

MAPPING OPPORTUNITIES AND
MANAGING EXPECTATIONS-
*TWO PATHWAYS FOR RESILIENCE BUILDING
FOR LARGE OCEAN STATES/SMALL
ISLANDS DEVELOPING STATES AT THE
FRONTLINE OF THE CLIMATE EMERGENCY.*



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Context

World Economic Forum Risk Reports

4 out of the 5 worst global risks between 2015-2020 are linked to water

SUSTAINABLE DEVELOPMENT GOALS (SDGs)

17 goals, 169 targets, and several indicators per target

Top 5 Global Risks in Terms of Impact

	2015	2016	2017	2018	2019	2020
1st	Water crises	Climate action failure	Weapons of mass destruction	Weapons of mass destruction	Weapons of mass destruction	Climate action failure
2nd	Infectious diseases	Weapons of mass destruction	Extreme weather	Extreme weather	Climate action failure	Weapons of mass destruction
3rd	Weapons of mass destruction	Water crises	Water crises	Natural disasters	Extreme weather	Biodiversity loss
4th	Interstate conflict	Involuntary migration	Natural disasters	Climate action failure	Water crises	Extreme weather
5th	Climate action failure	Energy price shock	Climate action failure	Water crises	Natural disasters	Water crises



Data Source :World Economic Forum

The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)

<https://www.ipbes.net/>

40%: of the global population lacks access to clean and safe drinking water

>33%: world's land surface (and +/-75% of freshwater resources) devoted to crop or livestock production

#GlobalAssessment

#IPBES

<1%: total land used for mining, but the industry has significant negative impacts on biodiversity, water quality and human health

>80%: global wastewater discharged untreated into the environment

Media Release: Nature's Dangerous Decline 'Unprecedented'; Species Extinction 'Accelerating'

Media Release: Nature's Dangerous Decline 'Unprecedented'; Species Extinction Rates 'Accelerating'



BACK TO TOP

25%: average proportion of species threatened with extinction across terrestrial, freshwater and marine species that have been studied in sufficient detail



The Ecosystem Restoration in the decade guideline stated, ***“assisting in the recovery of ecosystems that have been degraded or destroyed, as well as conserving the ecosystems that are still intact”***.

All kinds of ecosystems can be restored, including forests, drylands, savannah, woodlands, heathlands, montane environments, farmlands, cities, wetlands and oceans.

Rural populations , and especially communities and peoples, have long been the custodians of ecosystems. Securing their rights and building on their knowledge is critical for the success of restoration and for protecting a large portion of the world’s biodiversity.



Prevent, halt and reverse the degradation of ecosystems worldwide

Facts and figures

75%

The ocean covers three quarters of the Earth's surface and represents 99 percent of the living space on the planet by volume.

200,000

The ocean contains nearly 200,000 identified species, but actual numbers may lie in the millions.

40%

As much as 40 percent of the ocean is heavily affected by pollution, depleted fisheries, loss of coastal habitats and other human activities.

30%

The ocean absorbs about 30 percent of carbon dioxide produced by humans, buffering the impacts of global warming.

3 billion

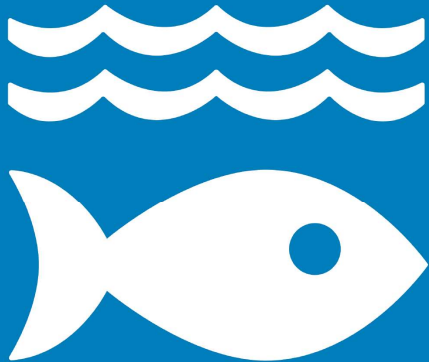
More than 3 billion people depend on marine and coastal biodiversity for their livelihoods.

US\$3 trillion

The market value of marine and coastal resources and industries is estimated at US\$3 trillion per year, about 5 percent of global GDP.

Source UNDP

14 LIFE BELOW WATER



SDG 14 TARGETS:

14.1 By 2025, prevent and significantly reduce marine pollution of all kinds

14.2 By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts

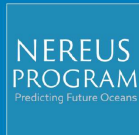
14.3 Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels

14.4: By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices

14.5: By 2020, conserve at least 10 per cent of coastal and marine areas

14.6 By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing

14.7 By 2030, increase the economic benefits to Small Island developing States and least developed countries from the sustainable use of marine resources



NEWS

OCEAN BASINS ▾

CHALLENGE ▾

25.11.2022

24.11.2022

Societal Outcomes

A safe Ocean

Human communities are protected from ocean hazards and the safety of operations at sea and on the coast is guaranteed.



A Sustainable Productive Ocean

The provision of food supply and alternative livelihoods are secured.



A transparent and accessible Ocean

All nations, stakeholders and citizens have access to ocean data and information, technologies, and



Understand and map land and sea-based sources of pollutants and contaminants and their potential impacts on human health and ocean ecosystems, and develop solutions to remove or mitigate them.



Understand the effects of multiple stressors on ocean ecosystems, and develop solutions to monitor, protect, manage and restore ecosystems and their biodiversity under changing environmental, social and climate conditions.



Generate knowledge, support innovation, and develop solutions to optimise the role of the ocean in sustainably feeding the world's population under changing environmental, social and climate conditions.



Generate knowledge, support innovation, and develop solutions for equitable and sustainable development of the ocean economy under changing environmental, social and climate conditions.



Enhance understanding of the ocean-climate nexus and generate knowledge and solutions to mitigate, adapt and build resilience to the effects of climate change across all geographies and at all scales, and to improve services including predictions for the ocean, climate and weather.



Enhance multi-hazard early warning services for all geophysical, ecological, biological, weather, climate and anthropogenic related ocean and coastal hazards, and mainstream community preparedness and resilience.



Ensure a sustainable ocean observing system across all ocean basins that delivers accessible, timely, and actionable data and information to all users.



Through multi-stakeholder collaboration, develop a comprehensive digital representation of the ocean, including a dynamic ocean map, which provides free and open access for exploring, discovering, and visualizing past, current, and future ocean conditions in a manner relevant to diverse stakeholders.



Ensure comprehensive capacity development and equitable access to data, information, knowledge and technology across all aspects of ocean science and for all stakeholders.



Ensure that the multiple values and services of the ocean for human wellbeing, culture, and sustainable development are widely understood, and identify and overcome barriers to behaviour change required for a step change in humanity's relationship with the ocean.

<https://uk-ioc.org/un-decade-ocean-science-sustainable-development-2021-2030>

<https://public.wmo.int/en/media/news/ocean-science-and-observations-focus-executive-council>

Climate change: What is a climate emergency?

By Lindsay Brown
Newsbeat reporter

3 May 2019



No single definition, but say they want to be carbon-neutral by 2030.

Disaster Risk Reduction in the extended mandate



MPs have approved a motion to declare an environment and climate



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ENVIRONMENT

Pacific leaders declare 'climate emergency', calls on world to take urgent action

<https://www.usp.ac.fj/wansolwaranews/news/pacific-leaders-declare-climate-emergency-calls-on-world-to-take-urgent-action/>

15 Jul 2022





Open Access Article

Disaster-Risk, Water Security Challenges and Strategies in Small Island Developing States (SIDS)

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Version

Abstract

Small island developing states (SIDS) are typically characterized by high vulnerability to disasters and climate change. Additionally, they often lack the resources to provide essential services. This article presents an assessment of disaster risk on three major dimensions: (a) how disaster risks are assessed, (b) analyzing the current status of water and (c) assessing gaps and needs in institutions and policies (SDGs) and targets, adaptation and resilience building measures. The study method, (b) analyzing the current status of water and (c) assessing gaps and needs in institutions and policies (SDGs) and targets, adaptation and resilience building measures be able to distinguish trends in and between SIDS.

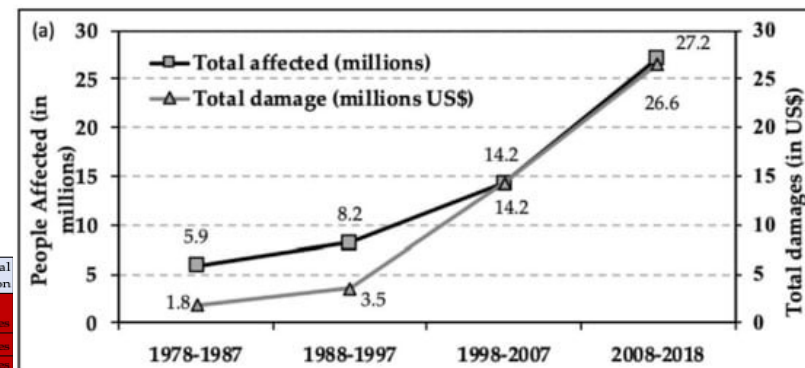


	Degradation/ Erosion	Risk of Forest Fires	Eutrophication	Risk of Salinization	Biodiversity	Risk of Coastal erosion
Cabo Verde	Yes	Yes		High	Threatened	Yes
Comores	Yes	Yes		Low	Threatened	Yes
Guinea-Bissau	Yes	Yes		High	Threatened	Yes
Maldives	Yes			High	Threatened	Yes
Mauritius	Yes			Low	Threatened	Yes

Table 2. Water policy and climate change and disaster risk reduction policy in selected case studies.

	Trinidad and Tobago	Maldives	Tuvalu
Water Policy	National Integrated Water Resources Management Policy (2017)	National Water and Sewerage Policy (2017)	Sustainable and Integrated Water and Sanitation Policy 2012–2021
	Disasters Measures Act Chapter 16:50 (1978)	National Adaptation Plan for Action (NAPA, 2006)	Te Kaniva (National Climate Change Policy 2012–2021)
Climate Change and DRR Policy	National Climate Change Policy (2011)	The Climate Change Policy Framework (2015)	National Action Plan to Combat Land Degradation and Drought (NAP, 2006)
		Strategic National Action Plan for DRR and Climate Change Adaptation 2010–2020	National Adaptation Program of Action (NAPA) (2007)
		The Disaster Management Act (2015).	National Strategic Action Plan for Climate Change and Disaster Risk Management (NSAP, 2012–2016)
		Joint DRR and climate change adaptation approach for 2010–2020	

Micronesia (Federated States of)	Yes	Yes		Low	Threatened	Yes
Nauru	Yes			High	Threatened	Yes
Palau	yes				Threatened	Yes
Papau New Guinea	yes			High	Threatened	Yes
Samoa	yes			Medium	Threatened	yes
Solomon Islands				Yes	Threatened	Yes
Timor-Leste	yes	yes		Low	threatened	Yes
Tonga	Yes			Medium	threatened	Yes
Tuvalu	Yes			High	threatened	Yes
Vanuatu		Yes		High	threatened	Yes



MANAGING DISASTER RISK AND WATER SECURITY: STRATEGIES FOR SMALL ISLAND DEVELOPING STATES

DOCUMENTS AND PUBLICATIONS

Author(s): Nagabhatla, Nidhi; Perera, Duminda; Gheuens, Jana et al.

Source: United Nations University Institute for Water, Environment and Health



This briefing presents issues that decision-makers in island nations need national or regional strategies for disaster risk reduction (DRR) and water DRR policies, and the resulting strategies and action plans are the basis for partnerships for sustainable development with international funding agencies among the highest-risk locations on the planet. Today some are already experiencing adverse effects of sea-level rise, vulnerability to water shortages and extreme weather and their knock-on effects of desertification, ecosystem degradation, and food production.

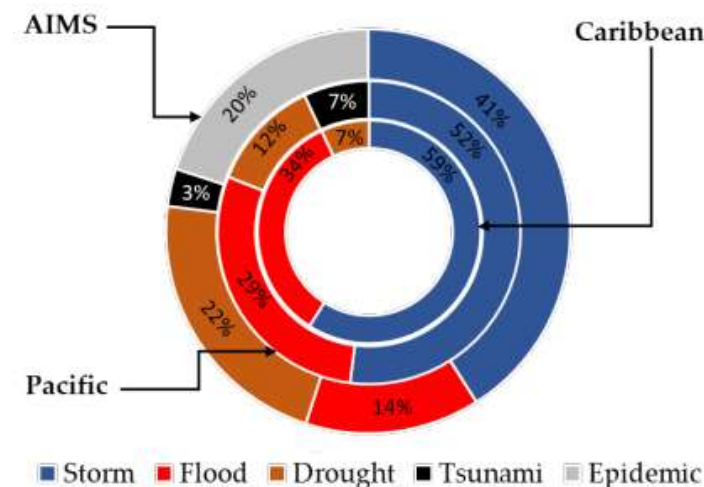


Figure 1: Types of disasters in SIDS in 2018. AIMS SIDS - Africa, Indian Ocean, Mediterranean and South China Sea countries (outer ring) are exposed to all five types of disasters. Pacific SIDS (middle ring) are exposed to storms, floods, and to a lesser extent drought and tsunami. Caribbean SIDS (inner ring) are exposed primarily to storms and floods, and to a lesser extent to drought.



Shaping the Future of Small Islands pp 205–217 | [Cite as](#)

Institutional and Policy Analysis: Water Security and Disaster Management in Small Island Developing States

[Chloe Wale](#) , [Nidhi Nagabhatla](#) & [Duminda Perera](#)

Chapter | [First Online: 24 November 2020](#)

306 Accesses

Abstract

The growth prospects of the Small Island Developing States (SIDS) are stalled by various influences including coastal and marine ecosystems degradation, sea-level rise, impacts of climate change and natural disasters, demographic trends, and increasing water-food-energy needs. This chapter presents critical aspects of policy and institutional analysis that are relevant to water security and disaster risk management (DRM) for SIDS. Towards this

Toward a global policy platform for SIDS and sustainable development

The third International Conference on SIDS in Samoa (2014) agreed on the SAMOA (Small Island Developing States Accelerated Modalities of Action) Pathway – providing a base frame for 300 multi-stakeholders partnerships to support SIDS. The inter-governmental SIDS Partnership Framework was created to monitor progress and stimulate new partnerships for the sustainable development of SIDS. In 2019 the UN General Assembly hosted a high-level event to review the progress of SAMOA Pathway activities



Addressing Water and Climate Crises in Tandem: A smart strategy (Ten-Point Agenda) is proposed as a guideline to transform the theory on water security into effective action

Socio-metabolic risk and tipping points on islands

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Matthew Eckelman⁵ , Jasper Verschuur⁶  and Reshma Soman⁷ 

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[Environmental Research Letters](#), Volume 17, Number 6

[Focus on Earth System Resilience and Tipping Behavior](#)

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DOI 10.1088/1748-9326/ac6f6c



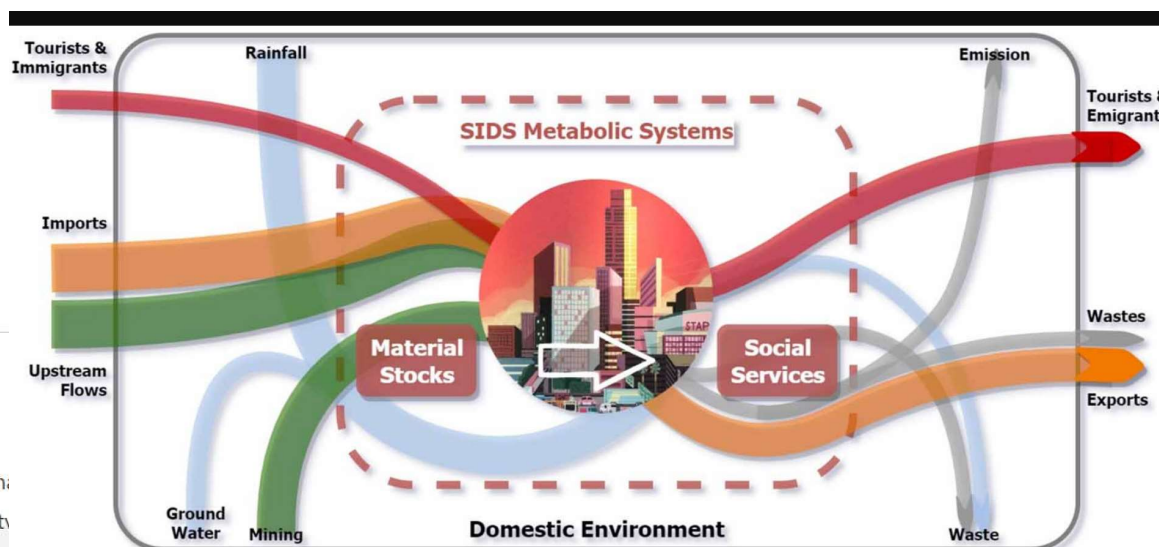
Figures ▾ References ▾

[+ Article information](#)

Abstract

Small Island Developing States (SIDS) face enormous sustaini on imports to meet basic needs. tenuous resource availability This site uses cookies. By continuing to use this site you agree to our

In the Pacific region as in many SIDS limited land areas severely restrict surface water storage and water availability highest risk and increased island destabilization by 2050 due to water stress that will cascade into food, infrastructure, and economic insecurity (Duvat et al 2021)



Specific combinations of material stocks and flows, which are used, consumed, and/or controlled by humans for their purposes, contribute to the system's proliferation of risk.





United Nations University

Institute for Water, Environment and Health (UNU-INWEH) & Scottish Association for Marine Science (SAMS)



POLICY BRIEF

Safeguarding the future of the global seaweed aquaculture industry

Elizabeth J. Cottier-Cook¹, Nidhi Nagabhatla², Yacine Badis¹, Marnie L. Campbell³, Thierry Chopin⁴, Weiping Dai⁵, Jianguang Fang⁶, Peimin He⁷, Chad L. Hewitt², Gwang Hoon Kim⁸, Yuanzi Huo⁹, Zengjie Jiang⁶, Gert Kema⁹, Xinchu Li¹⁰, Feng Liu^{11,12}, Hongmei Liu¹³, Yuanyuan Liu⁷, Qinglin Lu¹⁴, Qijun Luo¹⁵, Yuze Mao⁶, Flower E. Msuya¹⁶, Céline Rebours¹⁷, Hui Shen¹⁴, Grant D. Stentiford¹⁸, Charles Yarish¹⁹, Hailong Wu¹, Xinming Yang²⁰, Jihong Zhang⁶, Yongdong Zhou²¹, Claire M. M. Gachon¹ Corresponding author: ejc@sams.ac.uk

Highlights

1. Global aquaculture production continues to increase, whilst capture fisheries stagnate. Many wild fisheries have been overexploited. Cultivation, if managed sustainably, is a viable alternative.
2. The seaweed industry is undergoing a rapid global expansion and currently accounts for ~49% of the total mariculture production. Unabated exponential growth in the last 50 years has meant that the value of the industry reached US\$6.4 billion in 2014, providing jobs, predominantly in developing and emerging economies.
3. There is increasing need to address new challenges imposed by trade and market demand. Case studies clearly show that valuable lessons can be drawn from the major seaweed-producing nations and other aqua- and agriculture sectors.
4. Improving biosecurity, disease prevention and detection measures are critical, together with establishing policies and institutions. This will provide incentives and steer the long-term economic and environmental development of a sustainable seaweed aquaculture industry.
5. This policy brief highlights key issues that need to be addressed to create long-term sustainability of this emerging global industry, as it prepares itself for playing an important role in the 'blue' ocean economy agenda.



POLICY RECOMMENDATIONS

The need for evidence-based policy decision making and sector management is paramount across all the following policy recommendations, which should be acknowledged as essential components of establishing the balance between economic growth and ocean health, and incentivised by policymakers:

1. **Establish centres of research excellence** to develop and identify new indigenous cultivars, specifically chosen for their disease resistance, high yields and ability to meet consumer preferences. To undertake pathogen profiling of key farmed seaweeds to inform risk assessments for trade of seed stock and propagules and to study the interactions of specific genetic variants within a particular geographical location.
2. **Establish national seed banks** which are responsible for maintaining a high health status of seed stock and where disease-resistant strains can be held for use by seaweed farmers following a disease outbreak. These could be part-funded by the government, industry and potentially non-government organisations.
3. **Maintain the genetic diversity in wild stocks** by preventing the introduction of non-indigenous species and encouraging the development of local indigenous cultivars.
4. **Exercise the precautionary approach** when introducing new or non-indigenous cultivars to the marine environment.
5. **Focus on developing and enhancing biosecurity programmes through capacity building**, including training in quarantine procedures and farm management practices and **incentivise the development of diagnostics** to rapidly detect disease and non-indigenous species, to enable adaptive risk management and better evaluation measures to be taken.
6. **Incentivise long-term investment in the industry**, potentially through part-government funded insurance policies to safeguard the business against natural disasters and disease outbreaks.
7. **Incentivise the integration of seaweed, fin-fish and other extractive species in aquaculture systems** to both reduce the eutrophication and benthic enrichment effects of fin-fish aquaculture and to minimise space used for aquaculture purposes in the coastal zone.
8. **Develop assessment tools** for evaluating spatial planning issues in relation to aquaculture (including seaweed) and to enable risk-based analysis of spatial management options to support the licencing process and facilitate future investments in infrastructure / insurance schemes to ensure the sustainable growth of this industry.

Pacific Islanders Present Historic Declaration To Leaders At COP27

Thursday, 10 November 2022, 6:28 am

Press Release: [350.org](#)

Read the Kioa Climate Emergency Declaration [here](#)

Sharm El Sheik - Pacific island youth met with Australian and Pacific Island leaders

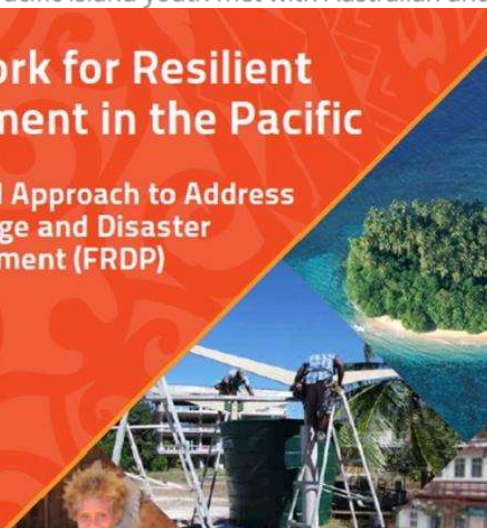
on, additional loss and

Framework for Resilient Development in the Pacific

An Integrated Approach to Address Climate Change and Disaster Risk Management (FRDP)

2017 – 2030

11 September 2016



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leaders-at-cop27.htm

ific Island Forum

target that evening

KIOA CLIMATE EMERGENCY DECLARATION

TEARS OF RESILIENCE

[READ THE KIOA CLIMATE EMERGENCY DECLARATION](#)

1. Greater action on mitigation, to reduce greenhouse gas emissions to align to **1.5 degrees C** temperature goal, to ensure the survival of SIDS
2. Urgent action on **adaptation including financing** and support for community-led initiatives.
3. Urgent progress on the issue of **Loss & Damage (L&D)**
4. Ensure the just, **dignified, and safe movement of people**, in the context of climate change
5. Guaranteed **access to finance**, and the creation of more **equitable finance arrangements**— to be **an inclusive process**.
6. **Ocean policies that are compatible with the climate goals**
7. Achieve **inter-generational equity**, ensuring we leave a better world for our descendants, by cancelling climate debt and a commitment to a debt-free future.



This has quickly become the key issue at COP27 – and the most difficult to resolve

By Rachel Ramirez, CNN
Updated 9:30 PM EST, Mon November 7, 2022



Fiji, climate activist Lavetanalagi Seru's (regional policy coordinator with the Pacific Islands Climate Action) says it has cost an average of \$1 million to relocate communities because of sea level rise. Moving away from ancestral lands is not an easy decision, but climate change is having irreversible impacts on the islands

"Climate change is threatening the very social fabrics of our Pacific communities," Seru said. **"This is why these funds are required. This is a matter of justice** for many of the small island developing states and countries such as those in the Pacific."