable to extend this positive outcome to those who practice snorkeling, by educating them to avoid contact with corals and sea creatures (Allison, 1996), especially by way of briefings and information activities conducted directly on the island, with a view to obtaining «multiplier effect in reducing damages» (*ibidem*). Briefings help to introduce guests to the experience, and they are needed to ensure the safety of guests, the environment, and marine animals, thereby contributing to the development of sustainable tourism.

Beach cleanings, the Coral Conservation Project (CCP) and dissemination events all aim at engaging guests and informing them about the marine environment and the threats it is currently facing: our questionnaire outcomes reflect strong interest in these activities (as expressed by 75.8%, 73.6% and 69% of respondents, respectively) as well as concern with making the environment as safe as possible and learning how to conserve it. Prominent terms in the word cloud included «clean», «help», «learn», «know», and 95% of respondents «agreed» or «strongly agreed» that their own behaviors «can affect the health of the marine environment, even when back home». Nevertheless, people are known to sometimes over-report their levels of environmentally responsible behaviors (Lyon, Bidwell and Pollnac, 2018) and little active participation by guests was observed during the period in which the survey was conducted. Finally, guests generally rated the role of the island's resident marine biologist as important, yet only 40% of guests were aware of this figure before arriving on the island.

In the case presented here, environmental information and guest involvement are strategic elements in the managerial vision implemented by the property. Acting on both environment management and guests' awareness, the Coral



Conservation Project is designed to «conserve the coral reefs and create and encourage responsible tourism» (<http://coralframe.planhotel.com>; last accessed: 01.IX.2020). Guests are actively involved in the conservation of the Maldivian reef, which has been profoundly damaged by climate change and tourism-related threats, by inviting them to sponsor a coral frame⁵ thanks to a twofold practice.

First, the resident marine biologist collects live coral fragments in the lagoon and attaches them to the structure with the assistance of the frame sponsor (a guest). Meanwhile, the guest receives training in coral ecology. Second, once back home, the sponsor receives regular updates regarding the growth of their coral frame and news from the reef with a view to generating place bonding and stronger attachment to and concern for the marine ecosystem.

CCP is presented as a citizen science project. From an ecological point of view, such actions have a limited impact on reef regeneration. Nevertheless, they may represent a powerful tool for guiding guests towards pro-environmental choices shaped by awareness and knowledge and helping them to develop a sense of ocean citizenship (Hawthorne and Alabaster, 1999).

Unlike Lyon, Bidwell and Pollnac (2018), in this study, as our statistical analysis shows, demographic status did not influence guests' responses to the questionnaire items in general or suggest a relationship between demographic characteristics and level of environmental awareness. Indeed, all the respondents displayed a near identical degree of awareness of marine environments. Arguably, this data might be read through the prism of the so-called «democratization of luxury» (Moscardo and Benckendorff, 2010). When it comes to environmental protection, product offerings should be adapted to cater for a new target segment of tourists, with the aim of raising their collective awareness of environmental issues. The research team drew up a list of recommendations and submitted it to the resort management, with a view to making an analytical contribution to their environmental information activities.

Beyond these general considerations, a further key point to be emphasized is the exclusive and unique character of luxury holidays at hospitality venues such as Maldivian resorts. The island, in this sense, represents a break from daily routine, while its enclave-like features can prompt guests to develop shared environmental practices and a more uniform relationship between personal

awareness and social behaviors. The effect that this suspension of reality, which is an integral part of a stay at a Maldivian resort, may have on attitudes to the environment should be further explored in future research.

7. A «New» Resort-Effect?

As previously stated, the Maldivian resort island is a planned heterotopy (dell'Agnese, 2018), a place separated from the surrounding environment that has been purpose-built to meet guests' expectations. Besides providing luxury standards and products, the resort must preserve its most attractive tourist amenity: the marine ecosystem. Experts and operators claim that resorts could take on a key role and become a driving force in the safeguarding of marine ecosystem, giving rise to a dual «resort effect». As discussed above, it is already recognized that «the tourism industry leads the way in environmental management and conservation in the Maldives» (MoTAC, 2013, p. 31) and resorts are believed to have the potential to positively impact on the reefs surrounding them, offering – at least locally – «some level of protection for certain species» (Moritz and others, 2017, p. 1309)⁶. Nevertheless, in the majority of cases, the standards applied by resorts are not yet sufficiently stringent to prevent damage to the larger marine environment (de-Miguel-Molina, de-Miguel-Molina and Rumiche-Sosa, 2014) hence the need to directly involve guests in the safeguarding of fragile habitats.

The introduction to this paper concluded with an open question concerning the potential connections and current gaps between reef protection and environmental information: we asked ourselves whether, in the luxury tourism sector, these lines of action work synergically together or are better viewed as separate strategies? The present study does not provide us with a univocal answer. However, examples such as Diamonds Thudufushi may show that linking direct intervention in marine habitats with the active involvement of visitors (in other words, combining planned sustainable management, citizen science, and environmental information) finds a fertile *milieu* in luxury tourism on a local scale. This, only apparently, *paradoxical duo*, which is often misunderstood (if not ironically rejected), should be investigated in fragile environmental contexts such as coral island systems. Indeed, as earlier outlined, Maldivian resorts are systems that are severely impacted by the anthropic pressures but that at the

same time benefit from the attractiveness of their pristine marine habitats. It is paramount for tourism to begin leveraging the synergies and positive feedback loops generated by the combining of environmental information campaigns with sustainable management strategies.

In conclusion, the implementation of sustainable tourism practices can and should contribute to the desire for environmental restoration that has been making itself particularly felt in the current pandemic scenario (Crossley, 2020). Directly involving tourists in environmental activities serves to make them aware of the harm and benefits to the marine ecosystem that can be associated with their behaviors. If the «resort effect» can be reinforced by raising awareness among guests, this strategy may be adopted in other settings to scale up its beneficial impacts wherever sea destinations are highly attractive, and tourism plays a key role. It would also be of great scientific interest to establish what would happen if a larger number of Maldivian resorts were to base their managerial strategies on this *paradoxical duo*.

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Notes

¹ For tourism acts and policies see also www.tourism.gov.mv/en/legislation/tourism_act (last accessed: 01.IX.2020).

² Elena dell'Agnese has offered a comprehensive and sophisticated analysis of the mechanisms underpinning the constitution of Maldivian resort-islands as enclaves (dell'Agnese 2018 and 2019).

³ «Ocean citizenship describes a relationship between human beings' everyday lives and the health of the coastal and marine environment» (Santoro and others, 2017, p. 64).

⁴ Ocean Literacy takes on even greater importance when distance makes it difficult for people to bond with faraway places and hence to grasp the connections between environmental issues at these locations and collective responsibility for lifestyles and everyday choices (Malatesta, 2018; Pecorelli, 2018).

⁵ A coral frame is an iron structure covered in sand.

⁶ While SIDS are facing a great number of challenges from global climate change to mass tourism (i.e., water and air pollution, land grabbing, etc.) research-based evidence (de-Miguel-Molina, de-Miguel-Molina and Rumiche-Sosa, 2014; Luppis, 2016; Moritz and others, 2017; MoTAC, 2012) shows that SIDS fragile ecosystems may paradoxically receive – at least locally – a great environmental benefit when tourism is sustainably planned and managed.