

# Redefining Credit Ratings for Small Island Developing States: The role credit rating could play in strengthening climate resilience

- Ritu Bharadwaj<sup>1</sup>

## 1. Understanding sovereign credit rating in the context of Small Island States

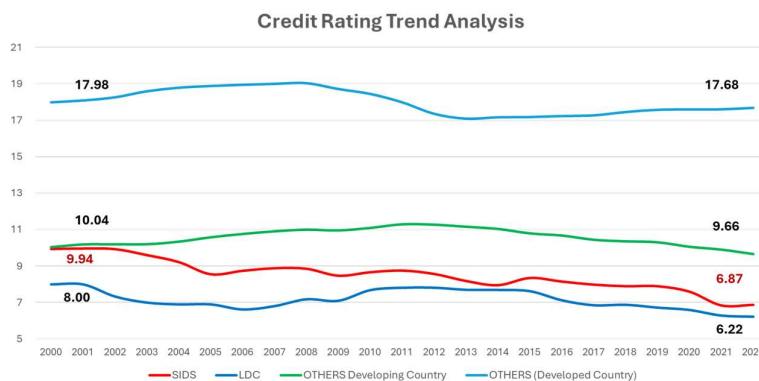
Sovereign credit ratings assess a country's creditworthiness, helping investors determine the risk of lending. Higher ratings mean lower borrowing costs, enabling cheaper access to capital for public projects and development. The credit rating industry is dominated by Moody's, S&P Global Ratings, and Fitch Ratings, with most of their ratings focused on advanced economies and emerging markets. Small Island Developing States (SIDS) are underrepresented, with only 13 having a sovereign credit rating.

For SIDS, obtaining and maintaining a credit rating is challenging due to high costs and administrative burdens. There is also an inherent income bias, favouring wealthier countries that can secure better ratings through robust investor relations. In contrast, SIDS struggle to communicate their credit stories effectively, limiting access to affordable capital. Without a credit rating, these nations face higher borrowing costs, hindering investment in resilience and perpetuating underdevelopment. Reforming credit rating methodologies is crucial to creating a fairer financial landscape for SIDS.

## 2. How climate change is impacting credit rating parameters in SIDS<sup>2</sup>

Despite contributing less than 1% to global emissions, SIDS are significantly impacted by climate change, including tropical storms, flooding, and rising sea levels. The economic disruptions and increased fiscal burdens of recovery are not adequately reflected in traditional credit rating models, resulting in lower ratings and higher borrowing costs. This constrains their ability to invest in resilience building.

**Decline in credit ratings:** From 2000 to 2022, the average credit rating for SIDS fell from 9.94 to 6.87, a reduction of 3.07 points. This decline is greater than in other countries: LDC ratings dropped from 8.00 to 6.22, other developing countries saw a slight decrease from 10.04 to 9.66, and developed countries showed minimal change, from 17.98 to 17.68 (See Figure 1). Historical rating reports indicate that climate risk has consistently been a reason for rating adjustments. For instance, Moody's downgraded St. Maarten's rating due to rising debt metrics after Hurricane Irma struck in 2017. As climate risks intensify, their impact on sovereign ratings is expected to become more significant.



(Source: Authors' calculation based on data from Kose et al. 2022)

Figure 1. Credit rating trend of different country groups

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<sup>2</sup> Analysis presented in this section is drawn from the paper Bharadwaj, R., Karthikeyan, N., Kumar, B. and Mitchell, T. (2024). Redefining credit ratings for Small Island Developing States: a pathway to climate resilience and economic stability. IIED, London. For more detailed analysis, references and other details please see the paper: <https://www.iied.org/22471iied>

To understand this better, we analysed how climate change affects key indicators that credit rating agencies use to assess sovereign credit rating under four parameters: susceptibility to risks, economic strength, fiscal strength, and external vulnerabilities.

**Susceptibility to event risks:** Data for SIDS shows an increasing trend of disaster intensity and frequency. The number of high-intensity disasters increased 300% in 2012 and 133.33% in 2020. After 2010, there were significant increases in mean intensity, including a 321.82% increase in 2015 and a 196.50% increase in 2020.

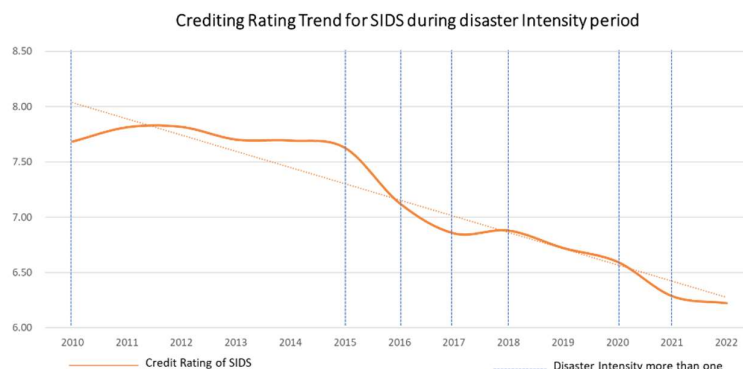
**Scale of climate impact on economy:** The scale of climate impact on the economy is particularly severe for SIDS. While absolute financial losses from natural disasters might seem small compared to larger countries, the relative effects on SIDS are immense. Globally, SIDS comprise two-thirds of the nations that experience the highest relative annual losses from natural disasters, ranging from 1-9% of their GDP<sup>3</sup>. Additionally, 14 out of the 20 countries with the highest average annual disaster losses relative to their GDP are SIDS<sup>4</sup>. From 1970 to 2020, weather, climate, and water-related events cost SIDS US\$153 billion, a significant amount, given their average GDP is US\$13.7 billion<sup>5</sup>. Our assessment shows that, in SIDS, disaster-related damage as a percentage of GDP increased by nearly 90% from 2011 to 2022.

**Impact of climate on fiscal health:** The fiscal balance, which reflects financial health of a country, is adversely affected during high-intensity disaster periods for SIDS, with average deficits worsening from -2.83% in low-disaster intensity periods (2007-2009) to -4.53% in high-disaster intensity periods (2020-2021). Tax revenue volatility refers to fluctuations and unpredictability in tax revenue. Our analysis of its correlation with disaster intensity showed a strong positive correlation of 0.61, highlighting that disaster intensity impacts tax revenue volatility.

**Climate impacts exacerbate external vulnerabilities:** SIDS often rely on external borrowing to finance development and respond to shocks. To understand the impact of climate disasters on SIDS' external debt, we compared two periods: Period I (2007-09) of minimal disaster intensity and Period II (2020-21) of high disaster intensity. During Period I, the mean external debt of SIDS was 45.37%; in Period II, it increased to 58.50%. Nearly 70% of SIDS experienced an increase in external debt, with significant surges in some countries.

The situation was similar for private debt, which often comes with higher interest rates. In the 2000s, the proportion of private debt accrued by SIDS averaged 6.47% of GDP, but by the 2020s, this average had risen substantially to 35.85%. Private external debt tends to increase during and after major disasters.

In figure 2 we provide further visualisation of the credit rating trends in SIDS over the past decade, specifically in during periods of high disaster intensity.



(Source: Authors' calculation based on data from Kose et al. 2022 and the EM-DAT database)

Figure 2. Credit rating trend in SIDS during disaster intensity period

<sup>3</sup> UNISDR (2015) Making Development Sustainable: The Future of Disaster Risk Management. Global Assessment Report on Disaster Risk Reduction. United Nations Office for Disaster Risk Reduction (UNISDR), Geneva, Switzerland. [www.undrr.org/publication/globalassessment-report-disaster-risk-reduction-2015](http://www.undrr.org/publication/globalassessment-report-disaster-risk-reduction-2015)

<sup>4</sup> OECD (2018a) Making Development Cooperation Work for Small Island Developing States. Organisation for Economic Cooperation and Development (OECD), Paris. DOI: <https://doi.org/10.1787/9789264287648-en>

<sup>5</sup> World Meteorological Organisation (22 May 2023) Economic costs of weather-related disasters soars but early warnings save lives. Press release. [www.wmo.int/media/news/economic-costs-of-weather-related-disasters-soars-early-warnings-save-lives](http://www.wmo.int/media/news/economic-costs-of-weather-related-disasters-soars-early-warnings-save-lives)

The graph shows a distinct downward trend, reflecting a steady deterioration in the perceived creditworthiness of these nations over the 12-year span. Initially, from 2010 to 2014, the credit ratings remained relatively stable, maintaining an average score above 7.50. However, post-2014, there is a marked decline, coinciding the years of high disaster intensity.

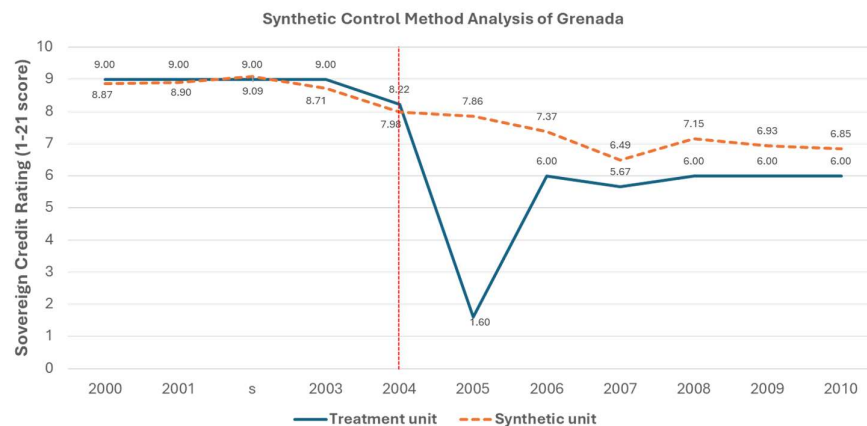
This analysis demonstrates that it is not poor economic and financial management driving these countries into debt and low economic growth trajectories but rather the escalating impacts of climate change, which need to be adequately reflected in credit rating parameters. However, current credit rating methodologies rely heavily on traditional economic and fiscal metrics, overlooking the unique vulnerabilities of SIDS. This oversight results in inadequate ratings and higher borrowing costs, undermining climate justice and hampering the ability of these nations to invest in resilience and protect themselves from future climate shocks.

### 3. How would the credit ratings of SIDS look without disaster impacts?<sup>6</sup>

SIDS have experienced a significant rise in the probability of high-intensity disasters over the past 30 years. Our analysis indicates that as disaster intensity increases, SIDS' credit ratings decline significantly. Under scenarios of 5%, 7.5%, and 10% disaster intensity, the average credit rating is projected to drop from an original score of 6.59 to 5.46, 4.56, and 3.57, respectively. These projections highlight the extreme vulnerability of SIDS to rising disaster intensity due to climate change.

We used the Synthetic Control Method (SCM) to create a counterfactual scenario estimating what the credit ratings of SIDS would have been without climate-related disasters. This involved comparing actual credit ratings with a synthetic group composed of similar countries that did not experience disasters. This method isolates the effects of disasters on SIDS' credit ratings, providing a clearer picture of their economic and fiscal health in the absence of such events.

**Grenada case study:** In 2004, Grenada was devastated by Hurricane Ivan, which caused US\$900 million in damages, equivalent to 148.38% of the country's GDP, and affected more than 54.79% of the population. The hurricane led to a substantial deficit in Grenada's current account balance. GDP growth rates became volatile; inflation peaked at 8.03% in 2008, external debt surged to 80.46% of GNI, and sovereign debt defaults escalated, peaking at US\$329.59 million in 2005.



(Source: Authors' calculation based on data from Kose et al. 2022)

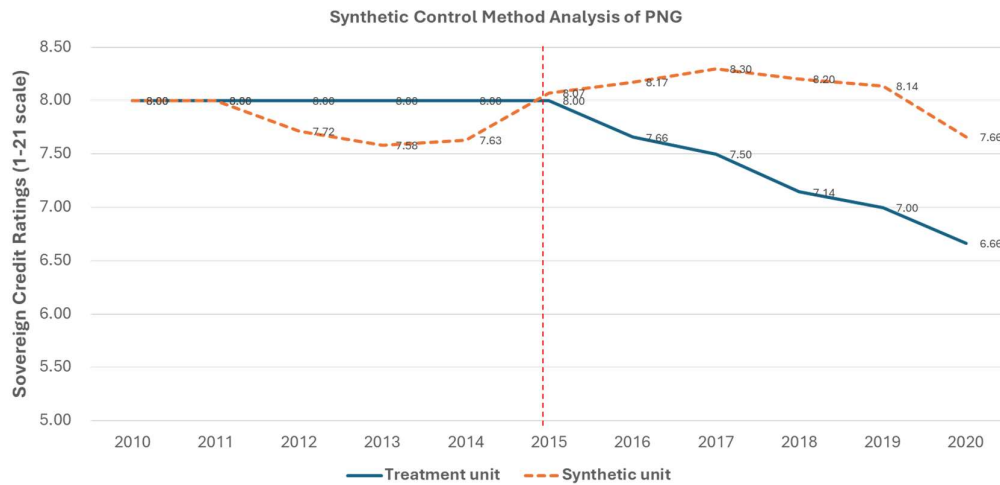
Figure 3. SCM analysis of sovereign credit rating of Grenada

The SCM analysis (Figure 3) showed that before the disaster, the actual and synthetic ratings were closely aligned, indicating comparable economic and fiscal scenarios. However, after 2004, Grenada's actual credit rating plummeted from a score of 8.22 in 2004 to 1.60 in 2005. In contrast, the synthetic credit rating remained relatively stable, with scores of 7.98 in 2004 and 7.86 in 2005, indicating what Grenada's rating might have been without the disaster.

<sup>6</sup> Analysis presented in this section is drawn from the paper Bharadwaj, R., Karthikeyan, N., Kumar, B. and Mitchell, T. (2024). Redefining credit ratings for Small Island Developing States: a pathway to climate resilience and economic stability. IIED, London.

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**Papua New Guinea (PNG) case study:** In 2015, PNG experienced a severe drought that caused US\$60 million in damages and affected 29.36% of the population. This led to a sharp decline in PNG’s current account balance, a significant GDP growth rate slowdown, a spike in inflation to 6%, and an increase in external debt to 95.59% of GNI. Sovereign debt default also saw a significant spike, reflecting severe fiscal distress.

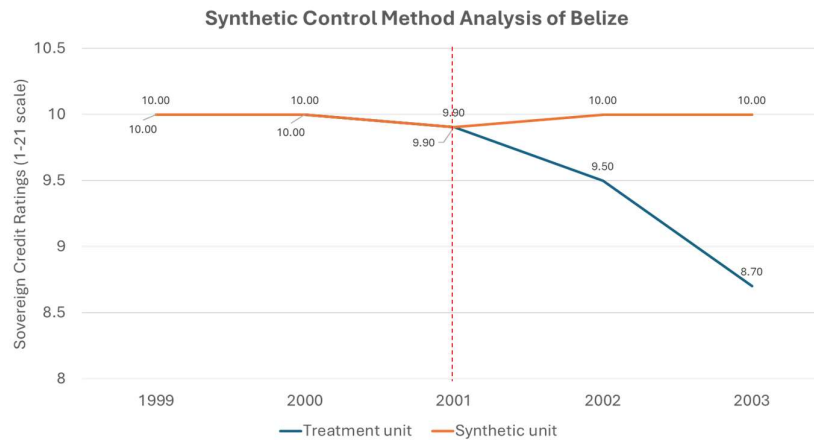


(Source: Authors’ calculation based on data from Kose et al. 2022)

Figure 4. SCM analysis of sovereign credit rating of PNG

The SCM analysis (Figure 4) showed that PNG’s actual sovereign credit rating remained stable at 8.00 from 2010 to 2014, aligning closely with the synthetic unit. However, post-2015, the ratings diverged significantly. The treatment unit’s rating declined steadily, reaching 6.66 by 2020, while the synthetic unit remained relatively stable, suggesting that the absence of the disaster would have preserved a higher credit rating.

**Belize case study:** In 2000 and 2001, Belize was hit by Hurricanes Keith and Iris. Hurricane Keith resulted in US\$277.46 million in damages (24.86% of GDP), while Hurricane Iris caused US\$250 million in damages (21.50% of GDP). These hurricanes led to a sharp decline in Belize’s current account balance, significant GDP growth rate fluctuations, rising inflation, and a substantial increase in external debt, which peaked at 117.81% of GNI in 2003. Sovereign debt default issues also surfaced after the disasters.



(Source: Authors’ calculation based on data from Kose et al. 2022)

Figure 5. SCM analysis of the sovereign credit rating of Belize

The synthetic control analysis (Figure 5) shows that while Belize’s actual credit rating decreased from 10.00 in 1999 to 8.70 in 2003, the synthetic unit did not decline, suggesting that the hurricanes accelerated the deterioration of Belize’s creditworthiness.

The application of SCM to Grenada, PNG, and Belize shows that, without such disasters, their ratings would have remained stable, indicating a misalignment in credit rating methodologies. This penalises SIDS for their vulnerability to natural disasters, leading to higher borrowing costs and limited access to capital, which hinders their ability to invest in resilience. The findings call for credit rating agencies to incorporate climate risks more comprehensively to support sustainable development.

#### 4. How to enhance resilience and credit stability in the face of climate impacts: Recommendations for FFD4

A more nuanced rating methodology that adequately reflects climate risk, economic challenges, and opportunities associated with resilience investment is essential. We have analysed how the existing credit rating approach could be modified:

##### 1. Establishing a new credit rating mechanism and entity focused on resilience investment opportunities

Traditional credit rating methodologies predominantly focus on assessing fiscal and economic risks based on indicators like GDP, fiscal balance, and external debt. This risk-centric approach, while essential, often overlooks significant opportunities for investment that can drive sustainable growth and resilience—especially in climate-vulnerable regions like SIDS and Least Developed Countries (LDCs). We propose establishing a new credit rating mechanism and entity that not only evaluates risks but also explicitly recognises opportunities for resilience investments.

The proposed **credit rating mechanism** could balance the assessment of risks with the identification of opportunities.

- Unlike traditional credit ratings, the proposed mechanism could assess investments in resilience based on their potential return. Investing in resilience measures—such as disaster preparedness, climate-resilient infrastructure, and low-carbon technologies—offers significant economic returns while reducing risks. According to the International Renewable Energy Agency<sup>7</sup>, every dollar invested in renewable energy generates between three and eight dollars in economic benefits. Biodiversity conservation also offers significant returns. It supports ecosystem services that are crucial for agriculture, fisheries, and tourism, sectors that are vital for the economies of many SIDS. By explicitly incorporating such returns, the new mechanism would provide a more accurate representation of a nation's potential for growth and resilience.
- The rating mechanism could also incorporate a more comprehensive valuation approach that includes human capital, natural capital, social capital, and physical capital alongside traditional financial metrics. Human capital would include the skills, knowledge, and resilience of the population, which are essential for a nation's capacity to adapt and grow despite challenges. Natural capital encompasses the renewable energy potential, marine biodiversity, and other environmental resources that provide substantial economic opportunities. Social capital refers to the strength of social networks, community resilience, and institutional quality, which are critical for cohesive disaster response and long-term resilience. Physical capital includes infrastructure such as roads, ports, energy systems, and communication networks that are crucial for economic activity and resilience to climate impacts.
- SIDS possess significant untapped potential across these types of capital. For instance, the Caribbean region has an estimated potential for over 30,000 megawatts of renewable energy capacity in solar and wind<sup>8</sup>. Natural capital in Pacific SIDS includes vast marine resources with potential for sustainable fisheries valued at approximately USD 5 billion annually<sup>9</sup>. Human capital in SIDS, reflected in the high literacy rates and skills in key sectors like tourism and fisheries, contributes substantially to economic growth. Physical capital improvements, such as enhancing port infrastructure, could increase trade capacity by 20-30%, according to estimates from the Asian Development Bank<sup>10</sup>. By integrating these dimensions into the valuation process, the new credit rating mechanism would provide a more balanced and holistic assessment of a nation's potential for economic growth and resilience, ultimately providing a more accurate representation of its investment profile.

To support this, we propose the establishment of a **new credit rating entity** that specialises in assessing resilience investments and broader development opportunities for climate-vulnerable nations. This entity

<sup>7</sup> IRENA (8 July 2020) OLADE and IRENA Put Renewables at Heart of Economic Recovery in Latin America and Caribbean.

<sup>8</sup> CAIPA and Caribbean Export Development Agency (2021) Investing in the Renewable Energy Sector in the Caribbean. Caribbean Association of Investment Promotion Agencies.

<sup>9</sup> World Bank. (2023). Pacific Possible: Long-term Economic Opportunities and Challenges for Pacific Island Countries.

<sup>10</sup> Asian Development Bank. (2022). Pacific Transport Update: Improving Port Infrastructure for Trade Efficiency.

could develop providing specialised ratings that reflect opportunities for resilience investment. This would allow a more holistic evaluation of SIDS' and LDCs economic potential and encourage the much-needed private sector investment in climate resilience and sustainable development.

Our analysis shows that incorporating resilience investments and disaster protection into credit ratings could increase the average credit rating of SIDS from 6.59 to 7.49, resulting in improved access to finance and economic stability. This improved rating would lower borrowing costs, enhance financial stability, and promote a positive cycle of investment and resilience, allowing SIDS to build a more sustainable and robust economic foundation. We also simulated the change in GDP growth rate due to change in credit rating which showed an increase in average growth rate of 1.17%.

## 2. Adopting a Multidimensional Vulnerability Index (MVI) for SIDS credit ratings

Traditional credit rating methodologies fail to adequately capture the unique vulnerabilities of SIDS as well as LDCs that make them susceptible to external economic shocks and climate risks, leading to low credit ratings. To address this, a MVI that reflects the full scope of these challenges should be integrated into credit rating methodologies for SIDS. The proposed MVI could be built around the 3P framework, comprising **Predisposing, Precipitating, and Protective Factors**. This multidimensional approach allows for a more accurate assessment of the vulnerabilities faced by SIDS:

*Predisposing factors*- These include geographic, political, economic, and demographic characteristics that make SIDS more susceptible to external shocks. For example, limited populations, geographical isolation, and a narrow resource base compel SIDS to heavily depend on external markets, which increases their exposure to both global economic shifts and climate-related disruptions.

*Precipitating factors*- These are immediate triggers such as climate-induced disasters, including tropical storms, rising sea levels, and extreme weather events. Climate change disproportionately impacts SIDS, driving economic instability and declining credit ratings. This was evident in the case studies of Grenada, Papua New Guinea, and Belize, where intense climate events led to sharp declines in credit ratings, unrelated to poor economic management but directly linked to climate disasters.

*Protective factors*- These involve disaster risk reduction (DRR) measures, effective governance, and resilience-building initiatives that can mitigate adverse impacts. Investments in resilience and proactive disaster management can significantly influence a country's ability to maintain credit stability. For instance, incorporating such protective measures into credit ratings would not only reflect the risks faced by SIDS but also recognize their efforts towards climate adaptation and resilience.

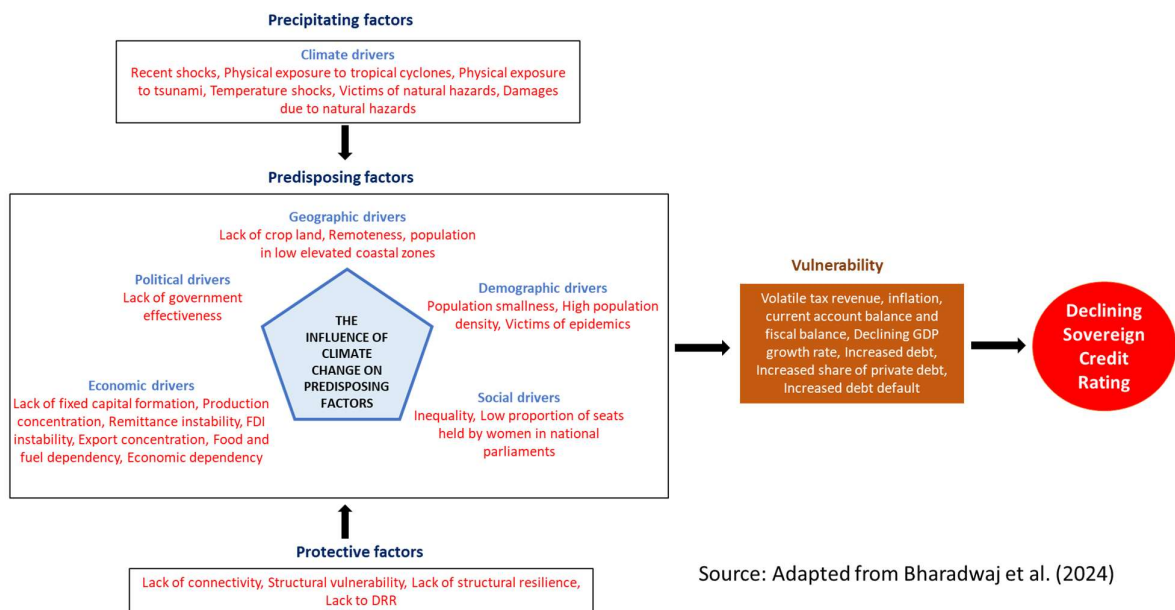


Figure 6. Interactions between predisposing, precipitating and protective factors impacting SIDS' credit rating  
By adopting the 3P MVI, credit rating agencies would be able to capture the complex interplay between the unique characteristics of SIDS and the climate-related challenges they face. This would lead to a fairer and



more accurate assessment of their creditworthiness, recognising both their vulnerabilities and their resilience-building efforts. It would also provide a clearer basis for identifying targeted policy interventions (protective factors) to strengthen resilience, support sustainable development, and align with the broader goal of climate justice.

### **3. Incorporating disaster-linked debt relief mechanisms into credit rating methodologies**

Climate-related disasters lead to severe economic disruptions, often requiring substantial financial resources for recovery. Many developing countries and SIDS resort to increased borrowing, leading to higher levels of external debt. When disasters strike, funds are diverted from critical areas like social services and infrastructure, further straining finances. Our analysis shows that natural disasters often result in increased debt defaults.

Debt relief mechanisms, such as postponements of debt payments, reductions in debt service, or outright debt forgiveness, can provide the fiscal space needed for countries to recover sustainably. These mechanisms help countries manage immediate financial needs while supporting long-term economic recovery and resilience building. Initiatives like the IMF's Catastrophe Containment and Relief Trust (CCRT) and the G20's Debt Service Suspension Initiative (DSSI) have provided temporary relief, helping stabilise economies in crisis situations.

Despite the benefits, many countries hesitate to participate in such mechanisms due to fears of credit rating downgrades. Credit rating agencies often perceive participation in debt relief as a sign of financial distress, leading to negative assessments. To address this, credit rating agencies should view disaster-linked debt relief as proactive measures that enhance resilience rather than signs of distress. Incorporating these factors into credit rating methodologies would provide a more accurate assessment of creditworthiness, reflecting resilience and capacity to recover from disasters.

The case of Grenada illustrates the gaps in the current approach. Our assessment shows that after restructuring its debt post-disaster, Grenada faced negative assessments from credit rating agencies despite economic improvement, that can be discouraging for other countries from pursuing similar measures. Recognising disaster-linked debt relief mechanisms would support sustainable development, enabling countries to invest in resilience-building without the fear of punitive downgrades.

Our analysis shows that incorporating measures like parametric insurance, debt swaps, and debt restructuring could improve the average credit rating of SIDS from 6.59 to 8.42. Our assessment also shows that, combined measures could significantly boost GDP growth rates of SIDS by 1.78%, reflecting improved financial resilience and stability. By acknowledging these proactive steps, credit rating agencies can align their methodologies with evolving global risks, promoting resilience and sustainability.

### **4. Enhancing accessibility and fairness of credit ratings for SIDS and LDCs**

SIDS and LDCs face significant barriers in obtaining and maintaining sovereign credit ratings due to the high financial and administrative costs involved. These barriers, combined with the inherent income bias within traditional credit rating methodologies, put SIDS at a considerable disadvantage in accessing international capital markets. The cost of credit ratings is prohibitively high for many SIDS, and their limited institutional capacity makes the process of obtaining and maintaining ratings extremely challenging. This often results in fewer SIDS having credit ratings, which restricts their ability to attract investment and secure affordable financing for essential infrastructure and resilience projects.

To address these challenges, we recommend enhancing the accessibility and fairness of credit ratings for SIDS and LDCs through tiered pricing models, capacity building, and administrative simplification.

The cost of obtaining and maintaining a sovereign credit rating is a significant burden for SIDS, many of which are already struggling with high levels of debt and limited fiscal capacity. To address this, we propose implementing **tiered pricing models** based on income levels and financial capacity. This would make the cost of credit ratings more affordable for SIDS, allowing them greater access to international capital markets. Additionally, international financial institutions and multilateral development banks could provide **subsidies** to offset the cost of ratings for SIDS and LDCs. This would reduce the financial barriers that currently prevent many SIDS from obtaining credit ratings.

Another major barrier to obtaining and maintaining credit ratings is the limited capacity of SIDS' debt management teams to effectively engage with credit rating agencies. This is compounded by the complex methodologies and requirements involved in the credit rating process. We recommend providing targeted **capacity building** and **advisory support** to SIDS to improve their ability to navigate this process. Training and advisory support could be provided by international financial institutions, regional development banks, and

specialised entities like the proposed **SIDS Debt Sustainability Support Service**. These services could help SIDS understand credit rating methodologies, improve the presentation of their credit narratives, and effectively communicate their resilience-building efforts to credit rating agencies.

The administrative burden associated with credit rating assessments is often too high for SIDS, given their limited institutional capacity. We propose **simplifying the data submission process**, implementing less frequent reviews, and standardizing reporting requirements to reduce this burden. Leveraging technology to automate parts of the data submission and review process could also be an effective solution. Furthermore, credit rating agencies should increase the **transparency** of their methodologies by providing clear guidelines on how various factors—including climate risks and resilience investments—are assessed. This would help SIDS and LDCs better understand the requirements and prepare accordingly, thereby improving their chances of achieving favourable ratings.

The current rating process often contains an income bias, where larger, high-income countries are able to allocate more resources to securing better rating outcomes. To level the playing field, credit rating agencies should adopt practices that ensure a **fair evaluation** of all countries. This includes valuing resilience efforts and investments in human and natural capital, which are particularly relevant for SIDS. A more balanced approach would consider not just economic risks but also the steps taken by SIDS to mitigate these risks through proactive resilience-building initiatives.

#### **A call for collaborative action**

The recommendations suggested are not merely methodological adjustments but are essential transformations needed to uphold climate justice and ensure sustainable development for vulnerable nations. This will require coordinated efforts of all stakeholders — including credit rating agencies, international financial institutions, MDBs, governments, and the private sector — in establishing a new credit rating mechanism and entity that recognises both risks and opportunities for investment in climate resilience and social development. This would help level the financial playing field for SIDS and LDCs, enhance their access to international capital markets, and ultimately support their long-term economic growth and climate resilience.