Preface

Despite their differences in terms of geographic regions, incomes and culture, small states share several common characteristics and tend to have similar development priorities such as reduction of high debt levels, access to concessional development finance, disaster risk reduction (DRR), climate financing, economic diversification and management of ocean and other natural resources.

Small states face similar constraints and challenges in their endeavour to achieve the aforementioned priorities. For instance, small states are highly susceptible to natural disasters – a challenge exacerbated by climate change – and face resilience infrastructure costs that are prohibitive to effective disaster preparation and generally disproportionately expensive for these countries. Furthermore, their small populations in effect means limited human and institutional capacity, resulting in high per capita costs for infrastructure and the delivery of public services. As a result of narrow export bases, small states also tend to have highly open economies that lead to high exposure to exogenous economic and environmental shocks – particularly from natural disasters.

Such is now fairly well known following years of advocacy around small states' vulnerabilities, and the need for special treatment given their peculiar circumstances. Overlooked, however, is the extent to which their limited human resource capacity hampers their ability to respond to multiple demands, to make substantive representation at regional/global events and to acquire in-depth and specialist knowledge on which to base policy decisions. Also unaccounted for, is the fact that small states will usually face higher per unit costs with regards monitoring and evaluation, thus affecting their ability to progress on important global agendas, including the Sustainable Development Goals, Paris Agenda and the Sendai Framework for Disaster Risk Reduction.

This publication and resources such as these help small states acquire essential knowledge without the costs incurred in attending events, and in the absence of adequate knowledge bases and monitoring and evaluation frameworks.

Working with national, regional and international partners, the Commonwealth has, in addition, delivered carefully thought-out programmes tailored to the specific needs and priorities of small states on topics such as trade; vulnerability and resilience; climate change; debt; and tourism. The Commonwealth has also facilitated global platforms for advocacy and advancement of small states' development priorities.

A key and recent Commonwealth intervention that helps to promote capacity-building, research and small states advocacy is the Commonwealth Small States

Centre of Excellence (SSCOE). It is a joint initiative of the Government of Malta and the Commonwealth Secretariat established to support and provide capacity to small states in their attainment of national and international development goals. Based in Malta, and with a co-ordinating office at the Commonwealth Secretariat in London, the Centre has linkages across the world, primarily through the 31 small states of the Commonwealth. In carrying out its mandate, the SSCOE seeks to extend support by serving as a focal point for sharing best practices in areas that benefit small states. The Centre draws from the work of international agencies, research institutions, information networks, including national, regional and international processes to generate consensus positions, facilitate information and knowledge sharing, and to develop capacity-building programmes.

The SSCOE has a unique value added role since there is no clearly identifiable institution at this time focused exclusively on knowledge management for problem solving in small states. While many existing entities producing knowledge share their findings and recommendations, they do not usually follow through to see whether the knowledge is used, how and what lessons are learned in terms of its value, limitations and what else might be required.

In July 2019, the Commonwealth Secretariat in support of the Centre's work issued a call for papers from practitioners, experts and academicians on the role of DRR in strengthening the resilience of small states. These papers in responding to the theme 'Strengthening Resilience through Disaster Risk Reduction in Small States' had the aim of addressing a select number of topics, including environmental governance; information and communication technologies (ICT); capacity-building; gender; and blockchain. The shortlisted papers were presented at the inaugural Annual Research Conference on Small States (ARCSS), which took place in Marlborough House, London, on 25–26 February 2019. The objective of this research conference was to facilitate academic dialogue on small states challenges and priorities in the area of DRR with the aim of creating, storing and disseminating knowledge for use and application by small states' governments. These papers, including outcomes generated by the research conference informed discussions of the Commonwealth's Fifth Global Biennial Conference on Small States (GBCSS), held in Apia, Samoa, 25–29 March 2019.

This publication is the collation of the finalised papers aimed at contributing to the knowledge gap in DRR. The 11 papers in this volume are organised into five sections as follows: science-based approaches to DRR; leveraging ICT to manage natural disasters; using blockchain to reduce disaster risk; environmental governance for managing natural disasters; and gendered responses to natural disasters.

In attempting to understand the divide between science/research and policy/use in DRR, Chapter 1, by Denyse Dookie, Markus Enenkel and Jacqueline Spence, underscores the challenge of disasters within the Caribbean region, defines climate information, reviews its nature and utility globally and discusses the variability in verified climate information for highly climate-vulnerable but data-poor countries. Chapter 2, by Richard Teeuw and Mathias Leidig, illustrates how freely downloadable remotely sensed data and free open source GIS mapping software can be applied to DRR in small states.

In Chapter 3 Ankie Scott-Joseph assesses the use of ICT in the early stages of the disaster life cycle, particularly for DRR and disaster risk management (DRM), and for building e-resilience in small states.Roopesh Kevin Sungkur and Ashveen Kissoonah continue the discussion in Chapter 4 withconsiderations for the adoption of ICT for Disaster Management and Emergency Telecoms in the Republic of Mauritius.

In Chapter 5 is Christopher Sandland, Dale Schilling and Alastair Markeassess the role of Blockchain-Based Parametric Insurance as a mechanism for addressing the efficiency and transparency gap concurrent in traditional insurance products. Similarly, Jean-Paul Fabri and Stephanie Fabri demonstrate in Chapter 6 that as an enabling technology, blockchain can support resilience building in small states in the field of DRR by reflecting on key vulnerabilities of these countries in relation to disaster risk.

In Chapter 7 Barbara Carby, laments the lack of evidence in risk assessments for informing DRR, despite advances in risk assessment methodology, data and information on risk, and calls for translation of data and information into knowledge that is understandable and usable. Chapter 8, by Nirmal Betchoo, discusses the relevance of capacity-building at the community level in Mauritius to enhance learning through knowledge and solution exchanges, by focusing on addressing systemic gaps and topics in risk reduction. In Chapter 9, John Lain Roberts and Gina Bonne examine the high levels of missing data in reports from small states on MDGs, the low levels of completion of data in the more extensive SDGs, and the weak response in the early reports from the Sendai Framework database and calls for more explicit estimates of the long-term economic and social impact of disasters.

In Chapter 10, Roberta Lepre and Isotta Rossoni argue for the inclusion of a gender-centred and intersectional perspective in DRR initiatives in Malta and discuss the numerous opportunities available in the Maltese context to marry DRR with the battle for gender equality.

While in Chapter 11, Siddier Chambers looks at the gaps in addressing strategic gender needs in DRR in Jamaica and calls for openness regarding issues affecting men as indicated by evidence of men's vulnerabilities during and after a disaster.

Conclusion

The inaugural ARCSS brought together a wide range of experts from academia and national, regional and international organisations to discuss small states' priorities and needs for natural DRM. At this conference, participants examined and discussed papers prepared by experts on the subject to highlight key elements in natural disasters as they pertain to small states.

From the discussion that ensued, including the findings of the papers in this volume, it is clear that there are enormous opportunities and applications of cutting-edge approaches to DRR, such as blockchain-based parametric insurance; satellite technology; remote sensing; risk-layering and catastrophe risk pooling. These are yet to be fully utilised by small states.

However, there are also policy gaps within the countries' DRR and DRM frameworks that requires urgent attention from small states themselves as well as the international community. The papers highlighted the need to consider new types of risks; account for the effects of improper use of financial instruments and underinsurance; address the underutilisation of climate information; acknowledge the strength of human resilience; and address the poor diffusion of knowledge (absorptive capacity challenges).

The issue of availability of reliable, timely and consistent data for informed decision-making remains a concern for small states. These countries require transformative ideas to overcome this burden and, as important as this topic is, the adequacy and access to crucial data cannot be overemphasised. As such, South–South co-operation, including pooling of resources, in this area will be vital for knowledge and information exchange.

Some of the key recommendations that stemmed from discussion of the conclusions of these papers included the following:

- Finance mechanisms: Increase regional instruments but also give serious consideration to the sequencing of such instruments, risk layering and operational design for effective DRR responses.
- ICT as a blueprint: Technology is moving swiftly but costs and other challenges still exist. A combination of available satellite and sensor tools are an effective short-term response.
- Potential for blockchain technology: Application most useful for the affected poor. Complicated at the core but useful and simple at the end product.
- Governance issues: An effective governance system (information; evaluation; incentive) is needed for effective DRR.
- Emerging issues: Sharing data and resources can significantly improve DRR responses. In particular, anonymised cellular data.
- Gender-responsive approaches: These are important for DRR as half affected are women.
- Role of capacity building: Bottom-up approach (community engagement) and ICT earlier in the response process to build community capacity to respond to risks.

There were also some recommendations for the Commonwealth Secretariat, including:

- Work with member countries, cellular phone companies and regulators towards making anonymised cellular data available for DRR.
- Promote data and human resources sharing among governments and various stakeholders to tackle DRR, such as the Pacific Resilience Partnership approach.
- Promote parametric approaches to DRR to improve countries access to low cost disaster insurance.
- Review the coverage of the Sendai Framework to assess its adequacy for achieving DRR.