CLIMATE ANALYTICS

Loss and damage financing and debt sustainability: advancing justice and equity in the Caribbean

December 2025

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ABOUT CLIMATE ANALYTICS

Climate Analytics is a global climate science and policy institute. Our mission is to deliver cutting-edge science, analysis and support to accelerate climate action and keep warming below 1.5°C.

ACKNOWLEDGMENTS

The authors would like to thank the Caribbean Climate Justice Alliance and the researchers, policymakers, civil society representatives and practitioners who supported this work.

How to cite: Climate Analytics (2025). Loss and damage financing and debt sustainability: advancing justice and equity in the Caribbean

SUPPORTED BY

We would like to thank the Open Society Foundations for supporting this work.

Executive Summary

Caribbean small island developing states (SIDS) bear little responsibility for causing the climate crisis but are among those most at risk from its impacts. Repeated economic setbacks from one extreme weather event after another are pushing these already highly indebted nations into a downward debt spiral.

This report highlights the cyclical relationship between climate-induced loss and damage and growing fiscal debt levels in Caribbean SIDS. Climate disasters force these countries to borrow to fund emergency responses. This further drives up their fiscal debt, which in turn hampers their ability to invest in climate adaptation, resilience building, and long-term development.

A key challenge concerns the ability of Caribbean SIDS to accurately quantify loss and damage, especially non-economic losses, such as the loss of cultural heritage or mental health impacts. Current methodologies are often insufficient, and there are substantial data gaps that hinder effective policy and financial responses.

Innovative financial solutions, such as debt-for-climate swaps, catastrophe bonds, and parametric insurance, can provide rapid financial relief without exacerbating debt burdens, offering a more sustainable path towards recovery and resilience building.

Local communities and civil society organisations should also play an important role in designing, implementing, and overseeing loss and damage funds. Empowering vulnerable groups through participatory governance approaches is essential to ensuring that funds are used effectively and equitably.

Crucially, financial mechanisms must be based on principles of climate justice and should not exacerbate the region's debt burden. Financial support should prioritise the needs of the most vulnerable in society and be just, equitable, accessible, and inclusive, particularly for marginalised groups and communities.

To address the interconnected debt and climate crisis, the region needs better access both to data on loss and damage and innovative finance. By sharing knowledge, pooling resources, and jointly applying for international climate finance, Caribbean SIDS can work together to address many of these challenges.

For Caribbean SIDS to break the cycle of debt and climate vulnerability, the global community must come together to progress much needed reform of the international financial architecture, support regional collaboration, ensure that climate injustices and multidimensional inequalities are not propagated, and ramp up near and long-term climate action for a 1.5°C aligned future.

The report outlines the following policy recommendations:

1. Strengthen loss and damage data and measurement for comprehensive understanding - Accurate, consistent, and holistic data form the bedrock for effective loss and damage policy, advocacy, and financial allocation, helping move beyond underreporting and data inconsistencies.
2. Enhance equitable access to and design of loss and damage finance- Ensuring efficient, debt-free, and just access to dedicated loss and damage finance, particularly from the recently operationalised Fund for Responding to Loss and Damage (FRLD), is critical.
3. Promote debt sustainability through innovative financing solutions - To break the detrimental cycle of escalating loss and damage and increasing debt burdens, the strategic deployment of innovative, non-debt-increasing financing mechanisms that support long-term resilience building is essential.
4. Foster climate justice and community-led action- Ensuring that innovative financing mechanisms directly empower and benefit local communities and vulnerable groups while upholding human rights and climate justice principles is paramount.
5. Strengthen regional and international collaboration and systemic reform- A concerted, collaborative approach across all levels is essential for long-term success, advocating for systemic changes in the global financial architecture

Table of Contents

Executive Summary 2
Table of Contents 4
Introduction 6
Methodology and approach 8
Understanding loss and damage in the Caribbean 9
Unpacking loss and damage in the Caribbean context 10
The ambiguity of loss and damage terminology 10
Distinguishing political and actual loss and damage 11
Tailoring responses to Caribbean realities 12
Civil society insights on loss and damage in the Caribbean context 12
Understanding loss and damage in the Caribbean context 12
Challenges in understanding and assessing loss and damage 13
Underlying inequalities and their interaction with loss and damage 14
A Caribbean-centric approach to loss and damage using the 3Ps framework 14
Measuring loss and damage and its intersections with debt sustainability 21
Data and measurement challenges 23
Practical approaches and methodological considerations for loss and damage and debt sustainability 24
Holistic climate-adjusted debt sustainability analyses (DSAs) 24
Strategic utilisation of comprehensive loss and damage assessment methodologies 25
Addressing data gaps and building sustained capacity 25
Innovative financing mechanisms for addressing loss and damage and debt 27
Innovative financing instruments 27
Debt-for-Climate swaps 28
Debt pauses/Climate-resilient debt clauses 28
Catastrophe bonds (Cat Bonds) 29
Parametric insurance 29

Payment for ecosystem services (PES) schemes 29
Traditional/indigenous forms of finance and cooperatives 30
Multilateral Development Banks 31
Private sector financing 31
Ensuring climate justice, human rights and community empowerment 32
Policy recommendations 34
Conclusion 39
References 40
Annex 1 43
List of Participating Expert Organisations at the Caribbean Experts Focus Group on Loss and Damage Assessment and Finance – 17 June 2025 43
Annex 2 44
List of Participating Organisations at the Caribbean Civil Society Focus Group on Loss and Damage Assessment and Finance – 17 July 2025 44

Introduction

Caribbean Small Island Developing States (SIDS) are globally recognised as vulnerable to the severe impacts of climate change. Their unique challenges - small size, geographic remoteness, limited natural resources, heavy reliance on climate-sensitive sectors, and a history of colonialism - make them particularly susceptible (Mohan 2025a; Thomas et al. 2018). This vulnerability also highlights a profound climate injustice. Despite contributing minimally to the greenhouse gas emissions, these nations are on the front lines, facing existential threats from rising sea levels to more frequent and intense extreme weather events like hurricanes (Mohan 2025b; Brownbridge and Canagarajah 2024). The consequences extend beyond economies and infrastructure, deeply affecting the very livelihoods and cultural heritage of their populations (Sircar et al. 2024).

The escalating impacts of climate change, leading to significant loss and damage, are inextricably linked with the persistent challenge of high debt burdens in Caribbean SIDS (Bharadwaj et al. 2023). Average public debt-to-GDP ratios in the region have historically hovered around 75%, a vulnerability that is instantly amplified by disaster events (Rambarran 2022). Climate-related disasters often force these nations into substantial borrowing for immediate relief, reconstruction, and recovery (Mohan and Strobl 2021).

A single major event can be catastrophic; for instance, economic losses from Hurricane Maria in Dominica (2017) were estimated at 226% of the country's GDP (Government of the Commonwealth of Dominica 2017). Crucially, major storms reduce national GDP by up to 17% in impact years, compounding debt and recovery costs (López-Calva 2019). This amplifies already high debt levels, severely constraining the fiscal space needed for essential investments in adaptation, mitigation, and sustainable development (Mohan 2022). This creates a cycle of increased vulnerability and hindered progress.

Achieving climate justice demands breaking this cycle through a comprehensive understanding of the inequitable interplay between loss and damage financing and debt sustainability. This necessitates the implementation of innovative, equitable financial mechanisms and robust policy frameworks specifically tailored to the unique vulnerabilities and developmental contexts of Caribbean SIDS. Critically, these mechanisms must acknowledge the historical responsibility of high-emitting nations and ensure that financial support does not merely add to the debt burden of those already suffering disproportionately.

This report provides a thorough analysis of these interconnected challenges, employing a desktop review and qualitative research methodology, including structured interviews and focus groups with key stakeholders, and case studies.

The objectives of this report are to:

- Provide a comprehensive characterization of loss and damage in the Caribbean SIDS context.
- A nuanced, context-specific understanding of loss and damage will be developed by applying the "3Ps framework" (Predisposing, Precipitating, and Protective Factors) within the Comprehensive Climate Impact Quantification (C-CIQ) framework developed by the International Institute for Environment and Development (IIED). This leads to a proposed Caribbean context-specific definition of loss and damage based on a detailed understanding of the multifaceted nature of climate-related loss and damage in the region.
- Conduct a critical assessment of methodologies for measuring loss and damage and debt sustainability. We evaluate existing and emerging methods used to accurately measure various forms of loss and damage and assess debt sustainability within the unique socio-economic and environmental context of Caribbean SIDS. This objective also includes identifying current data gaps and technical capacity challenges, and proposing potential solutions.

Methodology and approach

The research methodology is a multifaceted approach that combines a thorough desk review with qualitative research to provide a comprehensive understanding of defining and measuring loss and damage in the Caribbean and its connection to debt sustainability, along with debt reducing financing instruments. This approach aims to provide a practical guide for tackling loss and damage and debt in the region.

The desk review involved a detailed examination of academic papers, policy documents, and technical and policy papers. This review aimed to establish a foundational understanding of the interconnected challenges of loss and damage and debt in the Caribbean. It critically evaluated current methodologies for measuring loss and damage and assessing debt sustainability, including climate risk assessments, climate-adjusted budgeting, debt sustainability analysis, integrated risk management frameworks, and natural capital depreciation. It also provided information on various innovative financial instruments for addressing loss and damage and debt, such as debt-for-climate swaps and regional insurance funds.

The qualitative research included two in-depth focus groups conducted online with key regional stakeholders to gather essential ground-level insights from participants across the region. The first focus group included academics, experts, and practitioners. The second focus group consisted of civil society organisations and was organised in collaboration with the Caribbean Climate Justice Alliance[1] (See Annexes 1 and 2 for list of participating organizations). The focus group discussions were recorded and transcribed for analysis. The transcripts were then subjected to thematic coding using NVivo software to identify key themes, challenges, and perspectives related to loss and damage and debt sustainability. Additionally, rapporteur notes were taken during the focus groups to capture initial impressions and key insights, which were used to inform the thematic analysis.

The desk research and qualitative data were used to enhance and apply the "3Ps Framework" to characterise the complex, interconnected nature of climate impacts and debt within the Caribbean context. This application of the 3Ps framework led to a proposed, context-specific definition of loss and damage for the Caribbean based on a detailed understanding of the multifaceted nature of climate-related loss and damage and debt in the region.

[1] The Caribbean Climate Justice Alliance, convened by the Caribbean Natural Resources Institute (CANARI) and Panos Caribbean, is an informal network of Caribbean civil society organisations, grassroots leaders and activists, academics, creatives and the media which advocate for and catalyse actions for climate justice in Caribbean SIDS. See website for more information: https://resiliencecanari.org/climate-justice-alliance/

Understanding loss and damage in the Caribbean

Caribbean SIDS are on the front lines of climate change, grappling with escalating loss and damage—the unavoidable negative consequences that persist despite mitigation and adaptation efforts (Thomas et al. 2018). These increasing loss and damage impacts are intrinsically linked to their external debt, creating a vicious cycle that undermines sustainable development (Savarala 2024).

We are proposing a Caribbean definition/ understanding of loss and damage that draws upon existing concepts, but expanded to make it more relevant to the Caribbean and incorporate debt.

Loss and damage is broadly categorised into economic and non-economic types (Thomas et al. 2018). Economic loss and damage is quantifiable and includes direct damage to critical infrastructure, disruption of climate-sensitive sectors like tourism and fisheries, decreased agricultural output, and reduced essential services. These impacts necessitate significant borrowing for recovery, exacerbating existing debt burdens and hindering long-term resilience and sustainable development (Panwar et al. 2024).

Non-economic loss and damage (NELD) encompasses unquantifiable impacts with profound, often irreversible, effects (Thomas and Benjamin 2019). For Caribbean SIDS, NELD includes loss of human lives, detrimental physical and mental health effects, forced displacement and migration, loss of terrestrial territory and cultural heritage, decreased biodiversity and ecosystem degradation, and the erosion of indigenous knowledge and societal identity. The devastating 2017 hurricanes, for instance, highlighted severe NELD, including prolonged displacement and community destruction (Thomas and Benjamin 2021; Lightfoot 2020). While difficult to price, these non-economic losses significantly impact long-term economic stability and debt management, creating a cycle where NELD can impede economic recovery and necessitate further borrowing (Benjamin and Thomas 2023).

Unpacking loss and damage in the Caribbean context

While the UNFCCC's definition of loss and damage provides a global framework, the focus group of Caribbean academics, experts and practitioners highlighted the critical need for a nuanced, practically grounded understanding of loss and damage for the Caribbean context. These on-the-ground perspectives offer vital implications for policy, finance, and response strategies.

The ambiguity of loss and damage terminology

In the Caribbean, loss and damage, despite being a relatively new concept, is often ambiguous, encompassing impacts from both extreme and slow-onset climatic events, as well as economic and non-economic dimensions. This ambiguity has direct practical implications. The common distinction between "economic" and "non-economic" loss and damage, for instance, can lead to the dismissal of profound, yet hard-to-quantify, impacts like cultural and biodiversity losses.

As one participant noted, "The division between economic and non-economic dimensions can encourage others outside of the field to be inherently dismissive of non-economic dimensions." This perspective was reinforced by another participant who argued that the term "non-economic loss and damage" is misleading, as "anything could be costed in some way," citing strategies for costing ecosystem services. This concern stems from the fear that if losses lack an explicit economic or financial element, they may not be viewed as important by funders and decision-makers.

Practically, this suggests a move towards framing losses as "tangible vs. intangible" to better capture their full scope, while seeking to represent economic dimensions within both categories. However, it was noted with caution that while non-economic may be a misnomer, such losses are not solely economic in value. For example, social issues like increased time for water collection can contribute to gender-based violence via cascading pathways of economic effects through lost productivity leading to increased household stress.

Crucially, non-economic losses, such as the loss of a cultural connection to land, should be prioritised for financing without attempting to monetise them, to avoid "cheapening their other values." This aligns with the thrust from the international climate change regime that non-monetizable aspects should receive special priority in how they are addressed and financed.[2]

A practical alternative to direct monetization could focus on the cost of responding to the harm, rather than trying to put a price tag on the invaluable, ensuring that "metrics don't

[2] Non-economic loss and damage (NELD) refers to the consequences of climate change that are difficult to quantify in monetary terms and are often irreversible. This includes the loss of life, territory, cultural heritage, indigenous knowledge, biodiversity, and ecosystem services. Thomas and Benjamin (2019) further state that NELD includes threats to human health and well-being, disruptions to a community's sense of place, and loss of agency, particularly in cases of climate-induced displacement. They use the case of Ragged Island in The Bahamas, where prolonged displacement after Hurricane Irma led to these non-economic losses, which were not addressed by national policies.

make some vulnerable populations invisible." This approach also aligns with how loss and damage relates to damage and loss assessments after specific events, where the methodology could also be used for slow-onset events by defining their onset. Furthermore, framing loss and damage within the Sustainable Development Goals (SDGs) and human well-being could provide a useful lens for measuring its effects.

Distinguishing political and actual loss and damage

A key practical insight was the distinction between the political concept of "Loss and Damage" (L&D) and the actual impacts of climatic events, "loss and damage" (l&d).[3] As one participant pointed out, "L&D causes politics to cloud scientific discussions, particularly with scientists from developed country backgrounds." The practical implication is to shift our focus to the undisputed "actual harm" of loss and damage (l&d) and frame actions as "responses to loss and damage." This approach helps to move beyond contentious debates around compensation, responsibility, and liability, which have historically hindered support.

It was noted that while losses and damages are clear in international law, with relevant definitions and rules of interpretation, it is support for the response that is contentious. This contentious nature stems from debates over whether finances constitute compensation, who is responsible for providing such funds, and who is liable for the loss and damage. Many academic articles and policy papers have discussed the "intentional blurring of the lines" to make certain developed countries more comfortable given differentiated responsibilities under the regime.[4]

By emphasising the tangible need for responses to actual harm, it becomes easier to secure the necessary finance and resources. The recent establishment of the historic Fund for Responding to Loss and Damage (FRLD) under the UNFCCC is a significant development, expanding the focus beyond the extreme climatic events typically addressed by disaster risk

[3] L&D refers to the political and financial mechanism established under the UNFCCC to address the irreversible impacts of climate change in developing countries. This term is primarily used in the context of international climate negotiations and is often contentious due to historical debates over responsibility and financial compensation. In contrast, L&D refers to the actual, on-the-ground impacts of climate-related events, which are the unavoidable negative consequences even after mitigation and adaptation efforts (Panwar et al. 2024). These impacts can be both economic (e.g., destroyed infrastructure) and non-economic (e.g., loss of cultural heritage, biodiversity, and lives). In the Caribbean, L&D is a tangible reality from both sudden-onset events (such as hurricanes and floods) and slow-onset events (such as sea-level rise and ocean acidification) (Sircar et al. 2024; Pill 2021). This distinction is critical for the Caribbean region. While the political L&D debate is vital for securing international funding (Sircar et al. 2024), focusing on the actual harm of L&D allows the region to move past contentious political discussions and secure the necessary resources for a meaningful response (Benjamin and Thomas 2023).

[4] Academic literature and policy documents have addressed the "intentional blurring of the lines" between the political and scientific concepts of loss and damage. Developed countries have historically contested the legalistic framing of L&D that implies liability or compensation, seeking to keep the issue firmly within the adaptation realm to avoid a "Pandora's box" of endless requests for monetary redress. This has led to "constructive ambiguity" within the UNFCCC, where a strict definition was intentionally avoided to depolarize the debate and allow for institutionalisation of the L&D mechanism (Caciagli 2021). The ambiguous language of "averting, minimizing, and addressing" losses and damages also contributes to this blurring, as averting and minimizing are already part of mitigation and adaptation efforts (IIASA 2023). The intentional blurring of the lines has been discussed in academic literature, particularly to make developed countries more comfortable with their differentiated responsibilities under the regime (Calliari et al. 2020).

reduction to include slow-onset events. The outcome of this study should enable Caribbean SIDS to clearly understand their losses and damages, including relevant aspects and metrics.

Tailoring responses to Caribbean realities

The mainstream definition of loss and damage must be adapted to the acute dependencies of Caribbean SIDS on climate-sensitive sectors like agriculture and fisheries. As one participant highlighted, "Even if they are small relative to the economy, there are significant cascading effects for those dependent on these sectors, their households and the communities they support." Participants also agreed on the need to consider nuances in how loss and damage is conceptualised in the region, particularly due to structural issues regarding the accessibility and availability of climate finance. The practical implication here is that loss and damage assessments and interventions in the Caribbean must go beyond national Gross Domestic Product (GDP) figures to understand the localised and systemic vulnerabilities that might not be as pronounced in larger, more diversified economies. This calls for context-specific vulnerability assessments and targeted support mechanisms.

While acknowledging the need for regional nuances, participants also recognised the importance of maintaining commonality with globally established terminology to avoid unnecessary epistemological debates when making a case at the international level. The Warsaw International Mechanism Executive Committee (WIM ExCOM) has a workstream on NELD and has prepared technical papers using that terminology, so any new regional terms should be clearly linked to existing global frameworks to ensure coherence and leverage existing expertise and guidelines.[5]

Civil society insights on loss and damage in the Caribbean context

Civil society perspectives from the Caribbean reveal a comprehensive understanding of loss and damage, encompassing both its visible and invisible impacts, and highlighting significant challenges in assessment and underlying inequalities.

Understanding loss and damage in the Caribbean context

Participants articulated loss and damage as a multifaceted issue encompassing both tangible and intangible impacts, highlighting its profound effects on Caribbean communities. This understanding extends beyond mere physical destruction to include deep socio-economic and psychological repercussions.

Direct physical damage from natural disasters and climate change constitutes a significant aspect of loss and damage, encompassing "property damage, loss of land and fertile soil, burnt down homes etc." Civil society further notes damage to "physical and natural infrastructure that results from climate change, and which cannot be repaired." Tangible

[5] The Warsaw International Mechanism for Loss and Damage (WIM) is a body established under the UNFCCC at COP19 in 2013 to address loss and damage in developing countries. Its Executive Committee (ExCOM) is a 20-member body that guides the implementation of the WIM's three primary functions: enhancing knowledge and understanding of comprehensive risk management, strengthening dialogue and coordination among stakeholders, and enhancing action and support, including finance, technology, and capacity-building (UNFCCC 2021).

impacts also include “loss of crops or a decrease in the productivity” and “damage due to flooding, displacement of communities.”

Beyond these visible impacts, loss and damage involves significant non-economic losses such as “physiological trauma, health concerns and loss of cultural heritage.” Participants emphasised that “There is also loss and damage that is not visible, and takes a mental toll.”

Specific examples of these invisible impacts include “cultural erasure” and the broader “loss of community culture.” Civil society also highlighted the “abuse of children and women particularly after a natural disaster” and “inadequate post disaster care for people with disabilities (PwDs).” These intangible and invisible impacts lead to long-term social, psychological, and cultural burdens that undermine societal well-being and economic recovery, indirectly increasing (contributing to) debt through social welfare needs or lost human capital due to reduced productivity.

The effects of loss and damage also manifest as severe socio-economic disruptions. These include “livelihoods disrupted or lost, income insecurity or pauses, slow and delayed recovery, [and] time poverty due to care burdens,” which specifically affects “farmers’ and fishers’ loss of livelihoods.” Additionally, civil society pointed out “water shortages [and] impact on food security” as critical concerns stemming from loss and damage.

From a broader perspective, loss and damage is perceived as “unnecessary suffering, pain, loss, and economic setbacks.” It involves complex and interconnected issues such as “economic, social and physical displacement all at the same time.” Caribbean civil society recognises that loss and damage stems not only from “catastrophic natural disasters but also the slow persistent impacts of climate change,” ultimately leading to losses that are “both tangible and intangible, physical and socio-cultural impacts.”

Challenges in understanding and assessing loss and damage

Civil society identifies multiple obstacles in comprehending and assessing loss and damage within the Caribbean context. A key challenge is the lack of standardised guidelines and frameworks for loss and damage assessment, including a limited understanding and focus on social, cultural, and psychosocial impacts, as well as a lack of frameworks for measurement and data. This is compounded by the intangible and invisible nature of much of the damage, making it difficult to assess. Participants noted that “so much of the damage is intangible and invisible,” leading to a “lack of appreciation of non-economic loss and damage.”

Furthermore, capacity and data deficiencies pose significant barriers. Communities often “lack the local capacity to self-assess and report” loss and damage, and there are “challenges to data collection even prior to disasters,” particularly for micro-, small and medium enterprises (MSMEs) and the informal sector, hindering accurate loss and damage estimations for livelihoods. The absence of appropriate methodologies for assessment exacerbates this issue.

Community engagement and awareness also present a hurdle, as “communities and individuals might not connect what they are experiencing as loss and damage.” There is a “limited awareness and understanding that climate impacts are part of loss and damage,” coupled with limited community participation in assessments. Those most affected are

often preoccupied with rebuilding their lives and are consequently excluded from loss and damage conversations.

Finally, trust and funding issues are critical challenges. A lack of trust "due to unfamiliarity with technical terms, [and] limited engagement from government or NGO groups" poses a barrier. This is further exacerbated by a "lack of funding and technical assistance to assess and address loss and damage."

Underlying inequalities and their interaction with loss and damage

Underlying inequalities significantly exacerbate loss and damage in Caribbean communities, creating a complex web of vulnerabilities that disproportionately affect certain groups.

Socio-economic inequalities coupled with disparities in access to resources play a critical role, as "low-income communities lack savings, insurance and support to recover from disasters," leading to significant "financial exclusion," particularly concerning post-disaster resources. The influence of "wealth/class" dictates the "ability to move/relocate and recover," resulting in "disproportionate burdens and risks for the already vulnerable."

Gender-based inequalities are also prominent. Women, who primarily bear caregiving burdens, often "have less access to resources post-disaster. Consequently, women and girls are disproportionately impacted post-disaster and face greater gender-based violence.

Systemic and structural issues further deepen these vulnerabilities. Many inequalities are "rooted in our colonial past," contributing to "structural violence by the state" and "social stigma and discrimination that limits access and control over resources" for certain groups. Deficiencies in "infrastructure, policies, and regulations exacerbate the loss and damages experienced by marginalised groups." This also leads to unequal access to healthcare, education, and infrastructure, which "delays recovery for vulnerable groups, including persons with disabilities," and a general "lack of awareness and access to available resources."

Ultimately, these inequalities contribute to "asymmetries of power that determine whose loss and damage is seen and responded to and whose is not and or prioritised." This is compounded by a "lack of institutional support and financial aid systems in the Caribbean," which further hinders recovery from disasters for affected communities.

A Caribbean-centric approach to loss and damage using the 3Ps framework

The 3Ps framework offers a valuable lens for analysing the multifaceted vulnerability of Caribbean SIDS to climate impacts (Bharadwaj et al. 2024; Sircar et al. 2024; GIZ 2017). This framework helps us understand the complex factors contributing to a country's susceptibility and how cumulative loss and damage can erode economic security, cause development setbacks, and exacerbate debt vulnerabilities (Benjamin and Thomas 2023).

Insights from the two focus groups significantly enhanced this framework, offering practical ways to apply it specifically to Caribbean realities. This is the first time the 3Ps framework

has been applied to an entire region and linked to debt. Debt is inextricably linked to loss and damage in the Caribbean.

Predisposing factors represent the inherent and underlying conditions that significantly heighten the vulnerability of Caribbean SIDS to climate change impacts, often intertwining with their existing debt challenges. These deeply rooted environmental, economic, and demographic characteristics amplify a nation's susceptibility even before a specific climate hazard occurs (Thomas et al. 2018; Thomas and Benjamin 2018).

The collective impact of these factors contributes to substantial direct and indirect economic and non-economic loss and damage (Panwar et al. 2024; Pill 2021), increasing vulnerability to future impacts (Benjamin and Thomas 2023), frequently through increased debt. For instance, historical exploitation and systemic inequalities, rooted in colonialism, can predispose communities to greater non-economic losses such as cultural erosion, intergenerational trauma, the disruption of traditional livelihoods, and the loss of community identity when climate impacts occur.

Precipitating factors are the specific climate change impacts or hazards that directly trigger tangible loss and damage across the Caribbean region. Caribbean SIDS are increasingly confronted by both rapid-onset events (like severe storms and floods) and slow-onset events (such as sea-level rise, ocean acidification, and increasing temperatures). These events result in both immediate, visible impacts and harder-to-estimate indirect consequences on economic growth and fiscal balances (Panwar et al. 2024; Moore and Phillips 2014). Crucially, they also trigger significant non-economic loss and damage such as mental health impacts, loss of skills and knowledge, disruptions to cultural practices and heritage, and damage to eco-systems.

Protective factors encompass the diverse measures, capacities, and strategies that Caribbean SIDS can deploy to reduce their inherent vulnerability to climate change impacts and attenuate resulting loss and damage. Strengthening these factors is crucial for building long-term resilience and aligns with the principles of Comprehensive Risk Management (CRM), including risk reduction and risk transfer (Martyr-Koller et al. 2021). A broader understanding of loss and damage within the UNFCCC framework, encompassing its cyclical and systemic aspects, is essential for effective protective measures that consider the debt implications (Sircar et al. 2024; Benjamin and Thomas 2023).

These protective factors may be strengthened through sustained investment, effective governance, and collaborative partnerships, including embracing innovative risk transfer and retention strategies, and developing robust monitoring and evaluation frameworks for loss and damage (Thomas and Benjamin 2018). Such frameworks should explicitly account for non-economic dimensions by including indicators related to the preservation of cultural practices, mental health support systems, community-led initiatives to safeguard traditional knowledge, and efforts to strengthen social cohesion. Such efforts are fundamental to building a more climate-resilient future for Caribbean SIDS and breaking the debilitating cycle of loss, damage, and debt.

Tables 1 and 2summarise these critical factors (Predisposing, Precipitating, and Protective), detailing their characteristics within the Caribbean context and their direct links to loss and damage and debt.

Table 1: 3Ps factors characterising loss and damage and their link to debt

Factor	Characteristics in Caribbean Context	Link to Loss and Damage and Debt
Predisposing		
Small size and dispersed populations	Limited economies of scale, high per capita infrastructure/service costs.	Increases need for borrowing for infrastructure and recovery, adding to national debt.
Coastal concentration of population/infra.	Vital assets (airports, housing) in highly vulnerable low-lying areas.	High susceptibility to sea-level rise/storm surges; costly repairs compound debt.
Remoteness from major markets	Elevated transport costs for trade; susceptible to global supply shocks.	Requires debt for essential imports after climate events, due to volatility/disruptions. (high transaction cost)
High existing external debt	Common across many SIDS; constrains fiscal capacity.	Restricts climate resilience investments; forces more borrowing for disaster response.
Heavy dependence on climate-sensitive sectors	Tourism and natural resources are primary income sources.	Directly jeopardised by climate impacts, leading to revenue shortfalls and higher debt.
Income and livelihood insecurity	Households rely on vulnerable sectors/informal economies, susceptible to disruption.	Depletes savings, increases informal borrowing, exacerbating household and national debt.
Safety and security issues	Climate impacts disrupt social order, displace populations, strain resources.	Diverts public funds to security/emergency, increasing non-developmental debt and NELD.
Colonialism and its Legacies	Historical exploitation, monoculture, inadequate infrastructure, degraded environment.	Established foundational debt, perpetuating reliance on external loans for recovery; increases scale of climate-induced loss and damage.

Previous loss and damage (Cumulative Burden)	Lingering effects of past events (unrepaired infra, unrecovered livelihoods).	Compounds new losses, requiring more frequent/greater borrowing, trapping nations in debt.
Environmental damage and weakened ecosystems	Degradation of natural buffers (mangroves, reefs) reduces protection.	Increases severity of climate impacts, leading to higher damages and debt-financed restoration.
Socio-economic Inequalities	Low-income communities lack savings, insurance, and recovery support, facing financial exclusion. Wealth and class determine the ability to relocate and recover, leading to disproportionate burdens.	Low-income communities lack savings, insurance, and recovery support, facing financial exclusion. Wealth and class determine the ability to relocate and recover, leading to disproportionate burdens.
Gender-based Inequalities	Women disproportionately bear caregiving burdens, have less access to post-disaster resources, and face increased gender-based violence.	Exacerbates non-economic loss and damage, increases household stress, undermines long-term well-being and economic stability, potentially leading to increased informal debt or strain on social support systems.
Unequal Access to Resources and Services	Unequal access to healthcare, education, and infrastructure delays recovery for vulnerable groups, including persons with disabilities. There is also a lack of awareness and access to available resources.	Prolongs recovery periods and increases long-term health and social costs, putting pressure on public funds and household finances, which can necessitate further borrowing.
Power Asymmetries	Power asymmetries determine which loss and damage is recognised and prioritised. There is also a lack of institutional support and financial aid systems in the Caribbean.	Marginalises vulnerable groups in recovery efforts, leading to insufficient or misdirected financial support, potentially increasing reliance on unsustainable debt mechanisms due to unmet needs.
Large informal/ unbanked sector	A significant portion of the population operates in informal economies, with	Exacerbates vulnerability to climate impacts due to lack of formal safety nets (insurance, credit). Hinders access

	many individuals and communities unbanked or lacking formal financial documentation. This sector often includes highly climate-vulnerable groups like farmers and fisherfolk.	to formal post-disaster financial aid and recovery support. Increases reliance on informal, potentially high-interest, borrowing or unsustainable coping mechanisms, contributing to household and national debt burdens.
Precipitating		
Increased extreme weather and slow-onset events	More severe storms, floods, sea-level rise, acidification, heat, salinization.	Lead to direct/indirect economic impacts, requiring emergency borrowing; cause displacement and NELD.
Compound/ cascading events (climate/ non-climate)	Concurrent/sequential crises (e.g., hurricane after pandemic) compound impacts .	Exacerbates economic/social shocks, demanding larger, more complex, debt-financed recovery.
Climate-induced health hazards	Increased vector-borne diseases, heat stress, mental health issues, injuries.	Increases healthcare costs, lost productivity, adding economic strain and potential debt for health services.
Protective		
Effective early warning systems	Coordinated regional/national hazard information dissemination.	Enhances preparedness, minimises impact, reduces economic losses, limiting emergency borrowing.
Resilient Infrastructure and Nature-based Solutions	Stronger buildings, coastal defenses, mangrove restoration withstand impacts.	Reduces damage, safeguards assets, minimises economic disruptions, reducing future debt for repairs.
Social Safety Nets and Risk Transfer Mechanisms	Cash transfers, robust health systems, regional risk pools (e.g. CCRIF SPC).	Provides critical support, aids quick recovery, prevents setbacks without increasing national debt; addresses NELD.
Regional cooperation and advocacy	Caribbean Disaster Emergency Management Agency (CDEMA) facilitates knowledge sharing, disaster response, common advocacy.	Enhances collective capacity, coordinates responses, advocates for debt relief and grant-based loss and damage finance.

Community Involvement, Local Governance, Policy Coherence	Active community participation in planning; well-coordinated policies.	Fosters effective resilience efforts, efficient resource use, reduced future loss and damage, limiting debt.
Data Monitoring & Management Systems	Comprehensive collection/analysis of loss and damage data (economic, non-economic).	Provides evidence for policy, targeted interventions, resource allocation, reducing financial strain.
Community Response and Unity	Strong community and neighbourhood bonds, social capital, and social networks enable collective action and mutual support during and after climate events. Communities value their ability to rally together and help neighbours.	Enhances immediate response and recovery efforts, reduces reliance on external aid for initial relief, and fosters faster rebuilding, potentially limiting the need for debt-financed emergency response and mitigating the severity of loss and damage impacts.
Caribbean Resilience/ History of Dealing with Disasters	Communities are rooted in traditional practices for disaster preparedness and recovery, with an ability to survive passed down through generations. This includes leveraging innovation, social capital, and social networks to cope with impacts.	Leveraging accumulated knowledge and adaptive practices from past disasters enhances preparedness and self-reliance, which can reduce the scale of immediate damages and the subsequent need for external, often debt-based, recovery funding.

Source: Authors' compilation based on literature review and focus group data.

Table 2: 3Ps factors characterising loss and damage in the Caribbean

Predisposing factors: existing vulnerabilities	Precipitating: triggering climate events	Protective: existing capacities and measures
Geographic and environmental (small size and dispersed populations, coastal concentration of population/infrastructure, remoteness from major markets and environmental damage and weakened ecosystems)	Increased extreme weather and slow-onset events	Existing infrastructure and resilience measures (effective early warning systems, resilient infrastructure and nature-based solutions and community involvement, local governance, policy coherence)
Economic (high debt and dependence on climate-sensitive sectors)	Compound/cascading events (climate/non-climate)	Financial protection mechanisms (social safety nets and risk transfer mechanisms and regional cooperation and advocacy)
Socio-political and historical (high existing external debt, colonialism and its legacies, previous loss and damage (cumulative burden), safety and security issues and power asymmetries)	Climate-induced health hazards	Community and adaptive capacity (community response and unity, Caribbean resilience/history of dealing with disasters and data monitoring and management systems
Livelihood and social inequities (income and livilihood insecurity, socio-economic dispairites, gender-based inequaltiies, unequal access to resources and services and large informal/unbanked sector)		

Authors' compilation based on literature review and focus group data.

Measuring loss and damage and its intersections with debt sustainability

Accurately quantifying loss and damage in Caribbean SIDS, especially NELD, remains a critical yet significantly challenging endeavour. While economic losses, encompassing damage to infrastructure, agriculture, and tourism, are more readily quantifiable through established methods, they are often underreported. This underreporting is particularly acute for indirect effects (e.g., business interruption, supply chain disruptions) and activity costs (e.g., emergency response, temporary housing) associated with climate-induced disasters.

The resulting lack of precise and comparable data across the Caribbean severely impedes SIDS' ability to accurately gauge the full extent of their climate-related needs and to effectively advocate for and access adequate financial support (Cao et al. 2023).

To navigate these complexities, several key methodologies are employed in loss and damage and debt sustainability assessments. However, their appropriateness and effectiveness in the unique context of SIDS vary:

1. **Climate Risk Assessment (CRA):** This methodology systematically evaluates vulnerabilities to climate impacts by identifying hazards, assessing exposure and sensitivity, and evaluating adaptive capacity. CRAs are fundamental for understanding potential loss and damage and informing risk reduction and adaptation measures. Their relevance in the Caribbean is high for proactive planning. This includes geospatial data on hazards (e.g., storm tracks, flood maps, sea-level rise projections), exposure data (e.g., population distribution, infrastructure locations, economic assets), sensitivity data (e.g., reliance on climate-sensitive sectors, social demographics), and adaptive capacity indicators (e.g., institutional strength, financial resources, community resilience).

2. **Climate-Adjusted Budgeting:** Also known as "green budgeting," this approach integrates climate considerations into public financial management. It involves evaluating how budget lines impact climate goals and how climate change impacts the budget. "Climate budget tagging" is a useful tool. While crucial for mainstreaming climate finance, its effectiveness in the Caribbean depends on robust data and capacity to track climate-relevant expenditures, which are often lacking.

This includes detailed, disaggregated financial expenditure data across all government sectors, specific climate-related project tagging information, and comprehensive records of climate-sensitive revenue and expenditure lines. Without these granular details, accurately assessing the climate impact on budgets and identifying funding gaps for loss and damage is difficult.

3. **Debt Sustainability Analysis (DSA) (World Bank and IMF):** This standard methodology assesses a country's ability to meet its debt obligations. There is a growing need for "climate-adjusted DSAs" that explicitly incorporate the economic ramifications of climate change scenarios on macroeconomic variables (Brownbridge and Canagarajah 2024). DSAs are performed regularly and are comprehensive at a global scale. However, focus group experts noted that while DSAs conceptually capture social and environmental issues, adding too many indicators might reduce their reliability for understanding debt sustainability. This suggests a need for a balanced approach.

   A key insight from the focus group was that falling into debt distress can itself be a potential loss and damage, underscoring the critical connection between escalating climate impacts and debt profiles in the Caribbean. Furthermore, a significant challenge for market access countries is the reluctance to publicise debt distress when seeking to attract concessional finance, which can hinder transparent and accurate reporting of their financial vulnerabilities related to climate change.

4. **Integrated Risk Management Frameworks:** These frameworks offer a comprehensive approach to identify, assess, prioritise, and manage all potential risks, including climate-related ones, breaking down silos between different risk management functions. Examples include the IMF's Resilience and Sustainability Framework. While offering a holistic view, their practical application in the Caribbean can be hindered by data limitations and a "lack of focus on social, socio-economic and socio-ecological" indicators within some frameworks, as highlighted by experts.

5. **Natural Capital Depreciation:** This concept involves valuing and integrating the degradation of natural assets into economic modelling and loss and damage/debt assessments. While natural capital accounting frameworks (e.g., the United Nations System of Environmental-Economic Accounting (SEEA) exist, the challenge for the Caribbean lies in effectively integrating this "depreciation of natural capital due to climate change impacts" into existing economic models and debt assessments, as this requires specialized expertise and data.

6. **C-CIQ Framework:** This framework is a crucial tool because it uses both quantitative and qualitative approaches to provide a step-by-step guide to quantifying and valuing both economic and NELD. While traditional methods like Damage and Loss Assessments (DaLA) and Post-Disaster Needs Assessment (PDNA) primarily focus on economic and physical losses, the C-CIQ framework expands this scope by using a qualitative approach to measure NELD (Bharadwaj et al. 2024).

   It identifies non-economic impacts through methods such as semi-structured interviews, focus groups, and community surveys, focusing on aspects like the loss of culture, identity, social cohesion, and the psychological effects of climate events. The toolkit is structured to allow for the incorporation of debt into the analysis, as its comprehensive approach allows for the integration of various economic and

social factors that influence national finances and the ability to respond to and recover from climate impacts.

By prioritizing these non-monetary impacts, the C-CIQ framework provides a more holistic and human-centred perspective on the true costs of climate change. This approach is a significant advancement over earlier methods that often overlooked the deeper, more profound losses experienced by affected communities.

Data and measurement challenges

The focus groups highlighted data and measurement challenges that hinder the effective application of these methodologies in the Caribbean:

- **Incompatible and Inconsistent Data:** Participants noted the frequent need to "cobble together incompatible and inconsistent data" for socio-gender, socio-environmental, and socio-ecological indicators due to variations in spatial coverage and time points. This makes it difficult to draw reliable conclusions and track the full scope of loss and damage, particularly social impacts, limiting the depth of CRAs and integrated frameworks. Similar findings are shown in the literature Cao et al. (2023) and GIZ (2017)

- **Deterioration of Nexus Data:** There is a critical "dearth of nexus data correlating climate with specific sectors or gender," hindering a comprehensive understanding of intertwined vulnerabilities. While regional projects like ENGENDER have been helpful, their limited geographical or sectoral coverage leaves significant gaps, impacting the precision of all climate-related economic analyses (UNDP 2025).[6]

- **Challenges with Qualitative Data:** Despite the recognised importance of non-economic losses, there are significant "difficulties in effectively collecting and utilizing qualitative data for assessments." This leads to an incomplete picture of human and cultural impacts, making it hard to fully capture the scope of loss and damage within CRAs and integrated frameworks, and subsequently to budget for and track responses.

- **Lack of Long-term Capacity Development and Appropriate Technology:** A critical lack of long-term capacity and programmatic funding in Caribbean SIDS to collect and manage data, coupled with insufficient technology and expertise for advanced methodologies like econometric modelling or geospatial analyses, severely limits their ability to conduct robust assessments. Experts highlighted that reliance on short-term projects often hinders governments' efforts to retain data professionals and leads to a "shortage of data in the Caribbean context," undermining the long-term effectiveness of any methodology.

[6] The Enabling Gender-Responsive Disaster Recovery, Climate and Environmental Resilience in the Caribbean (EnGenDER) project is a United Nations Development Programme (UNDP) initiative in the Caribbean. Its goal is to improve climate and disaster resilience for vulnerable populations, such as women, youth, the elderly, and people with disabilities, by integrating gender-responsive and human-rights-based approaches into disaster risk reduction and climate change adaptation frameworks (UNDP 2025).

- **Methodology Design Flaws:** A recurring issue is that "methodologies are sometimes designed without SIDS input," leading to incompatibilities with their smaller, remote economies and higher transaction costs when attempting to implement them. This can make otherwise appropriate global methodologies less practical for Caribbean SIDS.
- **External Shocks to Data Infrastructure:** Geopolitical developments impacting essential regional forecasting services (like the National Oceanic and Atmospheric Administration's (NOAA) historical role in data collection and forecasting analysis in the Caribbean) can further compromise the capacity to assess and respond to loss and damage. This highlights the vulnerability of current data supply chains and the need for robust in-house mechanisms within Caribbean institutions.

Practical approaches and methodological considerations for loss and damage and debt sustainability

To effectively address the complex and intertwined challenges of loss and damage and debt sustainability in Caribbean SIDS, a fundamental shift towards integrating climate risk assessments into traditional debt analysis frameworks is urgently required. This integration should encompass several key elements, informed by expert focus group discussions:

Holistic climate-adjusted debt sustainability analyses (DSAs)

While DSAs are the most regular and comprehensive global-scale assessments, the need for enhanced DSAs that explicitly incorporate the potential economic ramifications of a range of climate change scenarios on critical macroeconomic variables was emphasised. This includes GDP growth rates, export performance, fiscal balances, and contingent liabilities arising from climate-related disasters.

However, it was noted that while DSAs do capture social and environmental issues, experts also caution that adding too many indicators might make them less reliable for understanding debt sustainability. This suggests a need for a balanced approach, potentially differentiating between methodologies for assessing loss and damage and for assessing debt sustainability while clearly outlining their interconnections. The understanding that falling into debt distress can itself be a potential loss and damage underscores the critical connection between escalating climate impacts and debt profiles in the Caribbean.

The constraint of conditional finance also presents a critical methodological challenge for DSAs. Many climate targets for Caribbean SIDS are conditional on receiving international finance, and post-disaster loss and damage recovery is also finance-dependent. This means that delayed or inadequate funding creates a dual disadvantage, hindering both the achievement of climate goals and the ability to recover from climate impacts. To better address this constraint, DSAs and national resilience investment plans must explicitly factor in the cost of conditional Nationally Determined Contributions (NDCs) and projected loss and damage funding gaps. By treating the non-fulfilment of conditional targets as a quantifiable fiscal risk in DSAs, the urgency for grant-based and concessional finance can be more effectively communicated to creditors and global financial institutions.

Strategic utilisation of comprehensive loss and damage assessment methodologies

Methodologies such as Damage and Loss Assessments (DaLA), Post-Disaster Needs Assessment (PDNA) (Moore and Phillips 2014), and catastrophe risk models must be strategically employed to generate more accurate and comprehensive quantifications of the economic costs of climate impacts. Practical applications include:

- Factoring in Slow-Onset Events: PDNAs and other tools are improving their ability to account for slow-onset events and to quantify loss and damage in non-monetary terms, which is crucial for comprehensive assessments.
- Ex-Ante Assessments: Experts highlighted the utility of "ex-ante assessments when planning the response to loss and damage to ensure that you have taken into consideration the potential future risk associated with whatever aspect you are trying to respond to or recover from." This allows for proactive risk management.
- Valuing Human Capital Depreciation: The importance of considering "depreciation of human capital" was stressed, citing findings on "significant loss of earnings due to heat-related loss of working hours," particularly relevant for tourism and agriculture in SIDS with outdoor labour. This necessitates integrating health and labour productivity impacts into economic modelling. SIDS have also been advocating for physical and mental health and well-being in the discussions for the Fund for Responding to Loss and Damage (FRLD).
- Integrating Natural Capital Depreciation: The question was raised regarding how "depreciation of natural capital due to climate change impacts" could be better integrated into economic modelling and loss and damage/debt assessment for the region. This highlights the need to value crucial ecosystem services that underpin SIDS economies.
- Prioritising Social and Environmental Dimensions: A major weakness in current methodologies is a "lack of focus on social, socio-economic and socio-ecological" indicators. As one expert underscored, "if you're not mapping the social impacts then you won't be looking for the financial budget to respond and you won't be tracking it." This means that integrated risk management frameworks, like the IMF's Resilience and Sustainability Framework, must enhance their consideration of social aspects and the various interactions to truly address regional issues. This also aligns with ongoing global discussions (e.g., GGA) reflecting the need for qualitative alongside quantitative indicators to measure impacts and inform resilience-building efforts.

Addressing data gaps and building sustained capacity

The pervasive data scarcity in the Caribbean, where some countries report occasionally or not at all, demands alternative approaches:

- Sustained Programmatic Funding: There is a clear need for "sustained programmatic funding to enable long-term employment of data professionals" within SIDS governments, rather than relying on short-term projects that lead to a "shortage of

data in the Caribbean context." This includes investing in capacity building to retain skilled personnel.

- SIDS-Led Methodology Design: Future methodologies for loss and damage and debt assessment must be developed with direct "SIDS input in the design process" to ensure compatibility with their contexts such as high transaction costs.
- Developing Proxy Indicators: Given the challenges in collecting direct data, finding and validating "proxy indicators" is a practical necessity.
- Investing in Data Infrastructure Resilience: The vulnerability exposed by external geopolitical developments impacting regional forecasting highlights the need for "essential capacity to be brought in-house" within Caribbean institutions like the Caribbean Institute for Meteorology and Hydrology (CIMH) or the University of the West Indies (UWI), to fill data gaps and ensure continuity of critical services for loss and damage assessment. The Santiago Network also offers a window for Caribbean SIDS to secure the technical assistance and capacity building required to bring this essential capacity in-house. [7] In addition, leveraging the SIDS Global Data Hub can also support enhancing data infrastructure and technical capacities in the region.

By comprehensively integrating the nuanced understanding of loss and damage measurement with the fundamental principles of debt analysis, and critically incorporating these expert-identified practical challenges and solutions, a more holistic and relevant approach can be forged to safeguard the long-term financial stability and promote the sustainable development of Caribbean SIDS in the face of an increasingly uncertain and challenging climate future. This integrated perspective is not merely an academic exercise but a crucial imperative for enabling these exceptionally vulnerable nations to build genuine resilience and achieve their sustainable development goals.

[7] The Santiago Network is a new body under the UNFCCC's WIM. Its purpose is to catalyse technical assistance from a wide range of organizations, bodies, networks, and experts to support vulnerable developing countries, including SIDS, in averting, minimizing, and addressing loss and damage. The network operates on a demand-driven basis, meaning countries identify their own needs and submit requests for support. SIDS can use this technical assistance window to address the capacity-building needs for loss and damage assessments by requesting support for training and capacity development, methodology and tool development and data and knowledge management.

Innovative financing mechanisms for addressing loss and damage and debt

Addressing loss and damage in Caribbean SIDS necessitates a departure from traditional financial approaches. As climate impacts intensify, it is crucial to explore and implement innovative financing mechanisms that can provide rapid access to funds, reduce existing debt burdens, and foster long-term resilience. These instruments offer pathways to manage the unavoidable consequences of climate change, distinct from broader development or adaptation finance.

Loss and damage finance specifically refers to financial resources provided to assist vulnerable countries in addressing the unavoidable impacts of climate change that go beyond what can be mitigated or adapted to. While a formal UNFCCC definition is still evolving, it generally encompasses support for both slow-onset events and extreme weather events. The establishment of the Fund for Responding to Loss and Damage (FRLD) at COP27 in 2022 was a significant step in recognizing the need for dedicated support for these residual impacts (UNFCCC 2021; IIASA 2023).

It is crucial to distinguish loss and damage finance from broader development finance, which aims for overall economic and social progress. While development finance may include climate resilience objectives, its primary focus is not solely on the specific, unavoidable impacts constituting loss and damage. Similarly, adaptation finance focuses on proactive measures to prepare for and reduce potential climate impacts (e.g., stronger infrastructure, early warning systems). The main distinction lies in timing: adaptation is proactive, while loss and damage finance is largely reactive, addressing impacts that have already materialised or are unavoidable.

The blurring of lines between these categories can create challenges in accessing, allocating, and tracking funds effectively in Caribbean SIDS. To break the cycle of climate disasters and increasing debt burdens, Caribbean SIDS must explore and implement innovative financing mechanisms that provide rapid access to funds, reduce debt, and promote long-term resilience.

Innovative financing instruments

The following provides an overview of innovative financing mechanisms that collectively offer a diverse toolkit for Caribbean SIDS to enhance financial preparedness, manage climate-induced shocks, and reduce their vulnerability to a cycle of debt and disaster. Discussions with experts emphasised the need for instruments that would not increase debt following disasters or in response to slow-onset events, or ideally, even decrease existing

debt. This underscored the urgent need for a holistic and tailored approach that prioritises climate justice and community empowerment.

Debt-for-Climate swaps

This mechanism is a financial transaction where a portion of a country's debt is forgiven by creditors in exchange for the country's commitment to invest the equivalent funds into domestic climate action initiatives (TNC 2021). This mechanism simultaneously reduces critical debt burdens and frees up fiscal space for vital climate projects, aligning with the region's need for non-debt-increasing solutions.

This can include projects related to adaptation, mitigation, or specific loss and damage responses. Experts suggested expanding this to "debt-for-education" swaps to build human capital and diversify economies, broadening the scope of "debt-for-X" instruments to align with broader development goals that indirectly bolster climate resilience.

The process typically involves a third party, such as a non-governmental organization like The Nature Conservancy, buying back a country's debt from its original creditors at a discounted rate. The debtor nation then agrees to pay a reduced amount to a local fund, with the savings being channelled into environmental and climate projects. For example, in Belize's 2021 debt conversion, an intermediary secured a "Blue Loan" of US$364 million to repurchase the country's US$ 553 million "Superbond" at a 45% discount for marine conservation (TNC 2021).

More recently, in 2024, Barbados completed the world's first debt-for-climate-resilience operation to finance water and sewage projects. This transaction, supported by the Inter-American Development Bank (IDB) and the European Investment Bank (EIB), generated US$125 million in fiscal savings that will be channelled into resilience investments (IDB 2024).

Debt pauses/Climate-resilient debt clauses

These are pre-agreed clauses in loan agreements that allow for a temporary suspension of debt service payments following a major climate-related disaster. The goal is to provide immediate fiscal relief, enabling governments to redirect funds to emergency response and recovery efforts. These clauses are typically ex-ante agreements, meaning they are planned and included in the loan contract beforehand. They create fiscal space for emergency response and reconstruction by deferring payments, which is designed to be neutral in terms of net present value (NPV) for the creditor (CPI 2025).

Furthermore, the activation of these clauses does not trigger cross-default provisions, protecting the country's access to other external financing. Grenada, Barbados, and The Bahamas have incorporated CRDCs into some loan agreements. For instance, Grenada pioneered the use of these clauses in its 2015 debt restructuring and successfully triggered a clause following a severe weather event, suspending US$12 million in interest payments (CPI 2025).

Catastrophe bonds (Cat Bonds)

These are financial instruments that transfer specific disaster risks (e.g., hurricane, earthquake) from an issuer (like a government) to capital market investors. The issuer, such as a government or a reinsurance company, issues bonds to investors in the capital markets. These bonds pay a high interest rate, but the principal is at risk if a pre-defined trigger event occurs, such as a hurricane of a certain intensity hitting a specific geographic area (World Bank 2021). When the trigger event occurs, the principal is used to cover losses for the issuer, and the investors lose their investment.

They are promising, with demonstrated success, but come with caveats in Caribbean SIDS. Jamaica's 2021 catastrophe bond for hurricane and tropical storm losses shows their potential. While Cat bonds offer rapid, non-debt-increasing payouts, experts pointed out their high transaction costs and need for sophisticated risk modelling. Regional catastrophe bonds, supported by institutions like the World Bank, were suggested as a more viable, cost-effective option for smaller SIDS to pool risks.

Parametric insurance

This provides rapid payouts based on the occurrence of a pre-defined trigger event (e.g., specific hurricane wind speed or rainfall amount), unlike traditional indemnity insurance which requires a full assessment of actual losses. This allows for much quicker liquidity after disasters. It is highly relevant and widely utilised. The Caribbean Catastrophe Risk Insurance Facility (CCRIF SPC) is a pioneering regional risk pool providing parametric insurance to Caribbean governments, enabling swift access to funds for immediate post-disaster needs. Since its inception in 2007, CCRIF has made 78 payouts totalling over US$390 million to 22 member governments (CCRIF SPC 2025). While challenges like "basis risk" (payouts not perfectly matching actual losses) and affordability exist, it is a valuable tool. CCRIF's suggestion to use the FRLD to top up premiums further solidifies its central role and illustrates a pragmatic "layering" approach, combining different financial instruments to create a robust risk management strategy.

Payment for ecosystem services (PES) schemes

These are financial incentives offered to landowners/managers for providing specific ecosystem services (e.g., carbon sequestration, watershed protection). Payments often come from beneficiaries of these services. They offer significant potential, and the region's rich biodiversity and crucial ecosystem services (e.g., coral reefs for coastal protection, forests for water regulation) present ample opportunities.

A key example is the Guyana-Norway partnership, a landmark PES scheme where Norway provided up to US$ 250 million in results-based payments to support Guyana's Low Carbon Development Strategy (LCDS) (Norway's International Climate and Forest Initiative 2025). This partnership, initiated in 2009, paid Guyana for "forest climate services" to maintain its low deforestation rate. The payments were invested in the country's low-carbon development, including renewable energy projects, flood protection, and support for Indigenous Peoples.

This model demonstrates how revenue from PES can contribute to debt sustainability and finance climate resilience, but its viability is limited by increasing exposure to climate risk and so heavily relies on stringent mitigation action in order to be sustainable.

No single financial instrument is sufficient on its own to address the complex and escalating financial needs of Caribbean SIDS in the face of climate change. A pragmatic and effective strategy involves layering different mechanisms to create a comprehensive financial toolkit that addresses both immediate post-disaster liquidity and long-term climate resilience. For instance, instruments like Parametric Insurance (CCRIF) and Cat Bonds are crucial for providing rapid, non-debt-increasing payouts for immediate post-disaster needs.

These can be complemented by debt pause clauses, which provide immediate fiscal space by suspending debt payments, allowing a government to re-allocate funds towards emergency response. For long-term financial stability and climate adaptation, instruments like debt-for-climate swaps and PES Schemes are vital. A debt-for-climate swap can free up fiscal space by reducing debt burdens, with the savings channelled into long-term climate projects. This can be layered with revenue from a PES scheme, like the Guyana-Norway partnership, which provides a sustainable stream of income from an asset to fund resilience initiatives.

By combining these instruments, countries can build a layered defence against climate shocks, ensuring they have quick access to liquidity for immediate needs while simultaneously investing in long-term projects that reduce their overall vulnerability and manage their debt in a sustainable way.

Traditional/indigenous forms of finance and cooperatives

The Caribbean's financial landscape extends beyond conventional banking to include traditional and indigenous financing methods that are vital to community resilience. Civil society emphasised the significant potential of formalizing these grassroots approaches, such as "sou-sou" mechanisms, into more structured cooperatives and credit unions.

Participants highlighted that formalizing the sou-sou model "makes sense to the community" and that vulnerabilities often seen as a negative should instead be seen as reasons for communities to be "more eligible for loss and damage funds." This formalization is seen to create culturally relevant and accessible financial tools that bolster communities against economic shocks and natural disasters.[8] This practice, with roots in West African traditions, has provided a means for people to save a lump sum and access interest-free credit without relying on formal banking institutions. This model's success is a testament to its social and cultural relevance, which has historically been critical for financial inclusion among populations with limited access to formal banking particularly women (Smith 2024).

[8] The "sou-sou" system is a prominent example of a Rotating Savings and Credit Association (ROSCA), an informal, peer-to-peer financing method built on mutual trust. Participants in a sou-sou collectively contribute a fixed sum of money at regular intervals, and the total amount, or "hand," is given to one member of the group on a rotating basis. This practice, with roots in West African traditions, has provided a means for people to save a lump sum and access interest-free credit without relying on formal banking institutions.

The cooperative and credit union movements in the Caribbean have their origins in these indigenous forms of cooperation. By applying the principles of collective contribution and mutual benefit within a regulated framework, these institutions have become major players in the region's financial sector. Credit unions, in particular, have a high level of market penetration, providing a wide range of financial services to a broad cross-section of society that traditional banks may not adequately serve. They have been instrumental in promoting a culture of saving and have mobilised substantial financial resources for small businesses and personal investments in the Caribbean. Also, credit unions and cooperatives provide essential services when traditional financial systems are disrupted.

Multilateral Development Banks

While innovative finance is crucial, experts acknowledged that Multilateral Development Banks (MDBs) still have a role, but it should not be the primary source for loss and damage, particularly given persistent challenges with access, responsiveness, and issues of climate justice and equity. Most Caribbean countries have "graduated out of ODA eligibility due to high GDP/capita," despite their extreme vulnerability. Furthermore, MDBs should focus on regional projects for these countries or, more broadly, to adopt a Multi-Dimensional Vulnerability Index (MVI) as a more equitable eligibility criterion for global financing.[9] This would ensure that vulnerability, rather than just per capita income, drives access to concessional finance. The need to reform the existing financial system was stressed to make funds more responsive to SIDS' needs, including facilitating more direct access for local entities.

Private sector financing

Participants identified a significant role for the private sector, especially in climate-impacted sectors like tourism. However, incentivizing their contribution requires a strategic approach. The private sector needs to see a clear "profit incentive," possibly through the lens of avoided losses. This means demonstrating how investing in loss and damage measures protects their assets, supply chains, and future revenues from climate impacts.

For instance, discussions with the tourism sector could focus on how adapting to slow-onset events like heat can improve guest experience and staff welfare, ultimately sustaining long-term viability. The different layers of private sector finance (pure private sector, blended finance, public-private partnerships - 3Ps, and 4Ps incorporating philanthropic finance) should be considered in addition to targeting those with a longer-term vision or development focus.

[9] The MVI is a new international quantitative benchmark designed to measure the structural vulnerability and lack of structural resilience of a country. Unlike traditional economic indicators such as GDP, the MVI provides a more holistic assessment by considering a range of factors that expose a country to external shocks. These factors include economic, social, and environmental vulnerabilities, as well as a country's inherent capacity to withstand and recover from such shocks. The MVI's purpose is to complement, not replace, existing financial metrics and ensure that vulnerable nations, particularly SIDS, can access the concessional financing they need to build resilience and address climate-related damages (UN DESA 2024).

Challenges like scale, bureaucracy, and regulations hinder private sector engagement in the Caribbean. This points to a need for work on regulation and other mechanisms for private sector actors to be able to collaborate with each other and with other actors. Progress in the region on insurance and micro-insurance (e.g., Lynch Brokers, Corp EFF, Sygnus Capital with the CARICOM Resilience Fund) offers a foundation to build upon. However, participants noted that the uptake of micro-insurance has been low, possibly due to fears around taking on additional debt. Private sector capacity building and knowledge sharing on long-term property investment impacts are also crucial.

Ensuring climate justice, human rights and community empowerment

A critical overarching theme was the imperative that innovative financing mechanisms must "directly empower and benefit local communities and vulnerable groups" while upholding principles of human rights and climate justice. This has profound implications for fund design and governance. A practical challenge is "how to get money from the government to communities without being buried in the red tape around the consolidated fund," which is vital for immediate loss and damage responses. This includes increasing attention on locally led adaptation to ensure funds reach communities with guarantees for specific types of work.

To ensure equitable access, funds must be designed to overcome significant disparities that often exclude the most vulnerable. A key barrier highlighted by civil society participants is the "requirement of having a bank account to be eligible for grant assistance," as was the case following Hurricane Beryl in Barbados. Participants emphasised the need for relevant and context-specific mechanisms, noting that expecting monthly payments may not work for people in the informal sector whose finances fluctuate. It is crucial to consult with the people who are expected to use or benefit from these mechanisms to ensure they would be interested and able to sustain them.

Additionally, design features for upholding climate justice must ensure that eligibility and access requirements are not too onerous, such as those related to land tenure or requiring a farmer's badge. This systemic hurdle disproportionately affects the unbanked—a group that often includes those in informal economies, rural populations, and other marginalised communities. This can lead to the dispossession of vulnerable communities after a disaster (Lightfoot 2020).

To address this, financial instruments for loss and damage must adopt a more inclusive and human rights-based approach. While direct cash transfers have been recognised as beneficial for immediate needs, organizations noted challenges in ensuring the money reaches those who need it most, citing instances where funds went to gangs or were spent by men on themselves. Participants gave the example that some women in Jamaica preferred receiving pre-paid goods or cards that could be used in specific stores, highlighting the need for a nuanced approach to disbursement that considers what works best for each community. A significant challenge in assessing the effectiveness of these instruments is that there is often no monitoring of if they lead to increased inequalities or human rights violations.

Participants gave the Kalinago experience following Hurricane Maria in 2017 as an insightful case study for the profound non-economic losses that require consideration. In addition to physical destruction, the community suffered a significant loss of Kalinago culture and traditional knowledge, including herbal remedies and traditional crafts. Experts noted that this loss was exacerbated by the fact that the holders of this knowledge—the elders—are not effectively passing it on to younger generations. The lack of interest among younger community members, many of whom live outside the territory, further threatens the continuity of these traditions.

To address this, practical approaches are needed to bridge traditional knowledge with contemporary methods, such as teaching younger generations to create medicinal herb gardens and finding creative ways to commercialise traditional cuisine (e.g., cassava pizzas) and crafts for tourism. This highlights that for finance to be effective, it must support not only economic recovery but also the preservation of critical cultural assets. It also emphasises the need for in-kind financing and expertise for mental health support, which cannot be a short-term response.

In the Caribbean, local communities and civil society organizations have a "vital role... in the governance, allocation, and oversight of loss and damage funds." However, this requires addressing underlying governance issues and building trust through transparency, as historical suspicions around government-civil society collaborations are prevalent. The concept of anticipatory action, leveraging seasonal forecasting for early release of humanitarian funds, also holds promise for the Caribbean. While complex due to microclimates, developing detailed forecast-based monitoring could enable support through cash transfers, particularly for extremely vulnerable communities. This approach links loss and damage with social protection and potentially ecosystem-based adaptation, providing proactive rather than reactive support.

Policy recommendations

Building upon the comprehensive analysis of loss and damage in Caribbean SIDS, the critical assessment of measurement methodologies, and the in-depth exploration of innovative financing mechanisms—all informed by vital ground-level insights from regional experts—the following policy recommendations are proposed. These actions aim to foster a more just, equitable, and resilient future by transitioning from analysis to actionable strategies for loss and damage financing and debt sustainability.

1. **Strengthen loss and damage data and measurement for comprehensive understanding**

   Accurate, consistent, and holistic data form the bedrock for effective loss and damage policy, advocacy, and financial allocation, helping move beyond underreporting and data inconsistencies.

2. **Establish a standardised Caribbean loss and damage reporting framework.**

   Caribbean SIDS should jointly develop and implement a common regional approach for loss and damage reporting, drawing on frameworks like C-CIQ. This framework must include standardised definitions for both economic (tangible) and non-economic (intangible, yet profound) losses, ensuring impacts like cultural and biodiversity losses are properly accounted for. Methodologies for assessing both rapid-onset and slow-onset events must be consistent to enhance data comparability and facilitate actionable metrics.

   a. *Invest in disaggregated national data capacity for holistic understanding.* National governments must invest in strengthening their long-term capacity to collect granular, disaggregated data on the full spectrum of climate impacts and losses. This includes indirect effects (e.g., business interruption, supply chain disruptions), activity costs (e.g., emergency response, temporary housing), and the depreciation of human capital due to climate-related health issues (e.g., lost working hours from heat stress). This requires dedicated programmatic funding for long-term employment of data professionals, appropriate technology for advanced analyses, and SIDS-led methodology design.

   b. *Integrate loss and damage into national financial tracking and budgeting systems.* Implement robust systems to tag and track financial flows related to loss and damage within national plans and budgets, including climate-adjusted budgeting. This will improve transparency and accountability in climate finance use, aid in monitoring resource allocation, and ensure social, socio-economic, and socio-ecological impacts—often overlooked—are mapped and budgeted for.

   c. *Build resilient data infrastructure and expertise in-house.* Address the vulnerability of current data supply chains and external shocks by investing in essential in-house capacities within Caribbean regional institutions (e.g., CIMH, UWI). This will help Caribbean SIDS fill critical data gaps related to geophysical hazards, ensure the

continuity of regional forecasting and monitoring services, and reduce reliance on external, potentially inconsistent, data sources.

d. *Prioritise Social and Environmental Dimensions in Assessments.* Enhance existing loss and damage measurement methodologies (e.g., DaLA, PDNA, integrated risk management frameworks) to explicitly focus on social, socio-economic, and socio-ecological indicators.

e. This includes integrating the depreciation of natural capital into economic modelling and debt assessments. Recognise that falling into debt distress can be a potential loss and damage, necessitating a balanced approach in DSAs that outlines interconnections without compromising reliability.

3. Enhance equitable access to and design of loss and damage finance

Ensuring efficient, debt-free, and just access to dedicated loss and damage finance, particularly from the recently operationalised FRLD, is critical.

- *Develop comprehensive national loss and damage plans for targeted access.* Caribbean SIDS should develop comprehensive national plans or programs specifically addressing loss and damage, grounded in their nuanced understanding and robust data. These plans will serve as a strong foundation for effectively accessing finance from international mechanisms, including the FRLD, and for advocating for grant-based financing for loss and damage to prevent further debt accumulation.

- *Integrate loss and damage strategies into national climate planning.* Ensure that all national climate policy instruments, such as National Adaptation Plans (NAPs) and NDCs, are explicitly linked to and consistent with national loss and damage plans and financing strategies. This connection is vital for coherence, maximizing the impact of climate finance (as loss and damage finance often covers aspects of residual adaptation), and streamlining the implementation of a comprehensive, whole-of-government approach to climate action.

- *Strengthen institutional capacity for climate finance.* Invest in building robust institutional capacity within government agencies and national organizations to navigate the complex application processes of international climate funds. This will help develop strong, well-prepared project pipelines and address structural issues related to climate finance accessibility. This requires dedicated training, hiring specialised expertise, and fostering regional collaboration for capacity building.

- *Advocate for streamlined and direct access modalities to the FRLD.* Actively advocate for simplified and more direct access modalities to the FRLD. It is crucial to ensure the FRLD's operational design facilitates the swift and efficient flow of resources to the most vulnerable communities and nations within Caribbean SIDS, avoiding bureaucratic hurdles. The MVI should be considered by MDBs as a eligibility criterion for accessing concessional finance, prioritizing vulnerability over solely per capita GDP.

- *Encourage budget support and anticipatory action mechanisms.* Advocate for establishing a budget support mechanism within the FRLD to help SIDS address the increasingly severe impacts of extreme weather without resorting to unsustainable debt accumulation. Furthermore, integrate anticipatory action and forecast-based financing approaches, leveraging seasonal forecasting for early release of humanitarian funds and cash transfers. This will provide "last-mile" support for extremely vulnerable communities, linking loss and damage with social protection and potentially ecosystem-based adaptation.

4. Promote debt sustainability through innovative financing solutions

To break the detrimental cycle of escalating loss and damage and increasing debt burdens, the strategic deployment of innovative, non-debt-increasing financing mechanisms that support long-term resilience building is essential.

- *Proactively pursue diversified debt-for-climate swaps.* Caribbean SIDS should proactively explore and engage in negotiations for traditional debt-for-climate swaps (converting debt into climate action investments) with bilateral and multilateral creditors. Additionally, explore novel proposals such as debt-for-education swaps to build human capital, enhance resilience, and reduce reliance on climate-sensitive sectors.

- *Advocate for widespread inclusion of Climate-Resilient Debt Clauses.* Advocate for the widespread inclusion of debt pause clauses in all new sovereign loan agreements. These pre-agreed clauses provide immediate fiscal space for emergency response and recovery following major climate-related disasters by temporarily suspending debt service payments, enhancing short-term financial stability without incurring new debt.

- *Leverage regional risk transfer instruments.* Further explore the potential of issuing regional catastrophe bonds and expanding parametric insurance (like the CCRIF SPC). While individual catastrophe bonds may involve high transaction costs, regional pooling can offer a more viable and cost-effective option for smaller SIDS. Advocate for using the FRLD to top up premiums under existing insurance policies, illustrating a pragmatic "layering" approach to risk management.

- *Develop PES Schemes.* Implement and scale up PES schemes that leverage the region's rich natural capital (e.g., coral reefs for coastal protection, forests for watershed protection) for revenue generation. This revenue can directly contribute to debt sustainability and finance climate resilience initiatives, offering a model for adaptation and loss and damage response. It is however important to note that the viability of PES schemes is linked to the health of the ecosystem on which it relies, and climate change impacts are already taking a heavy toll on these vulnerable ecosystems. For example, already at 1.4°C of global warming, warm water coral reefs are experiencing unprecedented rates of extinction. The possibilities of using natural capital as a means of revenue generation therefore significantly decrease with advancing global warming.

- *Boost domestic resource mobilization.* Build on existing regional efforts like the CARICOM Resilience Fund and national contingency funds by exploring innovative domestic resource mobilization strategies for climate resilience and loss and damage. This reduces dependence on external funding and demonstrates a commitment to self-reliance.

5. Foster climate justice and community-led action

Ensuring that innovative financing mechanisms directly empower and benefit local communities and vulnerable groups while upholding human rights and climate justice principles is paramount.

- *Facilitate responsive and direct access for community funds.* Address the practical challenge of channelling funds from governments directly to communities without bureaucratic "red tape." This includes increasing attention on locally led adaptation and loss and damage responses to ensure funds reach communities rapidly, are tailored to their specific needs, and have guarantees for specific types of work. It is important to consult the people expected to use or benefit from these mechanisms to determine if they would be interested and able to sustain them. For example, expecting monthly payments may not work for those in the informal sector whose finances fluctuate.

- *Address power dynamics and ensure inclusive definitions.* Acknowledge and actively address power dynamics at the community level to ensure equitable access and benefits within vulnerable populations. Communities must be broadly defined to include physical entities, persons with disabilities, Indigenous peoples, and other vulnerable groups, ensuring processes use accessible language and respect local knowledge. A crucial design feature for upholding justice and equity considerations is to avoid making eligibility and access requirements too onerous, such as those related to land tenure or requiring a farmer's badge.

- *Establish transparent and accountable governance frameworks for loss and damage funds.* Applying a human-rights based approach to loss and damage finance ensures climate justice but this requires clear principles for fund allocation, robust accountability mechanisms, targeting specifications for vulnerable groups, and trigger mechanisms to reduce paperwork for social protection related to livelihood and income impacts. This also requires addressing the "intentional blurring of the lines" in loss and damage terminology to ensure support for "actual harm" without being caught in debates of compensation or liability. A significant challenge is that the effectiveness of these instruments is not typically monitored, making it difficult to assess if they exacerbate existing inequalities or lead to human rights violations.

- *Empower civil society organizations in fund governance.* Recognise the vital role of local communities and civil society in the governance, allocation, and oversight of loss and damage funds. This requires addressing underlying governance issues, building trust through transparency, and actively fostering government-civil society collaborations, as civil society often have direct reach to those most affected. It may be useful to formalise traditional financing methods like the "sou-sou" model, which is trusted and makes sense to the community, and integrate them into official

mechanisms. This approach recognises that vulnerabilities can make a community more eligible for funds, rather than excluding them.

6. **Strengthen regional and international collaboration and systemic reform**

A concerted, collaborative approach across all levels is essential for long-term success, advocating for systemic changes in the global financial architecture.

- *Establish a dedicated regional platform for knowledge exchange.* Create a dedicated regional platform for Caribbean SIDS to share knowledge, best practices, and lessons learned regarding loss and damage assessment, climate finance access and mobilisation strategies, and innovative debt management solutions. This will foster a collaborative environment for addressing common challenges and ensure tailoring responses to Caribbean realities. There is a need for clear, accessible language within these frameworks to ensure community understanding and participation.

- *Develop regional project proposals for collective impact.* Develop regional proposals for accessing regional and international climate finance mechanisms, leveraging the collective strengths and needs of Caribbean SIDS to create more impactful and attractive projects for funders and to reduce individual transaction costs.

- *Advocate for systemic reform of the global financial architecture.* Continue to advocate for broader reform of the global financial system to make funds more responsive to SIDS' needs. This includes advocating for direct access for local entities and the consideration of the MVI as an eligibility criterion for concessional finance. This addresses the "historical responsibility" of high-emitting nations and ensures financial support does not exacerbate the debt burden of disproportionately suffering SIDS.

- *Engage the private sector strategically.* Incentivise private sector contribution by clearly demonstrating avoided losses and profit incentives through investment in loss and damage measures. Foster tailored engagement through blended finance, Public-Private Partnerships (3Ps), and 4Ps (incorporating philanthropic finance). Work on instrumentation and mechanisms to overcome barriers like bureaucracy and regulations, building on regional progress in insurance and micro-insurance.

- *Leverage the Santiago Network and SIDS Global Data Hub for technical support.* Utilise the Santiago Network on Loss and Damage and the SIDS Global Data Hub as key resources to enhance data collection and technical capacity. This will provide Caribbean SIDS with access to expertise and resources to better assess and address the impacts of climate change.

Conclusion

Caribbean SIDS are at the forefront of escalating climate risks and injustice, facing severe and increasing loss and damage that profoundly undermines their already precarious debt sustainability. This precarious situation traps these nations in a cycle of increasing debt, severely constraining their ability to invest in a resilient and sustainable future. The existing global financing architecture has proven insufficient, often exacerbating rather than alleviating this crisis.

This report serves as a crucial and practical guide for the region. It rigorously moves beyond abstract analysis, synthesizing a comprehensive desktop review with vital ground-level insights from academic experts, civil society, community leaders, and vulnerable groups. We have characterised loss and damage for Caribbean SIDS through a refined 3Ps Framework, critically assessed existing measurement methodologies (including climate risk assessments, climate-adjusted budgeting, and natural capital depreciation), identified key data gaps, and proposed practical solutions for more accurate quantification.

Crucially, the report has investigated access to the recently operationalised FRLD and thoroughly explored a suite of innovative financing solutions tailored for SIDS, such as debt-for-climate swaps, catastrophe bonds, debt pause clauses, parametric insurance, pre-arranged disaster financing, and payment for ecosystem services.

The overarching conclusion is unequivocal - addressing this complex challenge requires a concerted, multi-faceted approach. Caribbean SIDS, with the unwavering support of the international community—particularly high-emitting nations bearing historical responsibility—must proactively strengthen loss and damage data and measurement. This would ensure SIDS truly quantify their unique and compounding losses. Simultaneously, they must optimise access to climate finance through streamlined and direct modalities (especially from the FRLD). This would enhance debt sustainability through the strategic and widespread use of innovative, non-debt-increasing financial instruments and mainstream climate risks in DSAs. This would also foster climate justice and equity, uphold human rights and support community-led action to ensure funds directly empower the most vulnerable populations.

Furthermore, fundamental systemic reform of the global financial architecture is imperative to ensure that financial support is truly responsive to SIDS' vulnerabilities.

This comprehensive approach, deeply rooted in the unique realities and vulnerabilities of Caribbean SIDS and prioritizing a decisive shift from debt-creating mechanisms to grant-based financing and innovative risk transfer, is not merely an aspiration but a critical imperative for climate justice. Alongside strengthened climate action consistent with a 1.5C pathway, it represents the only viable path forward to build genuine climate resilience, achieve sustainable development goals, and secure a more equitable and sustainable future for those who have contributed the least to the climate crisis but suffer its most profound consequences.

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Annex 1

List of Participating Expert Organisations at the Caribbean Experts Focus Group on Loss and Damage Assessment and Finance – 17 June 2025

Organisation	Organisation Type	Country
Climate Analytics Caribbean	Civil Society	Trinidad and Tobago
SAEDI Consulting Inc.	Private Sector	Barbados
Alliance of Small Island States (AOSIS)	Intergovernmental	International
University of the West Indies, St. Augustine	Academia	Trinidad and Tobago
University of the West Indies, Mona	Academia	Jamaica

Annex 2

List of Participating Organisations at the Caribbean Civil Society Focus Group on Loss and Damage Assessment and Finance – 17 July 2025

Organisation	Organisation Type	Country
Caribbean Natural Resources Institute (CANARI)	Civil Society	Trinidad and Tobago
Climate Analytics Caribbean	Civil Society	Trinidad and Tobago
Climate Rights and Justice International	Civil Society	Barbados
Environmental Protection in the Caribbean (EPIC)	Civil Society	US Virgin Islands
Girl UP Caribbean	Civil Society	Haiti
Green Heritage Fund Suriname	Civil Society	Suriname
Jamaica Climate Change Youth Council	Civil Society	Jamaica
Kopounoule Inc	Civil Society	Dominica
Mercy Corps	Civil Society	Jamaica
Ministry of the Blue Economy	Government	Belize
SAEDI Consulting Inc.	Private Sector	Barbados
The Cropper Foundation	Civil Society	Trinidad and Tobago
University of the West Indies, St. Augustine	Academia	Trinidad and Tobago

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