recycling

MDPI

Article

Sustainable Waste Management for Clean and Safe Environments in the Recreation and Tourism Sector: A Case Study of Lithuania, Turkey and Morocco

Dalia Perkumienė [1,*], Ahmet Atalay [2], Larbi Safaa [3] and Jurgita Grigienė [4]

[1] Department of Business and Rural Development Management, Faculty of Bioeconomy Development, Agriculture Academy, Vytautas Magnus University, 53361 Kaunas, Lithuania
[2] School of Physical Education and Sport, Ardahan Universty, Ardahan 75000, Turkey
[3] Laboratory of Applied Sciences for the Environment and Sustainable Development, Cadi Ayyad University, Marrakesh 40001, Morocco
[4] Department of Private of Law, Faculty of Law, Vytautas Magnus University, 44248 Kaunas, Lithuania
* Correspondence: dalia.perkumiene@vdu.lt; Tel.: +370-69834822

Abstract: Due to intensive tourism and increasing demand for recreational activities, people produce more waste. In this context, the aim of this research is to determine the opinions of experts working in tourism and recreation areas in Lithuania, Turkey and Morocco with respect to waste management problems. Interviews were held in Turkey, Lithuania and Morocco in order to determine the attitudes of experts about recreational activities with respect to a clean environment and sustainability. A semistructured interview form was used for interviews with forest operators and other experts. The sample group consisted of 24 experts from Turkey, Lithuania and Morocco. The prominent results of the interviews conducted in the three countries regarding waste and sustainable waste management can be listed as follows: intensive waste production caused by participants, inadequate legal regulation, insufficient recycling, damage to the environment and natural structures, inadequate control and inspections, lack of education and awareness activities, an insufficient number of personnel and insufficient infrastructure. Sustainable waste management strategies, such as reducing waste generation, improving waste collection and disposal methods, and promoting recycling and composting, can help to mitigate these negative impacts.

Keywords: sustainability; climate change; clean environment; waste; recreation; tourism

check for updates

Citation: Perkumienė, D.; Atalay, A.; Safaa, L.; Grigienė, J. Sustainable Waste Management for Clean and Safe Environments in the Recreation and Tourism Sector: A Case Study of Lithuania, Turkey and Morocco. *Recycling* **2023**, *8*, 56. https://doi.org/10.3390/recycling8040056

Academic Editor: Giovanni De Feo

Received: 23 March 2023
Revised: 18 May 2023
Accepted: 26 June 2023
Published: 28 June 2023

Copyright: © 2023 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https://creativecommons.org/licenses/by/4.0/).

1. Introduction

Environmental sustainability has emerged as an important issue for societies, researchers, policy makers and many different industries. Environmental impacts are assessed through various indicators based on the life cycle assessment approach [1–4]. Environmental sustainability problems in cities are expressed in terms of traffic congestion, noise, air quality and GHG emissions. Therefore, over the years, a number of international strategies and policies have been developed with the aim of solving these problems and, in particular, to reduce carbon dioxide (CO_2) emissions that directly affect climate change [5].

The increase in emissions due to the intensification of social activities causes climate change and increases its speed. The greatest negative impact and the most pressing concern is the rapid warming of the global climate, which affects temperatures and conditions on the Earth's surface. The global warming process, on the other hand, changes the functioning of ecosystems and triggers natural processes such as additional gas release from vegetation (methane and carbon dioxide (CO_2)) [6]. The areas in which social activities are most intense are tourism, mobility and recreation areas. Waste production can have great effects on ecosystems due to intense participation. Over four billion tons of waste are produced every year, and the recycling of this waste is becoming increasingly difficult [7], with negative effects such as changes in the feeding habits of wild animals, solid waste problems, etc. [8,9].

National and international institutions, organizations and companies are increasingly focusing on eliminating negative environmental impacts and are making efforts to adopt sustainable management practices [10–12]. Environmentally minded sports and event managers, together with sports tourists and spectators, need to expand the boundaries of practice within the sports industry, with more concerted efforts to embody eco-friendly management principles [13]. A high level of awareness and knowledge of environmental issues is necessary among sports managers in order to deal with environmental processes in sports and recreation organizations in a healthy way [14,15].

Managers of recreational activities and accommodation facilities in the tourism sector generally do not pay enough attention to their environmental responsibilities. Solid waste is a major concern in the hospitality industry. A hotel guest can generate 1 kg of waste per day, which translates into thousands of tons of waste per year. Many hoteliers believe that such activities are very expensive and time-consuming and do not show the necessary sensitivity to reducing, minimizing and/or recycling waste [16]. Therefore, the tourism sector sometimes moves away from its environmental sustainability goals in waste production and management. From a sustainability perspective, it has become very necessary to improve the sustainable waste management practices of the hospitality industry, especially in the European region [17]. There are significant waste management problems in tourism regions, such as reduced facilities for waste treatment or disposal, significant differences in waste generated depending on the tourism season, periodic high population density, and limited land for landfills and other waste treatment infrastructure [18]. Overcoming this environmental threat within the tourism industry requires a shift towards a much more integrated approach to addressing interconnected social, economic and environmental systems. Waste reduction can provide tourism facilities and host communities with a number of long-term benefits, such as cost savings, greater operational efficiency, environmental protection and improved image and customer satisfaction [17]. In addition, the efficient management of waste is another issue that contributes to the sustainable development of tourism. Improvements in sustainable waste management can have a positive impact on both tourism and environmental sustainability [19].

Tourism and recreation activities have significant environmental effects depending on the intensity of participation, one of which is the waste produced by participants in recreation areas. It is extremely important to reveal the relationship between tourism, recreation and the environment and to increase awareness of it. This study, which covers Turkey, Lithuania and Morocco, aims to fill the gap in the literature with its findings in the context of waste management. This study was carried out specifically with respect to environmental sustainability in certain countries, which is one of the most popular research areas that reveals the relationship between humans and nature. Therefore, this study can serve as an important source of inspiration for future research. The fact that there is no previous research on the relationship between waste management and environmental sustainability in the three studied countries reflects the innovative and original nature of this study. We hope that the suggestions proposed in this study can be generalized and serve as a reference for future studies.

Due to the intense demand for tourism and recreational activities, the amount of waste left behind by consumers is also increasing. In order to solve this problem, it is important to take appropriate legal measures to reduce this waste as much as possible. The effectiveness and successful application of these measures in practice is also important. The aim of this study is to determine the opinions of experts working in the tourism sector and recreational areas of Lithuania, Turkey and Morocco about their waste management problems.

The tourism and recreation sector is growing day by day and is especially important for countries with tourism and recreation potential, such as Turkey, Lithuania and Morocco. However, this growth triggers environmental problems. One of the biggest problems faced in this sector is the production of waste and garbage. Only appropriate and legally regulated waste management and disposal in an environmentally friendly way can contribute to the implementation of the goals of sustainable environmental protection in order to achieve

sustainability. This study focuses on the identification of waste and garbage management problems caused by tourism and recreational activities, emphasizing the importance of the relationship between waste management and the environment.

This study was carried out in the contexts of Turkey, Lithuania and Morocco. It is the first study of its type which involved scientists from three different countries, seeking to highlight this issue while inviting scholars from other countries for active discussion.

In the other sections of this paper, the theoretical background, the materials and methods, the results and discussion about the analyzed question and conclusions will be presented.

2. Background

2.1. Legal Regulation of Waste Management and Problems Regarding Recreational Activities

The EU waste prevention and recycling strategy was created in 2005 [20]. Since then, the importance of waste prevention has been recognized. According to the Waste Framework Directive (2008/98/EC), Member States must develop national waste prevention programs. The directive focuses on taking into consideration the main environmental impacts of products and materials from a life cycle perspective and to achieve a decoupling of economic growth and the environmental impact of waste generation [21]. It should be noted that in 2015 the European Commission (EC) adopted a circular economy package consisting of an EU action plan and proposals for revised legislation on waste to encourage the transition to a circular economy [22]. The main act on Establishing a Sound Material-Cycle Society was established in 2000 in Japan [23]. The law aimed to limit the use of natural resources and reduce the associated environmental burden by promoting the 3Rs, including "reduce" (waste prevention), while promoting environmentally sound waste management practices [24]. Regarding legal regulations of waste management, the Universal Declaration of Human Rights should be mentioned, as the purpose of this declaration is to ensure the right to a clean and safe environment [25]. Another important legal document related to waste management is the Kyoto Protocol, adopted on 11 December 1997, which entered into force on 16 February 2005 [26]. The topic we are analyzing is closely related to the Stockholm Declaration on the Human Environment [27], the Rio Declaration on Environment and Development [28], the Aarhus Convention [29], the Treaty of Amsterdam, etc. [30]. The purpose of all these listed legal documents is to protect the environment as efficiently as possible, to ensure sustainable waste management, to implement citizens' rights to a clean and safe environment and harmony with nature and also to guarantee citizens' rights to objective information and public participation in decision making on environmental issues.

Sustainable development is a concept that first emerged in the 1970s when the developed world undertook a major development project in the sense of cutting and clearing forests and constructing tall buildings and wide highways. The development of a country is necessary to meet the needs of its people and to provide people with the latest infrastructure, high-rise buildings and recreation areas and facilities [31]. There is an important awareness about the contribution of outdoor-based tourism and recreation activities. Spending time outdoors and participating in activities contribute to the health of individuals, while providing the opportunity to socialize [32], creating income opportunities for financial sustainability and supporting local economic development. For this reason, the multifaceted benefits of tourism and recreation activities are gaining importance [33].

In addition to their social and cultural contributions, recreational activities make important contributions to the development of social health. Communication with the natural environment during outdoor recreation contributes critically to health promotion (stress relief, socializing and appreciating nature). Recreational activities in park areas and nature provide physical activity opportunities for people and therefore reduce the risks related to health problems related to a sedentary lifestyle [34,35]. Outdoor recreation activities also have an important sociological role in coping with times of social crisis or tragedy [36]. Outdoor activities and spending time in nature are key determinants of

disease prevention and can contribute to reducing mental health issues during stressful life events such as the COVID-19 pandemic [37]. It is seen that participation in recreational activities increases depending on this social function. However, each individual human activity generates waste, and as the demand for quality of life increases, the amount of waste tends to increase [38]. It is known that adverse changes occur in the environmental conditions of private lands [39].

Recreational activities with intense participation have many potential negative effects, such as water consumption, high energy consumption, emission production, noise, waste production and disruption of ecosystems [40,41]. In addition, outdoor recreational activities such as hiking, swimming and fishing can all lead to plastic pollution. Plastic pollution can create major health problems [42]. It is known that waste such as paper, glass, metal, bottles, cans, jars and organic kitchen and garden wastes are produced before, during and after recreational activities. Indeed, waste generation is the most visible environmental problem among the many environmental problems in urban areas [38]. It has been determined that recreational activities constitute 80% of solid waste resources, and this rate is above the world average of 68% in 2010 (Ocean conservancy, 2010). In addition, in a study conducted in Turkey by Mansuroğlu and Dağ, 50.0% of the participants stated that waste and wastes from users cause significant environmental problems [43].

It is important to avoid waste and to develop sustainable waste management approaches, seeking sustainable waste management, which depends on the proper collection, registration, separation and recycling of waste [44]. It is known that the cleaning infrastructure of recreation and camping areas is generally quite inadequate [45]. Due to this inadequacy, it is inevitable that the natural environment will be negatively affected and the sustainability of natural resources will be endangered [46]. For example, in Brazil, the litter generated on recreational coastlines negatively affects the coastal landscape, which is basically one of the main sources of environmental disturbance [47]. In order to cope with environmental problems caused by recreational activities, it is very important for people to develop attitudes and behaviors with an environmentally friendly understanding [48].

2.2. Sustainable Waste Management in Tourism: Constraints and Opportunities

The impacts of tourism activity on natural areas and biodiversity are known and cover a wide field: from the growth of CO_2 emissions linked to tourist travel to the fragmentation of environments, including the various types of pollution generated by tourist flows (waste production, wastewater, light pollution, etc.). The environmental consequences of tourism activities are therefore notorious (ransacking of fragile ecosystems, degradation of the physical environment and disturbance of wildlife) [49].

According to Feng Ming Tsai et al., in order to achieve sustainable waste management, it is appropriate to develop a set of tools with a hierarchical structure, which would help to evaluate the sustainable solid waste management of coastal and maritime cities in Vietnam. In their study, the researchers revealed causal inter-relationships between stakeholder participation in tourism and recreation activities and the political and legal framework. According to the researchers, these are the causal attributes for achieving sustainable waste management and sustainability results [50]. Vince et al. argue that a new method of global waste management is necessary and should be coordinated with interdisciplinary solutions—changes in the psychology of behavior; appropriate data collection; environmental education; and changes in legal and governance and policy processes [51]. Wynne et al. discuss the development of a community program strategy and its implementation in practice. The program was designed for the improvement of the sustainable initiatives for community members. The monitoring results of this program showed that community programs are effective tools for solving sustainable solid waste management problems, improving sustainability [52]. Maryati et al. concluded that the components of solid waste management at the levels of transportation, transfer and disposal are basically adequate, but there is a need to improve the management of solid waste at the levels of its generation, storage and collection [53].

Sustainable tourism is related to the field of possibilities in the relationship between tourism and the environment. However, this field of research seems difficult to circumscribe, as the works that have been devoted to it are varied and, above all, multidisciplinary, attempting in many cases to link anthropological and sociological variables with physical and organic variables [54]. We propose here to shed light on a particular angle, that of the articulation between tourism and what it generates in terms of noise pollution; aesthetic, visual or architectural pollution; and water, soil and air pollution.

In some destinations, tourism exacerbates conflicts over the use of resources between local populations and the tourism industry, such as water, energy and transportation. This sometimes has consequences in terms of additional efforts required from the local population to contribute to the costs of sustainable waste management infrastructure [55]. However, the capacity of tourist destinations is limited, and the consequences extend beyond the tourism industry to the local community, as tourists, the over-consumers of nature, influence local people through their consumer culture and lifestyle, providing them with new ideas and products.

This issue is increasingly becoming a major part of the discourse of tourism governance bodies at several scales. The statement of the UNWTO Secretary General Zurab Pololikashvili at the signing of a Global Initiative on Plastics in Tourism in 2021 is as follows: "The fight against plastic pollution is essential to restart tourism in a sustainable way, to preserve destinations and to contribute to climate action. We are proud to see the number of signatories steadily increasing since the launch of this initiative". The tourism sector and its various sub-sectors have engaged in sustainable development discourses and practices at the risk of greenwashing, especially in the face of waste management issues [56].

Sustainable waste management is a known consequence of tourism, but it is rarely identified in institutional tourism documentation [57]. It must be recognized that in most cases, the waste generated by tourism is almost twice as much as waste generated locally. This management issue poses a crucial, complex, multidimensional challenge for societies. The nature of solid waste in each community can differ depending on a number of factors, including economic activities and geography. A multitude of studies have identified the many challenges that impede efforts to manage waste, especially solid waste [3]. Challenges include technical concerns, financial constraints, lack of infrastructural capacity, lack of training and awareness, management concerns, corruption, stakeholder influence and a poor quality of planning [58]. These situations are the result of traditional, top-down, regulatory and end-of-pipe approaches previously adopted in sustainable waste management, which are largely ineffective. The nature of inadequate infrastructure combined with tourism-based economies can further complicate sustainable waste management scenarios.

3. Results

In this part of the research, the findings obtained as a result of the interviews with tourism facility managers, rural area managers and sports and recreation experts in Turkey, Lithuania and Morocco are included. The answers given by the experts to the questions in the interviews conducted through the semi-structured interview form were compiled by the researchers and are presented below. However, in order to gain in-depth information, the opinions and thoughts of the experts in the interviews were directly quoted in accordance with the principle of clarity in data sharing. Opinions are presented in Table 1 below.

After analyzing the research results to determine what the most common problems are in the context of waste management in rural recreation areas, the following problems came to the fore: insufficient infrastructure, lack of waste containers, legal regulations, lack of control and supervision, lack of personnel, food waste, packaging, the absence of a culture of respect and slow technological progress in waste disposal.

> *"The most common problems are the absence or insufficient number of bins. It is also a common problem that even if there are waste disposal sites, they are overcrowded and rarely cleaned. In this case, people throw waste nearby and thus increase the mountain of waste (L1)". "Infrastructure shortage. Fast and continuous waste collection trucks do not*

come like in big cities or city centers. Waste is piling up. It smells sometimes. No control" (T5, T4)". "Disposal of oversized waste. Bulky waste is easier to access in cities pitches, and in the countryside people choose the easiest way to dispose of waste in forests and little in places visible to people (L3)". "Restaurant waste is mainly composed of bio-waste, packaging (plastic, cardboard) and glass bottles. Easy to implement solutions exist to sort, recycle and valorize this waste simply in our restaurant. The biggest problem is to find an adequate solution for each type of waste whether it is food waste, packaging, oil, etc. (M4)". Waste sorting remains very important with several tourist (for the sake of attractiveness) and ecological (for the sake of protecting the planet) issues (M6)".

Table 1. Opinions on the most common problems associated with waste management in rural recreational areas.

	The Most Common Problems
Turkey	Infrastructure and waste containers are insufficient; Little control and supervision; Leaving waste around; Lack of communication and coordination; Waste often not sufficiently received.
Lithuania	An absence or insufficient number of bins; Employees with little experience and motivation; Inadequate legal regulations; Inadequate waste disposal; There is slow technological progress.
Morocco	Food waste; Packaging; Oil; The absence of a culture of respect and protection.

The prominent statements based on expert opinions are presented in Figure 1 below.

Figure 1. Word cloud of the most common problems.

Taking into account the answers to the question about whether the legal regulations on waste management in the countries considered in the research ensure the correct disposal and separation of wastes, the experts in Turkey stated that the relevant legal regulations are insufficient (presented in Table 2). The Lithuanian experts stated that the legal regulations on waste management in the country are sufficient. In Morocco, it is understood that there is a police force for environmental protection in order to prevent the production of waste and waste.

Table 2. Opinions on the legal framework of countries to ensure correct disposal and sorting of waste in order to achieve sustainability.

	The Legal Framework of Countries
Turkey	"Zero Waste Regulation". Not enough.
Lithuania	Lithuanian laws ensure _ EU Waste Management Law.
Morocco	Environmental Police Force

> *"Lithuanian laws ensure fair and rational waste disposal, but in rural areas there could be more bulky waste reception points in order to save as little as possible damage to nature and better opportunities for demolition and waste recycling waste of useful and recyclable raw materials. (L6, L3)". "I think the laws are not enough we need more comprehensive and enforceable laws it should be clearly understandable. In addition, there should be no confusion of authority. Powers and responsibilities should be clearly stated in these laws (T3, T1)". "In Morocco, there is an environmental police force. Its mission is to repress infractions and incivilities and to put an end to pollution of all kinds" (M4, M7)". "Another measure, we have stopped the distribution of water bottles, replaced by the provision of a water fountain, which is accompanied by an emphasis on saving the number of plastic water bottles (T5)".*

The prominent statements based on expert opinions are presented in Figure 2 below.

Figure 2. Word cloud of the legal framework of the considered countries.

It can be seen that the experts from Turkey gave the following answers to the question about what measures should be taken regarding waste management: increased training, increasing the number of vehicles and personnel, collecting waste on time, strengthening communication between institutions and increasing the number of waste containers (presented in Table 3). Experts from Lithuania stated that more training activities should be carried out, the use of materials suitable for recycling should be encouraged and inspections should be increased. On the other hand, experts from Morocco, drew attention to the need to raise awareness about the waste problem, to increase volunteer work and reduce to waste production.

Table 3. Opinions on measures that should be taken to address problems.

	Measures that Should Be Taken to Address Problems
Turkey	Education; The number of vehicles and personnel should be increased; Waste should be collected on time; Communication problems between institutions should be resolved; The number of waste cans and containers should be increased.
Lithuania	Recycling should be supported; Recyclable materials should be used; Audits; Education.
Morocco	Raising awareness; Education; Volunteers; Reducing waste production.

> *"As I said before, the main problem is people education. Our laws and especially we as managers of a hotel follow all the rules we are trying to make waste suitable for recycling. However, for example, one of our customers can throw the packaging of the product they eat into the garden" (T1)". Control and prevention, ecological education, reuse of waste, use of waste in composting, secondary use, education of people's self-awareness (L2)". "Our action consists of raising awareness but also calling for volunteers to help in the waste collection effort" (M3)". "One of the major achievements in our project is the establishment of a plant protection station. For this, we had to look for public funding. We did this by putting together a dossier for public funding. In fact, we were able to obtain national funding, supplemented by the local authorities (T7)".*

The prominent statements based on expert opinions are presented in Figure 3 below.

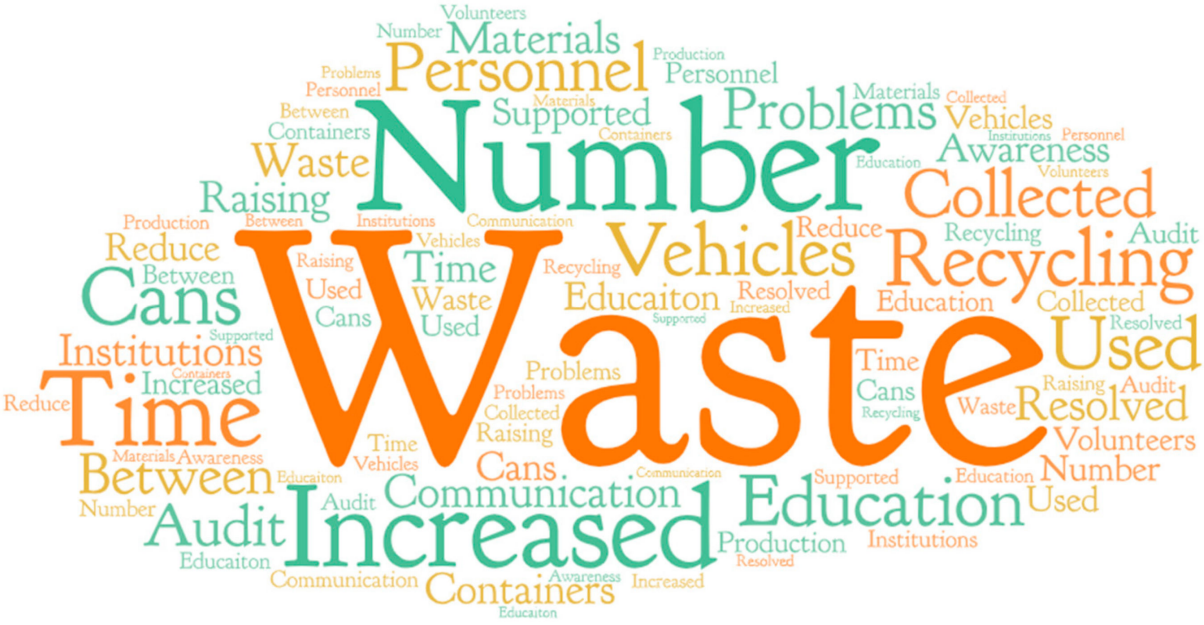

Figure 3. Word cloud of measures that should be taken to address problems.

To the question about what problems are related to waste disposal in the rural tourism sector, the experts from Turkey answered that waste is not separated, there are no inspections and standards and there is a lack of personnel. Lithuanian experts stated that waste is not collected frequently enough, there is visual and odor pollution, products suitable for recycling are not used, and the natural structure is destroyed. On the other hand, Moroccan experts stated that waste collection and disposal in rural areas is costly, and significant problems arise regarding waste management and technical and cultural incompetence (presented in Table 4).

Table 4. Opinions on the problems related to waste at the disposal of the rural tourism sector.

The Problems Related to Waste at the Disposal of the Rural Tourism Sector	
Turkey	No segregation of waste; There is no set standard; Staff shortage; Lack of control; Throwing rubbish around.
Lithuania	Inadequacy of waste collection vehicles; Image and odor pollution; Use of products that are not suitable for recycling; No segregation of waste; Deterioration of the natural structure due to development.
Morocco	The collection and transport operations are complex and costly; technical and cultural incompetence.

> *"There is a parsing problem. There are a lot of facilities here, but not all of them have a certain standard (T1)". "There is no control. There should be activities that are more touristic in rural areas. However, nature should be protected while doing these, but not enough care is taken (T3)". "Large numbers of visitors can deplete natural resources and have a significant impact on the environment without of addition, tourism may require infrastructure, transportation and other services, which can be significant change environment (L2)". "Waste removal companies cannot reach such points and the waste must be removed by the manager themselves (L1)". "In rural areas, there is a lack of resources due to the low population density and tourist operators, especially since the collection and transport operations are complex and costly (M4)". "The biggest problems in waste management are 1- technical and 2- cultural. That is to say to have a technical mastery of waste management knowing that it is not our job (M2)".*

The prominent statements based on expert opinions are presented in Figure 4 below.

Figure 4. Word cloud of the problems related to waste at the disposal of the rural tourism sector.

When we asked about the problems related to waste management in the recreation sector, the experts from Turkey expressed "intensive waste production, damage to trees and plants". Experts from Lithuania pointed out heavy waste production; the non-segregation of waste; the use of flammable and explosive materials; and inadequate waste containers. On the other hand, experts in Morocco stated that they are currently working on the recycling of generated waste (presented in Table 5).

Table 5. Opinions on problems arising from waste management in the recreation sector.

	The Problems Arising from Waste Management in the Recreation Sector
Turkey	Intensive waste production; Damage to trees and plants.
Lithuania	Intensive waste production; No segregation of waste; Use of flammable and explosive materials; Insufficient waste containers.
Morocco	Recycling waste; Intensive waste production

> *"There is a lot of waste from time to time depending on the number of participants. At the same time, there are those who harm trees and plants (T4)". "There are a lot of vacationers at these events. Especially on weekends, many more people stay in hotels. People come to relieve stress, but with their stress, they throw away their trash (T8)". "The main problem is that with larger gatherings of people there is also a greater amount of waste. Waste is often not sorted, but collected and transported as mixed waste such waste includes plastic, glass, paper, electronic devices (disposable electronic cigarettes), as well as food or even animal waste (L4)". "The biggest problem in rural tourism is waste and waste management many people rest in nature and leaves behind waste (L3)". "We are trying to focus and work on recycling waste (M2)". "As previously mentioned, we are working on recycling waste. Moreover, composting organic waste on site. Products still consumable, rather than throwing them away, to donate them to a partner association that will organize a distribution for consumption the same day" (M5)".*

The prominent statements based on expert opinions are presented in Figure 5 below.

Figure 5. Word cloud of the problems arising from waste management in the recreation sector.

4. Discussion

Depending on the intensity of participation, the amount of waste generated in recreation and touristic areas and the problems associated with this situation may vary. Since there is no comprehensive, country-specific analysis of waste generation and environmental issues, especially in recreation and tourism centers, the results of this study are discussed in the context of the general literature related to environmental issues, recreation and tourism activities.

The tourism sector and recreational activities are in constant interaction. There is intense human mobility in these sectors. This density brings with it problems related to waste and sustainable waste management in touristic destinations and recreational areas, as there is intense waste production due to mass participation. The importance of tourism is

gradually increasing due to the economic, social and cultural benefits it creates in societies, as well as employment opportunities. Especially with the growth in the sector, tourism has become an important factor in the global GDP in recent years [59,60]. For these reasons, it is necessary to build a sustainable waste management approach that allows the environmental effects of these wastes to be minimized. In this dynamic process, waste management has become an issue that needs to be taken seriously in order to reduce environmental impacts and control waste production.

This research focuses on determining the opinions of experts working in the tourism and recreation sector in Turkey, Lithuania and Morocco on their sector's waste management problems. In this context, were evaluated the findings of experts' opinions on waste management problems in the tourism and recreation sector. The prominent findings of this research conducted in Turkey, Lithuania and Morocco can be listed as follows:

(1) There is an intense waste production in touristic destinations and recreational areas in all three of the analyzed countries;

(2) All three countries have legal regulations on waste management, but these regulations need improvement depending on the changing conditions and the habits of users of tourism and recreation services;

(3) Both sectors should raise the awareness of participants and organize training through public–private partnerships;

(4) Personnel and equipment are insufficient for the collection, transfer and disposal of waste.

As previously mentioned, the fast pace of life has given rise to a number of vital global problems and challenges for humans. Environmental pollution and damage to the environment is one of the most relevant, as it poses a threat to human health and even life. Experts' insights, especially from Turkey and Lithuania, highlighted problems such as insufficient infrastructure and lack of personnel, while increasing the impact of environmental threats for these two countries.

Since recreational areas are located in natural environments, waste generation is considered the most visible negative impact, and it is known that these activities can cause different degrees of negative effects on the environment and ecosystem and that air and water pollution will occur [43,44,61,62]. In addition, it is seen that the plants and flora in the natural environment are damaged, and the trees and other vegetation are also destroyed by the participants [63]. In order to overcome these problems, it is necessary to take new environmental protection measures and make strategic plans [62]. Seeking to eliminate these increasing concerns, it is necessary to establish a waste management system in order to provide sustainable recreation conditions in order to reduce the resulting pollution and natural destruction [64]. Especially in rural recreational areas, intensive waste production is a big issue. However, the bigger problem is how to manage the disposal process of these wastes in an environmentally friendly way.

In order to achieve the sustainable management of waste collection, transfer and disposal processes, the analyzed countries need to develop and improve their legal regulations. Recognizing that sustainable waste management is the main contributor to public health, the authorities should initiate and implement various policy tools addressing this contribution [65]. A common problem emerged in conversations with experts–tourists leave waste in all three countries. In addition, the inappropriate collection and disposal of this waste are considered as prominent problems in Lithuania. In Morocco, the careless throwing away of food and beverage packaging is the most prominent problem. How countries develop sustainable waste management systems depends on the strategies set out in national public policies, which are closely related to the institutional, legal, political and economic contexts of each region [66,67]. It is known that the process of restoring the environment is long and complex, and in some cases, irreversible environmental changes occur as a result of human activities. Although various measures are taken to protect the environment in general, these measures are generally known to be insufficient. In the research findings, it is seen that there are legal regulations on environmental protection for all three countries. However, it

is understood that these legal regulations are insufficient and there are problems in practice, especially in Morocco. Sustainable waste management is shaped in principle around public health, environmental protection, the resource value of waste, ending the cycle, corporate and responsibility issues and creating public awareness [66]. However, in order to establish the targeted sustainable waste management structure and to design the right legislation for sustainable waste management, it is necessary to examine the local context, specific to countries or societies [68]. Further efforts are needed to tackle the waste disposal problem [69]. The successful implementation of solid waste management processes is doubtful unless a viable regulatory infrastructure is in place in the country. A national policy on sustainable waste management will encourage all its stakeholders to perform better in this regard [70].

A clean and safe environment is one of the most important goals of most governments and all citizens. Ensuring human rights for a safe and healthy natural environment and protecting the environment for sustainability are among the most relevant and popular socio-economic and legal-political issues. In addressing these issues, educational and awareness activities in Turkey, Lithuania and Morocco come to the fore, in line with the views of the participants. In addition, the elimination of waste and the creation of recycling policies are also prominent goals. Increasing the education and awareness of all stakeholders, especially within the tourism and recreation sector, is a fundamental component of ensuring the implementation of national strategies and legal regulations for sustainable waste management process and obtaining effective results [71]. It is known that individuals with high awareness can affect the sustainable waste management process. The low level of awareness and behavior patterns of tourists to protect the environment in destinations and the lack of awareness of local tourists about sorting and classifying sustainable waste according to waste type are the most important problems [72]. If this problem is not handled correctly in the long run, it will lead to a decrease in the quality of the environment [73]. Awareness should be created by working together [74]. In this process, important responsibilities fall on the administrative units of the countries, and it is possible to disseminate informative studies on waste and sustainable waste management and to implement incentives in this regard. In this process, government units can cooperate with non-governmental organizations and organize awareness and information campaigns [75]. In this way, the efficient use of resources and the prevention or minimization of waste generation can be achieved by taking into account the causes of waste generation and release, and if there is waste, it can be separated at its source and recycled [76]. Recycling wastes into raw materials makes sustainable waste management mandatory for environmental sustainability [77].

One of the most important problems in the countries where research on waste management is conducted is the shortage of vehicles and personnel. Morocco especially feels the environmental impacts more due to the lack of personnel and vehicles and the inability to collect waste and waste in a timely and appropriate manner. In addition, the dream of cultural environmental awareness in Morocco stands out. In Turkey and Lithuania, it is stated that these wastes remain in nature for a long time, especially since packaging suitable for recycling is not used. Lalitha and Fernando state that most local authorities in these countries do not have enough vehicles at their disposal, while emphasizing that many existing vehicles are old and dysfunctional, so waste collection is an important problem [70]. It is important to develop waste collection, transportation and removal services together with the rapid processes of urbanization and industrialization. Therefore, it is necessary to strengthen the physical infrastructure of the responsible institutions and organizations and to implement new managerial approaches and models related to the waste problem [78]. In particular, the scarcity of resources and their rapid depletion over time require a more effective use of resources [79].

It should be noted that waste production, and especially plastic pollution, are increasing due to human mobility in touristic destinations. It is estimated that by 2025, approximately 28 million metric tons of plastic will reach the seas each year from waste that is improperly disposed of in coastal countries [80]. Moreover, Qianga et al. stated

that tourism and recreation activities could increase by 33% in tourism destinations, and if plastic and bottles were removed, the authors point out the fact that the pollution caused by plastic wastes reduces the duration of stays of tourists in these places [81]. Sustainable solid waste management in tourism destinations has a special importance due to the lack of suitable storage areas, wide seasonal population changes and the existence of widespread commercial enterprises [82]. The absence of sustainable waste management programs in touristic destinations leads to the illegal dumping of the majority of the sustainable solid waste produced, creating a threat to human safety, degrading local habitats and reducing the recreational value of these destinations [64]. However, there is the European Parliament 2008 Directive 2008/98/EC, also known as the "Waste Framework Directive". Within the framework of this directive, all EU member states should have systems in place for the sustainable management of municipal solid waste, and these systems include waste minimization, reuse, recycling, energy recovery and landfill processes [83].

5. Materials and Methods

5.1. Methodological Structure

This study was carried out by making use of the qualitative research methods inherent in the social sciences. In this process, a case study pattern was used. The qualitative research method is considered as the study of the nature of phenomena, including their "quality, different manifestations, context in which they appear or the perspectives in which they can be perceived" [84]. It usually includes data in the form of words rather than numbers [85]. Qualitative research is very important when focusing more on individuals or groups while providing qualitative data [86]. A case study, on the other hand, is a methodological approach that involves an in-depth study of how a limited system works. In addition, multiple methods of data collection can be used to gather systematic information about that system [87]. Case studies can be seen as a way of obtaining in-depth information and producing insights, thanks to the fact that they are carried out in an environment where the participants can freely put forth and express their ideas, opinions and thoughts [88].

5.2. Sample Group

The sample group of the research consisted of 24 experts in total from Turkey, Lithuania and Morocco. The participant group consisted of tourism facility managers, rural area managers and sports and recreation experts. The purposive sampling method was used to determine the sample group with which the interviews would be held within the scope of the study. Purposeful sampling is a method that provides in-depth knowledge by identifying individuals, institutions and situations that are equipped with knowledge in accordance with the purpose of the research [89]. It is convenient to have a smaller number of research participants so that each case can be studied more deeply, and participants are needed whose special qualities provide the best reflection and knowledge about the research topic [90]. In this context, the study group for the research was limited to a maximum of 24 experts (10 Turkey, 6 Lithuania, 8 Morocco), and participation was completed on a volunteer basis. During the interviews, preliminary information about the study was given to the experts included in the working group, appointment requests regarding the meeting date and time were sent, and final interviews were held. Demographic information about the experts participating in the research is presented in Table 6 below.

5.3. Data Collection Tool

A semi-structured interview form prepared by the researchers was used for interviews with tourism facility managers, rural area managers and sports and recreation experts. During the preparation of the interview form, the opinions of the field experts were used, and after controlling for the language of the experts, they were made suitable for research. In line with the purpose of the studies, the interview method is an advantageous method in terms of asking in-depth questions on a subject, asking questions to the participant again in case the answers were missed or not clear, making the situation more understandable

and ensuring the completion of all the answers [91]. The semi-structured interview form questions used in the research are as follows:

1. What are the most common problems associated with waste management in rural recreational areas?
2. Does the legal framework ensure a correct disposal and sorting of waste in order to achieve sustainability?
3. What measures should be taken for solving this problem?
4. What are the problems related to waste at the disposal of rural tourism sector?
5. What problems arise from waste management in the recreation sector?

Table 6. Demographic information about the experts.

Experts	Age	Gender	Education	Experience
		TURKEY		
T1	46	Male	Bachelor's degree	18 years
T2	34	Female	Master	11 years
T3	51	Male	Bachelor's degree	21 Years
T4	28	Male	Bachelor's degree	4 Years
T5	47	Female	Ph.D.	18 years
T6	51	Female	Ph.D.	24 years
T7	34	Male	Master	7 years
T8	41	Female	Master	13 years
T9	39	Male	Bachelor's degree	13 years
T10	43	Male	Master	18 years
		LITHUANIA		
L1	48	Male	Bachelor's degree	24 years
L2	42	Female	Master	17 years
L3	36	Female	Bachelor's degree	6 years
L4	39	Female	Master	14 years
L5	56	Male	Ph.D.	24 years
L6	44	Male	Master	13 years
		MOROCCO		
M1	39	Male	Master	13 years
M2	33	Male	Master	10 years
M3	43	Male	Ph.D.	22 years
M4	47	Female	Bachelor's degree	25 years
M5	32	Female	Master	11 years
M6	38	Male	Master	14 years
M7	40	Male	Bachelor's degree	19 years
M8	40	Male	Bachelor's degree	21 years

5.4. Analysis of Data

Within the scope of the research, interviews were held with 24 experts from Turkey, Lithuania and Morocco. Nvivo 12 package program was used for the analysis of the data obtained as a result of the interviews. In addition, the opinions of the experts were directly conveyed in the research findings. This is because what should be highlighted in the reporting process of the interviews is not the numbers but what the participants say [92]. In addition, direct transmission or citation constitutes the basis of the data

obtained and provides an in-depth analysis of the thoughts of the participants and reflects their experiences [93]. In this context, the statements of the participants were quoted and presented without any changes. In presenting the research findings, the experts in Turkey were selected as T1, T2m etc. Experts in Lithuania are L1, L2, etc. Experts in Morocco are coded as also M1, M2, etc.

6. Conclusions

This research focuses on determining the opinions of experts working in the tourism and recreation sector in Turkey, Lithuania and Morocco on the problems of waste and waste management in their countries. In this context, the findings of expert opinions on waste management and problems in the tourism and recreation sector in the three countries were evaluated. The prominent findings of this research conducted in Turkey, Lithuania and Morocco can be listed as follows:

(1) There is intense waste production in touristic destinations and recreational areas in all three countries;

(2) All three analyzed countries have legal regulations on waste management, but these regulations need to be improved;

(3) Both sectors should raise awareness of participants and organize training through public–private partnerships;

(4) Personnel and equipment are insufficient for the collection, transfer and disposal of waste.

The reduction, collection and disposal of waste is very important for a sustainable environment and sustainable tourism and recreation activities. In particular, the increase in the number of events and mass participation highlight the need for sustainable waste management and the environmentally friendly execution of this process. Therefore, when organizing environmentally friendly recreational activities, sustainable waste management should be understood and correctly applied by both managers and participants. Sustainable waste management is a crucial aspect of sustainable tourism and recreation. The rapid growth of tourism has led to a significant increase in generated waste, which can have negative impacts on the environment, public health and tourism experiences. Sustainable waste management strategies, such as reducing waste generation, improving waste collection and disposal methods, and promoting recycling and composting, can help to mitigate these negative impacts.

In the future, the tourism industry needs to prioritize sustainable waste management and sustainability to ensure that tourism activities can continue to be enjoyed by future generations. Governments and industry leaders must invest in infrastructure and policies that support sustainable waste management, and visitors must take responsibility for their waste and participate in waste reduction and recycling initiatives. With everyone playing their part, we can create a cleaner, greener and more sustainable future for tourism and recreation.

In addition, this study, which is limited to the investigation of three countries, may provide an idea for researchers on how to construct new studies to include the participation of other countries. In addition, this study, which is carried out in the context of recreation and tourism, can lead to the inclusion of different scientific fields and sectors. In order to demonstrate critical approaches to environmental problems, more comprehensive studies with different countries and different research methods can also be discussed in future research. In order to raise awareness about environmental problems, it seems possible not only to manage waste but also to measure other negative environmental effects.

Waste management plays a crucial role in ensuring environmental sustainability, public health and resource conservation in countries like Turkey, Lithuania and Morocco. Here are the key reasons why waste management is important in these countries:

Turkey:

- Environmental protection: Effective waste management practices are essential for protecting Turkey's diverse ecosystems, including its coastline, forests, and natural

landscapes. Proper waste disposal helps prevent the pollution of soil, water bodies and air, reducing the negative impact on biodiversity and ecosystems.

- Public health and sanitation: Adequate waste management minimizes health risks associated with improper waste handling. By preventing the accumulation of waste in public spaces, residential areas and water sources, Turkey can maintain a cleaner and healthier environment for its citizens, reducing the spread of diseases.
- Tourism and image: Turkey is a popular tourist destination, and proper waste management is vital for preserving its natural beauty and attracting visitors. Well-maintained recreational areas and clean beaches enhance the country's image, contribute to sustainable tourism and supporting the economy.

Lithuania:

- Resource conservation: Effective waste management in Lithuania promotes the efficient use of resources by reducing waste generation and maximizing recycling and recovery. This approach helps conserve raw materials, energy and water, contributing to sustainable development and a circular economy.
- Pollution prevention: By properly managing waste, Lithuania can prevent the pollution of air, water and soil. This is particularly important in preserving the country's natural resources, such as its rivers, lakes and forests, and mitigating the environmental impact on biodiversity and ecosystems.
- Compliance with EU regulations: As an EU member state, Lithuania is required to align its waste management practices with EU directives and regulations. By implementing effective waste management systems, Lithuania ensures compliance with these regulations and avoids potential penalties.

Morocco:

- Environmental conservation: Waste management in Morocco is vital for preserving its natural beauty and diverse ecosystems, including the Atlas Mountains, the Sahara Desert and its coastal areas. Proper waste disposal helps prevent environmental degradation, protects wildlife and maintains ecological balance.
- Public health and sanitation: Effective waste management in Morocco improves public health and reduces the risk of water and air pollution, as well as the spread of diseases. It helps create healthier living conditions for communities and ensures the well-being of both residents and visitors.
- Sustainable tourism: Morocco is a popular tourist destination known for its cultural heritage, historical sites and natural landscapes. Proper waste management is essential for maintaining clean and attractive tourist areas, supporting sustainable tourism practices and enhancing the country's image as a responsible travel destination.

Overall, waste management is critical for these countries to protect the environment, public health and natural resources while promoting sustainable development and economic growth. A general conclusion table regarding the findings of the study is attached (Appendix A).

7. Limitation of Research

The research was limited to three countries, namely Turkey, Lithuania and Morocco. The research findings are intended to be an inspiration for future research and to be used as an opportunity for research involving more countries.

Author Contributions: Conceptualization, D.P. and A.A.; methodology, A.A.; validation, D.P., J.G. and L.S.; formal analysis, D.P.; investigation, A.A., D.P., J.G. and L.S.; resources, A.A., J.G., D.P. and L.S.; data curation, A.A., D.P. and L.S.; writing—original draft preparation, D.P. and J.G.; writing—review and editing, J.G., D.P. and L.S.; visualization, D.P.; supervision, A.A. and D.P.; project administration, A.A. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The data presented in this study are available on request from the corresponding author. The data are not publicly available due to data protection and ethical principles.

Acknowledgments: This article has been prepared in the light of the data and evaluations obtained in the project titled "Development of Decision Support System for Carbon Friendly Sports Management", supported by the "Turkish Scientific and Technological Research Council (TUBITAK) 2219 Postdoctoral Re-search Scholarship Program" and carried out by Ahmet Atalay.

Conflicts of Interest: The authors declare no conflict of interest.

Appendix A. Summary Table on Participant Opinions

Country	QUESTIONS
	1. What are the most common problems associated with waste management in rural recreational areas?
TURKEY	• Infrastructure and waste containers are insufficient; Little control and supervision; Leaving waste around; Lack of communication and coordination; Waste is often not sufficiently received.
LITHUANIA	• The absence or insufficient number of bins; Employees with little experience and motivation; Inadequate legal regulations; Inadequate waste disposal; There is slow technological progress.
MOROCCO	• Food waste; Packaging; Oil; The absence of a culture of respect and protection.
	2. Does the legal framework ensure a correct disposal and sorting of waste in order to achieve sustainability?
TURKEY	• "Zero Waste Regulation". Not enough.
LITHUANIA	• Lithuanian laws ensure EU Waste Management Law.
MOROCCO	• Environmental Police Force
	3. What measures should be taken for solving this problem?
TURKEY	• Education; The number of vehicles and personnel should be increased; Waste should be collected on time; Communication problems between institutions should be resolved; The number of waste cans and containers should be increased.
LITHUANIA	• Recycling should be supported; Recyclable materials should be used; Audits; Education.
MOROCCO	• Raising awareness; Education; Volunteers; Reducing waste production.
	4. What are the problems related to waste at the disposal of rural tourism sector?
TURKEY	• No segregation of waste; There is no set standard; Staff shortage; Lack of control; Throwing rubbish around.
LITHUANIA	• Inadequacy of waste collection vehicles; Image and odor pollution; Use of products that are not suitable for recycling; No segregation of waste; Deterioration of the natural structure due to development.
MOROCCO	• The collection and transportation operations are complex and costly; Technical and cultural incompetence.
	5. What problems arise from waste management in the recreation sector?
TURKEY	• Intensive waste production; Damage to trees and plants.
LITHUANIA	• Intensive waste production; No segregation of waste; Use of flammable and explosive materials; Insufficient waste containers.
MOROCCO	• Recycling waste; Intensive waste production.

References

1. Cucek, L.; Klemes, J.J.; Kravanja, Z. A review of footprint analysis tools for monitoring impacts on sustainability. *J. Clean. Prod.* **2012**, *34*, 9–20. [CrossRef]
2. Deshpande, P.C.; Philis, G.; Brattebø, H.; Fet, A.M. Using material flow analysis (MFA) to generate the evidence on plastic waste management from commercial fishing gears in Norway. *Resour. Conserv. Recycl.* **2020**, *5*, 100024. [CrossRef]
3. Iswanto; Sudarmadji; Wahyuni, E.T.; Sutomo, A.H. Household Hazardous Solid Waste (HHSW) Management Schemes in Sleman Regency for Future. *IOP Conf. Ser. Earth Environ. Sci.* **2019**, *256*, 012049. [CrossRef]

4. Veiga, J.M.; Vlachogianni, T.; Pahl, S.; Thompson, R.C.; Kopke, K.; Doyle, T.K.; Hartley, B.L.; Maes, T.; Orthodoxou, D.L.; Loizidou, X.I.; et al. Enhancing public awareness and promoting co-responsibility for marine litter in Europe: The challenge of MARLISCO. *Mar. Pollut. Bull.* **2016**, *102*, 309–315. [CrossRef] [PubMed]
5. Lombardi, M.; Pazienza, P.; Rana, R. The EU environmental-energy policy for urban areas: The Covenant of Mayors, the ELENA program and the role of ESCos. *Energ. Policy* **2016**, *93*, 33–40. [CrossRef]
6. Pittock, A. *Climate Change: Turning Up the Heat*, 1st ed.; CSIRO: Melbourne, Australia, 2005.
7. Wormer, B.A.; Augenstein, V.A.; Carpenter, C.L.; Burton, P.V.; Yokeley, W.T.; Prabhu, A.S.; Harris, B.; Norton, S.; Klima, D.A.; Lincourt, A.E.; et al. The Green Operating Room: Simple Changes to Reduce Cost and Our Carbon Footprint. *Am. Surg.* **2003**, *79*, 666–671. [CrossRef]
8. Baldner, C. Morality and environment: Analyzing the effects of the moral foundations on attitudes toward the environment in Italy. *Rass. Psicol.* **2018**, *35*, 67–77.
9. Smith, S.D.A.; Bernal, E. Quantifying mismanaged waste in a small Balinese coastal village: Comparisons of standing stock in different habitats. *Ocean Coast. Manag.* **2021**, *202*, 105433. [CrossRef]
10. Williamson, D.; Lynch-Wood, G.; Ramsay, J. Drivers of environmental behavior in manufacturing SMEs and the implications for CSR. *J. Bus. Ethics* **2006**, *67*, 317–330. [CrossRef]
11. Welford, R.; Chan, C.; Man, M. Priorities for corporate social responsibility: A survey of businesses and their stakeholders. *Corp. Soc. Responsib. Environ. Manag.* **2007**, *15*, 52–62. [CrossRef]
12. Sarkar, R. Public policy and corporate environmental behavior: A broader view. *Corp. Soc. Responsib. Environ. Manag.* **2008**, *15*, 281–297. [CrossRef]
13. Sartore-Baldwin, M.L.; McCullough, B. Equity-based sustainability and ecocentric management: Creating more ecologically just sport organization practices. *Sport Manag. Rev.* **2018**, *21*, 391–402. [CrossRef]
14. Macnaghten, P. Embodying the environment in everyday life practices. *Sociol. Rev.* **2003**, *51*, 63–84. [CrossRef]
15. Karimini, S.; Ahmad, S.S.; Hashim, R.; Ismail, Z. A Global view on the environmental consequences of Antarctic tourism. *J. Asian Behav. Stud.* **2018**, *3*, 1. [CrossRef]
16. Zorpas, A.A.; Voukkali, I.; Loizia, P. The impact of tourist sector in the waste management plans. *Desalination Water Treat.* **2015**, *56*, 1141–1149. [CrossRef]
17. Ezeah, C.; Fazakerley, J.; Byrne, T. Tourism waste management in the European Union: Lessons learned from four popular EU tourist destinations. *Am. J. Clim. Change* **2015**, *4*, 431–445. [CrossRef]
18. Santamarta, J.C.; Rodríguez-Martín, J.; Paz Arraiza, M.P.; López, J.V. Waste problem and management in ınsular and ısolated systems: Case study in the Canary Islands (Spain). *IERI Procedia* **2014**, *9*, 162–167. [CrossRef]
19. Jotaworn, S.; Nitivattananon, V. Multi-stakeholder synergies for enhancing environmental management of beach recreation in the eastern coast, Thailand. *Curr. Res. Environ. Sustain.* **2023**, *5*, 100204. [CrossRef]
20. European Commission. *Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions—Taking Sustainable Use of Resource Forward—A Thematic Strategy on the Prevention and Recycling of Waste*; COM/2005/0666 Final; Commission of The European Communities: Brussels, Belgium, 2005.
21. European Commission. Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on Waste and Repealing Certain Directives. Available online: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32008L0098 (accessed on 13 February 2023).
22. European Commission. Preparing a Waste Prevention Programme—Guidance Document. Available online: https://ec.europa.eu/environment/pdf/waste/prevention/Waste%20prevention%20guidelines.pdf (accessed on 13 February 2023).
23. MOE, Japan. Basic Act on Establishing a Sound Material-Cycle Society. Available online: http://www.japaneselawtranslation.go.jp/law/detail/?id=2042&vm=04&re=01&new=1 (accessed on 13 February 2023).
24. Sakai, S.-I.; Yano, J.; Hirai, Y.; Asari, M.; Yanagawa, R.; Matsuda, T.; Yoshida, H.; Yamada, T.; Kajiwara, N.; Suzuki, G.; et al. Waste prevention for sustainable resource and waste management. *J. Mater. Cycles Waste Manag.* **2017**, *19*, 1295–1313. [CrossRef]
25. Universal Declaration of Human Rights, Adopted and Proclaimed by G.A. Res. 217 A (III) of 10 December 1948, Art. 13. Available online: http://www.unhchr.ch/udhr/langleng.htm (accessed on 24 February 2023).
26. Kyoto Protocol to the United Nations Framework Convention on Climate Change. 1997. Available online: https://ec.europa.eu/clima/sites/clima/files/forests/docs/kpeng_en.pdf (accessed on 12 February 2023).
27. Stockholm Declaration on the Human Environment, in Report of the United Nations Conference on the Human Environment, UN Doc.A/CONF.48/14, at 2 and Corr.1. 1972. Available online: https://wedocs.unep.org/bitstream/handle/20.500.11822/28247/Stkhm_DcltnHE.pdf?sequence=1&isAllowed=y (accessed on 12 February 2023).
28. Rio Declaration on Environment and Development, in Report of the United Nations Conference on Environment and Development, UN Doc. A/CONF.151/26 (Vol. I), 12 August 1992, Annex I.). Available online: https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_CONF.151_26_Vol.I_Declaration.pdf (accessed on 14 February 2023).
29. Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters. 1998. Available online: https://ec.europa.eu/info/sites/info/files/aarhus_convention_1998_en.pdf (accessed on 12 February 2023).

30. Treaty of Amsterdam Amending the Treaty on European Union, the Treaties Establishing the European Communities and Certain Related Acts. 1997. Available online: https://www.ecb.europa.eu/ecb/legal/pdf/amsterdam_en.pdf (accessed on 16 February 2023).
31. Jalil, A. Sustainable development in Malaysia: A case study on household waste management. *J. Sustain. Dev.* **2010**, *3*, 91–102. [CrossRef]
32. Frumkin, H.; Bratman, G.N.; Breslow, S.J.; Cochran, B.; Kahn, P.H., Jr.; Lawler, J.J.; Levin, P.S.; Tandon, P.S.; Varanasi, U.; Wolf, K.L.; et al. Nature contact and human health: A research agenda. *Environ. Health Perspect.* **2017**, *125*, 075001. [CrossRef] [PubMed]
33. Hartig, T.; Mitchell, R.; de Vries, S.; Frumkin, H. Nature and health. *Annu. Rev. Public Health* **2014**, *5*, 207–228. [CrossRef]
34. Konijnendijk, C.C.; Annerstedt, M.; Nielsen, A.B.; Maruthaveeran, S. Benefits of urban parks. In *A Systematic Review. A Report for IFPRA*; Copenhagen & Alnarp: Copenhagen, Denmark, 2013.
35. Thomsen, J.M.; Powell, R.; Monz, C. A systematic review of the physical and mental health benefits of wildland recreation. *J. Park Recreat. Adm.* **2018**, *36*, 123–148. [CrossRef]
36. Samuelsson, K.; Barthel, S.; Colding, J.; Macassa, G.; Giusti, M. Urban Nature as a Source of Resilience during Social Distancing amidst the Coronavirus Pandemic. Available online: https://osf.io/3wx5a/ (accessed on 23 May 2023).
37. Oh, B.; Lee, K.J.; Zaslawski, C.; Yeung, A.; Rosenthal, D.; Larkey, L.; Back, M. Health and well-being benefits of spending time in forests: Systematic review. *Environ. Health Prev. Med.* **2018**, *22*, 71. [CrossRef] [PubMed]
38. Ngoc, U.N.; Schnitzer, H. Sustainable solutions for solid waste management in Southeast Asian countries. *Waste Manag.* **2009**, *29*, 1982–1995. [CrossRef] [PubMed]
39. Monz, C.A.; Cole, D.N.; Leung, Y.F.; Marion, J.L. Sustaining visitor use in protected areas: Future opportunities in recreation ecology research based on the USA experience. *Environ. Manag.* **2010**, *45*, 551–562. [CrossRef]
40. Turton, S.M. Managing environmental impacts of recreation and tourism in rainforests of the wet tropics of Queensland World Heritage Area. *Geogr. Res.* **2005**, *43*, 140–151. [CrossRef]
41. Davenport, J.; Davenport, J.L. The impact of tourism and personal leisure transport on coastal environments: A review. *Estuar. Coast. Shelf Sci.* **2006**, *67*, 280–292. [CrossRef]
42. Liu, H.; Pan, H.; Chu, P.; Huo, D. Impact of plastic pollution on outdoor recreation in the existence of bearing capacity and perspective management. *Environ. Res.* **2022**, *214*, 113819. [CrossRef]
43. Mansuroğlu, S.; Dağ, V. Antalya'daki korunan alanlarda turizm ve rekreasyon etkinliklerine bağlı kullanım sorunları: Köprülü Kanyon Milli Parkı örneği. *Peyzaj Araştırmaları Ve Uygul. Derg.* **2020**, *2*, 85–95.
44. Atik, M. Environmental protection in coastal recreation sites in Antalya, Turkey. *Coast. Manag.* **2010**, *38*, 598–616. [CrossRef]
45. Ells, M.D.; Monz, C.A. The consequences of backcountry surface disposal of human waste in an alpine, temperate forest and arid environment. *J. Environ. Manag.* **2011**, *92*, 1334–1337. [CrossRef]
46. Çetinkaya, G.; Kaplan, M. Açık alan rekreasyon etkinliği olarak piknik yapan bireylerin çevre tutum ve davranışlarının incelenmesi. *J. Recreat. Tour. Res.* **2020**, *7*, 642–664. [CrossRef]
47. Amaral, A.C.Z.; Corte, G.N.; Denadai, M.R.; Colling, L.A.; Borzone, C.; Veloso, V.; Omena, R.P.; Zalmon, I.R.; Rocha-Barreira, C.A.; Souza, J.R.B.; et al. Brazilian sandy beaches: Characteristics, ecosystem services, impacts, knowledge and priorities. *Braz. J. Oceanogr.* **2016**, *64*, 5–16. [CrossRef]
48. Otto, S.; Evans, G.W.; Kaiser, F. The development of children's environmental attitude and behavior. *Glob. Environ. Change* **2019**, *58*, 101947. [CrossRef]
49. Charbonneau, J. Guide d'Évaluation des Projets Écotouristiques Dans les Pays en Développement. Ph.D. Thesis, Université de Sherbrooke, Sherbrooke, QC, Canada.
50. Tsai, F.M.; Bui, T.; Tseng, M.L.; Lim, M.K.; Tan, R.T. Sustainable solid-waste management in coastal and marine tourism cities in Vietnam: A hierarchical-level approach. *Resour. Conserv. Recycl.* **2021**, *168*, 105266. [CrossRef]
51. Vince, J.; Stoett, P. From problem to crisis to interdisciplinary solutions: Plastic marine debris. *Mar. Policy* **2018**, *96*, 200–203. [CrossRef]
52. Wynne, A.L.; Nieves, P.M.; Vulava, V.M.; Qirko, H.N.; Callahan, T.J. A community-based approach to solid waste management for riverine and coastal resource sustainability in the Philippines. *Ocean Coast. Manag.* **2018**, *151*, 36–44. [CrossRef]
53. Maryati, S.; Miharja, M.; Iscahyono, A.F.; Arsallia, S.; Humaira, A.N.S. Towards Sustainable Ambon Bay: Evaluation of Solid Waste Management in Ambon City. *IOP Conf. Ser. Earth Environ. Sci.* **2017**, *79*, 12007. [CrossRef]
54. Achmad, W.; Yulianah, Y. Corporate social responsibility of the hospitality industry in realizing sustainable tourism development. *Enrich. J. Manag.* **2022**, *12*, 1610–1616.
55. Septiningtiyas, D.T.; Sakinah, W.; Listriyana, A. The Estimation of Volume and type of household waste in the coastal village, Besuki Region, Situbondo, East Java. *MATEC Web Conf.* **2018**, *177*, 1020. [CrossRef]
56. Xu, X.; Huang, Y.; Lai, Q.; Feng, C. Testing the stakeholders' partnership in a tourism waste management network: An ERGM approach. *Environ. Sci. Pollut. Res.* **2023**, *30*, 15335–15351. [CrossRef]
57. Comerio, N.; Nagai, H.; Pacicco, F.; Serati, M. Tourism and waste management: An analysis of municipal solid waste. *Int. J. Tour. Res.* **2022**, *24*, 185–187. [CrossRef]
58. Amicarelli, V.; Aluculesei, A.C.; Lagioia, G.; Pamfilie, R.; Bux, C. How to manage and minimize food waste in the hotel industry: An exploratory research. *Int. J. Cult. Tour. Hosp. Res.* **2022**, *16*, 152–167. [CrossRef]
59. Eraqi, M.I. Local communities' attitudes towards impacts of tourism development in Egypt. *Tour. Anal.* **2007**, *12*, 191–200. [CrossRef]

60. Budeanu, A. Impacts and responsibilities for sustainable tourism: A tour operator's perspective. *J. Clean. Product.* **2005**, *13*, 89–97. [CrossRef]
61. Salerno, F.; Viviano, G.; Manfredi, E.C.; Caroli, P.; Thakuri, S.; Tartari, G. Multiple carrying capacities from a management-oriented perspective to operationalize sustainable tourism in protected areas. *J. Environ. Manag.* **2013**, *128*, 116–125. [CrossRef]
62. Muresan, I.C.; Oroian, C.F.; Harun, R.; Arion, F.H.; Porutiu, A.; Chiciudean, G.O.; Todea, A.; Lile, R. Local Residents' Attitude toward Sustainable Rural Tourism Development. *Sustainability* **2016**, *8*, 100. [CrossRef]
63. Karaçar, E.; Göker, G. Orman içi rekreasyon alanlarının ekolojik açıdan incelenmesi. *J. Recreat. Tour. Res.* **2017**, *4*, 35–42.
64. Murava, I.; Korobeinykova, Y. The analysis of the waste problem in tourist destinations on the example of Carpathian region in Ukraine. *J. Ecol. Eng.* **2016**, *17*, 43–51. [CrossRef]
65. Rodić, L.; Wilson, D.C. Resolving governance issues to achieve priority sustainable development goals related to solid waste management in developing countries. *Sustainability* **2017**, *9*, 404. [CrossRef]
66. De Morais Lima, P.; Paulo, P.L. Solid-waste management in the rural area of Brazil: A case study in Quilombo communities. *J. Mater. Cycles Waste Manag.* **2018**, *20*, 1583–1593f. [CrossRef]
67. Hyman, M.; Turner, B.; Carpintero, A. Guidelines for National Waste Management Strategies. United Nations Environment Programme. Available online: https://wedocs.unep.org/bitstream/handle/20.500.11822/8669/-Guidelines%20for%20national%20waste%20management%20strategies_%20moving%20from%20challenges%20to%20opportunities-2013UNEP%20NWMS%20English.pdf?sequence=3&isAllowed=y (accessed on 20 April 2023).
68. Abubakar, I.R.; Maniruzzaman, K.M.; Dano, U.L.; AlShihri, F.S.; AlShammari, M.S.; Ahmed, S.M.S.; Al-Gehlani, W.A.G.; Alrawaf, T.I. Environmental Sustainability impacts of solid waste management practices in the global south. *Int. J. Environ. Res. Public Health* **2022**, *19*, 12717. [CrossRef]
69. Serge Kubanza, N.; Simatele, M.D. Sustainable solid waste management in developing countries: A study of institutional strengthening for solid waste management in Johannesburg, South Africa. *J. Environ. Plan. Manag.* **2020**, *63*, 175–188. [CrossRef]
70. Lalitha, R.; Fernando, S. Solid waste management of local governments in the Western Province of Sri Lanka: An implementation analysis. *Waste Manag.* **2019**, *84*, 194–203. [CrossRef]
71. Urban, R.C.; Nakada, L.Y.K. COVID-19 pandemic: Solid waste and environmental impacts in Brazil. *Sci. Total Environ.* **2021**, *755*, 142471. [CrossRef]
72. Pohan, Y.F.; Suprihardjo, R. Pengelolaan sampah perumahan kawasan pedesaan berdasarkan karakteristik timbulan sampah di kabupaten gresik. *J. Tek. ITS* **2013**, *2*, C43–C47.
73. Hadiyanto, N.D.; Zunariyah, S. Development of environmentally friendly tourism (case study of waste management in Surakarta Taru Jurug Wildlife Park. *J. Dev. Soc. Change* **2018**, *1*, 53–64. [CrossRef]
74. Özen Öztürk, B.; Gül, A. Başpınar Tabiat Parkı'nın Rekreasyonel Planlama Açısından İrdelenmesi. *Mimar. Bilim. Ve Uygul. Derg.* **2020**, *5*, 11–34.
75. Margallo, M.; Ziegler-Rodriguez, K.; Vázquez-Rowe, I.; Aldaco, R.; Irabien, Á.; Kahhat, R. Enhancing waste management strategies in Latin America under a holistic environmental assessment perspective: A review for policy support. *Sci. Total Environ.* **2019**, *689*, 1255–1275. [CrossRef]
76. Ömürbek, V.; Erk, Ç.; Herek, S. Üniversitelerde atık yönetimi uygulamaları. *Süleyman Demirel Üniversitesi Sos. Bilim. Enstitüsü Derg.* **2019**, *35*, 124–161.
77. Fırat, F.K.; Akbaş, F. İnşaat Endüstrisinde Geri Dönüşüm Çalişmalarinin Geliştirilmesi ve Ekonomi Üzerine Etkileri. In Proceedings of the International Conference on Eurasian Economies, Kazan, Russia, 9–11 September 2015.
78. Gündüzalp, A.A.; Güven, S. Atık çeşitleri, atık yönetimi, geri dönüşüm ve tüketici: Çankaya Belediyesi ve semt tüketicileri örneği. *Hacet. Üniversitesi Sosyol. Araştırmalar E-Derg.* **2016**, *9*, 1–19.
79. Aydın, M.; Deniz, K. Atık yönetiminde vergi politikasının rolü: Türkiye değerlendirmesi. *Yönetim Bilim. Derg.* **2017**, *15*, 435–461.
80. Jambeck, J.R.; Geyer, R.; Vilcox, C.; Siegler, T.T.; Perryman, M.; Andrady, A.; Narayan, R.; Law, K.L. Plastic waste inputs from land into the ocean. *Science* **2015**, *347*, 768–771. [CrossRef] [PubMed]
81. Qianga, M.; Shenbc, M.; Xie, H. Loss of tourism revenue induced by coastal environmental pollution: A length-of-stay perspective. *J. Sustain. Tour.* **2020**, *28*, 550–567. [CrossRef]
82. Dölgen, D.; Alpaslan, N.; Sarptaş, H. Kıyı Yerleşimlerine Uygun Sıvı ve Katı Atık Yönetim Stratejileri Üzerine Görüşler. In Proceedings of the Türkiye'nin Kıyı ve Deniz Alanları VI. Ulusal Konferansı, Muğla, Turkey, 7–11 November 2006.
83. Hall, D. Waste Management in Europe: Framework, Trends and Issues. Public Services International Research Unit (PSIRU). 2010. Available online: http://brecht.tttp.eu/IMG/pdf/it_10_2010-02_Waste_trends-3.pdf (accessed on 29 April 2023).
84. Philipsen, H.; Vernooij-Dassen, M. Kwalitatief onderzoek: Nuttig, onmisbaar en uitdagend. In *Qualitative Research: Practical Methods for Medical Practice*, 1st ed.; Bohn Stafleu van Loghum: Houten, The Netherlands, 2007.
85. Punch, K.F. *Introduction to Social Research: Quantitative and Qualitative Approaches*, 1st ed.; Sage: London, UK, 2013.
86. Jonson, R.B.; Christensen, L. *Educational Research: Quantitative, Qualitative, and Mixed Approaches*, 5th ed.; Sage: Thousand Oaks, CA, USA, 2014.
87. Chmiliar, l. Multiple-case designs. In *Encyclopedia of Case Study Research*, 1st ed.; Mills, A.J., Eurepas, G., Eds.; Sage: Thousand Oaks, CA, USA, 2010; pp. 582–583.
88. Yıldırım, A.; Şimşek, H. *Sosyal Bilimlerde Nitel Araştırma Yöntemleri*, 10th ed.; Seçkin Yayıncılık: Ankara, Türkiye, 2016.

89. Büyüköztürk, Ş.; Kılıç-Çakmak, E.; Akgün, Ö.; Karadeniz, Ş.; Demirel, F. *Bilimsel Araştırma Yöntemleri*, 31st ed.; Pegem Akademi Yayınları: Ankara, Türkiye, 2018.
90. Chauhan, C.; Parida, V.; Dhir, A. Linking circular economy and digitalization technologies: A systematic literature review of past achievements and future promises. *Technol. Forecast. Soc. Change* **2022**, *177*, 121508. [CrossRef]
91. Çepni, S. *Araştırma ve Proje Çalışmalarına Giriş*, 4th ed.; Celepler Matbaacılık: Trabzon, Turkey, 2009.
92. Creswell, J.W.; Plano Clark, V.L. *Designing and Conducting Mixed Methods Research*, 3rd ed.; Sage Publication: Thousand Oaks, CA, USA, 2011.
93. Patton, M.Q. *Qualitative Research & Evaluation Methods Integrating Theory and Practice-Utilization-Focused Evaluation*, 1st ed.; Sage: Saint Paul, France, 2015.

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.