

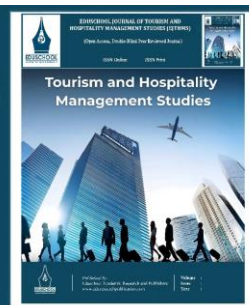


EDUSCHOOL JOURNAL OF TOURISM AND HOSPITALITY MANAGEMENT STUDIES (EJTHMS)

(Open Access, Double-Blind Peer Reviewed Journal)

ISSN Online:

ISSN Print



Net zero Tourism in Small Island States: Policy and Implementation

Jayaprakasha K

Tutor and E-learning Content Developer, Graphic Era (Deemed to be) University, Uttarakhand, India.

Article information

Received: 7th April 2026

Received in revised form: 28th May 2026

Accepted: 12th June 2026

Available online: 4th July 2026

Volume: 1

Issue: 1

DOI: <https://doi.org/10.5281/zenodo.21187898>

Abstract

Small Island Developing States (SIDS) face a distinctive paradox: their economies depend heavily on international tourism, yet the carbon emissions generated by long-haul travel to these destinations undermine the very ecosystems—coral reefs, coastal zones, marine biodiversity—upon which tourism depends. This study examines net-zero tourism policy frameworks across five SIDS—the Maldives, Fiji, Jamaica, Seychelles, and Barbados—analysing the gap between stated policy ambitions and actual implementation progress. A comparative policy analysis was combined with semi-structured interviews with 35 stakeholders representing government agencies, hotel operators, airline representatives, community groups, and non-governmental organisations. Findings reveal that while all five nations have articulated net-zero or carbon-neutral tourism targets, implementation remains constrained by inadequate funding mechanisms, limited renewable energy infrastructure, dependence on long-haul aviation that defies easy decarbonisation, and weak coordination among stakeholders with divergent interests. The Maldives and Seychelles have progressed furthest, benefiting from concentrated political will and international donor support, while Jamaica and Barbados face greater challenges from larger and more fragmented tourism sectors. The study identifies four policy levers with the greatest potential to accelerate net-zero tourism transitions in island contexts.

Keywords: - Net zero tourism, SIDS, climate policy, stakeholder collaboration, carbon emissions, island sustainability

I. INTRODUCTION

Tourism constitutes the economic backbone of most Small Island Developing States, contributing between 20 and 70 percent of GDP and employing a comparable share of the workforce in countries such as the Maldives (66 percent of GDP), Seychelles (55 percent), and Barbados (40 percent) (UNWTO, 2022). This economic dependence creates an acute vulnerability to climate change, as rising sea levels, coral bleaching, intensified hurricanes, and coastal erosion directly threaten the natural assets that attract visitors (Scott et al., 2019). The irony is inescapable: the industry that sustains SIDS economies also contributes to the global emissions that endanger their very existence.

International aviation alone accounts for approximately 52 percent of tourism-related carbon emissions in SIDS, a figure that is structurally difficult to reduce given the geographic remoteness of island destinations from major tourism-generating markets (Gössling & Peeters, 2015). Accommodation contributes a further 18 percent, ground transportation 12 percent, and cruise ships 8 percent. Unlike continental destinations that can promote domestic and regional tourism as lower-carbon alternatives, SIDS are inescapably dependent on long-haul travel, making their decarbonisation pathways fundamentally different from those of mainland tourism economies.

Recognising this challenge, several SIDS have announced net-zero tourism targets aligned with the Paris Agreement's 1.5°C warming limit. The Maldives pledged to achieve carbon neutrality by 2030, Fiji committed to net-zero emissions by 2050, Seychelles adopted a Blue Economy strategy with embedded tourism decarbonisation targets, and both Jamaica and Barbados have incorporated tourism into their Nationally Determined Contributions under the UNFCCC. However, the gap between these policy commitments and on-the-ground implementation remains substantial and poorly documented.

This study addresses this gap by conducting a comparative analysis of net-zero tourism policy frameworks across five SIDS, examining the institutional structures, funding mechanisms, stakeholder dynamics, and implementation challenges that shape the transition from policy ambition to operational reality. The research questions are:

- What net-zero tourism policies have SIDS adopted, and how do they differ in scope and ambition?
- What stakeholder collaboration structures support or hinder implementation?
- What are the principal barriers to achieving net-zero tourism in island contexts?

II. LITERATURE REVIEW

2.1. Tourism's Carbon Footprint in SIDS

The carbon intensity of tourism in SIDS has been documented by several scholars. Lenzen et al. (2018) calculated that global tourism accounts for approximately 8 percent of worldwide greenhouse gas emissions, with transport contributing the largest share. For SIDS specifically, Gössling (2013) estimated that per-tourist emissions are 2.5 to 4 times higher than in continental destinations due to the energy intensity of long-haul flights. Sun (2014) further demonstrated that the Maldives, despite its small population, generates tourism-related emissions equivalent to those of a mid-sized European city when visitor travel is included.

The distribution of emissions across tourism subsectors varies by island. In resort-dominated destinations like the Maldives and Seychelles, accommodation energy use constitutes a larger share of on-island emissions due to air conditioning demands in tropical climates and the energy cost of desalination for freshwater supply (Becken, 2005). In more diverse tourism economies like Jamaica and Barbados, ground transportation and food service contribute proportionally more, reflecting the broader spread of tourist activities across the island territory.

2.2. Policy Instruments for Tourism Decarbonisation

The policy toolbox for tourism decarbonisation includes regulatory instruments (emissions standards, building codes), market-based instruments (carbon taxes, emissions trading, green levies), information instruments (eco-labels, carbon disclosure), and voluntary agreements (industry pledges, certification schemes). In SIDS contexts, the applicability of these instruments is shaped by the small scale of island economies, limited regulatory capacity, and the risk that unilateral carbon pricing may divert tourist flows to competing destinations (Becken & Hay, 2012).

Several SIDS have implemented tourism-specific environmental levies. The Maldives' Green Fund collects USD 6 per tourist night, generating approximately USD 50 million annually for environmental protection and renewable energy projects (Government of Maldives, 2020). Seychelles levies an environmental fee on all arriving passengers, while Barbados charges a tourism levy that partially funds climate adaptation measures. The effectiveness of these instruments in driving actual emission reductions, as opposed to merely generating revenue, has not been systematically evaluated.

2.3. Stakeholder Collaboration for Decarbonisation

Achieving net-zero tourism requires coordination among actors with often divergent interests and capabilities. Governments set policy frameworks but may lack enforcement capacity. Hotel operators control on-island energy consumption but have limited influence over aviation emissions. Airlines determine route networks and fleet efficiency but face capital constraints in transitioning to sustainable aviation fuels. Local communities bear the livelihood consequences of both climate change and decarbonisation policies but are frequently excluded from decision-making processes (Mycoo, 2018).

Stakeholder theory (Freeman, 1984) and collaborative governance literature (Ansell & Gash, 2008) suggest that effective multi-stakeholder collaboration requires shared problem definition, trust-building, clear role allocation, and mutually beneficial outcomes. In SIDS, where political and economic power is often concentrated and where tourism operators may exert disproportionate influence on government policy, achieving genuinely inclusive collaboration is particularly challenging (Scheyvens & Momsen, 2008).

III. METHODOLOGY

A comparative policy analysis methodology was employed, integrating document analysis with semi-structured stakeholder interviews. The five case countries Maldives, Fiji, Jamaica, Seychelles, and Barbados were selected based on three criteria:

- presence of a stated net-zero or carbon-neutral tourism target,
- availability of policy documentation in English, and
- geographic representation across the Indian Ocean, Pacific, and Caribbean SIDS regions.

Document analysis covered national climate strategies, tourism master plans, Nationally Determined Contributions, green economy strategies, and relevant legislation from each country, spanning the period 2015–2024. A structured analytical framework was applied, assessing each policy on six dimensions: scope (which emissions are covered), ambition (target year and reduction percentage), funding mechanisms, institutional responsibility, stakeholder engagement provisions, and monitoring and evaluation arrangements.

Semi-structured interviews were conducted with 35 stakeholders across the five countries between January and July 2024: seven per country, comprising one government tourism official, one environment ministry representative, one hotel association representative, one airline or transport representative, one community organisation representative, one

environmental NGO representative, and one international donor or development partner representative. Interviews were conducted via video conference, lasting 45–75 minutes, and were transcribed and coded using thematic analysis (Braun & Clarke, 2006).

IV. RESULTS AND ANALYSIS

4.1. Tourism Carbon Emissions in SIDS

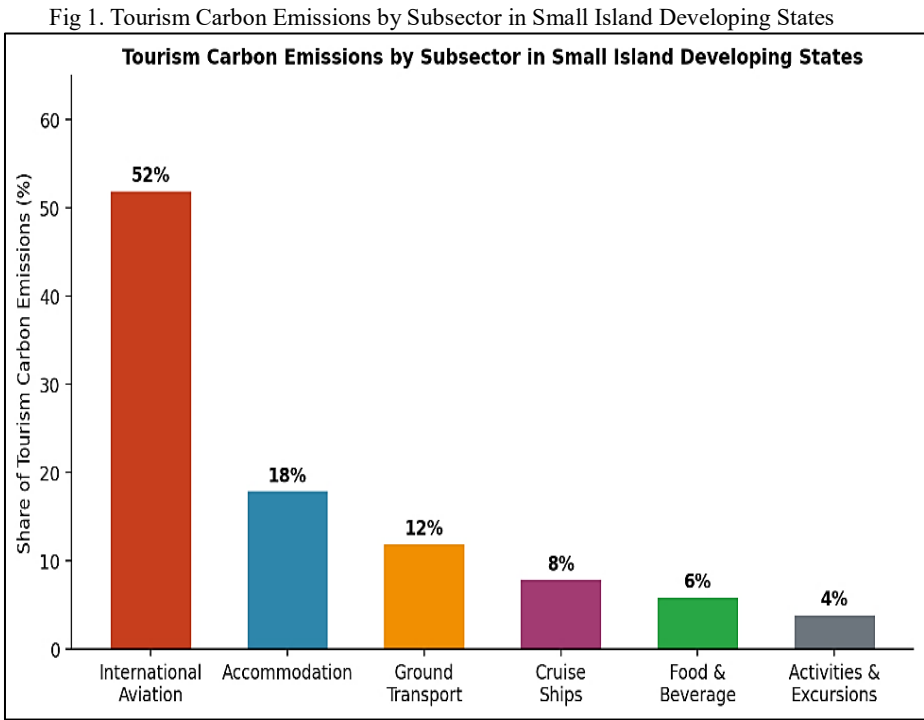


Figure 1 illustrates the subsectoral distribution of tourism carbon emissions across SIDS. International aviation dominates at 52 percent, a structural feature that distinguishes SIDS from continental tourism economies where ground transport typically leads. Accommodation accounts for 18 percent, reflecting the energy intensity of tropical resort operations. The concentration of emissions in aviation creates a fundamental policy dilemma: the single largest source of tourism emissions lies largely outside the jurisdiction and control of SIDS governments.

4.2. Policy Framework Comparison

Table 1. Comparison of Net-Zero Tourism Policy Frameworks Across Five SIDS					
Dimension	Maldives	Fiji	Jamaica	Seychelles	Barbados
Target Year	2030	2050	2050	2040	2030
Scope	All tourism emissions incl. aviation	On-island emissions only	Accommodation & transport only	Blue economy + tourism	Energy sector-wide incl. tourism
Funding	Green Fund \$50M/yr	Green Bond + donors	Climate fund application	Debt-for-nature swap \$30M	Tourism levy + IDB loans
Lead Agency	Ministry of Environment	Ministry of Economy	Tourism Ministry + Planning	Blue Economy Dept.	Ministry of Energy
Monitoring	Annual carbon audit	Biennial reporting	No formal monitoring	Quarterly dashboard	Annual review

Table 1 reveals significant variation in policy scope and institutional arrangements. The Maldives and Barbados set the most ambitious target dates (2030), but their scope differs markedly: the Maldives includes aviation emissions within its target, while Barbados addresses tourism through a broader energy sector framework. Fiji and Jamaica adopt the more conventional 2050 timeline but with narrower emission scopes. Seychelles' 2040 target is embedded within its Blue Economy strategy, creating an integrated approach that links tourism decarbonisation with marine conservation and fisheries management.

4.3. Stakeholder Dynamics

Fig 2. Stakeholder Influence-Interest Matrix for Net Zero Tourism Transitions in SIDS

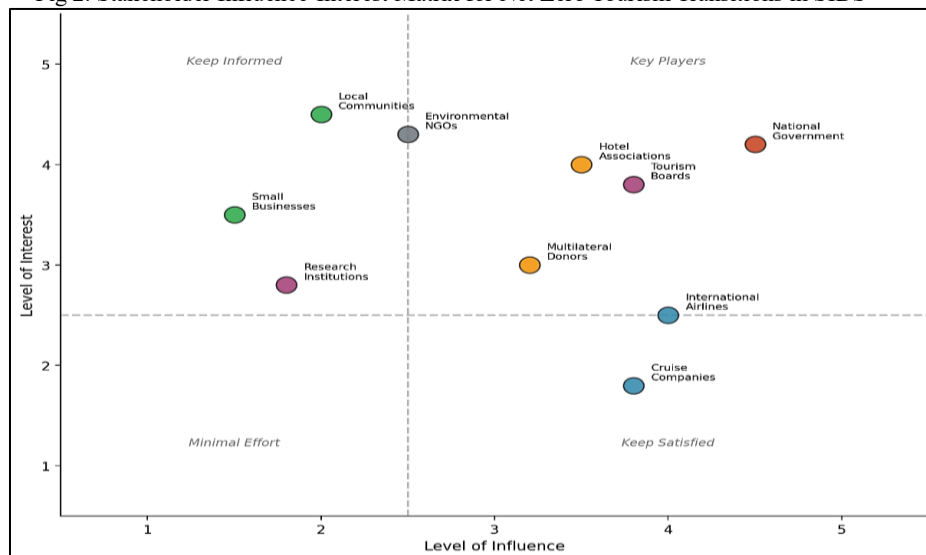


Figure 2 maps the relative influence and interest of key stakeholder groups in the net-zero tourism transition. National governments and hotel associations occupy the 'key players' quadrant, possessing both high influence over policy and infrastructure decisions and high interest in tourism's economic and environmental trajectory. International airlines sit in the 'keep satisfied' quadrant they exert considerable structural influence through route decisions and pricing but show limited interest in island-level decarbonisation policies. Local communities occupy the 'keep informed' quadrant, exhibiting high interest in climate outcomes but relatively low influence over tourism policy, a positioning that several interviewees identified as a source of frustration and disengagement.

4.4. Implementation Challenges

Table 2. Ranked Implementation Challenges for Net Zero Tourism in SIDS (Stakeholder Interview Data)

Challenge	Frequency (n=35)	Severity (Mean 1–5)
Aviation emission dependency	34 (97%)	4.8
Insufficient funding for transition	31 (89%)	4.5
Limited renewable energy infrastructure	28 (80%)	4.2
Weak inter-agency coordination	25 (71%)	3.9
Technology transfer barriers	23 (66%)	3.7
Competing development priorities	21 (60%)	3.6
Insufficient workforce skills	18 (51%)	3.3
Tourism industry resistance to change	15 (43%)	3.0

Table 2 ranks the implementation challenges identified through stakeholder interviews. Aviation emission dependency was cited by nearly all respondents (97 percent) and rated the most severe challenge (4.8 out of 5). As a Maldivian government official explained: 'We can install solar panels on every resort and electrify every speedboat, but it will barely dent our total tourism carbon footprint because 52 percent of emissions occur before the tourist even arrives on our island. We have no control over airline fleet decisions or fuel technology.'

Insufficient funding ranked second, with interviewees emphasising the mismatch between the scale of investment required for energy transitions and the fiscal capacity of small island governments. A Fijian stakeholder noted: 'We need billions of dollars to retrofit our energy infrastructure, but our entire annual budget is less than a billion. International climate finance promises have not materialised at the pace or scale needed.' Limited renewable energy infrastructure was closely linked, with interviewees across all five countries identifying grid constraints, storage limitations, and the high per-unit cost of renewable installations in remote island geographies as persistent obstacles.

V. DISCUSSION

The findings of this study confirm and extend the emerging understanding that net-zero tourism in SIDS faces structural challenges fundamentally different from those in continental tourism economies. The dominance of aviation emissions a factor largely beyond SIDS control means that even complete decarbonisation of on-island tourism activities would achieve only partial progress toward net-zero targets. This structural reality has two important implications. First, it underscores the dependence of SIDS on international cooperation for aviation decarbonisation, including the ICAO's Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) and the development of sustainable aviation fuels. Second, it highlights the limitations of framing net-zero as a unilateral national target when the largest emission source is governed by international aviation agreements.

The stakeholder analysis reveals a governance gap that threatens implementation. While national governments express strong commitment to net-zero targets, the actors with the greatest capacity to influence emissions airlines, cruise companies,

and international hotel chains operate at scales that exceed individual SIDS jurisdictions. This creates a principal-agent problem: SIDS set ambitious targets but lack the authority to compel the emissions reductions needed to achieve them. The stakeholder mapping shows local communities positioned with high interest but low influence, a configuration that risks both democratic legitimacy and practical implementation effectiveness, as community-level actions (energy conservation, waste reduction, sustainable food production) represent the most immediately controllable emission reduction opportunities.

The Maldives and Seychelles have made greater implementation progress than the other three cases, and the reasons are instructive. Both countries benefit from concentrated political authority that enables rapid policy implementation, dedicated funding mechanisms (the Green Fund and debt-for-nature swap respectively), and international donor relationships that provide technical and financial support. Jamaica and Barbados, with larger and more diversified economies, face greater coordination challenges across multiple government agencies and a wider array of tourism stakeholders. Fiji occupies a middle position, with strong political commitment but limited fiscal capacity to translate ambition into investment.

VI. CONCLUSION AND POLICY RECOMMENDATIONS

This study demonstrates that net-zero tourism ambitions in SIDS are constrained by a set of structural, financial, and institutional barriers that require targeted policy responses. Based on the comparative analysis and stakeholder input, four policy levers are recommended for SIDS governments.

First, SIDS should adopt aviation-inclusive accounting in their tourism carbon targets while simultaneously advocating for accelerated implementation of CORSIA and investment in sustainable aviation fuel production facilities. Excluding aviation from national targets, as Fiji and Jamaica currently do, understates the challenge and misdirects policy attention toward emission sources that contribute smaller shares of the total footprint.

Second, dedicated and ring-fenced climate finance mechanisms such as the Maldives' Green Fund or Seychelles' debt-for-nature swap should be established or expanded in all SIDS. General budget allocations for tourism decarbonisation are vulnerable to competing fiscal pressures, while earmarked funds provide investment certainty and signal credible commitment to international partners.

Third, stakeholder collaboration structures should be formalised through multi-sectoral governance bodies with mandated representation from government, private sector, community organisations, and civil society. The current ad hoc consultation approaches observed in Jamaica and Barbados are insufficient for coordinating the complex, cross-sectoral actions required for net-zero transitions.

Fourth, regional cooperation among SIDS should be strengthened through platforms such as the Alliance of Small Island States (AOSIS) and the Pacific Islands Forum to pool resources for technology transfer, share policy learning, and present unified positions in international climate negotiations.

Limitations of this study include the small number of cases, which limits generalisability across the diverse SIDS category, and the reliance on elite stakeholder perspectives that may not capture grassroots implementation realities. Future research should incorporate community-level data collection and employ longitudinal designs to track policy implementation trajectories over time.

REFERENCES

- Ansell, C., & Gash, A. (2008). Collaborative governance in theory and practice. *Journal of Public Administration Research and Theory*, 18(4), 543–571.
- Becken, S. (2005). Harmonising climate change adaptation and mitigation: The case of tourist resorts in Fiji. *Global Environmental Change*, 15(4), 381–393.
- Becken, S., & Hay, J. E. (2012). *Climate change and tourism: From policy to practice*. Routledge.
- Becken, S., & Lennox, J. (2012). Implications of a long-term increase in oil prices for tourism. *Tourism Management*, 33(1), 133–142.
- Bishop, M. L. (2012). The political economy of small states: Enduring vulnerability? *Review of International Political Economy*, 19(5), 942–960.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101.
- Buckley, R. (2012). Sustainable tourism: Research and reality. *Annals of Tourism Research*, 39(2), 528–546.
- Cambers, G. (2009). Caribbean beach changes and climate change adaptation. *Aquatic Ecosystem Health & Management*, 12(2), 168–176.
- Freeman, R. E. (1984). *Strategic management: A stakeholder approach*. Pitman.
- Gössling, S. (2013). National emissions from tourism: An overlooked policy challenge? *Energy Policy*, 59, 433–442.
- Gössling, S., & Peeters, P. (2015). Assessing tourism's global environmental impact 1900–2050. *Journal of Sustainable Tourism*, 23(5), 639–659.
- Government of Maldives. (2020). *Maldives Green Fund annual report 2020*. Ministry of Environment.
- Graci, S., & Dodds, R. (2010). *Sustainable tourism in island destinations*. Earthscan.
- Hall, C. M. (2011). Policy learning and policy failure in sustainable tourism governance: From first- and second-order to third-order change? *Journal of Sustainable Tourism*, 19(4–5), 649–671.
- Harrison, D. (2001). *Tourism and the less developed world: Issues and case studies*. CABI Publishing.
- Koens, K., Klijs, J., Weber-Sabil, J., Melissen, F., & Nguyen, T. C. (2020). Developing and testing a model for tourist expenditure in the city of Amsterdam. *Tourism Economics*, 26(8), 1319–1336.
- Lenzen, M., Sun, Y. Y., Faturay, F., Ting, Y. P., Geschke, A., & Malik, A. (2018). The carbon footprint of global tourism. *Nature Climate Change*, 8(6), 522–528.
- Lew, A. A. (2014). Scale, change and resilience in community tourism planning. *Tourism Geographies*, 16(1), 14–22.
- McElroy, J. L., & Pearce, K. B. (2006). The advantages of political affiliation: Dependent and independent small-island profiles. *The Round Table*, 95(386), 529–539.
- Mycioo, M. A. (2018). Beyond 1.5°C: Vulnerabilities and adaptation strategies for Caribbean Small Island Developing States. *Regional Environmental Change*, 18(8), 2341–2353.

- Nurse, L. A., McLean, R. F., Agard, J., Briguglio, L. P., Duvat-Magnan, V., Pelesikoti, N., & Webb, A. (2014). Small islands. In V. R. Barros et al. (Eds.), *Climate change 2014: Impacts, adaptation, and vulnerability* (pp. 1613–1654). Cambridge University Press.
- Peeters, P., & Dubois, G. (2010). Tourism travel under climate change mitigation constraints. *Journal of Transport Geography*, 18(3), 447–457.
- Pratt, S. (2015). The economic impact of tourism in SIDS. *Annals of Tourism Research*, 52, 148–160.
- Scheyvens, R., & Hughes, E. (2019). Can tourism help to “end poverty in all its forms everywhere”? *Journal of Sustainable Tourism*, 27(7), 1061–1079.
- Scheyvens, R., & Momsen, J. (2008). Tourism in small island states: From vulnerability to strengths. *Journal of Sustainable Tourism*, 16(5), 491–510.
- Scott, D., Hall, C. M., & Gössling, S. (2019). Global tourism vulnerability to climate change. *Annals of Tourism Research*, 77, 49–61.
- Sharpley, R. (2009). *Tourism development and the environment: Beyond sustainability?* Earthscan.
- Sun, Y. Y. (2014). A framework to account for the tourism carbon footprint at island destinations. *Tourism Management*, 45, 16–27.
- UNEP. (2017). *Tourism and the Sustainable Development Goals: Journey to 2030*. United Nations Environment Programme.
- UNWTO. (2022). *Tourism highlights: 2022 edition*. World Tourism Organization.
- Weaver, D. B. (2017). Core–periphery relationships and the sustainability paradox of small island tourism. *Tourism Recreation Research*, 42(1), 11–21.