

SMALL ISLAND DEVELOPING STATES

G L O B A L E N V I R O N M E N T O U T L O O K

The fourth *Global Environment Outlook – environment for development (GEO-4)* assessment report is published in 2007, exactly two decades since the World Commission on Environment and Development (WCED) published its seminal report – *Our Common Future* – which placed sustainable development on the agenda of governments and other stakeholders. *GEO-4* is the most comprehensive UN report on the environment prepared by about 390 experts and reviewed by more than 1 000 others across the world.

Embargoed until after 11.30am New York time, 25 October 2007.

Climate change is a major global challenge whose visible impacts are already evident. Small island developing states (SIDS) are disproportionately vulnerable to climate change impacts which can adversely affect not only the well-being of its inhabitants, but also the very existence of these states. The Environmental Vulnerability Index (EVI) scores for 47 SIDS illustrate that none are ranked resilient and almost three quarters are highly or extremely vulnerable.

SIDS are located in the Pacific, Indian and Atlantic oceans, and the Wider Caribbean and South China Seas. 6 SIDS are in Africa, 23 in Latin America and the Caribbean, and 22 are found in Asia and the Pacific.

Challenges to human well-being in SIDS

Findings by the Intergovernmental Panel on Climate Change (IPCC) indicate that impacts of global warming include rising sea levels, higher rainfall, stronger winds and rain linked to hurricanes, more pronounced droughts and floods associated with El Niño events, decline in water supplies stored in glaciers and declines in crop and livestock productivity. To SIDS, such impacts can be devastating.

Sea-level rise is already threatening the security of communities and cities inhabiting low-lying coastal areas in countries such as Bangladesh, China, India, Myanmar, Thailand and the South Pacific island states. Most exposed to hazards are people living on atolls and low-lying islands and in high-risk coastal settlements with substandard housing and infrastructure. In some extreme cases, migration and resettlement outside national boundaries might have to be considered, which would also result in the loss of sovereignty.

Livelihoods affected include those depending on climate-sensitive natural resources, such as subsistence and commercial farming, and on coastal tourism. Estimates show that coral bleaching

will reduce future GDP by 40–50 per cent by 2020 in smaller Pacific islands.

SIDS are also faced with biodiversity loss and impacts on agriculture due to invasive alien species. Impacts of degradation and overexploitation from human activities harm resources such as coral reefs, seagrass beds, and mangroves that provide a natural coastal protection as well as the basis for subsistence and commercial activities.

Deteriorating resources access has led to growing competition at community, national and regional levels, though pressures are spatially variable. There are further stresses, including social pressures from eroding customary resource tenure and security of land titles.

Climate change is projected to exacerbate health problems, such as heat-related illness, cholera, dengue fever and biotoxin poisoning.

Opportunities

- Mainstreaming climate concerns in development planning is urgent, especially in sectors such as energy, transport, agriculture, forests and infrastructure development, at both policy and implementation levels.
- Likewise, policies facilitating adaptation to climate change in vulnerable sectors, such as agriculture, are crucial to minimize adverse impacts.
- Adaptation involves improving early warning systems; making the economy more climate-independent; shifting from a “controlling of” to “working with nature” paradigm. While some adaptation options are already being implemented in SIDS, specific strategies offer opportunities for more efficient adaptation, including the use of traditional

knowledge based on typical regional or cultural conditions, for example, traditional food preservation techniques, such as burying and smoking food for use in drought periods, can improve food security in rural areas; traditional building materials and designs help reduce infrastructure damage and loss from natural hazards.

- Transformations in social and economic structures, with broad stakeholder participation toward low carbon societies, are critical.
- Vulnerability and adaptation assessments need to be further mainstreamed into national policies and development activities at all levels.



Greenpeace/Sharalendra Yashwant



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Boy (top) runs to catch the school boat in Pramukha island of Kepulauan Seribu (thousand islands) north of Jakarta, Indonesia, and children (bottom) play at the wooden quay on Panggang island of Kepulauan Seribu. It is believed that about 2 000 islands are threatened with coastal flooding in the archipelagic nation due to climate change-induced sea level rise.

Twinning marine protection and resource replenishment in community-based conservation in Fiji

Coastal marine resources in many parts of Fiji are being overfished by both commercial fishing and subsistence harvesting. These practices have largely affected rural communities – about half of Fiji’s population of 900 000 – that rely on communal marine resources for their traditional subsistence-based livelihoods. Food security and accessibility have been reduced. Women gleaning off mudflats, for instance, expend more fishing effort for subsistence species such as clams. Some 30–35 per cent of rural households in Fiji live below the national poverty line.

In response to these concerns, Fijians have established Locally Managed Marine Areas (LMMA), and strengthened traditional marine resource management to replenish marine stock. Communities work with *qoliqoli* (officially recognized customary fishing rights areas), imposing temporary closures of these fishing zones, and *tabu* (no-take for certain species). Communities typically set aside 10–15 per cent of the village’s fishing waters to protect spawning and overexploited areas for resource recovery. While the communities receive external technical expertise, they make the decisions, making an LMMA significantly different from a marine reserve or marine protected area. Prized local species, such as mangrove lobster, have increased up to 250 per cent annually, with a spillover effect of up to 120 per cent outside the *tabu* area in the village of Ucunivanua. The establishment of LMMAs has increased household income and improved nutrition.

As a result of the success of Fiji’s LMMAs, villagers have been increasing the pressure on the government to return legal ownership of the country’s 410 *qoliqoli* to their traditional owners.

Source: WRI

Sources and credits for the information presented here are available and fully referenced in the **Fourth Global Environment Outlook - environment for development** report.



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