



REGIONAL SEAS

UNITED NATIONS ENVIRONMENT PROGRAMME

A. L. Dahl and I. L. Baumgart:

*The state of the environment
in the South Pacific*

UNEP Regional Seas Reports and Studies No. 31

Prepared in co-operation with



SPC



SPEC



ESCAP

UNEP 1983

Na.86-6456

PREFACE

Ten years ago the United Nations Conference on the Human Environment (Stockholm, 5-16 June 1972) adopted the Action Plan for the Human Environment, including the General Principles for Assessment and Control of Marine Pollution. In the light of the results of the Stockholm Conference, the United Nations General Assembly decided to establish the United Nations Environment Programme (UNEP) to "serve as a focal point for environmental action and co-ordination within the United Nations system" (General Assembly resolution (XXVII) of 15 December 1972). The organizations of the United Nations system were invited "to adopt the measures that may be required to undertake concerted and co-ordinated programmes with regard to international environmental problems", and the "intergovernmental and non-governmental organizations that have an interest in the field of the environment" were also invited "to lend their full support and collaboration to the United Nations with a view to achieving the largest possible degree of co-operation and co-ordination". Subsequently, the Governing Council of UNEP chose "Oceans" as one of the priority areas in which it would focus efforts to fulfil its catalytic and co-ordinating role.

The Regional Seas Programme was initiated by UNEP in 1974. Since then the Governing Council of UNEP has repeatedly endorsed a regional approach to the control of marine pollution and the management of marine and coastal resources and has requested the development of regional action plans.

The Regional Seas Programme at present includes ten regions^{1/} and has over 120 coastal States participating in it. It is conceived as an action-oriented programme having concern not only for the consequences but also for the causes of environmental degradation and encompassing a comprehensive approach to combating environmental problems through the management of marine and coastal areas. Each regional action plan is formulated according to the needs of the region as perceived by the Governments concerned. It is designed to link assessment of the quality of the marine environment and the causes of its deterioration with activities for the management and development of the marine and coastal environment. The action plans promote the parallel development of regional legal agreements and of action-oriented programme activities^{2/}.

The idea for a regional South Pacific environment management programme came from the South Pacific Commission (SPC) in 1974. Consultations between SPC and UNEP led, in 1975, to the suggestion of organizing a South Pacific Conference on the Human Environment. The South Pacific Bureau for Economic Co-operation (SPEC) and the

^{1/} Mediterranean, Kuwait Action Plan Region, West and Central Africa, Wider Caribbean, East Asian Seas, South-East Pacific, South Pacific, Red Sea and Gulf of Aden, East Africa and South-West Atlantic.

^{2/} UNEP: Achievements and planned development of UNEP's Regional Seas Programme and comparable programmes sponsored by other bodies. UNEP Regional Seas Reports and Studies No. 1. UNEP, 1982.

Economic and Social Commission for Asia and the Pacific (ESCAP) soon joined SPC's initiative and UNEP supported the development of what became known as the South Pacific Regional Environment Programme (SPREP) as part of its Regional Seas Programme.

A Co-ordinating Group, consisting of representatives from SPC, SPEC, ESCAP and UNEP, was established in 1980 to co-ordinate the preparations for the Conference. As part of these preparations, 18 "country reports" and 13 "topic reviews" were prepared identifying the environmental problems of individual countries and the region^{3/}.

This document is a reprint of the overview prepared on the basis of the "country reports" and the "topic reviews". It was presented to the Conference on the Human Environment in the South Pacific (Rarotonga, 8 - 11 March 1982) which adopted the Action Plan for Managing the Natural Resources and Environment of the South Pacific Region^{4/}.

^{3/} The Country Reports and Topic Reviews have been published by SPC in 1981 and are available from SPC, Noumea, New Caledonia.

^{4/} SPC/SPEC/ESCAP/UNEP: Action Plan for managing the natural resources and environment of the South Pacific Region. UNEP Regional Seas Reports and Studies No. 29. UNEP, 1983.

CONTENTS

	<u>Page</u>
Introduction	1
The common environmental heritage of the South Pacific	2
The state of the environment	4
Development trends and their environmental consequences	12
The contribution of environmental management to development	16
Conclusions	25

Introduction

The South Pacific Regional Environment Programme has collected enough information through country reports and topic reviews to make a summary overview of the state of the environment in the South Pacific region. It is thus possible to examine the shared heritage of land, sea and living things that is common to all South Pacific peoples, as well as the environmental problems that are becoming widespread in the region. This overview can provide the basis for shared approaches to environmental management and problem-solving.

The environmental approach is now widely recognized and used throughout the world. The environment refers to all our surroundings, especially those affecting people or other living things. Thus, it includes the land, sea and air, the plants, animals and micro-organisms, the weather and seasons, the houses and towns that we build, and everything else made by man or nature that can have an effect on our lives. We depend on the environment for development and for our very survival. When we must look at a project and determine the value, cost and likelihood of its environmental effects or impacts, we make an environmental assessment. Man has long used and manipulated the natural world for his benefit. As we become aware of the importance of the whole environment to our well-being and our dependence on it, we must learn what actions we can take to maintain effective control of our environment and natural resources through environmental management.

Underlying the concept of the environment is the science of ecology which studies the relationships between living things and their environment. It originated as a branch of biology, but now shares many features with other sciences such as geography and anthropology. Ecology includes the study of individual organisms, of communities, and of ecosystems, which are the working ecological systems consisting of communities of living things in interaction with their physical environment.

For many people, the environment means only the conservation of nature and the prevention of pollution by harmful or offensive substances that make some part of the environment dirty or dangerous. However, the World Conservation Strategy defines conservation as "the management of human use of the biosphere (all life on the earth) so that it may yield the greatest sustainable benefit to present generations while maintaining its potential to meet the needs and aspirations of future generations". The environment itself is now seen to involve all aspects of natural resource management and the human habitat, or places where we live.

The common environmental heritage of the South Pacific

All the countries and territories in the South Pacific Commission area from Papua New Guinea to Pitcairn share a common environmental heritage as islands originating through certain common processes. Some islands in the western part of the region are based on fragments of continental rock that have broken off from larger land masses, while the remainder have volcanoes rising from the sea floor as their foundations. Limestone deposits from coral reef growth may occur on either base.

Changes in the relative sea level in past ages from the rising and falling of both the sea bottom and the ocean surface have produced the four island types characteristic of the region. The larger continental islands have complex geology and landforms. The volcanic islands built of lava and volcanic ash vary principally according to their age and the amount of weathering. Elevated reef islands are atolls or reefs raised above the sea surface, with or without overlying soil deposits from volcanic ash or other non-reef origin. Atolls and other low islands are made of sand and coral rubble accumulated on reef platforms at or near sea level. The different island types occur in many combinations throughout the region, and are often mixed on the same island.

Each island type has its particular environmental problems and susceptibilities which tend to be common to areas of that type, a fact which can facilitate the regional exchange of experience and information.

All of the region is within the area of coral reef growth, and the presence of coral reefs is one of the principal characteristics of the South Pacific marine environment. Coral reefs are one of the most ancient and highly-evolved ecosystems on earth, and as such they are complex, dynamic, and fragile if pushed beyond their limits. The Indo-Malaysian area is the centre of coral reef evolution and diversity, so that the reefs are richest to the west of the South Pacific region, and the number of species present gets smaller to the east. The coral reef ecosystem is still not well understood. For instance, recent studies have shown that corals and reef communities can change greatly in even a very short time. It will be possible to develop principles for managing the coral reef environment only by sharing information and experience from all reef areas.

The land plants and animals of islands are subject to special evolutionary pressures that make island flora and fauna unique in the world. The ocean isolates island populations from the major continents. Some continental islands have kept communities that are relics from the time when they were part of a continent in the distant past. Most islands were colonized by immigrant species that managed to cross the sea, often through a rare accident. Because islands are small and their populations restricted, a natural disaster can easily make a local species extinct. The balance of immigration and extinction depends on the size of the island and its distance from other islands and continents and determines how many kinds of plants and animals an island will have.

Because islands are small and isolated, the species that colonize them face different conditions and have less competition than in larger land areas. This leads to rapid evolution into new species with special features adapted just to that island and found nowhere else in the world. Most high islands in the Pacific have at least some such species, and some have very high levels of species found only on that island group (80% or more). These species are an important part of both the island system and the world biological heritage, and as such their preservation is of great importance. While in most instances species conservation will be a national responsibility, the experience gained in managing one species will be valuable to other countries facing similar problems.

Island species do not live in complete isolation. They make up communities and ecosystems such as a mountain forest, swamp or barrier reef in which each species depends on others for its food, its shelter, its reproduction and often its very survival. Conservation and environmental management must thus focus largely at the ecosystem level.

The Regional Ecosystems Survey of the South Pacific Area (SPC Technical Paper No. 179) estimates that there are roughly 2,000 kinds of ecosystems in the South Pacific area. Some of these occur in every country of the region, and others may be highly localized in a single valley, lake or lagoon. Many of these ecosystems are critical habitats where commercially important species live or breed, and others are essential to island resources upon which local people depend. Their conservation is necessary for the physical and economic well-being of the inhabitants.

Even where ecosystems differ from country to country, they share many common features based on ecosystem and island type which allow the development of regional approaches to their management.

While the Pacific Ocean divides the South Pacific countries, it also unites them in a single environmental system. The waves, currents and weather do not respect national boundaries, and any major alteration or contamination could have widespread effects. The resources of this regional ecosystem are shared by all the countries. Migratory species such as the tunas, sea turtles and many birds pass in and out of many countries' jurisdictions. One country may bear the responsibility of protecting a breeding area, while another benefits from the harvest. Very little is known about the ocean transport of juvenile marine life. The population balance of marine life on an island may depend on a supply of spores or larvae from other islands up the current. The more the regional ocean system is studied, the more interactions are certain to be discovered. Co-ordinated approaches to ocean resource management are therefore essential.

Environmental management is not a new concept for Pacific peoples. Wherever natural resource management was needed, the traditional cultures of the region developed practices which protected their essential interests. These included land and reef tenure systems, permanent and temporary taboos on species or places, refined and selective fishing techniques, agroforestry, terracing and irrigation, windbrakes, bush fallow, and other agricultural and soil management practices, etc. The cultural heritage of the Pacific is full of examples of sound environmental management equivalent or superior to modern methods. One of the great tragedies of the region is that this heritage is rapidly being lost just as the need for it is increasingly apparent.

The State of the Environment

The South Pacific has too often been viewed from outside as an unspoiled tropical paradise. It is true that life in the Pacific Islands is not as difficult as that in many other parts of the world, and that the climate and available resources permitted a quality of life that was traditionally higher than many other subsistence societies. However, even traditional island communities were limited by their environmental resources. and change and development have led to an increasing number of

预览已结束，完整报告链接和二维码如下：

https://www.yunbaogao.cn/report/index/report?reportId=5_15369

