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Community perceptions link environmental decline to reduced support for tourism development in small island states: A case study in the Turks and Caicos Islands

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ABSTRACT

Increasing tourism and population growth, exacerbated by migration, are placing pressure on the health and resilience of natural resources worldwide. This is evident in complex tropical coastal systems, particularly Small Island and Small Island Developing States (SIDS), where limited resources, fragile environments and climate change risk result in sustainable development challenges. The relationship between residents' perceived impacts of tourism, marine resource health, and support for future development was investigated through face-to-face semi-structured interviews with 57 stakeholders, including heads of households, fishers and those working in the tourism sector, on the Island of Grand Turk (Turks and Caicos Islands). Perceptions of the economic, social and environmental impact of tourism were not significantly associated with residents' socio-demographics. However, Turks and Caicos nationals were significantly more likely to support future tourism development than non-nationals. Residents that linked tourism with environmental degradation showed significantly reduced support for tourism development. Proposed developments which promote overnight tourism were viewed most positively by respondents highlighting a need for strategic growth of the tourism sector to consider income generation outside of the cruise terminal. Results highlight the need for more balanced consideration of the effects of tourism on socio-economic factors along with environmental considerations in communities highly depended on marine resources. Thus, context-specific understanding of residents' perceptions and how this might influence support for future development is vital to building policies that are reflective of local priorities.

1. Introduction

Tourism is one of the largest and fastest-growing global economic sectors and an integral component of economic development strategies for many countries [1], especially small islands with limited alternatives to generate economic prosperity. Coastal zones have been at the forefront of development, with an increasing number of developing countries in the tropics focusing on tourism to diversify the economy [2]. Increasing pressure placed on natural resources presents management challenges for complex coastal socio-economic systems that depend on the health of natural resources for food and income. This is particularly evident in Small Islands and Small Island Developing States (SIDS) which face several challenges and vulnerabilities including fragile environments, climate change risk, low community engagement with sustainable natural resource management and economic leakage [3].

While most marine conservation debates recognise the significance of understanding important interactions between society and environmental resources [4,5], marine management initiatives and research often do not explore these interactions sufficiently [6] particularly in the context of sustainable coastal tourism development. Over the last decade there has been a steady increase in the number of studies linking socio-economic characteristics with attitudes and perceptions of people towards health and use of marine resources [6–8]. However, the complexity of human perceptions, and how they influence attitudes and behaviour, leads to many further questions regarding support for marine management measures [6]. Tourism can be an important source of income for local communities so understanding the views of locals dependent on this sector can help balance coastal tourism with conservation goals.

Integrating tourism with national sustainable development plans is challenging in Small Island states where development can contribute to

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coastal zone degradation and loss of the fragile ecosystems upon which tourism depends. Development and associated growth in population greatly influences both physical and socio-economic characteristics in host countries [9]. Perceptions and attitudes of local communities towards the impacts of tourism are an important planning and policy consideration for the successful development and operation of future tourism programmes and projects [10]. This is especially important in coastal areas where population growth is exerting pressure on natural resources and thus can be compounded by further pressure from rising numbers of visitors through expanding tourism. A considerable body of research has been undertaken into resident perceptions of tourism on economic, environmental and sociocultural impacts [see section 2]. Perceptions of existing tourism impact have potential implications for willingness to engage in decision-making [11] and support for tourism development [12] and local tourism policies [13], thus understanding community perceptions can help tailor management measures to specific local contexts.

The overall aim of this study was to investigate and expand the understanding of how the perceptions of resident's influence support for coastal tourism development in Small Island States and identify the perceived impact of existing tourism from a social, environmental and economic perspective. Tourism may be considered more important to Caribbean Islands than to any other region in the world, accounting for 14.8% of Gross Domestic Product (GDP) in 2015 [14]. Unlike other Caribbean islands, tourism in the Turks and Caicos is still emerging, particularly on the political capital of Grand Turk, making the study timely to assess resident perceptions. Based on a case study of Grand Turk this study addressed three research questions: (1) What are residents' perceptions of local tourism in terms of social, economic and environmental impacts? (2) Do socio-demographic characteristics influence perceptions of existing tourism or support for tourism development? (3) Do perceptions of existing tourism influence support for future tourism development? Answers to these questions can help inform strategic planning for tourism which can better reconcile balancing environmental impacts from tourism with economic prosperity and social benefits.

2. Literature review

2.1. Residents perceptions of tourism

The perceptions of residents' in established and emerging tourist destinations have long been the focus of academic scrutiny due to the importance of community support for successful and sustainable development. Numerous studies have investigated resident perceptions of, or attitude towards, the economic [15–17], socio-cultural [9,13,18] and environmental impacts of tourism [9,13,17]. Initial work revealed a descriptive approach [19] focusing on perceived tourism impact, while more recent studies test variables (e.g. age, occupancy, length of residency) that may influence or predict perceptions of and support for tourism development [20,21].

Despite this progress, much of this research is restricted to case studies in the developed world [9] with numerous examples from Australia [17,22] and Europe [23–25]. In addition, most studies employ quantitative interview protocols which draw simplistic and theoretically weak findings [26]. Thus, there is a need for qualitative studies which have the potential to explain why residents perceive and respond to tourism thus providing the context for inferences [9,27].

Due to its potential for economic prosperity governments normally have plans to expand the tourism sector and many researchers have been interested in the economic aspects of tourism [9]. Tourism has huge potential for internationalisation agendas due to its increasing economic significance to generating national wealth, particularly in less developed countries and SIDS [20]. To a great extent, however, the scale, scope and significance of tourism growth does not involve engagement from locals in deciding what type of tourism they would prefer, hence a surprising lack of attention is paid to communities from small islands and underdeveloped countries [28] where tourism can contribute greatly to the national GDP. Economic impacts of tourism are predominantly viewed positively across the published literature [16,29] due to job provision and other economic opportunity for residents [18]. However, it is believed only a minority of the host population directly benefits [15].

In relation to the socio-cultural impacts of tourism development, studies have noted positive impacts on residents' quality of life [9]. However, research in developed countries has shown that as the level of tourism in a community increased, residents' perceptions of tourism impacts became less positive [9,30,31]. Studies have also alluded to the negative social impacts, such as conflict over land use between local communities and tourism developers [15,32] and increased crime [16].

Environmentally, ecosystem damage due to increased demand on natural resources and overexploitation is considered a huge cost associated with tourism development [21]. Traffic congestion, pollution and increases in litter were also considered to be negative impacts associated with tourism [33]. Conversely, a number of studies found residents perceived tourism as having a positive impact on the environment [18,34] due to preservation and protection of natural beauty.

2.2. Variables influencing residents' perceptions of tourism development

Identifying factors that influence perceptions or attitudes towards tourism has been well studied within the literature in order to explain or predict the responses of residents to tourism [9]. Variables including age, gender and level of education [9,35] have been found to influence attitudes and support for tourism. Younger [36,37] and more educated individuals [38] tend to have more positive perceptions about tourism development. However, such associations are inconclusive with studies finding opposing results [35].

Economic dependence on the tourism industry has been found to positively influence local perceptions towards tourism with those linked to tourism through employment exhibiting more positive attitudes than those who do not economically depend on the sector [38–40]. Residents with strong ties to the community including long-term and native residents have less favourable attitudes towards tourism and are more aware of the negative impacts [41].

3. Research methods

3.1. Study setting

The Turks and Caicos Islands (herein abbreviated as TCI) is an archipelago of 40 low-lying coral islands in the Atlantic Ocean and considered part of the Caribbean region. The origins of tourism in the TCI date back to the mid-1960s in the wake of the collapse of the solar salt industry [42]. Despite its short history with tourism, the first major resort (Club Med) only opened in 1984, TCI is the fastest-growing destination in the Caribbean [42]. Over the last 30 years tourism has grown quickly, and residents have had to adapt to the rapid social change associated with tourism. However, tourism has proceeded differently across the main inhabited islands with the nation's capital Grand Turk still in the emergent stage of tourism growth, making this fieldwork timely to assess local attitudes from a range of stakeholders.

Grand Turk has a tourism-dependent economy relying heavily on the Cruise industry, which has contributed significantly to annual tourist arrivals since 2006. In 2016 the Grand Turk cruise centre welcomed 846,963 cruise passengers, a 124% increase on arrivals in 2012 [43] while stay over tourists totalled 386,652 in 2015 [43]. In the past 40 years the population of Grand Turk has more than doubled from around 2000 in 1970 to 4831 in 2012 [44], this growth in population parallels the development of the local tourism industry [44]. Migration accounts for around two thirds of the population increase and 'belongers' (synonymous with the term TCI nationals) now only account

Table 1
Summary of interviewees (n = 57), including stakeholder group and respondent nationality.

Stakeholder group and nationality	No of interviewees
Households	**30**
Turks and Caicos national	20
Non-national	10
Tourism sector	**23**
Turks and Caicos national	10
Non-national	13
Fishers	**4***
Turks and Caicos national	4

*Represents 57% of registered fishermen on Grand Turk (DEMA).

for 38% of the population on Grand Turk [43].

At the time of this study (2015) several tourism developments were proposed for Grand Turk, including a large resort that would double the existing room quota, a world class marina and a captive dolphin cove.

3.2. Data collection

Semi-structured interviews were conducted with targeted stakeholder groups including heads of households, residents working in the tourism industry and commercial fishers. Interviews were conducted in May and June 2015 and included five sections: 1) perceptions of marine resource health; 2) perceptions of tourism; 3) awareness and support for future developments; 4) community relations, and; 5) socio-economic data and basic demographics. A combination of open-ended and closed questions were used in each section, with some Likert scale rapid response questions used to ascertain attitudes towards tourism and marine resources.

Thirty heads of households were interviewed, representing 7% of the total population, and 23 resource users from the tourism and/or fishing sectors (Table 1). A combination of random, snowball, and targeted sampling methods were applied. All interviews were conducted face-to-face with consent obtained prior to each interview. Interviews with heads of households were collected via a systematic sampling strategy, targeting every 14th household, aiming to provide a representative sample of interviewees. Household surveys were conducted in the community “Back Salina”, as this best encompassed the diversity of the population represented across Grand Turk. Back Salina was the largest community with approximately 421 households and a population of 1265 [44]. Direct resource users (those working in the tourism industry and fishermen) were targeted primarily through snowball and opportunistic sampling.

3.3. Data analysis

Interview transcripts were coded in QSR NVivo 10 and the coding structure was developed iteratively.

Different themes of response were identified for each of the open-ended questions then a more deductive approach was used to group responses into related themes. A cumulative link model was fitted to the data with responses to the ordinal variable ‘support for future tourism development’ as the dependent variable with three ordered response variables:

1. Yes, in support of tourism development on Grand Turk.
2. Unsure, if in support of tourism development on Grand Turk.
3. No, not in support of tourism development on Grand Turk.

The following independent variables were selected following a critical appraisal of the literature and included in the cumulative link model. Models were constructed using the ordinal package in R statistical software [45].

1. Age (years)
2. Years of formal education (years)
3. Nationality (TCI national/other)
4. Occupation (Tourism/other)
5. Length of residency (years)
6. Perception of tourism on quality of life (very good/good/unsure/bad/very bad).
7. Perception of tourism on community relationships (very good/good/unsure/bad/very bad).
8. Perceived cause of environmental decline (tourism, fisheries exploitation, climate change).
9. Involvement in tourism planning or implementation stages (yes/no).

Responses to variable 8 were given to the open-ended question ‘What is the main cause of environmental decline?’ Data collected was coded and grouped into 3 primary themes of responses (Table 2).

4. Results

4.1. Perceived impact of existing tourism

4.1.1. Economic impact

Tourism was considered very positive from an economic perspective with 100% of respondents rating tourism impacts on income as good or very good. Positive economic perceptions were attributed to increased revenue and indirect community benefits such as infrastructure development and jobs. Residents working as tour operators and at the cruise terminal were considered to benefit most from tourism on the island.

4.1.2. Socio-cultural impact

The impact of tourism on quality of life was ranked positively by the majority (88%) of respondents, however, perceptions of tourism impact on community relationships showed little consensus (52% citied impacts as good-very good / 48% as bad-very bad). The majority of respondents felt accepted as part of the community however, approximately 50% felt they were not given the opportunity to participate in

Table 2
Perceived drivers of environmental degradation as volunteered by interviewees from household and resource user surveys (n = 57).

Primary themes of response	% of respondents	Sub-category of response (%)
Tourism	52	Excessive boat and cruise activity (46) Disruption by divers (27) Anchors from dive boats dropped onto reef (18) Increase in waste/litter (9)
Fisheries exploitation	34	Lack of fishing regulations (41) Destructive fishing methods (29) Increase in the number of fishermen (15) Higher number of illegal fishermen (15)
Climate change	14	Coral bleaching (67) Increase in algae due to temperature increase (33)

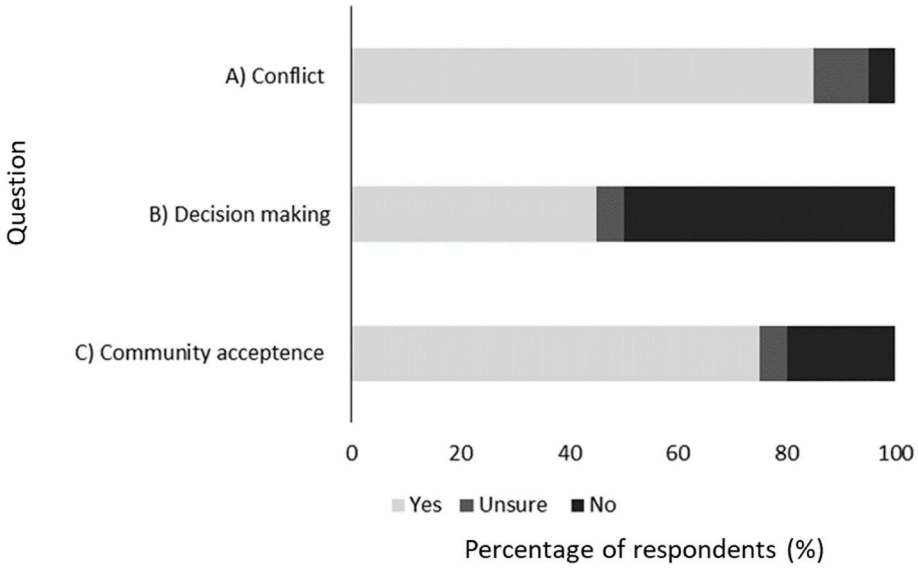

Fig. 1. Distribution of individual response to questions asked relating to community relations, A) Has there been any conflict between individuals or communities on Grand Turk due to existing tourism or proposed tourism developments? B) Do you have the opportunity to participate in decision making within the community? And C) Do you feel accepted as part of this community?.

decision making (Fig. 1), with many believing they do not have a voice or the right to vote. Conflict between community groups as a result of tourism development on the island was a recurring theme throughout interviews, specifically development of the cruise terminal which resulted in land-use conflict. Tension was also evident in relation to employment where TCI nationals feel job opportunities are not proportional to increasing population size.

4.1.3. Environmental impact

Awareness of marine environmental decline was demonstrated throughout interviews. Residents were particularly concerned about the environmental impact of the islands cruise tourism, and attributed declines in reef health to excessive cruise visits. A higher proportion of respondents working in tourism (60%) believed the health of the environment had declined in the last 5 years when compared to household respondents (47%) and fishers (44%). Three main themes were identified as causes of environmental degradation (Table 2), with tourism perceived to be the main driver of environmental decline by more than 50% of respondents.

4.2. Support for future tourism development

The majority (94%) of respondents described at least one proposed tourism development. In open and multiple response questioning, those working within the tourism sector described significantly more proposed developments (Kruskal-Wallis $\chi^2 = 9.7642$, $p = < 0.05$) than respondents with alternative occupations. Support for future tourism development was highly dependent on the type of tourism (Table 3). Developments which promote and accommodate overnight tourists were viewed very positively. Conversely, respondents believe increases in cruise arrivals will only benefit Carnival cruises and those directly employed by the cruise centre. Plans to build a dolphinarium, a captive dolphin attraction, also received little support with respondents highlighting environmental concerns.

Stepwise removal of explanatory variables to refine the ordinal regression resulted in a final model with four significant explanatory variables:

1. Nationality (TCI/other).
2. Perception of tourism on community relationships (very good/good/unsure/bad/very bad).
3. Involvement in tourism planning or development stages (yes/no).
4. Cause of environmental decline (Tourism, fisheries exploitation, climate change).

The final model predicts support for tourism development to be significantly higher among residents who; 1) are Turks and Caicos nationals; 2) perceive existing tourism to have had a positive impact on community relationships, and; 3) are involved in any stage of tourism planning or development. Support for tourism development is significantly lower among respondents that perceive tourism to be the main cause of environmental degradation (Table 4).

5. Discussion

5.1. Perceptions of existing tourism impact

Environmental degradation and reduced social cohesion were

Table 3
Perceived impact of proposed tourism developments on Grand Turk as volunteered by interviewees (n = 57). Perceived impact is categorised as either positive, neutral or negative.

Type of tourism development mentioned by respondents	% respondents *(n = 57)*	Examples of impacts	Perceptions (% responses)		
			+	±	–
Dolphinarium	47	Disrupts ecosystem and dive sites. Against animals in captivity. Jobs.	30	7	63
Hotel	29	Accommodate overnight tourists. Hotels may lead to direct flights.	100	0	0
Marina	45	More overnight tourism. Builds up infrastructure.	65	22	13
Cruise tourism	18	More tourists. No community benefit – only cruise centre benefits.	33	16	51

Table 4
Ordinal regression model showing the relationship between residents' (n = 57) perceptions of existing tourism, socio-demographic variables and support for future tourism development.

Variable	Estimate	Standard error	z value	Pr (> |z|)
Nationality	−2.131	1.289	−1.653	0.002
Community relationships	−0.647	0.583	−1.108	0.051
Involvement	0.372	1.928	0.192	0.016
Environmental impact	−0.457	0.255	−2.825	0.012

perceived as the greatest costs of existing tourism. Perceptions of tourism on quality of life and income generation were positive and agreed with previous findings [46,47]. Findings reaffirm the importance of understanding the social dimension of island tourism as conflict between resident community groups, specifically between TCI nationals and the expatriate community was evident throughout interviews. This highlights the threat of emerging tourism economies and job prosperity exacerbating rather than alleviating inequalities at local levels [48], leading to reduced social cohesion [49,50]. Increasing social stratification and income disparity among community groups is perhaps one of the greatest threats to the long-term sustainability of tourism in TCI and other small island nations. It is a significant challenge that must be addressed in tourism policy for effective implementation of sustainable tourism initiatives, yet, social issues have not received as much attention in the published literature when compared to environmental and economic aspects [51].

5.2. Effects of socio-demographic factors on perceptions and support for tourism

Contrary to the findings from a review of the literature, socio-demographics did not significantly influence perceptions of tourism impact [35,52]. TCI nationals had less direct economic involvement in tourism yet, they were significantly more likely to support future tourism development than non-nationals. This observation supports results from a study conducted by Cameron and Gatewood [53] who found that TCI nationals were very positive about the economic impact of tourism and were supportive of tourism development. However, this contradicts previous studies which found that native residents have more unfavourable attitudes towards tourism [52,54].

5.3. Perceptions influence support for future tourism development

Although residents included in this research were largely supportive of tourism development, results showed clear differences in acceptance of specific tourism projects. Findings highlight a need to develop and diversify tourism outside of the cruise terminal, where negative impacts often outweigh the benefits due to revenue leakage outside of the host community [55] and increasing pressure on natural resources [56].

Inevitably, tension between stakeholders in this study has arisen due to the conflict between the need to protect the marine environment and the prospect of economic benefits derived from tourism [56]. Marine spatial planning (MSP) can play an important role in the organisation of tourism development and is a concept which aims to mitigate both user-user conflicts as well as user-environment conflict [57]. In locations with heavy dependence on marine resources MSP can ensure coastal space is not overwhelmed by tourism facilities (i.e. resorts) and thus ensure synergies among economic sectors [58].

Residents that perceived tourism to have negative environmental impacts showed significantly reduced support for tourism development. This finding highlights important relationships between environmental decline, community perceptions and factors underpinning support for future tourism development. Environmental impacts associated with tourism may be more acute and apparent to residents in small islands as tourism activities are often disproportionally concentrated on the most sensitive sites where changes to the environment can be more visible [59]. Thus, mitigating negative environmental impacts can be useful in gaining resident support for tourism development particularly in SIDS where unique natural ecosystems attract tourists, but at the same time, confronts them with several challenges and vulnerabilities.

Community involvement in decision-making for tourism planning and development was also found to significantly increase support for development of this sector [60]. Greater inclusiveness and broader community representation can promote democratic decision making and thus, confer better local support for management measures [11]. Management approaches for coastal resources are in general shifting from government-led top-down processes towards more collaborative management methods [61–63] in recognition of the benefits associated with community and stakeholder participation. This is particularly important in small island states, where natural resources are vital for livelihoods, food security and well-being of residents.

5.4. Policy and development implications

Short-sighted management plans and narrowly focused policy objectives around economic prosperity has promoted the rapid emergence of mass tourism in other countries resulting in fragmented social structures and environmental degradation [64]. In small island states integration of social, environmental and economic, as well as cultural goals is critical to developing sustainable tourism plans that will be supported by those impacted.

Several policy recommendations emerge from this study based directly on the perceptions of residents. Findings highlight the need to focus tourism development and future investment on projects which promote overnight and longer residential tourism. This should aid retention of tourism revenue within the host country and increase livelihood opportunities for residents. Development of guest houses and homestays have the potential to ensure direct economic benefit to the TCI community while minimizing environmental costs. Small scale eco-resorts and hotels could be considered but should ensure job prospects to residents. Ensuing recommendations should also ensure that policy makers are sensitive to residents' concerns, specifically perceived social inequalities related to employment opportunities. Marine spatial planning strategies could be adopted to mitigate stakeholder conflicts and balance ecological, economic and social interest.

Facilitating greater resident participation through effective engagement fora and promoting collaborative management approaches that consider the diverse perspectives and priorities of local stakeholders would support tourism growth which better reflects the local context. Marine spatial planning and co-development approaches are an integral means of obtaining first-hand knowledge of local dynamics between communities, natural resources and tourism. Furthermore, transparency about why decisions are made can speed up the development process [65,66]. Both are critical in garnering stakeholder support and will ultimately improve success of tourism development. Ensuring that the concerns of local communities are at the centre of building tourism policy, combined with action to enhance conservation of marine resources can help countries like the TCI make progress towards sustainable tourism development.

6. Conclusion

The results of this study contribute to a wider understanding of local perceptions of tourism and factors which influence support for future development in a small Caribbean Island. Support was greatest among respondents who were involved in the planning process and believed tourism had positively impacted community relations. Conversely, respondents who attributed tourism to environmental degradation showed significantly lower support for tourism development. Developments which promote overnight tourism while safeguarding against environmental degradation should be a priority. Findings

provide appropriate information for tourism development and demonstrate the importance of considering and incorporating perceptions data into local development plans. Development of small island tourism could significantly benefit from marine spatial planning due to its potential to mitigate negative impacts on natural resources, as well as land-use conflicts.

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Conflicts of interest

The authors declare that they have no conflict of interest. The views expressed herein are those of the authors.

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