

ASSESSMENT OF ENVIRONMENTAL VULNERABILITY FOR SMALL ISLAND STATES

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Small Island Developing States and islands supporting small communities are a special case both for environment and development. They are ecologically fragile and vulnerable. Their small size, limited resources, geographic dispersion and isolation from markets, place them at a disadvantage economically and prevent economies of scale. For small island developing states the ocean and coastal environment is of strategic importance and constitutes a valuable development resource.

Small Island Developing States have all the environmental problems and challenges of the coastal zone concentrated in a limited land area. They are considered extremely vulnerable to global warming and sea level rise, with certain small low-lying islands facing the increasing threat of the loss of their entire national territories. Most tropical islands are also now experiencing the more immediate impacts of increasing frequency of cyclones, storms and hurricanes associated with climate change. These are causing major set-backs to their socio-economic development.

To tackle such environmental problems, a proper monitoring and vulnerability assessment system is a top necessity. Vulnerability assessment measures the seriousness of potential threats on the basis of known hazards and the level of vulnerability of societies and individuals. Hazards are those events and processes that can adversely affect the biological integrity or the health of ecosystems.

Assessments of vulnerability can be made for both people and the environmental systems that provide goods and services. They should identify the location of vulnerable populations, the threats to their wellbeing and the extent

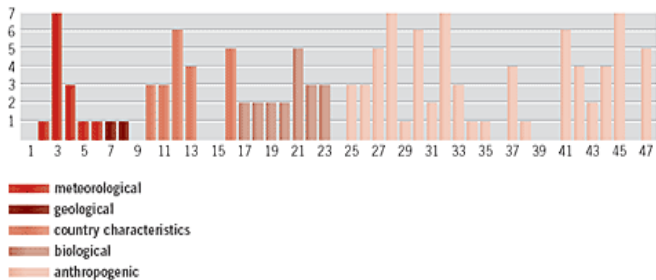
of their vulnerability; the risks to the environmental capacity to provide goods and services; and the preventive steps that can be taken to improve environmental conditions and reduce the negative impacts of human action on the environment. This information is then assembled into a knowledge base that is accessible, scientifically reliable and easy to use, which can help policy-makers and planners seeking to formulate adequate responses.

Environmental Vulnerability Index (evi) for Small Island Developing States (sids)

The South Pacific Applied Geosciences Commission (SOPAC) is developing an index of the vulnerability of the environment to both human and natural hazards. SOPAC identifies three aspects of environmental vulnerability: level of risks (or pressures) on the environment; resilience of the environment to pressures, or intrinsic vulnerability; and the level of degradation of ecosystems, or extrinsic resilience. A total of 47 indicators are used: 26 indicators of risk, 7 indicators of resilience and 14 indicators of environmental degradation. The indicators are also classified by category; meteorological, geological, biological, anthropogenic and intrinsic country characteristics. Data were collected for five countries (Fiji, Samoa, Tuvalu, Vanuatu and Australia) for initial testing. The environmental vulnerability of small island developing states arises from interplay of factors such as remoteness, geographical dispersion, vulnerability to natural disasters, ecological fragility, a high degree of economic openness and small internal markets, and limited natural resources.

The objective of the project is to promote the use of environmental vulnerability considerations in national development planning and thereby encourage sustainable development. The Environmental Vulnerability Index (EVI) provides a relatively quick and inexpensive way of characterizing the vulnerability of natural systems at the level of a region, state, province or island.

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The figure above shows the scores obtained by Fiji for each of the 47 indicators in the EVI. Areas of vulnerability can be easily identified, information that could lead to better management and possibly better vulnerability scores in the future. A score of 1 is the least vulnerable, 7 the most vulnerable.

Sources:

<http://www.grida.no/publications/other/geo3/?src=/geo/geo3/english/512.htm>

<http://islands.unep.ch/da21c17g.htm>

SOPAC 1999 and 2000, Kaly and Craig 2000, Pratt and others 2001

