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FUNAFUTI ATOLL, TUVALU

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CONFERENCE ON SEA-LEVEL RISE

Republic of the Maldives 14 -18 Nov. 1989

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As well as participating in the Small States Conference on Sea-Level Rise, James Lewis was a consultant to the Commonwealth Expert Group on Climate Change and Sea-Level Rise, undertaking field missions to Tonga and Tuvalu.

A 15 to 30 centimetre rise in sea levels in the next 30 years will not itself wipe out even the Maldives - an archipelago of 1300 islets (275 inhabited) mostly between only 1 and 2 metres above present mean sea level.

Flooding of the island capital of Male' by a rare sea surge, led President Gayoom, at the 1987 Commonwealth Heads of Government Meeting in Vancouver, to call for studies of the implications of a threatened rise in sea levels. This conference was thus an appropriate sequel to the ensuing Report of the Commonwealth Expert Group on Climate Change and Sea-Level Rise and the Langkawi Declaration from the 1989 Commonwealth Heads of Government Meeting at Kuala Lumpur.

Expertly managed by the Maldives Government (funded by the Commonwealth and Australia), opening addresses from the Maldives' President and the Commonwealth Secretary General Sir Shridath Ramphal stressed the insensitivity to island states to proposed sea defences, raised land levels, retreat inland and migration. Hurricanes "Gilbert" and "Hugo" may be a portent of a world increase in hurricane incidence and intensity as a consequence of global warming; island states are potential innocent victims of such environmental conditions.

Fourteen Caribbean, Indian Ocean, Mediterranean and Pacific island states were represented; observers came from ten metropolitan countries and/or countries with islands (eg India) and from ten U.N., international and regional organisations; and eleven resource persons from Australia, PNG, UK and the USA, comprised an impressive, committed and unique international gathering.

Although uncertain, many regions are likely to feel changes in the frequency of extremes such as floods, droughts, tropical cyclones and storms; but islands are as likely to build and change than excessively erode and destruct as a result. Coral reefs can build at rates which could keep pace with projected sea-level rise, but increased sea temperatures could be more significant against coral growth. Mangroves are vulnerable to projected sea level increases, but there may be ways of ensuring sedimentation to assist their survival - of benefit as nurseries for commercial fish species as well as protection

against sea surge. Ground water in islands is vulnerable to increased evaporation and salination, but the greatest threat to freshwater on most islands comes from man's overextraction and pollution.

Only a 5% landloss is likely in all but the lowest and flattest islands, but this land is the most intensively occupied. Invariably, settlements are located for access to the sea - this in turn gives the sea access to them.

Sea defence construction in narrow atoll landforms would protect only the back of sea defence construction on the other side - with little between. Porous substrata means raising as well as defending, to prevent flooding from within. Sea defence construction would in effect destroy what it set out to protect.

Adjustments are being made instead in housing design and legislation, to revert to traditional raised floors. New crops are being grown further removed from salt water.

Political, scientific, research and educational changes are also required in international environmental and coastal management, so that informed and balanced legislation, planning, and execution of governments' responses to sea-level rise will not be too late.

High proportional social and economic impacts of tropical cyclone disasters on island states, requires adjustments in all sectors to hazards likely to be exacerbated by global warming and sea-level rise. Holistic island management is needed, which may require modification of conventional sectoral divisions. Disaster preparedness "longstops" must be further developed as a matter of urgency. Small measures must not be displaced by perceptions of ultimate catastrophe.

The Conference achieved a realistic, not alarmist, informed overview of the likely impacts to be expected and indications of practical measures to be adopted appropriate to small island states.

Nevertheless, The Male' Declaration on Global Warming and Sea-Level Rise makes clear the Conference understanding that extensive damage to land and infrastructure is likely, because of increases in frequency and intensity of natural disasters related to climate change, global warming and sea-level rise. In these circumstances the predicament of the low-lying, small, coastal and island states is far greater than other countries experiencing the same phenomena. It is the moral obligation of industrialised countries to initiate international action to reduce emissions of greenhouse gasses and to sponsor urgent implementation of combative measures.