ENVIRONMENT NEWSLETTER

Quarterly Newsletter of the South Pacific Regional Environment Programme

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NUMBER 14 JULY - SEPTEMBER 1988

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The SPREP ENVIRONMENT NEWSLETTER recommenced publication after having been in 'retirement' since issue No. 4 (March 1982). Commencing with issue N° 5 (April - June 1986), it has since been produced on a quarterly basis. News articles and comments are welcomed for future issues.

South Pacific Regional Environment Programme

(SPREP)

South Pacific Commission

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The Environment Newsletter is produced by the South Pacific Regional Environment Programme (SPREP), South Pacific Commission, Noumea, New Caledonia and reports on the various activities of the programme together with news of general environmental interest to readers in South Pacific countries.

SPREP's activities are co-ordinated by a member government Steering Committee with advice from the United Nations Environment Programme (UNEP), the Forum Secretariat, the Economic and Social Commission for Asia and the Pacific (ESCAP) and SPREP's host organisation, the South Pacific Commission (SPC).

The United Nations Environment Programme, through its Oceans and Coastal Areas Programme Activity Centre (OCA/PAC) based in Nairobi has, since SPREP's inception, given considerable financial support to the programme's activities.

Much of the work undertaken by SPREP and supported by UNEP involves utilising skills of the Universities and Training Institutions within the South Pacific, members of whom have recently formed an Association of South Pacific Environmental Institutions (ASPEI) to facilitate this work.

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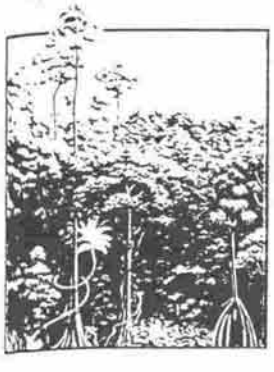
NEWS IN AND AROUND THE REGION

FIJI'S RAINFORESTS

SUBJECT OF NATIONAL CONSERVATION CONGRESS



Fiji's Second National Conservation Congress was held in Suva during June 1988, bringing together for the first time all parties with interest in the **RAINFORESTS OF FIJI**. Participants were given an insight into the aspirations of the landowners, the policies of government departments and statutory organisations, the needs of the timber industry and the concerns of conservationists.

The resolutions, emanating from the Congress, called for more efficient and sustainable management of the forest resource through:

- greater emphasis on planning involving, for instance, a review of the national and regional land-use planning system and examination of the roles of the responsible Boards and Committees, together with a clear statement of long-term forest management aims. Participants endorsed the principles of the *Mangrove Management Plan for Fiji*, Phases I and II, and called for an extension of this plan to cover the remaining mangrove areas;

- further development of forest inventory and data systems based on existing simple systems and involving local graduates in data transfer and system installation;

- strengthening of logging controls such as through the implementation of the recommendations of the Environmental Impact Assessment (EIA) relating to the major logging concession on southern Viti Levu; and through the allocation of more resources by the Ministry of Forests specifically towards logging controls, the management of nature reserves and the mounting of an effective public awareness and education programme on the value and role of Fiji's native forests;

- further development of forest conservation in recognition of the integral part which the forest plays in Fiji's lifestyle, culture, history, prosperity and future. Forest Conservation would be substantially enhanced through the implementation, as soon as possible, of the Wildlife Preservation Bill and the development of proposed legislation and an action plan, providing for a system of national parks and reserves. Support was given for the National Trust to develop a plan of action to remove the final bureaucratic impediments to the creation of the **DAKUA** Reserve at Waisali, Vanua Levu and to foster the development and designation of other areas including **WAIKATAKATA** and **VATURA** as National Pilot Projects and the **GARRICK MEMORIAL PARK** as a functional conservation unit;

- greater clarification of existing legislation, rights and policies through, for instance, an extensive review of the Forest Act and Regulations and the Ministry of Forests' Policy Statement and through closer consultation between the Native Land Trust Board (NLTB) and the Ministry of Forests over issuance of logging licences;

- rigid enforcement of the original decision on log exports;

- examination of suitable options for the institutional provision of efficient industry support services;

- increased education, training and awareness-raising through, for instance, the establishment of a public awareness/education committee made up of representatives of relevant bodies such as the National Trust for Fiji, Forestry Department, Native Land Trust Board, Fijian Administration and District Administration. As well it was suggested that a suitable training programme be designed with special attention to the indigenous industry supervisors and landowners; the national Logging School should initiate courses on ecologically sensitive road making and the Forestry Department be urged to review and strengthen the conservation education component in the Forestry Training School curriculum;

- strengthened international assistance for activities such as establishment of a national parks and reserves system, an environmental outreach programme, research into use of Fijian re-generation hardwood tree species for commercial forestry;

- greater adherence to international agreements and membership in international organisations such as joining the International Tropical Timber Organisation, becoming a signatory to the World Heritage Convention and the Apia Convention;

- investigation by a multi-disciplinary team of the way in which logging projects are affecting villagers and their nearby native forests.

To review progress on the above activities, it was agreed that the theme for the Third Conservation Congress, to be held in 1989, would again be RAINFOREST HERITAGE.

(Source: *Fiji's Rainforests: Our Heritage and Future*, Vol. I,
Proceedings of the Second National Conservation Congress, Suva, Fiji, 9-10 June 1989)

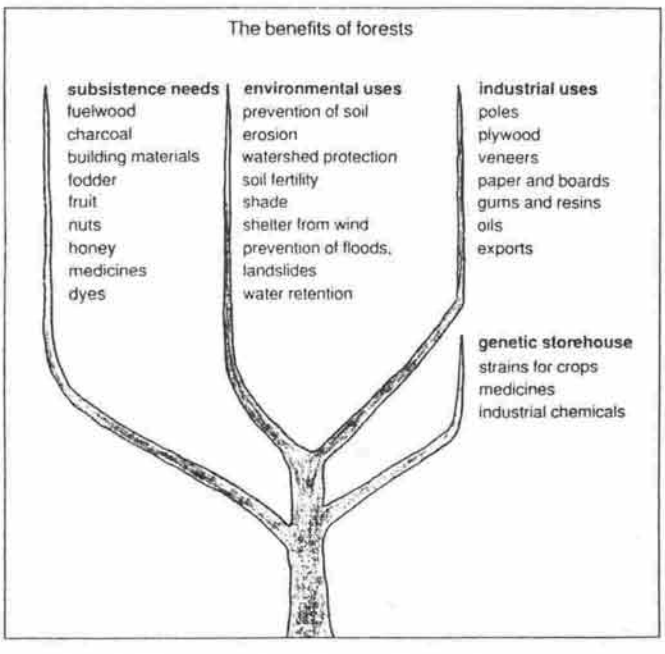


Diagram source: 'The Disappearing Forests', *Wallaceana*, December 1987

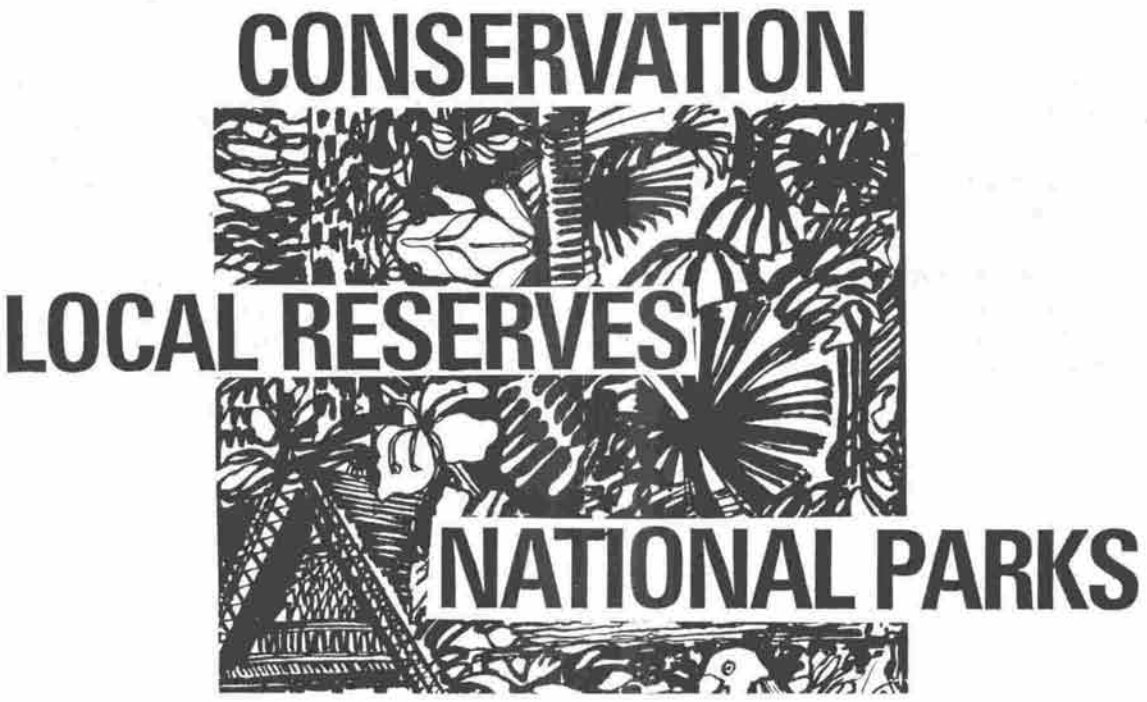
SPREP ACTIVE IN PROTECTED

AREA MANAGEMENT TRAINING

SPREP accelerated its Protected Area Management activities following the Third South Pacific National Parks and Reserves Conference held in Apia, Western Samoa in June 1985. At that meeting representatives of governments of the region developed an Action Strategy specifically to address the need to protect natural environments of the South Pacific islands currently under pressure from population growth, steady habitat destruction from increasing demands on limited land resources, and competition and predation by introduced species. The Action Strategy recognised that further establishment of protected areas, both on land and sea, was vital to protection of the island environments and called for the proclamation of an additional 50 protected areas by the time of the Fourth Parks Conference to be held four years later, in 1989.

The need for conservation education; for development of conservation policies and national conservation strategies; for inventories of plant and animal habitats and ecosystems; for establishment of bodies responsible in each country specifically for protected area management; for development of management plans and for training of people to carry out this work, have become high priorities for SPREP.

It is in the latter area, that of **training**, that much of SPREP's protected area activity has been focussed, the overall need for training having been identified first in the Action Strategy and later in the specific needs further determined in a regional survey undertaken for SPREP by David Sheppard of the NSW National Parks and Wildlife Service. This survey aimed at assessing (i) the existing number of staff and level of skill; (ii) country perception of the priority of different types of training courses; (iii) country attitudes to options for undertaking training; and (iv) levels of assistance required to enable island participants to attend training courses.



Partly in response to this survey SPREP's major Protected Area Training Activities have evolved as follows:

Protected Area Scholarships have been developed through close liaison with, and valuable financial assistance from, the New Zealand Government. This offers the opportunity for existing or potential parks officers to observe a wide range of protected area management techniques, operation activities and management skills in New Zealand.

Attachment to National Parks in Australia and New Zealand is another way in which SPREP hopes to encourage neighbouring Pacific countries to support protected area training of the region's parks officers. The valuable work experience they will receive in Australia or New Zealand should aid them when they return home to work in a relatively small service of which they are often the sole protected area manager.

Sponsorship to Parks Courses of a shorter duration is another way in which SPREP encourages training. Governments are made aware by SPREP of suitable courses and encouraged to nominate participants who receive support with airfares and living allowances. One such course was the 16-week New Zealand International Protected Area Management Training Course held late 1987 and attended by representatives of 7 South Pacific countries. Participants undertook a busy schedule of classroom work and extensive field trips with an emphasis on studying the more practical aspects of park management.

A Training Manual for Protected Area Managers in the South Pacific was prepared by Rex Mossman of the New Zealand Department of Conservation for SPREP and for the IUCN Commission for National Parks and Protected Areas (CNPPA) in 1987 and has been widely distributed to governments of the region. The manual was designed especially for park managers in the South Pacific region with the important objective of providing them with the basic knowledge and understanding that is fundamental to the successful planning and management of protected areas. Hence the manual provides the direction and the material required for the development of a flexible training programme to meet the needs of the region and to produce the well trained staff required to achieve progress in protected area management.

As a complement to **training**, SPREP has an active programme of **resource surveys of protected areas** such as the Marine Park Survey undertaken on and around the Aleipata Islands in Western Samoa and that at the Ngerukewid Islands Wildlife Preserve in Palau. These surveys form an integral part of management plans to ensure effective protection of these areas.

SPREP's overall protected area activities will be reviewed and further directions given by the governments of the region at the forthcoming FOURTH SOUTH PACIFIC CONFERENCE ON NATURE CONSERVATION AND PROTECTED AREAS to be held in September 1989.

NEED FOR ENVIRONMENTAL LEGISLATION EVALUATED IN TUVALU

Following a request from the government of Tuvalu, SPREP liaised with the Economic and Social Commission for Asia and the Pacific (ESCAP) to provide a legal expert to review existing laws and evaluate the possibility of incorporating specific environmental legislation within Tuvalu's body of statutes. Mr. A. S. Tolentino, an ESCAP legal consultant, undertook this work in May 1988 and found that Tuvalu's major environmental problems were:

- coastal erosion,
- environmental impacts of land reclamation activities,
- degradation of fishery resources,
- inefficient land use practices,
- pollution mainly caused by the absence of a sewerage system and non-availability of proper garbage disposal sites,
- uncontrolled exploitation of flora and fauna, particularly of turtles and coconut crabs.

The legislative investigation also found that Tuvalu's system of law and justice is well established and functions smoothly. There is a commitment to environmental protection enshrined in Tuvalu's Fourth Development Plan and although this is not explicitly reflected in the country's legislation, some laws contain conservation elements notably the prevention of loss, damage or waste of property, land, trees, protection of water catchment storage systems and water supplies. In his report to the government of Tuvalu and to SPREP, the consultant recommended that the existing legislation could be amended and converted to work as a very useful tool for environmental protection.

A further recommendation was the possible enactment of framework legislation to complement existing legislation establishing an integrated policy, together with Environmental Impact Assessment (EIA) procedures.

The investigation also recommended the establishment of co-ordinating mechanisms among those government departments principally charged with environment-related administrations to ensure effective environmental resource management. Also stressed was the need for law to promote education and scientific programmes aimed at strengthening public awareness of the importance of environmental protection. This work was of a preliminary nature to identify ways in which ESCAP could extend further and more comprehensive technical assistance to Tuvalu.

(Source: *ESCAP Environment Mission to Tuvalu*, 1988)

(Graphic source: *Foodpath to Health: A Nutrition, Gardening and Health Manual for Tuvalu. Ofisa ote Fakaola Tamaliki*, Funafuti, Tuvalu, 1986)

AUSTRALIA ASSISTS SOUTH PACIFIC COUNTRIES WITH EIA TRAINING

E I A

Eleven representatives from seven South Pacific countries attended a workshop on Environmental Impact Assessment (EIA) held at the Division of Australian Environmental Studies, Griffith University near Brisbane, June/July 1988. In all, forty planners and environmental managers from seventeen countries of Asia, Africa, Latin America and the Pacific participated in the eight-day event which was held in conjunction with the VII Annual Conference of the International Association for Impact Assessment.

The principal sponsor of the Workshop was the Australian International Development Assistance Bureau (AIDAB), with contributions from UNEP, the World Bank and the Norwegian Government. Assisting the Griffith University team in conducting Workshop sessions were representatives of the Australian National Parks and Wildlife Service, Great Barrier Reef Marine Park Authority, and other Australian universities and Government agencies.

The workshop covered:

(1) **Basic Concepts in Environmental Assessment**

- The scope and content of environmental assessment
- Environmental assessment and the development planning process
- Guidelines for environmental assessment in developing countries
- Management of environmental assessment projects

(2) **Practical Problems in Environmental Assessment**

. Assembling the data
. Prediction methods
. Socio-economic evaluation and social impact assessment, risk analysis

(3) **Specific Assessment Topics**

. Fisheries management
. Tourism development projects
. Forestry and rural development projects
. Mining projects
. Industrial projects and toxic wastes

As part of the Workshop, the participants, who had between them a great deal of experience and knowledge on the process of environmental assessment and the problems of specific impacts, assisted in the preparation of a set of key issues in the practice of environmental assessment in their countries.

WORKSHOP ON ENVIRONMENTAL ASSESSMENT FOR DEVELOPMENT PLANNING, 28 JUNE - 5 JULY 1988, GRIFFITH UNIVERSITY, BRISBANE.

Standing: (Left to right)
Back row: Geoff McDonald, Richard Hindmarsh, Taniela (Dan) Tukia, Jaru Bisa, Jeremy Carewreid, Ray Margules, visitor, Thornley Hite, Barre Kare, Ho (Peter) Yueh Chuen, Lelei Peau, Peniasi Kunatuba, Harry Tete.
Front row: Nay Htun, Surna (Naya) Djajadiningrat, Roy Rickson, Jin Xiao-Yin, Boetje Patty, Wang Huadong, Bill Brown, Joe Katape, Teariki Rongo, Patrick M'Mayi, Nabiel Makarim, Riga Adiwoso Suprapto, Sally Driml, Delfin Ganapin, Mary Mutimagwe, Mariano Desquitado, Chalermsak Wanichsombat, Anuchat Poungsomlee.

Sitting:
Back row: Kiran Narain, Shanta Sutton, Soewardi Hadikoesoemo, (Manian) Muthusubramanian, Lex Brown, Thasanee Chantadisai, Ma Xiaoying, Pissmai Khanobdee.
Front row: Julieta Pisanty Levy, Beta Balagot, Charunee Naviroj, Usanee Uyasatian, Tor Hundloe, Surapee Rojarayanont, Mohammad Soerjani, Kalsom Abdul Ghani.

There was a diverse range in size, level of development and experience with environmental assessment of the countries represented by the participants. Some countries have had almost a decade of experience with explicit environmental assessment legislation, whereas others either have no legislation or have obtained it only very recently. There was also diversity in the institutional structure and political process in these countries ranging from large federal systems to small island states; from participatory democracies to centralised single-party states. Naturally, the perception of the problems of environmental assessment varied, but the priority issues to emerge were:

(1) The need for training and the development of expertise and methodologies appropriate to circumstances in developing island countries.

(2) The need to increase the awareness of policy-makers, including village councils, the private sector and the general public in the value of environmental assessment.

(3) The need to improve co-operation between sectorial agencies.

(4) The need to increase public involvement in assessing development without necessarily including them directly in decision-making.

(5) The need to stimulate the role of non-government organisations as a means of increasing public involvement.

(6) The need to define assessment procedures that are more integrated with the planning process than the traditional EIA model. The integrated environmental planning and management model, in which EIA is one component, was suggested as a preferable approach.

The Division of Australian Environmental Studies at Griffith University in Brisbane is Australia's largest teaching and research institution in the field of environmental science and management. It has forty faculty members covering the natural and social sciences focusing on environmental analysis, impact assessment and planning. It provides opportunities for degree courses at the bachelor, masters and doctoral levels. Through the work of its staff and its Institute of Applied Environmental Research, it carries out basic and applied research in areas such as: reef fish biology and population dynamics, fishery management, tourism and recreation economics and planning, pollution studies, catchment management and land use planning, environmental impact assessment.

The Griffith University Division of Australian Environmental Studies hopes to hold similar workshops involving SPREP countries on a regular basis.

SPREP ASSISTED BY NZ GOVERNMENT IN ENVIRONMENTAL ASSESSEMENT OF POTENTIAL PEAT MINING IN COOK ISLANDS

Mitiaro, Cook Islands was the sight for an examination during June 1988 of the occurrence of peat and an environmental impact assessment of potential peat mining. SPREP was assisted by the Soil Bureau of the New Zealand Department of Scientific and Industrial Research (DSIR) who provided the services of Mr R.H. Wilde to undertake this work. He evaluated the volume of peat occurring and its suitability for possible use either as an energy fuel, or for agricultural uses such as a soil conditioner, a nursery medium of seed raising, or as an organic supplement in ornamental gardens around homes. The environmental effects of mining on aquatic life in the island's two lakes was also assessed.

Lying 230 km north-east of Rarotonga, the island of Mitiaro comprises a raised coral limestone reef encircling a central depression occupied by brackish swamp and lakes which contain four small basalt "islands" or foodlands.

The study found that there are only minor pure peat deposits on Mitiaro, with an estimated 15 000 cubic metres of peat within the raised lake margin. Additional areas of loamy peats contaminated with coral sand

occur within the lake margin swamp and adjacent to the foodlands where some contamination by volcanic soils has occurred, the latter deposits being valuable for taro growing. Dry weights of peats are less than 4 000 tonnes.

As a source of energy fuel, particularly as a source of fuel for a wood/peat fired electricity generating plant, the amounts of peat on Mitiaro are insignificant. Furthermore, much of the peat associated with the swamp is contaminated with mineral matter, and is of shallow depth occurring below the water table which would make mining a difficult operation. Agricultural use such as soil conditioner, potting mixture, soil substitute is considered an appropriate use of the approximately 4 500 cubic metres occurring above the water table on the raised lake margin, some of which is accessible by foot. Minor excavation of peat from around the lake margin, whilst not considered a threat to either the eel or mosquito-fish populations could, if carried out indiscriminately, reduce the aesthetic appeal of the lake margin.

Assistance such as this given to the Cook Islands by the New Zealand Government through SPREP is valuable in assessing likely environmental effects that could result from development activities. Use of the Environmental Impact Assessment (EIA) tool is one that SPREP is keen to continually encourage and such EIA assistance is available to Pacific island governments on request.

(Source: *Peat Deposits of Mitiaro, Southern Cook Islands*,
A report to the South Pacific Regional Environment Programme (SPREP)
by R.H. Wilde, New Zealand Soil Bureau, Department of Scientific and
Industrial Research, 1988)

FEATURE

PAPUA NEW GUINEA WATERS BEING MONITORED FOR MINING INDUSTRY WASTES

A team from the Papua New Guinea University of Technology (UNITECH) has been actively monitoring waterways in PNG during 1987 and 1988 for indications of heavy metal pollution from mining wastes in a project supported by SPREP and UNEP. Over this two-year period some members of the team have left the University, namely K. Gawne and C. Hulse but their work has been continued by D. Hilton, B. Haru and N. Currey, the latter three having recently produced a report on the findings so far.

The project involved monitoring near two major mining ventures; one at Porgera and the other at Wau.

PORGERA

The Porgera joint venture is owned by a consortium of companies, Renison Goldfields Consolidated, Mount Isa Mines and Placer (PNG) Limited. The Porgera deposit is located in the central highlands near a major river system comprising the Porgera, Lagaip, Strickland and Fly Rivers. The system drains the central highlands and flows into the southwestern gulf of Papua. The terrain is rugged with the main orebody located at an elevation of 28 000 m. Gold and silver mineralisation occurs within the Porgera intrusive complex. Gold occurs in both the free form and associated with sulfides, chiefly pyrites (Rescan, 1987). The metallurgical process involves crushing and grinding of the ore, followed by gravity separation to recover the free gold. The gravity concentration tailings are floated to produce a sulfide concentrate. The sulfide concentrate is then pressure oxidised for subsequent leaching of the gold and silver from the cyanide liquor.

Sampling the Porgera River

Tailings comprising floatation acid, wash effluents and cyanidation liquors are primarily treated and discharged. Potentially toxic environmental contaminants including cyanides, acids, alkalis and dissolved heavy metals will be present at elevated concentrations.

The major concern is the water quality implications for the Porgera, Lagaip, Strickland and Fly River system associated with the mining development, particularly in light of a recently discovered Mt. Kare prospect which will presumably drain into the same river system. Existing and proposed mines must comply with PNG water quality standards. Independent investigation into pre-mining baseline metal and cyanide concentrations and frequent monitoring during the mines operation is essential to assess the impact of the mine on the surrounding environment.

Fifteen sampling locations were selected; some upstream and some downstream, the latter to gauge any effect on the aquatic environment. The sampling results show some interesting trends. Mercury levels exceeded the current PNG water quality criteria at many sites. Total lead concentrations were also higher than the limit of 5 ug/L Pb. Other metal concentrations varied from site to site. Higher metal concentrations at one site were due to runoff through the mineralised ore zone. The larger proportion of the metal was in the non-toxic particulate form and, as expected, cyanide concentrations were below the detection limit.

Sampling underway

WAU

The Wau-Bulolo valleys, containing the rich Morobe Goldfields, are located approximately 150 km south, south-west of Lae in Morobe Province. The Morobe Goldfields have been mined continuously for the past 50 years with an estimated 1500 national gold miners operating in 1985 (NSR, 1985). New Guinea Goldfields (NGG) operates the only surviving large mine at Wau.

The NGG alluvial mine at Wau had been in operation for over 40 years, but by 1985 gold reserves in soft-ore had been exhausted. The mine was upgraded in 1985 with the installation of a cyanidation treatment plant to treat hard rock reserves and is the only cyanidation plant currently operating in the Morobe Goldfields. Gold and silver mineralisation occurs within a magano-calcite ore type. Metallurgical treatment of the ore is largely conventional (in contrast to Porgera) involving crushing and grinding of the ore, cyanide leaching, followed by carbon absorption.

Tailings containing the potential toxic contaminants of heavy metals and various cyanide species require strict monitoring in order to ensure minimal environmental impact. Tailings are intermittently discharged into the Bulolo River via a series of tailings dams. The Bulolo River eventually discharges into the Huon Gulf via the Watut and Markham Rivers, discharge times depending on river levels. The Bulolo river carries no fish and very little aquatic life. It has long been regarded as a mine waste carrier, the main environmental concern therefore is that of water usage for drinking purposes by the villagers living along the Bulolo and Upper Watut Rivers.

Four sampling sites were selected; one upstream, one discharge site and two downstream. Results show that drinking water quality of the Bulolo River is quite acceptable if solids are allowed to settle prior to analysis. Elevated mercury levels were noted but would be expected to have minimal environmental impact in the historically polluted Bulolo River. Elevated cyanide levels were also noted and may present a problem for drinking water. Dissolved copper appears to be the best indicator of tailing discharge intervals. It must also be remembered that concentrations are directly dependent on river volumes.

This UNITECH project is continuing to collect meaningful data. Baseline data has been established at Porgera and should shortly be extended to Lake Murray. With the Mount Kare prospect site being located close to Porgera, this river system will come under more intensive scrutiny in the near future.

Data has been collected at Wau showing some unexpected trends and further sampling trips will follow to gain more information. It is anticipated that sampling will be extended to the upper Watut River in order to gain baseline data on the Hidden Valley prospect which will also drain into the Huon Gulf via the Watut and Markham Rivers.

Links are currently being re-established with both Bougainville Copper Limited and OK Tedi Mining Limited in order to gain sampling access. The Gulf of Papua will also be sampled during 1988.

Mr. Yaru has gained considerable professional esteem over the course of the project, and his experience will prove invaluable to his country as mining operations assume increased importance in PNG's economy. It is also anticipated that a second PNG scientist, Mr. N. Balat, will examine heavy metal pollution of mulluscs in the Gulf of Papua.

Overall, the project is assuming increasing importance in the light of PNG's current minerals boom and the emphasis PNG is placing on environmental protection.

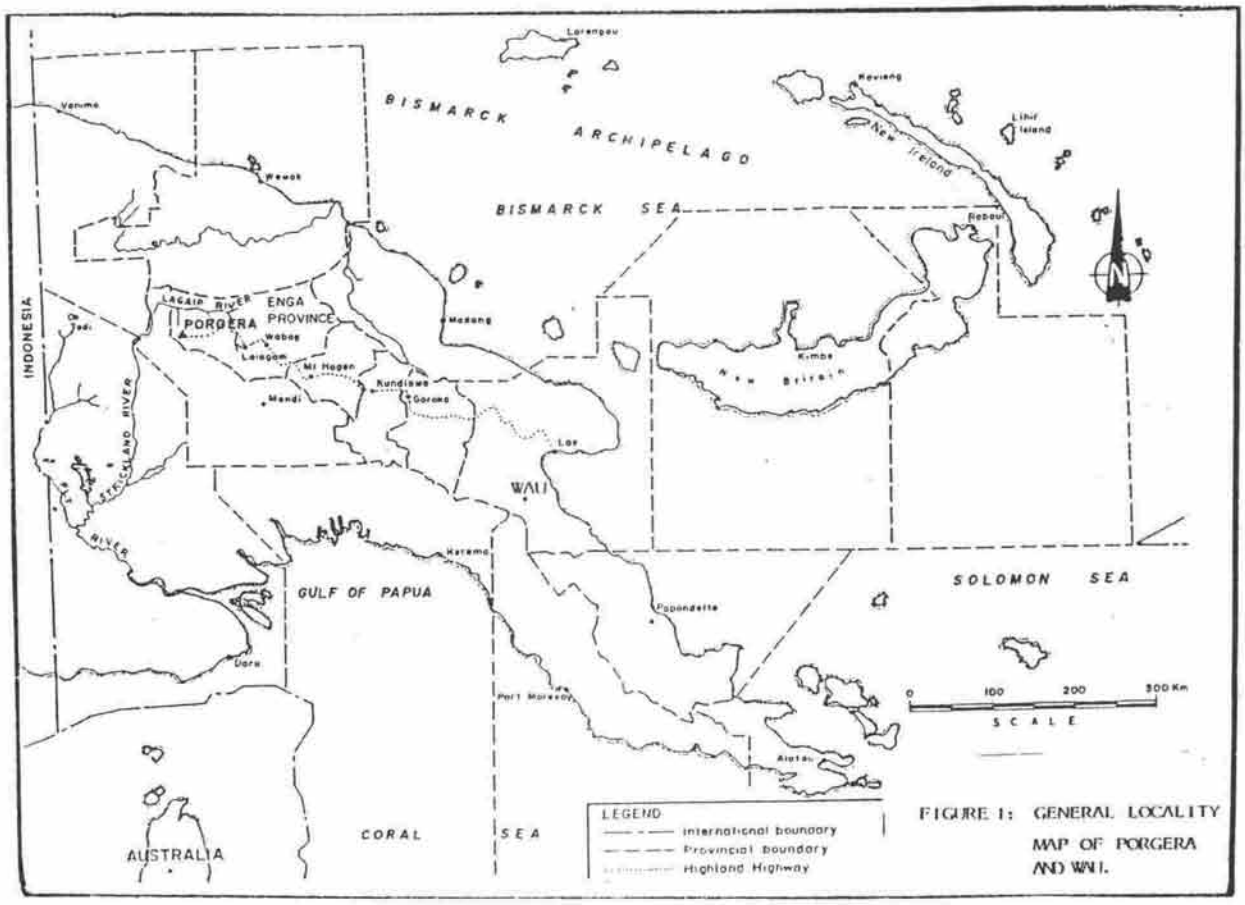


FIGURE 1: GENERAL LOCALITY MAP OF PORGERA AND WAU.

(Source: D.F. Hilton, B.T. Yaru and N.A. Currey, *Monitoring of Papua New Guinea Waters Receiving Inputs from the Mining Industry: Progress Report 11* - June 1988, prepared for the South Pacific Regional Environment Programme (SPREP).)

COURSES IN ENVIRONMENTAL SUBJECTS

SCHOLARSHIP ASSISTANCE AVAILABLE

The International Centre for Ocean Development (ICOD) has developed a Scholarship Programme for study in Canada aimed at developing human resources and specialised expertise in fields related to ocean resource development and management. To be eligible for scholarships, candidates must be nominated by the government or institutions of their country of origin. The South Pacific is one of the areas of focus for ICOD scholarships for people from developing countries, such scholarships being related to a one year graduate diploma in Marine Affairs, undertaken at Dalhousie University for Anglophone Students and Université du Québec à Rimouski, Québec for Francophone Students. Scholarships are also given for study at Master's level in marine-related fields at other Canadian Universities.

Governments wishing to obtain further information on eligibility, academic requirements, and application deadlines should contact:

International Centre for Ocean Development (ICOD)
Training Division
5670 Spring Garden Road
9th Floor
HALIFAX, Nova Scotia
Canada. B3J 1H6

Telephone : (902) 426.1512
Telex : 019-21670 ICOD HFX
Fax : 902-426-4464

New M.Sc. Course in Tropical Coastal Management. Centre for Tropical Coastal Management Studies, University of Newcastle upon Tyne. The course commences in September and takes place over a twelve month period consisting of two ten-week teaching terms, followed by an examination and then either a two-month research project for the award of Diploma or a four-month research project for the award of an M.Sc. A limited number of scholarships may be available. For further details contact:

Dr. B. E. Brown
Centre for Tropical Coastal Management Studies
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NEWCASTLE UPON TYNE NE1 7RU
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CALENDAR OF EVENTS

SECOND INTERNATIONAL CONFERENCE ON MARINE DEBRIS,
Honolulu, Hawaii

2 - 7 April 1989

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1989 PACIFIC BASIN CONFERENCE ON HAZARDOUS WASTE,
Singapore

2 - 7 April 1989

The objectives of the meeting are to review progress on hazardous waste research and continue to develop collaborative programmes among member organisations of the Pacific Basin Consortium for Hazardous Waste Research. The conference is open to anyone involved in hazardous waste research and management. Two two-day long concurrent training courses, one on an "Overview of Hazardous Waste Management" and the other an "Introduction to Hazardous Waste Incineration", are also being held during the Conference.

Contact:

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WESTERN PACIFIC INTERNATIONAL, MEETING AND WORKSHOP ON TOGA-COARE 24 - 30 May 1989

The SURTROPAC group of the Centre ORSTOM de Nouméa, New Caledonia will host an international meeting on TOGA (Tropical Ocean and Global Atmosphere Program) followed by a workshop for the planning of the TOGA-COARE (Coupled Ocean-Atmosphere Response Equipment) in the western equatorial Pacific. This meeting/workshop will be jointly convened by ORSTOM and the University of Hawaii.

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SECOND INTERNATIONAL SEMINAR ON COASTAL PARKS AND PROTECTED AREAS, Florida (USA) and Yucatan (Mexico) 14 May - 3 June 1989

The US National Park Service and the University of Miami's Rosenstiel School of Marine and Atmospheric Science (RSMAS) are offering an international seminar on coastal and marine protected areas. The seminar will be based in Miami and classroom activities will be held primarily on the RSMAS Campus. The organising theme for the seminar is "Management Planning and the Creation of Management Plans" for coastal protected sites in tropical settings. The programme will include the variety of subjects addressed in management planning, for example: resource management and restoration, facilities, interpretation and education, use zoning, research and monitoring, public participation, visitor management, tourism and carrying capacity, revenue generation, and staff training.

The seminar is designed for mid-career training of professionals who are employed in management, planning, research, or administration of coastal and/or marine parks or protected areas. Applicants are expected to have a University degree, or equivalent, as well as practical experience.

Contact:

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4600 Rickenbacker Causeway
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WORLD CONFERENCE ON TOURISM DEVELOPMENT AND THE ENVIRONMENT,
Santa Cruz, Tenerife, Canary Islands, Spain

29 May - 1 June 1989

Objectives of the meeting are (1) to gather experienced representatives of governments, tourism-travel related enterprises, leading educational institutions, scientific research establishments, corporations, trade associations and media, who are concerned for the progress of travel and tourism in a healthy environment; (2) to present information on environmentally sound tourism developments and exchange insights on constructive planning and management methods; (3) to develop practical proposals to protect the environment and make tourism an effective instrument of global progress.

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INTERNATIONAL CONFERENCE ON ENVIRONMENTAL LAW 14 - 18 June 1989
Sydney, Australia

Contact:

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THE 9TH COMMONWEALTH CONFERENCE ON HUMAN ECOLOGY (CHEC), 19 - 23 July 1989
University of Edingburgh, Scotland

"Human Ecology, Sustainable Development and Education"

Contact:

Conference Secretariat
Centre for Human Ecology
15 Buccleuch Place
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THE SIXTH SYMPOSIUM ON COASTAL AND OCEAN MANAGEMENT, (COASTAL ZONE 89) 11 - 14 July 1989
Charleston, South Carolina, USA

Contact:

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TROPICAL COASTAL AREA RESOURCES MANAGEMENT AND PLANNING WORKSHOP — 15 - 20 July 1989

Contact:

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OCEANS '89 - AN INTERNATIONAL CONFERENCE ADDRESSING METHODS FOR UNDERSTANDING THE GLOBAL OCEAN
Seattle, Washington, USA — 18 - 21 September 1989

Contact:

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Telephone : (206) 543-3445
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FIFTH INTERNATIONAL CONGRESS OF ECOLOGY
Yokahama City (Japan) — 23 - 30 August 1990

Contact:

A. Miyawaki
Institute of Environmental Science
and Technology
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Japan

PUBLICATIONS

A range of publications are available from SPREP including:

REPORTS

- Report of the Intergovernmental Meeting on the SPREP Action Plan, June/July, 1988. (F)

- Training Report No. 2. Report on the SPREP/ESCAP Training Course in Coastal Resource Management Planning, 1988. (In preparation)

- Bibliography of Marine Ecosystems: Pacific Islands, 1987. Produced in UNEP Regional Seas Directories and Bibliographies Series in association with FAO, University of Guam and SPREP.

- Managing Protected Areas in the South Pacific: A Training Manual, 1987. (Compiled by Rex Mossman, Department of Conservation, New Zealand on behalf of SPREP and IUCN).

- Co-operation for Environmental Protection in the Pacific. UNEP Regional Seas Reports and Studies No. 97.

OTHER MATERIAL

- **Fact Sheets**
  - No. 1 Pesticides
  - No. 2 Forests
  - No. 3 Coral Reefs
  - No. 4 Conservation
  - No. 5 Soils
  - No. 6 Mangroves (in preparation)

- **Environmental Case Studies**
  - No. 1 The Effects of Mining on the Environment of High Islands: A Case Study of Nickel Mining in New Caledonia. (F)
  - No. 2 Wallis and Futuna: Man Against the Forest. (F)
  - No. 3 Atolls and the Cyclone Hazard: A Case Study of the Tuamotu Islands. (F)
  - No. 4 Pacific Phosphate Island Environments Versus the Mining Industry: A Losing Battle. (F). (In press).
  - No. 5 The Effects of Mining on the Environment of High Islands: A Case Study of Gold Mining on Misima Island, Papua New Guinea. (In preparation).

- **Pamphlets**
  Opportunities for Training in Environmental Sciences and Resource Management in Tropical Pacific Islands.

  South Pacific Regional Environment Programme - General information on the Programme. (In preparation).

AUDIO-VISUAL MATERIAL

- **Video**

"The Story of an Island" - available in PAL and SECAM. (F)

"Your Changing Island Environment" - available in PAL.

"Problems in the Pacific Islands Environment" - Slide Set on Video available in PAL.

- **Slides**

"Coral Reefs in the South Pacific".

"Problems in the Pacific Islands Environment".

Note:

(F): Available in French.

Other useful publications which have come to our notice but are not available from SPREP include:

- FAO Legislative Study No. 43, Pesticide Labelling Legislation, Luis Gonzales Vaque, 1988.

- Plants in Danger: What do we know? Stephen D. Davis, Stephen J.M. Droop, Patrick Gregerson, Louise Henson, Christine J. Leon, Jane Lamlein Villa-Lobos, Hugh Synge and Jane Zantovska, International Union for Conservation of Nature and Natural Resources, Gland, Switzerland, 1986.

  This comprehensive reference book provides, on a country-by-country basis, a guide to locating threatened plant information. Rather than outlining each individual threatened plant, which would take several volumes, this book shows you where to look for references to threatened plants in your country.

- Directory of Marine Training in Canada - 1988, International Centre for Ocean Development (ICOD), 1988.

  This directory fulfils an important element of ICOD's mandate to support co-operation between Canada and developing countries in the field of ocean resource development. It also underscores Canadian enthusiasm to assist training by visiting overseas students and serves as a useful-guide to the ongoing marine-related education and training available in Canada. Available from:

  International Division
  International Centre for Ocean Development
  (ICOD)
  5670 Spring Garden Road, 9th Floor
  HALIFAX, Nova Scotia
  Canada B3J 1H6.

- Ocean and Shoreline Management, B. Cicin-Sain, J.P. Jolliffe, R.W. Knecht and C.R. Patman, (Eds.). Available from :

  Elsevier Applied Science Publishers
  Crown House, Linton Road
  Barking
  ESSEX IG11 8JU
  United Kingdom.