

"UNIQUE ISLAND STATUS"

Proceedings of
PACIFIC BASIN
COASTAL ZONE MANAGEMENT
CONFERENCE

AMERICAN SAMOA . JULY 26, 27, 28, 29, 1982

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AMERICAN SAMOA GOVERNMENT

PRACTICAL MANAGEMENT OF LIMITED RESOURCES by Arthur Lyon Dahl
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The Pacific Islands region is unique in the world for the large size of the ocean area, the many islands within that area, and the small population (about 5 million people) divided among 22 countries and territories.

THE ISLAND SYSTEM

Islands have inherent characteristics that make them very different from continental areas. Their small size gives them a high coastal zone to area ratio (comparable to a surface: volume ratio), and in fact the entire islands are generally considered coastal zones. Island resources are inherently limited and are therefore particularly vulnerable both to development projects and to natural disasters. Even a small impact can involve a significant percentage of a resource. Some resources such as reef fisheries may already have been exploited at or near their sustainable limit even under traditional subsistence use. In such cases, an attempt to develop the resource will depress some other use or simply degrade the resource.

Islands suffer from isolation, which contributes to the biological uniqueness, but which creates many difficulties for management. The advantage of this isolation is that the surrounding ocean and air can be considered as relatively unlimited resources. The biological populations of islands reflect the principles of island biogeography, with immigrations and extinctions related to island size and the distance from other land areas. The initially reduced fauna and flora can lead to rapid speciation and the development of endemic forms, producing distinctive terrestrial communities. There is, however, a frequent loss of competitiveness which leaves many species vulnerable to more aggressive species often introduced by man. In contrast to terrestrial species, marine species tend to be more widely distributed.

The Regional Ecosystems Survey¹ estimated that there are about 2000 ecosystem types in the 20 biogeographic provinces of the South Pacific and Micronesia.

The small size of the island system means that there are frequent interactions between the different parts because of the spatial proximity. Fish may migrate all around the island. Seabirds may recycle nutrients from sea to land areas. Outbreaks of the crown-of-thorns starfish, Acanthaster, may be related to heavy run-off of nutrients from the land. Coral reefs can build coastlines and protect from erosion, but since reefs are themselves the product of biological activity, they can easily be disturbed or degraded by activities on the land and in coastal waters.

The fact that the Pacific Islands are in the tropics further distinguishes them from temperate continental areas and makes the application of temperate standards more difficult. Ecosystems such as the tropical forest and coral reefs are ancient and highly evolved, with high levels of complexity and species interaction. Where temperate marine organisms may be able to tolerate a slight increase in temperature, tropical marine life may be living

very close to upper lethal temperature limits.

MANAGEMENT PROBLEMS IN ISLAND AREAS

The small scale and isolation of island territories create serious disadvantages for the establishment of resource management programs. Staffs are so small that it is not possible to develop much specialist expertise, and managers must be generalists able to synthesize many kinds of information. There is in general a lack of local scientific institutions and other sources of information. This means that the territories are dependent on outside expertise, but such expertise is too often inappropriate, and experience does not accumulate locally.

Island government offices have very limited man-power, and are easily overloaded by detailed and on workable requirements, reports, and visits which leave no time for substantive action. Administrative procedures and requirements need to be scaled down to the size of the executing office, where several levels of administration in a large government may be reduced to a single person. The operation of small offices is much more vulnerable to staff turn-over and absences on leave, when work may come to a halt, or have to short all over. The sectoral approach to government is less effective on islands because of the close inter relation of government activities and weakness in other government services. Even basic service cannot always be assured in the island context.

Another problem is the difficulty in scaling down technology to the size of island needs. Certain waste treatment technologies, for instance, may be neither available nor cost-effective for the requirements of small island communities. The remoteness of islands and their lack of local maintenance skills also limit the types of technology which can be effectively and reliably operated.

PRACTICAL RESOURCE MANAGEMENT APPROACHES

The following guidelines may help to design resource and coastal zone management approaches suited to island conditions.

- Administrative requirements and procedures should be simplified and minimized to leave local personnel free for substantive actions.
- Data collecting techniques need to be simple and adapted to the level of locally-available manpower. The Coral Reef Monitoring Handbook² is an example of such an approach.

- Planning techniques and decision-making procedures must also suit island cultural conditions. Information must be presented in forms which island decision-makers can understand.
- Technology and equipment should be appropriate to tropical island conditions and the limited maintenance capability.
- Islands should have ready access to appropriate outside expertise and technical assistance, with emphasis on continuity of advice and an understanding of island cultures and special conditions.
- Responsibility and decision-making should be decentralized as far as possible to the village level within the framework of territorial plans and priorities. Pacific Island peoples were traditionally responsible for the management of their resources, and this responsibility should be reinforced rather than transferred to government. Local people are in the best position to observe resource changes and to respond to them.
- Public education is therefore an important management approach, and is in fact more practical with small island populations.

In the Pacific, the island countries and territories have recognized that they have a common environment and experiences, and have developed regional approach to their environment and resource management problems through the South Pacific Regional Environment Programme, one of the UNEP Regional Seas Programmes, which is executed through the South Pacific Commission. The programme will improve island government access to and analysis of environmental information, and is facilitating exchanges of experience and expert between islands. These are publications and educational materials suited to the region and organises training courses. This developing regional activities in coastal ecosystem conservation and management, pesticide and fertilizer impacts on islands, oil spill contingency planning, strengthening traditional resource management, and other areas. These regional activities can reinforce national and territorial action in coastal resource management.

REFERENCE

1. Regional Ecosystems Survey of the South Pacific Area, by Arthur L. Dahl, South Pacific Commission. Technical Paper 179. (1980)
2. Coral Reef Monitoring Handbook, by Arthur Lyon Dahl, South Pacific Commission, Noumea, New Caledonia, 1981.

3. South Pacific Regional Environment Programme, Report of the Conference on the Human Environment in the South Pacific, Rarotonga, Cook Islands, 8-11 March, 1982. South Pacific Commission, Noumea, New Caledonia, 1982.

A G E N D A

MONDAY - JULY 26, 1982:

8:00 a.m.	REGISTRATION (Coffee and pasteries)	CONVENTION CENTER
8:30 a.m.	Introduction	Joseph M. Pereira Director, DPO/Tourism
	° Governor's Welcome	Lyle Richmond Executive Assistant to the Governor of American Samoa
	° Legislature's Welcome	Tuana'itau Tuia Speaker of the House of Representatives
	° Goals and Organization of Conference	Tini Lam Yuen, Jr. ASCMP Manager
	<u>THEME INTRODUCTION</u> 'Big Picture'	Joseph M. Pereira
	'Unique Island Status'	Jerry Norris Executive Director, PBDC
	'National Politics '82'	Fred Radewagen, Director Federal & State Relations Washington, Pacific Group
	'Resource Management as a Balance Between Environmental Protection and Economic Development	Joseph M. Pereira
	<u>THEME INTRODUCTION</u> 'Problem Solving Exercise'	Lewis Wolman Program Assistant, OCZM
10:30 a.m.	COFFEE BREAK	

TUESDAY - JULY 27, 1982:

8:15 a.m.	Coffee & Pastries	Convention Center
8:30 a.m.	<u>THEME INTRODUCTION</u> "Practical Techniques to Manage Resources in the Pacific"	Dr. Paul Templet Consultant
	◦ Relevancies of Development	Brownie Tuiasosopo Special Assistant to the Governor American Samoa
	◦ Cultural Obstacles to Conventional Resources Management	Dr. F. K. Sutter Cultural Anthropologist
	<u>COFFEE BREAK</u>	
	◦ Practical Management of Limited Resources	Dr. Arthur Dahl Regional Ecologist, SPC
	◦ Technical Information Needs for Resources Management	Dr. Everett Wingert Associate Professor of Geography University of Hawaii
		and
		Dr. Paul Templet - Consultant
	◦ Staff Training Needs	
12:00 p.m.	<u>LUNCH BREAK</u>	
1:30 p.m.	◦ Physical Infrastructure	Nancy Tuor Planning Department Manager CH2M Hill, Oregon
	◦ Planning	Michael Cruz Chief Planner, Guam
	◦ Permit System	Ivan Groom Resource Planning Coordinator Northern Marianas

TUESDAY - JULY 27, 1982 - Continued

◦ Special Area Management	Richard Wass Marine Biologist Office Marine Resources "and island CZM staffers"
◦ Dredge and Filling	James Maragos Fellow, Environment & Policy Institute, East-West Center

WEDNESDAY - JULY 28, 1982

8:15 a.m. Coffee & Pastries Convention Center

THEME INTRODUCTION Jerry Norris, PBDC
 'How the Federal Government
 can Assist Pacific Island
 Governments'.

 ° Senate Energy & National James Beirne
 Resources Committee Washington, D. C.

 ° Housing Urban Department Claire Freeman
 Deputy/Assistant Secretary/HUD

 ° Fisheries Development Peter Milone/Robin Wasman

 ° OCZM James Murley

 ° Local U.S. Coast Guard Jerry Norris

11:30 a.m. LUNCH
 (Port O' Call - Hotel)

THEME INTRODUCTION Alfonso 'Pete' Galea'i
 "Public/Private Relates" Deputy Director, DPO/Tourism
 American Samoa Government

 ° Private Sector Abe Malae
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1:30 p.m. Field Trips Meet at Hotel Lobby
 Harbor Tour & Cable Car
 Western District Tour

THURSDAY - JULY 29, 1982

8:15 a.m. Coffee and Pasteries Convention Center

8:30 a.m. THEME INTRODUCTION Joseph M. Pereira
 'Re-visit the Big Picture'

10:30 a.m. End of the Coastal Zone Management
 'Unique Island Status Conference'

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