Non Traditional Security Digest

Climate Challenges of SIDS

Vol 4 | Issue 1 | January - February 2025

MANOHAR PARRIKAR INSTITUTE FOR
DEFENCE STUDIES AND ANALYSES
मनोहर पर्रिकर रक्षा अध्ययन एवं विश्लेषण संस्थान

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Introduction

Small Island Developing States (SIDS) constitute a distinct group of developing countries characterized by their small size, geographical remoteness, limited resource base, and high vulnerability to external shocks. These nations, predominantly located in the Pacific, Caribbean, and Indian Ocean regions, share common developmental challenges stemming from their unique environmental and socio-economic circumstances. The designation "small island" encompasses a range of island entities, including independent states, territories, and dependencies, each possessing unique cultural and ecological characteristics. However, they are unified by their shared experiences of facing disproportionate environmental risks.

The environmental challenges confronting SIDS are multifaceted and intricately linked to global climate change and unsustainable development practices. Rising sea levels, a direct consequence of global warming, pose an existential threat to many low-lying islands, leading to coastal erosion, inundation of land, and displacement of populations. Saltwater intrusion into freshwater aquifers further exacerbates water scarcity, impacting agricultural productivity and human health.

Furthermore, the increased frequency and intensity of extreme weather events, such as hurricanes, cyclones, and droughts, cause significant damage to infrastructure, disrupt economic activities, and erode social resilience. Coral reef ecosystems, vital for coastal protection, fisheries, and tourism, are experiencing widespread bleaching and degradation due to ocean acidification and warming waters. These ecosystems, critical for biodiversity and livelihoods, are rapidly diminishing, with profound implications for the ecological balance of the surrounding marine environments.

In addition to climate-related vulnerabilities, SIDS grapple with issues of waste management, pollution, and unsustainable resource utilization. Limited land area and inadequate waste disposal infrastructure result in the accumulation of solid waste and marine debris, contaminating coastal waters and harming marine life. The reliance on imported fossil fuels contributes to air pollution and greenhouse gas emissions, further exacerbating climate change. Unsustainable tourism practices, while contributing to economic development, can also lead to environmental degradation, including habitat destruction and pollution. Overfishing and unsustainable fishing practices deplete marine resources, impacting food security and livelihoods. The convergence of these environmental pressures creates a complex and

interconnected web of challenges that threaten the long-term sustainability and viability of SIDS.

When considering Small Island Developing States within the Asian and African equatorial regions, it's essential to recognize the distinct environmental challenges that these locations face. Here's a breakdown:

Asian Regions

The Maldives, located in South Asia, and **Singapore**, in South East Asia, are prominent SIDS within this area. These nations confront acute vulnerabilities related to sea-level rise. The low-lying topography of the Maldives renders it exceptionally susceptible to inundation, threatening the very existence of its islands. Singapore, while more developed, faces challenges related to coastal protection, water management, and the impacts of increased storm surges. In Southeast Asia, the issues of coral reef degradation are very prevalent. Increased ocean temperatures are causing massive coral bleaching, impacting fisheries, and tourism.

Across the Asian SIDS, increased urbanization and economic development are also contributing to pollution and waste management problems. The pressures from tourism, while economically important, also produce increased strains on the environment.

African Regions

In the African equatorial region, SIDS include countries such as Seychelles, São Tomé and Príncipe, Comoros, and Mauritius. These nations face a combination of climate-related and resource management challenges. Coastal erosion and saltwater intrusion are significant concerns, impacting freshwater availability and agricultural productivity. These regions also experience increased variability in rainfall, leading to droughts and floods, which disrupt agriculture and water resources.

Furthermore, these African SIDS are reliant on marine resources, and overfishing and coral reef degradation pose serious threats to their economies and food security. The dependency on tourism also makes these nations very vulnerable to environmental degradation of the natural resources that draw the tourism.

It is also important to note that waste management infrastructure in many of these locations is not sufficient to handle the amount of waste being produced. In both the Asian and African equatorial SIDS, the compounding effects of climate change and unsustainable practices create a complex and urgent need for adaptation and mitigation strategies.

SIDS Face Existential Threat from Escalating Plastic Pollution

Small Island Developing States (SIDS), renowned for their pristine marine environments, are facing an increasingly dire threat from plastic pollution, a crisis exacerbated by global trends and disproportionately impacting their fragile ecosystems. Despite contributing minimally to global plastic waste, SIDS are experiencing the severe consequences of both land- and sea-based plastic leakage, with debris accumulating on coastlines and infiltrating food supplies. The inherent limitations of small land areas often result in inadequate waste management practices, including open burning and ocean dumping, further compounding the problem. Remote geographical locations and constrained resources hinder the development of effective inter-island logistics and waste processing infrastructure.

The imperative for SIDS is to prioritize the prevention and elimination of problematic and unnecessary plastics. This requires establishing national multi-stakeholder processes, supported by robust scientific data, to assess plastic consumption and formulate evidence-based policies. National bans on specific problematic materials, informed by scientific evaluations and public consultations, are crucial. Furthermore, the promotion of ecological alternatives, eco-design principles, and reuse/refill systems is essential to mitigate the reliance on plastics. Governments are encouraged to provide incentives, such as subsidies and tax credits, to stimulate the adoption of sustainable practices and circular economy initiatives.

Recognizing the transboundary nature of plastic pollution, international cooperation is paramount. SIDS, situated near ocean gyres, receive a substantial influx of marine debris, rendering them particularly vulnerable. Extended producer responsibility policies, which mandate that exporters to SIDS take back post-consumer products for recycling, are vital. International agreements and treaties must acknowledge the unique challenges faced by SIDS and incorporate specific measures to address their needs. Ongoing plastics treaty negotiations should aim for an ambitious and effective global legal instrument to end plastic pollution. Organizations like the UNDP, through initiatives such as "The Last Straw" in Seychelles and partnerships for improved waste management in the Dominican Republic and Comoros, are working to support SIDS in their efforts to combat plastic pollution. As SIDS leaders convene to review progress towards Sustainable Development Goals, a renewed and intensified commitment to urgent action is

essential to safeguard these vulnerable ecosystems and ensure a sustainable future.

International Conference Highlights Urgent Needs of Small Island Developing States amid Climate Crisis

The fourth International Conference of Small Island Developing States (SIDS), held recently in Antigua and Barbuda, underscored the critical economic and environmental challenges faced by these geographically dispersed nations. These challenges, including limited economic diversification, high dependence on foreign aid, and severe vulnerability to climate change, necessitate enhanced international cooperation. The SIDS grouping, comprising 39 United Nations member states, despite representing less than one percent of the global population, experiences disproportionately high levels of vulnerability, particularly due to their extensive maritime zones and minimal land area. Climate change remains an existential threat, with insufficient climate finance hindering their ability to adapt and mitigate its impacts. Despite contributing minimally to global carbon emissions, SIDS struggle to access adequate funding, further compounded by global economic slowdowns and ongoing conflicts.

India, recognizing the unique challenges of SIDS, has intensified its engagement through bilateral and multilateral initiatives. Programs such as the Security and Growth for All in the Region (SAGAR) and the Forum for India-Pacific Islands Cooperation (FIPIC) exemplify India's commitment to supporting these nations. Furthermore, India's leadership in initiatives like the International Solar Alliance (ISA) and the Coalition for Disaster Resilient Infrastructure (CDRI) demonstrates its dedication to promoting climate resilience. India has also utilized the India-UN Development Partnership Fund to implement various projects, including solarisation, disaster management, and healthcare support. However, to enhance its support, India is advised to prioritize high-impact community development projects, establish robust feedback and follow-up mechanisms, and ensure the successful completion of all initiatives. By streamlining its strategic assistance, India can reinforce its role as a reliable development partner and contribute to the resilient prosperity of SIDS.

International Community Reaffirms Commitment to Sustainable Development of Small Island Developing States

Small Island Developing States (SIDS), a group comprising 39 States and 18 Associate Members of United Nations

regional commissions, continue to face unique social, economic, and environmental vulnerabilities, necessitating sustained international attention. Despite contributing less than 1% to the global population, these nations, located primarily in the Caribbean, Pacific, and Atlantic, Indian Ocean and South China Sea (AIS) regions, are disproportionately affected by climate change, biodiversity loss, and economic shocks.

The international community, recognizing the distinct challenges faced by SIDS, has reiterated its commitment to supporting their sustainable development through various initiatives and programs of action. The vulnerability of SIDS is exacerbated by their remote geography, limited resource base, and dependence on external markets. Climate change impacts, including sea-level rise and intensified extreme weather events, pose existential threats to many island communities, necessitating costly adaptation measures and, in some cases, population relocation.

Biodiversity, crucial for the livelihoods of SIDS through sectors like tourism and fisheries, is increasingly threatened by pollution, habitat destruction, and unsustainable practices. The imperative to address these challenges has been underscored by successive UN programs, including the Barbados Programme of Action, the Mauritius Strategy, and the SAMOA Pathway, each aiming to provide a framework for sustainable development tailored to the specific needs of SIDS. The SAMOA Pathway, adopted in 2014, outlines five priority areas for action: promoting sustainable economic growth, mitigating climate change, protecting biodiversity and environmental health, improving human health and social development, and fostering partnerships.

These initiatives reflect the international community's recognition that SIDS require targeted support to overcome their inherent vulnerabilities and achieve sustainable development goals. Inter-governmental organizations such as Caribbean Community (CARICOM), Pacific Islands Forum (PIF), and Intergovernmental Oceanographic Commission (IOC) play a vital role in regional coordination and support for SIDS. Ongoing efforts to strengthen partnerships, enhance institutional capacity, and mobilize financial resources are essential to ensuring the resilience and long-term sustainability of these vulnerable nations.

Asia-Pacific SIDS Face Existential Threats amidst Climate Crisis, Report Highlights

An analysis by the Economic and Social Commission for Asia and the Pacific (ESCAP) underscores the escalating

vulnerability of Small Island Developing States (SIDS) in the Asia-Pacific region. The report reveals that these nations are grappling with a confluence of challenges, including intensifying climate-related disasters, post-pandemic economic strains, and geopolitical tensions, all of which are significantly hindering progress towards the Sustainable Development Goals. Notably, Pacific SIDS have experienced substantial economic losses due to climate hazards, with average annual losses reaching up to nine percent of GDP between 2015 and 2020.

Projections indicate that these losses are likely to persist, exacerbating the already precarious situation. The degradation of crucial ecosystems, such as mangrove forests, further heightens coastal vulnerability to sea-level rise and storm surges.

The urgency of the situation is underscored by the existential threat posed to these island nations, as reflected in the 2023 Pacific Islands Forum Declaration on the Continuity of Statehood and Protection of Persons in the Face of Climate Change-Related Sea-Level Rise. In response, ESCAP emphasizes the need for transformative adaptation measures, sustainable ocean management, and robust international cooperation. The upcoming Fourth International Conference on Small Island Developing States in Antigua and Barbuda provides a critical opportunity to mobilize resources and forge new partnerships. Furthermore, the report highlights the importance of social accountability, data-driven decision-making, and localized climate action through platforms such as the Pacific Urban Forum. South-South and triangular cooperation are identified as crucial mechanisms for sharing expertise and resources, enabling SIDS to build resilience and achieve sustainable development. ESCAP is actively supporting these efforts through initiatives such as the South-South Cooperation Connector, aiming to facilitate knowledge exchange and capacity building.

Pacific Islands Gravely Threatened by Accelerating Climate Impacts

Report by the World Meteorological Organization (WMO) reveals that Pacific Island nations are facing an existential crisis due to the compounding effects of climate change. Released at the Pacific Islands Forum in Tonga, the "State of the Climate in the South-West Pacific 2023" details a "triple whammy" of accelerating sea level rise, ocean warming, and acidification, posing severe threats to the region's socioeconomic viability. The assessments suggested that the Sea level rise in the area significantly exceeds the

global average, with increases of 10-15 cm in the western tropical Pacific since 1993, leading to a dramatic escalation in coastal flooding. The report further highlighted that the Ocean surface temperatures have risen three times faster than the global rate since 1980, resulting in intensified and more frequent marine heatwaves. These heatwaves, with durations now reaching 20 days or more in many areas, are causing widespread coral bleaching and disrupting marine ecosystems. Furthermore, the ocean's absorption of excess carbon dioxide has led to increased acidification, with measurements indicating a 12% rise in acidity since 1988, and declines in phytoplankton, threatening marine food chains. The report emphasizes the urgent need for enhanced climate adaptation and mitigation measures.

Needs Assessment for Artificial Intelligence, Digital transformation and Open Data for Small Island Developing States

UNESCO survey reveals significant disparities in Artificial Intelligence (AI) and data readiness among Small Island Developing States. While some nations are making notable advancements, others are lagging due to limited resources and tailored support. Key findings indicate gaps in public awareness, media coverage, and government engagement with AI technologies. Furthermore, there is an uneven focus on AI's potential for environmental sustainability, with only a few SIDS leading the charge in this critical area. To address these challenges, it is essential for SIDS to strengthen the data ecosystems and improve data management practices in support of AI. This includes enhancing capacities to understand the relationship between AI, data, and digital transformation, as well as rethinking data accessibility and openness

UN Report Underscores Accelerating Sea Level Rise and Global Impacts

A recent technical brief released by the United Nations highlights the alarming acceleration of global mean sea level rise, attributing it with high confidence to human-induced global warming. The report, drawing from the Intergovernmental Panel on Climate Change (IPCC) findings, emphasizes that current rates of sea level rise are unprecedented in at least the last 3,000 years. The document provides a comprehensive overview of the latest scientific data on sea level rise, detailing its present and projected impacts, including increased coastal flooding, on both a global and regional scale.

Particular attention is given to major coastal cities within the Group of Twenty (G20) countries and the vulnerable Pacific Small

Island Developing States. The findings presented in the brief assert that sea level rise is already significantly affecting the lives and livelihoods of coastal communities and low-lying island nations worldwide. Furthermore, the report stresses that the rate of sea level rise is not only ongoing but also demonstrably accelerating. The document underscores the critical importance of immediate and decisive climate actions from political leaders and policymakers. The choices made in the coming months and years will determine the severity and pace of future impacts, emphasizing the urgency of mitigating the effects of climate change to prevent further devastation.

Aid to small islands falls even as temperatures rise

A recent report by the United Nations Conference on Trade and Development (UNCTAD) reveals a concerning trend: despite escalating climate threats, Official Development Assistance (ODA) to Small Island Developing States (SIDS) has decreased. In 2022, while global ODA reached a record high, aid to SIDS fell by 13%, amounting to $5.9 billion. This decline exacerbates the vulnerabilities of these nations, which are disproportionately affected by rising sea levels, extreme weather events, and increasing temperatures. Notably, the last six months of 2023 saw record heat, with surface temperatures 1.7°C above the 1951-1980 average, further endangering these fragile environments.

The report highlights a particular drop in climate-related ODA to SIDS, which declined by 23% in 2022, reaching $1.5 billion. While climate-related aid to SIDS has shown a trend towards adaptation, which is more relevant to SIDS due to low CO2 emissions but high vulnerability, the amount remains insufficient. The Caribbean alone suffers an estimated $12.6 billion in annual damages from natural hazards. Though there was a shift towards combined adaptation and mitigation funding, the overall reduction in aid targeting singular adaptation or mitigation efforts is a cause for concern. Furthermore, the modality of aid is shifting towards concessional loans, which have doubled since the COVID-19 pandemic, now constituting approximately 40% of climate-related ODA to SIDS. This increase in loans, while provided on favorable terms, contributes to the already substantial $85 billion debt burden of SIDS, equivalent to 72% of their combined GDP. The report emphasizes the critical need for a balanced approach between grants and loans to prevent SIDS from falling into a debt-climate trap.

Small Island Developing States Face Heightened Food Insecurity

Small Island Developing States (SIDS) are disproportionately vulnerable to food insecurity due to a complex interplay of factors including resource constraints, climate change, debt distress, over-reliance on food imports, and the double-edged sword of tourism. These challenges are often exacerbated by their classification as middle-income countries, which can mask their unique vulnerabilities.

Resource limitations, including small land areas and water scarcity, hinder agricultural development and productivity. Climate change poses a significant threat, with SIDS experiencing a higher average GDP loss from climate-related disasters compared to other countries. Rising sea levels, extreme weather events, and saltwater intrusion further degrade agricultural land and disrupt food supply chains. High levels of debt, often exacerbated by climate-related disasters, limit financial resources available for agricultural investment and climate adaptation.

Over-reliance on food imports exposes SIDS to price fluctuations and external shocks, while the dominance of tourism can skew priorities towards imported food products and neglect local food production. The COVID-19 pandemic highlighted the fragility of tourism-dependent economies, leading to significant economic losses and further impacting food security. To address these challenges, SIDS are prioritizing strategies outlined in the Antigua and Barbuda Agenda for SIDS, 2024–34, which focuses on climate-resilient agriculture, sustainable food production, and economic diversification.

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Non-Traditional Security Centre

This digest has been prepared by the Non-Traditional Security Centre, Manohar Parrikar Institute for Defence Studies and Analyses, New Delhi.

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