

RESIDENT PERCEPTION OF TOURISM IMPACT IN AN ENVIRONMENTALLY SENSITIVE AREA: THE CASE OF A WETLAND IN SRI LANKA

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ABSTRACT. The main objective of this study was to assess the tourism development perception of residents living in one of Sri Lanka's most interesting wetland areas, the Muthurajavela Wetland and Negombo Lagoon. Knowledge of resident perception is essential if tourism is to develop in a sustainable manner. We found that, in general, local people tend to recognize both the benefits and the costs of tourism development in their community, but their overall assessment of tourism impact is clearly positive. Another important finding of this study is that, while the entire population is supportive of tourism, there are differences in the level of support between groups of residents based on community attachment, income and place of residence. The results of this study are encouraging for future wetland tourism development because of the positive attitudes expressed by the local population. Previous studies

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have demonstrated that attitude may be linked to behavior. Thus, residents who perceive tourism impacts positively may be more willing to support future tourism development.

Keywords: wetland, wetland tourism, fragile ecosystems, residents' attitudes

JEL Classification: Z32, F64, M31, O44, Q26

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INTRODUCTION

A great number of studies that examine residents' attitudes towards tourism impacts have been published over the last four decades (Andriotis & Vaughan, 2009; Kibicho, 2008; Lepp, 2008; Gursoy & Dyer, 2009; Monterrubio Cordero, 2008). In spite of this, there is still little understanding of how residents perceive various tourism impacts (Sharpley, 2014), especially in small regions with rapid growth (Peters et al., 2018). This is because tourism impacts are perceived differently throughout different regions, communities and, even, individuals (Carmichael, 2000; Mason, 2008).

Understanding the impact of tourism development on host community is necessary for planning successful and sustainable tourism development (Egresi, 2016c). By identifying the attitudes of local populations, tourism development plans could be designed in such a manner as to maximize the positive impacts and to minimize the negative ones (Abdollahzadeh & Sharifzadeh, 2014; Egresi, 2016b). Keeping locals happy is also good for tourism as tourists tend to favor destinations in which residents are friendly and hospitable (Fallon & Schofield, 2006).

While impact studies are, generally, well represented there are very few studies on the impact of tourism development in environmentally sensitive areas. Butler (2018:1) defines sensitive environments as "*environments/ecosystems that have a high degree of vulnerability to*

change, particularly irreversible change, which may be reflected in permanent loss of elements of biodiversity because of the varying impacts of tourism". Many such environmentally sensitive areas are, or could become in the future, important attractions for the development of local tourism (Reinius & Fredman, 2007).

An example of sensitive environment is represented by wetlands. In fact, wetlands are among the most sensitive and fragile ecological systems (Mitsch & Gosselink, 2000). For this reason, we must be really careful when developing wetland ecotourism, as this can also have negative effects (van der Duim & Henkens, 2007) should the number of visitors grow too much (Diaz-Christiansen et al., 2016). Thus, in order to develop wetland tourism sustainably two things must happen: local policies should be implemented to promote conservation of wetlands (Pueyo-Ros et al., 2018) and the needs of local populations and communities should be taken into account (Marasinghe et al., 2022).

The paper will proceed as follows: first, we will describe our study area underlining the fragility of the ecosystem and the role of tourism in the economic development strategy; next, we will thoroughly review the literature on residents' perception of tourism development and the factors that influence this perception. This will be followed by a description of our methodology. Finally, the study will outline the main results and findings, which will be discussed in the context of the literature review and will lay out a few concluding remarks.

STUDY AREA

Sri Lanka is an island country of some 65,600 km² situated in the Indian Ocean, 55 km off the coast of the Indian Peninsula. After the end of the long civil war in 2009, tourism has become one of the main pillars of economic development. However, mass tourism has been proven to have numerous negative impacts (Egresi, 2016c), so that different forms of alternative tourism (Egresi, 2016a) were preferred instead, based on the country's rich flora and fauna (Egresi & Prakash, 2019), including wetland ecosystems (Egresi et al., 2021).

Wetlands in Sri Lanka play an important role in nature conservation and provide a range of critical benefits to society (Sellamuttu et al., 2011).

Unfortunately, as of lately, the survival of these ecologically sensitive areas has come under threat, mainly due to urban expansion and development.

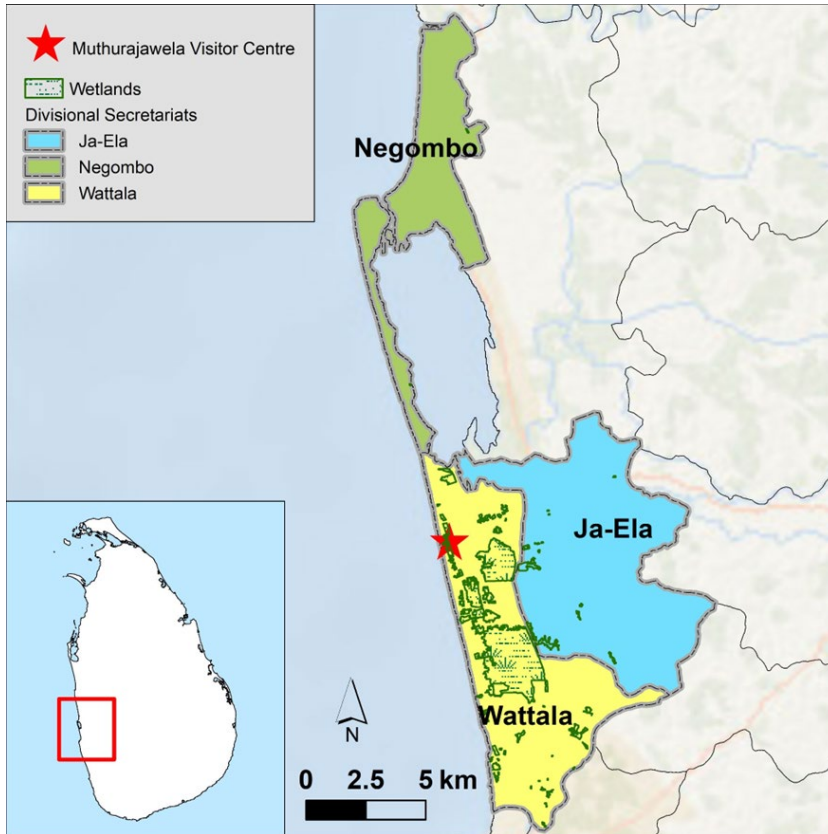


Figure 1. The Muthurajawela Wetland and Negombo Lagoon and the administrative units in which they are situated in southwestern Sri Lanka.

Author: Buddhika Madurapperuma

(Source: Egresi et al., 2021)

The most urbanized part of the country is the Greater Colombo conurbation, covering the entire Western Province. This highly urbanized area, known locally as the Western Region Megalopolis (WRM), includes the nation's capital and accounts for 30% of Sri Lanka's population (Flower et al., 2019). The WRM also includes the most important economic concentration of the country, accounting for 40% of Sri Lanka's gross domestic product (Flower et al., 2019).

At the same time, the WRM area boasts of some of the largest and most renowned wetlands in Sri Lanka, including the Muthurajavela marshes, the largest saline feat bog in Sri Lanka (Flower et al., 2019; Prakash et al., 2016; Prakash et al., 2017) and the Negombo Lagoon (figure 1). Together, the Muthurajawela marshland and the Negombo Lagoon cover over 6000 ha and are characterized by rich and diverse flora and fauna (Greater Colombo Economic Commission, 1991), and by an important mangrove-based ecosystem (Prakash et al., 2017).

However, due to rapid development, urban wetlands in Sri Lanka are degraded and lost at a very rapid pace (Hettiarachchi et al., 2014a; McInnes & Everard, 2017). For example, between 1981 and 2008, in the WRM, 43% of the former urban wetland has been lost (Hettiarachchi et al., 2014a) and, in some protected areas, the rate at which wetlands were lost during this period was even higher, perhaps as high as 65% (Samarasinghe & Dayawansa, 2013). This has resulted in major biodiversity loss (Fernando & Shariff, 2013; Flower et al., 2019) and has affected the city's flood resilience (Flower et al., 2019) and the well-being of the local population (Hettiarachchi et al., 2014b).

LITERATURE REVIEW

Resident perceptions

Resident perceptions and attitudes towards the impacts of tourism development in local communities has been one of the most popular topics in tourism studies (Gu et al., 2021); hence an in-depth review of all this body of research is not possible here. However, a number of comprehensive reviews of studies on this subject have been published over the last two decades and can be consulted by interested scholars (Deery et al., 2012; Harrill, 2004; Monterrubio, 2008; Sharpley, 2014; Nunkoo et al., 2013; Easterling, 2004).

Several studies have highlighted the fact that tourism impacts on the host destinations are of economic, environmental and socio-cultural nature (Vargas-Sánchez et al., 2009; Brida et al., 2011a; Brida et al., 2011b; Peters et al., 2018; Baker & Uni, 2021; Nunkoo & Gursoy, 2012; Lee, 2013) and can be either positive or negative (Easterling, 2004) or both

(Brida et al., 2014; Gursoy et al., 2019; Lee, 2013). Perceived negative impacts of tourism development represent the costs and perceived positive impacts refer to the benefits related to tourism development. These consequences are important because they affect the attitude of residents toward tourism development (Nunkoo, 2016) and will determine the level of tourism development acceptance (Andriotis & Vaughan, 2003).

Among the most important economic impacts of tourism development, the literature mentions increased employment (Andriotis & Vaughan, 2003; Andereck & Nyaupane, 2011; Choi & Murray, 2010; Gursoy et al., 2002; Kayat, 2010; Soldić Frleta & Smolčić Jurdana, 2020; Vargas-Sánchez et al., 2009; Tovar et al., 2020; Gu et al., 2021; Eshliki & Kaboudi, 2012; Sahin & Akova, 2019; Abdollahzadeh & Sharifzadeh, 2014; Achrekar, 2021), more investment and development in the area (Soldić Frleta & Smolčić Jurdana, 2020; Kayat, 2010; Vargas-Sánchez, 2009; Mason, 2008; Peters et al., 2018; Khoshkam et al., 2016; Sahin & Akova, 2019; Abdollahzadeh & Sharifzadeh, 2014), increased business opportunities (Nunkoo & So, 2016) and economic benefits to local businesses (Soldić Frleta & Smolčić Jurdana, 2020; Khoshkam et al., 2016), local and national tax revenue (Dimitriadis, et al., 2013; Gu et al., 2021) and economic benefits to local population (Soldić Frleta & Smolčić Jurdana, 2020; Dimitriadis, et al., 2013; Peters et al., 2018; Andereck & Nyaupane, 2011; Choi & Murray, 2010; Gu et al., 2021; Khoshkam et al., 2016; Eshliki & Kaboudi, 2012; Abdollahzadeh & Sharifzadeh, 2014; Achrekar, 2021).

Negative economic impacts are reflected mainly in inflation (Trumbo & O'Keefe, 2001) generated by the rising cost of goods & services (Brida et al., 2011; Nunkoo & So, 2016; Tovar et al., 2020; Peters et al., 2018; Liu & Li, 2018; Gu et al., 2021; Eshliki & Kaboudi, 2012; Abdollahzadeh & Sharifzadeh, 2014) and by the increased prices of housing (Escudero Gómez, 2019; Liu & Li, 2018; Gu et al., 2021).

From a social and cultural perspective, tourism development could enhance local population's quality of life (Dimitriadis, et al., 2013; Peters et al., 2018; Escudero Gómez, 2019; Andereck & Nyaupane, 2011; Choi & Murray, 2010; Khoshkam et al., 2016; Eshliki & Kaboudi, 2012; Sahin & Akova, 2019; Abdollahzadeh & Sharifzadeh, 2014; Achrekar, 2021), could expand leisure (recreational) opportunities (Brida et al., 2011; Gursoy et al., 2002; Peters et al., 2018; Escudero Gómez, 2019; Andereck & Nyaupane, 2011; Abdollahzadeh & Sharifzadeh, 2014; Achrekar, 2021)

and, through improved infrastructure and public facilities and services (Abdollahzadeh & Sharifzadeh, 2014; Achrekar, 2021; Andereck et al., 2005; Eshliki & Kaboudi, 2012; Gu et al., 2021; Peters et al., 2018; Tovar et al., 2020), could encourage locals to socialize more (Andereck et al., 2005; Khoshkam et al., 2016), to engage in various cultural activities & events (Soldić Frleta & Smolčić Jurdana, 2020; Tovar et al., 2020; Escudero Gómez, 2019; Choi & Murray, 2010; Sahin & Akova, 2019; Achrekar, 2021) and to meet people of different cultural background (Brida et al., 2011; Soldić Frleta & Smolčić Jurdana, 2020; Peters et al., 2018; Sahin & Akova, 2019).

Unfortunately, tourism development could also lead to crowding (Soldić Frleta & Smolčić Jurdana, 2020; Tovar et al., 2020; Peters et al., 2018; Khoshkam et al., 2016; Eshliki & Kaboudi, 2012; Abdollahzadeh & Sharifzadeh, 2014; Achrekar, 2021), traffic congestion (Brida et al., 2011; Peters et al., 2018; Escudero Gómez, 2019; Liu & Li, 2018; Dyer et al., 2007; Andereck et al., 2005; Gu et al., 2021; Eshliki & Kaboudi, 2012; Abdollahzadeh & Sharifzadeh, 2014; Achrekar, 2021) as well as security and crime problems (Peters et al., 2018; Escudero Gómez, 2019; Andereck et al., 2005; Deery et al., 2012; Gu et al., 2021; Eshliki & Kaboudi, 2012).

Tourism development could also impact the natural environment in the wetland area both in a positive and negative way. On the one hand, tourism development could improve the appearance of the wetland (Khoshkam et al., 2016), increase the quality of the natural environment and protect wildlife (plants, birds and animals) in the area (Khoshkam et al., 2016), as well as stimulate environmental conservation and improvement (Brida et al., 2011; Peters et al., 2018; Liu & Li, 2018; Andereck & Nyaupane, 2011; Andereck et al., 2005; Khoshkam et al., 2016; Abdollahzadeh & Sharifzadeh, 2014). On the other hand, tourism development could generate more air pollution (Tovar et al., 2020; Peters et al., 2018; Achrekar, 2021), noise pollution (Gursoy et al., 2002; Andereck et al., 2005; Soldić Frleta & Smolčić Jurdana, 2020; Tovar et al., 2020; Peters et al., 2018; Achrekar, 2021), water pollution & littering (Andereck et al., 2005; Tovar et al., 2020) as well as destroy the natural environment (Andereck et al., 2005; Soldić Frleta & Smolčić Jurdana, 2020; Peters et al., 2018; Mason, 2008; Brida et al., 2011b).

Most studies have reported mixed results for tourism impacts, although positive impacts were prevalent (Amuquandoh, 2010; Escudero Gómez, 2019; Lepp, 2007; Peters et al., 2018). However, differences can

be found when looking at the type of impact. On the one hand, studies found that economic impacts were positive (Brida et al., 2011a; Gursoy et al., 2002) while social and cultural impacts tended to be positive but at a lesser degree (Baker & Uni, 2021; Brida et al., 2011a). On the other hand, researchers often reported negative results for the environmental effect of tourism development (Soldić Frleta & Smolčić Jurdana, 2020; Tovar et al., 2020), although when tourism development is at an incipient stage this may not be salient (Baker & Uni, 2021; Tavares et al., 2012).

Factors influencing perceptions

Several studies have attempted to identify the main variables that affect residents' perception of tourism impact. In this study, we will test the impact of three factors on the way residents perceive tourism development in their community, namely: attachment to the community, monthly household income and place of residence.

1. Attachment to the community

One variable that previous studies have used to better understand resident perception is community attachment (Brida et al., 2014; Dodd & Butler, 2010). Community attachment is defined as the “*extent and pattern of social participation and integration into community life and sentiment or affect toward the community*” (McCool & Martin, 1994: 30). Community attachment can be measured in many ways (Brida et al., 2014), the most popular being by the length of residency in a geographic location (Allen et al., 1993; Brida et al., 2014; Abdollahzadeh & Sharifzadeh, 2014; Teye et al., 2012).

Most authors suggested that more attached citizens tend to support tourism development because they perceive more benefits (Gursoy et al., 2002) or because they are proud of the place they live in and want others to experience it as well (Vidal Rua, 2020). Gursoy et al. (2002) also argued that someone who lived in the destination as a child tends to perceive fewer negative impacts of tourism. Particularly native-born residents are likely to support any increase in the overall number of tourists (Brida et al., 2014).

However, these results are also contested by a number of researchers (Andereck et al., 2005; McGehee & Andereck, 2004; Gursoy et al., 2002;

Long & Kayat, 2011) who noted that the relationship is more complex and could vary from situation to situation. For example, it was found that length of residency could have a negative effect in perceptions of socio-cultural impacts (Khoshkam et al., 2016) and a positive effect on how the residents perceive the economic impacts (Khoshkam et al., 2016). Some studies have demonstrated that the longer an individual resides in a community, the more negative is the attitude towards tourism development because they tend to perceive less benefits from tourism (Almeida et al., 2015; McCool & Martin, 1994; Snaith & Haley, 1999; Haley et al., 2005).

2. Monthly household income

Another variable that could help us to better understand residents' attitudes toward tourism development is monthly household income (Abdollahzadeh & Sharifzadeh, 2014; Long & Kayat, 2011), although the validity of the relationship between residents' attitudes and their income is questioned by some scholars (Andriotis, 2004; Kayat, 2000 cited in Long & Kayat, 2011). In general, the literature supports the claim that residents with higher incomes perceive a significantly higher positive impact of tourism development than residents with lower incomes (da Cruz Vareiro et al., 2013; Látkova & Vogt, 2012; Lin et al., 2019; Snaith & Haley, 1999) and, therefore, are more likely to support tourism development (Long & Kayat, 2011). Another position is that tourism development is viewed more positively by residents with lower incomes because they are more likely to find jobs in an industry that generally pays low wages (Tichaawa & Moyo, 2019).

3. Place of residence

A number of studies in the past have highlighted the importance of the place of residence (whether urban or rural) in influencing local people's view on the development of the tourism sector in their community (Andriotis, 2004; Chi et al., 2020; Jepson & Shapley, 2015; Rasoolimanesh et al., 2017a). These studies have shown that, in general, urban dwellers are more supportive towards tourism development than rural residents (Andriotis, 2004).

METHODOLOGY

A questionnaire was used to survey residents on their perception of tourism impact. The questionnaire was prepared in English and translated to Sinhala by one of the authors who is bilingual. Before it was applied, it was pre-tested on ten residents in order to identify possible issues with the questions. A few minor problems were detected and solved.

Then, the field survey was conducted by three local authors between 10 February and 15 March 2020 in the Wattala, Ja-Ela and Negombo Divisional Secretary (DS) Divisions of the Gampaha District using a systematic sampling method. Each tenth house on a street or in a group of houses was selected for the survey. If found at home, the household head or an adult (over the age of 18) residing in the house was invited to participate. If no adult was found at home or if they declined to participate, the researchers moved on to the next house. We interviewed people living both within the wetland and outside the wetland but in close proximity of it.

The questionnaire included five sections but only three were used for this study. The first part elicited basic demographic data of the residents such as: gender, age, education level and income. The next section asked questions related to the participants' place of residence (whether in rural or urban area and years living there). The last section consisted of 29 statements regarding residents' perception of tourism impact. Of these 17 were positive statements and eleven were negative statements. The last statement measured perception of the overall impact. The items in this scale were borrowed from previous studies (see the literature review section) and adapted to the local context. This scale measured the environmental (ten statements), economic (nine statements) and socio-cultural (nine statements) impacts of tourism development and was based on a five-point Likert scale. The reliability coefficient (Cronbach's alpha) for the entire set of statements was .885, which, based on George & Mallery's (2003) scale, is considered a good level of internal consistency.

The Statistical Package for Social Sciences (SPSS 26) was employed for the analysis of our data. We used descriptive statistics (frequencies and percentages) to collect socio-demographic data on our sample. In addition, we calculated the median and the inter-quartile range (IQR) to gauge the attitude of residents towards the positive and negative impact of tourism development in the wetland area.

In the last part of our analysis we created two new variables and labeled them:

1. Perception of positive impact, resulted from the aggregation of the 17 positive statements ($\alpha=.827$).
2. Perception of negative impact, based on the aggregation of the eleven negative statements ($\alpha=.857$)

Next, we used the independent samples t-test to check whether there were statistically significant differences between groups in terms of their perception of tourism impact based on their place of residence (urban or rural), attachment to the community (length of residency) and monthly household income.

FINDINGS AND DISCUSSION

Socio-demographic profile of the residents

The socio-demographic profile of the residents surveyed is shown in table 1. The table shows that most of our respondents are male, under 45 years of age, educated up to middle school, live in a rural community and have maintained the same residence for more than 20 years. Also, three-quarters of the residents surveyed have monthly household incomes that are lower than the median income per household in Sri Lanka, which was Rs. 43,511 in 2016 (Department of Census and Statistics, 2017).

Table 1. Socio-demographic characteristics of survey participants

Attribute	Freq.	%	Attribute	Freq.	%
<i>Gender (n=351)</i>			<i>Length of residence (n=349)</i>		
Male	220	62.7	20 years or less	101	28.9
Female	131	37.3	More than 20 years	248	71.1
<i>Age (n=351)</i>			<i>Income (n=211)</i>		
18-29	119	33.9	Up to Rs. 43,511	159	75.4
30-44	148	42.2	Over Rs. 43,511	52	24.6
45-64	80	22.8	<i>Type of residence (n=349)</i>		
65+	4	1.1	Rural	287	81.8
<i>Education (n=351)</i>			Urban	64	18.2
No formal education	27	7.7			
Primary school	40	11.4			
Middle school	157	44.7			
High school	99	28.2			
University	18	5.1			
Postgraduate	6	1.7			
Other	4	1.1			

Source: Authors' questionnaire

Perception of tourism impact

The table below (table 2) shows that residents agree with all the positive impacts of tourism and most of the negative impacts as listed in the questionnaire. There was only one exception: residents seemed to have a neutral view on the statement that the development of tourism has had a negative impact on the local culture (table 2). Overall, most residents agreed that the benefits of tourism development exceed the costs (table 2).

Table 2. Residents’ attitudes toward positive, negative and overall impacts of tourism development

Attitude	SD ⁵		D		N		A		SA		Med	IQR
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%		
Positive Impacts or “Benefits” (α=.827)												
Improved quality of life for residents (n=347) (SCC)	6	1.7	16	4.6	31	8.9	250	72.0	44	12.7	4	0
Improved public services and facilities (n=347) (SCC)	8	2.3	73	21.0	53	15.3	165	47.6	48	13.8	4	1
Better access to cultural activities, facilities and programs (n=347) (SCC)	9	2.6	48	13.8	57	16.4	191	55.0	42	12.1	4	1
Better access to entertainment (n=351) (SCC)	13	3.7	53	15.1	72	20.5	175	49.9	38	10.8	4	1
Opportunities to meet with culturally different people (n=349) (SCC)	13	3.7	41	11.7	42	12.0	209	59.9	44	12.6	4	1

⁵ SD= strongly disagree; D= disagree; N= neutral; A= agree; SA= strongly agree; Med= Median; IQR= Inter Quartile Range; SCC= socio-cultural impact; ECN= economic impact; ENV= environmental impact

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Attitude	SD ⁵		D		N		A		SA		Med	IQR
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%		
Improvement of utilities infrastructure (n=349) (SCC)	8	2.3	41	11.7	60	17.2	172	49.3	68	19.5	4	1
Greater revenues to the local economy (n=345) (ECN)	6	1.7	30	8.7	52	15.1	211	61.2	46	13.3	4	0
Many jobs (n=351) (ECN)	12	3.4	26	7.4	45	12.8	196	55.8	72	20.5	4	0
Start of many new businesses (n=351) (ECN)	6	1.7	47	13.4	62	17.7	192	54.7	44	12.5	4	1
Higher revenues for local businesses (n=347) (ECN)	2	0.6	43	12.4	56	16.1	183	52.7	63	18.2	4	1
Higher incomes for local residents (n=347) (ECN)	4	1.2	76	21.9	57	16.4	161	46.4	49	14.1	4	1
More investment and development (n=349) (ECN)	10	2.9	42	12.0	68	19.5	185	53.0	44	12.6	4	1
Improvement of the transportation infrastructure (n=351) (ECN)	2	0.6	45	12.8	81	23.1	183	52.1	40	11.4	4	1
Diversification of the local economy (n=351) (ECN)	16	4.6	91	25.9	39	11.1	195	55.6	10	2.8	4	2
Incentives for conservation of local flora and fauna (n=347) (ENV)	6	1.7	58	16.7	63	18.2	181	52.2	39	11.2	4	1
Improved the appearance of the wetland (n=349) (ENV)	15	4.3	57	16.3	39	11.2	197	56.4	41	11.7	4	1
Encouraged the local	11	3.2	33	9.5	56	16.1	197	56.8	50	14.4	4	1

Attitude	SD ⁵		D		N		A		SA		Med	IQR
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%		
community to keep their area clean (n=347) (ENV)												
Negative Impacts or "Costs" ($\alpha=.857$)												
Negative impact on local culture (n=349) (SCC)	16	4.6	93	26.6	78	22.3	144	41.3	18	5.2	3	2
Security and crime problems (n=349) (SCC)	14	4.0	61	17.5	93	26.6	112	32.1	69	19.8	4	1
Higher prices for products, services and real estate (n=351) (ECN)	6	1.7	34	9.7	34	9.7	197	56.1	80	22.8	4	0
Water pollution (n=349) (ENV)	5	1.4	103	29.5	53	15.2	109	31.2	79	22.6	4	2
Negatively impacted the natural environment (n=348) (ENV)	4	1.1	62	17.8	24	6.9	183	52.6	75	21.6	4	1
Tourism facilities are not in harmony with nature and traditional architecture (n=347) (ENV)	4	1.2	63	18.2	50	14.4	183	52.7	47	13.5	4	1
Negative impact on wildlife (n=351) (ENV)	10	2.8	64	18.2	66	18.8	156	44.4	55	15.7	4	1
Crowding of communities (n=351) (ENV)	14	4.0	52	14.8	40	11.4	158	45.0	87	24.8	4	1
Traffic congestion, noise and air pollution (n=351) (ENV)	6	1.7	89	25.4	47	13.4	140	39.9	69	19.7	4	2

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Attitude	SD ⁵		D		N		A		SA		Med	IQR
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%		
Increased water usage (n=351) (ENV)	7	2.0	53	15.1	64	18.2	181	51.6	46	13.1	4	1
Increased litter (n=349) (ENV)	6	1.7	66	18.9	53	15.2	162	46.4	62	17.8	4	1
Overall impact												
Overall, benefits outweigh costs (n=351)	3	0.9	32	9.1	47	13.4	183	52.1	86	24.5	4	0

Source: Based on authors' questionnaire

These results differ from the findings of many other wetland tourism studies in developing countries which display high values for residents' positive perceptions and low values for their negative perceptions of tourism development (see for example Rasoolimanesh et al., 2017). This overly enthusiastic support towards tourism development in those case studies is a sign that, in those communities, tourism development is in its early stages, or, according to Doxey's Irritation Index (1975), in the stage of euphoria, in which residents greet visitors with enthusiasm as they tend to see mainly the benefits of tourism and to minimize the costs. However, over time, according to Doxey (1975), as the number of visitors will continue to increase, the local residents may become hostile towards them. Unlike this situation, in Muthurajavela, the local population is still welcoming of visitors despite the fact that they fully understand the cost of tourism development.

Differences in tourism impact perception between groups

We were also interested in learning whether or not there were statistically significant differences in tourism impact perception between groups based on the three factors: community attachment, monthly household income and place of residence.

1. Community attachment

We found no correlation between length of residency and attitudes toward positive and negative impacts of tourism development (in line with findings by Allen et al., 1993). However, our results suggest that residents

who have lived in the community for 20 years or less are more inclined to assess the benefits of tourism development to outweigh the costs than longer term residents (table 3). This may be because „*residents who are more committed to their community may regard tourism impacts with greater concern than those who are not attached*” (Da Cruz Vareiro et al., 2013: 538).

Our results also support the findings of many previous studies which demonstrated that long-term residents are generally more reluctant to tourism (McCool & Martin, 1994; Snaith & Haley, 1999; Haley et al., 2005).

Table 3. Difference in tourism impact perception based on length of residence

	N	Mean	St. Dev.	Statistic
Positive impact - “Benefits”				
20 years or less	95	60.28	8.07	Levene’s test p=.615 \square equal variances assumed t(311)=-1.746; p=.082
More than 20 years	218	62.05	8.30	
Negative impact - “Costs”				
20 years or less	95	40.06	6.22	Levene’s test p=.004 \square equal variances not assumed t(214.509)=1.575; p=.117
More than 20 years	241	38.78	7.80	
Overall assessment impacts				
20 years or less	101	4.04	.774	Levene’s test p=.027 \square equal variances not assumed t(224.341)=-2.060; p=.041*
More than 20 years	248	3.84	.943	

Source: Based on authors’ questionnaire

2. Monthly household income

Next, we found that residents who earn more tend to perceive greater negative impact of tourism development than residents who are making less than the median income (table 4). This may be because those who are more affluent do not depend economically on the wetland (and generally do not live within the wetland) and see this area more as a place for leisure that needs to be preserved in its natural state rather than exploited for a profit. Therefore, they are more likely to notice the negative impact of tourism, especially on the environment. However, somewhat surprisingly, these residents are also more likely to assess the overall impact of tourism

development to be beneficial to the local community. These findings partly contradict the results of a study by da Cruz Vareiro et al. (2013) which stated that residents with higher incomes perceive significantly higher positive economic impacts of tourism than residents in the lower income bracket. In our case, while the value for the positive impacts was indeed higher in the case of higher income residents, the difference was not statistically significant (table 4).

Table 4. Difference in tourism impact perception based on monthly household income

	N	Mean	St. Dev.	Statistic
Positive impact - "Benefits"				
Up to Rs. 43,511	144	59.65	7.71	Levene's test p=.536 ☐ equal variances assumed t(190)=-1.607; p=.110
More than Rs. 43,511	48	61.73	7.87	
Negative impact - "Costs"				
Up to Rs. 43,511	154	36.32	6.88	Levene's test p=.814 ☐ equal variances assumed t(200)=-3.826; p=.000*
More than Rs. 43,511	48	40.75	7.39	
Overall assessment impacts				
Up to Rs. 43,511	159	3.69	.934	Levene's test p=.023 ☐ equal variances not assumed t(98.319)=-1.995; p=.049*
More than Rs. 43,511	52	3.96	.816	

Source: Based on authors' questionnaire

3. Place of residence

Finally, our results show that rural dwellers tend to perceive greater benefits and lighter costs for tourism development than urbanites but the differences do not appear to be statistically significant. However, those living in the countryside are also more likely to see the overall impact as positive and, in this case, the difference from the perception of urban residents is shown to be statistically significant (table 5). This could be explained by the fact that rural residents generally have lower incomes and fewer economic opportunities compared to urban dwellers (Andriotis, 2004). Thus, for them, economic gains from tourism development are more important than maintaining their traditional culture or preserving their surrounding environment (Rasoolimanesh et al., 2017b).

Table 5. Difference in tourism impact perception based on place of residence

	N	Mean	St. Dev.	Statistic
Positive impact - "Benefits"				
Rural	255	61.87	8.55	Levene's test p=.061 \square equal variances assumed t(313)=-1.241; p=.216
Urban	60	60.40	6.99	
Negative impact - "Costs"				
Rural	278	38.93	7.41	Levene's test p=.400 \square equal variances not assumed t(336)=-1.446; p=.149
Urban	60	40.45	7.34	
Overall assessment impacts				
Rural	287	3.96	.904	Levene's test p=.498 \square equal variances assumed t(349)=2.439; p=.015*
Urban	64	3.66	.859	

Source: Based on authors' questionnaire

Conclusion

The main objective of this study was to assess the tourism development perception of residents living in or near one of Sri Lanka's most interesting wetland areas, Muthurajavela Wetland and Negombo Lagoon. We found that, in general, local people tend to recognize both the benefits and the costs of tourism development in their community, but their overall assessment of tourism impact is clearly positive.

Another important finding of this study is that, while the entire population is supportive of tourism, there are differences between groups of residents. Here we have chosen to investigate the differences in resident perception along three factors that were somewhat less studied in the literature: community attachment, income and place of residence. Our results have shown that all three factors could be used as discriminants in resident perception studies.

The results of this study are encouraging for future wetland tourism development because of the positive attitudes expressed by the local population. Knowledge of resident perception is essential if tourism is to develop in a sustainable manner (Deery et al., 2012; Soldić Frleta & Smolčić Jurdana, 2020; Vargas-Sánchez et al., 2011). Previous studies have

demonstrated that attitude may be linked to behavior (Ajzen & Fishbein, 1980 cited in Lepp, 2007). Thus, residents who perceive tourism impacts positively may be more willing to support future tourism development (Brida et al., 2014; Lawson, 2013; Lepp, 2007; Peters et al., 2018).

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REFERENCES

- Abdollahzadeh, G.; Sharifzadeh, A. (2014). Rural Residents Perceptions towards Tourism Development: A Study from Iran. *International Journal of Tourism Research*, 16, 126-136.
- Achrekar, G.C. (2021). A Study of Residents' Perception of Sustainable Coastal Tourism on Calangute Beach, Goa. *Journal of Tourism Insights*, 11(1), 1-11.
- Ajzen, I.; Fishbein, M. (1980). *Understanding Attitudes and Predicting Social Behavior*. Englewood Cliffs, NJ: Prentice Hall.
- Allen, L.R.; Hafer, H.R.; Long, P.T.; Perdue, R.R. (1993). Rural Resident Attitudes toward Recreation and Tourism Development. *Journal of Travel Research*, 31(4), 27-33.
- Almeida Garcia, F.; Balbuena Vásquez, A.; Cortés Macias, R. (2015). Residents' Attitudes toward the Impacts of Tourism. *Tourism Management Perspectives*, 13, 33-40.
- Amuquandoh, F.E. (2010). Residents' Perceptions of the Environmental Impacts of Tourism in the Lake Bosomtwe, Ghana. *Journal of Sustainable Tourism*, 18(2), 223-238.
- Andereck, K.L.; Nyaupane, G.P. (2011). Exploring The Nature of Tourism and Quality of Life Perceptions among Residents. *Journal of Travel Research*, 50, 248-260.
- Andereck, K.L.; Valentine, K.M.; Knopf, R.C.; Vogt, C.A. (2005). Residents' Perceptions of Community Tourism Impacts. *Annals of Tourism Research*, 32(4), 1056-1076.
- Andriotis, K. (2004). The Perceived Impact of Tourism Development by Cretan Residents. *Tourism & Hospitality Planning & Development*, 1-2, 123-144.

- Andriotis, K.; Vaughan, R. (2003). Urban Residents' Attitudes towards Tourism Development: The Case of Crete. *Journal of Travel Research*, 42(2), 172-175.
- Baker, D.M.A.; Uni, R. (2021). Understanding Residents' Opinion and Support toward Sustainable Tourism Development in The Caribbean: The Case of Saint Kitts and Nevis. *The Coastal Business Journal*, 18(1), 1.
- Brida, J.G.; Disegna, M.; Osti, L. (2014). Residents' Perceptions of Tourism Impacts and Attitudes towards Tourism Policies. *Tourismos: An International Multidisciplinary Journal of Tourism*, 9(1), 37-71.
- Brida, J.G.; Riaño, E.; Zapata Aguirre, S. (2011a). Residents' Attitudes and Perception towards Cruise Tourism Development: A Case of Cartagena de Indias (Colombia). *Tourism and Hospitality Research*, 11(3), 181-196.
- Brida, J.G.; Osti, L.; Faccioli, M. (2011b). Residents' Perception and Attitudes Towards Tourism Impacts: A Case Study of the Small Rural Community of Folgaria (Trentino-Italy). *Benchmarking International Journal*, 18, 356-385.
- Carmichael, B.A. (2000). A Matrix Model for Resident Attitudes and Behaviors in a Rapidly Changing Tourist Area. *Tourism Management*, 21, 601-611.
- Chi, X.; Lee, S.K.; Ahn, Y.-J.; Kiatkawsin, K. (2020). Tourist-Perceived Quality and Loyalty Intentions towards Rural Tourism in China. *Sustainability*, 12, 3614.
- Choi, H.C.; Murray, I. (2010). Resident Attitudes toward Sustainable Community Tourism. *Journal of Sustainable Tourism*, 18, 575-594.
- Da Cruz Vareiro, L.M.; Remoaldo, P.C.; Cadima Ribeiro, J.A. (2013). Residents' Perceptions of Tourism Impacts in Guimaraes (Portugal): A Cluster Analysis. *Current Issues in Tourism*, 16(6), 535-551.
- Deery, M.; Jago, L.; Fredline, L. (2012). Rethinking Social Impacts of Tourism Research: A New Research Agenda. *Tourism Management*, 33(1), 64-73.
- Department of Census and Statistics (2017). Household Income and Expenditure Survey – 2016. Battaramulla: Sri Lanka Ministry of National Policies and Economic Affairs. Available at:
<http://www.statistics.gov.lk/Resource/en/IncomeAndExpenditure/HouseholdIncomeandExpenditureSurvey2016FinalResults.pdf>
- Diaz-Christiansen, S.; López-Guzmán, T.; Pérez-Gálvez, J.C.; Muñoz Fernández, G.A. (2016). Wetland Tourism in Natural Protected Areas: Santay Island (Ecuador). *Tourism Management Perspectives*, 20, 47-54.
- Dimitriadis, E.; Papadopoulos, D.; Katsidou, D. (2013). Attitudes towards Tourism Development: Residents' Perceptions in the Islands of Lemnos and Hydra. *Tourismos*, 8(1), 133-151.
- Doxey, G. (1975). A Causation Theory of Resident-Visitor Irritants. In *The Sixth Annual Conference Proceedings of the Travel Research Association* (pp. 195-198). San Diego, California, USA: The Travel Research Association.
- Easterling, D. (2004). The Residents' Perspective in Tourism Research: A Review and Synthesis. *Journal of Travel and Tourism Marketing*, 17(4), 45-62.

- Egresi, I. (2016a). *Alternative Tourism in Turkey: Role, Potential Development and Sustainability*. Cham, Switzerland: Springer International.
- Egresi, I. (2016b). Alternative Tourism: Definition and Characteristics. In, I. Egresi (Ed.), *Alternative Tourism in Turkey: Role, Development and Sustainability* (pp. 57-69). Cham, Switzerland: Springer.
- Egresi, I. (2016c). Tourism and Sustainability in Turkey: Negative Impact of Mass Tourism Development. In, I. Egresi (Ed.), *Alternative Tourism in Turkey: Role, Development and Sustainability* (pp. 35-53). Cham, Switzerland: Springer.
- Egresi, I.; Prakash, T.G.S.L. (2019). What Makes Wildlife Tourists Happy and What Disappoints Them? Learning from Reviews Posted on Tripadvisor. *GeoJournal of Tourism & Geosites*, 24(1), 102-117.
- Egresi, I.; Prakash, S.L.; Madurapperuma, B.; Withanage, A.; Weerasingha, A.; Dezsi, Ş.; Răcăşan, B.S. (2021). What Affects Support for Wetland Tourism? A Case Study from Sri Lanka. *Sustainability*, 13(16), 8802.
- Escudero Gómez, L.A. (2019). Residents' Opinions and Perceptions of Tourism in the Historic City of Toledo. *Sustainability*, 11, 3854.
- Eshliki, S.A.; Kaboudi, M. (2012). Community Perception of Tourism Impacts and Their Participation in Tourism Planning: A Case Study of Ramsar, Iran. *Procedia – Social and Behavioral Sciences*, 36, 333-341.
- Fallon, P.; Schofiel, P. (2006). The Dynamics of Destination Attribute Importance. *Journal of Business Research*, 59(6), 709-713.
- Fernando, S.L.J.; Shariff, N.M. (2013). Wetland Ecotourism in Sri Lanka: Issues and Challenges. *Geografia Online: Malaysia Journal of Society and Space*, 9(4), 99-105.
- Flower, B.; Amerisinghe, P.; Miranda, R. (2019). *Governing Urban Wetlands for Green Growth in Western Region Megalopolis of Sri Lanka*. Discussion Brief, International Water Management Institute. Cgspace.sgiar.org
- George, D., Mallery, P. (2003). *SPSS for Windows Step by Step: A Simple Guide and Reference, 11.0 Update (4th edition)*. Boston: Allyn & Bacon.
- Greater Colombo Economic Commission (1991). *Master Plan for Muthurajawela and Negombo Lagoon*. Euroconsult: The Netherlands; & Gunaratne offset Ltd.: Colombo, Sri Lanka. Available online: https://www.commissiemer.nl/docs/mer/diversen/pos_007-25_masterplan_muthurajawela_negombo_lagoon.pdf (accessed on 1 June 2021)
- Gu, X.; Hunt, C.A.; Lengieza, M.L.; Niu, L.; Wu, H.; Wang, Y.; Jia, X. (2021). Evaluating Residents' Perceptions of Nature-Based Tourism with Factor-Cluster Approach. *Sustainability*, 13, 199.
- Gursoy, D.; Dyer, P. (2009). An Examination of Locals' Attitudes. *Annals of Tourism Research*, 36(4), 715-734.
- Gursoy, D.; Ouyang, Z.; Nunkoo, R.; Wei, W. (2019). Residents' Impact Perceptions of and Attitudes towards Tourism Development: A Meta-Analysis. *Journal of Hospitality Marketing and Management*, 28(3), 306-333.

- Gursoy, D.; Jurowski, C.; Uysal, M. (2002). Resident Attitudes: A Structural Modelling Approach. *Annals of Tourism Research*, 29(1), 79-105.
- Haley, A.; Snaith, T.; Miller, G. (2005). The Social Impacts of Tourism: A Case Study of Bath, UK. *Annals of Tourism Research*, 32(3), 647-668.
- Harrill, R. (2004). Residents' Attitudes toward Tourism Development: A Literature Review with Implications for Tourism Planning. *Journal of Planning Literature*, 18(3), 251-266.
- Hettiarachchi, M.; Morrison, T.H.; Wickramasinghe, D.; Mapa, R.; De Alwis, A.; McAlpine, C.A. (2014a). The Eco-Social Transformation of Urban Wetlands: A Case Study of Colombo, Sri Lanka. *Landscape Urban Planning*, 132, 55-68.
- Hettiarachchi, M.; Athukorale, K.; Wijekoon, S.; de Alwis, H. (2014b). Urban Wetlands and Disaster Resilience of Colombo, Sri Lanka. *International Journal of Disaster Resilience in the Built Environment*, 5(1), 79-89.
- Jepson, D.; Sharpley, R. (2015). More Than Sense of Place? Exploring the Emotional Dimension of Rural Tourism Experiences. *Journal of Sustainable Tourism*, 23, 1157-1178.
- Khoshkam, M.; Marzuki, A.; Al-Mulali, U. (2016). Socio-Demographic Effects on Anzali Wetland Tourism Development. *Tourism Management*, 54, 96-106.
- Kibicho, W. (2008). Community-Based Tourism: A Factor-Cluster Segmentation Approach. *Journal of Sustainable Tourism*, 16(2), 211-221.
- Látkova, P.; Vogt, C.A. (2012). Residents' Attitudes toward Existing and Future Tourism Development in Rural Communities. *Journal of Travel Research*, 51(1), 50-67.
- Lawson, E.T. (2013). Your Leisure, My Space: Using Residents' Perceptions As Indicators in Sustainable Coastal Tourism Development in Ghana. *African Journal of Hospitality, Tourism & Leisure*, 2(4), 1-19.
- Lee, T.H. (2013). Influence Analysis of Community Resident Support for Sustainable Tourism Development. *Tourism Management*, 34, 37-46.
- Lepp, A. (2008). Attitudes Towards Initial Tourism Development in a Community with No Prior Tourism Experience: The Case of Bigodi, Uganda. *Journal of Sustainable Tourism*, 66(1), 5-22.
- Lepp, A. (2007). Residents' Attitudes Towards Tourism in Bigodi Village, Uganda. *Tourism Management*, 28, 876-885.
- Lin, C-H.; Wang, W-C.; Yeh, Y-I.E. (2019). Spatial Distributive Differences in Residents' Perceptions of Tourism Impacts in Support for Sustainable Tourism Development: Lu-Kang Destination Case. *Environments*, 6(1), 8.
- Liu, X.; Li, J. (2018). Host Perceptions of Tourism Impact and Stage of Destination Development in a Developing Country. *Sustainability*, 10, 2300.
- Long, P.H.; Kayat, K. (2011). Residents' Perceptions of Tourism Impact and Their Support for Sustainable Tourism Development in the Case Study Of Cuc Phuong National Park, Ninh Binh Province, Vietnam. *European Journal of Tourism Research*, 4(2), 123-146.

- Marasinghe, S.; Perera, P.; Newsome, D.; Kotagama, S.; Jayasinghe, C. (2022). Understanding the Impact of Recreational Disturbance Caused by Motor Vehicles on Water Birds: A Case Study of Bundala Wetland, Sri Lanka. *Journal of Coastal Conservation*, 26:6.
- Mason, P. (2008). *Tourism impacts planning and management* (2nd edition). Oxford, UK: Elsevier/Butterworth Heinemann.
- McCool, S.; Martin, S. (1994), Community Attachment and Attitudes toward Tourism Development. *Journal of Travel Research*, 32(3), 29-34.
- McGehee, N.G.; Andereck, K.L. (2004). Factors Predicting Rural Residents' Support for Tourism. *Journal of Travel Research*, 43, 131-140.
- McInnes, R.J.; Everard, M. (2017). Rapid Assessment Wetland Ecosystem Services (RAWES): An Example of Colombo, Sri Lanka. *Ecosystem Services*, 25, 89-105.
- Mitsch, W.J.; Gosselink, J.G. (2000). The Value of Wetlands: Importance of Scale and Landscape. *Ecological Economics*, 35, 25-33.
- Monterrubio Cordero, J. (2008). Residents' Perceptions of Tourism: A Critical Theoretical and Methodological Review. *Ciencia Ergo Sum*, 15(1), 35-44.
- Musora, O.; Mbaiwa, J.E.; Murray-Hudson, M. (2017). Tourists' Perceptions of Environmental Impacts of Tourism Development on Water Resources in the Okavango Delta, Botswana. *African Journal of Hospitality, Tourism & Leisure*, 6(3), 1-10.
- Nunkoo, R. (2016). Toward a More Comprehensive Use of Social Exchange Theory to Study Residents' Attitudes of Tourism. *Procedia Economics & Finance*, 39, 588-596.
- Nunkoo, R.; Gursoy, D. (2012). Residents' Support for Tourism: An Identity Perspective. *Annals of Tourism Research*, 39(1), 243-268.
- Nunkoo, R.; So, K.K.F. (2016). Residents' Support for Tourism: Testing Alternative Structural Models. *Journal of Travel Research*, 55, 847-861.
- Nunkoo, R.; Smith, S.L.; Ramkissoon, H. (2013). Residents' Attitudes to Tourism: A Longitudinal Study of 140 Articles from 1984 to 2010. *Journal of Sustainable Tourism*, 21, 5-25.
- Peters, M.; Chan, C-S.; Legerer, A. (2018). Local Perception of Impact-Attitudes: Actions towards Tourism Development in the Urlaubsregion Murtal in Austria. *Sustainability*, 10, 2360.
- Pueyo-Ros, J.; Ribas, A.; Fraguell, R.M. (2018). Use and Preferences of Visitors to Coastal Wetlands in Tourism Destinations (Costa Brava, Spain). *Wetlands*, 38, 1183-1197.
- Prakash, T.G.S.L.; Weerasingha, A.; Withanage, A.; Kusumida, T. (2017). Mangrove Diversity in Muthurajawela and Negombo Lagoon Wetland Complex, Sri Lanka: Insights for Conservation and Management. *Wildlanka*, 5(3), 99-106.

- Prakash, T.G.S.L.; Weerasingha, A.; Kusuminda, T.; Withanage, A. (2016). Status of Wetland Tourism in the Muthurajawela Wetland Sanctuary. *Loris*, 27(5 & 6), 28-30.
- Rasoolimanesh, S.M.; Ringle, C.M.; Jaafar, M.; Ramayah, T. (2017a). Urban vs. Rural Destinations: Residents' Perceptions, Community Participation and Support for Tourism Development. *Tourism Management*, 60, 147-158.
- Rasoolimanesh, S.M.; Roldán, J.L.; Jaafar, M.; Ramayah, T. (2017b). Factors Influencing Residents' Perceptions toward Tourism Development: Differences Across Rural and Urban World Heritage Sites. *Journal of Travel Research*, 56(6), 760-775.
- Reinius, S.W.; Fredman, P. (2007). Protected Areas as Attractions. *Annals of Tourism Research*, 34, 839-854.
- Sahin, G.; Akova, O. (2019). Perception and Attitudes of Residents towards Impacts of Tourism: A Research on Environmentally Sensitive Regions. *Anais Brasileiros de Estudos Turisticos*, 9, 1-13.
- Samarasinghe, Y.M.P.; Dayawansa, N.D.K. (2013). A Remote Sensing and GIS-Based Study in Assessment of the Degradation Risk of the Kolonnawa Marsh. *Journal of National Science Foundation of Sri Lanka*, 41(4), 327-335.
- Sellamuttu, S.S.; Finlayson, C.M.; Nagabhatla, N.; Diphoorn, L. (2011). Linkages between Changes in Land Cover (Use) Patterns, Local Perceptions and Livelihoods in a Coastal Wetland System in Sri Lanka. *Journal of National Science Foundation of Sri Lanka*, 39(4), 391-402.
- Sharpley, R. (2014). Host Perceptions of Tourism: A Review of the Research. *Tourism Management*, 42, 37-49.
- Snaith, T.; Haley, A. (1999). Residents Attitudes to Tourism in North Wales. *Tourism Management*, 15(5), 358-369.
- Soldić Frleta, D.; Smolčić Jurdana, D. (2020). Insights into Differences in Residents' Attitudes: Tourism Impacts and Support for Future Development. *Tourism*, 68(2), 170-180.
- Tavares, A.O.; Máquina, M.A.; Henriques, M.H. (2012). The Impact of Tourism in a Fragile Wetland Ecosystem in Angola: The Arco (Namibe) Case Study. *WIT Transactions on Ecology and the Environment*, 161, 205-216.
- Teye, V.; Sönmez, S.F.; Sirakaya, E. (2012). Residents' Attitudes toward Tourism Development. *Annals of Tourism Research*, 29, 668-688.
- Tichaawa, T.M.; Moyo, S. (2019). Urban Resident Perceptions of the Impacts of Tourism Development in Zimbabwe. *Bulletin of Geography, Socio-Economic Series*, 43, 25-44.
- Tovar, B.; Espino, R.; López del Pino, F. (2020). Residents' Perception Attitudes towards the Cruise Tourism Impact in Gran Canaria. *Research in Transportation Business & Management*, <https://doi.org/10.1016/j.rtbm.2020.100586>

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- Trumbo, C.W., O'Keefe, G.J. (2001). Intention to Conserve Water. Environmental Valued Planned Behavior and Information Effects: A Comparison of Three Communities Sharing Watershed. *Tourism Analysis*, 9, 1-13.
- Van der Duim, R.; Henkens, R. (2007). *Wetlands, Poverty Reduction and Sustainable Tourism Development, Opportunities and Constraints*. Wageningen, the Netherlands: Wetlands International.
- Vargas-Sánchez, A.; de los Angeles Plaza-Mejia, M.; Porrás-Bueno, N. (2011). Explaining Residents' Attitudes to Tourism: Is a Universal Model Possible? *Annals of Tourism Research*, 38(2), 269-290.
- Vargas-Sánchez, A.; de los Angeles Plaza-Mejia, M.; Porrás-Bueno, N. (2009). Understanding Residents' Attitudes toward the Development of Industrial Tourism in a Former Mining Town. *Journal of Travel Research*, 47(3), 373-387.
- Vidal Rua, S. (2020). Perceptions of Tourism: A Study of Residents' Attitudes towards Tourism in the City of Girona. *Journal of Tourism Analysis*, 27(2), 165-184.
- Zhao, Q.; Bai, J.; Huang, L.; Gu, B.; Lu, Q.; Gao, Z. (2016). A Review of Methodologies and Success Indicators for Coastal Wetland Restoration. *Ecological Indicators*, 60, 442-452.

