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TECHNICAL

Conceptual Framework for Integrating ESG Principles and Risk Management: Enhancing Caribbean Resilience and Sustainability

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ABSTRACT

PURPOSE: This paper aims to highlight the significance of modern, iterative, and agile risk management in the Caribbean, emphasising the need for an holistic approach that integrates public and private sector efforts to address cybersecurity vulnerabilities and Environment, Social and Governance (ESG) principles.

DESIGN/METHODOLOGY/APPROACH: The paper discusses the evolution of risk management practices in the Caribbean, using a combination of literature review, case studies, and analysis of regional initiatives such as the Bridgetown Initiative and the Caribbean Public Health Agency's (CARPHA) response to COVID-19.

FINDINGS: The study reveals that Caribbean countries are increasingly recognising the importance of integrating ESG considerations into risk management frameworks. However, challenges such as inadequate tools and resources and a lack of common language in ESG risk identification remain.

ORIGINALITY/VALUE OF THE PAPER: The paper underscores the value of incorporating ESG principles into risk management practices, offering actionable steps for organisations to enhance their resilience and sustainability. It provides insights for policy-makers, business leaders, and practitioners in the region.

PRACTICAL IMPLICATIONS: Recommendations include aligning risk management with strategic planning, establishing robust governance frameworks, and fostering a risk-aware culture through training and transparent communication. These steps are crucial for enhancing organisational resilience and achieving sustainable development in the Caribbean.

KEYWORDS: *ESG; Sustainability; Cyber Crime; Cyber Security; Caribbean; ERM; Caribbean Development Bank*

INTRODUCTION

This paper explores the integration of Environmental, Social, and Governance (ESG) principles into Enterprise Risk Management (ERM) frameworks to enhance resilience and sustainability in the Caribbean. By examining recent developments, regional vulnerabilities, and emerging risks, the study highlights how ESG-focused approaches can address systemic challenges. The findings contribute to sustainable development literature by proposing actionable steps for organisations and policy-makers to embed ESG within their risk frameworks, fostering resilience and sustainable growth. Key insights include the need for holistic governance, enhanced institutional capacity, and region-specific frameworks that align ESG goals with sustainable development objectives.

The increasing urgency of climate change, social inequality, and governance failures has prompted organisations worldwide to adopt ESG principles. The Caribbean, with its unique vulnerabilities to natural disasters and socio-economic disparities, offers a critical case for examining how ESG principles can enhance resilience and sustainable development. This paper aims to address gaps in the literature by critically analysing the intersection of ESG and ERM within the Caribbean context.

Key objectives of this study include:

1. identifying challenges in integrating ESG into ERM frameworks;
2. exploring the rolE of ESG in fostering sustainable development;
3. proposing actionable recommendations to enhance regional resilience.

LITERATURE REVIEW

The integration of ESG principles into ERM frameworks represents a paradigm shift in addressing complex, multifaceted risks facing organisations globally. Researchers argue that ESG considerations extend traditional risk management by incorporating non-financial factors that are increasingly material to long-term organisational resilience (Sustainalytics, 2022; Khan *et al.*, 2016). However, the literature underscores significant challenges, including fragmented frameworks, data deficits, and limited regional adaptability, particularly in vulnerable contexts such as the Caribbean.

ESG in Risk Management: Global Perspectives

The alignment of ESG principles with ERM is a growing priority, driven by regulatory shifts and stakeholder demands. The Task Force on Climate-related Financial Disclosures (TCFD) has emerged as a global benchmark, recommending the integration of climate risks into financial disclosures and decision-making processes (TCFD, 2017). Similarly, research highlights the role of ESG in enhancing risk forecasting, improving stakeholder trust, and fostering operational resilience (Eccles *et al.*, 2014). Despite these benefits, critical gaps in operationalising ESG frameworks remain. Studies reveal that companies often struggle to translate ESG commitments into actionable strategies due to inadequate tools for assessing and quantifying non-financial risks (KPMG, 2021).

Challenges in Regional Adaptation

Small Island Developing States (SIDS), such as those in the Caribbean, face unique challenges in integrating ESG into risk management. The Intergovernmental Panel on Climate Change (IPCC) highlights the disproportionate vulnerability of SIDS to climate risks, including rising sea levels and extreme weather events (Pörtner *et al.*, 2022). However, the application of ESG principles in these regions is hampered by limited institutional capacity, resource constraints, and a lack of tailored frameworks. While global standards such as the EU's Sustainable Finance Disclosure Regulation (SFDR) provide useful guidance, they are often criticised for being overly complex and poorly suited to the realities of smaller economies (WWF, 2021).

Cybersecurity and ESG

The increasing digitalisation of business operations introduces cybersecurity as a critical component of ESG. Recent studies underscore the growing frequency and sophistication of cyber-attacks, emphasising the need for integrating digital risks into ESG frameworks (PwC, 2022). For example, ransomware incidents targeting healthcare and financial institutions have revealed vulnerabilities in critical infrastructure that undermine societal resilience and public trust (OECD, 2023). However, the literature points to a significant gap in the inclusion of cybersecurity within ESG frameworks, with most organisations treating it as a stand-alone issue rather than a cross-cutting risk.

Opportunities in Economic Diversification and Sustainable Finance

The transition to sustainable finance and economic diversification presents a significant opportunity for embedding ESG principles. Green and blue bonds, for instance, have gained traction as tools to fund a climate-resilient infrastructure and sustainable development projects (Climate Bonds Initiative, 2022). Furthermore, sustainable tourism has been identified as a growth sector that aligns with both economic and environmental goals, with case studies in Southeast Asia providing transferable insights for Caribbean nations (UNWTO, 2022). However, the literature highlights the need for more robust governance structures to ensure these opportunities are effectively leveraged.

Methodological Gaps and Future Directions

Despite growing recognition of ESG's importance, methodological gaps persist. Research emphasises the need for unified metrics and reporting standards that align ESG risks with broader organisational goals (Liikanen, 2021). Additionally, studies call for enhanced stakeholder engagement and capacity building to address institutional deficiencies and foster a culture of sustainability (CFA Institute, 2022). Future research should prioritise the development of region-specific frameworks that integrate ESG into ERM, particularly in resource-constrained environments such as the Caribbean.

METHODOLOGY: THE ROLE OF ESG IN ENHANCING CARIBBEAN RESILIENCE

This study adopts a comprehensive methodology to explore the integration of ESG principles into ERM frameworks aimed at enhancing resilience and sustainable development in the Caribbean. The paper employs a mixed-methods approach, combining qualitative analysis, case study evaluation, and stakeholder engagement to provide an holistic understanding of the subject.

To address climate vulnerabilities, this paper examines the integration of ESG principles into climate adaptation and mitigation strategies. The analysis focuses on investments in climate-resilient infrastructure, renewable energy sources, and coastal protection measures. Examples such as the Wigton Windfarm in Jamaica and solar energy projects in Barbados are analysed to illustrate the role of ESG frameworks in fostering long-term sustainability. Additionally, the study evaluates disaster risk management practices guided by ESG principles, including the development of early warning systems, enhancement of community preparedness, and implementation of sustainable and inclusive recovery efforts. This approach highlights the critical intersection between ESG strategies and climate resilience.

The paper further explores the potential for economic diversification through ESG principles, focusing on sectors such as sustainable tourism and green finance. Initiatives such as Jamaica's Blue Mountain Coffee eco-tourism project and the development of green and blue bonds are examined to illustrate the role of ESG in driving economic growth while preserving natural resources. By evaluating the environmental and economic impacts of these projects, the research identifies strategies for scaling successful initiatives across the region.

Finally, the research addresses emerging risks in the Caribbean, such as cybersecurity vulnerabilities and challenges associated with the Fourth Industrial Revolution. By analysing regional risk management strategies and their alignment with ESG principles, the study highlights areas for improvement and innovation. The role of ESG in post-COVID-19 recovery efforts, particularly within the Caribbean Public Health Agency's framework, is also explored to demonstrate how ESG principles can strengthen organisational resilience in the face of global crises.

This methodology ensures a structured and evidence-based exploration of how, when integrated into Enterprise Risk Management (ERM) frameworks, ESG principles can enhance resilience and sustainable development in the Caribbean. It provides actionable insights for policy-makers, businesses, and other stakeholders.

ANALYSIS: THE IMPORTANCE OF ESG

Over the last few years, the Caribbean has made significant strides in promoting stronger and more present ESG principles in operations, with the Financial Sector emerging as one of the key forces driving the transformations within the cluster of Caribbean countries; it is through this sector that there is a push for deeper integration between public policy, governance, and the effective operations of ESG frameworks. The governance framework and its associated policies and regulations are critical to supporting the space for rapid and widespread adoption of the strategies and policies under the ESG-agenda.

The Caribbean is at a crucial stage of its development where its rapid recovery from COVID-19 must be leveraged to protect economic, social, and environmental spaces. Critical to the environment, the Caribbean islands are losing 2% of their capital stock annually due to continuous biodiversity and climate losses. The Inter-American Development Bank (IDB) estimates that shifting to a climate-resilient infrastructure can lead to more than 20% savings in high-risk areas. The region is moving towards more preventative actions that will reduce the culture of reaction related to ESG investments when it comes to risks and vulnerabilities. The Caribbean is already taking steps in this direction with the pursuit of regional, broad-based action plans, such as the Bridgetown Initiative, that target solutions under the urgent need of ESG concerns. This includes increasing investment in the renewable space, rapid expansion of climate adaptation and mitigation, and strengthening environmental and social regulations. Additionally, the Caribbean Development Bank (CDB) has been actively supporting these initiatives. In December 2023, the IDB, IDB Invest, and the CDB signed an Addendum to their 2020 Mutual Cooperation Agreement during COP28. This new action plan strengthens activities aimed at addressing a climate-resilient infrastructure, project preparation and execution in priority areas, private sector productivity and development, and financial products. This collaborative effort underscores the region's commitment to sustainable development and enhanced resilience against climate change and cyber threats. (IDB, 2023)

Implementing the ESG Agenda in Operations

Setting the scene

The Financial Stability Board representing G20 countries is working collaboratively on a long-term regulatory alignment in global financial systems, involving national, international, and industrial bodies, to achieve operational resilience and long-term stability.

The ESG issues have rapidly become critical business and risk drivers in prosperous economic development, and the evolving severity and frequency of ESG-related risks presents material challenges to the effectiveness of enterprises' risk management worldwide. The IFRS S1 and IFRS S2 requirements launched by the International Sustainability Standards Board (ISSB) in 2021 set the baseline for sustainability- and climate-related financial information disclosure. EU Taxonomy-Aligning Benchmarks leveraged risks in transition planning and monitoring objectives for sustainable financing, including game-changing steps for adopting the European Sustainability Reporting Standard (ESRS), a mandatory disclosure, applying to over 5,000 companies both in Europe and internationally.

Failure to identify or respond to ESG risks has resulted in reputational crisis associated with a decrease of companies' market value and increased credit risk. Investors, on the other hand, value companies that demonstrate strong financial performance in conjunction with comprehensive ESG-related disclosures and climate-related stress testing.

RELATIONSHIP BETWEEN EMERGING STRATEGIC RISKS AND SUSTAINABILITY OBJECTIVES (+CHALLENGES)

The integration of Environmental, Social, and Governance (ESG) principles is increasingly recognised as crucial for a company's long-term resilience and sustainability. Although not inherently financial in nature, ESG-related issues can have measurable impacts on a company's balance sheet. Zhao *et al.* (2023) found that firms with better ESG performance are more likely to have a more sound risk management framework, which often leads to better financial performance. With advanced risk maturity, companies incline to financially outperform their peers. Therefore, integrating ESG considerations into companies' business norms as core business value are imperative (Massey *et al.*, 2021).

However, inadequacies in common language and tools in identifying, addressing and monitoring the ESG-related risks in monetary terms hinder prioritisation and resource allocation. "Information-related barriers" add complexity, making sustainable transformation in companies' business and management strategy difficult to implement. This is inherently related to the unpredictability and uncertainty of ESG-related risks, as well as complexity in capturing the impact in both financial and non-financial perspectives. Consequently, forecasting and managing the multi-faceted ESG risks in a timely manner becomes challenging. Other issues include bias in corporate risk culture, where sustainability risks are often not prioritised equally with financial or operational risks. The lack of experienced talent to develop procedures under the ERM framework is a common challenge for many firms, particularly at the entry level. Additionally, while some companies have advanced risk management procedures, their risk registers have not matured at the same pace.

More than one-third of the world's largest publicly traded companies have committed to net-zero emissions transition plans. Recent findings reveal that firms with superior ESG performance are more likely to possess robust risk management frameworks and enhanced risk mitigation capabilities. Consequently, the prominence of ESG considerations at the enterprise level necessitates that business leaders broaden their understanding of the evolving challenges and opportunities in advancing their company's risk maturity.

INTEGRATION BETWEEN ESG AND RISK MANAGEMENT IN BEST INDUSTRY PRACTICE: EMBEDDING ESG METHODOLOGY IN ERM FRAMEWORK (+ OPPORTUNITIES)

Integration of sustainability into the Enterprise Risk Management (ERM) Framework in addressing businesses' non-financial risks are tracing back to the introduction by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The United Nations Environment Programme (UNEP) Finance Initiative further highlighted the interaction between financial institutions and stakeholders, namely suppliers, internal (employees), clients and shareholders, society and environment. With nearly US$1.28 trillion catastrophic losses intensified by climate-related risks, a Task Force on Climate-related Financial Disclosures (TCFD) Guidance has been established since 2017, providing recommendations and reinforcing the reporting of climate-related financial information among public and private sectors.

The shift of businesses' core values from the minimisation of losses to proactive practices in exploiting new business opportunities through ESG lenses, leads to significant demand in the improving risk appetite framework and risk mitigation strategies across businesses' risk profile, as well as the integration of risk information and analyses, practical tools and enduring, pragmatic approaches. Tremendous benefits and new opportunities have emerged, including new products and services aligning with sustainable standards, new technologies to improve the efficacy and efficiency of sustainable transformation, and new business models in enhancing corporate risk maturity in compounding the evolving challenges under the business context.

With the growing recognition on the significance of integrating ESG-related consideration into the current ERM framework, sustainability risk management requires an holistic and systematic integration of ecological, socio-economic, and corporate risk factors in business management. Aligning sustainability risk appetite to the company's corporate strategy will inevitably expand the visibility and insights of a company under today's complex business environment.

KEY STEPS TO INTEGRATE SUSTAINABILITY OBJECTIVES INTO STRATEGIC AND EMERGING RISK MANAGEMENT PROCESSES

Before exploring the risk landscape and mitigation strategies, it is essential for any business or organisation to conduct a self-assessment. Begin by asking the following questions: What are the most significant ESG risks and opportunities facing your industry and company/organisation? How exposed is your organisation to these risks and opportunities, and how effectively are they managed? And ultimately, what is your overall strategy and how does that compare to your industry peers? The legendary investor Warren Buffett once pointed out that the key ingredients of profitability in this fast-changing world are people, communities, and environment. This remains valid today.

The Institute of Risk Management's climate change risk management guidance framework has identified several critical pillars in guiding the sustainable development and execution of business and organisations (see Figure 1: Massey *et al.*, 2021). Among all the key actions that require attention, the top priority lies in the clear articulation of a company's sustainability objectives at the Board level. That is, the company should commit to integrate sustainability, integrating these considerations into the strategic planning process, followed by resource allocation concerning ESG-related issues. A clear organisational structure with multi-layered governance should be established, involving the Board, the Chief Risk Officer, Risk Committees, and clearly identified risk owners. This structure will ensure oversight of the design, implementation, monitoring, and evaluation along the risk management chain. Furthermore, a Climate Change Risk Radar Conceptual Framework can serve as a diagnostic tool in developing an early warning system, through translating external trends and key risk domains into identified risk indicators and emphasising the severity to the company/organisation. Through this, strategic, financial, operational and hazard risks can be categorised, identified and managed at multi-levels inside the organisation.

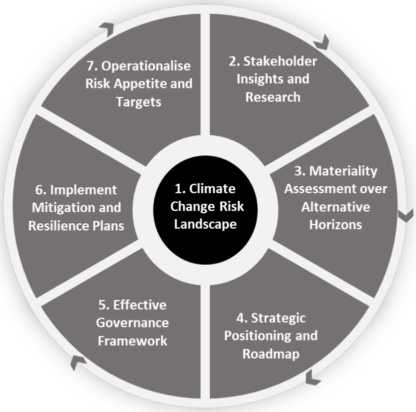

Figure 1: Climate Change Risk Framework

Source: Massey *et al.*, 2021

Once a primary resource is allocated and commitments are made for the introduction of an enhanced risk management framework, there should be a risk inventory list, indicating the description of risk impacts, mitigation actions and corresponding risk owners. This ensures that risk assessments, mitigation strategies, and monitoring processes explicitly consider ESG factors and operate in tandem. Furthermore, an appropriate risk appetite will leverage existing and accepted risks and safeguard resilient business practices in the long term. A company's risk appetite sets boundaries of an acceptable level of exposure to ESG risks and risk tolerance thresholds (across all levels of the organisation), thereby sustainably and inclusively integrating the company's value and business strategy.

At the implementation level, adequate and effective tools for assessing and forecasting the risk landscape and impact are essential in facilitating the ERM. Scenario analysis provides plausible, distinctive, and consistent analysis on assessing potential implications in the long term. A series of ESG-specific tools have also been developed in terms of value creation and a social capital toolkit. Utilising these tools will consolidate the company's risk profile evidenced by the quantified risk impact, in terms of the inherent risk and residual risk, to examine the efficacy of mitigation measures and generate best business practices, as well as illuminating future prevention actions. This will contribute to enhancing the company's risk-informed decision-making under the ERM framework.

Risk monitoring requires tracked progress on ESG-related risk disclosure through the establishment of an internal control model that indicates the key risk indicators, metrics, and assessment methodology. This optimises the Enterprise Sustainability Performance towards effective implementation of sustainability practices.

ESG AND SUSTAINABLE DEVELOPMENT IN THE CARIBBEAN

Sustainable development requires a concerted effort to protect the people, planet, and prosperity for current and future generations through an active approach to balancing consumption with protection and regeneration. While much of the global effort towards sustainable development uses the concepts from the Sustainable Development Goals (SDGs), ESG must be seen as an equally important ally in connecting the private sector, business organisations, and enterprises to be more purposeful and equitable in their use of resources.

The achievement of ESG principles and actions can directly contribute to achieving targets for narrowing gender disparities (SDG 5), improving working conditions (SDG 8), diminishing inequalities and enhancing diversity and inclusion (SDG 10), and reducing carbon emissions (SDG 13) in the Caribbean. These are all important issues for Small Island Developing States (SIDS), such as Caribbean countries, where the widespread impacts of climate change are already disproportionately impacting vulnerable populations through the loss of lives and livelihoods. The rising of sea levels and increased impacts of natural hazards to economic and social systems have created increased vulnerability and widened disparities in access and participation of various activities.

The International Monetary Fund (IMF) estimates suggest that the Caribbean loses an average of 17% of Gross Domestic Product (GDP) per year due to natural hazards, with cases of losses of GDP of more than 200%, such as occurred in Dominica 2017; this came two years after the country lost 92% of its GDP (UNDP, 2024). Examples such as these highlight the region's susceptibility to increasing climate impacts and the need for appropriate strategies to ameliorate the impacts on livelihoods, post-disaster.

It should also be noted that agriculture, including fishing, is one of the dependent economic activities that is immediately impacted by the passage of any tropical cyclone or the long-term impacts of changing weather patterns and rising sea levels. In recent times, damage to beaches, shorelines, and coastal properties also had negative impacts on tourism locations, the driving source of income for many Caribbean countries. With marine and coastal resources accounting for almost 20% of the Caribbean's GDP (Walker, 2022), greater focus on ESG and integrating it into business activities in these areas can have instant impacts on improving lives and livelihoods for the millions of people residing in Caribbean countries.

Deeper analysis also points to the growing imbalance on food security being felt across the region as food production systems are facing yield-related pressures due to rising temperatures, higher intensity rainfall events, and growing incidences of diseases and pests that are destroying crops. Already facing food import bills of more than 5% of GDP and depending on these imports for above 60% of total food consumption (CARICOM, 2022), stronger ESG principles in agriculture and food processing are surely needed to increase food security for all, including vulnerable populations.

Furthermore, the impact of climate change and a lack of focus on ESG on vulnerable communities cannot be understated, with the United Nation's Children Fund (UNICEF) estimating that there was a six-fold increase in the number of children displaced by natural disasters in the Caribbean islands for the five-year period between 2014 and 2018, as compared with the previous five years (UNICEF, 2019). Also, any impact on tourism activities is likely to be disproportionately felt by women, as they account for more than 60% of the total tourist-related employment in the Region (UN Women, n.d.).

Results: Advanced Strategies for Enhancing the Risk Management Culture of an Organisation

Environmental, Social, and Governance considerations are increasingly pivotal in shaping the strategic trajectories of modern enterprises. However, the escalating complexity and frequency of ESG-related risks necessitate a transformative approach to ERM. International financial institutions and corporate leaders must navigate a nuanced landscape encompassing reputational threats, credit exposures, and systemic risks to enterprise value. Concurrently, investors are placing a premium on firms that exhibit strong ESG performance, robust financial stability, and rigorous climate-related stress testing.

To cultivate a sophisticated and proactive risk management culture, practitioners should consider the following advanced strategies:

1. **Embed Risk Management Within Strategic Paradigms:** Risk management must transcend operational silos and integrate seamlessly into the strategic architecture of the organisation. This entails conducting granular risk assessments during the design and execution of corporate strategies, projects, and initiatives. Aligning risk management with long-term strategic imperatives allows organisations to anticipate and neutralise emergent risks, ensuring resilience and agility in a volatile environment.
2. **Architect a Multi-Layered Risk Governance Ecosystem:** Establishing a comprehensive and accountable governance framework is imperative. This involves delineating precise roles and responsibilities for risk oversight at all organisational levels. ESG-related data transparency should be prioritised to dismantle information asymmetries and fortify

stakeholder confidence. A sophisticated governance ecosystem not only ensures compliance but also fosters a culture of continuous improvement in risk management practices.

3. **Calibrate and Continuously Monitor Risk Appetite:** A clearly articulated risk appetite, aligned with the organisation's overarching strategic vision, is essential for guiding decision-making. This involves defining thresholds for acceptable risk exposure and instituting iterative review mechanisms to adapt these boundaries in response to dynamic market and environmental conditions. Continuous performance monitoring and adaptive recalibration underpin an organisation's ability to remain resilient and forward-looking.
4. **Institutionalise a Knowledge-Driven Risk Culture:** A risk-aware organisational culture thrives on the foundations of education and engagement. Regularly curated training programmes and executive-led workshops should enhance organisational acumen in risk assessment methodologies and mitigation tactics. Transparent communication frameworks should empower employees to identify and escalate risks, fostering an ethos of accountability and collaboration. Such cultural maturity is vital for pre-empting systemic vulnerabilities.
5. **Contextualise Risk Responses to Sustainability Frameworks:** The heterogeneity of sustainability risks demands tailored risk responses that respect local, regional, and global contexts. This necessitates designing risk strategies that align with specific regulatory landscapes, stakeholder expectations, and geopolitical dynamics. By embedding the philosophy of "think global, act local", organisations can implement contextually relevant solutions that drive sustainable impact and resilience.

By operationalising these strategies, organisations can evolve their risk management culture into a dynamic, responsive, and forward-thinking paradigm. This not only mitigates immediate and long-term risks but also positions the organisation as a vanguard in sustainable innovation and value creation, reflecting a commitment to resilience in an increasingly complex global environment.

CONCLUSIONS

Integrating ESG principles into the Caribbean's development strategies is essential for enhancing the region's resilience and sustainability. By addressing climate vulnerabilities, promoting social equity, strengthening governance, and leveraging ESG for economic diversification, the Caribbean can build a more sustainable and resilient future. Organisations operating in the region have a crucial role to play in this transformation, ensuring that their ESG initiatives are aligned with local needs and priorities. Through collaborative efforts and strategic investments, the Caribbean can achieve long-term resilience and sustainable development.

In conclusion, the integration of ESG principles into risk management and business strategies is not only a necessity for addressing emerging global challenges but also a significant opportunity for fostering resilience and sustainable growth. As demonstrated, the Caribbean region, with its unique vulnerabilities and strengths, stands to benefit immensely from robust ESG frameworks. By focusing on climate adaptation, promoting social equity, strengthening governance, and pursuing economic diversification, organisations can play a pivotal role in the region's sustainable development. The adoption of data analytics and technology further enhances these efforts, providing deeper insights and more effective solutions. Ultimately, the successful integration of ESG principles will not only mitigate risks but also unlock new avenues for innovation and economic prosperity, ensuring a sustainable and resilient future for the Caribbean and beyond.

REFERENCES

Caribbean Community (CARICOM) (2022): *25% by 2025 Reduction in the Regional Food Bill.* Available at: https://caricom.org/25-by-2025-reduction-in-the-regional-food-bill/

CFA Institute (2022): *BNP Paribas Asset Management and CFA Institute support sustainability e-learning with global launch of Sustainable Investing Primer.* Available at: https://www.cfainstitute.org/about/press-room/2022/bnp-paribas-asset-management-cfa-institute-sustainable-investing-primer?utm_source

Chase, M. (2022): High-Impact ESG Issues: What Your Company Needs to Know. *Sustainalytics*. Available at: https://www.sustainalytics.com/esg-research/resource/corporate-esg-blog/high-impact-esg-issues-what-your-company-needs-to-know?utm

Climate Bonds Initiative (2022): *Green Bonds and Blue Bonds*: *Unlocking Potential for Climate Resilience.* Available at: https://www.climatebonds.net/

Eccles, R.G., Ioannou, I. and Serafeim, G. (2014): The Impact of Corporate Sustainability on Organizational Processes and Performance. *Management Science,* Vol. 16, No. 11, pp.2835-2857.

Inter-American Development Bank (IDB) (2023): *IDB, IDB Invest and CDB Strengthen Cooperation to Address Development Challenges in the Caribbean.* Available at: https://www.iadb.org/en/news/idb-idb-invest-and-cdb-strengthen-cooperation-address-development-challenges-caribbean

Khan, M., Serafeim, G. and Yoon, A. (2016): Corporate Sustainability: First Evidence on Materiality. *The Accounting Review,* Vol. 19, No. 6, pp.1697-1724.

KPMG (2021): *The Future of ESG Risk Management: Key Challenges and Opportunities.* KPMG. Available at: https://kpmg.com/xx/en/media/press-releases/2022/03/kpmg-reports-progress-on-esg-commitments.html

Liikanen, E. (2021): *Sustainability Disclosure Standards: Enhancing ESG Reporting.* Speech given at COP26, 26 November as Chair of the IFRS Foundation Trustees. Available at: https://www.ifrs.org/news-and-events/news/2021/11/global-sustainability-disclosure-standards-for-the-financial-markets/?utm

Massey, M., Pletea, B., Munday, D., Felstead, I. and Cantle, N. (2021): *Climate Change Risk Management Guidance.* IRM Climate Change Special Interest Group Report. Institute of Risk Management, London, UK. Available at: https://www.theirm.org/what-we-say/thought-leadership/climate-change-risk-management-guidance/

Organisation for Economic Cooperation and Development (OECD) (2023): Building Cyber Resilience in a Post COVID-19 World: Local Challenges, Global Solutions. Summary of the *Third Annual Event of the Global Forum on Digital Security for Prosperity,* Virtual Event Hosted by Israel, 7-9 June 2021. Available at: https://one.oecd.org/document/DSTI/CDEP/SDE(2022)5/FINAL/en/pdf

Pörtner, H.-O., Roberts, D.C., Tignor, M., Poloczanska, E.S., Mintenbeck, K., Alegría, A., Craig, M., Langsdorf, S., Löschke, S., Möller, V., Okem, A. and Rama, B. (Eds) (2022): *Climate Change 2022: Impacts, Adaptation, and Vulnerability.* Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, UK and New York, NY, USA. Available at: https://doi.org/10.1017/9781009325844 3,056pp.

PwC (2022): *Want to advance on ESG? Cyber and privacy can help, while boosting trust in your brand.* Available at: https://www.pwc.com/us/en/tech-effect/cybersecurity/building-trust-with-esg-cybersecurity-and-privacy.html?utm

Task Force on Climate-Related Financial Disclosures (TCFD) (2017): *Final Report: Recommendations of the Task Force on Climate-related Financial Disclosures.* Available at: https://apo.org.au/node/97651 74pp.

UN Tourism (UNWTO) (2022): *Sustainable Tourism Product Development Opportunities in the Pacific Islands*. Available at: https://www.e-unwto.org/doi/book/10.18111/9789284419852 162pp.

UN Women (n.d.): *MCO Caribbean: Strategic Note 2022-2026.* Available at: www.unwomen.org/sites/default/files/2023-06/MCO%20Caribbean%20Strategic%20Note%20%20MCO_2022-2026%20abbr.pdf

United Nations Children's Fund (UNICEF) (2019): *As impact of climate crisis worsens, Caribbean islands see six-fold increase in number of children displaced by storms.* Available at: https://www.unicef.org/press-releases/impact-climate-crisis-worsens-caribbean-islands-see-six-fold-increase-number

United Nations Development Programme (UNDP) (2024): *After the Rain: The Lasting Effects of Storms in the Caribbean.* Available at: https://www.undp.org/latin-america/after-rain-lasting-effects-storms-caribbean

Walker, L. (2022): Climate Change, the Caribbean Sea, and the Ocean Economy – Securing Livelihoods of Caribbean People. *Focus*, Vol. 3, pp.4-13.

World Wildlife Fund (WWF) (2021): *Protecting Wildlife for a Healthy Planet.* Available at: https://www.worldwildlife.org/publications/2021-wildlife-progress-report 8pp.

Zhao, Y., Elahi, E., Khalid, Z., Sun, X. and Sun, F. (2023): Environmental, Social and Governance Performance: Analysis of CEO Power and Corporate Risk. *Sustainability*, Vol. 15, No. 2, p.1471.

BIOGRAPHY

Stefano Capodagli is the Chief Risk Officer at the Caribbean Development Bank, heading the Office of Risk Management. He holds an International Executive MBA from Bocconi University and degrees from La Sapienza, University of Rome. With extensive experience in development finance and banking across multiple continents, Stefano has held senior risk and turnaround management roles at Unicredit Bank Austria Group, African Development Bank, European Bank for Reconstruction and Development, and the Hellenic Bank Group. He has also advised organisations such as the Organisation of African, Caribbean and Pacific States and the International Fund for Agricultural Development (IFAD). He is a Certified Public Accountant, Internal Auditor, and Professional Coach, fluent in English, French, and Italian.

Dindial Ramrattan Ahmad is a Statistician in the Department of Economics at the Caribbean Development Bank based in Barbados, leveraging over 15 years of expertise in statistics, economics, and social policy formulation. His professional journey includes pivotal roles across institutions in Trinidad and Tobago, complemented by active involvement in the Emerald Literati Network. Dindial earned an MSc in Development Statistics and a BSc in Economics from the University of the West Indies, St Augustine, underscoring his commitment to advancing quantitative analysis and economic development within the Caribbean region and beyond. Dindial also serves as a part-time Senior Lecturer in Demography at the University of the West Indies.

Ariel McCaskie is currently participating in the Caribbean Development Bank's Young Professional Program (YPP), stationed in the Office of Risk Management. With seven years of professional experience, she previously served as an Economics Consultant at the Inter-American Development Bank and contributed her expertise at regional institutions such as the University of the West Indies and PricewaterhouseCoopers East Caribbean. Ariel holds an MSc in Finance, Investment and Risk from the University of Kent (United Kingdom) and a BSc in Economics and Accounting from The University of the West Indies (Cave Hill, Barbados).