
South Pacific Regional Environment Programme

Regional Environment Technical
Assistance (RETA) 5403

**Strengthening Environment
Management Capabilities in Pacific
Island Developing Countries**

Republic of the Marshall Islands

Review of Environmental Law

by Elizabeth Harding

1992



IUCN
The World Conservation Union

ACEL
AUSTRALIAN CENTRE FOR ENVIRONMENTAL LAW

USP Cataloguing-in-Publication Data

South Pacific Regional Environment Programme
Review of Environmental Law in the Republic of the
Marshall Islands.
(Strengthening environment management capabilities
in Pacific-Island developing countries)

1. Environmental law - Marshall Islands I. South
Pacific Regional Environment Programme. Regional
Technical Assistance Project II. Title III. (Series)

344.046099683
ISBN 982-04-0050-3

Prepared for publication by the Australian Centre for
Environmental Law, Faculty of Law, University of Sydney,
Australia.

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PREFACE

The people of the Republic of the Marshall Islands share with all peoples of the Pacific a deep and abiding respect for the land and the sea, elements of which have provided us daily sustenance for thousands of years. Our fragile natural environment has been well-tended in customary practice; now, however, the Republic of the Marshall Islands joins the world community in recognizing grave new threats to our natural resources. In response to this challenge, we have pledged to participate actively in the United Nations Conference on Environment and Development (UNCED), and to ensure within our own country that significant resources are adequately protected and sustained for use by future generations. Presentation of this document to the UNCED signals our adherence to this commitment.

This Legal Review is a vital component of the Regional Environment Technical Assistance ("RETA") Project, initiated in 1990 to strengthen the environmental management capabilities of RMI and four other Pacific countries, and implemented under the umbrella of the South Pacific Regional Environment Programme ("SPREP"). The Republic's Task Force on Environmental Management and Sustainable Development established a Legislative Committee to oversee the drafting of this document. The author of the Review, Elizabeth Harding, has been Legal Counsel to the RMI Environmental Protection Authority for over three years, and has shown great commitment to the enhancement of legal and environmental protection in the developing Pacific for the last decade.

The Legal Review sets forth our nation's constitutional and administrative structure, as well as examining the international environmental conventions and treaties to which we have committed. As principles of customary law and land ownership are integral to an understanding of our approach to environmental management, traditional and statutory land tenure systems are enumerated. Further, the Review examines, critically evaluates, and recommends appropriate revisions to existing legislation and associated administrative structures in ten different areas of environmental and cultural management.

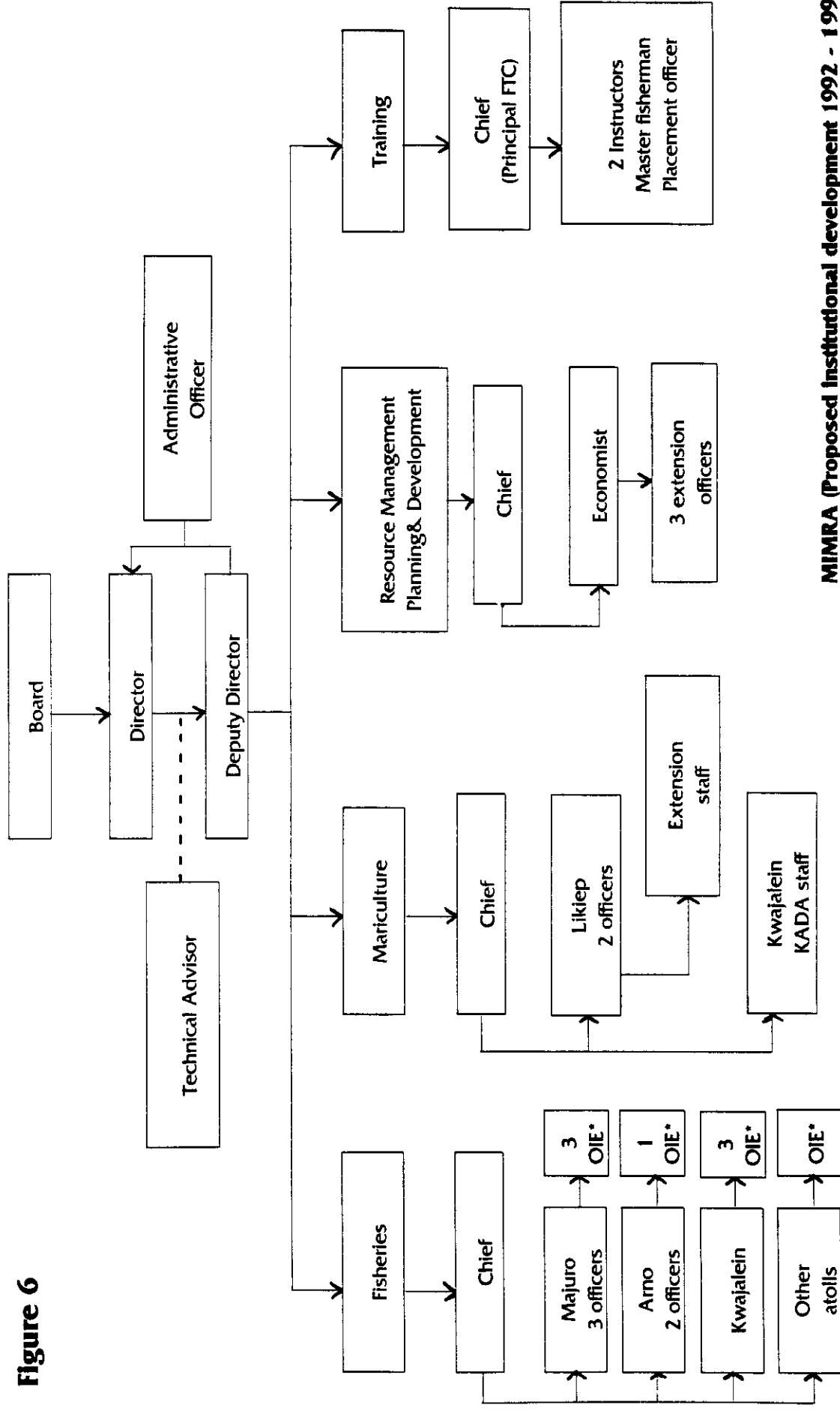
I am delighted to present the Republic of the Marshall Islands Legal Review to the United National Conference on Environmental and Development to signify our commitment to sustainable development and environmental protection.

Sincerely,



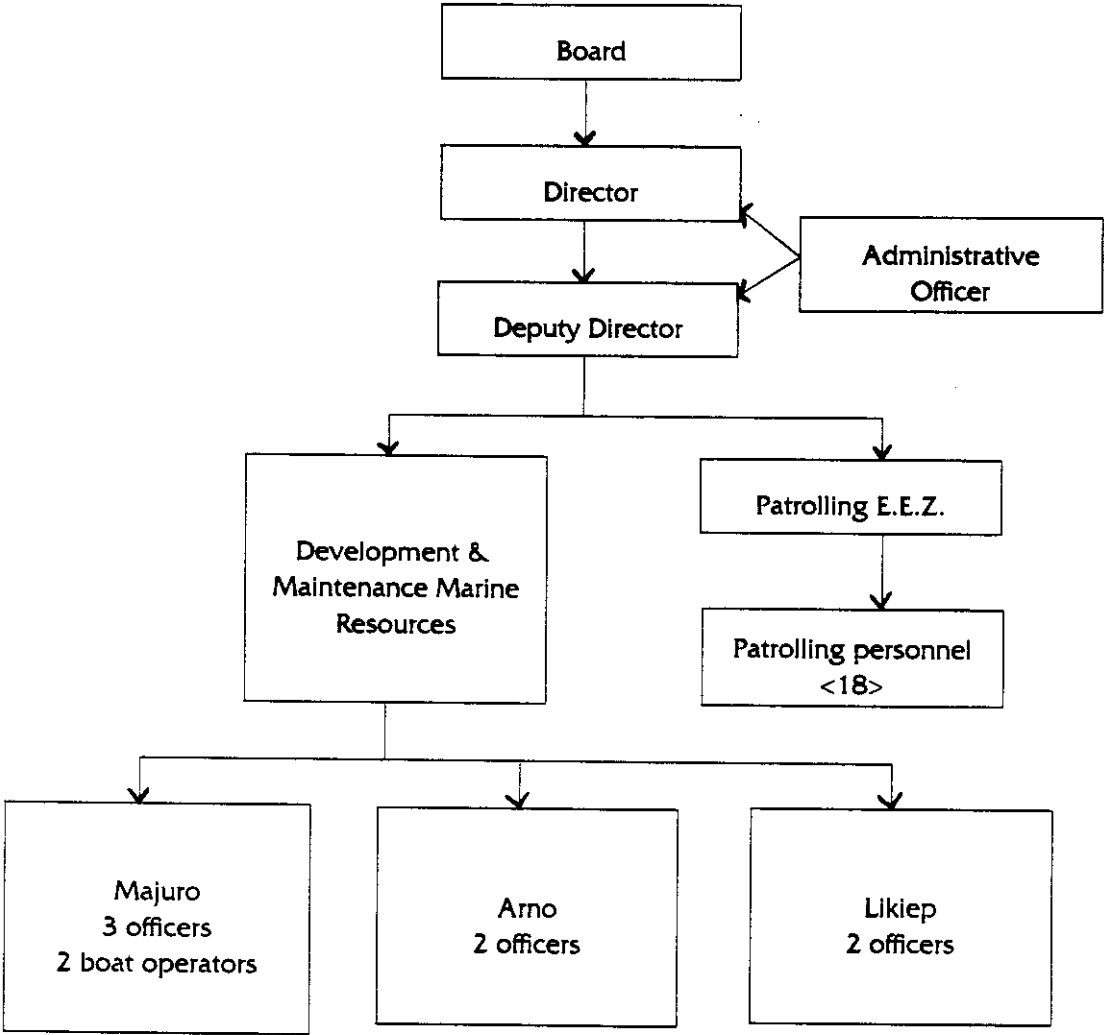
Amata Kabua
President, Republic of the Marshall Islands

Figure 6



* Outer Island Extension Officer

Figure 5



CURRENT ORGANISATIONAL CHART OF MIMRA

Source: OPS 1991

SPREP

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FOREWORD

This Review of Environmental Law in the Republic of Marshall Islands has been implemented as an important component of the Regional Environment Technical Assistance (RETA) Project. The RETA project has been developed to address environmental issues in a number of Pacific countries. It has been funded by the Asian Development Bank and carried out with technical assistance from IUCN - the World Conservation Union. The RETA project is an important regional initiative, which reflects the need for careful management of the Pacific environment.

Pacific Islanders have lived in close harmony with their island environments for thousands of years and are well aware of its importance to their way of life. Pacific peoples face the complex challenge, in common with many other countries of the world, of integrating economic development with the need to protect the environment. This is the primary aim of sustainable development, and must be addressed if the Pacific way of life is to survive.

The introduction of appropriate legislation represents one important means by which sustainable development can be achieved in the Pacific. A fundamental first step is the identification and review of existing environmental legislation in each Pacific country.

The Review of Environmental in the Republic of Marshall Islands contained in this publication is indeed timely. It has identified the major laws relating to the environment and to natural resource management. This law has then been examined in terms of its effectiveness in addressing the major environmental issues existing in the country. The research has had a particular focus on the development of practical recommendations that build on the findings of the Review.

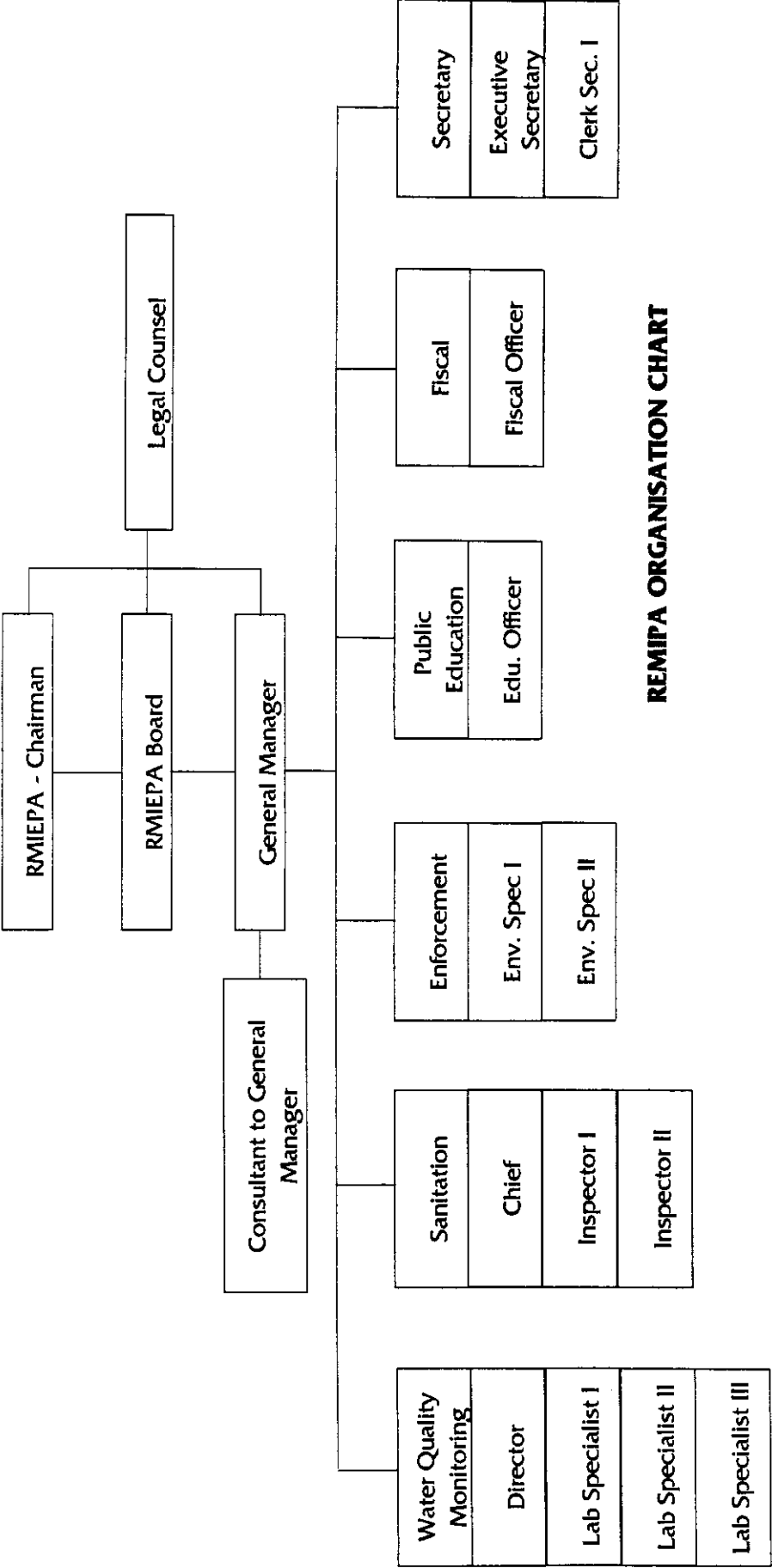
This Review is an important step along the road to improved environmental management in the Pacific region. It is important to build on this base and to ensure that environmental law reflects the unique needs and circumstances of each Pacific country. It is also important that this law reflects, and where appropriate, incorporates, customary laws and practices that relate to environmental protection.

This Review forms part of a series of five Legal Reviews; the other countries reviewed are the Federated States of Micronesia, Cook Islands, the Kingdom of Tonga and Solomon Islands.

This and the other four Legal Reviews have been supported by the Environmental Law Centre of IUCN - the World Conservation Union. I would like to thank the Centre for its financial and technical assistance. I would also like to pay tribute to Ms Elizabeth Harding who prepared this Review and the Review of Federated States of Micronesia. In addition, the work of Ms Mere Pulea, who prepared the Reviews of Environmental Law in the Cook Islands and the Kingdom of Tonga, and Professor Ben Boer, who prepared the Review of Environmental Law in Solomon Islands, and who was responsible for coordinating and editing the five Reviews, should be recognised here.

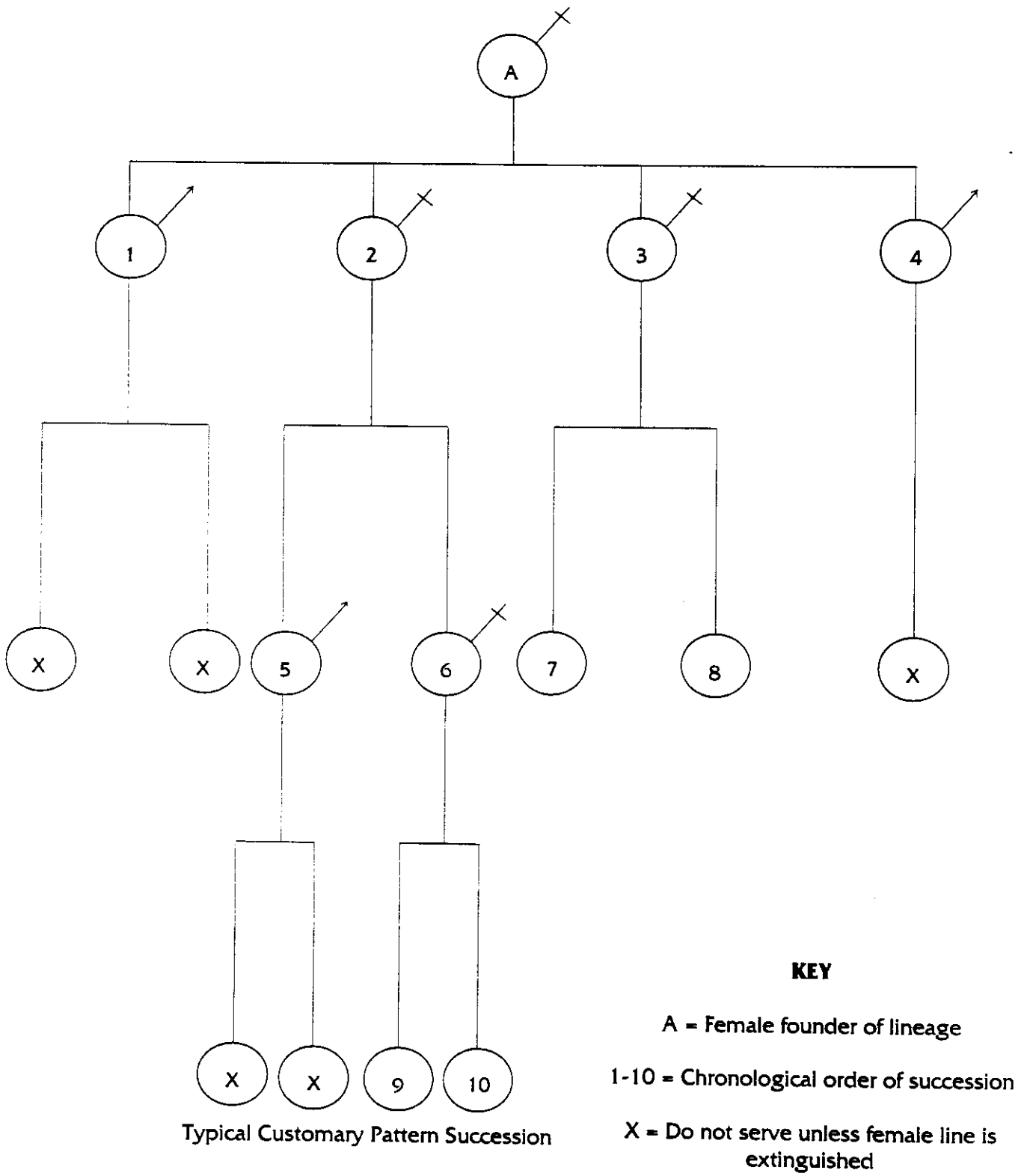
Vili A Fuavao
Director
South Pacific Regional Environment Programme

Figure 4
Republic of the Marshall Islands
Environmental Protection Authority
Organisation Chart



Source: RMEIPA 1990 Board Minutes

Figure 3



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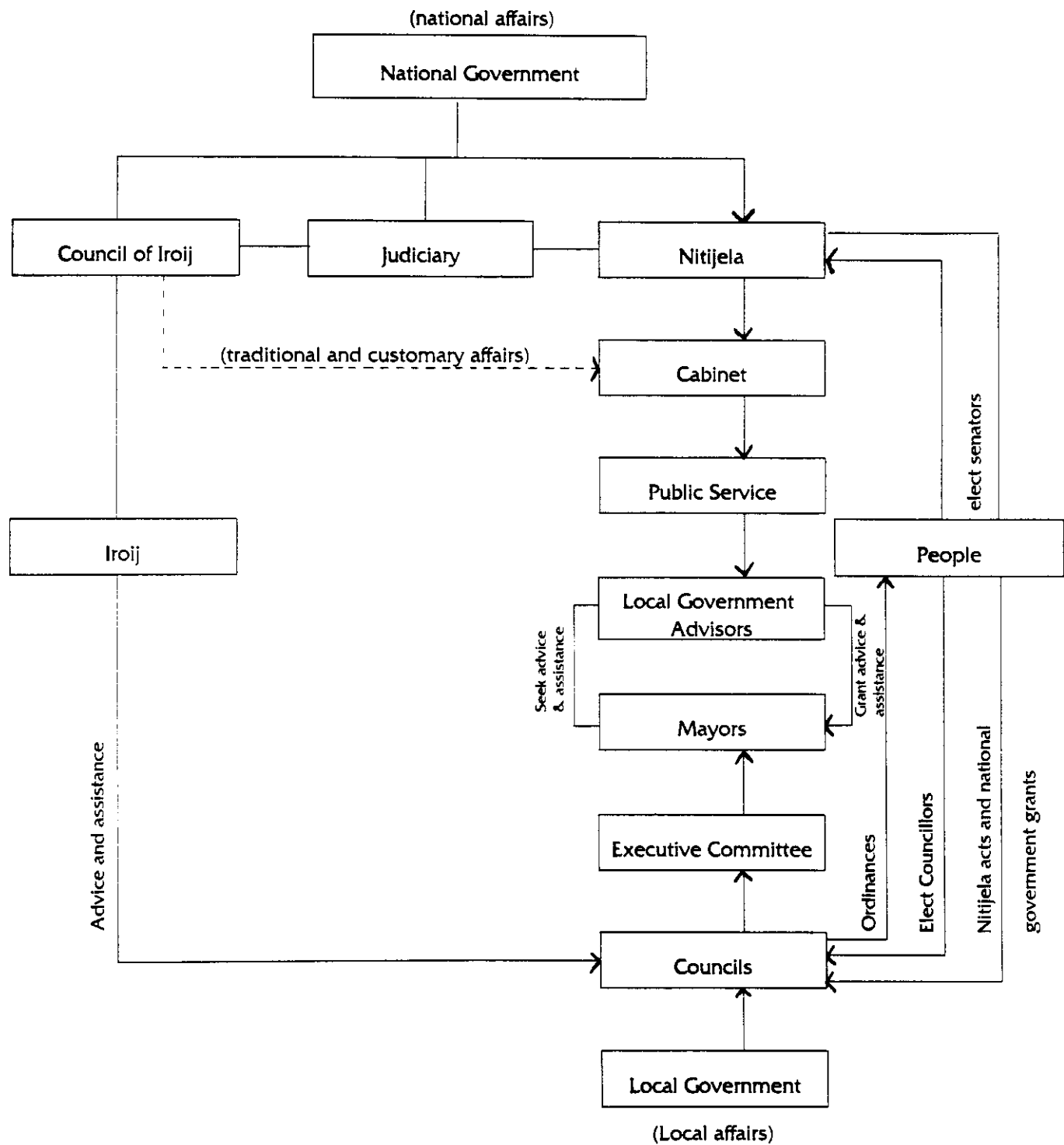
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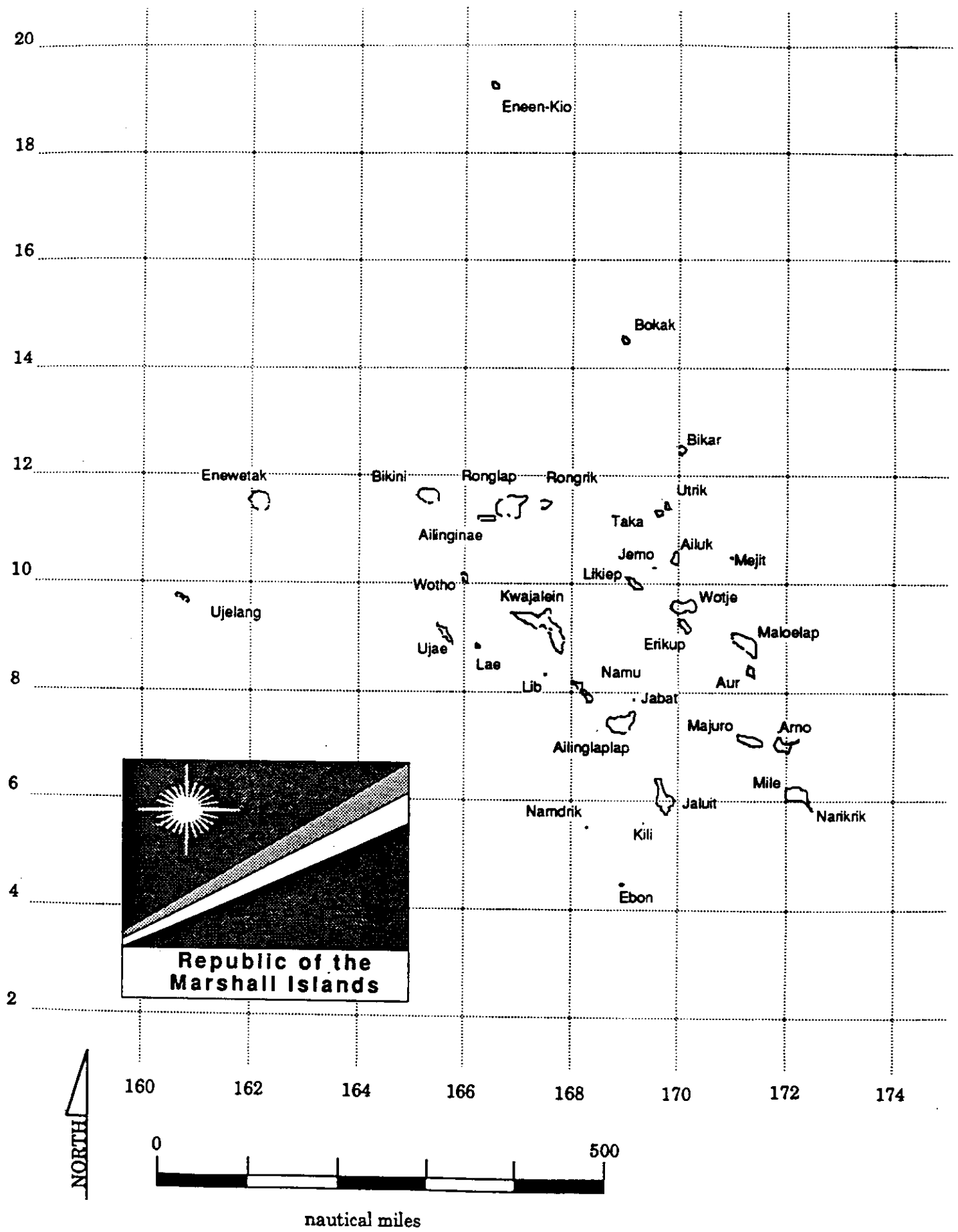
Figure 2



Structure of National and Local Government and their relationship

Source: Office of Planning and Statistics 1986

FIGURE 1



SUMMARY

This Legal Review was drafted in October and December of 1991 as a component of the National Environmental Management Strategy for the Republic of the Marshall Islands (RMI). The legal aspect of this Strategy, as envisioned by the Regional Environmental Technical Assistance Project (RETA), is designed to offer an overview of existing environmental legislation in RMI and a summary of draft legislative initiatives not yet enacted. Further, the Review is constructed to provide suggestions for future legal and administrative initiatives in ten specific environmental areas.

The Recommendations of this Review are set out after the Introduction. The Review then gives a brief history of RMI's emergence as an independent constitutional democracy and a survey of its present constitutional and administrative structures. International environmental Conventions and Treaties to which RMI is a party are next listed, followed by a brief analysis of traditional and statutory systems of land tenure. The importance of customarily-held lands, both to the Marshallese people and in the arena of environmental regulation, cannot be overemphasized. Communal land ownership in custom is a Marshallese birthright; the conflict between that birthright and government attempts at land management remains a potent issue.

Ten chapters delineating separate areas of environmental and cultural protection follow the contextual overview. These areas cover environmental planning, marine and land-based living and non-living resources, pollution controls over air, land and sea, biodiversity conservation, cultural heritage and tourism. Each Chapter is divided into four sections: Administrative Structures, Existing Legislation, Key Issues, and Recommendations. Proposals for future environmental needs at the end of each Chapter are summarized in Chapter 15, "General Conclusions and Recommendations."

As this Review contemplates an initial survey of environmental legislation in RMI, it provides a foundation for future legislative drafting efforts rather than prematurely offering specific draft language. New legislative initiatives frequently require a readjustment of existing administrative structures; this Review attempts to place analyses of legislative needs in the environmental sector within an appropriate administrative framework. Suggested legislative and administrative changes naturally require RMI Governmental acceptance before specific language proposals are appropriate. Finally, every effort has been made to incorporate principles of sustainable development and respect for traditional and customary practices within the Republic.

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Land Tenure Patterns in the Trust Territory of the Pacific Islands. J.E. de Young, Ed. Trust Territory Government.

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LIST OF RECOMMENDATIONS

CHAPTER FIVE

Environmental Planning and Assessment

Environmental Impact Statements - *National Environmental Protection Act*

1. Draft regulations to delineate standards for environmental impact statements, required for Government actions under the *National Environmental Protection Act 1984*, Part IV. Such regulations may:
 - * specifically address which projects are to be covered, and which criteria for project-identification should be used;
 - * create a two or three-tiered program for submissions;
 - * state the required length, content and detail of the statement;
 - * set out distribution and public meeting criteria;
 - * declare standards and levels of review of the submission; and
 - * clarify the identity of the person responsible for submission of the statement.
2. Establish the Environmental Advisory Council as a functioning entity. The Council, created by the *National Environmental Protection Act*, Part VI, consists of 11 members representing all national Ministries and one member each from private industry and the general public. A functioning Council could ensure an early and interactive approach to environmental assessments of government projects.

Environmental Impact Assessments - *Coast Conservation Act*

3. Develop a comprehensive Coastal Zone Management Plan;
4. Draft subsidiary regulations to prescribe the categories of development activity which may be engaged in within the coastal zone without a permit, and to enumerate the particular requirements of environmental impact assessments. As the *Coast Conservation Act* does not refer to activities conducted outside the coastal zone but impacting the zone, the environmental impact assessment regulations under that Act must be drafted to be in harmony with *National Environmental Protection Act* requirements, so that the total land and sea area of RMI is regulated with consistency and clarity.

Environmental planning and zoning

5. Implement the *Planning and Zoning Act 1987*. Planning Commissions and Planning Offices should be established in each local government Council to assess the need for formal zoning and building code requirements;
6. Draft and enforce appropriate local ordinances or regulations to secure zoning and building code protections in urban areas of RMI.
7. Clarify the status and role of private landowners on the Planning Commissions.

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Republic of the Marshall Islands (RMI-OPS), 1991

Draft Second Five Year Development Plan, 1992-96, Office of Planning and Statistics.

CHAPTER SIX

Fisheries

Coordination

8. Coordinate Government management of fisheries resources. Overlapping responsibilities are currently juggled between the Marine Resources Authority, RMIEPA, MIDA, and Foreign Affairs. Clarifications of the roles of each organization through internal Memoranda of Understanding may streamline cumbersome administrative processes.

Marshall Islands Marine Resources Authority (MIMRA) role in marine resources management

9. Convene regular, more frequent meetings of the Marshall Islands Marine Resources Authority (MIMRA) Board of Directors to focus long-term conservation policy goals. MIMRA presently functions as the primary agency responsible for fisheries conservation and management. MIMRA has recently become more involved in issues of sustainable development in aquaculture projects, but has yet to turn its conservation attention to fisheries.
10. Regulations should be drafted pursuant to the *Marshall Islands Marine Authority Act 1988*. Fisheries conservation and management regulations are required to set season limits, size ranges and acceptable gill net mesh sizes.

RMIEPA role in marine resources management

11. Meet *National Environmental Protection Act* requirements for RMIEPA involvement in the exploitation of fisheries. Additional funding and training is necessary before RMIEPA can acquire the adequate institutional ability to undertake a conservation role in fisheries management.
12. Regulate the harvesting and marketing of threatened species of fish or other aquatic life. This program could be undertaken in concert with a legislative re-examination of the *Endangered Species Act*. Both initiatives require the drafting of regulations under the *National Environmental Protection Act*.
13. Enforce marine pollution control standards. *RMIEPA Marine Water Quality Regulations*, following a period of public comment in early 1991, have been approved by Cabinet. Additional staff training is required in these areas.

Aquaculture

14. Draft regulations to the *National Environment Protection Act* to define appropriate water quality standards and appropriate placement areas for aquaculture and mariculture projects.
15. Draft regulations to the *Marshall Islands Marine Authority Act* to establish a certification system incorporating random testing to ensure that cultivated organisms are safe for sale.
16. Draft regulations specifying aquarium fish harvesting techniques, reef rotation schedules and organism quotas. Such regulations could be drafted pursuant to the *Marshall Islands Marine Authority Act*, *National Environmental Protection Act*, or the *Coast Conservation Act*, depending on an interagency agreement as to the controlling administrative body.

- * Regulation, Administrative Action and Decree Banning the Import and Export of Certain Yellowfin Tuna or Tuna Products Containing Yellowfin Tuna
- * Rules and Regulations on Foreign Fishing Agreements and Fish Processing Establishments

Marshall Islands Marine Resources Authority (Amendment) Act of 1989

National Environmental Protection Act 1984 (National Environment Protection Act)

- * *RMIEPA Earthmoving Regulations*
- * *RMIEPA Marine Water Quality Regulations*
- * *RMIEPA Solid Waste Regulations*
- * *RMIEPA Toilet Facilities and Sewage Disposal Regulations*
- * *Marine and Fresh Water Quality Standard Regulations* (TTC Title 63, Chapter 13, Subchapter VII)
- * *Public Water Supply Systems Regulations* (TTC Title 63, Chapter 13, Subchapter II)
- * *Trust Territory Pesticides Regulations* (TTC Title 63, Chapter 13, Subchapter IV)
- * *Trust Territory Air Pollution Control Standards & Regulations* (TTC Title 63, Chapter 13, Subchapter VIII)

Planning and Zoning Act 1987

Public Health, Safety and Welfare Act

Public Lands and Resources Act

Real and Personal Property Act

Tobolar Copra Processing Authority Act of 1992

Tourism Act 1991

2. Proposed RMI Legislation in Draft Form

Pursuant to the *Coast Conservation Act 1988*, Draft Environmental Impact Assessment Regulations

Pursuant to the *National Environment Protection Act*, Draft RMIEPA Pesticides Regulations

Pursuant to the *National Environment Protection Act*, Draft Clean Air Regulations

C. Books, articles and other materials

"Annalen der Hydrographie" 1886
Germany: 1886, p. 151.

Boer, B.W., 1991
"Implementing Sustainability" (1992) 14 Delhi Law Review 1

CHAPTER SEVEN

Agriculture and agro-forestry

Licensing of earthmoving machinery drivers

17. Regulate gardening with heavy equipment, with special emphasis on areas of high environmental, archaeological or historical value.
18. Draft regulations to require the licensing of heavy or medium-weight earthmoving machines. Require vehicle owners and operators to renew their operating license every one to two years. Provide a training program on the value of soil conservation, erosion control, and cultural preservation.

Better coordination

19. RMIEPA and the HPO administer concurrent earthmoving regulatory programs. The permitting and enforcement programs of the two agencies should be operated jointly. One permit with signatures from each agency should be issued.
20. Further coordination is required between RMIEPA, the HPO, and all classes of landowners. Currently, RMIEPA meets on a regular basis with Majuro landowners regarding litter control. Those meetings could be extended to include the sensitive subjects of gardening, land use planning and potential agricultural degradation of land and cultural resources.

Pesticide regulations

21. Enact and enforce RMIEPA draft *Pesticide Regulations* to avoid imported pesticides entering RMI in unrestrained numbers and uncertain concentrations.
22. Develop a pesticides applicator certifying system.

Quarantine legislation

23. Draft a new *National Quarantine Act* and subsidiary regulations, to reflect current Marshall Islands concerns. Impose stronger penalties for infractions.
24. Enforce quarantine and import/export protection. The Plant and Animal Quarantine section of the Division of Agriculture requires increased staffing levels in order to provide effective enforcement.

CHAPTER EIGHT

Mining and minerals

Marshall Islands Marine Authority Act Regulations

25. Draft regulations for the conservation, management and control of mineral resources.

National Mining Act

26. Draft a new national Act specifically controlling the mining of the seabeds and land of the Republic to ensure that pollution associated with mining operations is kept to a minimum.

REFERENCES

1. Current RMI Legislation

*NOTE: " * " indicates subsidiary Regulations to the legislative instrument listed immediately above*

Animal and Plant Inspection Act

- * Adopted Amendments to Regulations; TITLE 25; Animals and Plants Quarantine Controls; Chapter I; Plant and Animal Quarantines Administration and Enforcement of Emergency Measures
- * Adopted Amendments to Regulations; TITLE 25; Animal and Plants Quarantine Controls; Chapter II; Quarantine Procedures and Controls

Coast Conservation Act 1988

Constitution of the Marshall Islands

Endangered Species Act

- * Adopted Regulations; Title 45; Fish, Shellfish and Game: Chapter 5; Endangered Species

Export Meat Inspection Act

Historic Preservation Act 1991 (HPA)

- * *Regulations Governing Access to Prehistoric and Historic Submerged Resources*
- * *Regulations Governing Land Modification Activities 1991*
- * *Regulations Governing the Conduct of Archaeological and Anthropological Research in the Republic*
- * *Regulations Governing the Disposition of Archaeologically Recovered Human Remains*
- * *Regulations Governing the Taking and Export of Artifacts*

Land Acquisition Act 1986

Littering Act 1982

Local Government Act 1980

Marine Mammal Protection Act 1990

Marine Resources Act

Marine Resources (Trochus) Act 1983

Marine Zones (Declaration) Act 1984

Marshall Islands MIMRA 1988

CHAPTER NINE

Pollution control

Bolstering RMIEPA pollution control efforts

27. Allocate additional funds to RMIEPA to enable inter-atoll and island travel for the purpose of interacting with the local Councils in the development of effective anti-pollution measures. Such measures must reflect traditional customs, must be in harmony with present customary practices, and must be written in both English and Marshallese.
28. Legislative and educational efforts must remain focused on pollution eradication. Initial environmental efforts must be followed by committed oversight. Further development of an environmental law library would aid in drafting and enforcement efforts. Additionally, further training is required before RMIEPA environmental specialists are fully prepared to act as local government advisors.

Air and noise pollution initiatives

29. Monitor potential noise pollution issues with the assistance of RMIEPA and the RMI Visitors Authority. Draft appropriate regulations to provide a regulatory framework for addressing air pollution. RMIEPA Draft Air Pollution Regulations should be finalized and offered for Cabinet consideration.
30. Finalise and enact RMIEPA Draft Air Pollution Regulations.

USAKA Alternate Standards

31. Careful review of the final first Draft Alternate Standards is required by the RMIEPA, Attorney General, and Cabinet to ensure that streamlined procedures do not diminish RMI oversight capacities by limiting environmental information regarding USAKA activities. Content review is also necessary to determine whether adequate environmental protections have been granted. As the Compact of Free Association assigns environmental enforcement capacity and obligations to the RMI in regard to USAKA activities, RMI must insist on the status of full signatory on all environmental control documents, letters of authority and permits.

Radiation regulations

32. Draft regulations concerning the storage and disposal of nuclear, radioactive and other hazardous waste. Such regulations could be drafted pursuant to *National Environmental Protection Act 1984* Sections 21(2)(e) and 25. In recognition of the role played by the Marshall Islands in above-ground nuclear testing in the 20th Century, the regulations should delineate standards for acceptable environmental radiation levels.

CHAPTER TEN

Water quality

Enhancement of RMIEPA water quality testing facilities

33. Plan and implement a water monitoring program for appropriate oversight of the new Gugeegue water supply system. Expand coastal marine water monitoring and outer atoll fresh water monitoring. Provide funding for transportation and equipment. Trained RMIEPA staff should act as resource people in development and maintenance of local water protection guidelines.

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Marine and Fresh Water Quality Regulations

34. Initiate public information and education campaigns regarding *RMIEPA Marine Water Quality Regulations*. Disseminate widely the Marshallese summary of the regulations.
35. Draft fresh Water Quality Regulations that increase fresh water and groundwater protections pursuant to the *National Environmental Protection Act 1984*.

MIPDES Regulations

36. Draft *Marshall Islands Pollutant Discharge Elimination System (MIPDES) Regulations*. Pursuant to Part V of the RMIEPA Draft *Marine Water Quality Regulations*, any point source of discharge in RMI marine waters requires a *MIPDES* Permit from RMIEPA. The Regulations should establish general and specific criteria to limit point source discharges of pollution into RMI marine waters. They should further establish a system for issuing, modifying, revoking, reissuing, terminating, monitoring and enforcing *MIPDES* Permits.

Building Codes

37. Draft new building codes. The *Planning and Zoning Act 1987* makes provision for the development of planning, zoning, and building codes by local government Councils, with the assistance of the Government Chief Planner. Building codes drafted under this authority should require freshwater collection and storage facilities to be incorporated into all new construction projects.

PCB waiver

38. Return PCB-contaminated transformers, imported to RMI from the U.S. during the United States' administration of the Marshalls, to the United States for disposal. Urge the United States Government to assume responsibility for the return shipment and safe disposal of all U.S.-imported PCB wastes discovered in RMI.

CHAPTER ELEVEN

Waste management

39. Enforce local and national waste management provisions. Currently, RMI has littering prohibitions at three levels: by local ordinance, by national Act, and by RMIEPA solid waste regulations. Marshallese mediation efforts may produce consensus on the entity primarily responsible for enforcement. Enforcement must be coupled with vigorous public information campaigns on the environmental and public health risks associated with inadequate solid and liquid waste disposal.

Local Ordinances

40. Develop Local Council ordinances requiring mandatory deposits on aluminium cans or restricting use of certain non-biodegradable consumer products.

Expand Hazardous Waste Standards

41. Redraft *RMIEPA Solid Waste Regulations* to provide stronger, more explicit hazardous waste standards, including specific standards for collection, storage and disposal of hazardous wastes.

- * Draft *Radiation Regulations*

Water Quality

- * Expand funding of RMIEPA Water Quality Testing Program to include outer atolls
- * Enforce *RMIEPA Marine Water Quality Regulations*
- * Draft *RMIEPA Fresh Water and Groundwater Regulatory Controls*
- * Draft *Marshall Islands Pollutant Discharge Elimination System Regulations*
- * Continue to request waiver of U.S. prohibition against the import and disposal of PCBs

Waste Management

- * Enforce existing litter enactments
- * Draft local ordinances requiring mandatory deposits on Aluminium cans
- * Expand *RMIEPA Solid Waste Regulations* to provide more explicit hazardous waste standards

Biodiversity Conservation

- * Draft legislation for the administration and protection of marine and terrestrial areas
- * Establish a Nature Conservation Unit within MIMRA or RMIEPA
- * Offer additional funding and conservation training to MIMRA staff
- * Re-draft *Endangered Species Act* and enhance subsidiary Regulations

Cultural Heritage

- * Further establish the comprehensive regulatory framework devised pursuant to HPA by enforcing the five newly-enacted HPA Regulations
- * Draft a *Historic Parks Act*
- * Draft a *Historic Shipwrecks Act*

Tourism

- * Establish the Marshall Islands Visitors Authority as set forth in *Tourism Act 1991*
- * Draft Regulations prohibiting takings of artifacts and live shells pursuant to HPA or *Tourism Act 1991*
- * Draft Regulations licensing resort facilities pursuant to *Tourism Act 1991*

CHAPTER TWELVE

Biodiversity conservation

Protected areas

42. Draft comprehensive nature preservation legislation. Split species preservation and protected areas into two separate initiatives. This approach allows full legislative and administrative attention to each of these crucial areas.
43. Legislation for the administration and protection of marine and terrestrial areas should contain several concepts, including the establishment of a protected areas agency, either as a subunit of a Ministry or as an independent authority; the setting out of certain areas as protected, with distinctions for differing uses; the development of advisory bodies, including customary landowner participation from the Iroij, Alap, and Dri Jerbal classes; enforcement powers; and the power to make regulations.
44. Determine the appropriate legislative vehicle for a protected areas system. Development of a national Act could coalesce RMI's commitment to sustainable development of its resources, but development of regulatory controls subsidiary to a current Act could put a protected areas system in place more expeditiously. Further, the placement of a protected areas unit within an already-existing framework could partially solve the search for funds which so frequently hampers the attempts at environmental protection.

Both the *Marshall Islands Marine Authority Act* and the *National Environmental Protection Act 1984* could host subsidiary regulations designating protected areas. Pursuant to the *Marshall Islands Marine Authority Act*, management and control of living and nonliving resources could be construed to include responsibility for the establishment of marine parks or reserves. Pursuant to the *National Environmental Protection Act 1984*, the preservation of natural aspects of the nation's heritage could include the development and oversight of a national parks and reserves system. As the *Marshall Islands Marine Authority Act* only pertains to marine reserves, and as the *Marshall Islands Marine Authority* has the unenviable dual role of commercial fishing promoter and resource conservator, RMIEPA may be the appropriate regulatory authority. Current talks between the Ministry of Resources and Development and RMIEPA should resolve the question of appropriate administrative authority and the choice between national legislation or subsidiary regulation.

45. Any system of protected areas must maintain and support traditional rights and practices. All protection must first be recognized as appropriate and desirable by customary landowners. Because of the innovation of governmental regulatory control over private, customarily-held lands and waters, the uninhabited atolls of the far north may be the proper starting point for a comprehensive network of protected areas.

Conservation of living resources

46. Provide additional funding and training to promote effective management and enforcement of legal protection of living resources.
47. Coordinate legislative efforts to conserve living resources.
48. Draft Marine Resource Conservation Regulations pursuant to the *Marshall Islands Marine Authority Act*.
49. Redraft and update the *Endangered Species Act*. The Act is inadequately specific and not sufficiently inclusive. Include a listing of RMI endangered and threatened species. Reexamine the ambiguous wording at Section 9 of the Act, incorporating CITES import restrictions.

- * Draft Regulations pursuant to the *Coast Conservation Act 1988* to prescribe categories of development activity
- * *Implement Planning and Zoning Act 1987*
- * Draft zoning and building code ordinances or Regulations
- * Clarify status of landowners on Planning Commissions

Fisheries

- * Clarify competing roles of MIMRA, RMIEPA, MIDA, and Foreign Affairs regarding management of fisheries resources
- * Draft *Conservation Regulations* pursuant to the *Marshall Islands Marine and Natural Resources Act*
- * Enforce *RMIEPA Marine Water Quality Regulations*
- * Draft Regulations regarding harvesting and marketing of endangered or threatened species (in concert with re-draft of *Endangered Species Act*) pursuant to the *National Environment Protection Act* or *Endangered Species Act*
- * Draft aquaculture Regulations pursuant to the *National Environment Protection Act*, *Marshall Islands Marine and Natural Resources Act*, or the *Coast Conservation Act*, depending on interagency agreement defining the controlling administrative body

Agriculture and Agro-Forestry

- * License earthmoving machinery drivers pursuant to the *National Environment Protection Act* or the *Historic Preservation Act 1991 (HPA)*
- * Issue joint RMIEPA - *Historic Preservation Office Earthmoving Regulations*
- * Enact and enforce Draft *RMIEPA Pesticides Regulations*
- * Re-draft *Quarantine National Statute and Subsidiary Regulations*

Mining and Minerals

- * Draft Regulations for the conservation, management and control of mineral resources pursuant to *Marshall Islands Marine and Natural Resources Act*
- * Draft *National Mining Act*

Pollution Control

- * Bolster RMIEPA pollution control efforts with additional funding and training to allow inter-atoll travel and effective advice to local governments
- * Monitor potential noise pollution issues
- * Enact and enforce Draft *RMIEPA Clean Air Regulations*
- * Review Draft USAKA Alternate Environmental Standards to ensure effective environmental oversight of U.S. military activities on Kwajalein Atoll

50. Investigate political and regulatory requirements for RMI ratification of the *CITES Convention*.

CHAPTER THIRTEEN

Cultural heritage

Establishment of a Comprehensive Regulatory Regime for Historic and Cultural Preservation

51. The present Regulations subsidiary to the *Historic Preservation Act* provide a necessary framework for the Act. It is suggested that the new Regulations be the subject of a thorough public education campaign, and be appropriately enforced.

Licensing of earthmoving machinery drivers

52. Recommendation 18 above, concerning the licensing of earthmoving machinery by the Historic Preservation Office is reiterated here as a partial solution to the education of earthmoving workers.

Historic Parks Act

53. Draft an *Historic Parks Act*. Successful management of certain archeological and historical resources may only be achieved if the entire area of certain islands and atolls is declared as Historic Park and placed under a single planning authority. An *Historic Parks Act* is needed to ensure that such preservation measures may be undertaken, if deemed appropriate by either the Historic Preservation Office or the local government Councils.
54. An *Historic Parks Act* could create an authority that would regulate the entire land development of an area to ensure that the historic context within which the sites are located may coexist in harmony with modern needs for habitation and subsistence. Such an Act would require liaison with any other governmental entity given authority to establish and manage natural protected areas or habitats.

Historic Shipwrecks Act

55. Draft an *Historic Shipwrecks Act*. Such legislation may address the question of ownership of and appropriate protections for various submerged resources, including aircraft wrecks, ships, vehicles and other artifacts.

CHAPTER FOURTEEN

Tourism

Visitors Authority

56. Implement the *Tourism Act 1991*. Both tourism efforts and attempts to protect marine and terrestrial areas from degradation would benefit from the implementation of this recent Act. Funding to establish the new Tourism Authority is also required.

CHAPTER FIFTEEN

GENERAL CONCLUSIONS AND RECOMMENDATIONS

15.1 Status of RMI Environmental Law

A review of the preceding Chapters reveals that a significant body of environmental law is already in legal effect or in draft form in the Republic. The existence of such law in a newly-independent developing country is creditable. Although much of the environmental law cited has been drawn from Trust Territory legislation adopted by the Nitijela, a number of major environmental initiatives have been proposed and enacted by the present RMI government. Such initiatives include national legislation designed to protect marine, terrestrial, historic and cultural resources. Cabinet has also acted favourably in all instances when considering subsidiary environmental regulations.

A good deal of environmental legislation has recently been proposed at the regulatory level. Further efforts to fill in regulatory gaps and to make former Trust Territory legislation responsive to present RMI needs will aid establishment of a comprehensive legal framework in defense of the fragile RMI environment. Additional needs include the pressing need to institute legislative and administrative systems for the protection of marine and terrestrial areas and for the conservation of living resources. Enhanced land use management systems and environmental impact regulations are also required.

15.2 General Conclusions

In preparing this Review the consultant has been aware of the conflicting and often competing environmental management responsibilities dispersed between different government agencies and embodied in widely varied legislative instruments. Good faith efforts toward common conservation goals are sometimes overshadowed by gaps or overlaps in areas of environmental responsibility.

National and local governmental agencies charged with environmental responsibilities may wish to interact with greater frequency, so that knowledge may be shared on a regular, non-emergency basis. Environmental concerns regarding specific development proposals could then be discussed with other private and governmental entities at an earlier point in time. When considering development proposals, a focused, group presentation by agencies with an environmental interest could promote greater awareness of conservation issues.

Further, government and private sector confusion about existing environmental protection legislation indicates the need for additional emphasis on public information and education about legal requirements and processes in the environmental arena. Additional staff training is also necessary before effective enforcement of existing legislative instruments becomes a reality.

15.3 Summarized Recommendations

(Please review List of Recommendations at pages (ii) to (ix) , above, for full statements of need.)

Environmental Planning and Assessment

- * Draft environmental impact statement Regulations pursuant to the *National Environmental Protection Act 1984*
- * Establish Environmental Advisory Council as set forth in the *National Environment Protection Act*
- * Develop a comprehensive Coastal Zone Management Plan

Regulations subsidiary to the *Tourism Act 1991*

57. Taking of Artifacts and Live Shells

Draft regulations setting standards for the taking of artifacts and living shells pursuant to Section 8(1)(b) of the Act, in order for the Tourism Authority to foster preservation of natural and recreation attractions and prevent their degradation. It is recommended that the new Tourism Authority work with the Historic Preservation Office and Marine Resources Authority in the joint production of protective regulations.

58. Licensing resort facilities

Draft regulations to licence resort facilities and accommodations. Section 10(2)(o) of the *Tourism Act* empowers the Visitors Authority to contract for the construction, maintenance and operation of tourist facilities, to lease the land required, and to license such accommodations. Section 9(7) permits the Authority to recommend standards in the construction, equipping and operation of tourist facilities. The Act clearly envisions a licensing or permitting system by the Authority to establish appropriate controls and procedures on resort facilities.

ACKNOWLEDGEMENTS

The people listed below offered the consultant valuable assistance in the course of this review, both through the contribution of relevant materials and by the gracious donation of time and attention to the review document:

Jim Abernathy, Consultant on Mining to the Government, RMI
Abel Anien, Public Education Officer, RMIEPA
Helkena Anni, RETA Local Consultant
Barbara Barber, Director of Water Quality Monitoring, RMIEPA
Gordon Benjamin, Chief of Labor, Trade and Industry, and Tourism, RMI
Ben Boer, Corrs Chambers Westgarth Professor of Environmental Law, University of
Sydney, Australia
Martha Crawford, RETA Local Consultant
Greg Danz, Legal Counsel to the President and Cabinet, RMI
Robert Eelkema, Assistant Attorney General, RMI
Kasuo Helgenberger, General Manager, RMIEPA
Jiba Kabua, Secretary of Foreign Affairs, RMI
Jewan Lemari, Chief Government Planner, RMI
Dennis McPhillips, Attorney General, RMI
Fred Pedro, Assistant to the President, RMI
Wallace Peter, Tourism Specialist, Division of Labor, Trade and Industry, and
Tourism, RMI
Mere Pulea, Barrister & Solicitor, Bahrain
Mark Rosen, former Legislative Counsel to the Nitijela, RMI
Neil Rutledge, Chief Justice, High Court of the Marshall Islands
Steve Simon, Director, National Radiological Survey, RMI
Dave Sheppard, RETA Team Leader, SPREP
Dirk H.R. Spennemann, Chief Archeologist, Historic Preservation Office, RMI

Further, the Consultant is grateful for the infrastructure assistance and wise counsel provided by the staff and Members of the Republic of the Marshall Islands Environmental Protection Authority (RMIEPA). The consultant also wishes to acknowledge the efforts of the RETA Task Force on Environmental Management and Sustainable Development and to thank the staff and members for their aid in the formation of this Review.

Time constraints mitigated against formal input by the full Marshall Islands legal community in the preparation of this Review, but the consultant gratefully acknowledges the small and dedicated body of attorneys and legal practitioners on Majuro whose animated environmental and legal discussions over the past three years have informed this document.

houses, as well as interest in a few large resorts on two or three scattered atolls. Eco-tourism has also been mentioned as a possibility for discerning travellers to the Republic.

14.3.2 Community Concerns

The Visitors Authority has recognized the need to liaise with local communities to determine local opinions regarding tourism development. Any efforts at promoting tourism are dependent on community acceptance. As outer islands are small, scattered, and difficult to communicate with, a locality's embrace of the tourist facility is essential to its success. The Visitors Authority must coordinate with local Councils, local planning units, and local landowners in order to produce a successful visitor program.

Traditional outer island communities have expressed concerns about tourism's potential for infringing on their customary lifestyles. On more than one occasion in the recent past, local communities have requested that the national government remove unanticipated visitors from their locale. Many traditional Marshallese may feel offended or violated by noisy, intrusive tourism activities. A vital issue in current infrastructure plans is location and frequency of visitor access to villages; many villagers feel more comfortable with facilities located on a separate island from the island housing most residents of the atoll.

14.4 Recommendations

Visitors Authority

56. Implement the *Tourism Act* 1991. Both tourism efforts and attempts to protect marine and terrestrial areas from degradation would benefit from the implementation of this recent Act. Funding to establish the new Tourism Authority is also required.

Regulations subsidiary to the *Tourism Act* 1991

57. Taking of Artifacts and Live Shells

Draft Regulations setting standards for the taking of artifacts and living shells pursuant to Section 8(1)(b) of the Act, the Authority may foster preservation of natural and recreation attractions and prevent their degradation. It is recommended that the new Authority work with the Historic Preservation Office and Marine Resources Authority in the joint production of protective Regulations.

58. Licensing resort facilities

Draft Regulations to licence resort facilities and accommodations. Section 10(2)(o) of the *Tourism Act* empowers the Visitors Authority to contract for the construction, maintenance and operation of tourist facilities, to lease the land required, and to license such accommodations. Section 9(7) permits the Authority to recommend standards in the construction, equipping and operation of tourist facilities. The Act clearly envisions a licensing or permitting system by the Authority to establish appropriate controls and procedures on resort facilities.

CHAPTER ONE

INTRODUCTION

1.1 Land and people

The Republic of the Marshall Islands (RMI) consists of 29 atolls and 5 low-elevation islands in the north-west equatorial Pacific, forming two almost parallel archipelagic chains between 4 degrees and 14 degrees North and 160 degrees and 173 degrees East. (see Figure 1 at end of Review.) The Republic's total marine area exceeds 750,000 square miles. Its entire land area, however, comprises just under 70 square miles. The atolls range from quite small to very large, with Kwajalein Atoll encompassing the largest lagoon on earth (2,173 km). Twenty two atolls and 4 islands are inhabited by a population approaching 50,000.

The people of the Marshalls share with all peoples of the Pacific a deep and abiding respect for the land and the sea, elements of which have provided them daily sustenance for thousands of years. This fragile natural environment has been well-tended in customary practice, providing a basis for subsistence living and for economic, social and cultural well-being. RMI now faces threats to this natural resource base, including rapidly increasing population, rising material expectations, demands for economic growth, and the depletion or degradation of natural resources. A pressing need for comprehensive environmental management has arisen to ensure that RMI's island and atoll resources are used in ways that can be sustained and to further ensure that significant resources are adequately protected.

1.2 The RETA Project

A Regional Environment Technical Assistance (RETA) Project was initiated in November, 1990 to strengthen the capabilities of RMI and other Pacific countries in the area of environmental management. Implemented under the umbrella of the South Pacific Regional Environment Programme (SPREP), RETA reaches out to five Pacific nations: Republic of the Marshall Islands, Federated States of Micronesia, Cook Islands, Solomon Islands and Tonga.

RETA objectives in RMI include:

- (1) developing a National Environment Management Strategy;
- (2) implementing relevant environmental training and projects;
- (3) strengthening the RMI capability to achieve national and regional environmental goals; and
- (4) increasing community awareness of the need for environmental protection.

1.3 The Legal Review

The National Environmental Management Strategy (NEMS) addresses these areas and identifies the main environmental problems and issues confronting RMI. This Legal Review is one component of the NEMS, and is designed to offer an overview of the present status of environmental legislation in RMI and delineate future legal and administrative needs in express environmental areas.

The specific objectives of the Environmental Legislation Review are to:

- (1) review existing legislation and associated administrative structures in RMI relating to environmental management;
- (2) critically evaluate the effectiveness of this legislation in addressing current environmental issues; and

- * promoting the manufacture of local handicrafts and artifacts, and helping to prescribe standards of quality;
- * advising on appropriate land zoning and building regulations for tourist-related developments; and
- * monitoring the impact of tourism development on the social, economic and physical environment of the residents of the Republic, and bringing major tourism impact issues to the attention of appropriate public officials with recommendations to address negative or undesirable effects and community concerns.

Pursuant to Section 10 of the Act, the Authority's powers include not only the promotion of tourism, but the establishment of protected areas as well. The Visitors Authority may:

identify and recommend to appropriate authorities areas, land, or marine features, wildlife, and marine species, physical constructions, services, historical and sociological practices and any other feature, or aspect of Marshallese life which may be registered or otherwise declared as tourism features or attractions, and make appropriate rules and regulations as to the management and conservation of such features or attractions following upon such registration or declaration (*Tourism Act*, Section 10(2)(h)).

Further, the Authority may:

for the purpose of protecting the standard, existence and intrinsic nature of declared tourism features and attractions within the Republic, act in combination or association with any person or body of persons that may be engaged, concerned, interested, or charged with specific responsibility for protection of that feature or attraction and contribute to the expenses involved in such actions (*Tourism Act*, Section 10(2)(i)).

Finally, regarding the protection of land and marine areas, the Authority is empowered to:

identify and recommend to appropriate authorities areas of land and marine features within the Republic which may be declared tourist features or special conservation areas and the standards of tourist accommodations, attractions or facilities which may be erected within those areas (*Tourism Act*, Section 10(2)(j)).

The Fund of the Authority is separate from the RMI General Fund, but no money may be withdrawn from the Fund except with the authority of the Secretary of Resources and Development. The Minister of Resources and Development may adopt such rules and regulations as are deemed necessary to give effect to the Act.

14.3. Key Issues

14.3.1 General

Tourism is in its infancy in RMI. Virtually non-existent a mere five years ago, only marginal increases have been noted to date. Very little infrastructure is available to accommodate tourists in RMI except in the urban areas of Majuro and Ebeye, where most arrivals are business visitors.

RMI has good tourism potential, offering a tropical, breezy climate, sheltered lagoons, outstanding coral formations, and plentiful game fish. Additionally, the outer atolls of Mili, Maloelap, Wotje and Jaluit boast numerous World War II relics.

The government is guardedly interested in developing RMI's potential for visitors. Present plans include funding for small-scale outer island development, such as guest cottages or smaller resort

- (3) recommend amendments to existing legislation and, where appropriate, recommend new legislation and administrative structures, to more effectively address environmental issues in RMI.

Environmental legislation is devised to help ensure that natural and cultural resources may be sustained, for the sake of the evolving ecosystem as well as for effective use of that system by human beings. This generation and future generations deserve to live and work in a safe, healthy, diverse and uncontaminated environment. Recently, RMI has joined many nations on earth in its attempt to implement strategies for "sustainable development", which can be defined as using resources to improve the quality of human life while living within the carrying capacity of supporting ecological systems.

Under principles of sustainable development, a comprehensive system of environmental law should cover: land use planning and development control; sustainable use of renewable resources, and non-wasteful use of non-renewable resources; prevention of pollution; efficient use of energy; control of hazardous substances; waste disposal; and conservation of species and ecosystems through land-use management, safeguarding vulnerable species and a comprehensive framework of protected areas (*Caring For The Earth*; p.68). RMI environmental law presently addresses many aspects of these worldwide goals; the challenge to present and future generations is to protect RMI's fragile ecosystem by addressing them all.

CHAPTER FOURTEEN

TOURISM

14.1 Administrative Structures

14.1.1 Tourism Office

The RMI Tourism Office is currently placed under the Division of Labor, Trade, Industry, and Tourism within the Ministry of Resources and Development. A small unit, the Tourism Office works in coordination with the Ministry of Resources and Development to promote tourism as part of an integrated development system to be encouraged in the outer islands. The Marshall Islands Development Bank, the financial arm of the national government, is also presently making funds available for small-scale outer island tourism development.

14.1.2 Marshall Islands Visitors Authority

On February 22, 1991, Nitijela passed the *Tourism Act 1991*, which establishes a Marshall Islands Visitors Authority. The Visitors Authority shall take over all assets, liabilities, rights, and obligations of the Tourism Office. Although the Visitors Authority is not yet operational, the Tourism Office hopes to have the funds in fiscal year 1992-93 to establish a small Authority, housing a Director, a Secretary, and two Tourism Development Specialists.

14.2 Existing Legislation

The nascent field of tourism is governed by one very recent legislative instrument. The *Tourism Act 1991* was drafted at the request of the Secretary of Resources and Development and was passed, with minor revisions, by Nitijela in early 1991. A relatively lengthy Act, it establishes the Republic of the Marshall Islands Visitors Authority to promote the development of tourism in the Republic.

The Visitors Authority is established by statute as a body corporate with perpetual succession, power to acquire and dispose of property, and all further powers, functions, duties and responsibilities of a corporation. The Authority is governed by a Board of Directors, consisting of six members, five voting and one non-voting. The Authority's links to government are revealed by the voting membership of its Board: the Secretary of Resources and Development, who serves as the Board's Chairman, the Secretary of Interior and Outer Islands Affairs, and three members from the private sector who are appointed by the Minister of Resources and Development with the approval of the Cabinet. The non-voting member is the General Manager of the Authority.

Objectives of the Authority include language in defense of natural resources and in favour of self-determination regarding tourism developments. Objectives embrace the development and promotion of the natural, scenic, cultural, historical, and recreation attractions of RMI in ways that will not only create an economically sound tourism resource, but will also foster preservation and improvement of these assets. Along with a mandate to prevent and avoid the degradation and pollution of natural and cultural resources, the Act's language also urges the government and the Marshallese people to maintain strong, active control over the nature, quality, and magnitude of tourism development and the use of land and water resources.

The Visitors Authority is granted twenty-two functions. Many functions refer to the national and international promotion of tourism to the Republic, often in conjunction with studies, surveys, and educational programs. Functions of interest to the environmental community include:

- * recommending standards in the construction, equipping and operation of tourist accommodations, attractions, facilities and features;

CHAPTER TWO

CONSTITUTIONAL AND ADMINISTRATIVE STRUCTURE

2.1 National Government

2.1.1 Brief History of Governance

Over 2500 years ago, Micronesian sailors and navigators arrived and settled in the Marshall Islands (called by them "Aelon Kein Ad", or "our islands"). A government structure emerged based on the reciprocal rights and obligations of a tiered society. This social and governance system encompassed the four strata of traditional society: the Iroijlaplap (Paramount Chief of certain lands); the Iroijedrik (Lesser Chief of certain lands); the Alap (person in immediate charge of a piece of land); and the Dri Jerbal (worker on certain land) (*Trust Territory Reports* (TTR0 1969; Vol. I, p.725). The Marshallese customary system of decision-making and dispute resolution continues to this day alongside RMI's more recent, Constitutionally-mandated system of democratic governing principles.

The European influence on the Marshalls can be traced to the Treaty of Tordesillas between the Kingdoms of Spain and Portugal in 1494, in which Spain was ceded ownership of Micronesia in its entirety. Four centuries later, as the German government expanded its trading interests, disputes in the region between Spain and Germany culminated in a settlement by Pope Leo XIII. The 1885 settlement allowed the Imperial German Government to purchase the Marshalls from Spain for \$4.5 million (*Annalen der Hydrographie* 1886; p.151). Following the Spanish-American War in 1898, a further bilateral agreement clarified the status of Ujelang and Enewetak Atolls as German.

In October, 1914, Japan captured the Marshalls from Germany, and the Japanese flag was hoisted over the Marshall Islands. In 1920, the League of Nations gave Japan a Mandate to administer the Marshalls. Japan administered the Marshall Islands until the outbreak of World War II in the Pacific, during which the United States captured the Marshalls from Japan.

The United Nations and the United States Congress approved a Trusteeship Agreement in 1947 creating the Trust Territory of the Pacific Islands and incorporating the Marshall Islands as one of six districts. The Agreement entrusted the Micronesian Islands previously administered by the Japanese under the 1920 Mandate to the United States as Trustee. The United States Department of the Navy administered the Trust Territory from 1947 to 1951, at which time administration was transferred to the United States Department of Interior. By referendum, the Marshalls voted for establishment of a constitutional government based upon a constitution adopted by the *Marshall Islands Constitutional Convention* on December 21, 1978. The Government of the Marshall Islands was officially established in 1979. The name of the nation was proclaimed in March 1982 to be the Republic of the Marshall Islands.

Although self-governing since 1979, RMI has been a fully free and sovereign nation since the Compact of Free Association between the Government of the United States of America and the Government of the Republic of the Marshall Islands (the Compact) came into effect on October 21, 1986. The United Nations Security Council terminated RMI's Trusteeship status in December 1990, and at 3:30 p.m. on September 17, 1991, the General Assembly of the United Nations at its 46th Session adopted a Resolution admitting RMI as a member nation.

2.1.2 Current Status

The Republic of the Marshall Islands is a newly-independent constitutional democracy. The fundamental law of RMI is contained in the Constitution of the Marshall Islands, effective May 1, 1979. The Constitution sets forth a democratic system of government that contains aspects of Commonwealth, United States, and traditional governing structures.

In recognition of the tenth anniversary of RMI's Constitution, the Republic held a Constitutional Convention in Majuro from February to April, 1990. Although a wide range of amendatory language to the Constitution was offered, only two amendments received the required two-thirds majority of votes cast in a referendum of all qualified voters. These two amendments ensured that the Marshall Islands be always referred to as a Republic, and clarified the area of the Republic's control to be within the traditional boundaries of the archipelago of the Marshall Islands.

2.1.3 Legislative Powers

The RMI legislative power is vested in the Nitijela (Parliament). The Nitijela consists of 33 members elected from 24 atolls and islands for a term of 4 years. A general election was held in November, 1991. Elections are conducted by secret ballot under a system of universal suffrage for all citizens who have attained the age of 18 years. Every qualified voter who has attained the age of 21 years is qualified to be a candidate for election as a member of the Nitijela.

2.1.4 Executive Powers

The President is the Head of State of the Marshall Islands. The President is a member of the Nitijela, elected by a majority of the total membership of the Nitijela by secret ballot at its first meeting after each general election.

The executive authority of RMI is vested in the Cabinet, headed by the President. The President selects a Cabinet by nominating not less than six nor more than ten other members of the Nitijela to be Ministers and Cabinet members. The President allocates among the members of the Cabinet such portfolios as may be necessary so that members of the Cabinet have primary responsibility for the Departments and functions of government.

Six portfolios are constitutionally mandated: the portfolios of the Minister of Finance, Minister of Foreign Affairs, Minister of Communications and Transportation, Minister of Resources and Development, Minister of Social Welfare, and Minister of Public Works. Presently, ten Ministries have been designated in RMI: the six mentioned above and the Ministries of Education, Health and Environment, Internal Affairs, and Justice.

Most Ministries carry, to a lesser or greater extent, responsibilities for various aspects of environmental and natural resource conservation. The Ministry of Health and Environment, Ministry of Resources and Development, and Ministry of Internal Affairs incorporate major environmental responsibilities within their ascribed portfolios.

2.1.5 Judicial Powers

The judicial power of the Marshall Islands is independent of the legislative and executive powers and is vested in a Supreme Court, a High Court, a Traditional Rights Court, the District Court and 22 Community Courts. The Judiciary began its operation in early 1982 after taking over operations from the Chief Justice of the Trust Territory courts. The Traditional Rights Court began functioning in April 1984.

All justices of the High Court and Supreme Court are confirmed by the Nitijela upon recommendation by the Judicial Service Commission and appointment by the Cabinet. District Court and Community Court Judges are appointed by the Judicial Service Commission. The Supreme Court is a Superior Court of record and has appellate jurisdiction with the final authority to adjudicate all cases and controversies properly brought before it. The Supreme Court currently sits part-time, and consists of an off-island Chief Justice and two associate justices from the High Court bench who sit on assignment, or other sitting or retired judges appointed pro tempore.

The High Court has trial court jurisdiction over nearly any case or controversy in RMI. It has discretionary review jurisdiction as well as appellate jurisdiction over all decisions of the

a Cultural Resource Officer to be appointed by the head of each local government Council (HPA, Section 28). The Officer shall serve as the liaison between the HPO and each local government. In enforcement of historic and cultural preservation controls, it is especially necessary to educate widely and well. Only when local communities take up the cause of cultural preservation will effective enforcement commence.

13.4 Recommendations

Establishment of a Comprehensive Regulatory Regime for Historic and Cultural Preservation

51. The present Regulations subsidiary to the *Historic Preservation Act* provide a necessary framework for the Act. It is suggested that the new Regulations be the subject of a thorough public education campaign, and be enforced as appropriate.

Licensing of earthmoving machinery drivers

52. The destruction of historic and cultural sites by earthmoving activities is a present danger. This Review, at the Agriculture Chapter, Section D.(1), recommends the licensing of earthmoving machinery by the HPO as a partial solution to the education of the earthmoving community.

Historic Parks Act

53. Draft an *Historic Parks Act*. Successful management of certain archeological and historical resources may only be achieved if the entire area of certain islands and atolls is declared as Historic Park and placed under a single planning authority. An *Historic Parks Act* is needed to ensure that such preservation measures may be undertaken, if deemed appropriate by either the Historic Preservation Office or the local government Councils.
54. An *Historic Parks Act* could create an authority that would regulate the entire land development of an area to ensure that the historic context within which the sites are located may coexist in harmony with modern needs for habitation and subsistence. Such an Act would require liaison with any other governmental entity given authority to establish and manage natural protected areas or habitats.

Historic Shipwrecks Act

55. Draft an *Historic Shipwrecks Act*. The varied character and varied ownership of the submerged resources in the waters of the Republic, especially in Kwajalein and Bikini Lagoons, have hindered government protection efforts. Such legislation may address the question of ownership of and appropriate protections for various submerged resources, including aircraft wrecks, ships, vehicles and other artifacts.

subordinate courts. The High Court is comprised of the Chief Justice and two Associate Justices.

The District Courts operate in the major population centres of Majuro and Kwajalein Atolls. Community Courts operate in local government areas and their jurisdiction is limited to the local government area which each serves.

2.1.6 Traditional aspects of the Constitution

The deep Marshallese respect for customary law and recognition of traditional management structures is embodied throughout the Marshall Islands Constitution. The Preamble to the Constitution speaks of the Marshallese pride in "their own distinctive society." That pride is articulated in Article III, which establishes a traditional governing Council of Iroij, and Article X, which clearly enunciates the preservation of certain traditional rights.

The Council of Iroij established by Article III consists of 12 Iroijlaplap (Paramount Chief) representatives, 5 from the Ralik (west, or sunset) chain and 7 from the Ratik (east, or sunrise) chain of atolls and islands. The Council meets when the Nitijela meets, usually sitting two to three times a year. The Council functions as an advisory body to the Cabinet, and may request the reconsideration of any Nitijela Bill which affects customary law, traditional practice, land tenure, or related matters.

Formal statutory declarations of customary law are reserved for the Nitijela, which is given constitutional authority in Section 2 of Article X to declare, by Act, the customary law in the Republic or any part thereof. This codification may include any provisions which "are necessary or desirable to supplement the established rules of customary law or to take account of any traditional practice." If, in the opinion of the Speaker of Nitijela, a Bill takes up matters of traditional practice or customary law, a joint committee of the Council of Iroij and the Nitijela must be afforded a reasonable opportunity to make and publish a report on the matter before the Bill may proceed.

Constitutional deference to traditional and customary rights is further evident in regard to the status and distribution of land and landholdings. Constitutional requirements upholding customary dispute resolution systems are discussed in Chapter 5, Systems of Land Tenure.

2.1.7 Public Service

The Public Service is established under Article VII of the Constitution and comprises all employees as may be necessary to assist the Cabinet in exercising its executive authority. Article VII also mandates the appointment of certain officers and offices: the Chief Secretary, who heads the Public Service; the Attorney-General; the Secretary of Finance; and the Public Service Commission, which operates as the employing authority for the Public Service.

2.2 Local Government

Article IX of the Constitution sets forth the right to a system of local governments on all inhabited atolls and islands. The jurisdiction of the local governments includes the internal waters of the island or atoll and extends to a distance of five miles to sea.

The *Local Government Act 1980* implements Article IX by providing for the local governments' manner of operation. The Act includes minimum requirements for written local constitutions and sets out electoral procedures. In contrast to national elections, and in keeping with traditional practices, the Act recognizes the importance of consensus decision-making by allowing a certain number of local council representatives to be elected by consensus. One-half to two-thirds of the members must, however, be elected by ballot.

The *Local Government Act 1980* further grants the Ministry of Interior and Outer Island Affairs oversight of local systems and responsibility for coordinating local and national government

- * the applicant's research plan is sensitive to any cultural or historic values the property may possess; and
- * the research is designed to address significant research topics in the natural or social sciences or the humanities, or to provide data that will advance the purposes of the Marshall Islands Cultural and Historic Preservation Plan, or a local cultural and historic preservation plan.

13.2.3 RMIEPA Earthmoving Regulations

RMIEPA Earthmoving Regulations, drafted pursuant to the *National Environment Protection Act* and in effect since May, 1989, were the first legislative enactment in RMI to attempt protection of cultural resources. The Regulations, fully described in the Agriculture Chapter at 6.2.7, were proposed to prevent accelerated erosion, accelerated sedimentation, and disturbance of potential cultural resources during the earthmoving process.

The Regulations include the requirement that any person engaged in earthmoving activities must take responsible measures to protect and preserve all historical and cultural resources that may be affected by the proposed activity. A "cultural resource" is defined as "any historical, architectural, archeological or cultural site, remain, or artifact, including any place or object that enhances the knowledge or preservation of the environmental and cultural heritage of the Marshallese people." To accomplish this protection, persons engaged in earthmoving activities must design, implement and maintain effective cultural preservation measures.

13.3 Key Issues

13.3.1 Destruction of Historic Sites

As land needs are critical in an atoll economy, the struggle over which uses a piece of land may be put to are always intense. Frequently, development needs overwhelm conservation needs, and the preservation of historical uses are subsumed by current economic demands. Earthmoving activities in the furtherance of development projects regularly expose archeological sites. Agricultural earthmoving unearths a great many sites, as well.

The HPO is aware that cultural and historic properties may co-exist with modern development, and preservation of such properties may involve creative activities other than static protection, including adaptive use, rehabilitation and data recovery. In order to attempt such creative activities, the HPO has proposed a series of Regulations that would require the HPO to be notified about development and agricultural projects that could put historic and cultural sites at risk.

13.3.2 Intangible Heritage

The cultural heritage of the Republic represents both the foundation upon which rests modern Marshallese society and the identity of the Marshallese people. Marshallese cultural identity is reflected in the Marshallese language and its unique oral traditions. Although oral traditions are frequently associated with natural features of the landscape, such as natural depressions, large coral boulders, or lengthy stretches of land, traditions also respect an intangible heritage. Intangibles like community practices, information or ideas are often exchanged and celebrated through oral traditions. One of the new tasks of the HPO pursuant to the *Historic Preservation Act 1991* is the recording and archiving of the body of oral traditions of the atolls of RMI.

13.3.3 Liaison with Local Governments

Local government Councils are the government bodies most in touch with local traditions and cultural resources. Liaison with these Councils is crucial for a grass-roots knowledge of differing communities' disparate traditions. The *Historic Preservation Act* recognizes this need, requiring

relations through its division of Outer Islands Affairs. The interrelationship of national and local governments is shown at Figure 2.

At present, 24 local governments operate on 23 atolls and islands, with Kwajalein Atoll hosting both the Kwajalein and Rongelap Local Government Councils. Majuro and Kwajalein local governments are urban, totalling a population of 28,975 (1988), contrasting to a total population of 14,395 (1988) in the remaining 22 local government areas.

Local governments have been given responsibility for a wide range of activities, including development of land, water and agricultural resources, intra-atoll transportation, providing safe drinking water and energy supplies, and public safety. Local governments concur that limited monetary support and administrative capacities have severely hindered the delivery of services and development of resources. Environmental protection concerns are integral to people's daily lives on the outer atolls and islands of RMI, but lack of national support and communication difficulties have made recent efforts at protection sporadic.

The purpose of these Regulations is to ensure that persons diving on submerged cultural and historical resources appreciate their importance and need for protection. The Regulations recognize that these properties are subject to damage and destruction, both accidental and intentional, by people visiting them. Once damaged or destroyed, a part of this finite resource will be lost forever at the expense of the cultural heritage of the Republic.

The Regulations require that, notwithstanding actual ownership of these resources, any person wishing to visit submerged cultural or historical resources must apply for a permit from the HPO. This permit shall be issued following instruction on the Historic Preservation Legislation and instruction on the particular needs of submerged resources. Two classes of permits will be issued: an individual permit, and a tour operator permit, which allows underwater tour operators to take persons to the submerged resources.

(2) *Regulations Governing Land Modification Activities*

These Regulations are summarized and discussed in this Review's Chapter on Agriculture, Section 6.2.8.

(3) *Regulations Governing the Disposition of Archaeologically Recovered Human Remains*

These Regulations set standards for the control of human remains and bones which are frequently found during earthmoving activities, during excavations and as a result of coastal erosion. The purpose of the Regulations is to ensure that human remains shall be afforded the dignity and respect they deserve. These Regulations stipulate that burials shall not be disturbed wilfully, unless permission has been given according to the *Historic Preservation Act 1991* and other executing Regulations.

If human remains are found, then they shall be examined and described, and thereafter be reburied. The Regulations require museums and other institutions to avoid permanently storing human remains on their shelves.

(4) *Regulations Governing the Taking and Export of Artifacts*

These Regulations prohibit the export of all artifacts which are found on, at, or in archaeological sites; any item of traditional material culture over 40 years old; any historical item over 40 years old; and any item the retention of which is considered to be in the national interest. Artifacts may be loaned to overseas institutions upon approval by the Advisory Council on Historic Preservation.

(5) *Regulations Regarding the Conduct of Archaeological and Anthropological Research in the Republic*

The Regulations control conduct in two major areas: (1) the provision of standards for archaeologists, anthropologists, historians and architects or architectural historians on staff of the RMI Historic Preservation Office; and (2) standards for the conduct of archaeological and anthropological research by persons other than those employed by the Historic Preservation Office.

The stipulations for the conduct of research ensure that:

- * the researcher is qualified to undertake the proposed research;
- * the research is conducted according to generally accepted professional standards;
- * the permission of the persons owning or controlling the land involved and any required land use or environmental permits have been obtained, or have been applied for and are pending issuance of the permit;

CHAPTER THREE

ENVIRONMENTAL CONVENTIONS AND TREATIES

3.1 Compact Of Free Association

The Republic of the Marshall Islands is signatory to a number of international Conventions and Treaties relating to environmental concerns.

The preeminent international document in RMI is the Compact of Free Association between the Government of the United States and the Government of the Republic of the Marshall Islands, which defines the relationship between the two sovereign nations following the termination of the United States Trusteeship. The people of RMI approved free association status by plebiscite in September, 1983. The United States Congress passed the agreement in January, 1986. The Nitijela approved the Compact and its subsidiary and related agreements by Resolution on February 20, 1986. The Compact came into effect on October 21, 1986.

The Compact broadly empowers RMI to join the community of independent nations in the conduct of its domestic and foreign affairs, while the United States is given responsibility for external military defense and security matters. The United States agreed to provide annual financial grants to RMI during the fifteen year period of the agreement for certain stated purposes, and established its right to lease certain islands of Kwajalein Atoll for the use of the United States Army Kwajalein Atoll (USAKA) Facility.

A key component of the Compact is the establishment at Section 177 of a compensation fund totalling \$150 million for loss or damage to property and persons of RMI resulting from the nuclear testing program conducted by the United States in the northern Marshalls between 1946 and 1958. The fund contains monies for the establishment of a Nuclear Claims Tribunal to settle compensation claims, for radiation-related medical surveillance and treatment programs, for radiological monitoring activities, and to provide assistance to the people of Bikini, Enewetak, Rongelap and Utrik Atolls through their local governing councils.

Under Title One, Article VI of the Compact, the United States and Marshall Islands Governments have pledged to "promote efforts to prevent or eliminate damage to the environment and biosphere and to enrich understanding of the natural resources of the Marshall Islands." To carry out this policy, the United States agreed to:

- * continue to apply the environmental controls in effect on the day preceding the effective date of the Compact to its continuing activities, until those controls are modified. (Compact Section 161(a)(1);
- * apply the *U.S. National Environmental Protection Act* to its activities in RMI as if the Marshall islands were the United States. (Section 161(a)(2);
- * apply environmental standards that are substantively similar to those required in 6 enumerated U.S. environmental statutes when conducting activities requiring the preparation of a U.S. Environmental Impact Statement. (Section 161(a)(3));
- * develop appropriate mechanisms, including regulations or other judicially reviewable standards and procedures, to regulate its activities governed by Section 161(a)(3). The alternate standards must account for the "special governmental relationship" between the RMI and the U.S., technical support from appropriate U.S. environmental agencies is required in the development of the standards, and RMI must be given the opportunity to comment during their development. (Section 161(a)(4)).

Reciprocally, the Marshall Islands, under Section 161(b) of the Compact, has an obligation to develop and enforce comparable environmental protection standards and procedures.

13.2 Existing Legislation

13.2.1 *Historic Preservation Act 1991* (HPA)

Introduced and passed in the most recent Nitijela session, the *Historic Preservation Act* promotes the preservation of the historic and cultural heritage of RMI by establishing the Historic Preservation Office (HPO) within the Ministry of Interior and Outer Islands Affairs. Powers and duties of the HPO include, but are not limited to, responsibility for:

- * issuance of denial of permits relating to land development and taking of artifacts;
- * identification and recording of cultural and historic properties throughout RMI;
- * conducting surveys and formulating national and local cultural and historic preservation plans; and
- * development, in concert with the National Archives, the Council of Iroij, and the Ministry of Education, of a list of traditional items prohibited from export.

The Act is sensitive to inclusion of the intangible heritage of the Republic within its spectrum of protections. "Culture" is defined broadly as "the traditions, beliefs, traditional practices, arts, crafts and other social institutions of the people of the Republic, or of a particular community within the Republic" (*Historic Preservation Act*, Section 3(8)). "Traditional sites" include "those sites, landmarks and locations to which oral traditions of the indigenous people of the Marshall Islands are attached" (*Historic Preservation Act*, Section 3(33)). "Oral traditions" are defined as "that body of knowledge of the indigenous people of the Marshall Islands about their past, including their beliefs, traditional practices (including traditional medicine and medical practices), skills, environment, and their spiritual world, which has been handed down, primarily in spoken form, from generation to generation" (*Historic Preservation Act*, Section 3(20)).

The Act establishes an Advisory Council for Historic Preservation, consisting of seven voting members representing four Ministries, RMIEPA, and two members of the general public. Two non-voting members, the Historic Preservation Officer and the Chairman of the Council of Iroij, serve in an advisory capacity.

Enforcement measures are comprehensive. Customs officers may search and seize any items reasonably believed to be prohibited for export. Violators of the Act are liable to a fine of not more than \$10,000 for each separate offence, or to a jail term of not more than six months, or both. Further fines may be imposed by the Court equivalent to the value of the lost or damaged historic site of tangible cultural property. Each day of continued violation constitutes a separate offence.

Section 27 of the Act is innovative, creating the title of "Dri Kabeel" as an official recognition of persons possessing traditional knowledge and skills. The bearer may be a Marshallese man or woman who is widely acclaimed to be the unsurpassed master in his or her field. The public may make recommendations, the chosen Dri Kabeel must agree to train one apprentice from one to five years in those skills for which the person has received the title, and the title is borne until death.

13.2.2 *Subsidiary Regulations to the Historic Preservation Act 1991*

Five sets of Regulations pursuant to the HPA have been proposed and enacted. All five sets have successfully undergone a late-1991 public comment period and public hearings. They were approved by Cabinet on January 16, 1992.

- (1) *Regulations Governing Access to Prehistoric and Historic Submerged Resources*

Negotiations regarding the development of "alternate standards" for U.S. Government activities in the Marshalls have been moving forward rapidly throughout 1990 and 1991. An initial draft set of standards should be available for review in January, 1992. (See Chapter 11, POLLUTION CONTROL for a more complete discussion of the draft USAKA alternate environmental standards.)

3.2 SPREP Convention

As a member government and active participant in the South Pacific Regional Environment Programme (SPREP), RMI was among the first countries to ratify the *Convention for the Protection of the Natural Resources and Environment of the South Pacific Region* (the *SPREP Convention*) and its two related protocols:

- * Protocol for the Prevention of Pollution of the South Pacific Region by Dumping; and
- * Protocol concerning co-operation in Combating Pollution Emergencies in the South Pacific Region.

Ratification of the *SPREP Convention* and related protocols occurred on May 4, 1987. The Convention's goals are to prevent, reduce and control pollution resulting from vessels, land-based sources, sea-bed activities, discharges into the air, disposal of toxic and non-toxic wastes, testing of nuclear devices, and mining. Further protections for fragile ecosystems and endangered species are contemplated. Convention language has been included in the draft USAKA Alternate Environmental Standards.

3.3 Maritime Conventions

In concert with RMI's enactment of the *Maritime Act 1987* (later replaced by the *Maritime Act of 1990* (P.L. 1990-94)), which provides in part for a Registry of Vessels of the Marshall Islands, on March 7, 1988, the Nitijela by Resolution accepted and approved the following maritime Conventions:

- * *Convention of the Safety of Life at Sea, 1974*, as amended; and its related protocol, 1976;
- * *Convention of the International Regulations for Preventing Collisions at Sea, 1972*, as amended;
- * *International Convention of Load Lines 1966*;
- * *International Convention for the Prevention of Pollution from Ships (MARPOL 1973/1978)*, as amended;

The tenets of the *MARPOL Convention*, although politically accepted and approved, have yet to be put into full practice in the Republic.

3.4 Driftnet Prohibition

On February 15, 1990, the Nitijela approved and accepted the *Convention for the Prohibition of Fishing with Long Driftnets in the South Pacific*, including the Protocols and associated instruments to the Convention. This Convention prohibiting long driftnet fishing was adopted in Wellington, New Zealand on November 29, 1989, at an international meeting attended by RMI. Although approved by the Nitijela, RMI has not yet ratified the Convention.

RMI further demonstrated its commitment to halting the spread of driftnet fishing by adoption of the *Marshall Islands Marine Resources Authority (Amendment) Act* of 1989, which prohibits the use and possession of driftnets from within the exclusive economic zone of the Republic.

CHAPTER THIRTEEN

CULTURAL HERITAGE

13.1 Administrative Structures

13.1.1 Ministry of Internal Affairs

The Ministry of Internal Affairs (IA) is the government agency responsible for the oversight of cultural affairs. The Historic Preservation Office (HPO) is located in IA, as is the Division of Cultural and Environmental Heritage. The Division's main implementing arm is the Alele, Inc., a non-governmental body employing a staff of approximately 20. The Secretary of IA acts as Chairman of the Alele Board of Trustees as well as the designated Historic Preservation Officer of the Republic. The Minister of IA serves as Chairman of the Advisory Council for Historic Preservation.

(1) Alele, Inc.

Alele, Inc. is a non-profit private corporation chartered in 1970, with quasi-government status granted in 1980. Its mission is to promote and conserve Marshallese culture, language, and oral traditions. Its seven-member Board of Trustees is comprised of four members elected from the Alele membership, and three ex-officio slots: the Secretaries of Education and Social Services, and the Secretary of IA, who Chairs all meetings.

(2) Historic Preservation Office

In 1976 the Historic Preservation Office (HPO) of the Marshall Islands District was organised under the Division of Lands and Surveys, Department of Resources and Development. In 1980 the HPO was placed under the Department of Island Affairs, the predecessor of the Present Ministry of Interior and Outer Islands Affairs. The Historic Preservation Office, established as part of IA by National Act in 1991, continues to receive direct block grant funding from the U.S. National Parks Service. The HPO, for purposes of administration, is accorded "state" status with the National Parks Service, thereby making the RMIHPO answerable to the U.S. Parks Service in all funding matters.

Nitijela Resolution 100, passed in 1990 by the 11th Constitutional Regular Session of Nitijela, provided for the creation of the HPO within the Ministry of IA. The Resolution stated the need for an HPO, declaring that "the cultural and historic properties and resources of the Republic, which include submerged resources, form a fragile, finite and nonrenewable resource that are subject to damage and destruction by patterns of modern land use, development and foreign impact, and which are therefore in need of preservation and proper management".

13.1.2 RMIEPA

RMIEPA has an abbreviated role in the protection of the cultural heritage of RMI. Having enacted the first Regulations to consider the protection of cultural resources (see *RMIEPA Earthmoving Regulations* below), RMIEPA environmental specialists worked in close coordination with the HPO in the issuance of RMIEPA Earthmoving Permits. Most permit applications were sent to the HPO for comment before being acted on by RMIEPA. As further Regulations pursuant to the *Historic Preservation Act 1991* are drafted, the HPO and RMIEPA are setting out on concurrent regulatory paths, with each office requiring separate sets of permit applications for activities which may have an impact on the nation's cultural resources.

3.5 Anticipated Ratifications

RMI is still a very young country, and has therefore not yet ratified a number of proposals of interest to its environmental community. Informal discussions in government circles have indicated some political interest in ratification of the following five agreements:

- * *Convention on International Trade in Endangered Species (CITES Convention)*
- * *London Dumping Convention*
- * *Migratory Bird Treaty*
- * *Convention on Conservation of Nature in the South Pacific (Apia Convention)*
- * *United Nations Convention on Law of the Sea.*

including customary landowner participation from the Iroij, Alap, and Dri Jerbal classes; enforcement powers; and the power to make regulations.

44. Determine the appropriate legislative vehicle for a protected areas system. Development of a national Act could coalesce RMI's commitment to sustainable development of its resources, but development of regulatory controls subsidiary to a current Act could put a protected areas system in place more expeditiously. Further, the placement of a protected areas unit within an already-existing framework could partially solve the search for funds which so frequently hampers the attempts at environmental protection.

Both the *Marshall Islands Marine Authority Act* and *National Environmental Protection Act 1984* could host subsidiary regulations designating protected areas. Pursuant to the *Marshall Islands Marine Authority Act*, management and control of living and nonliving resources could be construed to include responsibility for the establishment of marine parks or reserves. Pursuant to *National Environmental Protection Act 1984*, the preservation of natural aspects of the nation's heritage could include the development and oversight of a national parks and reserves system. As the *Marshall Islands Marine Authority Act* only pertains to marine reserves, and as *Marshall Islands Marine Authority Act* has the unenviable dual role of commercial fishing promoter and resource conservator, RMIEPA may be the appropriate regulatory authority. Current talks between the Ministry of Resources and Development and RMIEPA should resolve the question of appropriate administrative authority and the choice between national legislation or subsidiary regulation.

45. Any system of protected areas must maintain and support traditional rights and practices. All protection must first be recognized as appropriate and desirable by customary landowners. Because of the innovation of governmental regulatory control over private, customarily-held lands and waters, the uninhabited atolls of the far north may be the proper starting point for a comprehensive network of protected areas.

Conservation of living resources

46. Provide additional funding and training to promote effective management and enforcement of living resources legal protection.
47. Coordinate legislative efforts to conserve living resources.
48. Draft Marine resource conservation Regulations pursuant to the *Marshall Islands Marine Authority Act*.
49. Redraft and Update the *Endangered Species Act*. The Act is inadequately specific and insufficiently inclusive. Include a listing of RMI endangered and threatened species. Reexamine the ambiguous wording at Section 9 of the Act, incorporating CITES import restrictions.
50. Investigate political and regulatory requirements for RMI ratification of the *CITES Convention*.

Bokak, Bikar, Taka, Wotho, Rongerik and Erikub Atolls, and Jemo Island were all noted to harbour endangered species, natural ecological systems, or historic sites worthy of preservation. Bokak, or Taongi, Atoll was considered to have the most outstanding ecological value. Isolated and uninhabited, "it is a rare and possibly the only example of a completely natural, unaltered, semi-arid atoll ecosystem remaining in the world today" (Thomas 1988; p.(vi)).

This Survey, in conjunction with increasing environmental awareness on the part of the Marshallese people, has led to new interest in establishing Taongi (Bokak) Atoll and Bikar (Pikaar) Atoll as National Preservation Areas.

The Survey further proposed that nature conservation and protected areas should be elements of an overall National Conservation Policy. Such a policy should guide RMI development along sustainable paths, and serve as a formal declaration of the importance of conservation to RMI. The Survey also calls for comprehensive protected areas legislation and organizational changes to provide for the effective administration of the proposed legislation.

The recent unauthorized grounding of a Japanese fishing boat on Bokak Atoll highlights the need for protected areas legislation. Currently unprotected by specific legal language, the atoll may well have sustained a level of environmental damage that could not have been adequately recompensed. As it was, an out-of-court settlement with RMIEPA both compensated for environmental damage and provided RMIEPA seed money for its initial efforts to discuss protective procedures with northern landowners.

12.3.2 Conservation of living resources

In an atoll ecology, terrestrial resources are scant; marine resources are abundant. Both resources, however, suffer from rapidly increasing human population levels and their consequent infrastructure and development demands. Additional conservation efforts are necessary to adequately protect, conserve and manage RMI's living resources. Principles of sustainable development must be more vigorously incorporated in all development proposals and in the environmental community's responses to those proposals. Terrestrial and marine flora and fauna conservation efforts must be more fully incorporated into large-scale government development projects.

Aquaculture, mariculture, and aquarium fish harvesting activities will increase in the next decade. Uncontrolled harvesting activities create the potential for over-exploitation of marine resources such as trochus, black-lip mother-of-pearl oysters, and perhaps giant clams. Regulatory controls are required. All regulatory controls, however, must take into consideration takings for traditional purposes, much like language currently found in the *Marine Resources Act*.

Enforcement efforts under the present legislative framework for species conservation is not adequate. Enforcement is hampered by the vast geographical distances within RMI, by the lack of updated information on the species inhabiting RMI and which species require protection, and by the ubiquitous lack of funding and training which plagues most environmental protection efforts in the Republic.

12.4 Recommendations

Protected Areas

42. Draft comprehensive nature preservation legislation. Split species preservation and protected areas into two separate initiatives. This bifurcated approach allows full legislative and administrative attention to each of these crucial areas.
43. Legislation for the administration and protection of marine and terrestrial areas should contain several concepts, including the establishment of a protected areas agency, either as a subunit of a Ministry or as an independent authority; the setting out of certain areas as protected, with distinctions for differing uses; the development of advisory bodies,

CHAPTER FOUR

SYSTEMS OF LAND TENURE

4.1 Traditional Systems

The importance of custom in the life of the Marshallese people cannot be over-emphasized. Traditional lineage placement colours all Marshallese social and cultural arrangements; socio-economic status is often closely linked to a person's standing in traditional land inheritance patterns. The deference to custom is especially clear in regard to the subject of land rights and inheritances, a person's most valuable asset and an area of abiding cultural significance. Indeed, in an atoll society harbouring scant land-based resources, a person's land rights and privileges have always been and continue to be closely guarded and hotly contested. No analysis of current constitutional and statutory responses to the overriding issue of land tenure can be complete without a brief explanation of customary practices.

4.1.1 Interests and Responsibilities

In the Marshalls, land is divided into sections of varying width which run from lagoon to ocean, called "wetos". These strips divide the islets of each atoll into parcels roughly two to five acres in area. The wetos are held communally by lineage, or "bwij", members. Bwij members work and clear the land for horticulture. Generally, people live on their own land holdings (Tobin 1956; p.9).

Each member of the bwij holds one of several interests in the piece of land. Many of the interests are contingent upon a number of circumstances, including the fulfilment of obligations to those holding other interests. The four recognized classes of interests in land are:

- * the Iroijlaplap (Paramount Chief of certain lands) is the acknowledged owner and final distributor of all land interests under his jurisdiction. He need not be a member of the bwij inhabiting the land. Indeed, many of his holdings may be traced to former war victories or promises of protection. (Dunlap 1977; p.501). His word on land disputes is definitive. A portion of the produce of the land is offered to the Iroijlaplap as his entitlement;
- * the Iroijedrik (Lesser Chief of certain lands) is a sub-chief who acts as an intermediary between the Iroijlaplap and the Alap and Dri Jerbal. There is no Iroijedrik for the Ralik Chain of atolls;
- * the Alap (person in immediate charge of a piece of land) is the head of the bwij and is therefore in charge of the land and the workers on the land. The Alap represents the bwij in all negotiations with the Iroijlaplap or Dri Jerbal. She or he also collects a share of the food or money produced from the land (Tobin 1956; p.12);
- * the Dri Jerbal (worker on certain land) is the person who plants, clears and makes improvements on the land. In return, the Dri Jerbal and his or her immediate family live on the land and enjoy most of the fruits of their labour;

4.1.2 Matrilineal Succession ("Kora in Wonwon")

The majority of land in RMI is inherited matrilineally. Bwij members trace descent from a common Alap ancestress. The senior sibling in the senior lineage founded by a female ancestor serves as lineage head, or Alap, followed by all of the surviving brothers and sisters in chronological order. After all siblings have been Alap or have died, the next generation succeeds. The next generation Alap is the oldest child of the oldest daughter of the original lineage founder, followed by that child's siblings. The children of the founder's male children are excluded (Tobin 1956; pp. 16-18).

(5) Adopted Regulations; Title 45; Fish, Shellfish and Game: Chapter 5; Endangered Species

On December 4, 1976, a Regulation was adopted in the Territorial Register, Volume 2, Number 1, listing endangered species of the Trust Territory and their ranges. Currently in effect in RMI, this list includes the following species with RMI or pan-Micronesian ranges:

- * Blue Whale;
- * Sperm Whale;
- * Ratak Micronesian Pigeon;
- * Hawksbill Turtle;
- * Leatherback Turtle.

This Regulation is subsidiary to the *Endangered Species Act*. The Act provides for further subsidiary regulations to be issued by the Secretary of Resources and Development with the approval of the Cabinet. No such Regulations have yet been issued.

(6) *Marine Mammal Protection Act 1990*

This recent Act provides for the protection of dolphins and other marine mammals captured in the course of commercial fishing operations in the eastern tropical Pacific Ocean by flag vessels of the Republic. Section 2 recognizes that the RMI government finds marine mammals to be resources of international significance deserving of protection. Section 3 lists the species covered by the Act, including six dolphin species and any other species of small-toothed cetaceans captured in the course of commercial fishing operations.

The Act requires that RMI vessels fishing for tuna in the eastern tropical Pacific Ocean whose carrying capacity is four hundred tons or more obtain a vessel operating permit. The permit requires permittees to participate in an international program allowing researchers and observers to collect data regarding efforts to protect marine mammals.

Permittees must also perform a backdown manoeuvre when marine mammals are captured in a tuna net, must avoid the collapse of the net, must rescue and release marine mammals, must use strong lights in darkness to carry out marine mammal rescue procedures, must begin rolling the net to sack up no later than thirty minutes after sundown, and must restrict the use of explosive devices that influence the movements of dolphin. The Minister of Resources and Development is empowered to adopt necessary regulations pursuant to the Act.

12.3 Key Issues

12.3.1 Protected Areas

Much work remains to be done in the protection of species and development of nature preserves. Currently, there are no legally established protected areas in the Marshall Islands, nor is there any legislation for this purpose.

At the request of the Marshall Islands, in 1988 a multidisciplinary team of scientists and planners conducted a field survey of the biological diversity and ecosystems of six atolls and one island in the northern Marshall Islands. The primary objective of the survey was the assessment of the ecological condition of the atolls and island with a view toward determining their suitability as candidates for a system of protected areas in the Marshalls. "The Northern Marshall Islands Natural Diversity and Protected Areas Survey" pointed to a number of northern atolls which would benefit by designation as a National Preservation Area as well as World Heritage Sites.

A normal succession pattern is found in Figure 3 at the end of this Review. "A" is the female founder of the lineage, or Alap; numbers 1 through 10 set out the chronological order of succession.

In general practice, a person's ability to function as Alap is taken into consideration when a decision of succession is made. A female Alap, therefore, may find herself a titular head of the bwij, with the actual decision-making powers in the hands of her brothers or male relatives.

4.1.3. Traditional Land Alienation

In custom, there have arisen a number of alternate means to transfer lands. Generally, these land alienations result in the creation of new lineages (Dunlap 1977; p.504). A sampling of these categories of permanent land transfers are briefly listed by their Marshallese names:

- * Ninnen land is given by a father to his offspring, often just before his death. This form of patrilineal descent is a popular mechanism allowing a father to provide for his children in a matrilineal society. A new lineage is created consisting of the man's issue, not beholden to the old line. True to the Marshallese concept of communal ownership of land, unanimous consent of the original lineage is required for this type of transfer. Often, the prevailing matrilineal succession patterns are used to pass rights within the new lineage;
- * Imon Atto or Imon Tutu land is given to a person, man or woman, who performs personal services for the Iroijlaplap or the child of the Iroijlaplap;
- * Imon Aje land is literally "gift land", offered to a man or woman by the Iroijlaplap as thanks for their services. The land rights may pass in a traditional matrilineal succession or may pass patrilineally as ninnen land;
- * Kodaelem land is given by the Iroijlaplap to a man who sailed with him and performed the difficult task of bailing the outrigger for him. This type of land could be passed on through either the man's son or daughter, at his discretion (Tobin 1956: p. 39);
- * Metak in Buru land (literally "pain in the heart" land) is given to a former wife by the Iroijlaplap as a form of alimony. The land remains in the lineage;
- * Morojinkot land was given by the Iroijlaplap for bravery in battle to certain deserving warriors. The recipient alone could decide to give the land to the lineage for matrilineal succession or pass it down through the paternal side. The original recipient's decision was binding;
- * Kotra or Mo land is land in which all interests are owned personally by the Iroijlaplap. The Iroijlaplap may dispose of the land absolutely, with no other consents required;
- * Kitdre land is given by a man to a woman as a marriage gift. The gift, along with other customary Marshallese land transfers, requires unanimous consent of the bwij and the Iroijlaplap;

4.2 Transition to Independence

The Marshallese land tenure system endured through the Marshalls' years of colonial occupation. The Germans encouraged individual land ownership over lineage ownership, as well as supporting patrilineal inheritance patterns. The Japanese also favoured individual rather than communal ownership of land, but allowed the Marshallese landowners to divide and dispose of their lands in their traditional ways. The American administrators expected that an

(3) *Marshall Islands Marine Resources Authority (Amendment) Act of 1989*

This Act was passed in concert with RMI approval of the *Convention for the Prohibition of Fishing with Long Driftnets in the South Pacific*. It amends the *Marshall Islands Marine and Natural Resources Act* by inserting the words "drift net" into the category of prohibited fishing gear. "Driftnet" is specifically defined as a gillnet or other net which:

- * is more than 2.5 kilometres in length;
- * acts by enmeshing or entangling any fish or other marine life;
- * is used by being left to drift in or on the surface of the water; and
- * is not used while attached to any point of land or the sea bed.

(4) *Endangered Species Act*

This brief Act, passed in 1975 under the Trust Territory and subsequently adopted by Nitijela, provides for the protection of endangered species of fish, shellfish and game. It declares the indigenous plants and animals of the Republic to be of aesthetic, ecological, historical, recreational, scientific, and economic value, and states that the policy of the Republic is to foster the well-being of these plants and animals, including the prevention of the extinction of any species.

The Act is administered by the Secretary of Resources and Development. Administration includes authority to set up conservation and research programs aimed at conserving endangered and threatened species. It further includes authority to acquire land or aquatic habitats for the conservation of resident endangered or threatened species. To date, no conservation programs or habitat acquisitions have been effected.

The Act prohibits, with certain exceptions, any person from taking, engaging in commercial activity with, holding possession of, or exporting, any threatened or endangered species of plant or animal listed by regulation. Exceptions include:

- * takings for scientific purposes, with appropriate permits;
- * species which become a public nuisance or public danger;
- * species which have been commercially raised through mariculture, aquaculture, game farming, agriculture or horticulture;
- * where the Secretary determines that takings from certain islands of certain species for subsistence food or for traditional uses does not further endanger the species involved (limited to non-commercial takings by indigenous inhabitants);
- * innocent possession; and
- * nonliving species acquired before the Act became law.

The Act, in anticipation of RMI ratification of the *Convention on International Trade in Endangered Species* (CITES), prohibits imports into the Republic of any species which is listed by CITES. It further allows for a listing by regulation of CITES prohibitions.

A permit is required for importation of exotic plants and animals. The RMI Government may confiscate any endangered species of plant or animal, or any weapon, gear, or vehicle used for the purpose of violating the Act. Violators shall be liable to a fine not exceeding \$10,000 or to a term of imprisonment not exceeding one year, or both.

increase in individual land ownership and patrilineal succession would evolve naturally (McGrath and Wilson 1987; p.204).

The American administration attempted to protect Marshallese land interests by upholding customary land law. The first Trust Territory Code at Section 101 clearly states that the Code adopts "the customs of the inhabitants of the Trust Territory" as long as there is no conflict with statutory enactments. As the statutory enactments within the Code are largely silent regarding real property (with the significant exception of prohibiting ownership of land by non-Trust Territory citizens), the Code drafters seemed to intend the withdrawal of the full imposition of Anglo-Saxon notions of land ownership on the Marshallese people.

4.3 Constitutional Framework

4.3.1 Article X

The Marshall Islands Constitution unequivocally preserves traditional rights of land tenure. Article X of the Constitution declares that nothing in the Article II Bill of Rights "shall be construed to invalidate the customary law or any traditional practice concerning land tenure or any related matter in any part of the Marshall Islands, including, where applicable, the rights and obligations of the Iroijlaplap, Iroijedrik, Alap, and Dri Jerbal."

Article X further states that no person with land rights under customary law or traditional practice may alienate or dispose of that land without the approval of the Iroijlaplap, Iroijedrik where necessary, Alap and the Senior Dri Jerbal. This language is a key element of current efforts to preserve a communal way of life, for only the consent of all representatives of every interest in the land will allow the land to be validly transferred. This language also, of course, can impede quick transfers of real property and encourage protracted, complex land litigation.

4.3.2 Judicial Response

In anticipation of the inevitable land disputes, the Constitution mandated a special judicial body called the Traditional Rights Court. Established under Article VI, this Court consists of a Chief Judge and two Associate Judges. Each judge is appointed for a term of five years and is selected in such a manner that each of the classes of land rights and landholding interests are represented.

This special court is established to review substantial questions relating to titles or to land rights or to other legal interests depending wholly or partially on customary law and traditional practice. The jurisdiction of the Traditional Rights Court may be invoked only if a court certifies that a substantial question within its jurisdiction has arisen. The resolution of a certified question must be given substantial weight in the certifying court's disposition of the matter, but the resolution is not deemed binding unless the certifying court concludes that justice so requires.

4.3.3 Legislative Response

Traditional management structures attending to customary land issues are incorporated by the Constitution into the legislative system, as well. The Council of Iroij, described in Chapter 2, Constitutional and Administrative Structure, was established to ensure that decision-making powers over land remained with the hereditary, traditional chiefs of the Republic. The Council of Iroij, therefore, may consider and advise the Nitijela and Cabinet on any bill which affects customary law, traditional practice, land tenure, or related matters.

although established by statute, is still inchoate. Please see the Tourism Chapter of this Review, immediately following, for a more extended discussion of the *Tourism Act*.

12.2.2 Conservation of Living Resources

(1) *Marine Resources Act*

This brief Act has its source in the Trust Territory Code of the 1960s and 1970s. The Act provides for the control of destructive fishing methods, prohibiting the catching, possession, or sale of any fish or other marine life by means of explosives, poisons, chemicals or other noxious substances. In recognition of customary practices, destructive fishing methods do not include use of local roots, nuts, or plants which have the effect of stupefying but which do not kill fish or other marine life.

The Act also sets limitations on the taking of hawksbill, green and sea turtles. Section 3(1) of the Act forbids the taking or killing of hawksbill turtles, sea turtles, or their eggs while on shore. A hawksbill turtle may not be taken or killed unless its shell is at least 27 inches, measured lengthwise over the top of the carapace. No green turtle may be taken or killed whose shell is less than 34 inches over the top of the carapace. No sea turtle of any size may be taken or killed from June through August, nor from December through January. Sea turtles and their eggs may be taken for scientific purposes when specifically authorized by the Cabinet.

This Act also prohibits the taking or molestation of artificially planted or cultivated sponges, and sets size and seasonal limitations on the taking of black-lipped mother-of-pearl oysters. No black-lip oyster shells may be taken from August through December. In any case, no taking is allowed if the shell is less than four inches in minimum diameter, as measured across the nacre.

Penalties are trifling; violators are liable to a fine of not more than \$100 or to a term of imprisonment for not more than six months, or both.

(2) *Marine Resources (Trochus) Act 1983*

This Act was passed in 1983 to regulate the harvesting of trochus and to license the permitted taking of trochus in open season. The Act applies to the internal and the territorial waters of the Republic. The *Marine Zones (Declaration) Act 1984* defines those waters to include all waters within atolls, between atolls, and within 12 nautical miles of the RMI baseline, defined as the low water line of the seaward side of the reef fringing the coast of any part of RMI.

Section 4 of the Act prohibits the taking or harvesting of trochus, or any intentional or reckless interference with its growth. Cabinet may declare an open season of trochus which may not exceed 3 months in any period of 12 months. Trochus may be taken during open season in only two manners:

- * taking by a citizen of RMI living in an area in which he or she has a right to fish in accordance with customary law; or
- * under a MIMRA fishing license that specifically authorizes the taking of trochus.

Even a taking under custom does not extend to the harvesting of trochus whose shell is less than three inches in diameter at the base.

Mariculture is encouraged in Section 7. The Minister of Resources and Development may grant a permit for the removal and transplanting of a trochus bed for the purpose of its introduction or propagation in any other area.

Penalty provisions state that contravention of this Act shall be treated in the same manner as *Marshall Islands Marine and Natural Resources Act* violations.

4.4 Statutory Land Enactments

4.4.1 *Real and Personal Property Act*

Section 13 of *RMI's Real and Personal Property Act* follows the Trust Territory Code by boldly stating that only RMI citizens, citizens' wholly-owned corporations, and the government of the Republic may hold title to RMI land. Leasehold interests are available to non-citizens.

4.4.2 *Public Lands and Resources Act*

The *Public Lands and Resources Act*, also traced back to Trust Territory times, defines "public lands" as those formerly owned or held in trust by the Japanese government, and those acquired by the government of the Republic for public purposes. The Act goes on to state that all marine areas below the ordinary high watermark belong to the government, thereby confirming a former tenet of the Japanese and German administrations. Exceptions to RMI government ownership include the reinstatement of customary ownership rights in fish weirs or traps, materials deposited on the beach by water action, on-shore building construction, or any other customary rights to the shore line and near-reef areas abolished by the Japanese administration.

This law has not yet been tested in the courts of the Republic, and the section relating to government ownership below the high watermark does not enjoy widespread community acceptance. As it is the policy of the RMI government to return public land whenever feasible to its original customary owners, very little of the land in RMI is considered to be public.

4.4.3 *Land Acquisition Act 1986*

A recent entry on the statutory scene, this Act makes provision for government acquisition of lands for public use and for the payment of just compensation for the land, in compliance with the "takings" provisions of the Constitution of the Marshall Islands (Article II, Section 5). Rarely invoked, this Act is expected to increase in importance as public uses of land become more common and usable land becomes more scarce.

4.5 Key Issues

Land is considered by Marshallese to be their most valuable asset (Tobin 1956; p.3). Land ownership rights, present and future, determine a person's place in Marshallese society; land disputes continue to be the root cause of almost all immediate and extended family schisms. With land matters so preeminent in the minds of RMI citizens, it is no wonder that many Western development schemes dependent on quick acquisition of land are viewed with caution. Traditional Western concepts of individual, absolute land ownership and consequent individual determination of land development frequently encounter a slower, consensus-building approach to land use based on communal decision-making. These encounters between Western and Marshallese attitudes towards land ownership and development often result in lengthy delays between a development concept and its reality.

Just as many development schemes are slowed by questions of land ownership, so too is governmental regulatory oversight hampered. Environmental oversight of private communally-owned land, the exercise of which essentially instructs landowners in the allowable uses of their own property, has remained unpopular in many traditional circles. Strong resistance to zoning and other "intrusions" onto private land continues to the present time.

Well-meaning government entities concerned with land use and environmental protection must focus on customary land issues in order to function effectively. These agencies must embark on significant public education efforts designed to promote the positive aspects of planned land development. Such efforts will require an extended process of community consensus building. Laws enacted without that foundation risk public rejection.

CHAPTER TWELVE

BIODIVERSITY CONSERVATION

12.1 Administrative Structures

Although MIMRA is given statutory authority to conserve and manage the living resources of the Republic, the young Authority has devoted much of its initial energy to the development of commercially viable fisheries activities. Concurrently, RMIEPA has been given the authority to regulate and preserve natural aspects of the nation's heritage, but pressing urban environmental issues in Majuro have taken the bulk of the agency's time. The protection of both marine and terrestrial areas, therefore, has not received priority attention by governmental agencies in recent years. Species protection has also been limited.

The need for a national resource conservation policy has become urgent. Discussions are now being held between the Ministry of Resources and Development, MIMRA, and RMIEPA to determine the best administrative placement of a resource conservation unit.

12.2 Existing Legislation

12.2.1 Protection of Marine and Terrestrial Areas

(1) *Marshall Islands Marine and Natural Resources Act 1988*

Section 11(1)(a) of the *Marshall Islands Marine and Natural Resources Act* plainly states that the initial power and duty of MIMRA is "to conserve, manage and control the exploration and exploitation of all living and nonliving resources in the Fishery Waters, seabed, and subsoil thereunder, in accordance with the principles and provisions of this Act". "Living resources" are defined to include any finfish, mollusk, crustacean, coral, beche-de-mer, turtles and their young and eggs, and all other forms of marine animal and plant life other than marine birds. No regulations have yet been drafted or enacted to designate protected marine areas or to conserve living resources pursuant to the *Marshall Islands Marine and Natural Resources Act*.

(2) *National Environment Protection Act 1984*

Section 19 of the *National Environment Protection Act* states that the primary purpose of RMIEPA is to preserve and improve the quality of the environment, and sets forth objectives for the Authority. Many of these objectives speak to protection of marine and terrestrial areas, including:

- 19(c) to use all practicable means including financial and technical assistance to foster and promote the general welfare of the people by creating conditions under which mankind and nature can coexist in productive harmony; and
- 19(g) to preserve important historical, cultural and natural aspects of the nation's culture and heritage, maintaining at the same time an environment which supports multiplicity and variety of individual choice.

No regulations have yet been drafted or enacted to designate protected marine or terrestrial areas pursuant to the *National Environment Protection Act*.

(3) *Tourism Act 1991*

A very recent addition to the legislative scene, this Act establishes a Marshall Islands Visitors Authority with power to identify and recommend likely conservation areas with tourism potential. The Visitors Authority is empowered to work in association with any body that may be charged with specific responsibility for land or marine protected areas. The Authority,

CHAPTER FIVE

ENVIRONMENTAL PLANNING AND ASSESSMENT

5.1 Administrative Structures

5.1.1 National Environmental Protection Authority

The National Environmental Protection Authority (commonly referred to as RMIEPA), created by statute in 1984, is an independent authority legislatively linked to the Ministry of Health Services and fully-funded by the RMI government. After spending its first few years working in concert with the Sanitation Office of the Ministry of Health Services, in the past three years RMIEPA has moved into its own offices and emerged as the preeminent agency responsible for environmental protection and management.

The day-to-day management of RMIEPA is overseen by the General Manager. Twelve employees are responsible for numerous program activities, including public education, laboratory analyses, pollution control, nature preservation, and regulatory oversight of solid wastes, earthmoving, water quality, toilet facilities, and pesticides activities. (See Figure 4.) Broad policy directions are provided by five "Members of the Authority" who function as a Board of Directors. The Members of the Authority include four representatives from Majuro Atoll and one representative from Ebeye, Kwajalein Atoll. The Chairperson of the Authority is also the current Secretary of Foreign Affairs for the Republic.

RMIEPA is charged with a wide array of environmental tasks that affect a number of the environmental areas discussed in this Review. A general overview of the Authority's enabling legislation is therefore offered at 4.2 below as a preamble to specific discussions of environmental planning and assessment in this Chapter.

RMIEPA has been given expansive objects, powers, functions and duties. The breadth of its mission requires RMIEPA to interact with all government Ministries, and public and private bodies on a national and international basis. This requirement for an interdisciplinary, multi-level approach to environmental management often stretches RMIEPA's resources beyond their fiscal and technical limits. Although RMIEPA's mandate extends far and wide, as may be ascertained by the listing of functions and objectives below, in many arenas RMIEPA's touch is of necessity very light indeed.

5.1.2 Office of Planning and Statistics (OPS)

The Office of Planning and Statistics was established in 1980 under the Trust Territory government, and is divided into a Planning Division, Statistics Division and a Plan Implementation Division. The Office is within the President's portfolio and operates under the purview of the Chief Secretary. The Office is headed by the Chief Planner, who participates on a number of government Boards. The Chief Planner is an active Member of the Environmental Protection Authority.

The codification of zoning requirements has been the responsibility of the Physical Planning Unit under the Office of Planning. In existence from 1984-1987, the Physical Planning Unit accomplished the passage of the *Planning and Zoning Act 1987*. That Act required Local Council Planning Commissions to be created. At present, however, there is no Physical Planning Office at the national government level and the Local Councils have no physical planners.

5.2 Existing Legislation

5.2.1 *National Environmental Protection Act 1984 (National Environmental Protection Act 1984)*

(1) Overview

11.4 Recommendations

Better Littering Enforcement

39. Enforce local and national waste management provisions. Currently, RMI has littering prohibitions at three levels: by local ordinance, by national Act, and by RMIEPA solid waste regulations. Marshallese mediation efforts may produce consensus on the entity primarily responsible for enforcement. Enforcement must be coupled with vigorous public information campaigns on the environmental and public health risks associated with inadequate solid and liquid waste disposal.

Local Ordinances

40. Develop Local Council ordinances requiring mandatory deposits on Aluminium cans or restricting use of certain non-biodegradable consumer products.

Expand Hazardous Waste Standards

41. Redraft *RMIEPA Solid Waste* to provide stronger, more explicit hazardous waste standards, including specific standards for collection, storage and disposal of hazardous wastes.

National Environmental Protection Act was enacted by the Nitijela on December 19, 1984. It has developed over the past seven years as the primary legislative tool for environmental protection and management in RMI.

Part II of *National Environmental Protection Act* establishes RMIEPA as an independent statutory authority, subject to the political direction of the Minister of Health Services. Part III sets out the objects, policies, powers, functions and duties of the Authority. The objectives are quite broad, including:

- * the study of the impact of human activity on natural resources;
- * the prevention of degradation or impairment of the environment;
- * the regulation of individual and collective human activity in such manner as to ensure to the people safe, healthful, productive, and aesthetically and culturally pleasing surroundings; and
- * the preservation of important historical, cultural and natural aspects of the nation's culture and heritage, maintaining at the same time an environment which supports multiplicity and variety of individual choice.

The Authority has broad general powers to regulate, as well as to acquire property, expend monies, borrow money, accept grants, prosecute offenders, and enter into establishments for an array of purposes. Regulations may be made with respect to:

- * primary and secondary drinking water;
- * pollutants;
- * pesticides and other harmful chemicals;
- * hazardous waste, including the storage and disposal of nuclear and radioactive waste;
- * the preservation of important historical, cultural and natural aspects of the nation's heritage;
- * other aspects of the environment which may be required.

Functions and duties of the Authority include formulating the following, in consultation with the appropriate Ministries: a Land Use Scheme, a policy of management and conservation of RMI's natural resources, a system of rational fisheries and aquatic resources exploitation, and appropriate soil conservation programs.

Provisions are made at Part VI for an Environmental Advisory Council, appointed by the Minister of Health Services, consisting of 11 members representing all major national Ministries and one member each from private industry and the general public. The Council was intended to function as an adviser the Authority. To date, the Minister has not yet appointed the members of the Council and it is not a functioning entity.

(2) Enforcement powers

Adequate enforcement of environmental statutory provisions and subsidiary regulations is a pervasive problem in RMI as well as in many other parts of the developing Pacific. Although fiscal and technical constraints remain troublesome for RMIEPA, the legislative enforcement powers delineated in Part VII of the *National Environmental Protection Act* are flexible and strong.

Type 1: A toilet flushed with water and connected to a sewerage system available to the public;

Type 2: A toilet which is flushed with water and connected to a septic tank;

Type 3: A pit privy or outside benjo.

No building construction, public or private, may be initiated without first obtaining a permit from RMIEPA providing that the toilet disposal facilities intended to serve that building will be in compliance with these Regulations. The Regulations include sample figures of typical septic tank shapes, typical single compartment septic tanks, absorption fields, water seal toilets, and ventilated improved pit (VIP) latrines.

11.3 Key Issues

11.3.1 Solid Waste

Increasing population pressures and increasingly available non-biodegradable materials have exacerbated Majuro and Ebeye's solid waste disposal problems. Additional government attention to public landfills and community attention to littering problems are necessary. Communal land ownership systems require active landholder participation in any government-initiated solid waste reduction proposals.

Over the past four years RMIEPA has conducted periodic community meetings with local government, civic and landholding leaders to organize regularly-scheduled clean-up campaigns. These meetings have provided valuable outreach for RMIEPA programs and have increased community awareness of solid waste disposal and reduction issues.

The two largest landfills in RMI are the Majuro and Ebeye disposal facilities. The "Majuro Dump" has been in operation since 1989. Permitted by RMIEPA, the dump has undergone two expansions. The disposal facility currently comprises 23,000 cubic yards along the oceanside of a long, narrow islet in central Majuro Atoll. Buttressed by gabions along the ocean perimeter and fenced on the other three sides, the dump is neither lined nor adequately covered. RMIEPA Permit requirements of daily sand coverage, prohibitions on burning, and restrictions on gabion placement are only infrequently followed.

The Ebeye landfill is also inadequately maintained. Located near lagoon and ocean waters, leaching is inevitable, and wind-tossed debris frequently finds its way into surrounding waters. Unprotected by fencing, liner or cover, the dump is also vulnerable to human scavenging.

11.3.2 Liquid Waste

Recent improvements in sewerage systems on Majuro, Ebeye and Gugeegue have resulted in increased public access to saltwater toilet flushing systems. Sewage facilities remain inadequate, however, in most areas of RMI. Many urban and rural households rely on substandard septic tanks, absorption fields, and pit latrines. Large percentages of both urban and rural households have no toilet facilities at all. Widely-practiced customary habits of using beaches and shorelines as toilets increase coastal water pollution problems.

11.3.3 Waste Reduction

Aluminium recycling is in its infancy in RMI. Although over seven million cans per year find their way to the Republic, recycling is currently handled on a voluntary basis in support of a school consortium fund-raising effort. RMIEPA has requested monetary support from SPREP to buy an Aluminium can crusher. Further solid waste reduction needs include programs for recycling or disposal of waste oil and automobile battery fluid.

A number of enforcement options are available under the *National Environmental Protection Act* at Section 45. The Authority may make a Cease and Desist Order in relation to the subject matter of the violation, may further impose a civil monetary penalty (a fine) not exceeding \$10,000 for each day of violation, may institute civil proceedings in court to restrain the violation, or may employ a combination of those actions. Section 45 therefore allows the Authority to issue an Order not only requiring a person to cease and desist from violations of RMIEPA regulations, but also imposing a civil penalty for each day of violation.

Courts have generally upheld the enforceability of out-of-court administrative penalty provisions, especially in the area of environmental protection. The primary limitation on such penalties is that they must be reasonable when viewed in relation to the violation for which they are assessed.

The importance of the Authority's power to assess monetary penalties becomes apparent when considered from the standpoint of judicial enforcement. Without an administrative civil penalty assessment, if a person fails to comply with a properly issued Cease and Desist Order, the remedy is to seek judicial enforcement of the Order. If the court upholds the Order and issues an injunction prohibiting further violations, the violator is in no worse position than if he or she had obeyed the Order in the first place. Aside from the possibility that he or she will be assessed costs for the lawsuit, the violator has little incentive to obey the Authority's Order.

As an alternative to out-of-court administrative remedies, the Authority may, of course, sue for damages arising out of the violation (for example the costs it incurs to repair damage caused by violations). Such court-imposed damages, however, may not adequately serve to penalize violators. In addition, recovery may require the Authority to first incur costs. The Authority may also request that the court impose its own civil penalty. It is likely, however, that there will be wide divergence and little consistency in the amount of penalties various judges are willing to assess for what may be similar violations. Fines kept within the control of RMIEPA are standardized, following explicit civil penalty assessment policy guidelines. From the standpoint of consistency and timeliness, use of the administrative process for enforcement has often been found preferable to filing suit in court.

(3) Environmental impact assessments

The *National Environmental Protection Act* Part IV delineates general rules as to governmental action regarding environmental impact assessments. Section 33 requires that all Ministries and agencies of government, in all matters in which there is or may be an environmental impact, shall "include in every recommendation or report on proposals for legislation and other major governmental action significantly affecting the human environment, an environmental impact statement...." Government is also given the responsibility of using an approach to decision-making that takes "traditional wisdom" and "environmental values" into account when considering development projects (*National Environmental Protection Act*, Section 33(a),(b)).

Environmental impact statements are further defined in Section 34. The *National Environmental Protection Act* requires the responsible government official to submit a detailed statement on:

- * the environmental and cultural impact of the proposed action;
- * any adverse unavoidable environmental effects of the proposal;
- * alternatives to the proposed action;
- * the relationship between local short-term uses and the maintenance and enhancement of long-term productivity; and

11.2 Existing Legislation

11.2.1 *Littering Act 1982*

This national Act prohibits littering, defined as "the unauthorized dumping, throwing away, placing or leaving of refuse of any kind, or any object or substance which tends to pollute, mar or deface, and includes a vehicle or a part of a vehicle." (*Littering Act*, Section 2(a)). The Act excludes parked vehicles and items left in trash receptacles or on refuse dumps. A person who litters in a public place, on any private land, on a beach, the foreshore, a lagoon, or in the sea (if the item can be carried back to land or into a lagoon), is guilty of an offence. Penalties are set at fines of not less than \$50 nor more than \$1,000, or imprisonment for not more than six months, or both. In addition, the court may order the offender to remove and properly dispose of any item dumped, thrown away, placed or left improperly.

A police officer may arrest a transgressor without a warrant, and may seize the item improperly dumped. Likewise, the owner of any private property on which the thing is dumped may seize or otherwise dispose of the item, with expenses incurred recoverable against the violator.

11.2.2 *RMIEPA Solid Waste Disposal Regulations*

These Regulations were promulgated pursuant to the *National Environment Protection Act* and took effect on August 25, 1989. The purpose of the Solid Waste Regulations is to establish minimum standards governing the design, construction, installation, operation, and maintenance of solid waste storage, collection and disposal systems.

"Solid waste" is defined as "garbage, refuse, and other discarded solid materials", not including substances in water sources, but including such liquid waste materials as waste oil, pesticides, paints, solvents, and hazardous waste. A "disposal system" means the entire process of the storage, collection, transportation, processing and disposal of solid waste by any person or authority.

Any person operating a solid waste disposal facility must apply for a permit. Private waste disposal systems, including systems on the premises of a one or two family residential property, a farm, or a private landfill site for non-decomposable material, do not require a permit, but do require the written approval of RMIEPA.

11.2.3 *Public Health, Safety and Welfare Act*

An Act devised by the Trust Territory government and saved by RMI, this piece of legislation establishes a health services sector divided into three sections: Public Health, Sanitation, and Mental Illnesses. The Sanitation section is responsible for inspection and control of latrines and toilets, limiting accumulations of rubbish, and establishing standards to be maintained in food service establishments. Sanitation standards may be established for all places of business, for medical examinations and immunizations, for sources of ionizing radiation, and for the halt of introduction of disease by insects entering RMI on aircraft.

11.2.4 *RMIEPA Toilet Facilities and Sewage Disposal Regulations*

These Regulations were promulgated pursuant to the *National Environment Protection Act*, and took legal effect on February 24, 1990. The purpose of these Regulations is to establish minimum standards for toilet facilities and sewage disposal to reduce environmental pollution, health hazards, and public nuisance from such facilities.

It is generally required that all public buildings or any buildings which may be used for dwellings, shall have toilet and sewage facilities in accordance with these Regulations. Standards are established for the following types of toilet and sewage facilities:

- * irreversible and irretrievable commitment of resources necessitated by the proposed action.

Before making the impact statement, the responsible official must obtain the comments of the interested public and all departments of government having jurisdiction or expertise in the area. Further, the public must be given a reasonable time to inspect the statement before the government completes its decision-making process.

5.2.3 *Coast Conservation Act 1988*

This Act was passed by the Nitijela in September, 1988. The Act is a strong environmental statement that makes provision for a survey of the coastal zone and the preparation of a coastal zone management plan, regulates and controls development activities within the coastal zone, and makes provisions for the formulation and execution of schemes for coast conservation.

"Coast conservation" means the protection and preservation of the coast from sea erosion or encroachment of the sea, including the planning and management of development activity within the coastal zone. "Development activity" is defined as any activity likely to alter the physical nature of the coastal zone in any way, including the construction of buildings and works, the deposit of wastes or other material from outfalls, vessels or by other means, the removal of sand, coral, shells, natural vegetation, sea grass or other substances, dredging and filling, land reclamation and mining or drilling for minerals, but does not include fishing. The "coastal zone" is defined as the area lying within twenty-five feet landward of the mean high water line and two hundred feet seaward of the mean low water line. Although narrow, this zone covers much of the usable and desirable territory of the 70 square miles of RMI. The narrow, ribbonlike atoll land masses in RMI are, to a great extent, comprised of coastline falling within the meaning of this Act's "coastal zone".

The Director of Coast Conservation (who under the Act may be the General Manager of the Environmental Protection Authority), is responsible for submitting a comprehensive Coastal Zone Management Plan within three years of the date of operation of the Act. The Director may also issue permits for proposed development activity consistent with the Management Plan, and may require a permit applicant to furnish an environmental impact assessment relating to the development activity.

5.2.4 *Planning and Zoning Act 1987*

This national Act requires every local government Council under its purview to establish a Planning Commission and a subsidiary Planning Office. The Act applies to the local government Councils of Majuro Atoll and Kwajalein Atoll, the two most heavily populated atolls, and any other local government Council that may be declared to be governed by the Act by the Minister of Interior and Outer Islands Affairs.

The Commission is designed to function as an advisory body to the local government Council in all matters relating to planning and zoning. It consists of the Mayor, two other members of the Council and two landowners from the local Council area. The Planning Office functions under the Council for the administration of the day-to-day affairs of the Commission. Little statutory direction is offered concerning the status of the landowners and the role which they should play in Council deliberations. Clarification as to whether the landowners should represent the iroij, alab, or drijerbal class interests would be helpful.

The National Government Chief Planner may act as an adviser to the local government Councils in setting environmental standards for municipal areas, in formulating housing schemes, and in the demarcation of zones and areas for better planning, environmental protection and landscaping. Indeed, if any local governments fail to appoint a Planning Commission or fail to make ordinances for proper planning and zoning, the Minister may appoint the Government Chief Planner to perform those functions on behalf of the local Council. Such an appointment has not occurred to date.

CHAPTER ELEVEN

WASTE MANAGEMENT

11.1 Administrative Structures

11.1.1 National Government

(1) Ministry of Public Works

The Ministry of Public Works is the national government agency responsible for the collection and disposal of solid waste. A solid waste disposal facility located on Majuro Atoll, and appropriately named "The Island Dump", is managed by Public Works personnel. Public Works staff are responsible for daily coverage, compacting, grading, and guard duty at the disposal site. Plagued by inadequate funding and sporadic equipment failures, the Ministry has ceded control of solid waste collection on Majuro to the Majuro Atoll Local Government Council (MALGOV).

(2) RMIEPA

RMIEPA, through its enabling legislation, is granted oversight authority for waste management efforts. RMIEPA issues Solid Waste Disposal Facility Permits, and monitors both public and private landfills. Two environmental specialists work with the General Manager, the Ministry of Public Works, MALGOV, and the local community in the control and management of solid wastes. The RMIEPA Public Education Office also works toward better public participation in waste reduction efforts.

Through a Memorandum of Agreement, RMIEPA houses and supervises the six-person staff of the Division of Environmental Health and Sanitation (DEHS) within the Ministry of Health Services. DEHS functions in regard to waste management include solid waste disposal oversight, water-seal toilet construction and training, and inspection and enforcement of *RMIEPA Toilet Facilities and Sewage Disposal Regulations*.

11.1.2 Local Government

(1) Majuro Atoll Local Government (MALGOV)

In an informal agreement between the Ministry of Public Works and MALGOV, MALGOV currently controls the pick-up and delivery of Majuro business and household garbage to the Majuro Dump. MALGOV has allotted a significant portion of its budget to upgrade its solid waste disposal programs.

(2) Kwajalein Atoll Local Government (KALGOV)

KALGOV and the Kwajalein Atoll Development Authority have developed excellent relations with local landowners in regard to anti-littering efforts. Cooperative efforts between local government and private citizens have resulted in effective solid waste clean-up campaigns on Ebeye Island. This clean-up is especially impressive when considered in the context of the overcrowding and inadequate sanitary conditions endemic on the island. The Ebeye dump, however, remains poorly maintained.

(3) Rural Sanitation Project (RSP)

Funded by USEPA and originally administered by RMIEPA, the Rural Sanitation Project was developed to improve rural sanitation standards by providing outer atoll households with water catchments and water-seal toilets. The project was initiated in 1988 at Arno Atoll; upon completion of the Arno portion of the Project, management of RSP was transferred to MIDA. In 1991-92, RSP moves to Ailinglaplap Atoll.

Majuro Atoll, home to roughly two-fifths of the Marshallese population, may, under Part II of this Act, be divided into zones prepared by the local Council in consultation with the Government Chief Planner. The zones' objectives include promotion of a harmonious interrelationship of land use, the preservation of the natural landscape and environment, and identification of appropriate locations for recreational areas and parks. Zoning areas may be divided into the following zones: Residential, Commercial, Industrial, Resort, Public, and Watershed. Building permits, sorely needed in Majuro, are also contemplated in Part III. Indeed, as the urban population expands and the resultant building boom surges ahead, the need for appropriate zoning and building codes has become increasingly urgent. Building codes and zoning divisions have yet to be implemented.

5.3 Key Issues

5.3.1 Environmental Impact Statements - *National Environmental Protection Act* Requirements

Although the *National Environmental Protection Act 1984* requires environmental impact assessments on proposed government development projects, very few have ever been issued. RMIEPA continues to liaise with government Ministries in an attempt to increase awareness of this aspect of the Act. Indeed, promotion of the concept of the desirability of environmental impact assessments has emerged as one of RMIEPA's most important functions. Although RMIEPA's role in national environmental planning and assessment has increased in the past year as its public posture has grown, the Authority still suffers from being included too late in the process of government assessment of major projects. National government is often overburdened by potential development projects, so that many projects never receive the required environmental scrutiny. Environmental oversight is impeded as well by the lack of a functioning Environmental Advisory Council. A great deal of legal and administrative work remains to be done within RMIEPA and government Ministries before a strong national assessment program is put into place.

The legal requirements for an environmental impact statement found in the *National Environment Protection Act* take care to include opinion drawn from a broad range of governmental and non-governmental sources. Such an interdisciplinary approach seems an excellent method of assessing environmental impacts of large government projects. This aspect of the *National Environment Protection Act*, however, has rarely been invoked.

The *National Environment Protection Act's* wording is vague in regard to exactly what sort of proposal requires an environmental impact statement. The statute requires a statement "in all matters in which there is or may be an environmental impact" (*National Environment Protection Act*, Section 33), and it requires such a statement to be included "in every recommendation or report on proposals for legislation and other major governmental action significantly affecting the human environment" (*National Environment Protection Act* Section 33(c)). The breadth of these requirements mitigate against their serious undertaking.

Further, the *National Environment Protection Act's* specific requirements for the statement's contents are also insufficiently spelled out. The length and detail of the document are left to the author's discretion, as opposed to the very specific requirements spelled out in United States environmental impact assessment regulations. Further, there are no distinctions made between requirements for large-scale and small-scale development projects.

Finally, the government official responsible for drafting the environmental impact assessment and obtaining the comments of the public and departments of government is not adequately defined. Is the Minister of Government whose Ministry is proposing the action responsible, or is his or her Secretary the responsible party? Frequently, large-scale government development projects are funded by outside sources. Regardless of whether these sources are international aid donors or private for-profit enterprises, they generally have access to greater technical and monetary resources than does the host government. Perhaps they, then, should bear the

10.4 Recommendations

Enhancement of RMIEPA water quality testing facilities

33. Plan and implement a water monitoring program for appropriate oversight of the new Gugeegue water supply system. Expand coastal marine water monitoring and outer atoll fresh water monitoring. Provide funding for transportation and equipment. Trained RMIEPA staff to act as resource people in development and maintenance of local water protection guidelines.

Marine and Fresh Water Quality Regulations

34. Initiate public information and education campaigns regarding *RMIEPA Marine Water Quality Regulations*. Disseminate the Marshallese summary of the regulations.
35. Draft *Fresh Water Quality Regulations* that increase fresh water and groundwater protections pursuant to *National Environmental Protection Act 1984*.

MIPDES Regulations

36. Draft *Marshall Islands Pollutant Discharge Elimination System (MIPDES) Regulations*. Pursuant to Part V of the RMIEPA Draft *Marine Water Quality Regulations*, any point source of discharge in RMI marine waters requires a *MIPDES* Permit from RMIEPA. The Regulations should establish general and specific criteria to limit point source discharges of pollution into RMI marine waters. They should further establish a system for issuing, modifying, revoking, reissuing, terminating, monitoring and enforcing *MIPDES* Permits.

Building Codes

37. Draft new building codes. The *Planning and Zoning Act 1987* makes provisions for the development of planning, zoning, and building codes by local government Councils, with the assistance of the Government Chief Planner. Building codes drafted under this authority should require fresh water collection and storage facilities to be incorporated into all new construction projects.

PCB waiver

38. Return PCB-contaminated transformers, imported to RMI from the U.S. during the United States' administration of the Marshalls, to the United States for disposal. Urge the United States Government to assume responsibility for the return shipment and safe disposal of all U.S.-imported PCB wastes discovered in RMI.

financial burden of producing an environmental impact statement on the proposed project. The *National Environment Protection Act* does not adequately address these issues.

5.3.2 Environmental Impact Assessment and Coastal Zone Plan - *Coast Conservation Act* Requirements

The *Coast Conservation Act* is now four years old. It has not yet been implemented, partly because of the limited resources allocated to environmental efforts and partly because it is such a new initiative for the RMI. The breadth of RMIEPA's mission and lack of adequate funding has impeded the Authority from specifically attending to this Act's requirements. Although the General Manager of RMIEPA is required to submit a comprehensive Coastal Zone Management Plan within three years of the Act's effective date, development of such a plan has yet to begin.

It is becoming increasingly clear that fragile coral reefs are at risk in the urban areas of Majuro and Kwajalein Atolls. Adequate legal protection is required. Regulations under the *Coast Conservation Act* are especially necessary in two areas: to prescribe the categories of development activity which may be engaged in within the coastal zone without a permit, and to detail the particular requirements of coastal environmental impact assessments. The *National Environment Protection Act* environmental impact assessment requirements are currently as general as the *Coast Conservation Act* requirements; both Acts need regulations setting forth specific standards. Indeed, environmental impact assessment regulations for the two Acts should be drafted in concert, including as many identical provisions as possible, for the sake of consistency and clarity.

5.3.3 Environmental Planning and Zoning

Zoning issues are of increasing importance in Majuro and Ebeye, as those urban areas experience increasing population pressures. Proposed zoning requirements are discussed regularly during many local government meetings. Because of the nature of land ownership in the Republic, even rudimentary zoning requirements remain publicly controversial.

The *Planning and Zoning Act 1987* has not been implemented to date. Presently, no local Councils have planners. Nor do many Councils have the present financial or technical ability to draft and enforce zoning and building codes or ordinances. Because of entrenched principles of customary land ownership, landowners are deeply resistant to government encroachment on private land rights. Although the Act stipulates that two landowners shall be members of the Commission, the status, or class, of the landowning rights are not addressed. Such a clarification is necessary, as the reciprocal rights and obligations of the iroij, alab, and dri jerbal classes of ownership are very different from each other (see Chapter 3, Systems of Land Tenure, for discussion of differing land interests).

5.4 Recommendations

Environmental Impact Statements - *National Environment Protection Act*

1. Draft regulations to delineate standards for environmental impact statements, required for Government actions under the *National Environment Protection Act*, Part IV. Such regulations may:
 - * specifically address which projects are to be covered, and which criteria for project-identification should be used;
 - * create a two or three-tiered program for submissions;
 - * state the required length, content and detail of the statement;
 - * set out distribution and public meeting criteria;

10.3 Key Issues

10.3.1 Marine Waters

RMI marine waters are vulnerable to point source and non-point source pollution. One area of concern is leaking PCB-contaminated transformer fluid. RMI has long been aware of the existence of a number of questionable electrical transformers brought to Majuro and the outer atolls during Trust Territory days. The transformers were suspected to contain polychlorinated biphenyl (PCB) fluid, a highly hazardous substance. In 1989, some of those transformers were found to be leaking PCB-contaminated oil directly into Majuro Lagoon. Subsequent RMIEPA enforcement efforts resulted in the provision of a small Majuro Hazardous Waste Storage Facility (a modified shipping container), but PCB contamination remains a problem.

Due to lack of sewage pump-out facilities at the major docks in Majuro and Ebeye, government and private ships regularly discharge waste into lagoon waters.

Cyclogen oil is currently stored in large numbers of rusted, leaking 55-gallon containers on Majuro Atoll and Gugeegue Island, Kwajalein Atoll. This oil poses a significant threat to RMI waters and coastal reefs. At a minimum, immediate containment of the rotted receptacles is required.

Oil spills into marine waters continue to plague the urban centres of Majuro and Ebeye. So far, RMI has escaped catastrophic damage from a large spill, but lack of oil spill prevention and contingency plans leave a gap in current marine water protections.

Planned discharges into marine waters also cause concern in the environmental community. In Majuro, untreated sewage flows directly into coastal waters. The sewage outfall may or may not be adequate in length and depth; further research is required. On Ebeye, the sewage outfall discharges directly into the lagoon and also requires monitoring.

10.3.2 Fresh Water

Surface fresh waters are rare on atolls. In RMI, fresh water resources are limited to sub-surface lenses. These lenses, regularly replenished by rainfall, consist of fresh water floating on a heavier sea-water layer approximately one to eight feet below ground. As these lenses are generally located only on the larger islets of an atoll, most inhabited islands depend on rainwater catchment systems to help meet fresh water needs (Crawford; p.3).

Majuro is experiencing a severe shortage of portable water. Despite use of an extensive water catchment system at the international airport and tapping lens wells at the wide tip of the atoll, Majuro's water supply is strictly rationed. Alternative water systems, such as private wells and rain water catchment systems, must be more fully developed and utilized. Contamination of such systems has been troublesome; the RMIEPA Water Quality Program has received funding to prepare a pamphlet in Marshallese and English on the maintenance and treatment of rain water cistern systems. This pamphlet should prove valuable both in Majuro and on outer atolls entirely dependent on catchments and wells for their fresh water requirements.

Public fresh water distribution on Ebeye Island, Kwajalein Atoll is strictly limited to two periods of 45 minutes daily. Ebeye's public water is supplied through the operation of an Israeli-designed desalination plant. Public water cistern storage capacity is inadequate. Ebeye plans to upgrade water storage by constructing a bermed perimeter around the existing water storage reservoir. On neighbouring Gugeegue Island, a new water processing system is being planned to serve approximately 400 people.

- * declare standards and levels of review of the submission; and
 - * clarify the identity of the person responsible for submission of the statement.
2. Establish the Environmental Advisory Council as a functioning entity. The Council, created by the *National Environmental Protection Act*, Part VI, consists of 11 members representing all national Ministries and one member each from private industry and the general public. A functioning Council could ensure an early and interactive approach to environmental assessments of government projects.

Environmental Impact Assessments - the *Coast Conservation Act*

3. RMIEPA, working in concert with the Ministry of Interior and Outer Islands Affairs and the local government Councils, should begin planning the development of a comprehensive Coastal Zone Management Plan;
4. Subsidiary regulations should be drafted to prescribe the categories of development activity which may be engaged in within the coastal zone without a permit, and to enumerate the particular requirements of environmental impact assessments. As the *Coast Conservation Act* does not refer to activities conducted outside the coastal zone but impacting the zone, the *Coast Conservation Act* environmental impact assessment regulations must be drafted to be in harmony with the *National Environment Protection Act* requirements, so that the total land and sea area of RMI is regulated with consistency and clarity. (Subsidiary regulations to the *Coast Conservation Act* delineating requirements for environmental impact assessments are currently in draft form.)

Environmental Planning and Zoning

5. Implement the *Planning and Zoning Act 1987*. Planning Commissions and Planning Offices should be established in each local government Council to assess the need for formal zoning and building code requirements. If the need is established, the National Government Chief Planner may lend technical assistance to the development of appropriate guidelines;
6. Draft and enforce appropriate local ordinances or regulations to secure zoning and building code protections in urban areas of RMI.
7. Clarify the status and role of private landowners on the Planning Commissions.

Further, these Regulations are designed to maintain and upgrade the quality of the marine waters of the Republic in order to protect health, safety, and welfare, and to assure that no pollutants are discharged into RMI waters without being given the degree of treatment or control necessary to prevent pollution.

Under the Regulations, the discharge of sewage, whether treated or not, from any and all vessels into marine waters is prohibited. An exemption from the prohibition, called a "Permit to Discharge", may be granted in writing by the Authority upon receipt of a written request by the discharger prior to the proposed activity. A Permit to Discharge may be issued solely for non-commercial vessels discharging treated sewage.

Part V of the Regulations require a Marshall Islands Pollutant Discharge Elimination System Permit for point source discharges into marine waters.

Parts VII and VIII of the Regulations set out strict marine pollution control requirements and oil pollution prevention measures, respectively. Marine sanitation devices must be installed on all vessels with toilet facilities, hazardous substances may not be accumulated in such a manner as to allow the substances to enter the marine waters of the Republic, and dischargers of hazardous materials must immediately notify RMIEPA and take mitigation measures. Owners and operators of onshore and offshore facilities which might discharge oil into marine waters must prepare a Spill Prevention Control and Countermeasure Plan. Requirements for bulk storage tanks, buried piping installations, and fuel barge loading and unloading are also explicated.

10.2.2 *Trust Territory Marine and Fresh Water Quality Standard Regulations* (TTC Title 63, Chapter 13, Subchapter VII)

Still in force pursuant to the *National Environment Protection Act*, fresh water aspects of these Regulations provide the only legislative RMI environmental oversight of fresh waters currently drafted. RMIEPA 1992 legislative plans include the drafting of *Fresh Water Quality Regulations* that increase fresh water and groundwater protections.

10.2.3 *Trust Territory Public Water Supply Systems Regulations* (TTC Title 63, Chapter 13, Subchapter II)

These as-yet unrevised, *Trust Territory Regulations* were promulgated in 1978 and saved under the *National Environment Protection Act*. The purpose of the Regulations is to establish certain minimum standards and requirements to insure that water supply systems are protected against contamination and pollution and do not constitute a health hazard.

RMIEPA must approve any laboratory determining compliance with the maximum contaminant levels allowed by these Regulations. Water suppliers must comply with specific reporting, public notification and record maintenance requirements.

The *National Environment Protection Act* and these Regulations define a public water system to mean a system for the provision of pipe-borne water for human consumption that has at least 15 service connections or regularly serves at least 25 individuals. RMIEPA approval in permit form is required for any new construction or change of any public water supply system. RMIEPA may grant emergency permits whenever an emergency affecting the safety or adequacy of a public water supply requires modifications or additions. RMIEPA may grant a variance from these regulatory requirements or an exemption respecting maximum contaminant levels or treatment techniques.

CHAPTER TEN

WATER QUALITY

10.1 Administrative Structures

10.1.1 RMIEPA Marine and Fresh Water Quality Monitoring

The RMIEPA Water Quality Monitoring Program performs the following oversight functions:

- * daily monitoring of the Majuro Atoll, Ebeye Island and Kwajalein Atoll public water supply systems;
- * monthly monitoring of Majuro and Ebeye coastal waters;
- * regular monitoring of school, restaurant, and private catchment systems and wells on Majuro, Ebeye, and other atolls upon request.

The Program operates two water quality monitoring laboratories, one each on Majuro and Ebeye. The Program is staffed by a Consultant, Chief Laboratory Specialist, and two laboratory technicians. The Program is partially supported by technical assistance grants from the U.S. Department of the Interior and reimbursement for laboratory services from the Majuro Water and Sewer Company.

Through a Memorandum of Agreement, RMIEPA houses and supervises the six-person staff of the Division of Environmental Health and Sanitation (DEHS) within the Ministry of Health Services. DEHS functions in regard to water quality include water testing and monitoring, water treatment, and restaurant inspections. DEHS staff work with RMIEPA water quality monitoring and enforcement staff in the oversight of marine and fresh waters of the Republic.

10.1.2 Public Water Supply Providers

The Ministry of Public Works is the national government entity responsible for the management and development of public utilities, including public water supplies. In 1989, in concert with government plans to privatize public utilities, the Minister of Public Works granted a water and sewer franchise to the Majuro Water and Sewer Company (MWSC). The Majuro water and sewer systems, including the potable water, salt water, and sewer systems, were leased to MWSC in the same year. A for-profit Marshall Islands corporation, MWSC contracts management of the Majuro water and sewer systems to a U.S.-based private company.

The Kwajalein Atoll Joint Utility Resource (KAJUR) manages the water and sewerage activities on Ebeye Island, Kwajalein Atoll. Approximately two-thirds of the population of the Republic live in the two urban centres of Majuro and Ebeye.

10.2 Existing Legislation

10.2.1 RMIEPA Marine Water Quality Regulations

Offered for public comment in early 1991, approved by Cabinet on April 9, 1992, and in legal effect on April 10, 1992, these Regulations, drafted pursuant to the *National Environmental Protection Act 1984*, significantly revise the *Trust Territory Marine and Fresh Water Quality Standard Regulations* (TTC Title 63, Chapter 13, Subchapter VII).

The purpose of the Regulations is to identify the uses for which the marine waters of the Republic shall be maintained and protected, to specify the water quality standards required to maintain the designated uses, and to prescribe standards necessary for implementing, achieving and maintaining the specified marine water quality.

CHAPTER SIX

FISHERIES

6.1 Administrative Structures

6.1.1 Marshall Islands Marine Resources Authority (MIMRA)

The Marshall Islands Marine Resources Authority (MIMRA) was established by the Nitijela by the *Marshall Islands Marine Authority Act* on March 28, 1988 to provide for the exploration, exploitation, regulation, and management of marine resources in RMI, both living and non-living. It is the primary organization responsible for both the development and the protection of marine resources in RMI.

Before the establishment of MIMRA, marine resource activities were under the control of several agencies and departments, including the Marine Resources Division under the Ministry of Resources and Development. That division has since been shifted from the Ministry to MIMRA. Further, with the establishment of MIMRA, all responsibilities and assets of the Marshall Islands Maritime Authority, established under the *Marine Resources Jurisdiction Act 1978*, was transferred and vested in MIMRA in 1989.

MIMRA is an independent statutory authority, established as a body corporate with perpetual succession. MIMRA has a five-member Board of Directors, with the Minister of Resources and Development functioning as Chairman of the Board. Presently, the Authority has approximately 14 employees. Responsibility for policing the Zone was recently transferred from MIMRA to the Sea Patrol Division of the Department of Public Safety; eighteen employees responsible for the policing of the Exclusive Economic Zone were recently transferred to the Ministry of Justice. (See Figure 5 for the current MIMRA organizational structure; see Figure 6 for MIMRA's proposed institutional development for the years 1992-1995.) MIMRA, although an independent Authority, is still partly dependent for its personnel on the Ministry of Resources and Development. The Director of Marine Resources is responsible for the management and administration of MIMRA. MIMRA has the power and duty to conserve, manage and control marine resources, to establish and implement an Exclusive Economic Zone Management program, to issue fishing licenses, to issue licenses for the exploration and exploitation of the seabed and subsoil of Fishery Waters and to negotiate foreign fishing agreements, with the approval of Cabinet.

6.1.2 Marshall Islands Development Authority (MIDA)

Established as an independent statutory Authority by Act in 1984, MIDA functions as the business arm of the RMI government in relation to fishing, as well as other business activities. Its Board of Directors includes the Ministers of Resources and Development, Finance, Interior and Outer Islands Affairs, Public Works, the Chief Secretary, the Chief Planner, and three private sector members. MIDA develops and implements social and economic development programs and projects alone or in conjunction with other government or private agencies. It also conducts business enterprises for the RMI government as the Cabinet directs.

MIDA is a partner in two joint ventures with American counterparts, each joint venture operating one tuna purse seine vessel (RMI-OPS 1991; p. 192). Both vessels presently employ some Marshallese crew and offload their catch in American Samoa. Additionally, a tuna longline joint venture between MIDA and a Hawaiian company has recently begun operation.

6.1.3 Kwajalein Atoll Development Authority (KADA)

KADA was established by the *KADA Act* in 1985 (replaced by the *KADA Act 1989* (P.L. 1989-36)), to provide for the social and economic development of Kwajalein Atoll. In furtherance of its functions to develop and implement plans and programs for the betterment of the inhabitants of Kwajalein Atoll, KADA has been involved in fisheries-related development on Ebeye Island.

Rongelap and Utrik. Sixty-six atmospheric tests of nuclear devices on these remote northern atolls took their toll; to varying degrees, groundwater and soil were rendered too radioactive to support human life.

The Compact of Free Association at Section 177 establishes a compensation fund for damage resulting from the nuclear testing program. In 1990, RMI used a portion of those funds to establish a nationwide radiological study. The study is designed to provide an unbiased scientific interpretation concerning the potential health effects among the RMI population and the effects to land productivity and value as a result of bomb test related radioactive fallout.

The study shall also provide a complete and unified set of data describing the degree of radiological contamination at all atolls within RMI. RMI has never before established the extent of fallout throughout the nation or determined past and present levels of radiation. As well as being useful to the Nuclear Claims Tribunal in adjudicating damage claims, the data should inform anti-pollution and hazardous waste disposal efforts in the Republic.

9.4 Recommendations

Bolstering RMIEPA pollution control efforts

27. Allocate additional funds to RMIEPA to enable inter-atoll and island travel for the purpose of interacting with the local Councils in the development of effective anti-pollution measures. Such measures must reflect traditional customs, must be in harmony with present customary practices, and must be drafted in English and Marshallese.
28. Legislative and educational efforts must remain focused on pollution eradication. Initial environmental efforts must be followed by committed oversight. Further development of an environmental law library would aid in drafting and enforcement efforts. Additionally, further training is required before RMIEPA environmental specialists are fully prepared to act as local government advisers.

Air and noise pollution initiatives

29. Monitor potential noise pollution issues with the assistance of RMIEPA and the RMI Visitors Authority. Draft appropriate regulations if warranted, to provide a regulatory framework for addressing air pollution, RMIEPA Draft Air Pollution Regulations should be finalized and offered for Cabinet consideration.
30. Finalise and enact RMIEPA Draft *Air Pollution Regulations*

USAKA Alternate Standards

31. Careful review of the final first Draft Alternate Standards is required by the RMIEPA, Attorney General, and Cabinet to ensure that streamlined procedures do not diminish RMI oversight capacities by limiting environmental information regarding USAKA activities. Content review is also necessary to determine whether adequate environmental protections have been granted. As the Compact of Free Association assigns environmental enforcement capacity and obligations to the RMI in regard to USAKA activities, RMI must insist on the status of full signatory on all environmental control documents, letters of authority, and permits.

Radiation Regulations

32. Draft Regulations concerning the storage and disposal of nuclear, radioactive and other hazardous waste. Such Regulations could be drafted pursuant to *National Environmental Protection Act 1984* Sections 21(2)(e) and 25. In recognition of the role played by the Marshall Islands in above-ground nuclear testing in the 20th Century, the Regulations should delineate standards for acceptable environmental radiation levels.

6.2 Existing Legislation

6.2.1 *Marshall Islands Marine Authority Act 1988*

This Act establishes MIMRA as the central authority regarding the development and management of fisheries and marine resources. The Act sets requirements for foreign fishing in Part III, including the specific criteria for application, approval, revocation, suspension and variation of foreign fishing licenses.

Part IV of the Act covers activities other than foreign fishing, including the development of local fisheries, the issuance of licenses for local fishing vessels, non-commercial fishing, and fish processing, and the requirement for an agreement on the terms and conditions of non-resident investment in fisheries activities. Section 12 of the Act lists fifteen areas for which the Authority may make regulations, including conservation of the Fishery Waters, protection of fish, operation of domestic and foreign fishing vessels, licensing, pollution, and export of fish. Section 12 further states that all regulations shall become effective upon approval by the Cabinet.

In Part VI, the *Marshall Islands Marine Authority Act* prohibits the use of any explosive, poison or other noxious substance for the purpose of catching fish, prohibits the possession of fishing nets or gear not conforming to prescribed standards, and prohibits foreign fishing vessels from engaging in fishing without a license.

6.2.2 *Marshall Islands Marine Resources Authority (Amendment) Act of 1989*

This recent Act amends the *Marshall Islands Marine Authority Act* by prohibiting the use of a drift net as fishing gear. A drift net is defined as a gillnet or other net which is more than 2.5 kilometres in length, entangles fish or other marine life, and is left to drift in the water without attachment to any point of land or the seabed.

This Act was passed at the same time as the Nitijela's approval of the *Convention for the Prohibition of Fishing with Long Driftnets in the South Pacific*. The Convention and its Protocols was adopted in Wellington, New Zealand on November 29, 1989, at the culmination of a series of international meetings in which RMI participated.

6.2.3 *Marine Mammal Protection Act 1990*

This recent Act provides for the protection of dolphins and other marine mammals captured in the course of commercial fishing operations in the eastern tropical Pacific Ocean by flag vessels of the Republic. Please see Chapter 11, Biodiversity Conservation for further discussion of this legislation.

6.2.4 *National Environmental Protection Act 1984*

Section 30(1) of the *National Environment Protection Act* requires RMIEPA, in consultation with the Environmental Advisory Council and with the assistance of the Ministry of Resources and Development, to recommend to the Minister of Health Services a system of rational exploitation of fisheries and aquatic resources within the waters of the Republic. The section further requires RMIEPA to encourage citizen participation to maintain and enhance the optimum and continuous productivity of the marine waters.

Section 30(2) of the *National Environment Protection Act* allows measures for the rational exploitation of fisheries and other aquatic resources to include the regulation of the harvesting and marketing of threatened species of fish or other aquatic life.

U.S. Army Strategic Defense Command. The facility is located on Kwajalein Island and ten other mid-corridor islands of Kwajalein Atoll; the facility is presently known as United States Army Kwajalein Atoll (USAKA). This facility conducts many operations of a highly technical nature. The presence of the USAKA facility within RMI poses a number of pollution control challenges.

Under Title One, Article VI of the Compact, the United States and Marshall Islands Governments have pledged to "promote efforts to prevent or eliminate damage to the environment and biosphere and to enrich understanding of the natural resources of the Marshall Islands."

To carry out this policy, at Section 161(a)(4) of the Compact, the U.S. agreed to develop appropriate mechanisms, including regulations or other judicially reviewable standards and procedures, to regulate all USAKA activities in RMI which would require the preparation of a U.S. Environmental Impact Statement. The alternate standards must account for the "special governmental relationship" between the RMI and the U.S.; technical support from appropriate U.S. environmental agencies is required in the development of the standards; and RMI must be given the opportunity to comment during their development.

Reciprocally, the Marshall Islands, under Section 161(b) of the Compact, has an obligation to develop and enforce comparable environmental protection standards and procedures. RMI is currently fulfilling that obligation through the RMIEPA Legal Project discussed above.

In 1989, the U.S. Army completed an Environmental Impact Statement (EIS) for ongoing and planned activities at USAKA. The EIS identified several existing areas where improvements were needed to achieve substantial conformance with the U.S. statutes mentioned in Section 161(a) of the Compact. The USAKA EIS process accelerated the effort to develop alternate standards under Section 161(a). As a result of the EIS process, the U.S. Army requested the Strategic Defense Command (SDC) to take the lead in developing alternate standards for U.S. Government activities at USAKA.

A "Project Team" was therefore formed in 1990 to propose initial alternate standards. The Team is managed jointly by the U.S. Environmental Protection Agency (USEPA) and the U.S. Strategic Defense Command (USASDC). Team members include representatives from USEPA, SDC, USAKA, the U.S. Department of Defense Strategic Defense Initiative Organization, General Counsel's Office (SDIO/GC), the U.S. Fish and Wildlife Service (USFWS), and the U.S. Army Corps of Engineers, Pacific Ocean Division (CEPOD). In addition, the SDC manages the efforts of supporting agencies (including USAEHA and Teledyne Brown Engineering) to develop requested data and technical information. The Marshall Islands, through the RMIEPA, has participated in Project Team discussions and decision-making during all phases of the project.

The Project Team has worked for the past year to prepare an integrated set of standards and procedures that would reflect the substantive standards of a number of U.S. government and RMI statutes and Regulations. In certain areas new standards are proposed to provide additional protections for the fragile and limited environmental resources of RMI. In other areas, procedural mechanisms are proposed to ensure full review of environmentally important activities while simplifying many of the administrative provisions of existing U.S. government Regulations. A first Draft of the Proposed Standards will be available for RMI review in January, 1992.

9.3.4 RMI Nationwide Radiological Study

Between 1946 and 1958, the United States government tested 23 bombs and other nuclear devices at Bikini Atoll and 43 at Enewetak Atoll in the northern Marshall Islands. In 1954, a thermo-nuclear weapon over 1,000 times more powerful than the bomb used at Hiroshima was tested. Bikini and Enewetak were evacuated. The unexpected bomb yields during the 1954 test (the "Bravo Shot"), however, irradiated the land and people of two additional northern atolls,

6.3 Key Issues

6.3.1 Importance of Fisheries to RMI

"Fishery Waters" are defined in the *Marshall Islands Marine Authority Act* to include the waters of the territorial sea, the Exclusive Economic Zone and all internal waters. This definition gives RMI fishery jurisdiction over approximately 750,000 square miles of ocean. The conservation and extended use of this extremely rich resource is vital to the social and economic well-being of RMI. Fish is now and always has been a prime protein source on the atolls of the Pacific. With food production scarce on many atolls, fishing and its associated skills has provided both fundamental nourishment and a wealth of customs and traditions to the Marshallese.

Despite long-standing customary and traditional links to the sea, the Marshall's consumption demands for fish outstrip its availability on some atolls. Very few Marshallese fish to stock the stores in Majuro and Ebeye, despite the commercial viability of such a venture. The commercial aspects of this vital resource are simply not fully developed. Fishing for profit, whether small or large-scale, is still infrequent. Fishing on most atolls is for subsistence purposes; small-scale commercial fishing projects are rare. Although commercial development of the available marine resources has been a high government priority, financial constraints and lack of technical expertise have hampered development.

6.3.2 Economics and Conservation

Effective use and management of marine resources is the key to the independent economic development of RMI. The principles of sustainable development, allowing improvement of the quality of human life while requiring humans to live within the carrying capacity of supporting ecosystems, are essential here. A traditional way of life, future tourism potential and internal and international fishing ventures all rely on the ability of this resource to be renewable.

Fisheries resources often become non-renewable when plagued by overfishing and pollutants. Because commercial fisheries opportunities in RMI are not fully developed, and because human population pressures are not extreme on most atolls in RMI, impacts from external sources on fisheries resources do not presently overwhelm the resource. Potential impacts, including fertilizers, coral mining, selective fishing, aquarium harvesting, sewage and pesticides, must be closely monitored for future effects.

Marine resources in the Marshalls are vast. Skipjack, yellowfin, and bigeye tuna, all commercially sought, are abundant in RMI waters. Sport fish and game fish, such as marlin, also abound. Over 250 species of reef fish, the majority of which are edible, occur in RMI (Crawford; p.6). Marine resources at present, however, are not fully protected. Emphasis in recent years has been on exploitation rather than conservation. Conservation regulations pursuant to the *Marshall Islands Marine Authority Act* have not yet been drafted for either artisanal or pelagic fishing.

6.3.3 The Role of MIMRA

MIMRA is still an evolving statutory body. The setting of clear environmental management goals awaits more regular meetings of its Board and more attention to conservation concerns. The Authority's dual roles as protector and exploiter of the same resources often place it in an awkward position. This is especially true when licensing foreign fishing concerns, an area of great economic importance to the Republic, and one overseen by the Ministry of Foreign Affairs as well as MIMRA. A good deal of committed conservation and development work has been done recently by the Authority in the aquaculture and mariculture areas.

6.3.4 Aquaculture Development

MIMRA has been the pre-eminent government agency in this field, often working in close concert with the private sector. Public and private projects include the spawning and raising of

draft Regulations specify monitoring, recordkeeping and reporting requirements for operators of air contaminant sources.

Open burning is not allowed, except for certain RMIEPA-approved exceptions. The draft Regulations modify USEPA National Emission Standards for Hazardous Air Pollutants as they existed in June, 1980; standards are now more stringent. The draft Regulations also set standards for control of particular emission from incinerators, control of visible emission of particulates for stationary sources, control of odours in clean air, and control of sulphur dioxide emissions.

A Permit to Construct is required before any person may construct or modify any stationary source of air contaminants. A Permit to Operate is required before any person may cause or allow the operation of a new stationary source. Exemptions include: installation of air contaminant detectors, air conditioning systems, mobile internal combustion engines, and lab equipment used only for chemical or physical analyses.

9.3 Key Issues

9.3.1 General

RMI shares the fate of many developing Pacific nations in its present inability to control increasing land and sea pollution. RMI lagoons and shorelines are becoming spoiled by urban wastes. Overcrowding and poor sanitary conditions on more populated atolls exacerbate this problem.

Implementation and enforcement of environmental goals in the Marshall Islands is no easy task. Marshallese geography mitigates against enforcement; far-flung atolls create difficult communication problems. A further constraint is the oft-mentioned strong cultural tradition of customary landownership that resists governmental control of land use through environmental regulation. Dispute over whether government or customary landowners own and control intertidal areas increases the uncertainty of environmental control and enforcement.

RMI is moving toward expanded environmental participation by traditional landowners. Stronger local participation in environmental decision-making, coupled by increased conservation funding and facilities, will go far toward creating an RMI pollution control policy that links customary controls with modern preservation practices.

9.3.2 Local governments

Although local government Councils may consider and develop ordinances in regard to environmental and pollution control matters, most local Councils do not have the present capacity to fulfil that function. Limited administrative, planning and management capacity and low levels of revenue generation prevent most outer island local governments from effective consideration of environmental problems.

Transportation, communication, and resource restraints have limited industrial development on most atolls and islands of the Republic. As development increases, problems of pollution associated with burgeoning infrastructure and commerce shall, inevitably, also increase. The Republic has a chance to put legislative instruments in place in the outer atolls and islands now, before development-related pollution problems have escalated to unmanageable proportions.

9.3.3 United States Army Kwajalein Atoll (USAKA) Draft Alternate Environmental Standards

The Compact of Free Association (see Environmental Conventions and Treaties) between the United States and RMI guarantees the United States thirty years access to certain areas of Kwajalein Atoll within the Marshall Islands for a fixed price. The United States has there established the Kwajalein Missile Range, a U.S. missile testing facility under the control of the

giant clams, harvesting of trochus, and the cultivation of black-lip pearl oysters. Private sector aquaculture efforts have increased in recent years. Private sector aquaculture specialists have requested government regulatory support, both to oversee water quality standards in project areas and to implement a CITES regulatory system to monitor the import and export of endangered species. Both government and the private sector hope that controlled cultivation and harvesting will produce economic benefits through the sustainable exploitation of these resources (Crawford; p.39).

6.3.5 Asian Development Bank Loan

In December, 1991, a \$7,000,000 loan and technical assistance package to develop a locally-based fishing industry was successfully negotiated between the government of RMI and the Asian Development Bank (ADB). The interest-free loan becomes effective in April, 1992. There is a ten year grace period before start of payments, and a 40 year overall repayment term.

A portion of the ADB Loan will be re-lent by the government to the Ebje Ruktok/Rukjenlein Fishing Company, which will use the funds to construct a fishing base as well as a small fleet of fishing vessels at Ebeye Island, Kwajalein Atoll. Other portions of the loan will be used to strengthen the fisheries management capabilities of MIMRA, and to establish a Fisheries Training Centre (Marshall Islands Journal 1991; p.1).

6.4 Recommendations

Coordination

8. Coordinate Government management of fisheries resources. Overlapping responsibilities are currently juggled between the Marine Resources Authority, RMIEPA, MIDA, and Foreign Affairs. Clarifications of the roles of each organization through internal Memoranda of Understanding may streamline cumbersome administrative processes.

RMIEPA role in marine resources management

9. Convene regular, more frequent meetings of the Marshall Islands Marine Resources Authority (MIMRA) Board of Directors to focus long-term conservation policy goals. MIMRA presently functions as the primary agency responsible for fisheries conservation and management. MIMRA has recently become more involved in issues of sustainable development in aquaculture projects, but has yet to turn its conservation attention to fisheries.
10. Regulations should be drafted pursuant to the *Marshall Islands Marine Authority Act 1988*. Fisheries conservation and management regulations are required to set season limits, size ranges and acceptable gill net mesh sizes.

RMIEPA Role in Marine Resources Management

11. Meet *National Environmental Protection Act* requirements for RMIEPA involvement in the exploitation of fisheries. Additional funding and training is necessary before RMIEPA can acquire the adequate institutional ability to undertake a conservation role in fisheries management.
12. Regulate the harvesting and marketing of threatened species of fish or other aquatic life. This program could be undertaken in concert with a legislative re-examination of the *Endangered Species Act*. Both initiatives require the drafting of regulations under the *National Environmental Protection Act*.
13. A further role available to RMIEPA in fisheries management is the control and regulation of pollutants entering the marine waters. Again, additional funding and

the defendant proves that there is no feasible and prudent alternative to the conduct, and that the conduct is consistent with the promotion of public health, safety and welfare.

Pursuant to the *National Environment Protection Act* Section 53, The High Court of the Marshall Islands may protect the air, land, water and other natural resources from pollution by granting temporary and permanent relief, including injunctive relief, and imposing conditions on the defendant in an action brought under the *National Environment Protection Act* Section 51. No relief, however, may lie by way of a penalty, injunction or writ against the RMI government.

9.2.2 *The National Environment Protection Act Subsidiary Regulations*

Since 1989, RMIEPA has undertaken a Legal Project to develop a comprehensive national environmental regulatory scheme. The effort includes updating and localizing old *Trust Territory Regulations* as well as creating new regulations and initiatives responsive to emerging community needs. In concert with the regulatory scheme, enforcement procedures and penalty assessment criteria have been developed and implemented.

The *National Environment Protection Act* Section 66 repeals the *Trust Territory Environmental Quality Protection Act* (63 TTC 501-510 (1980)), but saves all regulations, permits and certificates adopted or issued pursuant to it. The *Trust Territory Regulations* are only saved until such time as amended, modified, repealed or revoked by Regulations drafted subsidiary to the *National Environment Protection Act*.

All Trust Territory environmental Regulations relating to the control of pollution are currently being reviewed and redrafted to reflect concerns specific to RMI. Regulations in legal effect, promulgated pursuant to the *National Environment Protection Act* and superseding old Trust Territory regulatory initiatives, include:

- * *RMIEPA Earthmoving Regulations* (see Agriculture and Agro-Forestry, Mining and Minerals, and Cultural Resources);
- * *RMIEPA Solid Waste Regulations* (see Waste Management);
- * *RMIEPA Toilet Facilities and Sewage Disposal Regulations* (see Waste Management).

Draft anti-pollution Regulations passed by the RMIEPA Board and awaiting Cabinet approval include:

- * *Draft RMIEPA Pesticides Regulations* (see Agriculture and Agro-Forestry);
- * *Draft RMIEPA Clean Air Regulations* (summarized at (3) below);
- * *Draft RMIEPA Marine Water Quality Regulations* (see Water Quality).

As-yet unrevised *Trust Territory Pollution Control Regulations* include:

- * *Fresh Water aspects of the Marine and Fresh Water Quality Standard Regulations* (TTC Title 63, Chapter 13, Subchapter VII) (see Water Quality);
- * *Public Water Supply Systems Regulations* (TTC Title 63, Chapter 13, Subchapter II) (see Water Quality).

9.2.3 *RMIEPA Draft Clean Air Regulations*

The purpose of these draft Regulations is to control the quality of air by setting clean air quality standards and by preventing or controlling the emission of air contaminants at their source. The

training is required. In the past year, RMIEPA has responded to a number of oil spill episodes into marine waters. *RMIEPA Marine Water Quality Regulations*, following a period of public comment in early 1991, have just been approved by Cabinet. Aggressive enforcement of the recently promulgated Regulations is desirable.

Aquaculture

14. Draft regulations to the *National Environment Protection Act* to define appropriate water quality standards and appropriate placement areas for aquaculture and mariculture projects.
15. Draft regulations to the *Marshall Islands Marine Authority Act* to establish a certification system incorporating random testing to ensure cultivated organisms are safe for sale.
16. Draft regulations specifying aquarium fish harvesting techniques, reef rotation schedules, and organism quotas. Such regulations could be drafted pursuant to the *Marshall Islands Marine Authority Act*, *National Environmental Protection Act*, or the *Coast Conservation Act*, depending on an interagency agreement as to the controlling administrative body.

and to the surrounding sea and seabed to a distance of five miles from the baseline from which the territorial sea of that atoll or island is measured.

Although the administrative and legislative structure of the local government system allows for local governments to consider a host of environmental issues, local initiatives have been scarce. The control of pollution has not yet become a priority for local governments.

9.1.3 Non-government Structures

In many countries, Non-governmental organisations (NGO's) have been established for the protection of the environment. NGO's often work in concert with governmental agencies to promote environmental causes and issues. At present, however, no local non-governmental environmental organisations operate in RMI. Assistance to governmental agencies is offered by a host of national, regional, and international aid organisations. These organisations include a number of United Nations divisions (UNEP, UNDP, ESCAP), the Asian Development Bank, the South Pacific Regional Environmental Programme, U.S. Department of Interior, U.S. Fish and Wildlife Service, and Greenpeace.

9.2 Existing Legislation

9.2.1 *National Environmental Protection Act 1984*

The *National Environment Protection Act* is the preeminent legal instrument for the control of pollution in RMI. "Pollution" is broadly defined as "any direct or indirect alteration of the physical, thermal, chemical, biological or radioactive properties of any part of the environment by the discharge, emission or deposit of wastes so as to affect any beneficial use adversely or to cause a condition which is hazardous or potentially hazardous to public health, safety or welfare, or to animals, bird, wildlife, aquatic life or to plants of every description" (*National Environment Protection Act*, Section 3(j)).

RMIEPA is given power in the *National Environment Protection Act* to make regulations with respect to pollutants (*National Environment Protection Act*, Section 21(2)(c)). Such regulations must provide for a comprehensive permitting system regulating discharge of pollutants into air, water, or land, and further provide for the posting of appropriate bonds or other securities for compliance (*National Environment Protection Act*, Section 23).

Section 47 of the *National Environment Protection Act* also speaks to the issue of pollution. It requires that any person either discharging a pollutant, or intentionally or negligently permitting a pollutant to be deposited where it is discharged, must clean up the pollutant or abate its effects. The clean-up must be done on order of the Authority; discharges include emissions into the air, water, or on land.

The *National Environment Protection Act's* Division regarding judicial proceedings at Section 51 permits any person or body to maintain an action in the High Court for declaratory or equitable relief against any person or body for the protection of the air, land, water or other aspect of the environment from pollution, impairment or destruction. In addition, any person may maintain an action for declaratory relief against the RMI government or a government agency for the protection of the environment from pollution. If an action is brought against the RMI government, any standard or requirement not fixed or made by an Act or by Cabinet that is found unreasonable may be struck down. The Court may then order the adoption of a reasonable standard or requirement.

Strong statutory language may also be found in the *National Environment Protection Act* Section 55(3), where the standard for allowable pollution is set. No conduct shall be allowed which has the effect of polluting, impairing or destroying national resources, so long as there is a feasible and prudent alternative available, which is consistent with the reasonable requirements of public health, safety and welfare. Section 52 allows an alleged polluter to continue her or his actions if

CHAPTER NINE

POLLUTION CONTROL

9.1 Administrative Structures

9.1.1 National Government

RMIEPA is the national government agency given responsibility for pollution control in RMI. The Authority employs two environmental specialists to monitor compliance with pollution control Regulations. The specialists work with the local community and other government Ministries and agencies in an effort to explain and enforce newly-enacted pollution control initiatives. The RMIEPA Legal Counsel negotiates or takes legal action on behalf of RMIEPA in the event that a legal settlement is required. Every effort is made to interact with the local community and settle environmental pollution issues out of court. An administrative scheme of regulatory oversight and enforcement of anti-pollution environmental standards has been developed by RMIEPA. This scheme of enforcement involves four steps, implemented through the use of standardized forms:

- (1) First, a written Record of Investigation is compiled by the RMIEPA office staff, including the specific complaint, names of all persons interviewed, instructions given by the investigator, photographs taken at the scene, possible violations of the law, and all other relevant data;
- (2) Second, the General Manager may issue a written Notice of Violation, which requires immediate remedial action and places the violator on notice that she or he is subject to Authority action for non-compliance;
- (3) Third, the Authority meets to issue a Cease and Desist Order and impose a civil penalty. The Cease and Desist Order specifies the violation, requires the violator to remedy the situation, requires a meeting with a representative of the Authority, states the amount of the daily fine for the violation, and informs the violator of her or his right to attend a public hearing to present oral and documentary evidence challenging the factual basis for the Order. The Order takes effect upon issuance;
- (4) Fourth, the Authority conducts a public meeting after each Cease and Desist Order is issued. At that meeting the Authority issues a written decision setting forth its findings of fact with respect to the violations. The Authority's decision will either uphold or dissolve the Cease and Desist Order and imposition of fines. Accompanying the Authority's decision is a notice informing the violator of her or his right to petition the court for review within 30 days.

This system of environmental oversight allows the Authority to maintain control over how its Regulations are implemented and enforced. Although not yet tested in the courts of the Republic, the Authority believes that the courts will be willing to restrict their review of Authority actions to the question of reasonableness and will uphold the power of the Authority to impose fines.

9.1.2 Local Government

Article IX, Section 2 of the Constitution of the Marshall Islands provides that "A local government may make ordinances for the area in respect of which it has jurisdiction, provided that such ordinances are not inconsistent with any Act". The local government area of jurisdiction is a specific atoll or island and, in accordance with Article IX, Section 1(2) and (3) of the Constitution, extends to the sea and the seabed of the internal waters of that atoll or island

CHAPTER SEVEN

AGRICULTURE AND AGRO-FORESTRY

NOTE: As there are no current commercial forestry efforts ongoing in RMI, the Forestry Section of this Review has been incorporated into the Agriculture Section. Agro-forestry initiatives have traditionally been managed by the RMI Division of Agriculture.

7.1 Administrative Structures

The Division of Agriculture within the Ministry of Resources and Development is responsible for coordinating agricultural development in RMI. The Chief of Agriculture administers the Division. Supporting services are provided by the Division of Outer Islands. The Agriculture Division consists of four sections:

- * **Agro-forestry Section** - This section supervises the production and development of coconut, breadfruit, pandanus, and root crops. The functions of this section include traditional crop research, coconut land rehabilitation and coconut wood utilization activities. Extension services include 21 extension agents resident on 19 atolls. A primary programmatic function includes the improvement of coconut and other food crops. Coconut plantations are being replanted with local hybrids; a Majuro Atoll-based demonstration farm hosts fertilizer trials and breeding experiments for all tree crops.
- * **Vegetable and Fruit Section** - This section is responsible for production of a number of vegetable and fruit crops including cucumber, cabbage, tomatoes, pumpkin, papaya, and bananas. Fruit crops are cultivated on approximately 200 acres in the Republic; vegetable cultivation accounts for approximately 110 acres (RMI-OPS 1991; p. 217).
- * **Livestock Section** - This section oversees a very limited livestock program. RMI has no commercial livestock production. A recent joint-venture between RMI and the Government of Israel has resulted in the development of a small-scale poultry project on Majuro Atoll.
- * **Plant and Animal Quarantine Section** - staffed by only three officers, two on Majuro and one on Ebeye, this section has total responsibility for enforcing all plant and animal quarantines and regulations at RMI points of entry (both air and sea ports).

7.2 Existing Legislation

7.2.1 *National Environmental Protection Act 1984*

Section 31 of the *National Environment Protection Act* requires RMIEPA to recommend soil conservation programs which include encouragement of scientific farming techniques, physical and biological means of soil conservation, and short-term and long-term research and technology for effective soil conservation. Such recommendations are to be made in consultation with the Environmental Advisory Council and with the assistance of the Ministry of Interior and Outer Islands Affairs.

7.2.2 *Tobolar Copra Processing Authority Act of 1992*

This very recent Act establishes the Tobolar Copra Processing Authority as an independent statutory authority with links to the Government. A six person Board of Directors is created, with five members appointed by the Cabinet, and the President, *ex officio*, without vote. The functions of Tobolar under this Act are to plan, establish, manage, operate, and maintain all aspects of copra processing services for RMI. Objectives include the assurance of a continuing

750,000 square miles of ocean, it is not surprising that RMI mineral reserves are found largely under the sea.

The Republic has encouraged recent exploration of its deep-sea mineral potential, and results have indicated rich reserves of cobalt, nickel and manganese deposits. The sea mounts within RMI's Exclusive Economic Zone have been found to contain some phosphate deposits and extensive deposits of manganese crust. In May, 1989, a report issued by the University of Hawaii at Manoa and the East-West Centre declared that RMI was one of the Pacific's most promising areas for manganese crust deposits with likely commercial potential.

Future commercial potential, however, depends on the development of a profitable system of deep-sea mining technology, or a rise in world cobalt prices. The technology is not yet available; present efforts at deep-sea mining have therefore encountered overwhelming cost barriers. RMI leaders are hopeful that innovative mining techniques will soon become available and that mining ventures within the Republic will become a reality within the next decade.

RMI mineral deposits with future commercial potential are not found exclusively in marine environments. Land-based mineral explorations have unearthed surface phosphate deposits on six or seven atolls scattered throughout RMI. Commercial viability is questionable. Both land and marine environments require specific, additional legal protections before mining activities commence.

8.3.2 Government Responses

The RMI government encourages private sector exploration and development of seabed minerals. Investors interested in commercial development of such reserves may expect significant incentives offered by a cooperative government. Legislation has been enacted to exempt a recently-formed seabed mineral mining consortium from taxes, duties, imposts and charges, provided the consortium pays royalties to the government.

Current government plans include participation in a project to test the Continuing Line Bucket (CLB) system of mining high-cobalt metalliferous oxides. This CLB system claims to leave no surface toxic residue and thereby protects the marine environment in the vicinity of the mining activities. The enterprise will be undertaken by the Mining Panel of the United States - Japan Coordinating Program in Natural Resources.

The government is presently applying for funding to undertake a geological survey and feasibility study in regard to surface phosphate mining. If funded, the study shall include information regarding the necessary restoration and replanting of excavated land areas. Current government thought is to fill land from which phosphate has been removed with dredge material.

8.4 Recommendations

Marshall Islands Marine Authority Act Regulations

25. Draft Regulations for the conservation, management and control of mineral resources.

National Mining Act

26. Draft a new national Act specifically controlling the mining of the seabeds and land of the Republic to ensure that pollution associated with mining operations is kept to a minimum.

market for copra from RMI and assurance of an economically productive commodity upon which the RMI economy may rely.

The Act supersedes the *Marshall Islands Copra Stabilization Board Act 1976*, and includes a specific authorization for the Authority to assume the rights and titles to the existing Tobolar Copra Processing Plant, Incorporated. The Act further allows the Tobolar Board to develop a plan for the privatisation of Tobolar, with the approval of Cabinet.

7.2.3 *Animal and Plant Inspection Act*

This Act, originating in the 1966 Trust Territory Code, provides for the regulation of agricultural and animal products importation. The Act permits the Chief of Agriculture to issue plant and animal quarantines and regulations with the prior approval of the Cabinet. The Chief of Agriculture is required to administer all control provisions.

All animals and plants entering, or transported within, the Republic are subject to inspection by agricultural quarantine inspectors, and may be refused entry if suspected of being infected with disease or pests. Cargo manifests must be made available upon request; vessels and aircraft suspected of harbouring agricultural pests are subject to insecticide spraying.

Emergency orders relating to domestic quarantine may be issued as appropriate by the Chief Secretary. Emergency quarantine measures may also be taken by an agricultural quarantine inspector or the chief of Agriculture. Violations of any of the provisions of this Act or subsidiary regulations are misdemeanours.

7.2.4 *Plant and Animal Quarantines and Regulations*

- (1) Adopted Amendments to Regulations; TITLE 25; Animals and Plants Quarantine Controls; Chapter I; Plant and Animal Quarantines Administration and Enforcement of Emergency Measures

Issued in the Territorial Register, Vol. 2 No.1, December 4, 1976, these *Trust Territory Regulations* are saved as good law in RMI until revoked or revised. The Regulations issue specific prohibitions, quarantine periods, certificate requirements, and restrictions in a number of areas, including controls on bacterial cultures, vaccines, domestic animals, imported animals, animal products, fruits and vegetables, propagative material, flowers, construction materials, stored dried products, soil, sand, gravel, and garbage.

- (2) Adopted Amendments to Regulations; TITLE 25; Animal and Plants Quarantine Controls; Chapter II; Quarantine Procedures and Controls

Also issued in the Territorial Register, Vol. 2 No.1, December 4, 1976, these Regulations spell out the procedures and controls used in the enforcement of the Regulations discussed at (1) above. Issuance of Plant and Animal Quarantine Permits is explicated, as is issuance of pre-departure quarantine Certificates. Inspection procedures are set forth. Penalties are slight; any person violating the Regulations may be imprisoned for a period of not more than six months, or fined not more than \$50.00, or both.

7.2.5 *Export Meat Inspection Act*

Initially found in the Trust Territory Code of 1970, this lengthy Act provides for the regulation of export of meat and meat products. Methods of slaughtering, postmortem examinations, labelling, sanitation inspections, control of handling and storage are all covered. General penalties for conviction of violations of the Act are a fine not exceeding \$1,000 or a term of imprisonment not exceeding one year, or both.

CHAPTER EIGHT

MINING AND MINERALS

8.1 Administrative Structure

8.1.1 Marshall Islands Marine Authority- OPS

The Marshall Islands Marine Resources Authority, an independent statutory authority with links to the Ministry of Resources and Development, has the responsibility for the management of activities surrounding the exploration and exploitation of mineral resources. In late 1991, MIMRA transferred its responsibility for coordinating mineral resources exploration and exploitation to the Office of Planning and Statistics.

8.1.2 Office of the President

The Office of the President has taken an interest in the exploration of the Republic's mineral resources. A Consultant on Mining to the RMI government works with the Office on behalf of the government in the coordination of various testing and survey efforts.

8.2 Existing Legislation

8.2.1 *Marshall Islands Marine Authority Act 1988*

The *Marshall Islands Marine Authority Act 1988* gives MIMRA the power and duty to conserve, manage and control the exploration and exploitation of all nonliving resources in the Fishery Waters, seabed, and subsoil (*Marshall Islands Marine Authority Act*, Section 11(1)(a)).

Section 28 of the Act allows the Authority, or the Director on its behalf, to issue licenses for the exploration and exploitation of the nonliving resources of the Fishery Waters, seabed and subsoil. The licenses are subject to such terms and conditions as the Authority may prescribe from time to time by regulation. Regulations have not yet been enacted.

8.2.2 *RMIEPA Earthmoving Regulations*

These Regulations have been summarized in the Agriculture and Agro-forestry Chapter Six, 6.2.5, above. Drafted pursuant to the *National Environmental Protection Act 1984* and repealing 63 Trust Territory Code Chapter 13, Subchapter III, the Regulations control all "earthmoving activities", defined as "any construction or other activity which disturbs or alters the surface of the land, a coral reef or bottom of a lagoon." This definition includes mineral extractions.

These Regulations facilitate the environmental oversight of mineral extractions occurring on land, the coral reef, or lagoon bottom. This language is the sole environmental legislative tool for the control and management of land-based mining operations. In concert with the *Marshall Islands Marine and Natural Resources Act* language above, which allows regulation of all marine waters, seabeds and subsoil, environmental control of all potential mining areas is possible at the regulatory level.

8.3 Key Issues

8.3.1 Mineral Reserves Exploitation

At present, there are no public or private mining ventures ongoing in the Republic. RMI has, however, recently welcomed international testing and surveying of its potential mineral deposits. Germany, Japan, South Korea, the United States, and the People's Republic of China have each surveyed or are currently surveying various land and marine areas within the Exclusive Economic Zone of RMI. A current United States survey is assessing geomagnetic fields in deep-sea trenches within RMI. As the RMI harbours scarcely 70 square miles of coral atoll land and over

7.2.6 Draft RMIEPA Pesticides Regulations

These Regulations were drafted in 1990 pursuant to the *National Environmental Protection Act 1984* and repeal 63 Trust Territory Code Chapter 13, Subchapter IV. They are one part of an ongoing RMIEPA Legal Project to develop a comprehensive national environmental regulatory scheme.

The purpose of the draft Regulations is to establish a system of control over the importation, distribution, sale, or use of pesticides by persons within the Republic of the Marshall Islands. Under the draft Regulations, persons desiring to import a pesticide into RMI must submit a "notice of intent", that is, a statement indicating an intention to import, to RMIEPA before the arrival of the pesticide shipment. Upon arrival of the shipment, RMIEPA shall inspect and may release the pesticide.

Under the draft Regulations, RMIEPA may restrict any use of a pesticide when misuse by applicators has produced or is likely to produce substantial adverse effects on human health or the environment. Part X of the draft Regulations lists forty-three such "Restricted Use Pesticides." RMIEPA may also ban pesticides producing substantial, adverse effects on human health and the environment.

The draft Regulations require Permits in two circumstances:

- (1) Every person engaged in the sale or distribution of restricted use pesticides and every person importing restricted use pesticides who is not a certified applicator must obtain a permit from RMIEPA.
- (2) Every person wishing to conduct small scale laboratory or field tests of an unregistered pesticide use must obtain an experimental use permit before conducting such tests.

Additionally, the draft Regulations establish a system to certify private and commercial pesticide applicators.

7.2.7 RMIEPA Earthmoving Regulations

These Regulations, drafted pursuant to the *National Environmental Protection Act 1984* and repealing 63 Trust Territory Code Chapter 13, Subchapter III, came into effect on May 20, 1989. The Regulations control all "earthmoving activities", defined as "any construction or other activity which disturbs or alters the surface of the land, a coral reef or bottom of a lagoon." This definition includes all excavations, dredging, embankments, land reclamation, land development, mineral extraction, ocean disposal, and the moving, depositing or storing of soil, rock, coral, or earth.

The general purpose of the Regulations is to prevent accelerated erosion, accelerated sedimentation, and disturbance of potential cultural resources during the earthmoving process. To accomplish this, persons engaged in earthmoving activities must design, implement and maintain effective erosion control plans, sedimentation control plans, and cultural preservation measures.

Any person engaged in an earthmoving activity must apply for a permit. Only two classes of people are exempt: those who move earth by plowing or tilling for agricultural purposes, and those who are building or adding to a one or two family residence. Although agricultural plowing and tilling does not require a permit, Section 22(b) requires those engaged in such activities to otherwise comply with all regulatory provisions.

20. Further coordination is required between RMIEPA, the HPO, and all classes of landowners. Currently, RMIEPA meets on a regular basis with Majuro landowners regarding litter control. Those meetings should be extended to include the sensitive subjects of gardening, land use planning and potential agricultural degradation of land and cultural resources.

Pesticide Regulations

21. Enact and enforce RMIEPA draft *Pesticide Regulations*. Imported pesticides now enter RMI in unrestrained numbers and uncertain concentrations.
22. Develop a pesticides applicator certifying system.

Quarantine legislation

23. Draft a new *National Quarantine Act* and subsidiary regulations are required, to reflect current Marshall Islands concerns. Impose stronger penalties for infractions.
24. Enforce quarantine and import/export protection. The Plant and Animal Quarantine section of the Division of Agriculture requires increased staffing levels in order to provide effective enforcement.

7.2.8 Regulations Governing Land Modification Activities 1991

These Regulations were recently proposed by the RMI Historic Preservation Office (HPO) within the Ministry of Internal Affairs pursuant to Section 8(a) of the *Historic Preservation Act 1991*. The Regulations have undergone public hearing and were approved by Cabinet on January 16, 1992.

The purpose of the Regulations is to protect the archaeological and historical heritage of RMI from destruction caused by development projects. "Development" includes the removal of any significant vegetation. The Regulations thus require HPO oversight of all future agricultural efforts within the Republic.

The draft Regulations require every developer, private or corporate, to announce any construction affecting the ground at least 30 days in advance of construction. The HPO then conducts a survey to determine whether archaeological sites are present or not. If sites are found, and if the sites are deemed significant for the heritage of RMI, the HPO may recommend that the development be relocated. If this is not feasible, an excavation may be undertaken to recover data contained in the site. Thereafter the development may commence.

The costs for survey, excavation and data analysis are borne by the developer. Marshallese corporations proposing development with less than 30% foreign capital must bear all costs up to 5% of the overall development sum. Any costs for investigations exceeding this sum are borne by the HPO. If the development is funded by more than 30% foreign capital, or if the development is funded by U.S. Federal funds, overseas aid, or by the national government of the Republic, then the entire costs for survey, data recovery and data analysis shall be borne by the developer.

7.3 Key Issues

7.3.1 Overview

The 29 atolls of the Marshall Islands, including approximately 1,255 islets, are composed of flat limestone reef materials barely rising above sea level. The soils are nutrient-poor. High average wind speeds, salt spray and high evaporation rates result in high surface salinities which impede the growth of plant life (Crawford; p.3). These stressful conditions frustrate agricultural production. Food shortages continue to plague RMI. Producing adequate amounts of food for human consumption from nutrient-poor soil remains a problem in many atolls of the Republic; at present most foods consumed in urban areas are imported.

Although RMIEPA has statutory authority to recommend soil conservation programs, staffing and training limitations have prevented RMIEPA from assuming that role. All present programmatic responses to agricultural issues, such as soil conservation, are managed by the Agricultural Division of the Ministry of Resources and Development.

7.3.2 Agro-forestry

Agro-forestry efforts were hampered until recently by significant declines in international copra prices, creating concomitant declines in the price paid to copra producers by the RMI Government. Recent world price increases, matched by a renewed Government commitment to elevated copra subsidies, has sparked renewed interest in copra production. Only about 16,000 acres of the 22,000 acres under coconut plantation is productive, and of the productive area 11,000 acres are under senile trees (RMI-OPS 1991; p.218).

7.3.3 Accelerated Erosion and Sedimentation

Land degradation as a result of agricultural practices is a problem in RMI. Commonly, agricultural projects do not assess potential environmental impacts. Accelerated erosion and sedimentation from unrestrained earthmoving exacerbates stress on nearby coral reefs. As

large-scale agricultural projects begin to be undertaken by the national government in the next five years, erosion and sedimentation impacts will increase. Landowners, used to absolute dominion over land in custom, remain resistant to attempted environmental regulatory oversight of land use, including agriculture.

The RMIEPA Board made a pointed policy judgment to exclude agricultural efforts from their Earthmoving Permit program. The Board felt that progressive public policy dictated the unfettered encouragement of agricultural programs and projects. The Historic Preservation Office, concerned by RMIEPA reluctance to require permits for agricultural earthmoving activities, and motivated by the unprecedented rate of destruction of historical sites, is currently initiating its own permitting system.

7.3.4 Agricultural Impacts on Cultural Resources

Prime settlement land is limited on the atolls of the Marshalls. What has been prime settlement land in the past is still prime land today, leading to a superimposition of archaeological and historic sites by modern structures. The dramatically increased level of physical and infrastructure development poses a serious threat to the well-being of available cultural and historic resources. Agricultural earthmoving activities in the wake of development projects regularly expose archaeological sites.

7.3.5 Pesticide Pollution

Pesticides are not yet in frequent use on most atolls of the Republic. When they are used, however, applicators are generally untrained in proper pesticide procedures. Further, many pesticides reach outer atolls in poorly marked containers. Even if containers are the original storage receptacles, often instructions as to hazards are printed in foreign languages. The Majuro Chamber of Commerce, concerned about increased costs, has resisted RMIEPA efforts to require pesticides labels to be printed in English and Marshallese. Many applicators are therefore completely unaware of the name, proper dosages, toxicity level, or dangers to plants or animals of the pesticides they use.

7.3.6 Quarantine and Import/Export Inspections

The Plant and Animal Quarantine section of the Division of Agriculture is poorly staffed, and under-equipped. Inter-island movement of goods is relatively unfettered. *Quarantine Regulations* are little known and rarely used. Enforcement is infrequent.

7.4 Recommendations

Licensing of earthmoving machinery drivers

17. Regulate gardening with heavy equipment, with special emphasis on areas of high archaeological value. Agricultural gardening is rapidly changing from traditional, small-scale gardening to large-scale mechanized gardening. Areas of environmental, archaeological and historic significance are threatened by this development.
18. Draft regulations to require the licensing of heavy or medium weight earthmoving machines. Require vehicle owners and operators to renew their operating license every one to two years. Provide a training program on the value of soil conservation, erosion control, and cultural preservation.

Better coordination

19. RMIEPA and the HPO administer concurrent earthmoving regulatory programs. The two agencies' permitting and enforcement programs should be operated jointly. One permit with signatures from each agency should be issued.