CLIMATE AND DISASTER RESILIENCE FINANCING

in Small Island Developing States

OECD
BETTER POLICIES FOR BETTER LIVES

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Global Facility for Disaster Reduction and Recovery

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The report was written by Piera Tortora (lead author) and Rebecca Soares. Inputs were provided by Rachel Morris, Cushla Thompson, Gisela Campillo, and Mitch Levine. Statistical support for the report was provided by Cecilia Piemonte. The report was developed under the overall guidance of Sofia Bettencourt, Habiba Gitay, and Suzanne Steensen.The report is a jointly funded initiative of the OECD and the partners of the Global Facility for Disaster Reduction and Recovery (GFDRR) at the World Bank.

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LIST OF ACRONYMS

ADB	Asian Development Bank
AF	Adaptation Fund
AIMS	Africa, Indian Ocean, Mediterranean and South China Sea
AOSIS	Alliance of Small Island States
CARICOM	Caribbean Community
CAT-DDO	Catastrophe Deferred Drawdown Option
CCA	Climate Change Adaptation
CCRIF	Caribbean Catastrophe Risk Insurance Facility
CIF	Climate Investment Funds
COP 21	21st Session of the Conference of the Parties to the UNFCCC
CPIA	Country Policy and Institutional Assessment
CRED	Collaborating Centre for Research on the Epidemiology of Disasters
CRS	Creditor Reporting System
DAC	Development Assistance Committee
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
DSA	Debt Sustainability Analysis
ECLAC	Economic Commission for Latin America and the Caribbean
EM-DAT	Emergency Events Data Base
EU	European Union
EVI	Economic Vulnerability Index
FAO	Food and Agriculture Organization of the United Nations
FRDP	Framework for Resilient Development in the Pacific
GCF	Green Climate Fund
GDP	Gross Domestic Product
GEF	Global Environment Facility
GFDRR	Global Facility for Disaster Reduction and Recovery
GNI	Gross National Income
HFA	Hyogo Framework for Action
IBRD	International Bank for Reconstruction and Development
IDA	International Development Association
IFI	International Financial Institutions
IMF	International Monetary Fund
INDCs	Intended Nationally Determined Contributions
IPCC	Intergovernmental Panel on Climate Change
JNAP	Joint National Action Plan
LDCF	Least Developed Countries Fund
LDC	Least Developed Country
LMIC	Lower Middle-Income Country
MDB	Multilateral Development Bank
MIC	Middle-Income Countries
MSG	Melanesian Spearhead Group
NAPA	National Adaptation Programme of Action
NAP	National Adaptation Plan
NGO	Non-Governmental Organization
ODA	Official Development Assistance
OECD	Organization for Economic Co-operation and Development
PCRAFI	Pacific Catastrophe Risk Assessment and Finance Initiative
PDNA	Post Disaster Needs Assessment
PIFS	Pacific Islands Forum Secretariat
PRGT	Poverty Reduction and Growth Trust
PNG	Papua New Guinea
PPCR	Pilot Program for Climate Resilience
RCF	Rapid Credit Facility
SCCF	Special Climate Change Fund
SDGs	Sustainable Development Goals
SIDS	Small Island Developing States
SISRI	Small Island States Resilience Initiative
SPC	Secretariat of the Pacific Community
SPREP	Secretariat of the Pacific Regional Environment Programme
UMIC	Upper Middle-Income Country
UN	United Nations
UN DESA	United Nations Department of Economic and Social Affairs
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNICEF	United Nations Children's Emergency Fund
UNISDR	United Nations Office for Disaster Risk Reduction
UN-OHRLLS	United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States
USD	United States Dollar
WB	World Bank
WBG	World Bank Group
WHO	World Health Organization

GLOSSARY OF TERMS USED

Hazard, risk, vulnerability and resilience are terms commonly used among practitioners in the disaster risk management and climate change communities; however, they are often subject to different interpretations. When applicable, this report uses definitions provided by the Intergovernmental Panel on Climate Change (IPCC) and the United Nations Office for Disaster Risk Reduction (UNISDR). The definitions of the terms "loss" and "damage" are those used by the Post Disaster Needs Assessment (PDNA) methodology adopted jointly by the World Bank, the United Nations and the European Commission.

Adaptation: The process of adjustment to actual or expected climate and its effects. In human systems, adaptation seeks to moderate or avoid harm or exploit beneficial opportunities. In some natural systems, human intervention may facilitate adjustment to expected climate change and its effects (IPCC, 2014).

Adaptive Capacity: The ability of systems, institutions, humans and other organisms to adjust to potential damage, take advantage of opportunities or respond to consequences (IPCC, 2014).

Climate Change: The state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or variability of its properties, and that persists for an extended period, typically decades or longer (IPCC, 2014).

Mitigation (of Climate Change): A human intervention to reduce the sources or enhance the sinks of greenhouse gases (IPCC, 2014).

Climate and Disaster Resilient Development (or Climate and Disaster Resilience): A set of institutional arrangements, processes and instruments that help identify the risks from disasters, climate extremes, gradual and long-term climatic changes, and their associated impacts, and the design of measures to reduce, transfer and prepare for such risks. Climate and disaster resilient development combines development benefits with reductions in vulnerability over the short and longer term, using a development planning, multi-sectoral and multi-stakeholder approach (World Bank, 2013).

Damage: The total or partial destruction of physical assets existing in the affected area. Damages are measured in physical units (such as numbers or square metres of housing destroyed, or kilometres of roads), and in monetary terms, expressed as replacement costs according to prices prevailing just before the event (GFDRR, 2010b).

Disaster: A serious disruption in the functioning of a community or society involving widespread human, material, economic or environmental losses and impacts, which exceed the ability of the affected community or society to cope using its own resources. Disaster impacts may include loss of life, injury, disease and other negative effects on human physical, mental and social wellbeing, together with damage to property, destruction of assets, loss of services, social and economic disruption, and environmental degradation (UNISDR, 2009a).

Disaster Risk Management: Processes for designing, implementing and evaluating strategies, policies and measures to improve the understanding of disaster risk, foster risk reduction and transfer, and promote continuous improvement in disaster preparedness, response and recovery practices, with the explicit purpose of increasing human security, wellbeing, quality of life and sustainable development (IPCC, 2014).

Disaster Risk Reduction: The policy objective of anticipating future disaster risk, reducing existing exposure, vulnerability or hazard, and strengthening resilience (UNISDR, 2015).

Disaster Management: The cluster of measures, including preparedness and contingency planning, business continuity planning, early warning, response and immediate recovery, to deal with disasters once they are imminent or have occurred (UNISDR, 2015).

Exposure: The presence of people, livelihoods, species or ecosystems, environmental services and resources, infrastructure, or economic, social or cultural assets in places and settings that could be adversely affected (IPCC, 2014).

Hazard: The potential occurrence of a natural or human-induced physical event or trend or physical impact that may cause loss of life, injury or other health impacts, as well as damage and loss to property, infrastructure, livelihoods, service provision, ecosystems and environmental resources (IPCC, 2014). For the purposes of this report, the term hazard refers to natural disaster-related physical events or trends or their physical impacts.

Loss: Changes in economic flows arising from a disaster that continue until the achievement of full economic recovery (GFDRR, 2010; ECLAC, 2003). (The UNFCCC defines loss and damage as the adverse effects of climate change, including extreme weather events and slow onset events that people have not been able to cope with or adapt to.)

Resilience: The capacity of social, economic and environmental systems to cope with a hazardous event or trend or disturbance, responding or reorganizing in ways that maintain their essential function, identity and structure, while also maintaining the capacity for adaptation, learning and transformation (IPCC, 2014).

Risk: The potential for consequences where something of value is at stake and where the outcome is uncertain, recognizing the diversity of values. Risk is often represented as the probability of the occurrence of hazardous events or trends multiplied by the impacts if these events or trends occur. Risk results from the interaction of vulnerability, exposure and hazard (IPCC, 2014). In this report, the term risk is used primarily to refer to the risks of natural disaster and climate change impacts.

Risk Transfer: An approach to risk management that involves the transfer of financial responsibility for some or all of the risk and any costs associated with the materialisation of that risk (OECD, 2016, forthcoming). Examples include insurance and reinsurance contracts, catastrophe bonds, contingent credit facilities and reserve funds as part of risk transfer from governments to financial markets (UNISDR, 2009a).

Small Island Developing States (SIDS): No universally agreed list of SIDS currently exists. Main lists include: the Alliance of Small Island States (AOSIS) list, comprised of 39 member states; the list of the United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and SIDS (UNOHRLLS), comprised of the 38 AOSIS members who are also members of the United Nations; and the list of official development assistance (ODA)-eligible SIDS kept by the Organization for Economic Co-operation and Development (OECD), which includes 35 countries and territories. This report focuses on the 35 ODA-eligible SIDS, which are listed in Table 1 and Annex 3.

Vulnerability: The propensity or predisposition to be adversely affected. Vulnerability encompasses a variety of concepts and elements, including sensitivity or susceptibility to harm and lack of capacity to cope and adapt (IPCC, 2014).

FOREWORD

Our Small Island Developing States (SIDS) face unique and increasing challenges from climate change and natural disasters due to our geographic characteristics, small size of our economies, and isolation. It is also clear that climate-related events are affecting us more intensely than in the past and causing relatively higher losses than for other developing nations. Climate change is limiting opportunities for growth, undermining our sustainable development and threatening the existence of some of our islands.

Concessional finance is essential for addressing additional challenges climate change poses to the development of SIDS. While financial resources are increasingly being made available to address such challenges, accessing and managing the multiple sources of these funds remains a major difficulty to many of us with our limited – albeit capable – human resources.

I am pleased to see that this report, *Climate and Disaster Resilience Financing in Small Island Developing States,* clarifies the current landscape of such finance. The report spells out the latest trends in concessional financing available for climate and disaster resilient development in SIDS. It highlights the complexity of the global financing architecture from bilateral and multilateral agencies and the intricate web of eligibilities that SIDS face when trying to access this funding. It is also an important contribution to understanding what resources are already being made available to SIDS, as well as what actions remain to be taken so that the international community can best support our countries in building climate and disaster resilience.

This report is not just about challenges. It also illustrates the positive steps that SIDS are taking – and in many cases leading – to ensure that climate and disaster resilience is addressed as an integral part of their development. In addition, it shows how concessional financing can positively support resilience actions, for example by helping to establish adequate intitutional and budgetary arrangements. The report points to some financing mechanisms and modalities that providers could make greater use of, particularly by pooling resources in support of programmatic approaches and strengthening country systems. Personally, I am pleased to see the inclusion of the innovative approach that we have used in Seychelles – *a debt-for-adaptation swap* – to reduce immediate debt burdens from climate-related disasters and increase resources targeted to climate resilient development.

The report calls for the international community to consider financing for climate and disaster resilience that is appropriate for the challenges that SIDS face, less fragmented, easier to access, predictable and long-term. It essentially calls for a more consistent, comprehensive and coordinated financing architecture that is better tailored to the needs of SIDS. It also calls on SIDS to create enabling policies and institutions to ensure more effective use of funds, and for the sustained effort needed to ensure their development is climate and disaster resilient.

Armed with this information, we – the leaders of SIDS – can move forward to take urgent action for ensuring that climate and disaster risks do not erode our development gains, that our people do not lose their lives and assets and that we pave the way for a more resilient future.

Jean-Paul Adam
Minister of Finance, Trade and the Blue Economy, Seychelles, and Chair of Small States Forum

EXECUTIVE SUMMARY

Relevance of climate and disaster resilience to Small Island Developing States (SIDS)

Natural disasters and climate change severely affect the growth trajectory of SIDS[1] and their ability to achieve sustainable development. SIDS are located in some of the most disaster-prone regions in the world and comprise two-thirds of countries with the highest relative annual losses due to disasters. With the effects of climate change compounding the intensity of these disasters, this trend is set to continue, creating new developmental challenges for SIDS. Natural disasters and climate variability severely impact major economic sectors in SIDS, hinder economic growth and affect the most vulnerable populations. Lacking relatively stable and strong fiscal revenues and domestic savings, SIDS governments often need to divert scarce public resources from essential social and economic development investments to address disaster-related needs, compromising the pace and scope of future growth. Development in SIDS, therefore, is subject to a range of interconnected and mutually reinforcing economic, social and environmental challenges.

Building resilience at individual, institutional, and private sector levels is essential to achieve sustainable development in SIDS, but available financing for this purpose is limited and difficult to access. The responsibility, expertise and funding for climate and disaster resilient development is scattered across a large number of actors, creating a complex global architecture of funds and providers. While several market-based financing mechanisms have become available globally, they are not equally and easily accessible to all SIDS, and concessional finance from the international community remains a key source of financing to foster climate and disaster resilient development. Understanding how much SIDS are actually receiving and in what ways becomes, therefore, pivotal to help the international community more effectively support SIDS in building climate and disaster resilience.

Quantifying concessional finance trends for climate and disaster resilience in SIDS

Resources for resilience have grown significantly, but they still represent a small share of concessional finance. Between 2011 and 2014 (the timeframe used for this report), the volume of concessional finance in support of climate and disaster resilience to SIDS nearly doubled, reaching USD 1.01 billion in 2014. However, this represented only 14% of the total concessional finance directed to SIDS during this period. Bilateral providers gave the bulk of concessional finance for climate and disaster resilience - 71% for the 2011-14 period - with annual funding levels remaining fairly stable. Although multilateral organisations provided a much smaller share of this financing (29% of the total), multilateral commitments to SIDS increased rapidly, nearly doubling from 2011 (USD 226 million) to 2014 (USD 443 million). In addition to these direct contributions, multilaterals channelled close to a fifth of bilateral contributions, in effect serving as a conduit to 44% of the total resilience funding received by SIDS during the 2011-14 period.

[1] See glossary for a definition of SIDS as used in the report.

Climate and disaster resilience financing was mostly provided as grants (73% during the period 2011-14), but recent growth was largely due to increases in concessional loans to Upper Middle-Income Countries. Concessional loans increased substantially from USD 69 million in 2011 (11%) to USD 415 million in 2014 (41%), largely because of greater concessional lending from multilateral development banks to a limited number of SIDS. While Upper Middle-Income SIDS were able to access more concessional loans – bringing their share of concessional financing to 51% in 2014 (up from 33% in 2011) – funding for Least Developed Countries (LDCs) remained fairly constant, bringing the share of concessional financing to LDCs to 24% of the total in 2014, down from 37% in 2011.

In terms of access to finance, striking differences across individual SIDS are prevalent. The smallest nations tend to receive the highest per capita annual financing allocations, largely because of the high fixed administrative costs involved. Geographic and income patterns mask the disproportionate weight of a few countries and a few large and isolated commitments.

Resilience finance is dominated by investments in resilient infrastructure in a few countries. Investments in resilient public infrastructure accounted for USD 335 million on average per year from 2011-2014, or 43% of total climate and disaster resilience financing for this period in part due to the higher cost of these investments. Large one-off commitments also skewed geographic and income patterns.

Access to greater and more effective financing is constrained by a number of challenges

SIDS are taking positive steps to address some of the challenges of mainstreaming climate and disaster resilience into development. This includes setting up coordination units within key ministries and developing strategic policy documents. However, challenges remain in identifying the risks and impacts of natural disasters, securing adequate resources in national budgets, and reducing inefficiencies and institutional fragmentation caused, in part, by some international processes and funding sources.

Many SIDS depend on a single provider for the bulk of resilience financing, exacerbating financial vulnerability. For 14 of the 35 SIDS considered in this report, across all regions, the top provider accounted for over half of the climate and disaster resilience financing during 2011-14, with this percentage increasing over time. This trend is concerning as SIDS could become overly reliant on the shifting priorities of the dominant donor(s).

The remaining resilience financing is fragmented across a large number of projects, which leads to high transaction costs and places additional stress on the capacity of SIDS. While a few large projects accounted for the bulk of resilience funding to SIDS – mostly directed to Upper-Middle Income SIDS – the vast majority of commitments were provided through smaller sized projects. During the 2011-14 period, more than half of all resilience projects were below USD 200,000 and

80% were below USD 1.5 million, yet together, these small projects accounted for only 2% and 10% of the total resilience financing to SIDS. This proliferation of small projects was widespread across all SIDS, with climate and disaster resilience financed through a total of 1,715 projects in 2011-14. Most countries were receiving an average of 10 individual projects per year with commitments of less than USD 1.5 million each. SIDS with the largest number of projects were receiving more than 30 resilience projects in a given year.

Sector-wide approaches and budget support remain limited, as does the implementation of resilience funds by recipient countries. Only 8% (USD 239 million) of the concessional finance for climate and disaster resilient development was provided as sectoral budget support from 2011-14, and financing executed by SIDS governments represented less than 35% of total funding for 20 out of the 35 SIDS examined in this report. The relatively low use of national systems and government budget execution can create an unfortunate cycle, whereby the limited use of these financing modalities by itself contributes to perpetuating low capacity, with implications for the effectiveness and sustainability of investments.

Resilience funding tends to follow large disasters, but predictable, long-term financing is still scarce. Larger disasters are prone to receive larger funding streams than smaller, more recurrent ones. Greater concessional resources for climate and disaster resilience tend to be provided in the wake of major disasters and then progressively fade away, while countries that have not recently experienced large disasters may struggle to receive resilience funding. This low predictability of funding can constrain the ability of SIDS to take more comprehensive and forward-looking steps to reduce vulnerabilities and increase resilience over the long term.

Country access to global climate funds is constrained by complex – and variable – requirements. A multiplicity of special climate funds has been established over the past decade to increase developing countries' access to financing. For SIDS, however, tapping into these funds remains a challenge due to the complex processes and procedures to access the funds, which, for the most part, exceed the limited administrative and technical capacities of SIDS.

The international community could do more to help SIDS enhance climate and disaster resilient development by:

- **Supporting SIDS to create an enabling policy environment for climate and disaster resilience.** This includes public policies and regulations, which can promote climate resilience by influencing the choices of private actors in various sectors.
- **Enhancing information on resilience and information management systems.** This can be done through multi-country and regional partnerships and the innovative use of technology, which could prove cost-effective and increase impact.

- **Supporting SIDS to integrate climate and disaster risk into national planning and budgeting.** This will require supporting collaboration across a large set of ministries and departments to identify and integrate priorities, and highlight linkages and synergies across sector-level policy objectives. It may also require the adoption of contingency funds or financing buffers to allow for better preparedness and immediate response following disasters.
- **Supporting public administration systems and institutions responsible for managing natural disasters, climate finance and risk.** This includes supporting SIDS to further develop their public financial management systems and capacities to access and manage concessional funds – for example, by reinforcing central units as a one-stop shop for all incoming funding proposals – thus enabling investments to be prioritized and channelled more efficiently.
- **Increasing the use of financing mechanisms that enhance capacity and coordination.** Donors should consider further ways to pool resources to reduce SIDS reliance on a single source of concessional funds, while avoiding the high level of project fragmentation currently experienced.
- **Providing predictable and more programmatic funding.** Investing in pre-emptive measures to build resilience requires access to more reliable financing. Funding that is more programmatic and long term (typically 10-15 years) could also help foster the policy, institutional and behavioural change needed to help build resilience to climate and disaster impacts.
- **Facilitating access to funding from global climate funds through simplified application and management procedures for SIDS.** Development partners should use their influence to support adoption, by the global climate funds, of proportionate and streamlined approaches to encourage greater direct access and project implementation and greater national ownership.
- **Facilitating access to innovative financing and risk transfer mechanisms.** Development partners can, for example, support SIDS access to insurance and other forms of risk transfer and risk sharing mechanisms, as well as encourage the use of contingency funds or contingent credit lines.
- **Using financing instruments that can help SIDS at risk of debt distress improve their debt situation and avoid using financing mechanisms that can undermine debt sustainability.** In recent years, a number of instruments to deal with the debt situation of SIDS have emerged, which could be further scaled up and replicated. While some can provide temporary relief, the international community should also help SIDS address the drivers of debt accumulation. Furthermore, while greater concessional lending to Upper Middle-Income SIDS in recent years has increased the financing available for resilience, care should be taken to avoid endangering their debt sustainability.

- **Facilitating an international dialogue on the eligibility criteria for concessional finance with the aim of ensuring that SIDS are able to access the finance they need at terms and conditions most suited to their specific circumstances.** Currently, SIDS face a complex web of eligibility requirements that must be met in order to access different sources of concessional financing for resilience. With eligibility to several multilateral and bilateral funding sources relying heavily on per capita classification, SIDS have called for a coordinated effort by development partners to review the rules governing access to concessional finance. Acknowledging the multi-faceted nature of vulnerability along with increasing adverse climate-related impacts on SIDS, it may be timely to explore if and how vulnerability to climate change could be included in concessional finance eligibility criteria and allocations. This effort will require multi-partner research and consideration of all aspects of vulnerability – socio-economic and biophysical.
- **Investing to build national capacities and expertise.** The sustainability and ownership of resilience programmes depends on striking the right balance between temporary solutions to fill human resource gaps and longer-term investments in national capacities across the full spectrum of institutional needs. Innovative approaches and the use of new technologies could help tailor capacity-building approaches to the specific context of SIDS.

I. INTRODUCTION

The international community has widely recognised the importance of fostering development that is resilient to the impacts of both climate change and natural disasters,[2] most recently through the SIDS Accelerated Modalities of Action (SAMOA) Pathway, the Sendai Framework for Disaster Risk Reduction, the Addis Ababa Action Agenda, the Sustainable Development Goals (SDGs) and the Paris Agreement. Some Small Island Developing States (SIDS), particularly in the Pacific, have also been at the forefront of global efforts to combine climate change adaptation (CCA) with disaster risk management (DRM), and mainstream them into development planning.[3] In general, however, progress to integrate climate and disaster resilience into development planning has been slow (Box 1). Growing global experience continues to demonstrate that climate and disaster resilient development makes sense from both a poverty-alleviation, as well as from an economic, perspective.[4] For example, investing in early warning systems, better preparedness and improved safety codes can be cost effective, save human lives, and protect public and private investments.

SIDS are a heterogeneous group of countries that share a number of common structural and geophysical constraints, which result in disproportionately large economic, social and environmental challenges and hinder development. For low-lying atoll states, such as Maldives, Kiribati and Tuvalu, climate-induced sea-level rise poses an existential threat, since populations in some atolls may be forced to move or protect the atolls at very high costs. However, even in higher elevation islands, the impacts of natural disasters and climate change are disproportionally high, with 19 SIDS suffering losses of 1 to 9% of their gross domestic product (GDP) in an average year (see Chapter 2). Recurrent disasters, therefore, act as a "leaking bucket" for many SIDS, affecting development growth in significant and often cumulative ways.[5] Given the increasing impacts of climate change, building resilience in SIDS is essential to achieve sustainable development.

Actions to address these acute challenges are, however, not easy to finance and SIDS stand at a crucial juncture regarding the financing of their development needs. Concessional finance directed to them is shrinking in aggregate terms: in 2014, it was USD 5.2 billion, 21% below the annual 2009-13 average. Several SIDS are likely to lose access to concessional finance as they graduate to middle-income status, since eligibility to concessional resources is largely determined by per capita income classifications. SIDS also face the challenge of navigating a complex global architecture of funds and providers, which, combined with their limited human and technical capacity, limits the scope and effectiveness of the resources that can be tapped in support of climate and disaster resilient development.

[2] For the purposes of this report, referred to as climate and disaster resilience or climate and disaster resilient development.

[3] See the recently endorsed Framework for Resilient Development in the Pacific Islands: http://www.forumsec.org/resources/uploads/embeds/file/Annex 1 - Framework for Resilient Development in the Pacific.pdf

[4] World Bank and GFDRR (2014). Building Resilience – Integrating Climate and Disaster Risk into Development. The World Bank Group Experience. World Bank (2016). Shockwaves: Managing the Impacts of Climate Change on Poverty. Washington, DC.

[5] World Bank (2013).

This report is the first attempt at quantifying the flow and patterns of concessional finance in support of climate and disaster resilience in SIDS.[6] By clarifying the nature, scope and volume of concessional funding for climate and disaster resilience, it aims to inform policy and decision makers, in both SIDS recipient governments as well as among funding providers, and promote a more effective provision and use of financing for resilience. Unlike climate mitigation, CCA and DRM are largely dependent on public resources due to the nature of the investments and the policies they address.[7] Amongst public resources, concessional finance is particularly important for SIDS due to the general recognition that SIDS are bearing the brunt of the impacts of climate change, and that their limited fiscal space may prevent them from using domestic resources or borrowing to meet the additional costs of investing in climate and disaster resilience. This report, therefore, focuses primarily on the nature and trends of concessional finance, while recognising the importance of other funding sources, including private sources, and the need for SIDS to mobilise and catalyse them to achieve resilient development. In addition, while all financing is important, concerns about fragmentation and access difficulties have been raised most often with respect to climate and disaster funds.

While several lists of SIDS exist,[8] this report investigates the volume, scope and nature of concessional finance used to support climate and disaster resilience in the 35 SIDS that are eligible for Official Development Assistance (ODA) (see Table 1), comprising nine Least Developed Countries (LDCs), five Lower Middle-Income Countries (LMICs) and 21 Upper Middle-Income Countries (UMICs).

The report begins with an overview of the impacts of natural disasters and the relevance of building resilience in SIDS, and illustrates the complex landscape of climate and disaster resilience financing. It analyses the sources and patterns of concessional financing (grants and concessional loans from bilateral and multilateral providers that meet the ODA definition) and the main recipients across SIDS. It then identifies a number of emerging policy challenges related to climate and disaster resilience financing and concludes with a set of preliminary recommendations for the international community.

The report is based on a unique statistical database built on a methodology developed specifically for it from the OECD Creditor Reporting System (CRS) (see Annex 2 for details on the methodology used to develop the database). The report also draws from a comprehensive OECD Development Assistance Committee (DAC) survey to OECD DAC members[9] and multilateral development banks (MDBs)[10] on policies and practices in support of SIDS financing challenges and opportunities. Due to data limitations and the focus of the report, other official flows and private financing are not included in the analysis.

[6] The OECD is working on a forthcoming report that will cover the full spectrum of concessional finance to SIDS and explore their financing challenges and opportunities more broadly.

[7] Private individuals and companies also undertake adaptation, but extensive externalities tend to be involved (for example, the efforts of individual households to protect their shoreline from sea-level rise can affect surrounding communities).

[8] These include: the AOSIS list, comprised of 39 member states; the list kept by the United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and SIDS (UNOHRLLS), comprised of the 38 United Nations members of AOSIS; and the OECD list of ODA-eligible SIDS (35 countries and territories). The IMF counts 42 members with populations below 1.5 million, but for analytical purposes excludes small states that are defined as advanced market economies for the World Economic Outlook (WEO), as well as fuel exporting countries classified by the World Bank as "high income" (Bahrain, Brunei Darussalam and Equatorial Guinea). Thus, it considers 33 small island states as developing.

[9] Seventeen DAC members responded to this survey: Australia, Austria, Canada, Czech Republic, European Union, Finland, France, Germany, Greece, Iceland, Italy, Japan, New Zealand, Norway and Portugal.

[10] Five MDBs responded to this survey: the Asian Development Bank (ADB), the International Fund for Agricultural Development, the International Monetary Fund (IMF), the OPEC Fund for International Development and the World Bank (WB).

Table 1:

LIST OF THE 35 ODA-ELIGIBLE SIDS BY INCOME GROUP

LEAST DEVELOPED COUNTRIES (LDCs)	LOWER MIDDLE INCOME COUNTRIES (LMICs)	UPPER MIDDLE INCOME COUNTRIES (UMICs)
Comoros	Cabo Verde	Antigua and Barbuda
Guinea-Bissau	Guyana	Belize
Haiti	Micronesia	Cook Islands
Kiribati	Papua New Guinea	Cuba
Sao Tome and Principe	Samoa	Dominica
Solomon Islands		Dominican Republic
Timor-Leste		Fiji
Tuvalu		Grenada
Vanuatu		Jamaica
		Maldives
		Marshall Islands
		Mauritius
		Montserrat
		Nauru
		Niue
		Palau
		Saint Lucia
		Saint Vincent and the Grenadines
		Seychelles
		Suriname
		Tonga

Box 1: CLIMATE RESILIENT DEVELOPMENT: AN INTEGRATED APPROACH TO CLIMATE CHANGE ADAPTATION AND DISASTER RISK MANAGEMENT

Climate change adaptation (CCA) and disaster risk management (DRM) have developed over time as separate disciplines and communities, often with distinct institutions and policy frameworks, and, in some cases, with conflicting objectives. And yet, an integrated approach would have political, practical and financial advantages in the long run. For example, speed and low costs are important factors for carrying out reconstruction efforts in the wake of a disaster, but the consideration of risks from climate change could require different standards and/or changes in planning processes to deliver cost-effective, long-term development outcomes.

The international community has placed increasing importance on the integration of CCA and DRM and their mainstreaming into development, most recently through the Warsaw International Mechanism for Loss and Damage under the UNFCCC, the SAMOA Pathway, the Sendai Framework for Disaster Risk Reduction, the Addis Ababa Action Agenda, the SDGs and the Paris Agreement. The Sendai Framework is focused on reducing the impacts of disasters (including those related to climate change) through improved understanding and governance, and increased investment and response. The SDGs include goals directly related to resilience (under Goals 11[11] and 13[12])[13] and are, more broadly, articulated around the understanding that climate resilience cuts across all development objectives and are interlinked. Achieving the SDGs will strengthen resilience, which, in turn, will help achieve the Goals.[14]

Integrating CCA and DRM into development involves thinking holistically about preparedness for extreme events, as well as adapting to the "new normal" of a world with a changing climate. Risk management and better preparedness to deal with climate and disaster impacts can substantially decrease the cost of future disasters. Response, recovery and reconstruction after disasters can be used to reduce vulnerabilities and promote CCA, through risk-resilient investment, infrastructure upgrades and urban revitalization ("building back better"), land-use management systems and ecosystem-based approaches. Resilience can be built through a variety of strategies: enhancing preparedness; relocating critical facilities and assets to safer areas; better use of data to inform planning and development strategies; integrating disaster risk reduction measures into infrastructure improvements; and strengthening governance structures that allow the integration of climate and disaster risks.

All this has implications for financing structures. Short-term funding for disaster response from humanitarian donors must be linked with long-term financial support for resilience building and, in turn, must be mainstreamed into development planning and financing. The integration of CCA and DRM is particularly critical to prevent locking in future development and creating new vulnerabilities.

[11] Goal 11: Make cities inclusive, safe, resilient and sustainable.
[12] Goal 13: Take urgent action to combat climate change and its impacts.
[13] References to disaster resilience are also included in Goals 1 and 2.
[14] OECD (2017, forthcoming).

II. THE IMPORTANCE OF BUILDING RESILIENCE TO NATURAL DISASTERS AND CLIMATE CHANGE IN SIDS

This chapter discusses the intertwined set of economic, social and environmental vulnerabilities that constrain the development of SIDS. It shows that development challenges faced by SIDS are becoming more acute, as the impacts of natural disasters are increasing and are likely to be exacerbated by climate change. It also discusses the costs of coping with and recovering from natural disasters, and their impact on the development and growth trajectory of SIDS.

SIDS are a heterogeneous group of countries and territories, with diverse characteristics. They exhibit large variations in terms of population size and densities, geographical spread and relative development progress, and include some of the world's smallest, most remote and geographically-dispersed countries in the world: Kiribati, for example, consists of 33 coral atolls spread over 3.5 million square kilometres of ocean – an area larger than India. The Solomon Islands is also geographically splintered with 1,000 small islands and a population of half a million people dispersed across 90 inhabited islands. By contrast, countries in the Caribbean are closer to international markets and tend to have larger and more concentrated populations, with Haiti's population exceeding 10 million. And while some SIDS are experiencing rapid population growth, others are facing large emigration. SIDS also present different economic structures: some are largely service-based, such as Cabo Verde, the Seychelles and the Maldives; others are natural resource-based, such as Papua New Guinea (PNG) and Timor-Leste; and still others, such as Comoros, Kiribati, Micronesia and Tuvalu, are relatively undiversified, with a high reliance on agriculture and fishing.

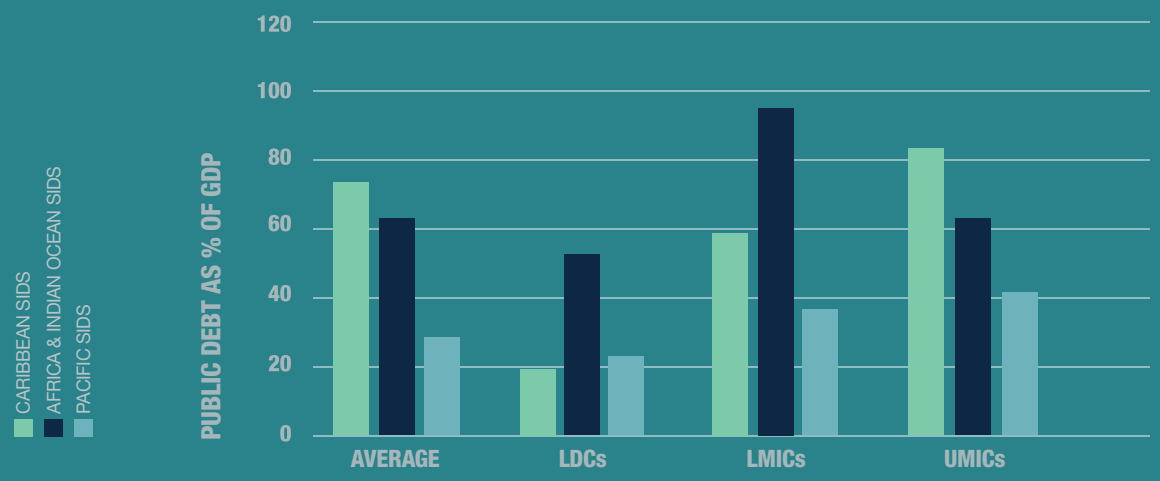
At the same time, SIDS share unique economic, social and environmental challenges that severely constrain their development prospects. As a group, SIDS face a number of inter-connected and mutually-reinforcing economic, institutional and environmental vulnerabilities, making SIDS one of the most vulnerable group of countries and territories in the world. Economic vulnerabilities arise from their small domestic markets and narrow natural resource base, which results in undiversified economies, limited economies of scale and reduced scope for private sector development. These factors, along with their geographic isolation, can lead to a significant perceived investment risk, which greatly limits the attractiveness of SIDS for private investors and their access to private international finance. Remoteness from markets and shipping lanes is particularly severe amongst geographically isolated SIDS (mainly in the Pacific and along the West African coast), entailing high trade costs and reduced opportunities for penetrating global markets. With limited domestic revenues and borrowing opportunities, SIDS tend to have constrained fiscal space. They are also highly exposed to global economic shocks as well as to changes in global trade and financial markets, which often have amplified effects on their economies.[15]

[15] See for example: IMF (2013); IMF (2016); UNDP (2015).

For many SIDS, fiscal space is also reduced by high debt burdens. Overall, 21 SIDS out of the 35 considered in this report are assessed as being at "moderate" risk, "high" risk or "in debt distress."[16] High debt profiles concern especially Upper Middle-Income SIDS in the Caribbean and Lower Middle-Income SIDS in Africa and the Indian Ocean (Figure 1). With limited fiscal space, the public expenditures of SIDS are often pro-cyclical, and the fiscal space available for growth-promoting investments is greatly constrained, further exacerbating volatility to external shocks and constraining their long-term growth.

Figure 1:

GOVERNMENT GROSS DEBT AS % OF GDP IN SIDS, BY REGION AND INCOME GROUP



Source: International Monetary Fund, World Economic Outlook Database, April 2016
Averages are for 2011-2014 period for available countries

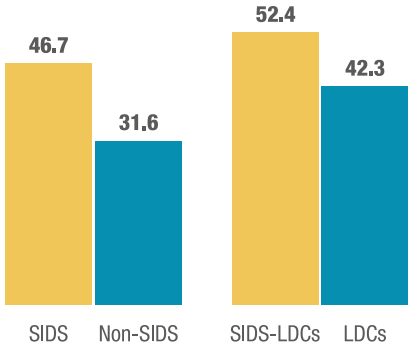
Overall, SIDS score highest among developing countries in terms of economic vulnerability. As illustrated in Figure 2 below, SIDS, as a group, score highest among developing countries in terms of the economic vulnerability index (EVI), which was developed by the United Nations and Ferdi,[17] as a central criterion for the identification of the structural vulnerability of developing countries to exogenous economic and environmental shocks. The EVI is comprised of eight indicators covering both economic and natural shocks (victims of natural disasters; instability of agricultural production; and instability of exports of goods and services), as well as determinants of exposure to shocks (small population size; remoteness from world markets; export concentration; share of agriculture, forestry and fisheries in GDP; and share of population living in low-elevation costal zones).

[16] According to IMF (2016), 12 SIDS face a "moderate" risk of debt distress (Cape Verde, Comoros, Guinea Bissau, Guyana, Haiti, Honduras, Samoa, the Solomon Islands, Saint Lucia, Timor-Leste, Tonga and Vanuatu); eight face a "high" risk of debt distress (Dominica, Kiribati, the Maldives, the Marshall Islands, Micronesia, São Tomé and Príncipe, Saint Vincent and the Grenadines and Tuvalu; and one SIDS is in debt distress (Grenada);

[17] Ferdi is a French foundation for international development studies (Fondation pour les Études et recherches sur le Développement International). See http://www.ferdi.fr/en.

Figure 2:

ECONOMIC VULNERABILITY INDEX FOR SIDS AND NON-SIDS



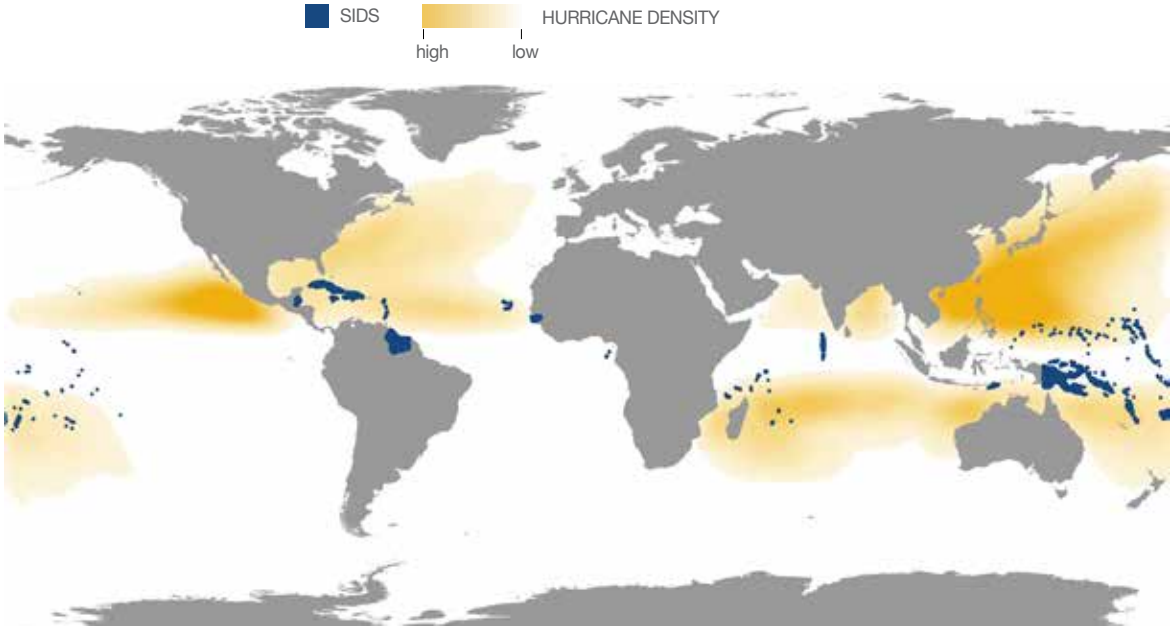
*These averages exclude the Cook Islands, Montserrat and Niue as EVI data was unavailable for these countries.

Source: Authors based on EVI data from Feindouno, S., and Goujon, M. (2016).

Geographic dispersion and a limited number of skilled staff in SIDS create unusual institutional vulnerabilities. The limited job markets in some SIDS and challenges in retaining skilled staff translate into a relatively low number of qualified staff working in key capacities, particularly procurement, financial management and project management. This further constrains the ability of SIDS to manage multiple funding sources. In addition, the extensive spatial dispersion of some island groupings translates into high service provision costs, challenging the ability of government to provide essential services and job opportunities to their populations and creating unique institutional and social vulnerabilities.

Figure 3:

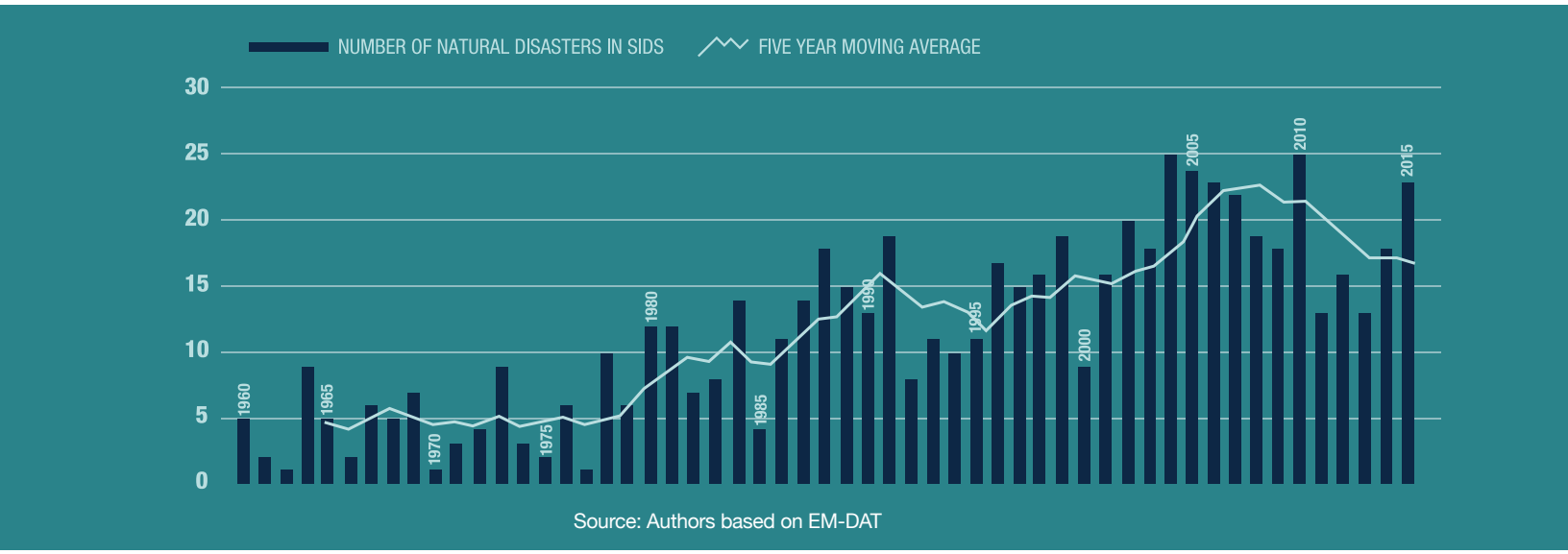
DENSITY OF TROPICAL CYCLONES AND SIDS



Source: Authors' analysis based on NOAA, GADM, CIA; density of storms based on NOAA storm tracks from 1990-2015.

Figure 4:

OCCURRENCE OF MAJOR NATURAL DISASTERS IN SIDS SINCE 1960



Source: Authors based on EM-DAT

SIDS are acutely vulnerable to the increasing impacts of natural disasters. The geography of SIDS puts them at the forefront of natural disasters and climate change, with many located in regions with a high density of tropical cyclones (Figure 3). More than 335[18] major natural disasters have occurred in SIDS since 2000, resulting in an estimated USD 22.7 billion in direct damages.[19] While the occurrence of major natural disasters in SIDS has declined slightly since 2000 (Figure 4), the associated impacts of these events have increased. In 2015, almost three million people were reported as being affected by natural disasters, equivalent to roughly 5% of the population in SIDS. The cost of damage caused by natural disasters increased from an average of USD 8.7 billion in 2000-2007 to over USD 14 billion in 2008-2015. These figures may underestimate the real damage from natural disasters in SIDS as many, particularly smaller-scale events, are underreported. Between 2000 and 2014, for example, at least 45 natural disasters across eight SIDS were reported without any damage figures.[20] Some SIDS, such as Grenada, Vanuatu, Niue and Tonga rank as the most disaster-prone countries in the world (Figure 6).

[18] These include geophysical, meteorological, hydrological and climatological related disasters collected in the EM-DAT maintained by the Collaborating Centre for Research on the Epidemiology of Disasters (CRED). The CRED registers a "disaster" if at least one of the following has occurred: 10 or more fatalities; 100 or more people "affected"; a call for international assistance; or the declaration of a state of emergency. People "affected" by a disaster are defined as those injured, homeless/displaced or requiring immediate assistance.

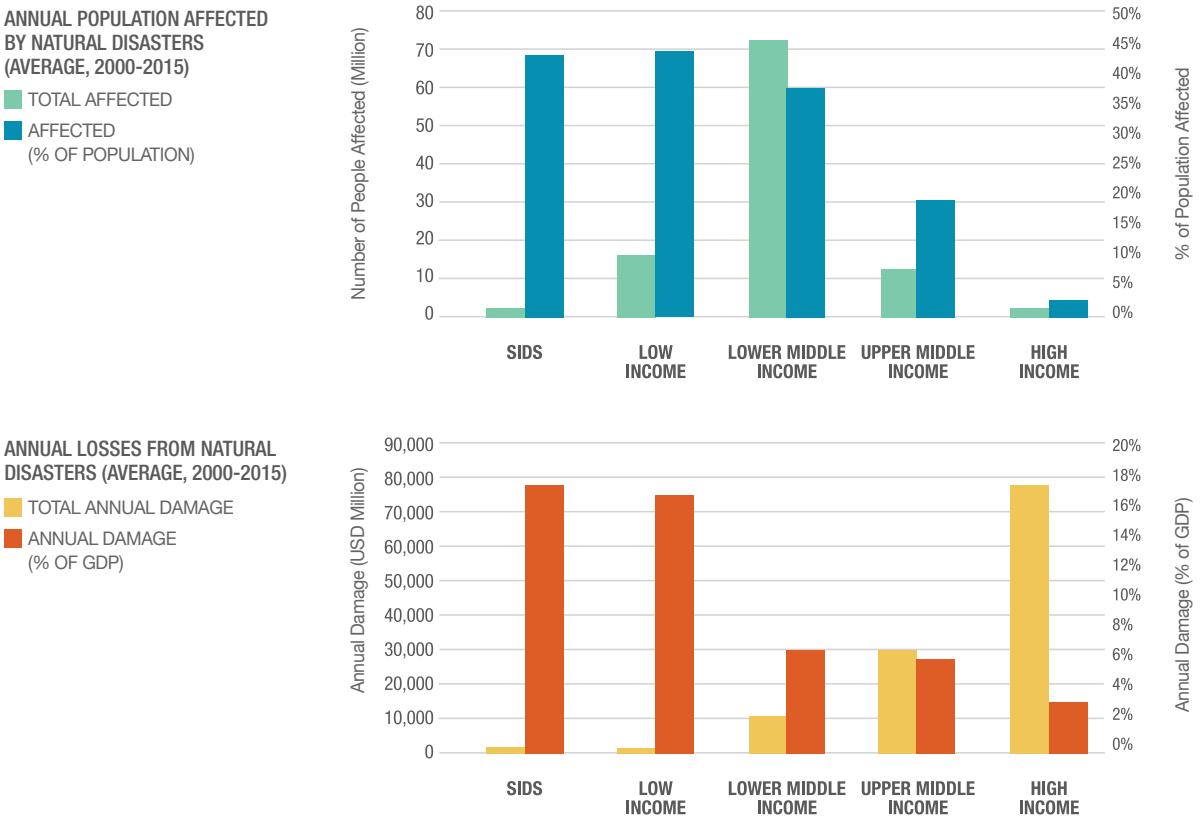
[19] Data from EM-DAT. Estimates of losses may be affected by reporting biases, particularly in earlier years. Data limitations are further discussed in Annex 2.

[20] For example, a study on Fiji showed that "the accumulated impacts of small and medium disasters may be equivalent to or exceed those of large disasters. Data on many lesser events is not collected systematically in Pacific Island countries and is sometimes not collected at all" and "In general, the occurrences of small disease outbreaks, local flash floods and land degradation are usually invisible to the media and often to policymakers as well. Increases in the frequency of these lower intensity hazards have a large impact on poverty." UNISDR, UNDP (2012): 76pp.

While small compared to international figures, the impacts of disasters are disproportionately large in SIDS. As illustrated in Figure 5, although across income groups SIDS reported the lowest number of people affected by natural disasters in absolute terms between 2000 and 2015, SIDS, along with low-income countries[21], had the largest share of their populations affected (42% for SIDS and 43% for low-income countries). Similarly, while the monetary value of damage from natural disasters is much larger in advanced economies due to the accumulation of valuable assets, the relative damage in SIDS is much greater as a percentage of national output. SIDS account for two-thirds of the countries in the world that suffer the highest relative losses due to natural disasters on an annual basis – between 1 to 9% of their GDP each year (Figure 6).

Figure 5:

ANNUAL IMPACTS OF NATURAL DISASTERS IN SIDS COMPARED TO OTHER COUNTRY GROUPINGS

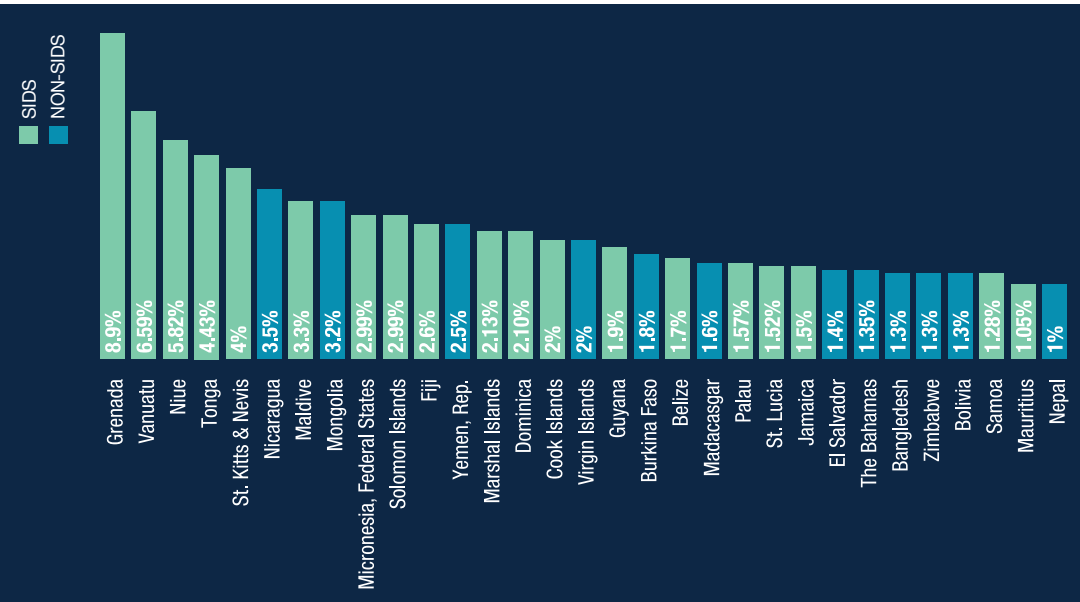


Source: Authors based on EM-DAT

[21] Least Developed Countries (LDCs) are included under the Low-Income Country classification of OECD.

Figure 6:

AVERAGE ANNUAL LOSS FROM DISASTERS AS A PERCENTAGE OF GDP



Source: Adapted from World Bank (2012), "*Acting Today for Tomorrow*," and based on historical disaster damage reported in the EM-DAT disaster database, as well as – for Pacific Islands – on modelled annual losses from cyclones, earthquakes and tsunamis.

Current development trends are increasing SIDS vulnerability to natural disasters. As in other developing countries, rapid urbanization, population growth and climate change are increasing the exposure of SIDS to disaster risk.[22] Pollution and ecosystem degradation, and the extraction of coastal aggregates for construction, are also compromising natural buffers, leaving the population and assets increasingly exposed. Without integrating resilience into development policies and environmental conservation, these trends will continue to increase the exposure and vulnerability of SIDS to natural disasters and climate change.

Increased environmental risks due to the impacts of climate change pose additional challenges to the economic growth and sustainable development of SIDS. While natural disasters – storms, hurricanes, cyclones, etc. – have been a feature of life on islands in the Caribbean, the Pacific and the Indian Oceans for centuries, the effects of climate change are exacerbating their intensity. In addition, climate change is creating a host of new developmental challenges for SIDS. Rising sea levels and storm surges are already affecting coastal freshwater aquifers and critical infrastructure, which will progressively inundate coastal zones where the majority of the population and key assets are located.[23] In atoll islands, this is affecting agriculture, the water supply and human health, and may compromise the ability to sustain life.[24] Increasing ocean acidity is already causing widespread damage to coral reefs and marine ecosystems, which these countries depend on for food and tourism.

[22] Mimura, N., et al. (2007)

[23] IPCC (2014a).

[24] Storlazzi, C.D., et al. (2015). *Many Atolls May Be Uninhabitable Within Decades Due to Climate Change.* Sci. Rep. 5, 14546; doi: 10.1038/srep14546 (2015).

The costs of recovering from increased natural disasters take a toll on the growth trajectory of SIDS. Natural disasters and climate variability severely affect key economic sectors in SIDS – including agriculture, fisheries and tourism – leading to lower economic growth and affecting the most vulnerable populations. The costs of coping with, and recovering from, natural disasters are comparatively higher in SIDS given their reliance on imported materials and the challenging logistics of reaching remote and spatially dispersed populations. Financing urgent humanitarian responses to frequent disasters often implies high recovery and reconstruction costs and can pre-empt investments that lessen the toll of future disasters. With limited domestic revenue sources, SIDS governments often need to divert scarce public resources from essential social and economic development investments to address disaster-related needs, compromising the pace and scope of future growth and development, and knowing that shortfalls financed through debt may ultimately "tax" future generations. Often, funds for disaster response are diverted at the expense of the operation and maintenance of public infrastructure (an item typically not covered by donor contributions), creating a vicious cycle of higher vulnerability to future disasters, which is compounded by the high levels of indebtedness in many SIDS.

The next chapter explores how financing is provided to address these challenges.

III. THE COMPLEX LANDSCAPE OF CLIMATE AND DISASTER RESILIENCE FINANCING

This chapter discusses the vast array of sources and mechanisms available to finance climate and disaster resilience, with a focus on concessional resources. It examines the complex web of eligibility requirements and terms that SIDS must meet to access these resources, and highlights that while different mechanisms have evolved to meet different needs, greater clarity on their scope, benefits and limitations is necessary for their effective use.

There is no "one stop shop" for climate and disaster resilience, but rather a complex global architecture of funds and providers. The responsibility, expertise and funding for climate and disaster resilience are scattered across a large number of actors.[25] In terms of financing, a complex set of sources and windows dedicated to specific issues has emerged. Different sources can be identified specifically for climate and for DRM, with overlaps as well as gaps.

Concessional finance sources include bilateral donors, various multilateral organisations and global funds established specifically to finance climate and/or disaster resilience, such as the Least Developed Country Fund (LDCF), the Adaptation Fund (AF), the Climate Investment Funds (CIF) and the Green Climate Fund (GCF), among others. Each of these sources has its own priorities and approaches to allocating resources and a number of financing instruments to support resilience. With concessional finance to SIDS as a whole shrinking and many SIDS at risk of losing access to it as they graduate to a higher-income status, enhancing the effectiveness of the provision and use of concessional finance from this multiplicity of sources becomes a priority.

Many bilateral donors extend ODA for climate and disaster resilience finance to SIDS in the form of concessional grants and loans, which are often provided on the basis of geographic proximity, historical and cultural ties, economic and trade linkages, and geopolitical interests. ODA eligibility,[26] which is mainly based on income criteria, can play a role in determining donors' allocations to SIDS, but is not binding and some providers allocate bilateral funding to SIDS that are not ODA eligible.[27]

Several multilateral organisations – including MDBs and global climate and disaster funds – provide concessional funds (in the form of grants and concessional loans[28]), as well as non-concessional resources to SIDS that can be tapped to build climate and disaster resilience. As will be discussed in the following two sections in more detail, eligibility criteria for funding varies across institutions, but is mainly linked to the World Bank's income thresholds. Several SIDS have lost access to multilateral concessional funding because they exceeded income thresholds, and some have moved in and out of eligibility over time (see the following two sections). Yet many SIDS remain eligible through special exceptions, such as the World Bank's International Development Association (IDA) small island economy exception.

[25] See, for example, Birkmann, Joern, et al. (2009).

[26] Not all concessional resources to all countries count as ODA. For details about the ODA-eligibility criteria, please refer to: http://www.oecd.org/dac/stats/daclist.htm

[27] This is the case, for example, of Japan as indicated in Japan's response to the OECD DAC Survey on policies and practices in support of SIDS (2015).

[28] In this paper, "concessional finance" refers to financing that meets the concessionality criteria as embedded in the ODA definition. Please refer to: http://www.oecd.org/dac/stats/officialdevelopmentassistancedefinitionandcoverage.htm#Definition

In addition, some adjustments in MDB allocation models have benefitted SIDS, for example: i) increasing minimum base allocations in favour of countries with small populations (IDA, African Development Fund and the International Fund for Agricultural Development); and ii) including an assessment of economic vulnerability (Caribbean Development Bank).

Overall, with eligibility to several multilateral and bilateral sources of financing relying critically on per capita classification, SIDS have expressed the need for a coordinated effort by development partners to review the rules governing access to concessional finance and to include vulnerability aspects in funding eligibility criteria.[29] A key difficulty is that vulnerability of people and countries is determined by multiple factors (location, income, assets, access to resources, and institutional and legal systems, among others), yielding different country classifications and rankings depending on the sub-set used.[30] While some of the past solutions – such as the small island economies exception – help to address these concerns, they remain largely arbitrary. Given the extent and increasing climate-related impacts as well as the development deficit in many SIDS, the international community should make greater efforts to discuss how to ensure that SIDS are able to access the finance they need at the terms and conditions most suited to their specific circumstances.

Increasingly, bilateral and multilateral partners are exploring the use of innovative instruments to deploy concessional finance more effectively, leverage additional resources, and reduce risks and vulnerabilities. In 2015, the Government of the Seychelles and its Paris Club creditors – with support from the Nature Conservancy – adopted the first debt-swap aimed specifically at ocean conservation and climate adaptation. Debt-swaps offer a useful tool with the potential to reduce immediate debt burdens while also increasing resources targeted toward climate resilience.[31] Under this mechanism, development partners can help governments buy back a portion of their high-cost public debt, under the condition that they reallocate funds otherwise used for debt service payments to investments in resilience. Several variations of debt-swaps for resilience are presently under discussion, including through the World Bank.[32] The Economic Commission for Latin America and the Caribbean (ECLAC) also formulated a proposal for a debt-swap for climate adaptation in the Caribbean, where resources from the GCF could be used to write down public debt from multilateral and bilateral lenders, and buy back debt from private creditors at a steep discount.[33] In addition, state-contingent borrowing, which links debt repayment to the ability to pay as shaped by external factors, is also emerging as an instrument that could help governments better manage their debt commitments.[34]

Some SIDS have been pioneers in the use of market-based financing mechanisms, particularly sovereign insurance. For example, through the Caribbean Catastrophe Risk Insurance Facility (CCRIF) and the Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI), some SIDS have created regional risk pools, which help decrease individual premiums to member countries. However, in general, while several market-based financing mechanisms are now available globally

[29] Summary: Small States Forum 2015: Opportunities and Challenges for Small States to Finance Sustainable Development in the Post-2015 Development Landscape. See: http://www.worldbank.org/en/events/2015/09/28/small-states-forum-2015

[30] See IPCC (2014b). For example, low-lying atoll states located outside the cyclone belt (such as Kiribati) rank low on vulnerability measures based on probabilistic disaster events, and very high on indices that take sea-level rise into account.

[31] This mechanism is less effective in addressing the underlying drivers of debt distress and in leading to lower future debt accumulation (Haque T. et al., 2016).

[32] See for example Commonwealth Secretariat, 2013a & 2013b.

[33] http://www.cepal.org/en/pressreleases/eclac-presents-debt-alleviation-strategy-based-debt-swap-proposal-high-level-meeting

[34] See for example, UNDP (2015).

(e.g., catastrophe insurance, catastrophe bonds, securities indexed to disaster-related triggers, deferred repayment loans, etc.), the ability of individual countries to access them is limited by their high-risk profile – which often makes the cost of such mechanisms prohibitive – and, in some cases, by weak technical capacities to access and manage them. InsuResilience[35], established under the German G7 presidency in 2015, represents a promising initiative to overcome limitations to more broadly deploy climate risk insurances.

Different mechanisms are designed to meet different *ex ante* and *ex post* financing needs. Multilateral organisations offer various financing mechanisms that serve different needs at different times, from *ex post* Balance of Payments support from the International Monetary Fund (IMF) and fast-disbursing liquidity (from the CCRIF or PCRAFI) to investment in longer-term resilience (IDA and global climate and disaster funds).

The table below illustrates the plethora of financing windows using the example of the Bretton Woods institutions and some of the larger global climate and disaster funds for which the World Bank Group (WBG) currently acts as a trustee. In addition, the WBG[36] and the IMF offer several modalities for *ex ante* and *ex post* concessional and non-concessional financing for natural disaster resilience, several of which have been specifically designed or adapted for use by SIDS.

Ex ante, core development finance vehicles, such as IDA, can finance technical assistance, investment projects, budget support operations, results-based financing and guarantees, including in support of climate and disaster resilience objectives. Under the current IDA cycle, all operations are required to screen for climate and disaster risk and include resilience measures if such risk is identified. The climate-screening requirement will also apply to all International Bank for Reconstruction and Development (IBRD) operations as of January 1, 2017.

Global climate and disaster funds that also target *ex ante* resilience include the Adaptation Fund (AF), the LDCF, the Special Climate Change Fund (SCCF), the Global Environmental Facility (GEF), the Pilot Program for Climate Resilience (PPCR) under the CIF, and the GCF, which was designed to be the main financing mechanism for the UN Framework Convention on Climate Change (UNFCCC) alongside the GEF. The Global Facility for Disaster Reduction and Recovery (GFDRR) provides technical assistance activities in high-risk countries according to needs, absorptive capacity and potential for leveraging other investments. These funds represent an important supplementary source of financing to SIDS.

Following a natural disaster, IDA-eligible countries can access *ex post* funds through the Crisis Response Window. In addition to those listed in Table 2, a number of other mechanisms are available, which can be mobilised *ex ante* for *ex post* use, including catastrophe bonds, weather derivatives and Catastrophe Deferred Drawdown Options (CAT-DDOs). The latter consists of a contingent credit line that can be

[35] The G7 Initiative on Climate Risk Insurance aims to increase access to direct or indirect insurance coverage against the impacts of climate change for up to 400 million of the most vulnerable people in developing countries by 2020. Also known as "InsuResilience", the initiative was adopted at the G7 Summit in Elmau/Germany in June 2015 and is to be implemented in close partnership between the G7 states, developing countries and emerging economies.

[36] Since the focus of this report is on sovereign financing, coverage of the WBG does not include International Finance Corporation or Multilateral Investment Guarantee Agency financing.

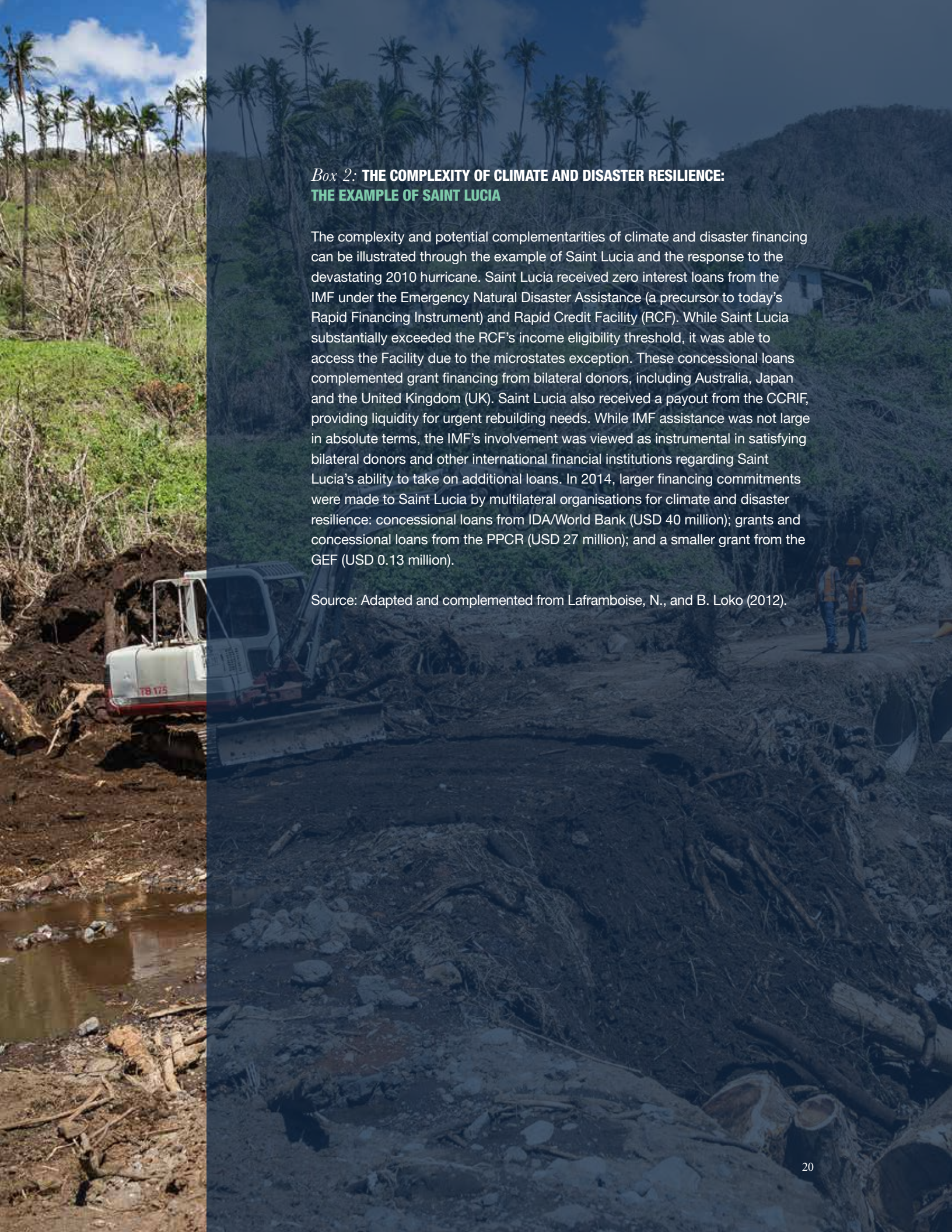
triggered for up to 15 years upon declaration of emergency, subject to maintenance of a satisfactory national DRM programme. These instruments have yet to be widely used by SIDS, but the Seychelles approved a first CAT-DDO in 2014.

The IMF can play a critical role in supporting countries' Balance of Payments in the immediate aftermath of a natural disaster. Some mechanisms are designed to be in place *ex post*, while others can involve an augmentation of existing arrangements. In addition to standard IMF windows, Poverty Reduction and Growth Trust (PRGT) windows are available to an approved list of developing member countries (including some non-low-income SIDS, while the new Catastrophe Containment and Relief Trust can provide debt relief to a more restricted group of countries.

Overall, clarity on the coverage and scope of these mechanisms is critical. For example, risk pooling insurance mechanisms, such as PCRAFI and CCRIF, have enabled some Pacific and Caribbean SIDS to cover a portion of their financial exposure to high-impact natural disasters. These parametric mechanisms emphasise speed, as payouts are linked to pre-agreed disaster indicators rather than actual assessed losses. In planning their overall financial preparedness for disasters, member and partner countries must consider that this represents a useful risk management component, rather than complete risk transfer to private markets.

The broader work streams around these mechanisms have produced valuable public goods in the form of better data and models on asset exposures and hazards. In the Pacific, these technical tools have included hazard models, an asset exposure database and probabilistic catastrophe models. In the Caribbean, country disaster risk profiles have recently been completed for Belize, Grenada, Jamaica and Saint Lucia.[37] In many countries, this was the first time such technical work was implemented.

[37] Caribbean Handbook on Risk Information Management. See http://charim.net/



Box 2: THE COMPLEXITY OF CLIMATE AND DISASTER RESILIENCE: THE EXAMPLE OF SAINT LUCIA

The complexity and potential complementarities of climate and disaster financing can be illustrated through the example of Saint Lucia and the response to the devastating 2010 hurricane. Saint Lucia received zero interest loans from the IMF under the Emergency Natural Disaster Assistance (a precursor to today's Rapid Financing Instrument) and Rapid Credit Facility (RCF). While Saint Lucia substantially exceeded the RCF's income eligibility threshold, it was able to access the Facility due to the microstates exception. These concessional loans complemented grant financing from bilateral donors, including Australia, Japan and the United Kingdom (UK). Saint Lucia also received a payout from the CCRIF, providing liquidity for urgent rebuilding needs. While IMF assistance was not large in absolute terms, the IMF's involvement was viewed as instrumental in satisfying bilateral donors and other international financial institutions regarding Saint Lucia's ability to take on additional loans. In 2014, larger financing commitments were made to Saint Lucia by multilateral organisations for climate and disaster resilience: concessional loans from IDA/World Bank (USD 40 million); grants and concessional loans from the PPCR (USD 27 million); and a smaller grant from the GEF (USD 0.13 million).

Source: Adapted and complemented from Laframboise, N., and B. Loko (2012).

The eligibility and terms of these funds are, however, complex and evolving. The diversity of eligibility criteria can be seen in Table 2 below. Different funding instruments and windows present a complex web of eligibilities, with SIDS capacity constraints presenting challenges to access windows and to design and implement coherent financing approaches.[38]

WBG members' eligibility to access IDA resources is determined using income thresholds and a combination of poverty measures and assessments of creditworthiness and risk of debt distress. Of the 35 ODA-eligible SIDS considered in this report, 21 are IDA-eligible,[39] of which 14 receive financing under the IDA's small island economy exception.[40] This exception – given to small islands (with populations of less than 1.5 million) facing significant vulnerabilities due to size and geography, and with limited credit-worthiness and financing options – allows beneficiary SIDS to access IDA resources even though some have exceeded the per capita IDA operational cut-off more than five-fold.

IMF access to concessional terms is determined by the WB income threshold, as well as the (in)ability to access international financial markets on a durable and substantial basis. The IMF applies both a small states[41] and a microstates exception to accessing PRGT windows, along with a five-year graduation process and additional exceptions based on serious short-term vulnerabilities and/or countries' inability to access financial markets. In contrast, only the small states exception is applied to the IMF's new Catastrophe Containment and Relief Trust, and those countries already on the path to graduation from PRGT are ineligible.

The global climate and disaster funds, meanwhile, present their own complex eligibility requirements, ranging from eligibility for nearly all SIDS (AF, GEF Trust Fund and GEF SCCF) to only nine SIDS for the GEF LDCF. For some countries, like Palau and Niue, accessing funds is particularly challenging since they do not qualify for concessional financing from IDA/World Bank and the IMF and they lack the creditworthiness to borrow from international financing institutions.

Some SIDS may also face concessional finance terms that change over time. The joint IMF/World Bank Debt Sustainability Analysis (DSA) process is of particularly important for low-income countries because it directly affects the country's cost of borrowing from IDA. Countries with improving external debt sustainability could find themselves facing hardening terms from grant to credit status within IDA. The importance of natural disasters to debt sustainability is illustrated by Vanuatu, which moved from low to moderate risk of debt distress between 2013 and 2015 following cyclone recovery and reconstruction expenditures. Increasingly, DSA assessments respond to this by considering natural disaster risk in their analysis of a country's vulnerabilities – for example, in the 2015 DSA of Haiti and the 2016 DSA of the Solomon Islands.

[38] Also see the OECD's Toolkit to Enhance Access to Adaptation Finance: http://www.oecd.org/env/cc/Toolkit to Enhance Access to Adaptation Finance.pdf

[39] Cape Verde, Comoros, Dominica, Grenada, Guinea Bissau, Guyana, Kiribati, Haiti, the Maldives, the Marshall Islands, Micronesia, PNG, Samoa, São Tomé and Príncipe, Saint Lucia, Saint Vincent and the Grenadines, the Solomon Islands, Timor-Leste, Tonga, Tuvalu and Vanuatu.

[40] Cape Verde, Dominica, Grenada, Kiribati, the Maldives, the Marshall Islands, Micronesia, Samoa, São Tomé and Príncipe, Saint Lucia, Saint Vincent and Grenadines, Tonga, Tuvalu and Vanuatu.

[41] Similarly to IDA, this exception applies to small states with a population below 1.5 million and a per capita income below twice the IDA cut-off.

Table 2:

SIDS ELIGIBILITY FOR CLIMATE AND DISASTER RESILIENCE FINANCING FROM IMF AND WB FINANCING WINDOWS AND MAJOR GLOBAL CLIMATE AND DISASTER FUNDS

EX ANTE/ EX POST	FUNDING MECHANISM	ELIGIBLE SIDS/35[42]	TYPE	COMMENTS
Ex ante	International Development Association (IDA)	21 (14 of which are through the small island economy exception)[43]	Grants, concessional development loans and guarantees to member governments.	Provided on grant and/or concessional loan terms, depending on the country's risk of debt distress.
	Adaptation Fund (AF)	34	Mainly grants for climate change adaptation to governments	Countries are able to access AF resources through regional or multilateral implementing agencies, or through a regional pilot.[44]
	AF Direct Access	6	Mainly grants for climate change adaptation to governments	Countries must work through an accredited national implementing entity (NIE) for direct access. Currently, 23 SIDS have NIEs, of which six (Antigua and Barbuda, Dominican Republic, Federated States of Micronesia, Cook Islands, Jamaica and Belize) are accredited for direct access.
	Green Climate Fund (GCF)	35	A wide range of financial instruments, including grants, loans, guarantees, equity and insurance[45]	The GCF accredits public, private and non-governmental entities to serve as intermediaries. To access funds directly, countries must establish nationally designated authorities or focal points to deploy readiness funding.
	Global Environment Fund (GEF)	34	Grants to finance climate change mitigation activities	Funding can be provided to government agencies, civil society organizations, private sector companies and research institutions.
	Least Developed Countries Fund (LDCF)	9	Grants financing the development and implementation of national adaptation programmes of action	Funding can be provided to government agencies, civil society organizations, private sector companies and research institutions in LDCs.
	Special Climate Change Fund (SCCF)	34	Grants financing adaptation and technology transfer	Funding can be provided to government agencies, civil society organizations, private sector companies and research institutions. in LDCs.

[42] The Cook Islands, Cuba, Monserrat and Niue are ineligible for most windows since they are not World Bank or IMF members. However, the Cook Islands and Niue may, nevertheless, be able to access some activities through New Zealand, while Montserrat may do so through the United Kingdom. For example, the Cook Islands accessed (on a fully reimbursable basis) PCRAFI activities through New Zealand's WBG membership.

[43] Of the 21 SIDS accessing IDA funds, 14 benefit from the small island economy exception, allowing them to access IDA resources even though they exceed the normal cut-off for IDA eligibility (based on gross national income per capita below an established threshold and updated annually to USD 1,215 in fiscal year 2016), because they lack the creditworthiness needed to borrow from the IBRD.

[44] Adaptation Fund Infographic: https://www.adaptation-fund.org/adaptation-fund-infographic/

[45] GCF Publication: Use of Other Financial Instruments: https://www.greenclimate.fund/documents/20182/24946/GCF_B.08_12_-_Use_of_Other_Financial_Instrument.pdf/bea220c7-473a-41bf-a698-746aa03ff19b?version=1.1

EX ANTE/ EX POST	FUNDING MECHANISM	ELIGIBLE SIDS/35[42]	TYPE	COMMENTS
Ex ante	GEF Small Grants Programme	28	Small grants of up to USD 50,000 to community groups and NGOs	Funding is not intended for government activities.
	CIF Forest Investment Program	1	Grants and concessional lending to address forest degradation and improve resilience	
	CIF Pilot Program for Climate Resilience	Caribbean + the Pacific Region	Grants and highly concessional finance for the integration and implementation of climate resilience as part of development assistance provided to nine SIDS	
	CIF Scaling Up Renewable Energy Program	5 + the Pacific Region	Grants and concessional lending to promote renewable energy	
	Global Facility for Disaster Reduction and Recovery (GFDRR)	33	Grants, technical assistance, training and knowledge transfer	Access is prioritised for high-risk countries according to needs, capacity and opportunity to leverage climate and DRM investments.

EX ANTE/ EX POST	FUNDING MECHANISM	ELIGIBLE SIDS/35[42]	TYPE	COMMENTS
Ex post	IDA Crisis Response Window	21[46]	Last resort financing for exceptionally severe natural disasters	Available at the IDA terms prevailing for each country.
	IMF Standard Windows	31	Balance of Payments support to avoid a Balance of Payments crisis	Available at standard IMF rate of charge.
	IMF Poverty Reduction and Growth Trust Windows (PRGT)	21	Balance of Payments support to avoid a Balance of Payments crisis	Available at concessional rates, currently 0% interest.
	IMF Rapid Credit Facility	21	Balance of Payments support in times of crisis.	Available at concessional rates, currently 0% interest.
	IMF Rapid Financing Instrument	31	Balance of Payments support to meet a broad range of urgent needs, including those arising from commodity price shocks, natural disasters, conflict and post-conflict situations, and emergencies resulting from fragility	Available at standard IMF rate of charge.
	IMF Catastrophe Containment and Relief Trust	6	Debt relief following an extreme disaster	Relief is available on repayments and principal of debt owed to the IMF.
Set up as *ex ante*, but flows as ex post	Pacific Catastrophe Risk Assessment and Finance Initiative (PCRAFI)	5[47]	Liquidity payment in the immediate aftermath of a disaster, policies covering cyclone and earthquake/Tsunami events	Parametric mechanism to insure specified perils, season-by-season. Payout is based on meeting index thresholds, not on damages.
	Caribbean Catastrophe Risk Insurance Facility (CCRIF)	8[48]	Liquidity payment in the immediate aftermath of a disaster, covering earthquake, tropical cyclone and excess rainfall events	Parametric mechanism to insure specified perils, season-by-season. Payout is based on meeting index thresholds, not on level of damage.
	Africa Risk Capacity Insurance Company, Ltd.	6	Liquidity payment in the immediate aftermath of a disaster, countries maintain a certificate of good standing, policies to date that cover drought	No SIDS has joined the insurance pools yet, although Comoros, Guinea Bissau and São Tomé and Príncipe have ratified the Africa Risk Capacity.

[46] During IDA17, three of the seven countries that accessed Crisis Response Window resources were SIDS: Solomon Islands, Vanuatu and Tuvalu.

[47] 15 Pacific SIDS are covered by disaster modelling and other technical work developed in conjunction with the PCRAFI scheme. Five SIDS have opted for the pooled coverage: Samoa, Tonga, Vanuatu, the Cook Islands and the Marshall Islands.

[48] There are currently 17 members of the CCRIF from Caribbean and Central American governments.

IV. CONCESSIONAL FINANCE FOR CLIMATE AND DISASTER RESILIENCE TO SIDS

This chapter focuses on quantifying the nature and scope of concessional financing committed to SIDS in support of climate and disaster resilience. In line with OECD/DAC statistics, concessional finance is defined as grants and concessional loans – from both bilateral providers and multilateral providers – that meet the ODA definition.[49] The chapter first analyses the aggregate trends in concessional finance for climate and disaster resilience to SIDS, and then focuses on the main trends and features of this assistance from the perspective of donors and SIDS recipients.

The statistical analysis in this section and in the remainder of the report represents a pioneering attempt to provide a comprehensive and accurate quantification of concessional flows in support of climate and disaster resilience to SIDS. With no internationally agreed methodology for assessing these flows, the statistical data considered in this report builds on climate finance data (e.g., as measured through climate markers[50] and the 2014 Joint Report on MDBs' Climate Finance[51]) and disaster preparedness data[52] to develop an ad hoc dataset, covering the period 2011-14. This approach allows for a more accurate picture of the breadth of concessional flows in support of climate and disaster resilience than the exclusive reliance on climate markers or preparedness purpose codes. For example, the methodology used allows for the inclusion of commitments in the education sector (e.g., drainage systems in schools) and in the research and scientific institutions (e.g., capacity development of meteorological services). Development investments that can positively affect resilience indirectly, such as investments in general institutional capacity development, were however not included in the dataset. Details of the methodology used are outlined in Annex 2.

A. Overall trends

Aggregate support for climate and disaster resilience in SIDS has grown considerably, but still represents a small share of concessional finance.

Between 2011 and 2014, the volume of concessional finance in support of climate and disaster resilience to SIDS nearly doubled, from USD 635 million[53] in 2011 to USD 1.01 billion in 2014 – an average of USD 783 million per year. While this shows that a considerable amount of financing has integrated climate and disaster risk considerations, it still accounts for a small fraction of overall concessional finance. Out of the USD 5.7 billion in concessional finance committed to SIDS on average per year during this period, about 14% explicitly supported efforts to enhance climate and disaster resilience. Climate adaptation was the most heavily prioritised (11%), while cross-cutting work (for example, activities in the forestry sector that can have both climate and disaster resilience benefits) made up 2% of annual concessional finance and general disaster resilience comprised 1% (Figure 7).

[49] Concessional finance considered in this report complies with the OECD DAC concessionality definition currently adopted in the OECD DAC statistics, which considers loans concessional in character when they include a grant element of at least 25% calculated with a 10% discount rate. For a complete definition of concessionality in the ODA concept, please refer to: http://www.oecd.org/dac/stats/officialdevelopmentassistancedefinitionandcoverage.htm#Definition

[50] For more information on the Rio Markers and on the tracking of climate finance in the CRS see: https://www.oecd.org/dac/stats/44188001.pdf and http://www.oecd.org/development/stats/rioconventions.htm

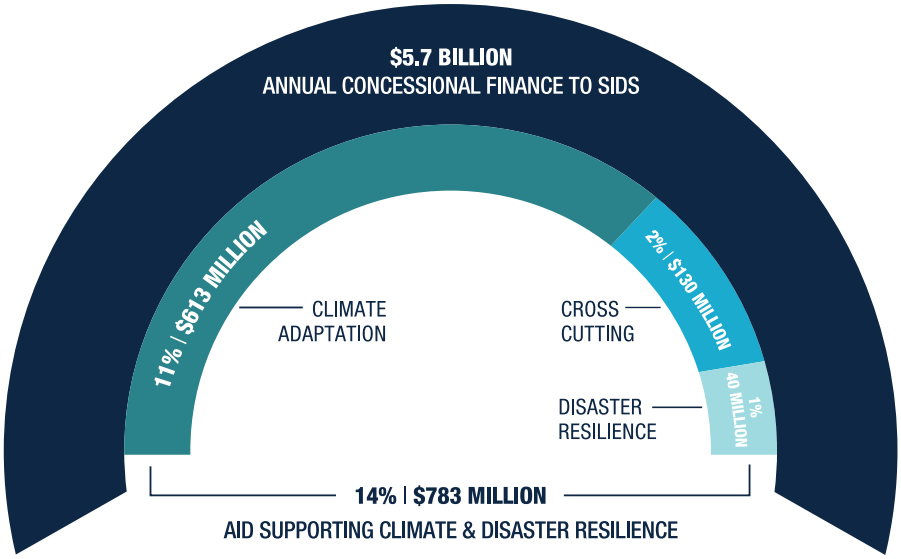
[51] For more information on the Joint Report on MDBs' Climate Finance, see: http://www.worldbank.org/content/dam/Worldbank/document/Climate/mdb-climate-finance-2014-joint-report-061615.pdf

[52] In the CRS, a number of purpose codes are relevant to DRM, including: disaster prevention and preparedness (purpose codes 74010); flood prevention (41050); and reconstruction relief and rehabilitation (73010).

[53] All figures in this report are in 2013 constant USD, unless otherwise specified.

Figure 7:

PORTION OF ANNUAL CONCESSIONAL FINANCE COMMITTED TO SIDS SUPPORTING CLIMATE AND DISASTER RESILIENCE (AVERAGE ANNUAL, 2011-14)



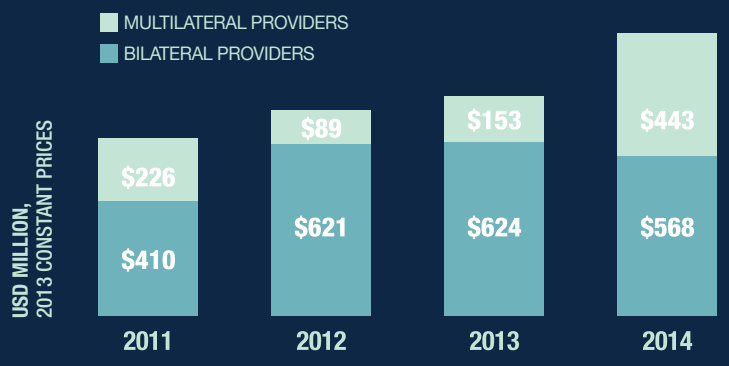
Source: Authors' own calculations based on OECD DAC Creditor Reporting System.

Bilateral partners provide the bulk of concessional finance for climate and disaster resilience, but funding from the multilateral system is accelerating rapidly. Bilateral partners provided about 71% (USD 2.2 billion out of USD 3.13 million) of concessional financing for climate and disaster resilience between 2011 and 2014, an average of USD 556 million per year. Despite a decline in 2014 (-9%), bilateral partners still provided larger volumes than multilateral organisations in each of the three regions, particularly to SIDS in the Africa, Indian Ocean, Mediterranean and South China (AIMS)[54] region (89%). Multilateral organisations, however, have significantly increased their support for climate and disaster resilience to SIDS by nearly 96% between 2011 and 2014, from USD 226 million to USD 443 million per year. This increase was partly due to significant growth in funding from global climate funds, including the GEF, the CIF and the AF, which more than doubled their financing to SIDS between 2011 and 2014, reaching 28 out of the 35 SIDS considered in this study. However, the bulk of this increase stemmed from larger concessional loans extended by MDBs to a select number of countries, mainly in UMICs (see subsequent paragraphs).

[54] All ODA-eligible AIMS are in Africa and the Indian Ocean (including Cape Verde, Comoros, São Tomé and Príncipe, Guinea Bissau, the Seychelles, Mauritius and the Maldives).

Figure 8:

BILATERAL AND MULTILATERAL CONCESSIONAL FLOWS TO CLIMATE AND DISASTER RESILIENT DEVELOPMENT (2011-14)

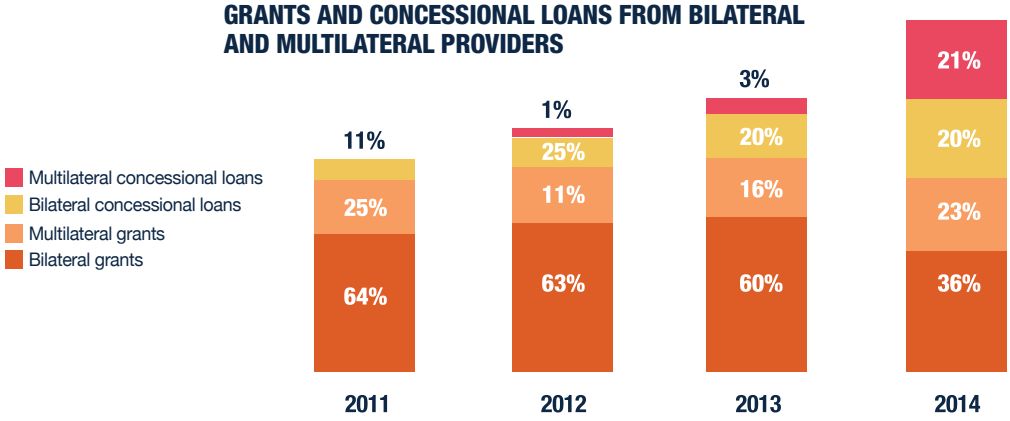


Source: Authors' own calculations based on OECD DAC Creditor Reporting System.

Climate and disaster resilience financing was mostly provided in the form of grants, but recent growth was largely due to increases in concessional loans. Grants made up a considerable portion of the concessional finance for resilience during the period 2011-14 (73%), constituting the bulk of financing from bilateral providers (76%) and nearly all of the funding from global climate funds (the GEF, AF and CIF) (91%). However, an increase in the number of grants from these funds during the same period was offset by a decline in grants from large bilateral providers, such as Australia, the UK and the US. At the same time, concessional loans increased substantially from USD 69 million in 2011 (11%) to USD 415 million in 2014 (41%). While over the whole period loans were predominantly provided by France (USD 330 million) and Japan (USD 207 million), recent growth is partly due to an increased allocation of concessional loans by MDBs, particularly IDA/World Bank (USD 171 million) and the Asian Development Bank (ADB) (USD 109 million).

Figure 9:

GRANTS AND CONCESSIONAL LOANS FROM BILATERAL AND MULTILATERAL PROVIDERS

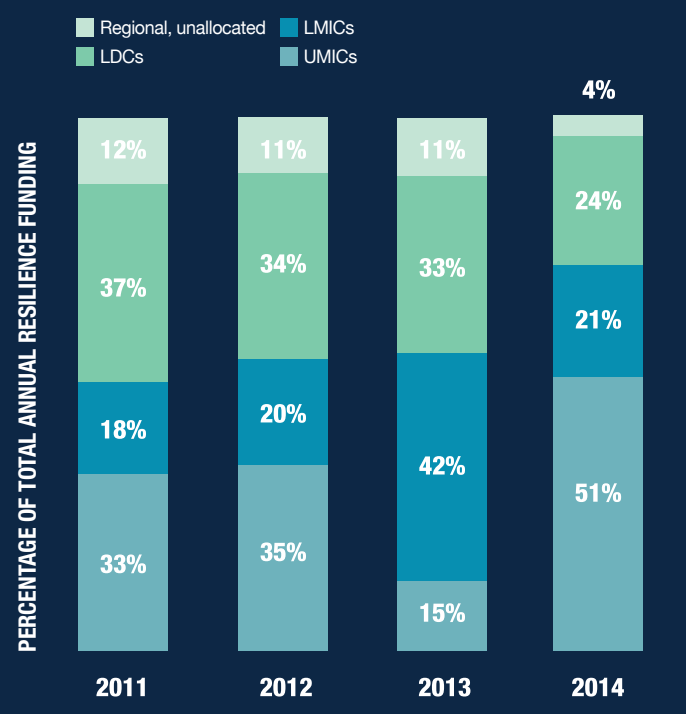


Source: Authors' own calculations based on OECD DAC Creditor Reporting System.

Funding to LDCs remained stable, while concessional finance rose significantly in Upper Middle-Income SIDS. The combination of stagnating grant levels and growth in concessional lending has shifted overall financing volumes across SIDS towards UMICs. While SIDS that are also LDCs received similar volumes in 2011 (USD 233 million) when compared to 2014 (USD 245 million), mostly as grants, their share of overall concessional financing for resilience declined from 37% in 2011 to 24% in 2014. At the same time, Upper Middle-Income SIDS were able to access new funding sources, mostly as concessional loans, and their share of concessional financing reached 51% in 2014, up from 33% in 2011. However, not all Upper Middle-Income SIDS benefitted from increases in concessional loans in 2013 and 2014; the Dominican Republic and Saint Lucia accounted for nearly 75% of this increase due to large investments in climate and disaster resilience, combining IDA/World Bank and PPCR resources, while the remaining 25% was split between five other Upper Middle-Income SIDS.

Figure 10:

CLIMATE AND DISASTER RESILIENCE FINANCE TO SIDS BY INCOME GROUP

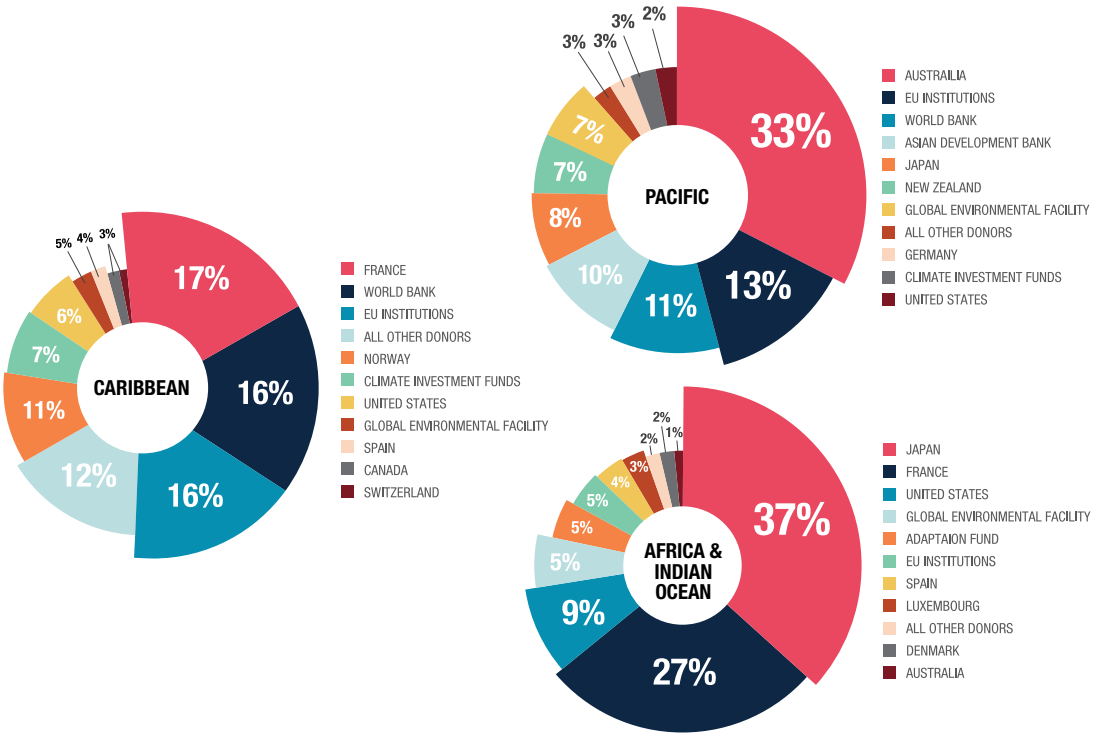


Source: Authors' own calculations based on OECD DAC Creditor Reporting System.

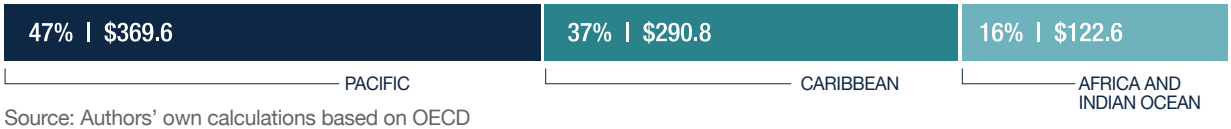
The relative weight of various donors varies across geographic regions. The Pacific region is heavily reliant on regional providers – Australia, the Asian Development Fund, Japan and New Zealand – as well as European Union (EU) institutions and the World Bank. The top five providers to Caribbean SIDS (France, the World Bank, the EU, Norway and the CIF) and to the AIMS SIDS (Japan, France, the United States (US), the GEF and the AF) are more diverse, with both regional providers and global climate funds contributing a significant share of funding.

Figure 11:

MAIN PROVIDERS TO SIDS BY GEOGRAPHIC REGION (2011-14)



ANNUAL CONCESSIONAL FINANCE FOR CLIMATE AND DISASTER RESILIENCE



Source: Authors' own calculations based on OECD DAC Creditor Reporting System.

While concessional finance for resilience covers a range of sectors, it is dominated by investments in resilient infrastructure. Fostering resilient development requires action in almost all sectors, including agriculture, water, tourism, fisheries and health. However, while the creation of climate-specific funds increased the funding available for technical support, investments in resilient public infrastructure continues to dominate funding commitments,[55] accounting for USD 1.34 billion, or 43% of climate and disaster resilience financing from 2011-14.

[55] Infrastructure is defined as the sum of projects in the water sector, transport and storage, communications, energy and urban development.

This reflects, in part, the higher cost of these investments as well as the priority needs expressed by SIDS governments. However, funding available for critical actions in the areas of ecosystem and land-use management – which have the potential to increase climate and disaster resilience in the long run – accounted for only 2% of climate and disaster resilience finance to SIDS in 2011-14 (USD 51 million).[56] The GEF and the AF provided the bulk of this funding (together accounting for 73%), while Germany was the largest bilateral provider, accounting for 23% of these investments.

Non-concessional lending for climate and disaster resilience to SIDS increased, particularly for UMICs. Three MDBs, namely the ADB, the Inter-American Development Bank and the World Bank, increased their non-concessional lending to SIDS, which rose from an annual average of USD 37.1 million in 2011-12 to more than three times as much in 2013-14 at USD 123.3 million. However, these resources were targeted to a limited number of countries: three in 2011-12 and five in 2013-14, or six different countries over the entire 2011-14 period. With the exception of Timor-Leste and PNG, all other recipients of non-concessional finance are classified as UMICs. Fiji was the top recipient (USD 99.4 million, or USD 24.8 on average per year), while the Seychelles received the least amount (USD 7.0 million, or USD 1.8 million on average per year), and average annual funding ranged between USD 16.6 million and USD 8.3 million for the others.

B. Bilateral providers of climate and disaster resilience finance

A few providers accounted for the bulk of bilateral financing. While 26 bilateral providers extended financing to SIDS for climate and disaster resilience in the 2011-14 period, the top ten providers accounted for 95% of financing and the top five for 77%, or USD 1.7 billion. Australia was the largest provider, followed by the EU, France, Japan, the US, Canada, Germany, New Zealand, Norway and Spain (see Figure 12).

Climate and disaster resilience received relatively low prioritisation in the ODA portfolios of some of the largest providers. Although development partners recognise the need for climate and disaster-resilient ODA investments,[57] on average only 13% of their ODA commitments supported these objectives. In the case of some providers, for example Australia[58] and New Zealand, this could stem from their roles as the largest providers in the Pacific SIDS, with assistance spread across the full spectrum of development needs (Figure 12).[59] Denmark, Norway and Finland were the most focused on resilience activities, which covered 91%, 50% and 31% of their total ODA commitment to SIDS, respectively, for the period 2011-14.

The focus of bilateral support varies according to the priorities and comparative advantages of each provider. France and Japan mainly focused resilience support in SIDS on large water and transport infrastructure projects. The US focused largely on training and awareness raising about climate change adaptation and disasters,

[56] However, this may also be because these are not sectors and, thus, not automatically tagged in the available data.

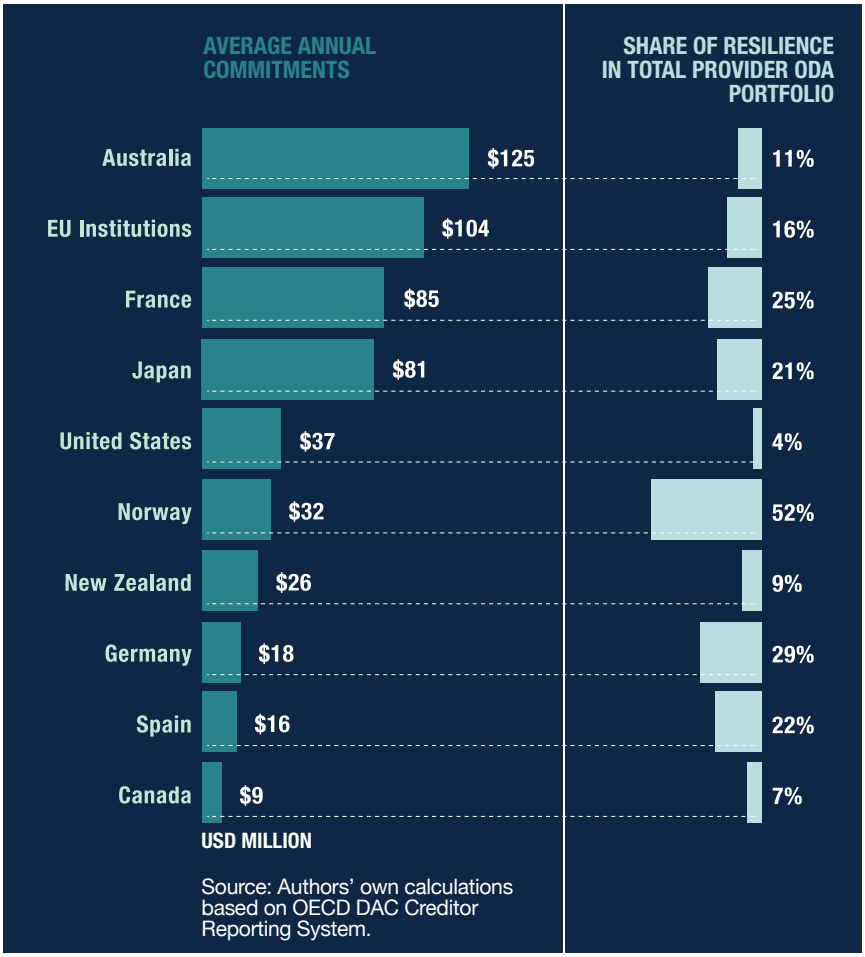
[57] Responses to the OECD Survey on policies and practices in support of SIDS (2015).

[58] In addition, Australia contributed to the PPCR, which supported SIDS in the Caribbean.

[59] Responses to the OECD Survey on policies and practices in support of SIDS (2015).

Figure 12:

TOP TEN BILATERAL PROVIDERS OF CONCESSIONAL FINANCE TOWARDS CLIMATE AND DISASTER RESILIENCE (2011-14)



Source: Authors' own calculations based on OECD DAC Creditor Reporting System.

helping farmers access forecasts and early warnings to inform their decision making, as well as smaller infrastructure projects like the construction of water reservoirs and lagoons to help farmers cope with drought. Among the providers offering support on a programmatic basis, the EU focused on disaster prevention and preparedness policy initiatives, budget support for national planning and projects, and investments in the water and energy sectors. Australia's climate and disaster resilience activities were concentrated mostly on meteorological and climate forecasting capacity, adaptation planning, awareness raising, and water, sanitation and transport projects in the Pacific.

Financing through multilateral institutions and regional initiatives represents an important channel for bilateral donors. Of total resilience financing, 21% of bilateral flows (USD 467 million, or USD 117 million per year on average) was channelled through multilateral organisations, which has enabled bilateral partners to enhance these organisations' support in regions of interest, for example for Australia and New

Zealand in the Pacific.[60] Individual providers without a strong field presence – such as Norway, Denmark, Canada and Sweden – channelled funding primarily through multilateral organisations (96%, 100%, 96% and 76%, respectively). Without a significant field presence in the Caribbean and AIMS regions, Australia channelled support to those regions mainly through earmarked funds. Even where bilateral providers have a field presence, funding through multilateral organisations was seen as a way to build strong partnerships. In Vanuatu (Australia's fourth largest recipient of climate and disaster financing for the period 2011-2014), 73% of Australia's funding was channelled through the IBRD, the UN Development Programme (UNDP) and other multilateral partners. In Guyana, the EU's largest recipient of climate and disaster financing among SIDS, 67% of EU financing was earmarked through multilateral organisations. In addition, bilateral providers finance regional institutions and initiatives, and channelled USD 274 million through regional approaches in the Pacific region alone for the period 2011-14.[61] These institutions and initiatives are perceived by some donors as more cost-effective in reaching SIDS and fostering an exchange of experiences and technology transfer (See Box 3).

Engaging with the private sector to leverage resilience financing is an increasing priority for providers, but remains a challenge in practice. Over the past two decades, instruments and mechanisms that support climate and disaster resilience through accessing private flows have been developed, for example through blended climate finance products or index-based schemes. Several providers are currently considering how to use grants more innovatively to better leverage private sector contributions. They also noted difficulties in attracting private sector contributions, although they have noted difficulties in attracting private sector investment given the small markets in and, often, high cost and risk profiles of many SIDS. In practice, however, private contributions are likely to remain small given the mostly public nature of climate and disaster resilience interventions in SIDS.

Sovereign states beyond "traditional donors" play an increasingly important role as development finance providers to SIDS. China and other emerging donors are becoming key partners of SIDS though how and to what degree they target climate and disaster resilience remains unclear.[62] Other active development partners include Malaysia, India, Indonesia, Morocco, Russia, Taiwan, the Gulf States, the United Arab Emirates (UAE) and Venezuela. For example, UAE official sources report that in 2011-14, about USD 30 million were committed to SIDS with the purpose of supporting climate-related objectives. Financing from a larger number of providers is welcome and can mean more financing options for SIDS, and an opportunity for collaboration and mutual learning. New Zealand and China, in particular, are working with the Government of the Cook Islands to deliver a safer and more reliable drinking water supply in Rarotonga (25% of funding is grant money from New Zealand, 35% is from a China Eximbank loan and 40% is from the Government of the Cook Islands). Australia is working with China in PNG on a malaria pilot project and contributing with Taiwan to the funding and management of a new trust fund for Nauru.

[60] 2013 OECD DAC Survey on Multilateral Allocations. For a broader discussion on the opportunities and costs of earmarked funding, please refer to OECD (2015b).

[61] Regional contributions to SIDS in other regions are not identifiable in the OECD CRS database.

[62] While data is not available from the CRS system, China provides an estimated USD 141 million a year to the Pacific region, accounting for about 6% of total assistance, and bilateral providers highlight that China is an active development partner in the Cook Islands, Fiji, PNG, Samoa, Timor-Leste, Tonga and Vanuatu. Sources: Brant P. and M. Dornan (2014). Chinese Assistance in the Pacific: Agency, Effectiveness and the Role of Pacific Island Governments. Lowy Institute. (http://www.lowyinstitute.org/publications/chinese-assistance-pacific-agency-effectiveness-and-role-pacific-island-governments); and responses to the OECD Survey on policies and practices in support of SIDS (2015).

Box 3: RELEVANCE OF REGIONAL APPROACHES FOR SUPPORTING CLIMATE AND DISASTER RESILIENCE IN SIDS

For bilateral and multilateral providers, maintaining an individual field presence and country programmes in SIDS can prove expensive, given the high costs of doing business and the relatively small programme size. In addition, many of SIDS vulnerabilities are common to several of these countries rather than strictly national in character. Therefore, some donors view regional approaches as effective, particularly in terms of achieving economies of scale and for sharing knowledge and technology.

In light of this, several providers did mention the importance of addressing challenges at the regional level.[63] This is borne out by the figures: over the period 2011-14, bilateral providers committed USD 273 million through regional approaches in the Pacific region alone[64] (equivalent to 12% of bilateral concessional finance in support of climate and disaster risk)

In the Caribbean and the Pacific, well-developed regional institutions have received sustained support from donors. In the Pacific, these include the Pacific Islands Forum Secretariat (PIFS), the Secretariat of the Pacific Community (SPC), the Secretariat of the Pacific Regional Environment Programme (SPREP) and the Melanesian Spearhead Group. These regional organisations work on improving SIDS advisory services and training opportunities on climate change, and advise governments on policies and strategies that integrate risk and disaster preparedness. In the Caribbean, providers support the Caribbean Community and Common Market and the Caribbean Community Climate Change Centre in the management of coastal resources and in adapting farmland and forest management to the impacts of climate change. Some providers are also supporting regional risk pooling schemes, for example the CCRIF and the PCRAFI, which allow SIDS to build a viable offering to private insurers by pooling and, thus, diversifying risk.

However, regional initiatives have not always been the answer. Striking a balance between country-level and regional approaches and ensuring that regional initiatives are responsive to the priorities and specific circumstances of each country are important. Some bilateral providers reported[65] that, in areas where resources or issues are primarily national, regional initiatives can underplay national differences and may complicate local-level processes. For such areas, multi-country initiatives that give greater attention to national context and direction in design and delivery can be more appropriate, while still allowing economies of scale, delivery efficiency, and sharing of lessons and expertise. These concerns seem to be shared by multilateral providers. Since 2010, for example, the World Bank has developed country-specific strategic plans in a number of SIDS, including the Federated States of Micronesia, the Solomon Islands, Kiribati, the Marshall Islands, Samoa, Tonga, Tuvalu and Fiji, with other Pacific Island countries to follow.[66] The World Bank has also assisted Eastern Caribbean countries to implement national-level disaster vulnerability programmes, while encouraging regional sharing of experiences. Recently, the World Bank established the SISRI[67] at the global level, to maximise intra-country learning and to help SIDS access scaled-up financing. In order to achieve a greater field presence in individual SIDS, the ADB and the World Bank also created joint liaison officer roles in Kiribati, Samoa and Vanuatu.

Given the different comparative advantages of national and regional activities, greater efforts should be taken to identify and differentiate between activities that can be effectively carried out at the regional level, those that need to be financed at the national level and those that require complementary action at both levels.

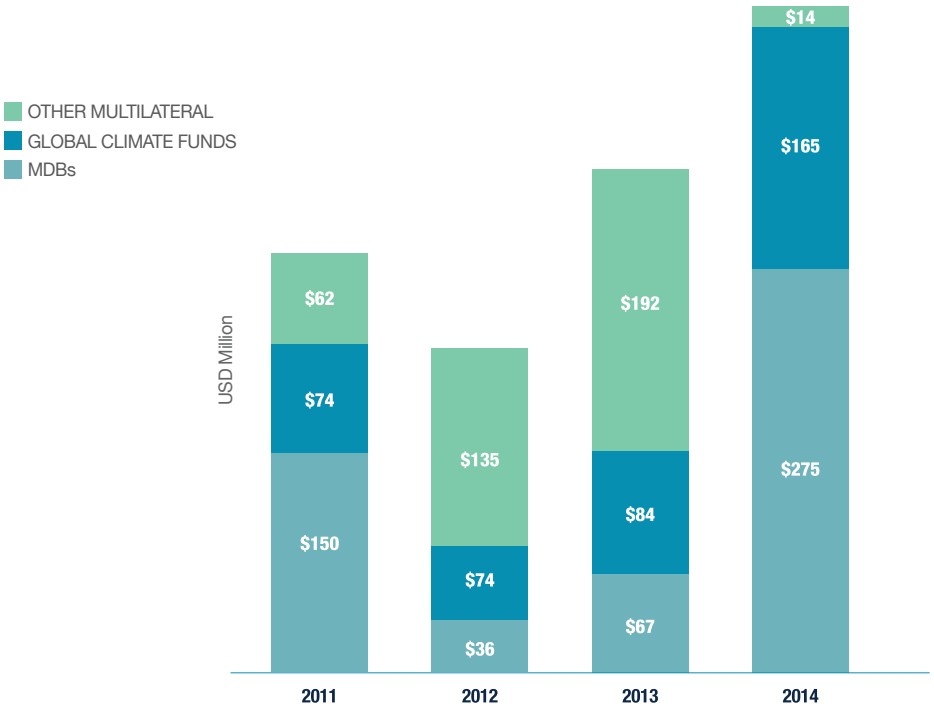
[63] Responses to the OECD Survey on policies and practices in support of Small Island Developing States (2015).
[64] Regional contributions to SIDS in other regions are not identifiable in the OECD CRS database.
[65] Responses to the OECD Survey on policies and practices in support of Small Island Developing States (2015).
[66] These country plans are available at: http://www.worldbank.org/en/country/pacificislands/overview - 2
[67] For more information on SISRI, see: https://www.gfdrr.org/small-island-states-resilience-initiative

C. Multilateral providers of climate and disaster resilience finance

While a small number of multilateral institutions have provided concessional support for resilience to SIDS, their support increased over the 2011-2014 period. During this timeframe, eight multilateral institutions were responsible for USD 910 million in concessional support to SIDS for climate and disaster resilience, or 29% of total support (an average of USD 228 million per year). The bulk of this funding (39%) came from the World Bank (USD 88 million per year), the GEF (USD 46 million per year), the ADB (USD 36 million per year) and the CIF (USD 29 million per year).

Figure 13:

ANNUAL CONCESSIONAL FINANCING FOR RESILIENCE FROM MULTILATERAL ORGANISATIONS

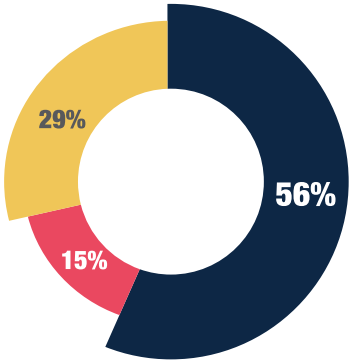


Source: Authors' own calculations based on OECD DAC Creditor Reporting System.

In practice, multilateral institutions channel considerably more funds to SIDS than their original contributions might indicate, since they combine their own funds with bilateral contributions. Thus, while multilateral institutions contributed 29% of total resilience funding, they in actuality channelled close to 44% (USD 1.38 billion) of total resilience funding in SIDS during the 2011-2014 period, with the World Bank representing the largest single channel (a total of USD 413 million).

Figure 14:

ANNUAL RESILIENCE FUNDING TO SIDS BY CHANNEL



- DIRECT BILATERAL FLOWS
- CHANNELLED BY MULTILATERAL
- DIRECT MULTILATERAL FLOWS

Source: Authors' own calculations based on OECD DAC Creditor Reporting System.

MDBs prioritised large investments in fewer countries, with a focus on infrastructure development and national initiatives. MDB concessional financing showed large average commitments and significant variation year to year, perhaps reflecting the resources needed to support these operations and their inherently "lumpy" commitment profile. The ADB allocated more than 76% of its total resilience financing (USD 111 million) to transportation infrastructure, while the World Bank prioritised infrastructure (43%) and strengthened both national and regional resilience strategies (36%).

Global climate funds play an increasingly important role in support of climate and disaster resilience. Although they comprise about 12% of all concessional support provided to SIDS (a total of USD 374 million, or an annual average of USD 93.5 million) during the period 2011-2014, global climate funds played a significant and consistent role, with finance varying minimally year to year. The GEF provided nearly USD 46.2 million, the CIF USD 29.3 million and the AF USD 18 million. In addition to extending concessional support, these funds and partners provided extensive technical knowledge and experience in project design and implementation. For example, the PPCR under the CIF was developed specifically to pilot resilience activities and includes a knowledge and learning component.

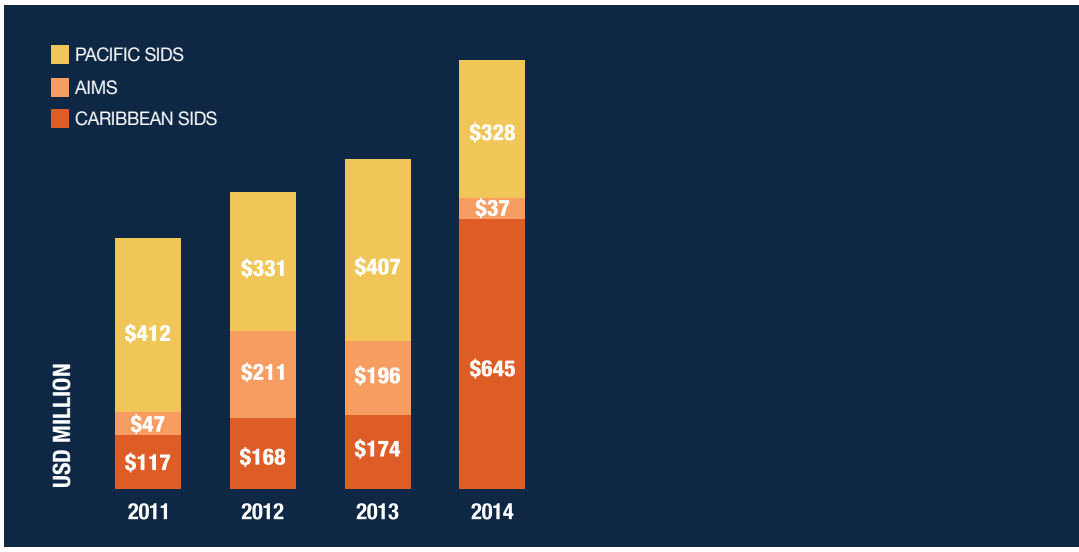
Other multilateral organisations provided additional resources for resilience to SIDS, with nearly USD 100 million a year provided by EU institutions, followed by UNDP (USD 1.4 million per year), the Food and Agriculture Organization of the UN (FAO), the UN Children's Fund (UNICEF) and the World Health Organization (WHO) (all under USD 250,000 per year).

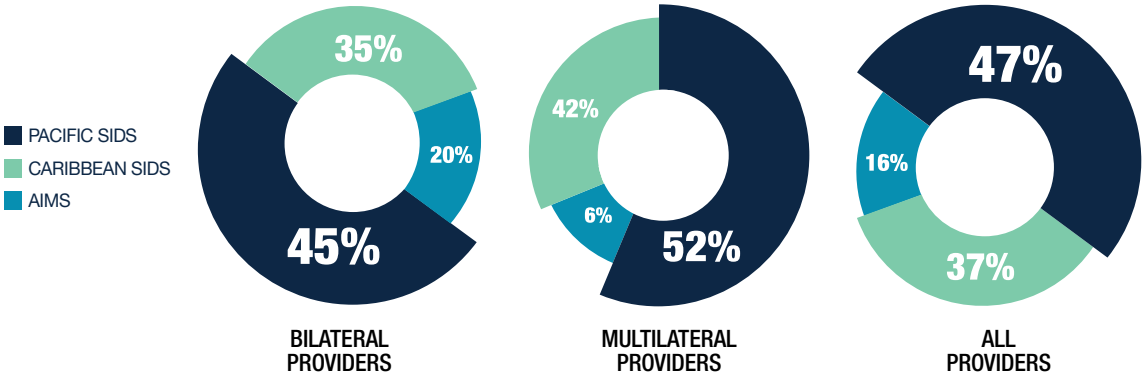
D. Recipients of climate and disaster resilience finance

Geographically, Pacific SIDS received the largest volume of resilience financing in the 2011-14 period, but funding to SIDS in the Caribbean increased sharply from USD 177 million in 2011 to more than USD 644 million. Pacific SIDS received almost half of all funding for climate and disaster resilience provided by development partners in 2011-2014 (an average of USD 370 per year), while Caribbean SIDS received 37% (USD 291 per year) and AIMS SIDS 16% (USD 122 per year). While both bilateral and multilateral providers focused roughly half of their

Figure 15:

GEOGRAPHIC BREAKDOWN OF RECIPIENTS OF CLIMATE AND DISASTER RESILIENCE FINANCE





Source: Authors' own calculations based on OECD DAC Creditor Reporting System.

climate and disaster resilience financing on SIDS in the Pacific region (45% and 52%, respectively), bilateral providers allocated relatively more to SIDS in the AIMS region (20%, compared to 6% for multilateral providers). Funding to SIDS in the Caribbean region increased significantly in 2014, largely because of significant allocations to the Dominican Republic, Saint Lucia, and Saint Vincent and the Grenadines.

Striking differences in access to concessional finance for climate and disaster resilience exist across individual SIDS. Of the 35 SIDS included in this study, Haiti was consistently the top recipient for the period 2011-14, receiving a total of USD 282 million for climate and disaster resilience, or an average of USD 70.5 million per year. Since 2011, Haiti alone has accounted for 10% of all country-specific financing to SIDS for climate and disaster resilience. While the 2010 earthquake in Haiti produced

large reconstruction financing needs, it also heightened awareness across the international community of the importance of strengthening Haiti's national capacity to prevent and manage the risk of similar natural disasters in the future. An additional three SIDS (Cabo Verde, the Dominican Republic and Timor-Leste) each received comparable amounts of financing for climate and disaster resilience to that provided to Haiti: between USD 65.5 million and USD 55.5 million on average per year. Half of the SIDS considered in this study received considerably less, below USD 12.5 million annually over the 2011-14 period.

The smallest nations tend to receive the highest per capita annual financing allocations. Per capita figures are a more accurate comparator amongst vastly different population sizes (Haiti and the Dominican Republic have more than 10 million inhabitants, whereas microstates, such as Niue, Tuvalu, Cook Islands and Nauru, have less than 15,000 inhabitants each[68]). In some SIDS, however, per capita figures are largely affected by the high unit costs of providing development assistance to small, remote and dispersed populations of microstates[69] (the so-called 'small country bias'), resulting into greater relative funding to most microstates.[70] In per capita terms, Niue, the SIDS with the smallest population (with around 1,190 inhabitants), received the largest relative amounts of funding (USD 4,909 per capita per year, on average, during the 2011-14 period). Other microstates, such as Tuvalu and Cook Islands, received USD 1,300 and USD 345 per capita per year compared to an average of USD 13.6 per capita per year for all SIDS for the same period (Figure 16). Niue and Montserrat are not fully independent nations as they retain a special constitutional relationship with advanced economies (New Zealand and the UK, respectively), which may also influence these allocations.

Overall, geographic and income patterns mask the disproportionate weight of a few countries and a few large ad hoc and isolated commitments. While most SIDS with LDC status received fairly consistent funding over time, several Upper and Lower Middle-Income SIDS received funding mainly through large one-off commitments. For example, more than 30% of all concessional funding to Lower Middle-Income SIDS was directed to a single country – Cabo Verde – and mainly to a single Japanese-supported project for improving the resilience of the water supply system.

Some countries received financing for their climate and disaster resilience almost exclusively from bilateral providers. Eleven SIDS received 90% or more of their concessional financing from bilateral providers (see Figure 17), including both recipients of large volumes of concessional finance for climate and disaster resilience, such as Cabo Verde and the Dominican Republic, as well as small recipients, such as Monserrat and Nauru. While these countries are mainly Pacific SIDS, AIMS SIDS (Guinea Bissau and Mauritius) and Caribbean SIDS (Guyana and Dominica Republic) were also included.

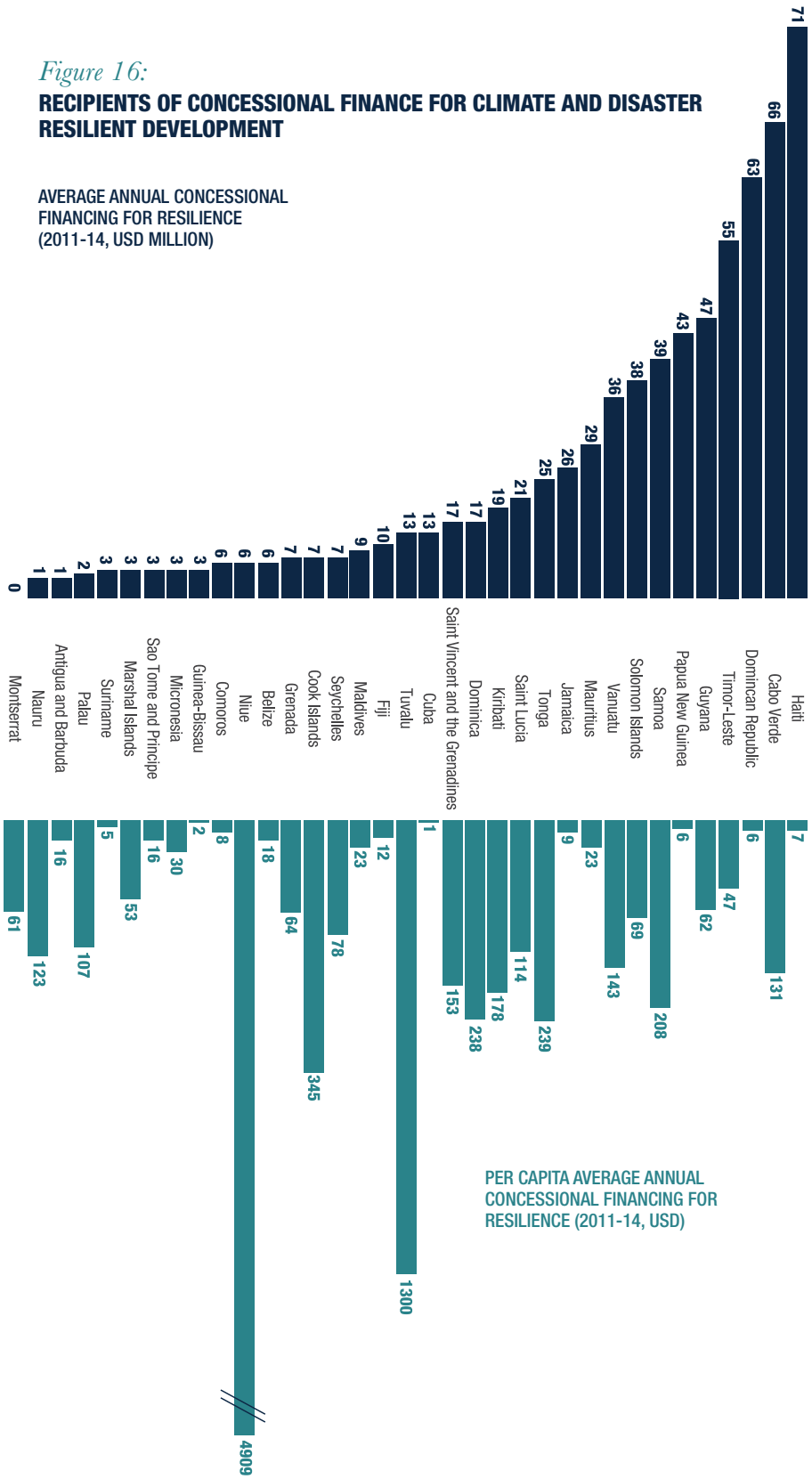
[68] World Bank, World Development Indicators.

[69] The term "microstate," according to the definition of the United Nations, denotes a state with a population numbering one million or less. In this paper, the term is broadly used to denote very small countries.

[70] See for example OECD (2013). "Identification and Monitoring of Potentially Under-aided Countries."

Figure 16:

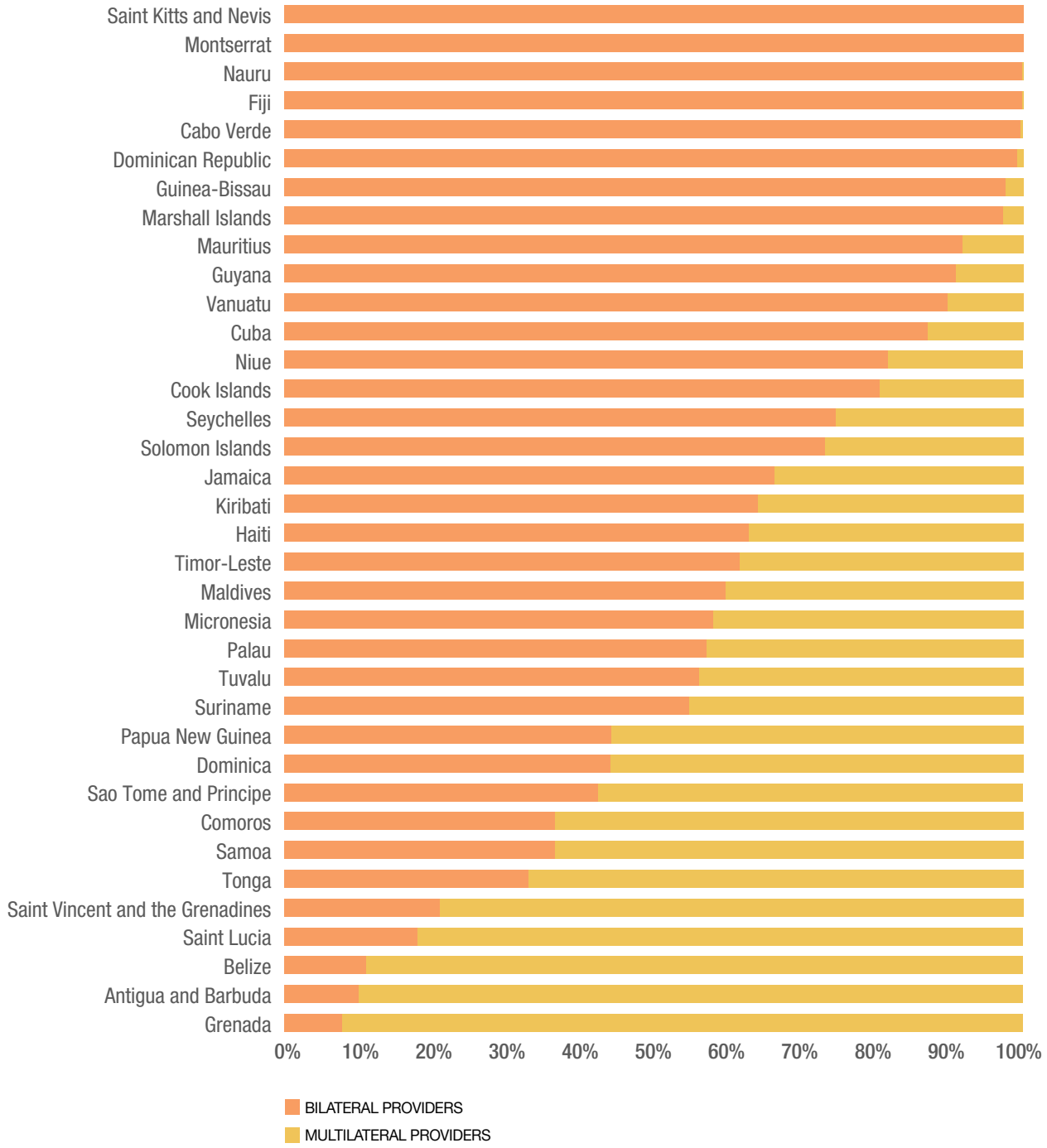
RECIPIENTS OF CONCESSIONAL FINANCE FOR CLIMATE AND DISASTER RESILIENT DEVELOPMENT



Source: Authors based on OECD Creditor Reporting System.

Figure 17:

DEPENDENCE OF SIDS ON BILATERAL SOURCES OF FINANCING IN SUPPORT OF CLIMATE AND DISASTER RESILIENCE OVER THE PERIOD 2011-14



Source: Authors based on OECD Creditor Reporting System.

V. CHALLENGES IN ACCESSING EFFECTIVE FINANCING FOR CLIMATE AND DISASTER RESILIENCE

The previous chapter showed that, while increasing, the proportion of development financing that integrates climate and disaster resilience remains relatively small. This chapter discusses the challenges that constrain SIDS in accessing more effective funding for climate and disaster resilient development, and highlights that climate and disaster resilience financing is largely fragmented and provided in ways not well tailored to the needs of SIDS. While some SIDS are taking steps to develop policies and institutional structures to guide resilience financing where it is most needed, much can be done to overcome the institutional constraints and inefficiencies caused in part by fragmented and sub-optimal international processes and funding sources. Development partners should also reflect on how they could apply, adapt and update international standards for development effectiveness to the context of SIDS.[71]

A. Institutional and policy challenges

Adopting effective institutional arrangements can be challenging for most SIDS. Although most SIDS have small administrations, for many, the primary responsibilities for climate and for disaster risk management still straddle different ministries and departments, and evade key development decision makers. This presents challenges in adopting a coordinated and more effective approach to climate and disaster resilient development. Different SIDS have adopted different approaches to achieve more coherence between disaster risk management and climate change, indicating that various solutions are available. These approaches include structural reorganisations to merge the primary agencies responsible for disaster risk management and climate change (e.g., in Vanuatu,[72] Tonga[73] and the Solomon Islands[74]), or creating a focal unit within the Ministry of Finance (Samoa) or in the Office of the President (Kiribati). This also echoes a growing trend among Caribbean countries to place Ministries of Planning and Finance at the forefront of climate funding coordination.[75] In addition, experiences from other countries could be worth replicating: in the case of Colombia, for example, placing a DRM agency within a high-ranking office (e.g., the President's or Prime Minister's office) led to greatly improved decision making and coordination.[76]

While strategic policy integration is underway, it is not universal. Some SIDS have undertaken policy integration through a joint strategy (Cook Islands, Fiji, the Maldives, Niue, Solomon Islands, Tuvalu), or through the integration of disaster risk management into climate change adaptation policy (Comoros, Cuba, Haiti, Samoa, Vanuatu).[77] Steps have also been taken by some to integrate climate change adaptation and disaster risk management, with Pacific SIDS making the greatest progress in this regard. In September 2016, for example, Pacific Islands

[71] These include the development effectiveness declarations (Paris, 2005; Accra, 2008; and Busan 2011), as well as specific effectiveness commitments, such as those from the Pacific Island Forum Compact.

[72] National Advisory Board on Climate Change and Disaster Risk Reduction - Vanuatu Meteorological and Geohazards Department (VMGD).

[73] The Tonga Joint National Action Plan on Climate Change Adaptation and Disaster Risk Management 2010–2015, http://www.preventionweb.net/files/18242_000922tongajointnationalactionp.pdf

[74] Solomon Islands National Disaster Risk Management Plan: http://www.preventionweb.net/files/22085_14656ndrmpsolomonsfinaliseddraftff2.pdf

[75] See: https://www.greenclimate.fund/documents/20182/318991/NDA_and_Focal_Point_nominations_for_the_Green_Climate_Fund.pdf/eeace75b-aa59-489c-8914-c0940debe01f

[76] See UNISDR (2014) and OECD (2017, forthcoming) Climate Change Adaptation and Financial Protection.

[77] This finding emerges from UNISDR (2014) and information in the INDCs.

Forum Leaders endorsed the *Framework for Resilient Development in the Pacific: An Integrated Approach to Address Climate Change and Disaster Risk Management, 2017-2030*, the world's first integrated regional framework to build resilience to climate change and disasters.[78] This followed the recommendations of multiple past policy reviews, as well as numerous drafts of the Strategy for Resilient Development in the Pacific,[79] which serves as the basis for the Framework.[80]

In addition, in the lead up to COP 21, all SIDS prepared intended nationally determined contributions (INDCs), national plans for contributing to the achievement of the global climate change goals.[81] Several SIDS have capitalised on these plans to articulate the need to integrate disaster risk management and climate change adaptation.[82] Most, however, have yet to translate the priorities outlined in their contributions into quantified targets and the costing that can guide investments and be used in discussions with donors.

Table 3:

EXAMPLES OF SIDS WITH JOINT DRM AND CCA STRATEGIES AND CCA STRATEGIES INTEGRATING DRM

SIDS	POLICY
Joint DRM and CCA strategies	
Cook Islands	Joint National Action Plan for DRM and CCA
Fiji	National Plan for Disaster Risk Management and Climate Change (being developed)
Maldives	Strategic National Action Plan
Niue	Joint National Action Plan for DRM and CCA
Solomon Islands	National Climate Change Policy 2012-2017
Tuvalu	National Strategic Action Plan for Climate Change and Disaster Risk Management
CCA strategy integrating DRM	
Comoros	National Action Plan for Adaptation to Climate Change and Variability
Cuba	Environment and Climate Change, including the Prevention of Disaster Risks
Haiti	National Program for Climate Change Adaptation
Samoa	NAPA (2005), National Policy on Combating Climate Change
Vanuatu	National Climate Change Adaptation Strategy

Source: Authors based on UNISDR (2014) and http://www.adaptation-undp.org.

[78] http://www.pacificdisaster.net/dox/FRDP_2016_Resilient_Dev_pacific.pdf

[79] Full title: Strategy for Resilient Development in the Pacific: An Integrated Approach to Address Climate Change and Disaster Risk Management, 2017-2030.

[80] Spearheaded by the regional organisations in the Pacific (PIFS, SPC and SPREP).

[81] In the run up to COP21 and before the Paris Agreement enters into force, NDCs are still intended nationally determined contributions (INDCs).

[82] Research conducted for this report indicates that all SIDS except for Montserrat submitted INDCs. Of those, all INDCs mentioned adaptation, though some only briefly. Twenty-three INDCs explicitly mentioned DRM, or a related term. There was a pretty even spread of countries stating the need to integrate CCA and DRM into development plans, which illustrated the still existing disconnect between CCA and DRR/DRM in some countries.

Overall, synergies between CCA and DRM (and their mainstreaming into development planning) have not yet been sufficiently realised. Pressing needs in other areas (e.g., infrastructure, education, health, etc.) and limited human and financial resources represent major obstacles in this respect. The estimated relatively high net social returns on capital across the Pacific SIDS (ranging between 3.2% of Palau to 12.4% of Solomon Islands) over the prevailing interest rate[83] points to the continued importance of core investments in economic and social development and a high opportunity cost for fiscal buffers to respond to shocks, such as natural disasters.[84] However, investments in resilience and in core development are not necessarily mutually exclusive, competing expenditures. Integrating CCA and DRM more comprehensively into development planning and policies can help guide future development in ways that do not exacerbate vulnerability. In this regard, countries, such as Belize and Samoa, have been at the forefront of risk-informed development planning, with other countries (Jamaica, São Tomé and Príncipe, the Seychelles and Saint Lucia) also making progress.[85]

Identifying the risks and probability of natural disasters is constrained by limited national capacities. Developing sound climate and disaster resilience strategies crucially hinges on the availability of data on the risks of natural disasters and systematic tools and methodologies to collect data and assess risk and vulnerability. Several SIDS pointed to national capacity constraints as a major factor hindering the availability of comprehensive data on risks.[86] Besides building national capacities and facilitating the exchange of information between all national stakeholders, international actors could make greater use of open data networks and observatories, as well as regional initiatives for information exchange. Such initiatives and information exchange mechanisms can increase efficiency and overcome capacity constraints, especially in technical and specialised areas like weather forecasting.[87] A positive example in this respect is the risk transfer clearinghouse, which will be established under the Warsaw International Mechanism for Loss and Damage. This is intended to serve as a repository for information on insurance and risk transfer, facilitating efforts to develop and implement comprehensive risk management strategies.[88]

Low policy prioritisation and lack of harmonised budgeting systems can translate into inefficient budget allocations and monitoring. Without adequate policy prioritisation and political leadership, securing enough resources for climate and disaster resilience can be challenging. For those SIDS for which data is available, DRM alone represented between 0.04% and 1.1% of the national budget, with only Samoa and Haiti recording higher shares (3.5% and 15%, respectively).[89] These higher allocations may reflect the devastating natural disasters recently experienced by these countries. In addition, although the Hyogo Framework for Action[90] required countries to report their DRM budget allocations, few countries were able to report their expenditures, as allocations are often scattered across a multitude of budget lines and external projects are not always reflected in national budgets. In addition, inherent difficulties exist in separating resilient investments from normal development

[83] For example, clearly not all climate and disaster resilience preparedness takes the form of "saving for a rainy day."

[84] IMF (2015).

[85] World Bank and GFDRR (2014). Building Resilience – Integrating Climate and Disaster Risk into Development. The World Bank Group Experience.

[86] Informal consultations held with representatives from SIDS attending the Paris21 Workshop in Spring 2016.

[87] Grenada, the Cook Islands and Vanuatu have reported that they are benefitting from regional initiatives in these areas (UNISDR, 2014).

[88] See https://unfccc.int/files/adaptation/groups_committees/loss_and_damage_executive_committee/application/pdf/roadmap_clearinghouserisktransfer_draft_21_apr.pdf

[89] These figures refer to different years for different countries: Antigua and Barbuda (0.04%, 2011); Dominican Republic (1.05%, 2011); Haiti (15%, 2013); Marshall Islands (1.09%, 2011); PNG (1.1%, 2012); Samoa (3.5%, 2013); and Vanuatu (0.16%, 2013). UNISDR (2014).

[90] https://www.unisdr.org/we/coordinate/hfa

activities in budgetary allocations. Establishing a better climate and disaster resilience budget monitoring system could, therefore, promote coordination among ministries and lead to better assessments concerning the actual resources deployed for resilience and closing the funding gaps. For example, although the Cook Islands lacks a thorough mechanism for tracking resilience spending, introducing a climate change marker for infrastructure projects has proved helpful in improving its ability to monitor government and donor spending.[91] Samoa has also introduced a single coordination unit under the Ministry of Finance to review new funding proposals and ensure they are integrated into the budget. The Ministry of Planning and Territorial Development of São Tomé and Príncipe, although further behind, is also developing a system to match incoming donor financing with national priorities and needs.

Fragmented institutional settings – at both global and national levels – also constrain the ability of SIDS to access and channel resources more efficiently. International processes and arrangements are not yet conducive to a financing flow that promotes climate and disaster risk-informed development in SIDS. Historical processes under the UNFCCC and UNISDR have largely operated through separate country focal points and funding flows, a challenge further exacerbated by the existence of multiple focal points amongst the various global climate funds.

[91] UNISDR (2014).

Box 4: FIJI'S LEADERSHIP ROLE IN GEARING NATIONAL SYSTEMS TOWARD FOSTERING CLIMATE AND DISASTER RESILIENCE

Among SIDS, Fiji provides a positive example of proactively creating and refining policies, institutions and budgetary systems with a view to mobilise resources toward climate change and DRM activities. In 2014, Fiji convened the National Platform for Disaster Risk Management and Climate Change, which was the first occasion when the DRM and CCA communities came together under the same platform. This meeting was the starting point for the development, in Fiji, of a National Strategic Plan for integrating DRM and climate change, which will include actions, such as investing in improving early warning systems, dredging river mouths, constructing inland retention dams and building cyclone-proof homes in the most affected areas. It will also include rehabilitation plans focused on the principle of "building back better" especially for rural housing and infrastructure related to roads, water and energy.[92]

[92] http://www.agriculture.gov.fj/index.php/newsroom/speeches?id=148

B. Reliance on a limited number of donors and fragmentation of financing

For the bulk of climate and disaster resilience financing, many SIDS rely on a handful of donors and often depend on a single donor. However, they also receive relatively small amounts of funding from various other sources. This combination makes SIDS extremely vulnerable to fluctuations in external finance, while also burdening their limited administrative capacity, as highlighted below.

Reliance on a handful of donors exacerbates SIDS financial fragility. Many SIDS rely on a few providers for the external flows in support of climate and disaster resilience. In the 2011-14 period, five providers accounted for 61% of these flows: Australia (16%), EU institutions (13%), the World Bank and the ADB (11% each), and France (10%). The AIMS region is the most reliant on a limited number of providers, with the top five providers accounting for 83% of total funding during the 2011-2014 period (Japan, France, the US, the GEF and the AF).

Dependence on a single provider for the bulk of financing is widespread. Many individual SIDS depend on just one provider for most of the concessional financing they receive for resilience. For 14 of the 35 SIDS considered in this study, the top provider accounted for over 50% of climate and disaster resilience financing from 2011-14. Furthermore, reliance on the top provider has been increasing over time, with countries showing greater reliance in 2013-14 than in 2011-12. While this trend applies to all regions, dependence on the top provider is slightly higher in the AIMS and Caribbean regions. In general, UMICs in the Caribbean region are the most reliant on a single donor for resilience funding, most likely due to their limited access to concessional resources (primarily relying on funding from France, IDA, Norway and the GEF). The Pacific SIDS rely heavily on Australia, IDA/World Bank and the ADB. This situation can make them overly reliant on the shifting priorities of the dominant donor(s) and could give the donor(s) undue influence over their development agendas.

The remaining climate and disaster resilience funding is highly fragmented. Despite the fact that the bulk of concessional finance for resilience is provided by one or a few development partners, and sometimes accounted for by just one or a few projects, the remaining small amounts of funding are splintered across a myriad of small projects financed by multiple sources. This is a major issue for most SIDS, burdening already stretched capacities. From 2011-14, 26 bilateral providers, four development banks and about four multilateral organizations provided concessional resources for resilience to SIDS. However, many development partners only provided small amounts: in 2011-14, nearly 70% of donors collectively provided less than 10% of all aid received by SIDS for resilience; and more than half of providers collectively extended less than 2% of aid.

The allocation choices of development partners actively contribute to fragmentation of climate financing in SIDS. Several development partners concentrate the majority of their resilience funding in one or two countries, but the remaining resources are spread across a large number of SIDS. For example, one single project in Cabo Verde represented nearly 50% (USD 158 million) of all resilience funding provided to SIDS by Japan between 2011-14, with the remaining USD 166 million was spread across 30 SIDS. Of these 30 SIDS, 17 received less than USD 800,000 each over this period, collectively accounting for less than 1% of Japan's climate and disaster resilience financing to SIDS.[93]

Multilateral organisations generally spread their climate financing less thinly than bilateral providers. Most MDBs allocated funding for resilience through a smaller number of larger projects, which is partly due to the priority many development banks place on infrastructure development and regional initiatives. However, a number of multilateral institutions contributed to the high fragmentation in SIDS – namely UNDP, WHO, UNICEF, and FAO – which together provided less than USD 7 million in aid to more than 27 SIDS.

Climate financing is spread across a multitude of projects that are difficult to manage given SIDS' limited resource base and significant capacity constraints. During the period 2011-14, climate and disaster resilience in SIDS was financed through 1,715 projects. SIDS with the largest number of projects were managing more than 34 resilience projects in a given year. Even microstates, countries with a population of less than 200,000, had to manage large numbers of projects: Samoa, 75 projects; Tonga, 52; and Kiribati, 48.

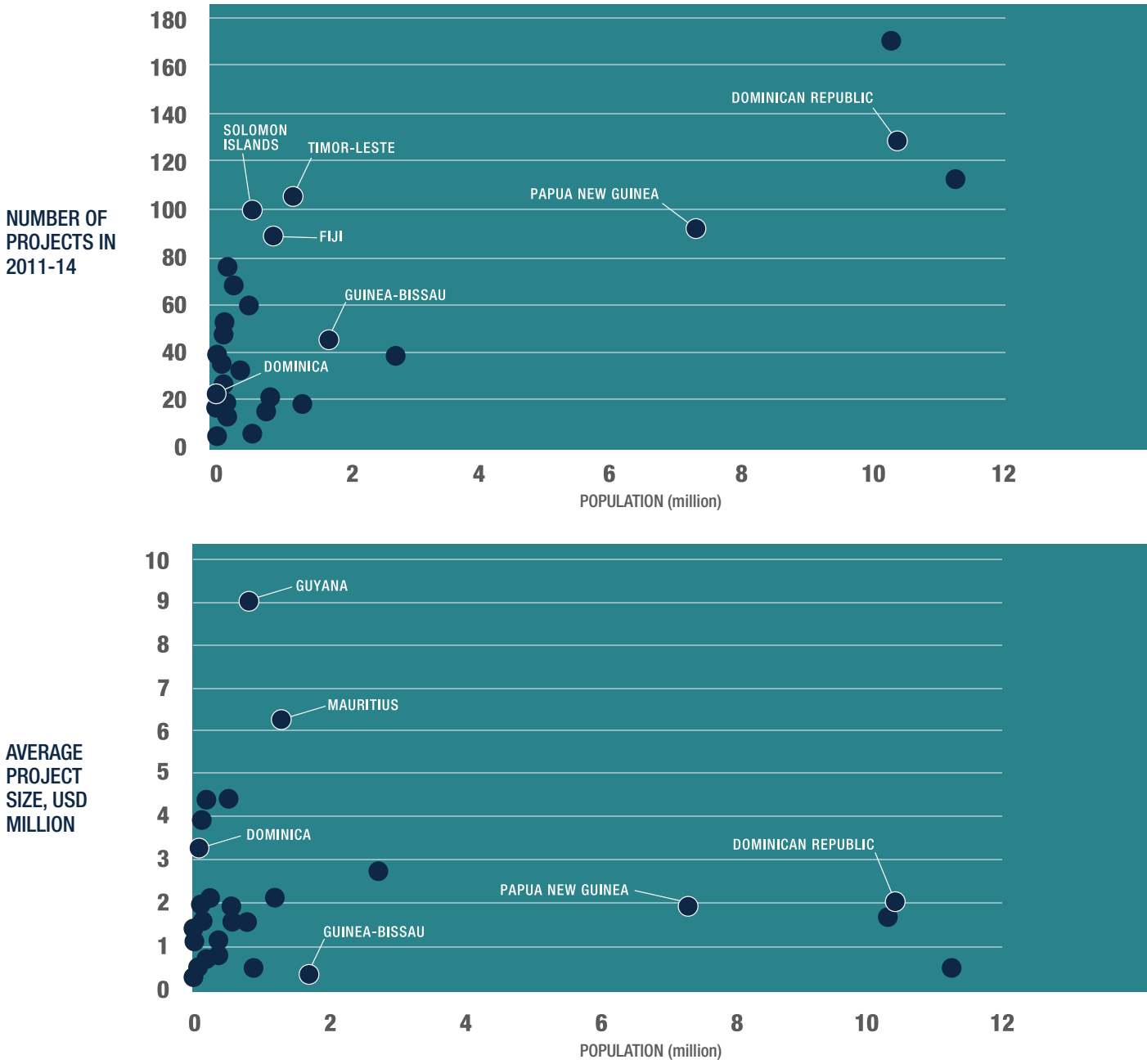
The proliferation of operations supporting resilience also means high transaction costs of climate support. During the period 2011-14, SIDS managed 2,305 transactions for financing climate and disaster resilience alone, an average of 66 transactions per country in a four-year time frame. This figure is particularly high if considering that climate and disaster resilience covers 14% of all the concessional finance that SIDS access and that overall transactions per country are, therefore, likely to entail a much larger number. This also raises concerns given that emerging evidence suggests that transaction costs for development activities could be 4.7 times higher in SIDS than in other developing countries.[94]

[93] Even when contributions to multilateral projects are deducted (i.e., earmarked funding), the EU, Germany, Japan, France and the US all extend small amounts of climate and disaster funding to a large number of SIDS, with 60% of their recipients receiving between 2% and 7% of their financing.

[94] See IFAD (2014).

Figure 18:

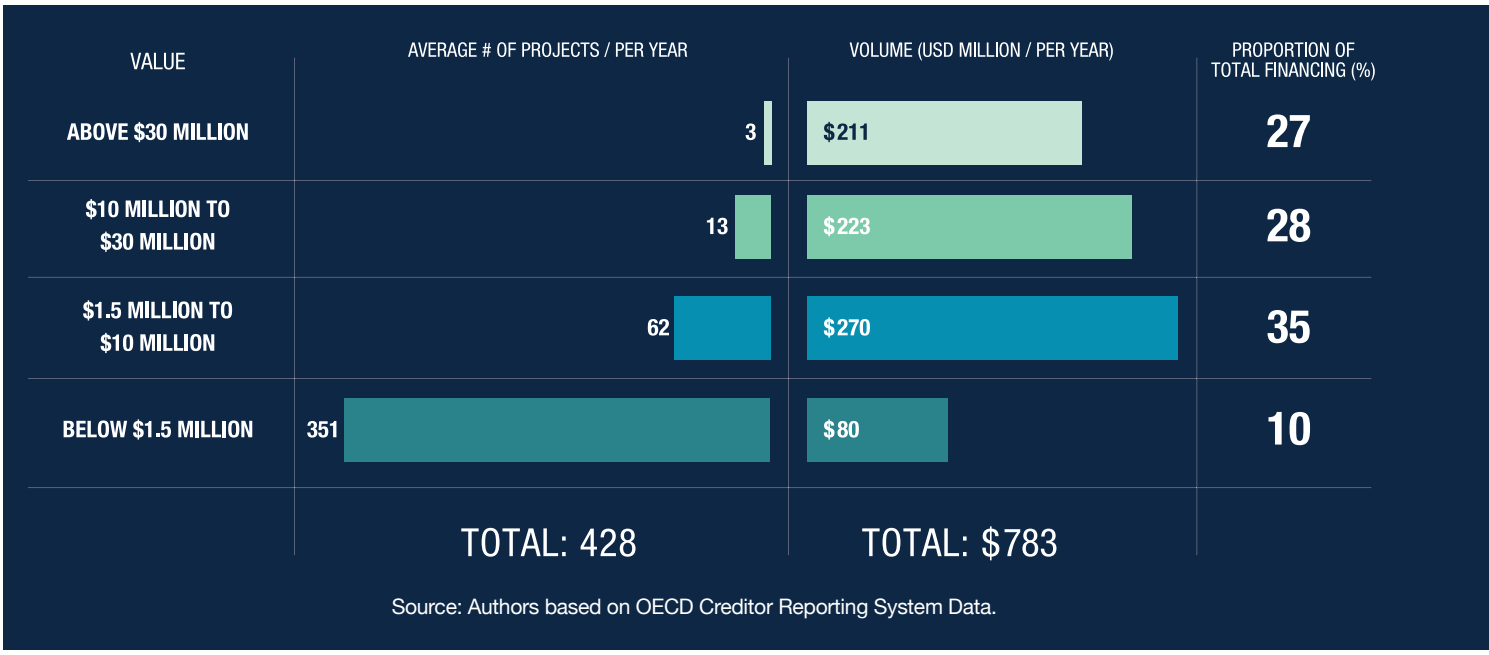
PROLIFERATION OF PROJECTS IS WIDESPREAD EVEN IN SIDS WITH SMALLER POPULATIONS



Source: Authors based on OECD Creditor Reporting System Data and WB CPIA data.

Over half of resilience projects in SIDS amount to less than USD 200,000 each; yet, collectively they make up 2% of total resources. A few large projects, mostly directed to UMICs, account for the bulk of resilience funding to SIDS. However, for the most part, resilience projects are small: below USD 200,000 (55% of projects) and below USD 1.5 million (80% of projects). The proliferation of small projects is widespread across all SIDS, with most countries managing an average of 10 individual projects a year worth less than USD 1.5 million each. Even those that received resilience support mainly through large projects must still deal with many small projects. For example, about 81% (USD 203 million) of all the funding received by the Dominican Republic for resilience between 2011-14 was for one French-funded project, with the remaining USD 47 million in funding split among 127 other resilience projects, 90% of which averaged USD 98,000 each. Similarly, almost 60% of all climate and disaster financing to Cabo Verde was for one Japanese-funded project, while the remaining climate financing was spread across 59 other projects, 90% of which had an average size of USD 200,000.

Figure 19:
FRAGMENTATION OF RESILIENCE FUNDING BY PROJECT SIZE



Source: Authors based on OECD Creditor Reporting System Data.

C. The cycle of limited capacities and low use of country systems

Public sector capacity in SIDS is often limited and most development financing for resilience is not channelled through mechanisms that would help to build capacity. While this may increase the speed of delivery and results in the short term, it limits the long-term effectiveness and sustainability of development financing for resilience.

Budgetary and sector-wide support and other coordinated funding practices remain limited. Projects accounted for 80% of concessional finance for climate and disaster resilience SIDS received over the 2011-14 period. Multilateral partners provided support almost exclusively through projects (97%), while the share for bilateral partners was 73%. Ascertaining the extent to which projects were designed through a coordinated approach is difficult, as is whether they responded to the needs identified in comprehensive and nationally-owned frameworks.

Overall, 8% of funding (USD 239 million) was provided as sectoral budget support in 11 of the 35 SIDS, including Cabo Verde, Cook Islands, the Dominican Republic, Grenada, Guyana, Jamaica, Samoa, the Solomon Islands, Timor-Leste, Tonga and Vanuatu.

Five providers extended sectoral budget support for climate and disaster resilience to more than one SIDS, with the largest being the EU (USD 130 million, or 54% of the total sector budget support in 2011-14) and Australia (USD 54 million, or 23%), while IDA/World Bank, New Zealand and Spain provided much smaller shares (USD 23 million or 10%, USD 16 million or 7%, and USD 16 million or 6%, respectively). For the EU and Spain, sectoral budget support represented an important part of financing for climate and disaster resilience to SIDS (33% and 26%, respectively).

In SIDS, like in many other developing countries, while donors engaged in a large number of sector-level programmes in the 2000s (often with pooled funding mechanisms as part of the arrangement), resource pooling seems to be less of a direct focus now for most providers. This seems to be, in part, a consequence of a transformed international aid environment. It could also be partly determined by the challenges that providers highlighted in connection to implementing pooled arrangements, including significant transaction costs derived from differing donor requirements and systems, challenges in implementation speed and complexity of programming.[95]

However, promoting pooled arrangements and other mechanisms to coordinate funding streams remains crucial in SIDS. This is because absorption and implementation capacity are serious challenges, and uncoordinated funding streams and donors often overwhelm SIDS, further reinforcing that better coordination is a key priority. In addition, as highlighted by several providers,[96] such arrangements promote country ownership and elevate the engagement between donors and recipients from a technical discussion on individual donor projects to more systemic and strategic policy discussions.

Major partners channel little aid through recipient country institutions. Large providers, such as Australia and the US, and relatively large ones like New Zealand, implement most of their projects in support of climate and disaster resilience through their own administrations or NGOs, rather than through partner governments. About 16% of Australia's and New Zealand's financing for climate and disaster resilience in SIDS was directed to projects implemented by partner country governments,

[95] Responses to the OECD Survey on policies and practices in support of SIDS (2015).

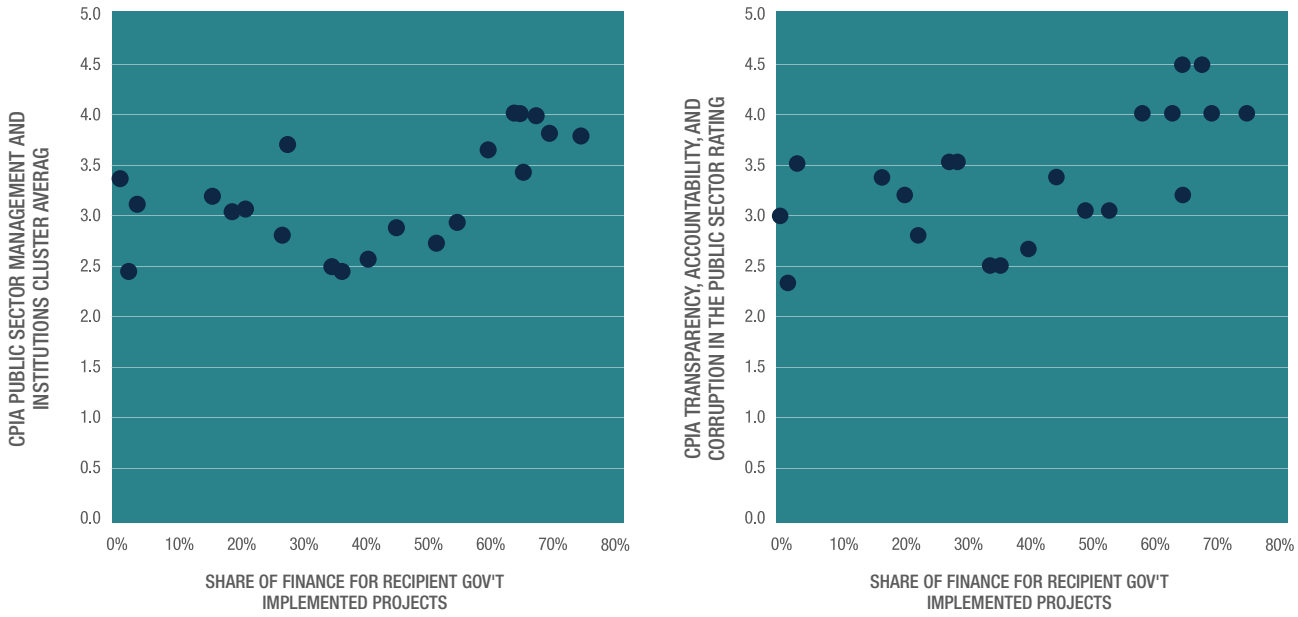
[96] Ibid.

while less than 1% of US financing was in support of partner government-implemented projects. Resilience financing implemented by partner governments mainly targeted infrastructure, water, transport and basic health. Financing targeted to partner government-implemented projects was below 35% for the majority of SIDS (20 out of 35 from 2011-14) and above 70% for three Caribbean UMICs (Saint Vincent and the Grenadines, the Dominican Republic and Monserrat, in ascending order). Comparing the share of financing implemented by partner country governments with national capacities, as measured by the Country Policy and Institutional Assessments (CPIAs), shows no clear relationship between institutional capacities and use of country systems; only institutional capacities above a certain level (CPIA scores above 40%) impact positively on development partners' use of recipient country governments for project implementation (Figure 20).

Building capacities and finding innovative ways to overcome capacity constraints in SIDS should arguably be a clearer priority for development partners, to ensure sustainability of resilience efforts and a clearer alignment with country priorities. Some development partners provide encouraging examples in this respect. For example, MDBs tend to have a high share of financing towards projects implemented by partner governments – ADB special funds and IDA/World Bank, 100%, and Inter-American Development Bank, 92% – as well as some bilateral providers, such as Japan (97%), the UK (70%) and France (61%).

Figure 20:

WEAK RELATIONSHIP BETWEEN INSTITUTIONAL CAPACITIES OF SIDS AND PROVIDERS' USE OF COUNTRY SYSTEMS



Source: Authors based on OECD Creditor Reporting System Data and WB CPIA data.

D. Resilience funding tends to follow large disasters and is likely to fall short of needs

Larger disasters that capture media attention are prone to receive larger funding streams than smaller, more recurrent ones. Concessional resources for climate and disaster resilience tend to be provided in the wake of major disasters and then progressively fade away. Countries that have not recently experienced large disasters may struggle to receive resilience funding, such as Guinea-Bissau, which has received one of the smallest per capita allocations. Conversely, the volume of resilience funding to Haiti, which has been affected by a number of disasters in recent years, largely exceeded funding to any other SIDS.

More predictable and long-term funding is needed. Although resilience funding increased in aggregated terms in 2011-14, individual countries experienced significant variations from one year to the next. SIDS are faced with low predictability of resilience funding, which can constrain their ability to take more comprehensive and forward-looking steps to build resilience, as well as limit their space for addressing less urgent and yet fundamental aspects of resilience. Although resilience funding increased in aggregated terms in 2011-14, individual countries experienced significant variations from one year to the next.

For many SIDS, resilience funding largely falls short of needs. A comparison between self-assessed resilience/adaptation funding needs and resilience funding currently available suggests this shortfall. For the 11 SIDS that quantified their adaptation needs in their INDCs, per capita resilience funding received per year during 2011-14 was only about half of their stated needs.[97] Overall, financing falls short of the self-assessed needs stated by those 11 SIDS by about USD 1.6 billion a year. Few countries received higher contributions, while the majority received significantly less. UMICs, like Suriname, Mauritius, and Antigua and Barbuda, and fragile states, like Comoros, showed the largest gaps between stated needs and funding received (Figure 21). While this is a rough estimate,[98] it does shed light on the scale of financing needs potentially left unmet.

E. Complex requirements and processes for accessing and managing resources from global climate funds

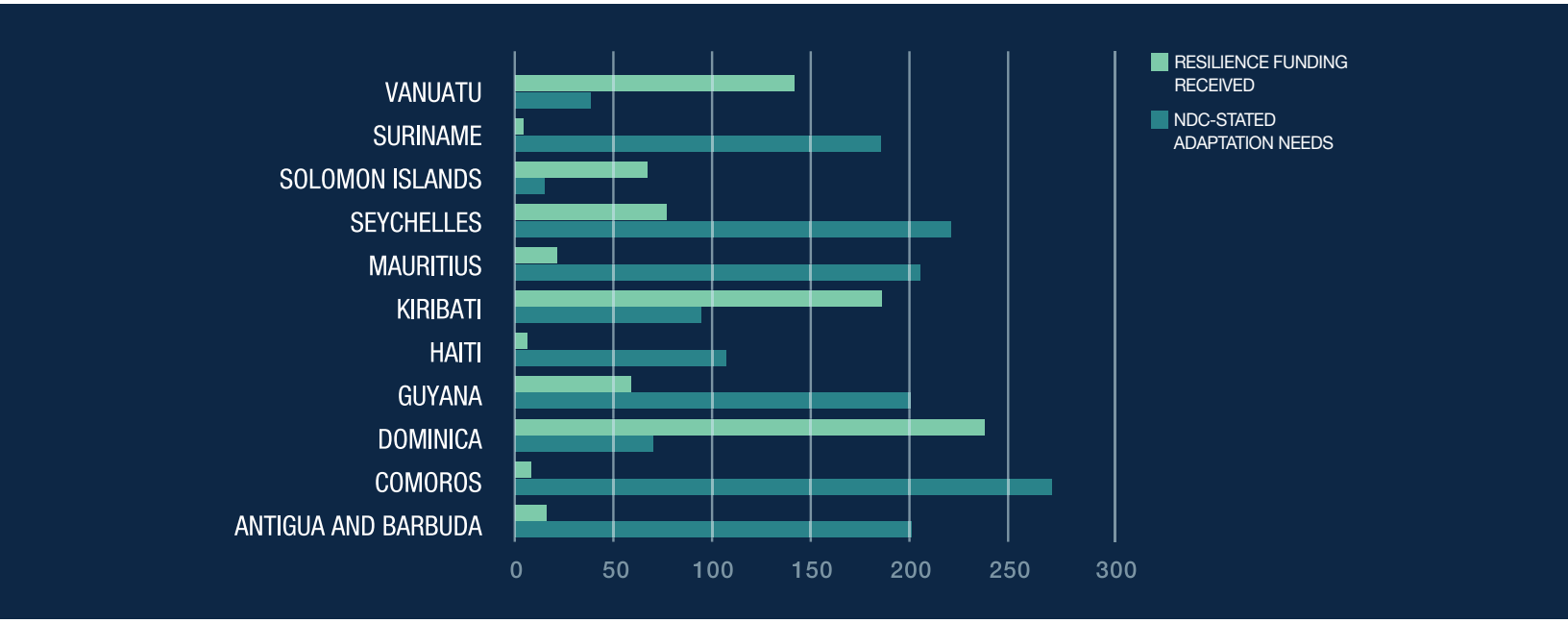
As summarised in Section II, a multiplicity of special climate funds have been established over the past decade to augment and accelerate access to climate finance by developing countries. However, tapping into these funds remains a challenge for SIDS. Their limited administrative and technical capacities at the national level, compounded by the array of complex accreditation and project proposal procedures, are the primary factors constraining the ability of SIDS to directly access these funds and making them dependent on intermediary accredited agencies.

[97] This comparison is based on the estimated annual needs listed in the INDC Content Briefs developed by the World Bank Climate Policy Team.

[98] The time periods and comparators for the estimates of financial needs and financing received are different. Estimates compare past commitments with future needs, as well as financing for climate and disaster resilience with stated needs to finance adaptation.

Figure 21:

COMPARISON OF RESILIENCE FUNDING RECEIVED WITH NDC-STATED ADAPTATION NEEDS (USD PER CAPITA PER YEAR)



Source: Authors based on OECD Creditor Reporting System Data and INDC content briefs, developed by the World Bank Climate Policy Team

Capacity constraints hinder the development of national strategies that incorporate climate and disaster resilience, and their translation into concrete investment proposals. Capacity constraints limit, for example, countries' integration of climate change into national policies and investment plans.[99] NDCs, national communications, national adaptation plans (NAPs) and national adaptation programmes of action (NAPAs) are four of the principle vehicles that SIDS can utilise under the UNFCCC to signal financing needs and monitor progress towards implementation of policies under the Convention. While most SIDS have completed some national communications and all LDCs, as of 2008, have completed a NAPA (with the exception of Haiti and Timor-Leste), none have completed the NAP process.[100] Despite the generally good progress in towards completing NAPs, SIDS face a shortage of human resource capacity to translate them into fungible investment proposals, including capacity constraints in project design and appraisal, technical assessments, proposal writing and language barriers (particularly among Lusophone and Francophone SIDS). Due to this lack of technical capacity, the cost of many of the actions elaborated in the documents is not fully estimated nor prioritised to ensure their integration into national budgets and proposals made to development partners.

[99] See also: http://www.oecd.org/env/cc/Toolkit to Enhance Access to Adaptation Finance.pdf

[100] Currently, only three developing countries (Brazil, Burkina Faso and Cameroon) have completed the NAP process. See NAP central: http://www4.unfccc.int/nap/Pages/national-adaptation-plans.aspx

Challenges exist in accessing financing through multilateral intermediaries.[101] A number of financial intermediaries, such as the World Bank, UN agencies and other MDBs, act as central channels through which financing from vertical funds can reach developing countries. Multilateral and regional implementing agencies can provide crucial technical and coordination support to implement larger projects and often have lighter fiduciary requirements, allowing for more timely access to funds. However, the smaller scale of SIDS project proposals can weaken prioritisation by multilateral intermediaries and limit access to funding. Intermediation also reduces resources available for implementation (due to implementation fees) and can limit the ability of national institutions to have a greater say over the allocation of funding. Finally, this intermediation can increase fragmentation and the administrative and monitoring burdens on SIDS, as when multiple intermediary agencies are simultaneously operating in the same country (as is common with the LDCF).

Many SIDS struggle to comply with the fiduciary, economic and social standards required to directly access global climate funds. To enhance the ability of national institutions to directly access and exert greater control over funding and increase national ownership, several funds have taken action by introducing the "direct access modality." This modality (as opposed to funding channelled through an intermediary multilateral or regional implementing agency) is used by the AF, the GEF and the GCF, and is intended to expedite funding allocation in line with national priorities. However, only five SIDS are currently accredited to access the AF, and no national SIDS agency has yet received direct accreditation from the other global funds (Table 4). As a result, during the period 2011-14, direct funding to SIDS totalled USD 10 million, representing 5% of total resources provided to them by the global climate funds. Limited human resources and capacities in SIDS pose serious challenges to meeting the complex requirements for direct access to funding. Such direct access via national institutions requires applicants to undergo extensive accreditation processes and to develop technical capacities to fulfil fiduciary standards regarding financial integrity, institutional capacity, transparency and self-investigative powers. When applying for funds, national implementing agencies have identified a number of challenges faced due to the provision of extensive documentation, lack of transparency around fiduciary standards and language barriers.[102] The GCF Board recognised these challenges and is making efforts to adopt a country-driven approach through scaled-up funding for readiness programmes, and the introduction of "enhanced" direct access modalities to increase national ownership.[103]

[101] In order to directly access funding, GCF countries are required to designate the following national implementing agencies: i) National implementing entities (NIEs) are responsible for overseeing implementation of funded initiatives and are responsible for ensuring that finance received follows the fund's objectives and meets its fiduciary standards and social safeguards; ii) National designated authorities (NDAs) (or "designated authority" at the AF) are responsible for overseeing all resources coming into the country from the Fund. The NDA is the point of communication with the GCF and undertakes a wide range of functions, including aligning activities with national sustainable development objectives and frameworks; and iii) Executing entities are responsible for actual implementation of initiatives. These can be members of other government agencies, civil society, community organizations and the private sector. Source: https://www.wri.org/sites/default/files/22DIRECT_ACCESS_TO_CLIMATE_FINANCE_LESSONS_LEARNED_BY_NATIONAL_INSTITUTIONS.pdf

[102] http://fs-unep-centre.org/sites/default/files/publications/directaccessengneu.pdf

[103] The GCF has set aside an initial USD 30 million to help developing countries achieve readiness (GCF, 2014). Enhanced direct access would allow national funding entities to become accredited under the GCF and decide on the allocation of funding for projects at the country level, whereas traditional direct access allows countries to accredit national implementing agencies to carry out only GCF-approved projects.

The proliferation of global climate funds has led to varying regulatory and compliance standards, which increase the administrative work required to navigate the associated terms and conditions.[104, 105, 106] Currently, no single set of internationally agreed and accepted fiduciary standards and procedures exists for accessing climate resilience funding.[107] The creation of the CIF, for example, was regarded as a possible source of incoherence with climate policy, funding processes and qualifying criteria under the UNFCCC.[108] The CIF were intended to act as an interim financing channel to be phased out or possibly integrated into existing structures once the GCF became operational. However, the terms and conditions of the sunset clause do not clearly delineate how the streamlining process will be carried out.[109] Furthermore, while the GEF and AF manage grant financing, the GCF was designed to provide other financial instruments (including loans and possibly guarantees), and requires more stringent financial management standards.

[104] http://www.oecd.org/env/cc/Toolkit to Enhance Access to Adaptation Finance.pdf

[105] http://www.scidev.net/global/funding/news/pacific-island-states-climate-fund-red-tape.html#sthash.LEnovK4g.dpuf

[106] http://www.forumsec.org/resources/uploads/attachments/documents/2011FEMM_FEMS.05_Report.pdf

[107] http://fs-unep-centre.org/sites/default/files/publications/directaccessengneu.pdf

[108] https://www.fas.org/sgp/crs/misc/R41302.pdf (page 17)

[109] ICF International. (2014). Independent Evaluation of the Climate Investment Funds. (page 8)

Table 4:

SIDS DIRECT ACCESS TO VERTICAL CLIMATE FUNDS AND ACCREDITED NATIONAL AGENCIES

CLIMATE-DEDICATED VERTICAL FUNDS	SELECTED DEVELOPING COUNTRIES (2001-2014 USD MIL)	SIDS (2001-2014 USD MIL)	ADMINISTRATIVE BODY	ELIGIBILITY REQUIREMENTS	DIRECT ACCESS MODALITY	SIDS WITH ACCREDITED NATIONAL INSTITUTIONS AS OF 2015
GEF	23,742 USD mil	417 USD mil	GEF Trust Fund	All SIDS that are eligible for WB funds or UNDP technical assistance	Yes (2010)	0
AF	1,439 USD mil	72 USD mil	GEF/WB interim trustee[110]	All SIDS	Yes (2010)	5
GCF	N/A	N/A	GCF Board/WB interim trustee first 3 years (formally established in 2010)	All developing country Parties to the UNFCCC	Yes (2015)	0
CIF	18,442 USD mil	174 USD mil	WB (IBRD)	All ODA-eligible SIDS	No	0

Source: Authors' research.

[110] AF governance consists of an international Board, where majority control is held by developing country representatives; a Trustee, presently the World Bank, administers the AF Trust Fund from which funding is disbursed to projects as instructed by the Board; and a small Secretariat is provided by the GEF. (ODI Sept 2014).

VI. CONCLUSION AND EMERGING RECOMMENDATIONS

SIDS are highly exposed to climate change and natural disasters, which bear long-lasting consequences on their development prospects. Lacking high domestic savings, stable and strong fiscal revenues, and access to market financing, SIDS governments often must divert scarce public resources from essential social and economic development investments to address disaster-related needs, compromising the pace and scope of future development. Shortfalls financed through debt may endanger already precarious debt positions of some SIDS and, ultimately, "tax" future generations. Competing development needs may also hinder investments in reducing vulnerability ex ante. Thus, SIDS are caught in a slow growth, high vulnerability spiral.

Development partners can do much to help break this spiral by contributing to resilience building through integrated approaches that take advantage of the synergies and complementarities of disaster risk management and CCA. This means investing in preventive measures, which are often less costly than disaster relief and response; and using response, recovery and reconstruction after disasters to reduce vulnerabilities and promote climate and disaster resilience through risk-resilient investments, resilient land-use planning, upgrades in infrastructure safety codes ("build-back better") and ecosystem-based management.

To support SIDS in building climate and disaster resilience, development partners should consider undertaking a range of actions as outlined below.

Supporting SIDS to create an enabling policy environment for climate and disaster resilience. This means supporting the adoption of public policies and regulations that can promote climate resilience by influencing the choices of private actors in various sectors, such as building codes and regulations, incentives for efficient water use and early warning systems, and prevention of new assets in exposed areas.

Enhancing information on resilience and information management systems. Few countries account for disaster losses, collect data and assess risks systematically, which is indispensable for informed decision making at all levels (national, household, firm, etc.). While domestic capacity is inherently limited, enhancing regional and national information systems through multi-country and triangular partnerships could prove cost effective and increase the reach of efforts. In addition, these partnerships should make such information accessible to the different national agencies.

Supporting SIDS in integrating climate and disaster risk into national planning and budgeting. While SIDS face many compelling development needs, and debt situations remain a concern for many, a case can be made for allowing additional marginal costs that will help build resilience and, therefore, prove less costly in the long run. Development partners have a role to play in supporting SIDS planning

and budgeting of the actions needed to integrate climate and disaster resilience considerations into development plans. This will require supporting collaboration across a large set of ministries and departments to identify and integrate priorities, and highlighting linkages and synergies across sector-level policy objectives.

Supporting public administration systems and institutions responsible for managing natural disaster and climate finance and risk. Priority should be given to further develop SIDS core public financial management systems and capacities for managing the spectrum of financial issues that natural disasters present, and increase capacities to access and manage concessional funds through, for example, reinforcing central units as a one-stop shop for all incoming funding proposals. This also includes building capacities to identify the most cost-effective way to manage disaster and climate risks, assessing to what extent to invest in prevention and to what extent to use risk transfer mechanisms, and helping countries prioritise investments.

Increasing the use of financing mechanisms that enhance coordination. While at present individual projects dominate concessional flows, donors should consider increasing sector-wide approaches and budgetary support to promote the implementation of more resilient core budget expenditures, and further explore ways to pool resources to reduce SIDS reliance on a single concessional funding source – while avoiding the high level of project fragmentation currently seen.

Providing predictable and more programmatic funding. The bulk of concessional finance for climate and disaster resilience tends to be allocated through large one-off projects, which in part determines the significant variation in annual commitments by individual providers. More programmatic and long-term funding (typically 10-15 years) could help build resilience for smaller and more frequent disasters, which can lead to larger cumulative damage over time. Examples of such approaches include a series of projects supporting a country's long-term programme (such as the Kiribati Adaptation Program), where each project phase builds upon the experience of the precedent phase. Even though, due to donor cycles, financial commitments may be restricted to individual phases, an implicit institutional commitment would be made to invest over the long term. Various financial instruments could also be combined programmatically to support a given country's policy and institutional reforms (through sectoral budget support), investment needs (through investment projects) and capacity building (through technical assistance) as was done recently in Samoa.

Facilitating access to funding from vertical funds through simplified application and management procedures for SIDS. Fiduciary standards remain critical and development partners should consider how to better support SIDS in meeting these standards. At the same time, development partners should use their influence to support the adoption, by the global climate funds, of proportionate and streamlined approaches to encourage greater direct access, project implementation and national ownership.

Facilitating access to innovative financing and risk transfer mechanisms. With limited and volatile fiscal revenues and access to concessional finance constrained by eligibility requirements and/or complexities linked to obtaining funds, enhancing access by SIDS to innovative financing mechanisms will be key.[111] For example, development partners can support access to insurance and other forms of risk transfer and risk sharing mechanisms, as well as encourage the use of contingency funds or contingent credit lines. In this respect, the World Bank's efforts to reduce the premia of disaster risk pooling mechanisms constitute positive steps.

Investing to build national capacities and expertise. Small population size and high geographic dispersion of SIDS constitute structural constraints that largely challenge specialisation and overall availability of institutional capacities in SIDS. More than in other contexts, providers of concessional finance may be inclined to fill gaps in human resources through secondment of their staff or flown-in consultants. The sustainability and ownership of resilience programmes, however, will depend on striking the right balance between these short-term solutions and longer-term investments in national capacities. Innovative approaches and the use of new technologies could help tailor more sustainable capacity-building approaches to the specific context of SIDS.

Using financing instruments that can help SIDS at risk of debt distress improve their debt situation and avoid using financing mechanisms that can undermine debt sustainability. In recent years, a number of instruments to deal with the debt situation of SIDS have emerged that can be further scaled up and replicated. While some can provide temporary relief, the international community should also support SIDS in addressing the drivers of debt accumulation. Furthermore, while greater concessional lending to Upper Middle-Income SIDS in recent years has increased the financing available for resilience, care should be taken to ensure that increased concessional lending does not endanger debt sustainability.

Facilitating an international dialogue on the eligibility criteria for accessing concessional finance with the aim of ensuring that SIDS are able to access the finance they need at terms and conditions most suited to their specific circumstances. Currently, SIDS face a complex web of eligibility requirements that must be met in order to access different sources of concessional financing for resilience. With eligibility to several multilateral and bilateral funding sources relying critically on per capita classification, SIDS have expressed the need for a coordinated effort by development partners to review the rules governing access to concessional finance. Acknowledging the multi-faceted nature of vulnerability along with increasing adverse climate-related impacts on SIDS, it may be timely to explore if and how vulnerability to climate change could be included in concessional finance eligibility criteria and allocations. This effort will require multi-partner research and consideration of all aspects of vulnerability – socio-economic and biophysical.

[111] The OECD is preparing a recommendation on disaster risk financing strategies aimed at providing guidance on managing the financial impacts of disasters, including through the use of insurance and other risk transfer instruments (OECD, 2016, forthcoming).

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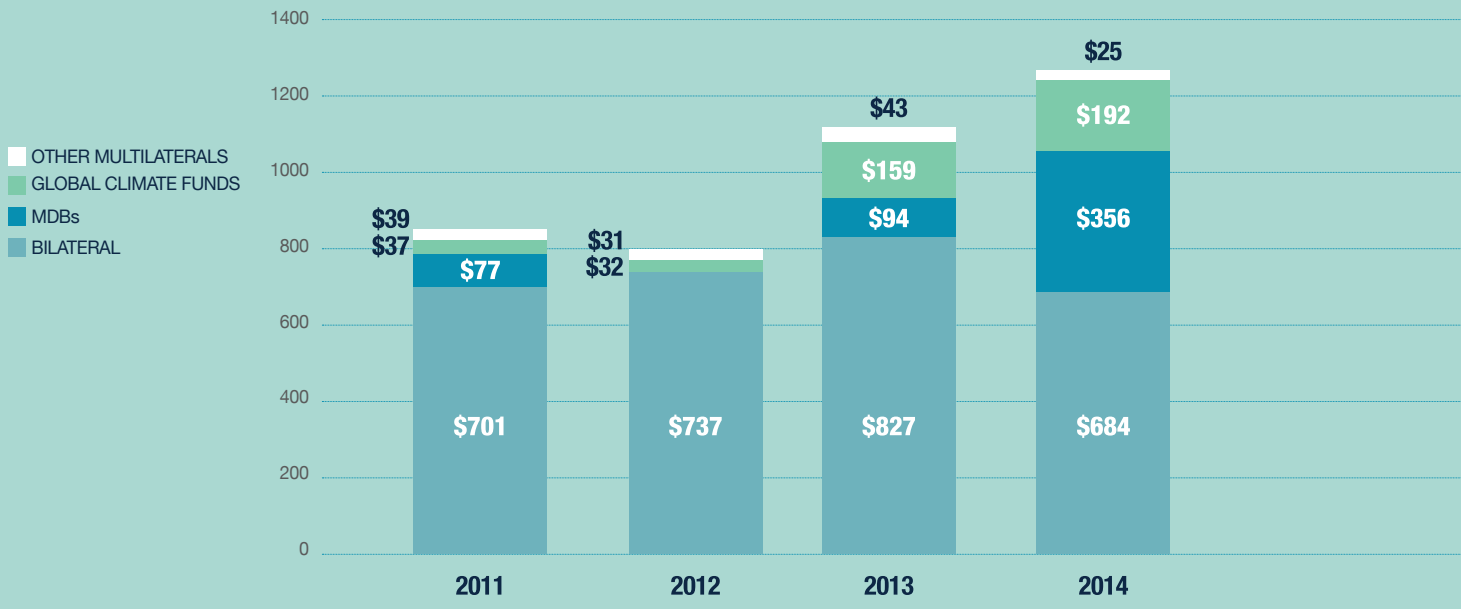
ANNEX 1: CONCESSIONAL FINANCE FOR ADAPTATION AND MITIGATION IN SIDS

While this report focuses on concessional financing in support of climate and disaster resilience, Annex 1 presents the key features and trends of concessional finance to SIDS in support of both climate adaptation and mitigation. It also discusses the relevance of breaking the dependence of SIDS on fossil fuels, which weighs heavily on national budgets, limiting fiscal space for climate resilience actions.

CLIMATE CHANGE ADAPTATION AND MITIGATION FINANCING

Climate change adaptation and mitigation financing to SIDS has increased and comes mainly from bilateral providers. Concessional climate financing to SIDS has risen steadily between 2011-14, reaching USD 1.26 billion in 2014. Although many vertical climate funds have emerged over the past two decades, in the period considered, the bulk of climate finance to SIDS has come from bilateral providers (73%, or nearly USD 3 billion). Smaller shares were provided by MDBs (13%), climate funds (10%) and other multilaterals (3%). The three largest bilateral providers – France (USD 700 million), Japan (USD 498 million) and Australia (USD 472 million) – together made up more than 40% of all climate finance provided to SIDS. Multilateral commitments averaged less than USD 131 million per donor.

Figure A1:
ANNUAL CLIMATE FINANCE TO SIDS BY PROVIDER TYPE

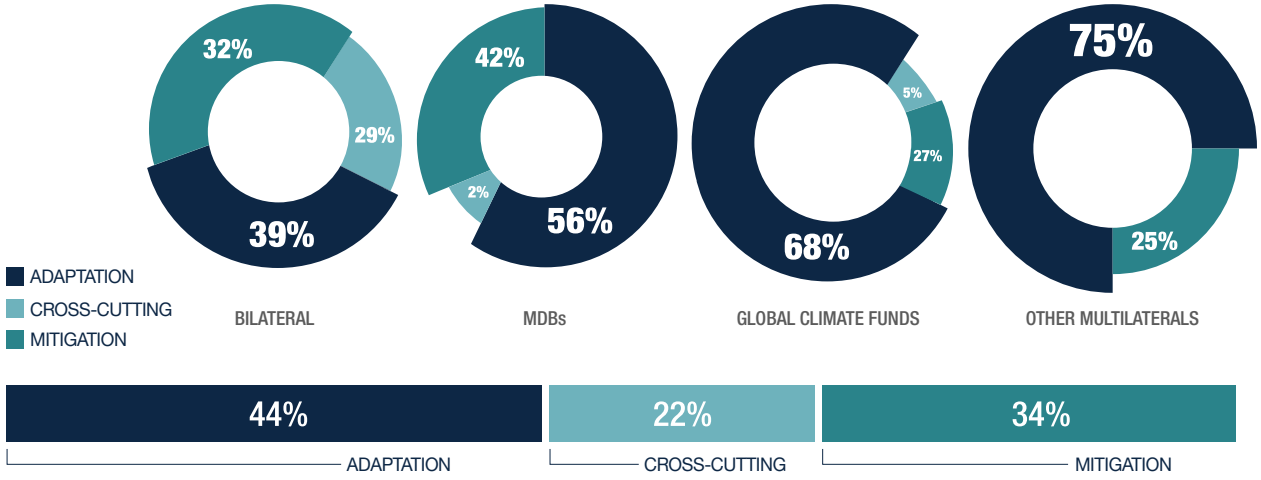


Source: Authors based on OECD DAC Creditor Reporting System.

Most climate finance in SIDS was oriented towards adaptation measures. While globally nearly 80% of concessional climate finance is targeted toward mitigation, SIDS are among the countries receiving the most concessional climate financing for adaptation, which made up more than two thirds of climate finance between 2011 and 2014. The high prioritisation of adaptation in SIDS reflects their low impact on emissions relative to other countries and their need to minimize the adverse effects of climate change. The balance of climate finance to SIDS across donors differs, however, with bilateral providers typically placing equal priority on mitigation and adaptation, and multilateral providers extending larger shares of funding for adaption.

Figure A2:

THEMATIC ALLOCATION OF CLIMATE FINANCE TO SIDS, 2011-14



Source: Authors based on OECD DAC Creditor Reporting System.

SIDS are promoting climate change mitigation and good environmental stewardship globally. They are vocal in promoting a global strategy on climate change, which they perceive as a profound threat to their future. Over one third of the first 15 countries to sign the Paris Agreement were Pacific SIDS.

BREAKING THE DEPENDENCE ON FOSSIL FUELS

SIDS are heavily dependent on imported fossil fuels for domestic energy, including electricity production, household needs and transport systems. With electricity generation in SIDS extremely reliant on high carbon-emitting energy sources, energy production costs are particularly high in SIDS. For example, the Federated States of Micronesia's electricity rates for residential customers exceed USD 0.48 per kilowatt-hour (kWh), nearly four times the average US residential rate of USD 0.13 per kWh. Total electricity generated by Pacific Island States is composed, on average, of 80% imported diesel, with this share totalling 100% for several countries (the Cook Islands, Guam,

Nauru, Niue, Saipan and Tuvalu). Furthermore, an assessment carried out by the UN Conference on Trade and Development (UNCTAD) found that most SIDS allocate more than 30% of their foreign exchange reserves each year to cover the cost of importing fossil fuels.[112]

The implementation of low carbon, sustainable energy solutions requires front-loading projects that have low perceived risks and high financial viability. SIDS are often unable to manage the high upfront investment costs of projects to reduce carbon emissions, in part due to inefficient domestic regulations, which have limited the willingness of development cooperation providers to implement projects where the perceived risks are high and domestic project financing capacity is low. The relatively small size of SIDS, coupled with outdated institutional and regulatory frameworks, discourages large initial investments, which are required for renewable energy sources, such as wind power or geothermal energy, despite the fact that operational costs are cheaper for such sources in the long run. Furthermore, capacity is often lacking to design and implement renewable energy and energy efficiency projects to make them bankable through proper financial and technical feasibility and project development processes.

Due to high debt burdens in some SIDS, borrowing capacity is limited, hampering investment in innovative sustainable energy technologies. According to the Inter-American Development Bank, limited borrowing capacity among Eastern Caribbean countries (with average debt/GDP ratio of 86%) constrains the ability of governments to invest in sustainable energy technologies, thus perpetuating dependency on imported fossil fuels and its negative effect on fiscal space.

Despite these challenges, SIDS are taking important steps to invest in renewable energy. Collectively, SIDS identified a high dependency on energy imports and the consequent vulnerability to energy price shocks as fundamental challenges to their sustainable development in the 2012 "Barbados Declaration on Achieving Sustainable Development for All in SIDS."[113] To reduce expensive oil-based energy generation, some SIDS have prioritised low-carbon growth through innovations in sustainable micro-generation. Sun, wind and ocean waves – all found in abundance in SIDS – are potentially powerful and exploitable energy sources. The international community should encourage efforts towards low-carbon development using these energy sources.

SIDS are also investing in the "Blue Economy." The "Blue Economy" is an approach to economic development based on prioritising the sustainable use and development of local ecosystem services and innovative clean solutions. For SIDS, which have large coastlines, exclusive economic zones and fisheries resources, the Blue Economy mirrors "green development" but with a focus on maritime resources. Efforts to invest in the Blue Economy should garner stronger support from the international community.

[112] http://unctad.org/meetings/en/SessionalDocuments/cimem7d8_en.pdf

[113] http://www.undp.org/content/dam/undp/library/Environment and Energy/Climate Change/Barbados-Declaration-2012.pdf

ANNEX 2: METHODOLOGICAL NOTE ON THE STATISTICAL DATA

CONCESSIONAL FINANCE IN SUPPORT OF CLIMATE AND DISASTER RESILIENT DEVELOPMENT

At present, no internationally agreed methodology exists for assessing the share of concessional finance (hereafter used interchangeably with 'aid') that contributes to building resilience to climate change and natural disasters across the bilateral and multilateral agencies and across the climate and disaster resilience nexus. Therefore, the statistical data put together and analysed for this report represents a pioneering exercise to provide a more accurate picture of the breadth of concessional flows in support of climate and disaster resilient development than the exclusive reliance on climate data, measured through, for example, climate markers[114] and the Joint Report on MDBs' Climate Finance, or disaster preparedness data.[115]

Data on climate and disaster resilience used in this report corresponds to a combination of data extracted from the CRS database capturing adaptation finance to SIDS and additional flows identified as relevant to disaster resilience.

Large gaps exist in data availability and significant variation remains regarding how climate flows are measured between providers, with some using project-level estimates and others providing detailed component level assessments. Information regarding aid flows supporting disaster resilience is even more limited, with no comprehensive data currently available.

Providers primarily use the following two methods for tracking climate flows.

1. The OECD DAC-CRS tracks climate-related development finance through the Rio Markers, which provide an estimate of aid targeting climate objectives and is assessed at the project level. This method is consistently used by bilateral providers to report ODA flows related to climate change adaptation and mitigation. According to the Rio Markers methodology, the full value of a project identified as contributing to climate objectives is taken into account. Statistical data available through this methodology dates back to 2010.[116]
2. Building on the DAC-CRS methodology, the MDBs developed a common system to track climate finance as outlined in the Joint Report on Climate Finance.[117] According to this methodology, only a share ("component") of a project marked as contributing to climate adaptation or mitigation is taken into account. The MDBs began this reporting in 2011 and present data on an annual basis with the last report published in 2015, which covered 2014.

[114] For more information on the Rio Markers and on the tracking of climate finance in the CRS, see: https://www.oecd.org/dac/stats/44188001.pdf and http://www.oecd.org/development/stats/rioconventions.htm

[115] In the CRS, a number of purpose codes are relevant to DRM, including: disaster prevention and preparedness (purpose codes 74010); flood prevention (41050); and reconstruction relief and rehabilitation (73010).

[116] The Rio Marker on adaptation was introduced in 2010. Rio Markers on other climate aspects provide a longer time series.

[117] Latest edition published in August 2016: https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/2015_Joint_Report_on_Multilateral_Development_Banks_Climate_Finance.pdf

The method outlined below was used to develop the underlying data to this report:

Step 1: Enhancing the coverage and comparability of CCA aid flows

Beginning with the complete dataset of all 2011-14 ODA flows to SIDS as recorded in the CRS, flows were classified into the following categories:

1. **Relevant to climate change adaptation:** All transactions marked as either significantly (1) or principally (2) for CCA based on the OECD/DAC CCA policy marker.[118]
2. **Not relevant to climate change adaptation:** All transactions marked as screened against, but found not be targeting, CCA (0) based on the OECD/DAC CCA policy marker.
3. **Not screened for relevance to climate change adaptation:** All transactions not marked as 1, 2 or 0 based on the OECD/DAC CCA policy marker. This included data on flows from MDBs in the 2011-12 period.

To account for reporting gaps, all transactions not assessed for relevance to CCA (category 3) were then individually screened for relevance to CCA and classified as either relevant (category 1) or not relevant to CCA (category 2).

Step 2: Determining transactions that supported both climate change adaptation and disaster resilience

All projects identified as relevant to CCA were then individually reviewed and identified as either: (i) only contributing to CCA; or (ii) contributing to both CCA and disaster resilience.

Step 3: Identifying transactions that contributed to disaster resilience

Many activities, which contribute to building disaster resilience, fall outside the scope of CCA; that is, they deal with risks from geohazards and not climate-related events. To identify transactions that were likely relevant to disaster resilience, a keyword search was conducted using the 'project title,' 'short description' and 'long description' of all transactions not related to CCA (see list of keywords below). All projects identified as containing these keywords were then individually reviewed and categorised as either: (i) only contributing to disaster resilience; (ii) contributing to post-disaster response and recovery; or (iii) not relevant to disaster resilience or post-disaster response and recovery.

For the purposes of this report, aid contributing to climate and disaster resilience refers to concessional flows identified above as: (i) only contributing to CCA; (ii) contributing to both CCA and disaster resilience; and (iii) only contributing to disaster resilience. ODA flows identified as contributing to post-disaster response and recovery were excluded unless otherwise noted. In order to avoid a bias in the sample, and given the unusually large scale of concessional resources received following the 2010 earthquake, all funding for Haiti identified as only contributing to

[118] For a definition about "significant" and "principal" please refer to https://www.oecd.org/dac/stats/48785310.pdf

disaster resilience was assumed to be post-earthquake response and recovery and was, thus, excluded from the sample.

This methodology is unique to this paper and seems to provide a more comprehensive and accurate estimate of concessional finance in support of climate and disaster resilience than reliance on a few relevant CRS purpose codes. However, being based on text searches,[119] the accuracy of such estimates relies on the quality of descriptive information available, which varies across providers in the CRS. While the CRS offers some readily available data on activities that support disaster-related activities (e.g., from emergency response, purpose code 720; reconstruction relief and rehabilitation, 730; and disaster prevention and preparedness, 740), no distinction is made between natural disasters and other types of emergencies (political conflict, food and health epidemics, etc.). Additionally, the CRS does not provide readily available information on the full spectrum of activities in support of disaster resilience. In the case of SIDS, funding reported with the purpose of emergency response, reconstruction relief and rehabilitation, and disaster prevention and preparedness only represents a quarter of all funding for relevant activities in support of disaster resilience. Examples of projects that would have been excluded if the analysis had only covered the above-mentioned three purpose codes, and that are instead relevant to disaster resilience, include:

- A Japanese-financed project in Fiji that aims to "improve drainage systems within three schools as well as provide flood shelter in Nadroga Navosa Province to protect the community against flooding during natural disasters" – in support of the education sector (purpose code 11120).
- A Finnish-financed project to benefit Oceania with the purpose of "strengthening the capacity of National Meteorological Services in Oceania to produce high-quality weather services in order to address the challenges posed by climate change and extreme weather phenomena" – in support of research and scientific institutions (purpose code 43082).
- An Australian-financed project targeting Samoa for "the redevelopment of the Parliamentary Complex, specifically for design, including climate change assessment" – in support of the construction sector (purpose code 32310).

This illustrates that obtaining reliable statistics on adaptation and disaster reliance would entail adjusting existing CRS classifications, particularly in relation to disaster reliance. Recognising the growing importance that the international community attaches to the integration of CCA and DRM, the OECD-DAC is exploring ways to improve the accuracy of tracking concessional finance in support of climate and disaster resilience in the CRS. Regarding CCA, the methodology was adjusted this year, to provide improved guidance to reporters and, hence, to improve consistency in members' reporting (e.g., introduction of an indicative table to guide scoring by sector, reference to the MDB "three-step approach"). Regarding disaster resilience,

[119] The accuracy of estimates based on text searches relies on the quality of descriptive information available, which varies across providers in the CRS.

a proposal to establish a new policy marker for DRM was presented jointly by the World Bank, the GFDRR and UNISDR in April 2014. However, to date no significant modifications have been introduced in the CRS to this end.

DISASTER DATA

Disaster data was taken from the Emergency Events Data Base (EM-DAT) maintained by the Collaborating Centre for Research on the Epidemiology of Disasters (CRED). Disaster figures used in this report are a subset of the total EM-DAT disaster list, and include only geophysical, meteorological, hydrological and climatological disasters. Disasters in the EM-DAT database are counted if at least one of the following has occurred: 10 or more fatalities; and/or 100 or more people "affected" a call for international assistance or the declaration of a state of emergency. People "affected" by a disaster are defined as those who are injured, homeless/displaced or in need of immediate assistance.

A number of issues with disaster data exist. Figures on economic losses due to natural disasters are largely affected by missing data. EM-DAT data only has economic loss figures for 36% of disasters reported between 1994 and 2013.[120] In low-income countries, a mere 14% of reported disasters include figures on economic losses, compared to 51% in high-income countries. Looking at SIDS in particular, economic losses are not reported for at least 45 natural disasters across eight countries from 2000-2014.[121] This suggests that economic losses in SIDS, which are already higher as a percentage of GDP than in other countries, could be even greater than the numbers suggest. Similar issues may also exist with data on affected populations.

Furthermore, this only reflects missing information for reported disasters. Many disasters, particularly those affecting SIDS on a regular basis and which may not meet EM-DAT thresholds or be internationally recognized, go entirely unreported.

OTHER SECONDARY DATA

A number of sources were consulted for this paper. Different SIDS were included on different analyses due to data quality and availability, which is outlined broadly by source in the table below.[122]

Broadly speaking, SIDS represent a challenge in terms of data quality and completeness. Some states are entirely missing from datasets due to their small size or special relationship with other countries.[123] A number of datasets are also admittedly less accurate for particularly small states, in part because of their reliance on remote sensing and other broad-based data collection techniques, which may not be appropriate for very small land masses.[124]

[120] Page 42: http://cred.be/sites/default/files/The_Human_Cost_of_Natural_Disasters_CRED.pdf

[121] The data used is grouped by country, so this only reflects underreporting where no economic losses are reported for all disasters across the country for this period, and thus excludes underreporting in countries where at least one disaster was reported with economic losses.

[122] The table illustrates sources generally (i.e., World Bank), but some variation also exists within datasets across various indicators used in this analysis.

[123] World Development Indicators and historical economic data are only available for some SIDS.

[124] Exclusion: see page 18: http://germanwatch.org/fr/download/13503.pdf and data quality, http://www.preventionweb.net/english/hyogo/gar/report/index.php?id=9413. A clear example of remote sensing limitations is estimates from the World Bank about the percentage of land under five metres elevation, which due to spatial resolution is less accurate for small islands.

MAPS AND SPATIAL ANALYSIS

Countries, territories and other land masses were based on the GADM database of Global Administrative Areas, which is a dataset of all countries and other administrative areas.

Hurricane data is based on the International Best Track Archive for Climate Stewardship (IBTrACS), specifically the World Meteorological Organization subset, taken from the National Oceanic and Atmosphere Administration's National Centers for Environmental Information.[125] This information was transformed from line vectors to a path density map using a Geographic Information System. The "ring of fire" polygon was based on a digitization of a USGS map.[126] This information was not, notably, subject to a rigorous analysis and is only meant to roughly indicate exposure to natural hazards, rather than provide precise information.

[125] NOAA: https://www.ncdc.noaa.gov/ibtracs/index.php?name=wmo-data

[125] Original map: http://pubs.usgs.gov/gip/dynamic/fire.html and digitized version available here: https://github.com/barryrowlingson/for-science/blob/master/ring_of_fire.zip

LONG NAME	SHORT NAME	ISO	INCOME STATUS
Antigua and Barbuda	Antigua and Barbuda	AG / ATG	UMIC
Belize	Belize	BZ / BLZ	UMIC
Cabo Verde	Cabo Verde	CV / CPV	LMIC
Comoros	Comoros	KM / COM	LDC
Cuba	Cuba	CU / CUB	UMIC
Dominica	Dominica	DM / DMA	UMIC
Dominican Republic	Dominican Republic	DO / DOM	UMIC
Fiji	Fiji	FJ / FJI	UMIC
Grenada	Grenada	GD / GRD	UMIC
Guinea-Bissau	Guinea-Bissau	GW / GNB	LDC
Guyana	Guyana	GY / GUY	LMIC
Haiti	Haiti	HT / HTI	LDC
Jamaica	Jamaica	JM / JAM	UMIC
Kiribati	Kiribati	KI / KIR	LDC
Maldives	Maldives	MV / MDV	UMIC
Marshall Islands	Marshall Islands	MH / MHL	UMIC
Mauritius	Mauritius	MU / MUS	UMIC
Federated States of Micronesia	Micronesia	FM / FSM	UMIC
Nauru	Nauru	NR / NRU	UMIC
Cook Islands	Cook Islands	CK / COK	UMIC
Niue	Niue	NU / NIU	UMIC
Palau	Palau	PW / PLW	UMIC
Papua New Guinea	Papua New Guinea	PG / PNG	LMIC
Saint Lucia	Saint Lucia	LC / LCA	UMIC
Saint Vincent and the Grenadines	Saint Vincent and the Grenadines	VC / VCT	UMIC
Samoa	Samoa	WS / WSM	LMIC
São Tomé and Príncipe	São Tomé and Príncipe	ST / STP	LDC
Seychelles	Seychelles	SC / SYC	UMIC
Solomon Islands	Solomon Islands	SB / SLB	LDC
Suriname	Suriname	SR / SUR	UMIC
Timor-Leste	Timor-Leste	TL / TLS	LDC
Tonga	Tonga	TO / TON	UMIC
Tuvalu	Tuvalu	TV / TUV	LDC
Montserrat	Montserrat	MS / MSR	UMIC
Vanuatu	Vanuatu	VU / VUT	LDC