Self-Financing Adaptation in Tourism-Dependent Small Island States
Economic Co-Benefits, Fiscal Barriers, and Lessons for Barbados

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Executive Summary

Small island developing states (SIDS) face a double jeopardy crisis: acute climate vulnerability and severely constrained fiscal space. For tourism-dependent economies such as Barbados, natural disasters, hurricanes, flooding, sea-level rise, and water scarcity, threaten the industry that underpins GDP, employment, and foreign exchange. While conventional adaptation financing (aid, debt, taxes) is often insufficient or fiscally unsustainable, an emerging strategic response is self-financing adaptation: capturing operational cost savings from energy and water efficiency, insurance reductions, and revenue premiums, and channelling them into community reinvestment.

This white paper examines how community-based adaptation initiatives in tourism-dependent small island states generate economic and social co-benefits, and what barriers prevent the scaling of self-financing mechanisms. Drawing on primary qualitative interviews with hotel managers and community leaders in Barbados, documentary analysis of the Caribbean Tourism Resilience Initiative (CTRI), a UN-shortlisted self-financing adaptation model and a comparative review of documented SIDS case studies, the paper distils transferable lessons for Barbados' policy and institutional environment.

The findings reveal four interconnected barriers that block self-financing adaptation: complacency (geographic safety has bred a false sense of security; plans untested); a trust deficit (hotels are willing to contribute, but community leaders doubt they will); financial constraints (upfront capital, cash flow, lack of ring-fencing, long payback periods); and a formal-informal governance tension (weak formal institutions coexist with strong informal networks). These barriers are not unique to Barbados, documented cases from Solomon Islands, Vanuatu, Comoros, Cuba, and Micronesia demonstrate similar challenges across SIDS.

The conceptual model emerging from this research shows that self-financing adaptation is achievable when three enabling conditions are met: structured governance and accountability (transparent funds, clear purpose, multi-stakeholder oversight); blended finance (grants, low-interest loans, tax relief); and hybrid institutional models (partnerships bridging formal and informal governance). When these conditions are in place, a virtuous cycle emerges: savings and trust reinforce willingness to invest. When barriers persist, a vicious cycle of cynicism and inaction takes hold.

Policy recommendations are structured for each stakeholder group:

Central Bank of Barbados: Issue a ring-fencing advisory; establish a blended finance facility (2-3% loans); incorporate resilience savings into fiscal sustainability assessments.

Ministry of Tourism: Develop a national "Climate Resilient Hotel" certification scheme; establish a technical assistance programme; introduce fiscal incentives for resilience upgrades.

Barbados Hotel and Tourism Association (BHTA): Facilitate joint procurement of resilience technologies; develop a community reinvestment agreement template; establish a best practice sharing platform.

Hotels: Pilot ring-fencing of operational savings; engage in governance of community reinvestment funds; participate in collective procurement.

Community Organisations: Position themselves as trusted governance partners; develop project proposals aligned with community priorities; engage proactively with hotel-led reinvestment initiatives.

An implementation roadmap outlines a phased approach:
Phase 1 – Policy and Design (6-12 months);
Phase 2 – Pilot Implementation (12-24 months);
Phase 3 – Scaling and Replication (24-36 months).

Barbados has the foundations to lead the Caribbean in self-financing climate adaptation. The CTRI provides a concrete framework. Hotels and communities have expressed willingness to participate, provided structured governance is in place. The institutional architecture exists to enable this transition.

The question is not whether Barbados can afford to act, because the evidence shows that inaction is far more costly.

1. Introduction

In recent years, the growing occurrence of extreme weather events has brought the vulnerability of tourism to the limelight. Climate change particularly affects nature-based tourism. Natural disasters triggered by climate change significantly damage the tourism industry and pose a devastating threat to the small communities that primarily rely on tourism as an income base (Tsao & Ni, 2016). These economies, especially those in the Caribbean, are facing a double jeopardy crisis: high and ever-increasing climate vulnerability and limited fiscal space. These tourism-dependent economies are primarily vulnerable due to natural disasters such as hurricanes, floods, heating, sea-level rise and water scarcity, which threaten the very industry upholding GDP, employment and foreign exchange, aspects vital to the livelihoods of these economies.

However, an exclusive focus on vulnerability paints an incomplete picture. Small island states possess significant strengths, including strong social capital, cultural cohesion, and adaptive capacity, that enable them to chart self-determined development paths (Scheyvens & Momsen, 2008).This paper focuses on a crucial adaptation principle which is known but under-implemented in combatting the climate crisis: community-based resilience. Evidence from community-based disaster risk reduction and climate adaptation projects demonstrates that such initiatives can generate positive economic returns, with benefit-cost ratios ranging from 1:1 to double digits, alongside social co-benefits such as community engagement, health improvements, and social accountability (Cabot Venton et al., 2013, pp. 11, 20, 33). Self-resilience is underexplored at the intersection of the climate crisis and the Caribbean, but it may offer a solution to alleviating the harms of a changing world.

The problem is clearly diagnosed; however, sufficient strategic responses have not been developed in the sphere of small open economies, particularly those which call on them to step out of the dependency bubble and take the risk of self-resilience. Along this vein, Tsao and Ni (2016) posit that resilience theory describes a system's ability to return to its state of origin following a disturbance while also maintaining a degree of structure and function during a disturbance. This allows for transformation into resilient systems which can then combat the climate crisis, strengthening tourism-dependent economies. Transformation, illustrated by Tsao and Ni (2016), is the capacity to create novel opportunities for a system. This proves valuable for small island states, which already have strong social dimensions of sustainability as well as resilience and adaptability (Scheyvens & Momsen, 2008). Beyond the social dimension, economic evaluations of community-based adaptation projects in various contexts have shown that investments in resilience, such as early warning systems, diversified livelihoods, and water interventions, can yield net savings, reduced household costs, and avoided disaster losses (Cabot Venton et al., 2013).

Despite this evidence, critical research gaps remain. Existing studies have documented individual cases of community resilience, but have not systematically compared how different community-based initiatives generate economic and social co-benefits across tourism-dependent small island states. Furthermore, the barriers that prevent the scaling of such self-financing resilience mechanisms, including institutional constraints and the dominance of narrow economic appraisal tools, have been identified as problematic (Knight-Lenihan, 2016). To address these gaps, this paper asks: *How do community-based adaptation initiatives in tourism-dependent small island states generate economic and social co-benefits, and what barriers prevent the scaling of self-financing mechanisms?* Drawing on a comparative analysis of documented initiatives, the paper distils lessons for Barbados' policy and institutional context.

2. Literature Review

2.1 Community-Based Adaptation Initiatives: Definitions and Theoretical Foundations

Community-based adaptation initiatives are inclusive, participatory, and holistic approaches closely linked to nature-based solutions, primarily implemented in the global south. They are characterised by mutual relationships between people and ecosystems, where communities' resilience depends on the resilience of ecosystems. To formulate inclusive approaches, the cultural context of community members must be respected while simultaneously promoting economic development and contributing to natural resource conservation. Community-based adaptation (CBA) thus utilises communities' interactions with nature, ensuring that adaptation measures align with cultural identity and relevance (Selje et al., 2024).

This paper focuses on a subset of CBA: self-financing mechanisms. Self-financing mechanisms refer to approaches where communities or tourism enterprises fund their own adaptation measures using internally generated cost savings, such as reduced energy and water bills, lower insurance premiums, or revenue from sustainable certification, rather than relying primarily on external aid or government funding.

Following the implementation of adaptation initiatives, Selje et al. (2024) propose three specific metrics for measuring the success of adaptation: resilience, vulnerability, and adaptive capacity. These metrics interact to shape adaptation outcomes.

Adaptation is achieved through the interaction and overlap of resilience, vulnerability and adaptive capacity, which together create the organic whole of adaptation. *Resilience* is the mechanism that creates the ability to rebound from adversity, stress or significant challenges while maintaining functionality. *Vulnerability* reduction decreases susceptibility to harm from adverse challenges including coping, resisting and recovering through proactivity. It is characterised geographically and socially, in this context, living in the global south or having a history of colonialism. Thirdly, *adaptive capacity* means adjusting to potential damage while responding to changes or uncertainty effectively and still taking advantage of opportunities.

This is characterised by learning, flexibility and strategy implementation, which allow for coping with and managing evolving threats and circumstances. Globally, this is especially relevant due to the unequal development possibilities for climate adaptation, because greater financial and technological resources enable higher adaptive capacities. The global south–north divide regarding access to these resources skews adaptive capacity negatively in the context of developing nations, who face increasing geographic and social inequality (Selje et al., 2024). This triad encompasses community-based adaptation, which is bottom-up and in stark contrast with top-down adaptation.

Top-down adaptation, in contrast with bottom-up CBA, comprises government-level decision-making based on long-term regional climate change modelling and projected impact, usually derived from technocratic cost-benefit analysis. Conversely, bottom-up CBA has the goal of community empowerment by encouraging self-assessment of climate impacts (Butler et al., 2015, p. 347). Advantages and implications exist on both ends. Top-down adaptation is sector-based and may not easily consider community priorities; however, it can have an awareness of long-term climate effects not accessible at the community level, enabling it to deliver significant strategic responses. Community-based adaptation empowers marginalised individuals but may fail to incorporate high-level influence. Strategies are also constrained by limited power. This may be broadly true; however, due to the rural, remote and specific institutional characteristics of small island developing states (SIDS), adaptation efforts are commonly implemented at the community level, and communities often depend on their own initiative where national government support is limited (Hagedoorn et al., 2019, abstract and p. 1). As the next section demonstrates, the economic and social co-benefits of CBA can help mitigate these inequalities.

2.2 Economic and Social Co-Benefits of Community-Based Adaptation

Growing evidence demonstrates that community-based adaptation generates measurable economic and social co-benefits, which are crucial for constructing long-term resilience in vulnerable coastal and small island communities. These co-benefits include reduced economic losses from climate-related disasters, enhanced income stability, strengthened social capital, increased community participation and improved local ownership of adaptation initiatives.

Economic Co-Benefits.

Quantitative evidence from CBA projects in Southeast Asian countries (Indonesia and the Philippines) shows significant economic gains. In Indonesia, the Climate Village (Kampung Iklim) programme achieved a 40% decrease in climate-related economic losses over five years, alongside a 20% increase in food security-related income (Tota et al., 2024, p. 4). Communities applying CBA methods also experienced a 25% increase in income stability due to diversified livelihood strategies (Tota et al., 2024, p. 5). These findings are consistent with broader reviews of community-based disaster risk reduction and climate adaptation projects, which report benefit-cost ratios ranging from 1:1 to 87:1, with many initiatives yielding returns several times their initial investment (Cabot Venton et al., 2013, p. 11). For example, a Tearfund programme in Ethiopia generated returns of 58:1 to 173:1, and commercial destocking in Kenya produced a

benefit-cost ratio of 390:1 (Cabot Venton et al., 2013, p. 11–12). Although these latter studies are not from tourism-dependent small island states, they illustrate the potential for well-designed CBA to deliver substantial economic value.

Social Co-Benefits.

Beyond direct economic returns, CBA consistently strengthens community-level social processes. In Indonesia and the Philippines, high levels of community participation and engagement were critical to the success of adaptation projects, leading to "economic empowerment and increased local ownership of economic development initiatives" (Tota et al., 2024, p. 5). Community members reported a sense of responsibility and ownership, which consequently increased social cohesion and collaboration (Tota et al., 2024, p. 4–5). These findings align with evidence from a tourism-dependent indigenous community in Taiwan, where collective management of natural resources ensured that "tourism proceeds return to the residents in the form of social welfare" (Tsao & Ni, 2016, p. 90). Similarly, the community diversified livelihoods to avoid over-reliance on tourism, thereby increasing stability (Tsao & Ni, 2016, p. 91).

Social Capital as an Enabler.

The role of social capital in fostering adaptation intention is well documented. In the Federated States of Micronesia, Hagedoorn et al. (2019, p. 9) found that "higher social capital is the strongest enabling factor" for household willingness to contribute to community adaptation. Participation in community activities and the perception that the social group is threatened were identified as key determinants of adaptation intention (Hagedoorn et al., 2019, p. 10). Social capital is widely defined as "the resourcefulness of a people to respond positively, collectively and responsibly to an identified challenge" (Scheyvens & Momsen, 2008, p. 495, citing Baldacchino, 2005).

Social Learning and Empowerment.

Participatory CBA processes also generate social learning and empowerment. In Indonesia and the Philippines, the integration of indigenous knowledge with modern adaptation techniques "strengthened social cohesion and collaboration … whilst ensuring that adaptation measures were culturally appropriate and more readily accepted by the local population" (Tota et al., 2024, p. 5). A structured approach in the Coral Triangle region similarly found that multi-stakeholder workshops promoted innovative ideas and knowledge exchange, with "the large majority of all stakeholder groups consider[ing] innovative ideas as the most important outcome" (Butler et al., 2015, p. 357). Empowerment was the second most important outcome, and most participants identified potential new partners to support community adaptation (Butler et al., 2015, p. 360–361).

Interconnection of Economic and Social Co-Benefits.
Critically, economic and social co-benefits are not distinct; they reinforce each other. Social capital and collective action reduce transaction costs, enable shared resource management, and create the trust needed for communities to pool resources or implement self-financing mechanisms (Tsao & Ni, 2016, p. 102–103). In the Philippines, CBA projects that combined indigenous knowledge with modern techniques not only improved disaster preparedness but also generated livelihood opportunities, demonstrating that social processes underpin economic outcomes (Tota et al., 2024, p. 4–5). The evidence thus suggests that CBA can deliver a virtuous cycle: participation builds social capital, social capital enables collective action, and collective action yields economic savings and reinvestment, a dynamic that is particularly promising for self-financing adaptation mechanisms. However, despite these demonstrated co-benefits, the widespread adoption and scaling of self-financing mechanisms face substantial barriers. The following section examines these obstacles, including institutional constraints, financial limitations, and risks of maladaptation, which must be addressed to realise the full potential of community-based adaptation.

2.3 Barriers to Scaling Self-Financing Mechanisms

Despite the economic and social co-benefits of community-based adaptation (CBA), the widespread adoption and scaling of self-financing mechanisms face significant barriers. Drawing on evidence from energy efficiency financing for small and medium enterprises (SMEs) and health financing transitions in low and middle-income countries, this section outlines four categories of barriers: financial constraints, institutional and methodological obstacles, decision-making complexities, and risks of regressive or maladaptive outcomes.

Financial Barriers.
The most commonly cited obstacle to self-financing adaptation is the lack of upfront capital. In the context of energy efficiency upgrades for SMEs, Agrawal, De Tommasi and Lyons (2022, p. 3) found that "lack of finance is one of the major barriers" preventing implementation of recommended measures. Small energy efficiency projects, particularly those under USD 500,000, are difficult to finance due to "lack of interest of Energy Service Companies (ESCOs) and the high underwriting costs for lenders with respect to the capital investment" (Agrawal et al., 2022, p. 4). This financial barrier is not unique to the energy sector. In health financing transitions, Barasa et al. (2025, p. 2) warn that as donor funding declines, countries face pressure to "shift the financial burden directly to households" through out-of-pocket payments, a regressive approach that "places a disproportionate burden on the poor and undermines health system goals of equity and financial protection." In the context of CBA, a similar dynamic can occur: without external subsidies, communities may be forced to rely on user fees or other regressive mechanisms that exclude the most vulnerable.

Institutional and Methodological Barriers.

Even when financial resources are available, institutional structures and appraisal methods can block self-financing. Knight-Lenihan (2016, p. 913) argues that conventional benefit-cost analysis (BCA) and engineering resilience frameworks "privilege the need to maintain current economic and social structures while reducing risk," thereby discouraging transformative adaptation pathways. Narrow economic appraisal tools undervalue long-term, diffuse benefits, precisely the kinds of co-benefits that self-financing mechanisms generate. Cabot Venton et al. (2013, p. 27–30) identify practical methodological barriers: data limitations, uncertainty, and the difficulty of valuing non-monetary benefits such as social capital or community well-being. These barriers make it harder to justify self-financing investments using conventional appraisal frameworks, even when such investments are economically sound over the long term.

Decision-Making and Organisational Barriers.

At the household and firm level, decision-making about self-financing adaptation is often constrained by bounded rationality, hidden costs, and competing priorities. Agrawal et al. (2022, p. 20) note that business owners' decisions are "likely affected by their sensitivity to the first costs of energy efficiency measures" and by "fear of possible presence of hidden costs, such as those which can be associated to production disruptions, overheads, cost of collecting and analysing information." In SMEs, energy efficiency is often a low priority compared to other business needs (Agrawal et al., 2022, p. 3). Similar dynamics apply to tourism-dependent communities, where immediate livelihood pressures may overshadow long-term adaptation investments. Barasa et al. (2025, p. 3) highlight a related barrier: the risk that when donor-funded programmes are integrated into broader systems, they can "distort priorities and divert already constrained resources away from foundational services", a phenomenon termed "crowding out." In the context of CBA, this suggests that self-financing mechanisms may struggle to gain traction if basic survival needs are not already met.

Risks of Regressive Outcomes and Maladaptation.

A further barrier to scaling self-financing mechanisms is the risk that they inadvertently increase vulnerability for marginalised groups. Barasa et al. (2025, p. 3) caution against over-reliance on contributory (insurance-based) financing in contexts where large segments of the population are unable to contribute, noting that "sustainable health financing must be anchored in non-contributory, tax-funded mechanisms that ensure access based on need, rather than ability to pay." If self-financing adaptation mechanisms rely on household contributions, they may exclude the poorest the very people most vulnerable to climate impacts. Moreover, Tota, Abdul Maulud and Md Noor (2024, p. 2) document that adaptation actions can lead to maladaptation, where "an intended desirable adaptation action inadvertently increases vulnerability to climate change." In their case studies, flood control structures designed to protect one area increased downstream flooding, displacing communities and disrupting natural water systems (Tota et al., 2024, p. 2, 6). Such maladaptive outcomes undermine trust in self-financing schemes and create additional barriers to scaling.

Institutionalising Community-Based Approaches as a Pathway Forward.
Despite these barriers, the evidence suggests that self-financing mechanisms can succeed when they are carefully designed and institutionalised. Agrawal et al. (2022, p. 21) demonstrate that a staged "ring-fencing" approach, implementing no-cost measures first, then using accumulated savings to fund higher-cost measures, can "overcome the barriers related to the limited access to capital." Similarly, Barasa et al. (2025, p. 4) argue that rather than "disinvesting in community-based delivery, countries should seize this moment to formalise and institutionalise community health systems as a core part of their national health infrastructure," noting that this is "likely a more affordable and sustainable path" than facility-centric alternatives. For tourism-dependent small island states, this implies that self-financing mechanisms should be embedded within formal institutional frameworks, with safeguards to protect vulnerable populations and with careful planning to avoid maladaptation.

In summary, the barriers to scaling self-financing adaptation mechanisms are multifaceted: financial (lack of upfront capital), institutional (narrow appraisal tools), behavioural (bounded rationality, hidden costs, competing priorities), and structural (risks of regressive outcomes and maladaptation). However, staged financing approaches such as ring-fencing, combined with formalisation of community-based delivery, offer promising pathways to overcome these obstacles.

2.4 Research Gaps and Contribution

Although an increasing body of evidence on community-based adaptation (CBA) and its co-benefits exists, several critical research gaps remain. First, most quantitative evidence on the economic returns of CBA comes from non-tourism contexts, such as agriculture, flood management, and early warning systems and has not been systematically compared across tourism-dependent small island states (SIDS) (Cabot Venton et al., 2013). Second, while social co-benefits (social capital, collective action, community reinvestment) are well documented in single case studies (Tsao & Ni, 2016; Tota et al., 2024), no comparative analysis has examined how different CBA initiatives generate these outcomes across multiple small island contexts. Third, the barriers to scaling self-financing mechanisms, including upfront capital constraints, narrow economic appraisal tools, and the risk of regressive outcomes, have been identified but not systematically analysed in relation to tourism-dependent communities (Agrawal et al., 2022; Barasa et al., 2025; Knight-Lenihan, 2016). Fourth, the specific question of how community-based adaptation initiatives can capture operational cost savings (e.g., from energy, water, or insurance) and channel them into community reinvestment, a core feature of self-financing adaptation, remains underexplored in the small island tourism literature.

Given these gaps, this paper seeks to answer the following research question: *How do community-based adaptation initiatives in tourism-dependent small island states generate economic and social co-benefits, and what barriers prevent the scaling of self-financing mechanisms?* Drawing on a comparative analysis of documented initiatives from small island contexts, the paper distils transferable lessons for Barbados' policy and institutional environment, contributing actionable insights for a tourism-dependent SIDS facing acute climate and fiscal pressures.

3. Methodology

3.1 Research Philosophy and Approach

This study adopts an interpretivist epistemology, which holds that knowledge of the social world is constructed through the meanings individuals attach to their experiences rather than being objective and externally observable (Saunders, Lewis & Thornhill, 2019; Schwandt, 2015). In the context of community-based adaptation, how economic and social co-benefits are generated and what barriers to self-financing exist are not universal facts but are shaped by the perspectives, roles and contexts of those involved, hotel managers, community leaders, and policy actors. An interpretivist stance is therefore appropriate because it allows the research to capture these multiple, situated realities. Consistent with this epistemology, the study follows an inductive approach to theory development (Braun & Clarke, 2006). Rather than testing pre-existing hypotheses, the analysis builds conceptual insights from the data collected. The goal is not statistical generalisation but analytical generalisability, that is, producing thick descriptions and transparent findings that may inform understanding of similar tourism-dependent small island states (Lincoln & Guba, 1985).

3.2 Research Design: Single Embedded Case Study

The research employs a single embedded case study design (Yin, 2018). The case is the Caribbean Tourism Resilience Initiative (CTRI), a proposed self-financing adaptation model for hotels that was officially shortlisted by the United Nations but has not yet been implemented. The CTRI is an information-rich case (Patton, 2015) because its design explicitly aims to capture operational cost savings from hotels (e.g., water and energy efficiency, insurance premium reductions) and reinvest a portion into community-level resilience projects. Because the CTRI is not operational, the study does not evaluate its outcomes. Instead, it analyses the CTRI's design logic and compares it with documented evidence from operational community-based adaptation projects in comparable contexts (Indonesia, Philippines, Federated States of Micronesia, Taiwan) drawn from the literature. The embedded units of analysis are, first, hotel managers' perceptions of operational cost savings and barriers to self-financing, and second, community leaders' perceptions of reinvestment, social capital, and potential benefits from tourism-led adaptation.

The rationale for a single case follows Yin's (2018) two rationales: the CTRI is a critical case (its UN shortlisting indicates it may offer lessons transferable to other small island developing states) and a revelatory case (self-financing adaptation models in tourism remain underexplored, and the researcher has privileged access to internal documents).

3.3 Case Selection and Context

The CTRI was selected through purposive sampling based on three criteria: it is designed for a tourism-dependent small island state (Barbados); it incorporates a staged self-financing mechanism (no-cost measures first, followed by accumulation of savings to fund higher-cost measures); and it has received external validation through UN shortlisting. The study does not evaluate the CTRI as an implemented programme (it is not yet operational) but analyses its design logic and compares it with documented evidence from operational community-based adaptation projects in comparable contexts drawn from the literature. Barbados provides the real-world context, a coastal small island developing state with acute climate vulnerability and fiscal constraints, within which the CTRI is examined, and findings are generalised analytically to other such states, with particular lessons drawn for Barbados.

3.4 Data Collection

Data are collected from three sources to enable triangulation (Bowen, 2009; Denzin, 2012): semi-structured interviews, documentary analysis, and illustrative secondary benchmarks.

Semi-structured interviews are conducted with two stakeholder groups. The first group comprises hotel managers or owners who have decision-making authority over energy and environmental investments. Individuals are recruited through purposive and snowball sampling via the researcher's professional networks. The second group consists of community leaders, for example, chairpersons of community-based organisations or representatives working in tourism-adjacent communities. Community leaders are recruited through purposive sampling and the researcher's personal network. Separate interview guides are used for each group, designed following Kallio, Pietilä, Johnson and Kangasniemi (2016). Each interview lasts between thirty and forty-five minutes and is conducted either in person or by video conferencing. All interviews are audio-recorded with informed consent and transcribed verbatim. The hotel guide covers operational cost savings already achieved or planned, methods for capturing and ring-fencing savings, financial and non-financial barriers, willingness to reinvest savings into community projects, and perceptions of social capital and collective action. The community guide addresses perceived or actual benefits from tourism-related adaptation, trust in hotel-led initiatives, community needs for climate resilience, and the role of social capital in collective adaptation.

Documentary analysis provides context, triangulates interview data, and helps understand institutional barriers without requiring interviews with government officials. Included documents are CTRI internal materials (the proposal, pitch deck, financial model, and UN shortlist notification, treated as primary source grey literature) and Barbados policy papers. Document analysis follows Bowen's (2009) systematic procedure: skimming for superficial examination, reading for thorough

examination, and interpretation, with data extracted into a matrix organised by themes derived from the interview coding framework.

Illustrative secondary benchmarks. Publicly reported benchmarks, such as average hotel electricity consumption in the Caribbean, typical savings from LED retrofits, and benefit-cost ratios from Cabot Venton and colleagues (2013), are used to construct an illustrative financial simulation. This simulation is not presented as primary empirical evidence but as a heuristic to demonstrate the potential magnitude of cost savings and reinvestment. All assumptions are explicitly stated, and results are presented as ranges rather than point estimates.

3.5 Data Analysis

Data analysis follows the inductive, systematic procedure outlined by Gioia, Corley and Hamilton (2013), which is specifically designed for theory building from qualitative case study data. This method is well suited to the exploratory nature of the research question, as it prioritises the emergence of concepts from the data rather than imposing pre-existing frameworks.

The analysis proceeds through three main stages: first-order coding, second-order theme development, and aggregation into theoretical dimensions. All coding is conducted using suitable software to manage the data, but the interpretative work remains researcher-driven.

First-order coding. The analysis begins with open coding of all interview transcripts and documentary sources. Codes are kept as close as possible to the language of participants and documents, what Gioia and colleagues term "informant-centric" coding. CTRI documents are coded alongside interview data, but each data extract is tagged with its source to allow later comparison. This first stage yields a large number of preliminary codes, which are constantly compared across data sources to identify similarities and differences.
Second-order theme development. First-order codes are then grouped into second-order themes through an iterative process of comparison and abstraction. At this stage, the researcher moves from informant-centric language to researcher-centric categories that capture emerging patterns. This phase involves repeated reviewing of the data, returning to the original transcripts to ensure that the second-order themes faithfully represent the first-order codes.

Aggregate Dimensions. The second-order themes are further integrated into a small set of overarching aggregate dimensions that represent the core theoretical concepts emerging from the data. The aim is to produce between three and six aggregate dimensions that collectively address the research question.

Data structure and dynamic model. The relationships between first-order codes, second-order themes, and aggregate dimensions are visualised in a data structure diagram (presented as a figure in the findings section). This diagram provides a transparent audit trail of how the analysis moved from raw data to theoretical concepts. From the aggregate dimensions, a dynamic model is then developed to propose how the dimensions interrelate.

Ensuring rigour as a single researcher. In the absence of a second coder, rigour is maintained through several practical strategies. First, the researcher maintains a detailed coding log that records the rationale for each coding decision, including when codes were merged, split, or discarded. Second, the researcher practices "negative case analysis", actively searching for data that contradict emerging themes and revising the theme definitions accordingly. Third, the researcher uses a reflexive journal to document personal assumptions (including as CTRI developer) and to note moments where those assumptions might influence interpretation. Fourth, the researcher returns to the raw data after each stage of aggregation to verify that the higher-level themes remain grounded in the original data.

The output of this analysis is a set of aggregate dimensions and a dynamic model that explain how community-based adaptation initiatives in tourism-dependent small island states generate economic and social co-benefits, and what barriers prevent the scaling of self-financing mechanisms.

3.6 Positionality and Reflexivity

The researcher is the sole developer of the CTRI. This positionality provides insider access to documents and design logic but may introduce confirmation bias, an unconscious tendency to seek or interpret data that confirm pre-existing beliefs (Berger, 2015). To mitigate this, several practical strategies are employed. First, *bracketing:* prior to data collection, the researcher writes a reflexive memo listing all assumptions about how self-financing adaptation works, potential barriers, and expected outcomes; this memo is revisited during analysis. Second, *negative case analysis:* the researcher actively searches for data that contradict emerging themes and revises theme definitions accordingly. Third, *transparency:* all direct quotations from CTRI documents are labelled as such, and the analysis explicitly distinguishes between CTRI projections (from internal documents) and independent evidence (from peer-reviewed literature or third-party evaluations). Fourth, *external check through literature:* the researcher systematically compares CTRI claims with documented findings from operational community-based adaptation projects (e.g., Cabot Venton et al., 2013; Tota et al., 2024), using any divergence as a prompt to re-examine assumptions. Reflexivity is treated as an ongoing, iterative process that informs every phase of the research (Berger, 2015; Finlay, 2002). The researcher maintains a reflexive journal, recording decisions, emotional reactions, and reflections on how personal background (including professional experience in tourism resilience) may shape the analysis.

3.7 Ethical Considerations

The study adheres to standard ethical protocols for minimal-risk qualitative research. Informed consent is obtained from all interview participants: each receives a written information sheet and signs a consent form (or provides verbal consent if audio-recorded). The form explains the purpose of the study, its voluntary nature, the right to withdraw at any time without penalty, and data handling procedures. Anonymity and confidentiality are protected by assigning participants pseudonyms, for example, H1, H2 for hotel managers and C1, C2 for community leaders and by reporting no identifying information (hotel name, village name). Raw data are stored on a

password-protected drive with access restricted to the researcher. Audio recordings are deleted after transcription. Transcripts and signed consent forms are retained for three years in locked digital folders, after which they are permanently deleted. No vulnerable populations (children, prisoners, people with diminished capacity) are interviewed.

3.8 Summary of Methodology

This study employs a qualitative, interpretivist, single embedded case study design. Data collection combines semi-structured interviews with hotel managers and community leaders, documentary analysis of CTRI and policy materials, and illustrative secondary benchmarks. Thematic analysis (Braun & Clarke, 2006) is guided by a reflexive, trustworthiness-oriented process (Lincoln & Guba, 1985; Nowell et al., 2017). The researcher's positionality is disclosed and actively managed. The resulting analysis aims to produce credible, transferable insights that inform policy for Barbados and other tourism-dependent small island states. Methodological limitations are discussed in the final chapter of the paper, alongside the interpretation of findings.

4. Findings

4.1 Introduction to the Findings

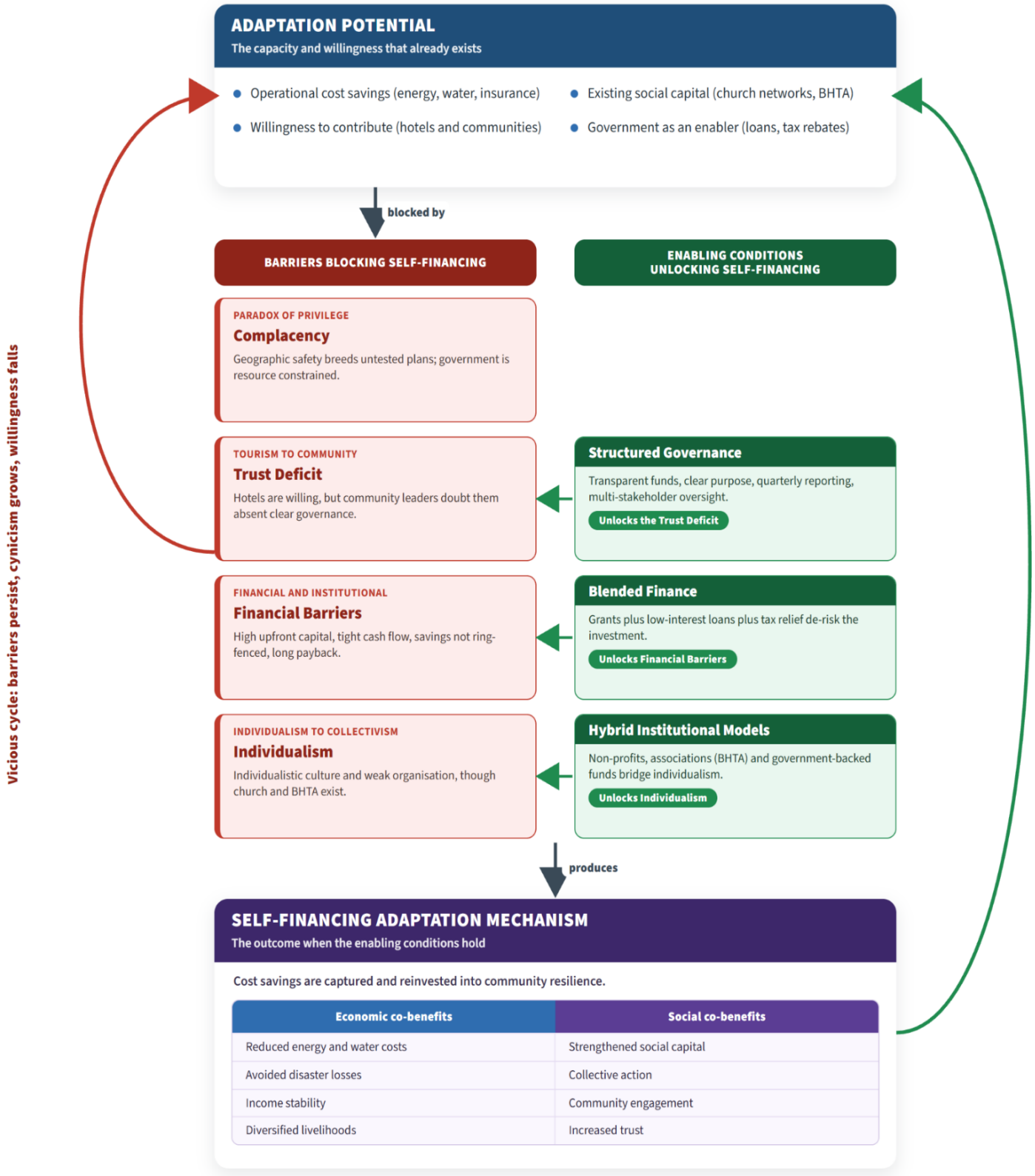
The findings presented in this section emerge from primary qualitative interviews with hotel managers and community leaders in Barbados, documentary analysis of the Caribbean Tourism Resilience Initiative (CTRI), and a comparative review of community-based adaptation projects in other small island contexts. The analysis reveals four interconnected barriers that prevent self-financing adaptation from realising its potential, alongside three enabling conditions that can unlock it.

To contextualise these findings, the analysis draws on documented evidence from community-based adaptation projects in other SIDS contexts, including the Federated States of Micronesia (Hagedoorn et al., 2019), Solomon Islands and Vanuatu (Trundle et al., 2019), and broader SIDS urbanisation and resilience literature (Jansson et al., 2025). These cases demonstrate that the barriers and enabling conditions identified in Barbados are not unique but reflect broader patterns across SIDS.

As the conceptual model in Figure 1 illustrates, the system is dynamic: when enabling conditions are present, a virtuous cycle emerges; when barriers persist, a vicious cycle of cynicism and inaction takes hold.

Self-Financing Community-Based Climate Adaptation in Barbados

A conceptual model of adaptation potential, barriers, enabling conditions, and feedback dynamics in a tourism-dependent SIDS



4.2 The Paradox of Privilege and Complacency

Barbados occupies a unique geographic position. Unlike other Caribbean islands that experience frequent major hurricanes, Barbados is relatively sheltered. As one community leader observed:

"Barbados is going to be better, weather-wise, compared to other Caribbean countries... We are located geographically well hurricane wise. We are lucky." (C1)

This geographic safety has, paradoxically, bred complacency. While disaster preparedness plans exist, they have rarely been tested:

"We have resilience plans, but I don't think implementation becomes realised or seen as crucial... You never had a challenge to really test it." (C1)

The result is a gap between having plans and having implemented them. Housing infrastructure is not ready for hurricanes; schools repurposed as shelters are inadequate; drainage systems are insufficient:

"Housing infrastructure – they're not ready yet... schools are used as shelters but not adequate and drainage also needs significant improvement." (C2)

Compounding this is the fiscal reality that government resources are constrained:

"The government doesn't have money, that's crucial and worrying because it's about resources that are insufficient." (C1)

This pattern of complacency and neglect is not unique to Barbados. Across SIDS, planning for climate change has been limited, with international development initiatives often targeting rural infrastructure rather than urban adaptation (Trundle et al., 2019, p. 2). Hagedoorn et al. (2019, p. 1) note that SIDS "generally share development challenges in combination with their small and remote character and susceptibility to natural disasters." Common problems include land degradation, marine pollution, and biodiversity loss, all exacerbated by climate change.

Jansson et al. (2025, p. 2) further observe that urban climate change planning within SIDS is correspondingly weak, with urban dimensions largely absent from key frameworks such as Nationally Determined Contributions (NDCs). This suggests that the complacency observed in Barbados reflects a broader systemic gap in SIDS adaptation governance.

Key insight: Geographic safety has created a false sense of security. The absence of frequent major disasters reduces urgency, while the lack of implementation leaves communities underprepared when events do occur. Breaking this cycle requires a shift from complacency to proactive investment.

4.3 The Tourism-Community Trust Deficit

Tourism is the economic backbone of Barbados, providing employment and indirect prosperity:

"Sixty to seventy percent of people in this community has worked in or around the tourism industry especially hotels." (C1)

However, direct investment in community resilience is perceived as lacking. Community leaders expressed scepticism that hotels, particularly those owned by overseas investors, would contribute to local adaptation projects:

"Most hotel owners are not from Barbados. They're from overseas. I am skeptical they would invest in this community." (C1)

When asked whether a percentage of hotel bookings could be channelled into community resilience, the same leader responded:

"It would benefit the community, for sure. But is it realistic? I do not think so but possibly." (C1)

The same community leader highlighted a deeper challenge: the difficulty of ensuring that funds reach their intended purpose:

"Money has to go through the government. This creates the possibility that the community won't necessarily see it." (C1)

The hotel manager interviewed for this research expressed a different perspective. He is open to contributing but only with safeguards:

"With transparent governance, clear purpose, and quarterly reporting, I'd contribute from savings." (H1)

This reveals a critical disconnect: hotels are willing to contribute, but community leaders have doubts about whether they will. The barrier is not unwillingness but the absence of trusted, structured mechanisms.

The critical issue of trust in handling money. A community leader with decades of experience offered a particularly powerful insight into why trust is so fragile:

"If you give cash, my suspicion is that it won't go to the house." (C2)

This observation reflects a deep-seated concern that financial assistance, if not carefully structured, will be misdirected. The same leader elaborated on how to address this:

"The whole program needs to be done with teams and contracts to do the remedial work." (C2)

Cash handouts are mistrusted; structured programs with contractors, oversight, and accountability are preferred. The leader also noted the risk of inflated pricing when grants are involved:

"When people hear grants, prices go up, sometimes absurdly. You have to put measures in place to prevent that." (C2)

This community leader further echoed a concern about governance structures:

"Structures must ensure funds go where they are intended to go." (C2)

This trust deficit reflects a broader SIDS dynamic. Hagedoorn et al. (2019, p. 1) observe that "in SIDS, a large proportion of the population live in rural communities that are not strongly supported by national government institutions. Therefore, it is incumbent on local communities to independently initiate and implement adaptation strategies that reflect their needs and values." Adaptation intention is especially relevant in SIDS communities because "to a large extent, these communities depend upon their own initiative to implement and maintain adaptation strategies" (Hagedoorn et al., 2019, p. 2).

Trundle et al. (2019, p. 7) similarly note that Pacific cities are characterised by "a diversity of intra-national sociocultural networks… These networks and social structures are both enabled by, and largely replacements for, an urban governance and institutional framework that is severely lacking." This reinforces that trust deficits are structural, not personal.

Key insight: The trust deficit is structural, not personal. Hotels are willing to contribute, but community leaders will only trust reinvestment if it is governed by transparent, accountable frameworks. Cash-based assistance is particularly mistrusted; structured programs with contracts and oversight are preferred.

4.4 Financial and Institutional Barriers

Even when willingness exists, financial constraints block investment. The hotel manager identified several specific barriers:

"Solar water heating offers 30% savings potential, but $150,000 upfront. I couldn't justify it with current cash flow." (H1)

"A full HVAC upgrade – over $200,000 – is on hold until we build reserves." (H1)

The upfront cost of resilience measures is prohibitive for small and medium-sized hotels. Even when savings are achieved from efficiency measures, they are not ring-fenced for further investment:

"In theory, ring-fencing works. In practice, it's difficult. Savings go to immediate operational needs such as payroll, maintenance, loan servicing." (H1)

Payback periods are a critical factor:

"If we can fund stage 3 within 3-4 years, I'm open. If it takes 8-10 years, I can't justify it to ownership." (H1)

The risk of long payback periods is compounded by uncertainty:

"A $200,000 solar investment with an 8-year payback becomes a liability if occupancy drops or insurance doubles." (H1)

A community leader also acknowledged that while self-financing could work, the financial barriers are significant:

"Solar panels and reservoirs – that's a really good idea. But that's a lot of investment. I am unsure we're ready for that kind of commitment." (C1)

These financial barriers are exacerbated by SIDS' structural isolation from international finance. Jansson et al. (2025, p. 2) note that SIDS are "classified as the country group most removed from international financing sources," with 40% of SIDS "close to or are already experiencing debt distress." More than a third of the population in SIDS live in multi-dimensional poverty.

Furthermore, Hagedoorn et al. (2019, p. 1) observe that "the notion of adaptive capacity of SIDS communities is often discussed in a conceptual and qualitative manner, yet still lacks thorough empirical and quantitative validation." This lack of data makes it harder to justify investments and access finance.

Key insight: Financial barriers are the most immediate obstacle to self-financing adaptation. Blended finance, combining grants, concessional loans, and tax incentives, is essential to de-risk investment and make it viable for small hotels.

4.5 The Formal-Informal Governance Tension

Community organisation in Barbados is described as weak:

"Barbadians are individualistic. I don't see the sort of community organisation here that I see elsewhere." (C2)

"I don't think we come together too well as a community." (C1)

The same leader noted that COVID had set back social cohesion:

"Before COVID, I was really in tune with my community. Those 2-3 years set us back in terms of togetherness." (C1)

Another leader elaborated on this cultural challenge:

"We are stuck between developing and developed. People don't see themselves as needing to organise." (C2)

However, this is not a complete picture. Collective structures do exist, particularly through churches and industry associations. The same community leader who described Barbados as individualistic also explained that the church has established benefit ministries and welfare structures:

"Our church has a benefit ministry, we give meals, hampers, and cooked food once a month. People respond to calls for help." (C2)

The church, the leader noted, has formal accountability structures:

"Our church is very structured, a Board of Management, trustees, an annual church council with financial reports. We insist on accountability." (C2)

Yet some organisations are hesitant to partner with churches:

"Some organisations won't work with churches. They see some churches as almost like family businesses, there's suspicion." (C2)

The hotel manager is also open to collective action through industry associations:

"I'm a member of BHTA. They arranged our energy audit, run resilience workshops. I'm open to joint projects, bulk solar, shared generators, group rainwater harvesting." (H1)

This tension between weak formal institutions and strong informal networks is a defining feature of SIDS governance. Trundle et al. (2019, p. 6) describe the wantok system in the Pacific, kinship and language-based networks that "provide entry points for both new and circular migrants, and are connected through intermarriage and extended families." In urban areas, "wantokism and closer kinship become a method of organising space, and for newcomers is a way of surviving the harsh, money-driven environment" (Trundle et al., 2019, p. 6, citing Moore).

Despite the lack of institutional governance frameworks, "the presence of strong community networks, shared resourcing approaches, and locally adapted traditional knowledges and coping mechanisms also provided novel adaptation pathways that were otherwise unrecognized by formal institutional actors" (Trundle et al., 2019, p. 16). Hagedoorn et al. (2019, p. 3) similarly note that "the cultural context of Malem is embedded in traditional Pacific culture, in which kinship, reciprocity and community are important influences on individual behaviour."

Jansson et al. (2025, p. 8) further observe that in Koa Hill, Solomon Islands, "community structures divided along church-based denominational lines" provided the governance framework for informal infrastructure, despite being unrecognised by formal government. This demonstrates that the barrier is not a lack of social organisation, but a governance gap between formal and informal systems.

Key insight: The barrier is not simply "individualism" but a more complex tension between weak formal governance structures and strong informal networks. This suggests that the solution is not to impose formal institutions, but to bridge the gap, leveraging existing informal structures while providing the accountability and transparency needed for trust.

4.6 Enabling Conditions and the Self-Financing Outcome

The data reveal three conditions that, if implemented, could unlock self-financing adaptation.

Structured Governance and Accountability. Trust depends on transparent, accountable frameworks:

"With transparent governance, clear purpose, and quarterly reporting, I'd contribute from savings." (H1)

"Structures must ensure funds go where they are intended to go." (C2)

"The whole program needs to be done with teams and contracts – not cash handouts." (C2)

Jansson et al. (2025, Box 2, p. 6) describe a similar approach in Comoros, where the project's integrated design "linking flood mitigation, water access, and waste management, allowed interventions to mutually reinforce one another, responding to intersecting risks in a coherent and sustainable manner." In Cuba, the project "promotes multilevel governance and the integration of climate risk into urban and territorial planning" (Jansson et al., 2025, Box 1, p. 5).

Blended Finance. The hotel manager was explicit about the need for de-risked investment:

"We need blended finance – grants, low-interest loans, and tax relief to de-risk for small hotels." (H1)

"Low-interest loans – 2-3% – would make solar and HVAC viable. At 7-9%, it's not." (H1)

Jansson et al. (2025, p. 8) notes that "Cuba faces significant financial constraints, largely due to its geopolitical context," and that "the project was developed through a participatory process involving key institutions" to "enhance Cuba's access to international climate finance." This demonstrates that even in challenging financial contexts, structured approaches can unlock finance.

Hybrid Institutional Models. To bridge the formal-informal governance tension and enable collective action, hybrid models are needed:

"Non-profit organisations could be a hub for these projects." (C2)

"Churches have accountability structures – board, trustees, annual reports – that could provide oversight." (C2)

"BHTA facilitates energy audits, workshops, and group procurement. More could be done on joint funding applications." (H1)

Jansson et al. (2025, Box 3, p. 8) describes the Koa Hill project in Solomon Islands, which "built upon existing social structures and community knowledge, aligning interventions with informal 'zones' and engaging local development committees as intermediaries between the community and government." This demonstrates that hybrid models work in practice.

Trundle et al. (2019, p. 16) emphasise that "building directly on community-based priorities and decision-making processes provides an avenue for ensuring that these endogenous resilience attributes are not disrupted. However, the integration of these capacities with formal urban governance presents a more sustainable long-term pathway."

When these enabling conditions are met, the outcome is a self-financing adaptation mechanism that generates economic and social co-benefits. The economic benefits include reduced energy and water costs, avoided disaster losses, income stability, and diversified livelihoods. The social benefits include strengthened social capital, collective action, community engagement, and increased trust.

Key insight: Self-financing adaptation is achievable, but it requires deliberate institutional design. The enabling conditions are known; what is needed is political will and coordinated action.

4.7 Feedback Loops – Virtuous and Vicious Cycles

The system is dynamic. When enabling conditions are present, a virtuous cycle emerges:

"Savings and trust raise willingness to invest."

This creates a positive feedback loop: successful adaptation generates savings, which builds trust, which encourages further investment.

The Koa Hill project in Solomon Islands exemplifies this dynamic. Trundle et al. (2019, p. 18) note that "the participatory approach, where community members contributed labour and embedded traditional ecological knowledge, promoted local ownership, sustained engagement, and ensured

long-term viability of interventions." The project's success built momentum for further adaptation action.

Conversely, when barriers persist, a vicious cycle takes hold. Cynicism grows, trust erodes, and willingness to invest falls:

"If you give cash, my suspicion is that it won't go to the house." (C2)

"The community won't necessarily see the money." (C1)

This locks the system in a state of inaction, making it harder to build the momentum needed for adaptation.

Trundle et al. (2019, p. 18) caution that resilience interventions "in addition to not equitably or inclusively accounting for differential interests [can] produce outcomes that further entrench vulnerabilities and socioeconomic impoverishment." Poorly designed interventions can inadvertently undermine endogenous resilience, erode trust, and entrench vulnerability.

Key insight: The goal of policy intervention should be to break the vicious cycle and initiate a virtuous cycle. Small, well-designed pilots, such as a ring-fencing mechanism with structured governance and blended finance, can demonstrate success and build the trust needed for scaling.

5. Policy Recommendations

The conceptual model presented in Figure 1 identifies four barriers that block self-financing adaptation in Barbados, complacency, trust deficit, financial constraints, and formal-informal governance tension and three enabling conditions that can unlock it: structured governance, blended finance, and hybrid institutional models. The following recommendations are designed to address each barrier and operationalise each enabling condition, drawing on evidence from both the Barbados interviews and documented SIDS case studies.

Each recommendation identifies a lead actor, supporting partners, an indicative timeframe, and a measurable success metric.

5.1 Recommendations for the Central Bank of Barbados

The Central Bank is uniquely positioned to enable self-financing adaptation through financial and regulatory mechanisms.

5.1.1 Issue a formal advisory opinion supporting ring-fencing.

Hotels achieve operational savings from energy and water efficiency, but these savings are not retained for reinvestment. As the hotel manager stated: "In theory, ring-fencing works. In practice, it's difficult. Savings go to immediate operational needs."

The Central Bank should issue a formal advisory opinion, endorsed by the Financial Policy Committee, allowing hotels to ring-fence up to 50% of verified energy and water savings into a dedicated "Resilience Fund" account without tax penalty. This would directly address the financial barrier that prevents small and medium-sized hotels from capturing and reinvesting their savings.

Action: Central Bank to issue advisory (Phase 1). Success: 3-5 hotels establish resilience funds within 12-18 months.

5.1.2 Establish a blended finance facility for hotel resilience upgrades.

The hotel manager was explicit: "Low-interest loans – 2-3% – would make solar and HVAC viable. At 7-9%, it's not."

The Central Bank, in partnership with the Ministry of Finance and commercial banks, should establish a $5 million pilot blended finance facility offering 3-year loans at 2-3% interest to hotels for certified resilience upgrades. This aligns with Jansson et al. (2025, p. 2), who note that SIDS are "classified as the country group most removed from international financing sources."

Action: Central Bank + Ministry of Finance to establish facility (Phase 1-2). Success: 10 hotels access loans within 18-24 months; 15-20% average energy/water savings.

5.1.3 Incorporate resilience savings into fiscal sustainability assessments.

Investment in climate resilience reduces future disaster relief expenditure and protects foreign exchange earnings from tourism. The Central Bank should update its fiscal sustainability assessment frameworks to recognise resilience as an investment with measurable economic returns. Jansson et al. (2025, Box 1, p. 5) describe how Cuba's project "promotes multilevel governance and the integration of climate risk into urban and territorial planning."

Action: Central Bank to update frameworks (Phase 1-2). Success: Resilience investments explicitly recognised in fiscal assessments within 18-24 months.

5.2 Recommendations for the Ministry of Tourism

The Ministry of Tourism can create the policy framework and incentives for hotels to invest in resilience and community reinvestment.

5.2.1 Develop and launch a national certification scheme.

A national "Climate Resilient Hotel" certification, aligned with international standards, would signal that resilience is a strategic priority and provide marketing value to participants. The hotel manager noted: "Recognition programmes, national certification with marketing support, would encourage investment."

Action: Ministry of Tourism + BHTA to develop scheme (Phase 1-2). Success: 15 hotels certified within 18-24 months.

5.2.2 Establish a technical assistance programme for hotels.

The hotel manager stated: "We're busy running daily operations. We need free audits, help with grants, vetted contractors." A programme offering free or subsidised energy and water audits, grant application support, and vetted contractor lists would address the time and cash flow barriers identified in the findings.

Action: Ministry of Tourism + Division of Energy to establish programme (Phase 1). Success: 20 hotels receive technical assistance within 12-18 months.

5.2.3 Introduce fiscal incentives for resilience upgrades.

Tax rebates or accelerated depreciation (100% write-off in year 1) for certified resilience upgrades would improve the business case for investment. The hotel manager stated: "Tax incentives, faster depreciation or tax credits would help."

Action: Ministry of Tourism + Ministry of Finance to introduce incentives (Phase 1-2). Success: 10+ hotels utilise incentives within 24-36 months.

Trundle et al. (2019, p. 16) note that "building directly on community-based priorities and decision-making processes provides an avenue for ensuring that these endogenous resilience attributes are not disrupted." The Ministry should ensure that certification schemes incorporate community consultation requirements.

5.3 Recommendations for the Barbados Hotel and Tourism Association (BHTA)

The BHTA is well-positioned to facilitate collective action and overcome the formal-informal governance tension identified in the data.

5.3.1 Facilitate joint procurement of resilience technologies.

Bulk purchasing of solar panels, generators, and rainwater harvesting systems would reduce costs for individual hotels. The hotel manager stated: "I'm open to joint projects, bulk solar, shared generators, group rainwater harvesting. Cost is the barrier for small hotels alone."

Action: BHTA to facilitate procurement (Phase 1-2). Success: 10+ hotels participate within 18-24 months.

5.3.2 Develop a template for community reinvestment agreements.

A standardised template would provide the "structured governance" that both the hotel manager and community leaders identified as essential for trust. The community leader stated: "Structures must ensure funds go where they are intended to go."

Action: BHTA + Community Organisations to develop template (Phase 1). Success: Template approved within 12 months; 1-2 pilot agreements operational within 18-24 months.

5.3.3 Establish a best practice sharing platform.

Expanding existing resilience workshops to include case studies of successful reinvestment would build momentum and demonstrate that self-financing works in practice.

Action: BHTA to establish platform (Phase 2-3). Success: 3-5 case studies published within 24-36 months.

Trundle et al. (2019, p. 6) describe how wantok systems and church networks provide informal governance structures in Pacific SIDS. The BHTA could similarly leverage existing industry networks to facilitate collective action.

5.4 Recommendations for Hotels and Tourism Enterprises

Individual hotels have a critical role to play in demonstrating that self-financing adaptation works.

5.4.1 Pilot ring-fencing of operational savings.

A small pilot, setting aside a portion of energy savings, would demonstrate the viability of the model. The hotel manager stated: "With transparent governance, clear purpose, and quarterly reporting, I'd contribute from savings."

Action: Pilot hotels (3-5) to implement (Phase 1-2). Success: Pilot hotels achieve 15-20% energy/water savings; savings are ring-fenced and tracked.

5.4.2 Engage with structured governance mechanisms.

Hotels willing to contribute to community funds should insist on transparent governance, clear purpose, and quarterly reporting. This addresses the trust deficit identified by community leaders: "If you give cash, my suspicion is that it won't go to the house."

Action: Hotels to participate in governance (Phase 2-3). Success: Hotels participate in governance of at least one community reinvestment fund.

5.4.3 Participate in collective procurement.

Joining BHTA-facilitated bulk purchasing reduces costs and builds social capital across the sector. Hagedoorn et al. (2019, p. 9) found that "higher social capital is the strongest enabling factor" for willingness to contribute to community adaptation.

Action: Hotels to join collective procurement (Phase 1-3). Success: 10+ hotels participate within 18-24 months.

5.5 Recommendations for Community Organisations and Non-Profits

Community organisations are essential partners for ensuring that reinvestment reaches those who need it most.

5.5.1 Position themselves as trusted governance partners.

Churches and non-profits already have accountability structures that can be leveraged. The community leader stated: "Our church is very structured – a Board of Management, trustees, an annual church council with financial reports. We insist on accountability."

Action: Community organisations to engage as partners (Phase 1-2). Success: At least one community organisation is formally engaged as a governance partner within 18-24 months.

5.5.2 Develop project proposals aligned with community priorities.

Community leaders identified clear priorities: shelters, housing retrofits, drainage, solar, life skills. Organisations should develop specific, costed proposals aligned with these priorities.

Action: Community organisations to develop proposals (Phase 1-2). Success: 2-3 community project proposals are ready for funding within 18-24 months.

5.5.3 Engage with hotel-led reinvestment initiatives.

The trust deficit can be bridged if community organisations actively engage with hotels to design structured governance. The community leader stated: "The whole program needs to be done with teams and contracts, not cash handouts."

Action: Community organisations to engage with hotels (Phase 2-3). Success: Community organisations participate in governance of at least one hotel-led reinvestment fund.

Jansson et al. (2025, Box 3, p. 8) describes how the Koa Hill project in Solomon Islands "built upon existing social structures and community knowledge, aligning interventions with informal 'zones' and engaging local development committees as intermediaries between the community and government."

5.6 Recommendations to Initiate a Virtuous Cycle

Early wins build trust and momentum. A virtuous cycle begins with small, well-designed pilots.

5.6.1 Start small and scale gradually.

A pilot ring-fencing fund with 3-5 hotels in St. Lawrence Gap, supported by blended finance and structured governance, would demonstrate that the model works. The hotel manager stated: "If we can fund stage 3 within 3-4 years, I'm open."

Action: BHTA + Casuarina Consulting to design and implement pilot (Phase 1-2). Success: Pilot demonstrates measurable savings and trust; lessons documented within 18-24 months.

5.6.2 Publicise successes.

A communications strategy to publicise successful pilots would create a "bandwagon effect." The hotel manager noted that certification and recognition would encourage investment.

Action: Ministry of Tourism + BHTA to develop communications strategy (Phase 2-3). Success: 3-5 case studies published; 15+ hotels certified within 24-36 months.

5.6.3 Measure and report impact.

Regular reporting on funds received, disbursed, and impact delivered would build trust. The community leader stated: "We insist on accountability."

Action: Central Bank + BHTA to establish monitoring and reporting framework (Phase 1-3). Success: Annual reports published; trust and participation measurably increase year on year.

Trundle et al. (2019, p. 18) note that "the participatory approach, where community members contributed labour and embedded traditional ecological knowledge, promoted local ownership, sustained engagement, and ensured long-term viability of interventions."

5.7 Recommendations to Avoid a Vicious Cycle

Risks must be addressed to prevent a vicious cycle of cynicism and inaction.

5.7.1 Avoid cash handouts in favour of structured programs.

The community leader warned: "If you give cash, my suspicion is that it won't go to the house." Reinvestment funds should be channelled through structured programs with contractors, oversight, and accountability.

Action: All stakeholders to ensure structured programs (Phase 1-3). Success: No cash handouts are made; all funds are tracked and reported.

5.7.2 Ensure accountability and transparency at all levels.

The community leader emphasised: "We insist on accountability." Regular audits, public reporting, and multi-stakeholder oversight should be built into every reinvestment mechanism.

Action: Central Bank + BHTA to establish audit and reporting requirements (Phase 1-3). Success: All reinvestment funds are audited annually; reports are publicly available.

5.7.3 Guard against maladaptation.

Tota, Abdul Maulud and Md Noor (2024) warn that adaptation actions can inadvertently increase vulnerability. Trundle et al. (2019, p. 18) caution that resilience interventions "in addition to not equitably or inclusively accounting for differential interests [can] produce outcomes that further entrench vulnerabilities and socioeconomic impoverishment."

Action: Ministry of Tourism + Division of Energy to develop maladaptation screening checklist (Phase 1). Success: Maladaptation screening is standard practice for all funded projects.

5.8 Summary of Recommendations

Stakeholder	Key Recommendation	Timeframe	Success Metric
Central Bank	Ring-fencing advisory	**Phase 1**	3-5 hotels establish funds
	Blended finance facility	**Phase 1-2**	10 hotels access loans
	Fiscal sustainability integration	**Phase 1-2**	Recognised in fiscal assessments
Ministry of Tourism	National certification scheme	**Phase 1-2**	15 hotels certified
	Technical assistance programme	**Phase 1**	20 hotels assisted
	Fiscal incentives	**Phase 1-2**	10+ hotels utilise incentives
BHTA	Joint procurement	**Phase 1-2**	10+ hotels participate
	Community reinvestment template	**Phase 1**	Template approved
	Best practice sharing	**Phase 2-3**	3-5 case studies published
Hotels	Pilot ring-fencing	**Phase 1-2**	Savings tracked and ring-fenced
	Governance engagement	**Phase 2-3**	Participate in fund governance
	Collective procurement	**Phase 1-3**	10+ hotels participate
Community Organisations	Governance partners	**Phase 1-2**	Engaged in fund governance
	Project proposals	**Phase 1-2**	2-3 proposals ready
	Engage with hotels	**Phase 2-3**	Participate in fund governance

5.9 Implementation Roadmap

The following roadmap outlines a phased approach to implementation.

1

Phase 1: Policy and Design

6-12 months

- Central Bank advisory on ring-fencing issued
- Blended finance pilot facility established
- National certification standards drafted
- Community reinvestment agreement template developed
- Pilot hotels selected

2

Phase 2: Pilot Implementation

12-24 months

- Energy and water audits conducted for pilot hotels
- No-cost and low-cost measures implemented
- First ring-fenced savings achieved
- Community reinvestment pilot disbursed
- Certification scheme launched

3

Phase 3: Scaling and Replication

24-36 months

- 15+ hotels certified
- Blended finance facility scaled
- 3-5 community reinvestment funds operational
- National awareness campaign launched

6. Call to Action

The evidence presented in this white paper is clear: Barbados possesses the latent capacity to finance its own climate adaptation through operational cost savings, social capital, and existing willingness to act. Yet four interconnected barriers, complacency, trust deficit, financial constraints, and formal-informal governance tension, consistently block this potential from being realised.

The case studies from across Small Island Developing States demonstrate that self-financing adaptation is not merely theoretical. In the Solomon Islands, community-led nature-based solutions built on existing social structures and local knowledge generated tangible resilience gains while fostering local ownership (Jansson et al., 2025). In Comoros, integrated infrastructure interventions addressing flooding, water access, and waste management demonstrated that cross-sectoral, community-engaged approaches can transform vulnerability into resilience (Jansson et al., 2025). In the Federated States of Micronesia, social capital emerged as the strongest enabling factor for household willingness to participate in community adaptation (Hagedoorn et al., 2019). And in Cuba, multilevel governance and the integration of climate risk into territorial planning have created the policy frameworks necessary for sustained action (Jansson et al., 2025).

Barbados has the foundations to lead the Caribbean in this space. The CTRI model, developed by Casuarina Consulting and shortlisted by the United Nations, provides a concrete, tested framework for self-financing adaptation that can be adapted and scaled. The hotel manager interviewed for this research is open to contributing to community reinvestment, provided that transparent governance and clear accountability structures are in place. Community leaders have expressed willingness to partner, provided that funds are channelled through structured programs rather than cash handouts. The institutional architecture, Central Bank, Ministry of Tourism, BHTA, and community organisations, exists to enable this transition.

What is needed now is leadership, coordination, and the courage to act.

We call on the Central Bank of Barbados to:

Issue a formal advisory opinion supporting ring-fencing of hotel energy and water savings into dedicated resilience funds.

Establish a blended finance facility, in partnership with commercial banks and international climate finance partners, offering concessional loans to hotels for certified resilience upgrades.

Incorporate climate resilience investment into fiscal sustainability assessments, recognising that adaptation protects foreign exchange earnings and reduces future disaster relief expenditure.

We call on the Ministry of Tourism to:

Work with Casuarina Consulting to develop and launch a national "Climate Resilient Hotel" certification scheme, aligned with international standards and incorporating community consultation requirements.

Establish a technical assistance programme offering free energy and water audits, grant application support, and vetted contractor lists.

Introduce fiscal incentives, including tax rebates or accelerated depreciation, for certified resilience upgrades.

We call on the Barbados Hotel and Tourism Association to:

Facilitate joint procurement of resilience technologies, reducing costs for individual hotels through bulk purchasing.

Develop a standardised template for community reinvestment agreements, specifying governance structures, reporting requirements, and dispute resolution mechanisms.

Establish a best practice sharing platform, documenting and disseminating case studies of successful reinvestment.

We call on hoteliers to:

Pilot ring-fencing of operational savings, demonstrating the viability of the model.

Engage actively in the design and oversight of community reinvestment funds, insisting on transparent governance and quarterly reporting.

Participate in collective procurement and industry-wide resilience initiatives.

We call on community organisations and non-profits to:

Position themselves as trusted governance partners, leveraging existing accountability structures to oversee reinvestment funds.

Develop project proposals aligned with community-identified priorities: shelters, housing retrofits, drainage, solar, and life skills training.

Engage proactively with hotel-led reinvestment initiatives to co-design structured, accountable programs.

And we invite all stakeholders to:

Join Casuarina Consulting in developing the CTRI and piloting a blended finance facility for hotels.

Commit to a phased implementation approach, starting with a small pilot and scaling gradually as trust and evidence accumulate.

Measure and report impact regularly, building the evidence base for replication across Barbados and the wider Caribbean.

The question is not whether Barbados can afford to act. The evidence shows that inaction is far more costly, in disaster relief, lost tourism revenue, and eroded community trust. The question is whether we have the collective will to seize this opportunity.

Barbados has the potential to lead the Caribbean in self-financing climate adaptation. The time to act is now.

About Casuarina Consulting

Casuarina Consulting is a Barbados-based strategy and advisory firm operating at the intersection of business, sustainability, and innovation. We help governments, businesses, and development organisations navigate complex transitions, from climate resilience and energy transition to digital transformation and sustainable economic policy.

Our core services include ESG and CSR strategy, grant and proposal development, policy and project incubation, and strategic intelligence (weekly risk briefings). We have direct experience with UN-shortlisted projects (climate-resilient tourism framework), regional policy development (EV battery disposal, renewable energy), and cross-sector partnership building.

The Caribbean Tourism Resilience Initiative (CTRI), the case study for this white paper, was developed by Casuarina Consulting and officially shortlisted by the United Nations Barbados & the Eastern Caribbean. The CTRI is a self-financing certification and revolving loan fund model designed to help hotels capture operational cost savings, reinvest in resilience, and channel funds into community-level adaptation projects.

The Caribbean Tourism Resilience Initiative (CTRI)

The Caribbean Tourism Resilience Initiative (CTRI) is Casuarina Consulting's flagship climate resilience framework for the tourism sector. It was developed in response to the United Nations Barbados and Eastern Caribbean's first global call for proposals, with the framework designed for the Government of Antigua and Barbuda and scalable across the wider Caribbean. The CTRI provides a certification standard and blended finance model to help tourism operators strengthen resilience, access green finance, and align with emerging international sustainability requirements. It was shortlisted in the UN's innovation call and has since been presented at the Climate Smart Summit for funding consideration.

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