

REPORT ON

**TRAINING WORKSHOPS IN EFFECTIVE
MANAGEMENT OF HAZARDOUS MATERIALS,
HAZARDOUS WASTES AND CONTAMINATED SITES
FINAL PROJECT REPORT**

Submitted to :

South Pacific Regional Environment Programme

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Apia, Samoa

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1.0 INTRODUCTION

Management of hazardous materials, hazardous wastes and contaminated sites has become an increasingly important issue for Pacific Island Countries (PICs). In 1997, the Australian Agency for International Development (AusAID) in conjunction with the South Pacific Regional Environment Programme (SPREP), implemented the Persistent Organic Pollutants in Pacific Island Countries project (POPs in PICs) to address this issue. As part of the POPs in PICs project, a commitment was made to provide training to key personnel in PICs, in basic chemical handling and disposal procedures. As part of this commitment, Golder Associates were engaged by SPREP in October 2000, to design and deliver training workshops in thirteen PICs, with the aim of creating an awareness and understanding in each country on the effective management of hazardous materials, hazardous wastes and contaminated sites.

From October 2000 to March 2001, a total of fourteen workshops were delivered in the Cook Islands, Federated States of Micronesia (FSM), Fiji, Kiribati, Marshall Islands, Nauru, Niue, Palau, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu. To allow delegates from the four states of FSM the opportunity to participate in the training program, workshops were held in both Pohnpei and Chuuk with delegates from Kosrae and Yap attending each workshop respectively.

Eleven of the workshops were delivered over a five day period. Due to the occurrence of several unexpected events, such as public holidays and national elections, three workshops were held over a four day period. All required workshop material was covered during the later workshops by extending the amount of contact time each day. Each workshop included interactive activities and exercises, site inspections and practical field demonstrations.

The overall objectives of the workshops were to:

- Upgrade each country's capacity for the effective management of hazardous materials, hazardous waste and contaminated sites;
- Encourage the development of specific strategies for managing hazardous materials in each country; and
- Raise public awareness in local communities, of issues associated with the generation and management of hazardous wastes.

A Workshop Report was prepared following each workshop to provide a summary of major issues discussed and recommendations for future action. This Project Report, represents the compilation and analysis of information presented in each Workshop Report, including a summary of participant profiles, major issues identified for each country, information on country specific action plans and progress made towards achieving project objectives. Key considerations in the development of future regional action programs and funding initiatives are also discussed.

2.0 PARTICIPANT PROFILE

A total of two hundred and forty three delegates attended the training workshops. A summary of the number of participants attending each workshop is provided in Table 1. Delegates attending each workshop represented a variety of government departments and private industries that deal with or use hazardous materials, hazardous wastes and / or contaminated sites. As shown in Table 1, almost eighty percent of the delegates represented the public sector, with the remainder representing the private sector. This large percentage of government delegates somewhat reflects the high number of government employees that make up the workforce in the majority of participating countries. Delegates were generally middle management staff, operational personnel or training officers. In some countries, senior officials or politicians attended to officially open and close workshop proceedings but did not remain for the delivery of technical workshop modules.

Table 1 – Summary of Workshop Participants

Country	Public Sector	Private Sector	Total
Cook Islands	11	5	16
Fiji	9	7	16
FSM (Chuuk / Yap)	17	1	18
FSM (Pohnpei / Kosrae)	15	4	19
Kiribati	11	3	14
Marshall Islands	10	8	18
Nauru	12	1	13
Niue	12	1	13
Palau	23	6	29
Samoa	17	5	22
Solomon Islands	18	1	19
Tonga	10	2	12
Tuvalu	12	2	14
Vanuatu	13	7	20
TOTAL	190	53	243
Total Percentage	78%	22%	100%

3.0 MAJOR IN-COUNTRY ISSUES IDENTIFIED

The local knowledge of workshop delegates provided important information on the major issues facing each country with regard to the management of hazardous materials, hazardous wastes and contaminated sites. A complete inventory of in-country issues identified, listed in order of most common through to least common, is provided in Table 2.

The most commonly identified issues included the need to upgrade existing national hazardous waste management facilities and a lack of legislative and regulatory controls on hazardous materials management.

General comments received from delegates, confirmed the need for each country to develop appropriate environmental legislation, guidelines or similar protocols for the management of all waste streams, including hazardous wastes. In countries where suitable legislation had been developed, a lack of enforcement programs meant little was being done to rectify poor management practices. Delegates indicated that gaps in legislation and the lack of enforcement of existing legislation resulted in ad hoc waste management practices that often failed to protect environmental values. Development of stricter legislative controls was identified to provide for control of industrial discharges and regulation of the importation, storage and application of hazardous materials.

Raising community awareness and the need to develop a co-ordinated approach between government departments were also identified as an important issue facing many countries. A number of delegates expressed the need for education of senior government officials as well as the general public. This would provide the essential foundation for implementing future hazardous materials programs, developing new legislation and better management of hazardous materials in general. On-going community education programs would facilitate the required change in public attitudes towards hazardous waste management and would support agreed commitments within government programs.

Table 2 - Summary of In-Country Issues Identified

Issues	Country															
	Cook Is.	Fiji	FSM				Kiribati	RMI	Nauru	Niue	Palau	Samoa	Solomon Is.	Tonga	Tuvalu	Vanuatu
			Chuuk	Kosrae	Pohnpei	Yap										
Amend and develop legislation for the management of hazardous materials, including development of import controls	3	3	3		3	3	3	3	3	3	3	3	3	3	3	
Provide follow up programs and ongoing training	3	3	3	3	3	3	3			3	3	3	3		3	3
Upgrade waste management facilities, including need for proper hazardous waste storage and disposal options	3	3	3	3			3		3	3	3	3	3	3	3	3
Implement training programs in areas of: First Aid and OH&S procedures, contaminated sites remediation and general management of hazardous materials		3	3	3	3	3			3	3	3				3	3
Increase and improve access to technical resources, including the internet		3	3					3		3	3	3	3	3	3	3
Assessment and monitoring of existing contaminated sites required and establish a contaminated sites register		3							3		3	3		3	3	3
Develop an integrated approach to waste management between government departments	3									3		3	3	3	3	3
Need for increased access to and knowledge of PPE , including reductions on import duty's for such equipment	3	3		3	3		3						3		3	

Issues	Country															
	Cook Is.	Fiji	FSM				Kiribati	RMI	Nauru	Niue	Palau	Samoa	Solomon Is.	Tonga	Tuvalu	Vanuatu
			Chuuk	Kosrae	Pohnpei	Yap										
Need for increased public awareness								3		3	3	3	3	3		
Further information required on impacts of hazardous waste on the environment and human health			3						3	3	3		3			
Increase powers of inspection and enforcement, including the conduct of environmental audits on industries			3		3		3				3			3		
Provision of funding for hazardous waste programs		3						3				3	3			
Further information required on the status of the Basel and Waigani Conventions. and countries to seek ratification.								3		3				3	3	
Recycling programs to be implemented (note however that sometimes local cultures do not encourage recycling and reduction methods.	3					3	3						3			
Need for centralised chemicals / hazardous materials store		3	3				3	3								
Increased government role required in waste education, disposal and monitoring.	3										3		3			
Further information required on monitoring and remediation of contaminated sites	3													3	3	
Need to generate awareness amongst decision makers							3			3			3			
Implement site management plans													3	3	3	

Issues	Country															
	Cook Is.	Fiji	FSM				Kiribati	RMI	Nauru	Niue	Palau	Samoa	Solomon Is.	Tonga	Tuvalu	Vanuatu
			Chuuk	Kosrae	Pohnpei	Yap										
Establish contacts with waste treatment companies		3		3	3											
Need for intergovernmental co-operation		3				3										
Need for improved labeling of imported chemicals		3									3					
Need for implementation of cleaner technology							3				3					
Develop industry standards, best practise and environmental performance guidelines		3									3	3				
Control bilgewater discharges					3		3									
Develop a regional resource and skills database		3														
Incorporate remedial technology into University of South Pacific courses		3														
Upgrade fire response services								3								
Develop an integrated waste management plan											3					
Review pesticide application												3				
Prepare an asbestos management program		3														
Establish an in-country bioremediation task force		3														
Need for translation of educational material, bilingual signage and MSDS'																3

4.0 ISSUES IDENTIFIED IN WORKSHOP EVALUATION FORMS

Workshop evaluation forms were distributed during each workshop to assess the effectiveness of the workshop in meeting project objectives and to provide delegates with the opportunity to provide feedback on course content and delivery.

Issues most commonly raised in the evaluation forms were the need for:

- Future training programs on hazardous waste management;
- Increased access to information, including internet access and technical publications; and
- The need to develop legislation for the management of hazardous materials and contaminated sites.

The frequent reference to the need for future training programs supported the notion that ‘once-off’ programs would not necessarily change people’s attitudes or current practices with regard to hazardous materials and hazardous waste management. On-going training programs that targeted senior government officials, industry representatives, and other individuals and groups involved in chemicals management, may assist in achieving a more unified approach towards future waste management programs.

Increasing access to technical and other information, would better equip government officials, private industries and the general public, to make more appropriate decisions regarding the management of hazardous materials, hazardous wastes and contaminated sites. Most delegates, and in particular government representatives, expressed difficulty in identifying and accessing suitable technical information. Better access to such information would also alleviate the need for external training programs and reduce the requirements for outside support.

As previously discussed, specific legislation dealing with the management of hazardous materials and hazardous wastes needs to be developed and adequately enforced to better manage the environmental and health impacts associated with these materials. The current lack of appropriate legislation and enforcement processes, is reported to be resulting in the adoption of substandard management practices.

The majority of delegates reported the workshop content and style of presentation was effective, easy to follow and relevant to the given situation. As English was not the national language for most countries visited, some delegates reported difficulty following and contributing to workshop discussions. This was particularly evident in multi-lingual countries such as Vanuatu. Feedback received to address this issue, included the need for production of workshop materials in local languages.

5.0 COUNTRY SPECIFIC ACTION PLANS

During each workshop, a country-specific action plan was developed and agreed to by workshop delegates. Each Action Plan identified tasks and procedures that could be carried out by individuals, government departments and private industries to address the major in-country issues identified. Responsibilities for implementation and timeframes for completion of each action item were recorded. Because external interventions would take time to organise, delegates were encouraged to develop action items that could be implemented in-country using locally available resources and funding.

A copy of each Action Plan developed at the fourteen separate workshops is provided in Appendix A. It is recommended that the status of each plan is monitored through the official project web-site, which is discussed in more detail in Section 7.0.

6.0 CONSULTANT RECOMMENDATIONS

Based on the training workshop outcomes, Golder Associates also developed various country-specific recommendations to help address the major issues discussed at each workshop. In preparing recommendations, consideration was given to the cultural, social-economic and environmental characteristics of each country. Furthermore, recommendations prepared by Golder Associates often highlighted sensitive issues that were discussed during the workshops as items that needed to be addressed, but were not necessarily reflected in the actions plans. This is generally due to delegate perceptions that they were not in a position to make recommendations as freely as those that could be made by an independent third party.

A summary of priority recommendations developed across a large number of workshop's are as follows:

- Development of appropriate legislation and environmental guidelines for management of hazardous materials and hazardous wastes and implementation of an effective public awareness campaign;
- Construction and operation of centralised hazardous waste storage facilities;
- Implementation of recycling programs;
- Upgrading of existing landfills to manage hazardous waste streams;
- Development of site management plans; and
- Investigating options for ratifying the Basel and Waigani conventions.

Other recommendations developed included:

- Implementation of a co-ordinated approach to waste management through the formation of a waste management taskforce or chemicals management committee;
- Implementation of training (including train the trainer programs) in areas of first aid, chemical safety and contaminated site assessment and remediation and inclusion of appropriate material in USP courses and subjects;
- Development of contaminated sites and hazardous material databases;
- Review and updating of emergency response procedures; and
- Investigation of environmentally sustainable energy alternatives.

7.0 ACHIEVEMENT OF PROJECT OBJECTIVES

Details of progress made towards achieving the overall project objectives is discussed below.

Objective: To upgrade each country's capacity for the effective management of hazardous materials, hazardous waste and contaminated sites.

The presentation style adopted for each workshop was aimed at maximising the effectiveness of the training program by enhancing learning opportunities for workshop delegates. This was achieved through the delivery of an interactive workshop, where discussion of ideas presented and country-specific issues were encouraged. The use of a number of different learning aids including handouts, case studies, posters, group activities, the use of different media for presenting information, site visits and field demonstrations were important tools in effectively conveying information and generating discussion amongst delegates. Controlling the number of delegates at each workshop also allowed for greater group participation and enabled facilitators to personally interact with each delegate. This particular approach was selected by Golder, because it is our experience that adults learn most effectively from an interactive process, where opinions and ideas are actively discussed, as opposed to a formal presentation style, where discussion amongst attendees is limited.

Workshop delegates reported that the workshops were extremely useful and they had learnt a number of important things regarding the effective management of hazardous materials, hazardous waste and contaminated sites. This was evident throughout the workshop as delegates were asked to apply the techniques and information learnt to actual situations occurring in country. For example, during Day 3 of the workshop, delegates were asked to develop Site Management Plans for actual sites containing hazardous materials or hazardous wastes. Also on Day 3, delegates designed an in-country hazardous goods store based on safe design and segregation requirements for hazardous materials.

In addition to the “one-off” presentation of information during the workshop, a number of initiatives were taken to ensure delegates had continuing access to information after the workshops had been completed. Each delegate was provided with a manual which contained detailed information on all material discussed during the workshop as well as information on where to access additional resource materials if required. An official project web site has also been established at www.hazchems.com to enhance communication between countries and provide ongoing support to participating agencies. The web site provides information on each workshop, including a list of workshop delegates, contact details for workshop facilitators and links to other useful resources. It provides a facility for delegates to request information or provide feedback on specific issues and creates links between each country for the exchange of information and ideas. Copies of workshop modules and country specific actions plans are also available on the web site.

The capacity of each country to effectively manage hazardous materials, hazardous waste and contaminated sites has improved as a result of the training workshops. However, this is mainly associated with the transfer of new skills and techniques and an increased understanding of the processes involved in managing hazardous materials. It is important to note that the majority of delegates attending each workshop were either operational or middle management personnel and therefore the application of skills learnt is restricted to small scale, site specific operations. Increased government support with regard to such things as funding, legislative and policy amendments and resource allocation would be required if a holistic approach to hazardous materials management is to be achieved.

Objective: To encourage the development of specific strategies for managing hazardous materials in for each country.

During each workshop, a number of activities were undertaken to enable delegates to develop country specific strategies for managing hazardous materials. These included:

Development of Site Management Plans for the day to day management of sites or stockpiles containing hazardous materials or hazardous wastes. Sites for which management plans were developed where selected and agreed to by workshop delegates;

Design of a hazardous goods store for the storage of hazardous materials stockpiles, based on international safe design and segregation requirements. Stockpiles targeted were selected and agreed to by workshop delegates; and

Development of an Action Plan, which outlined tasks and procedures that could be carried out by individuals, government departments and private industries to address the major in-country issues identified. Each Action Plan was developed by workshop delegates, with the facilitator providing guidance and advice only if required. To encourage implementation of various actions outlined, responsibilities and timeframes for completion of each action item were recorded. To avoid reliance on external assistance, delegates were also encouraged to develop action items that could be implemented in-country using locally available resources and

funding. A copy of each Action Plan developed at the fourteen separate workshops is provided in Appendix A. These Action Plans will also be available on the project web site and shall give delegates and participating governments the chance to monitor progress on each action plan across the region.

Objective: Raise public awareness in local communities, of issues associated with the generation and management of hazardous wastes.

A significant amount of media coverage was generated during each of the fourteen workshops. This included articles and stories reported in local and national newspapers, radio and TV stations. A summary of specific media releases generated before, during and after each workshop is provided in Table 3.

Media coverage generated as part of the training workshops was used to:

1. Inform the public about the workshop, including when and why it was being held, types of delegates attending and specific outcomes expected to arise from the workshop; and
2. Provide information on the health and environmental impacts associated with current uses of hazardous materials and hazardous wastes identified in each country. For example, during the workshop in Tuvalu, it was identified that many families were using sawdust generated from CCA treated timber as a fuel in cooking fires. Following completion of the workshop, the Waste Management Co-ordinator, within the Waste Management Unit, Ministry of Natural Resources and Environment, delivered a number of radio announcements to inform people of the dangers associated with this activity and the sawdust stockpile was subsequently collected and disposed of to the Funafuti landfill. During a site visit in Vanuatu, several shipping containers were identified at Teouma, on the outskirts of Port Vila, that were being used to stored obsolete agricultural chemicals. A local ni-Vanuatu man was reported to be living in one of the containers despite repeated requests to move. Following the workshop an article was prepared, and printed in "The Trading Post" newspaper, which highlighted the dangers associated with this situation.

Table 3 – Public Awareness Activities Arising From Workshops

Media Sources	Country												
	Cook Is.	Fiji	FSM	Kiribati	RMI	Nauru	Niue	Palau	Samoa	Solomon Is.	Tonga	Tuvalu	Vanuatu
Pre-Workshop													
Newspaper	3	3	3	3					3	3	3		
Television							3						
Radio													
During Workshop													
Newspaper	3				3	3		3	3	3		3	3
Television	3					3	3		3		3		
Radio				3	3					3		3	
Post Workshop													
Newspaper		3		3	3				3				3
Television							3						3
Radio				3								3	

8.0 FUTURE REGIONAL PROGRAMS AND FUNDING INITIATIVES

Based upon observations made during each workshop and discussions with workshop delegates, the following issues are noted with regards to future regional programs and funding initiatives:

- As senior government officials and other key decision makers did not attend the workshops, the required policy and legislative changes may not be forthcoming. Although delegates attending each workshop were extremely capable and were aware of the current in-country issues relating to the management of hazardous materials, they often lacked the authority or influence to initiate change, without additional support. (Note however that in Palau, the workshop delegates were asked by a senior government official to cost proposed Action Plan items and submit them for budget consideration by the incoming administration). Future activities should include programs targeted at higher level management to discuss and highlight the national and local benefits associated with the effective management of hazardous materials;
- A lack of (or misuse of) resources, including available funding, appears to be restricting the development and implementation of large scale hazardous materials storage and disposal facilities. Future donor programs should be encouraged to include the provision of effective skills transfer programs as well as consideration of the long term sustainability of the particular facilities being developed;
- A number of countries participating in the POPs in PICs project, are yet to either signify or ratify the Basel and Waigani Conventions. Although the importance of being a signatory to each convention (or at the least the Waigani convention) was discussed with regard to achieving Phases 2 and 3 of the POPs in PICs project, workshop delegates, while agreeing in principal, generally felt that this was a matter that needed to be addressed by decision makers within the national government; and
- Some form of post-workshop follow up is essential to achieving the outcomes of the training program. Achievement of actions items listed in the country specific action plans should be formally monitored and on-going contact with in-country contacts maintained. The official project web-site should also be maintained for at least the next twelve months to provide delegates with the opportunity to network and gain access to useful information as required. If considered necessary, SPREP may wish to allocate specific resources to this activity.

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APPENDIX A
Country Specific Action Plans

General Action Plan for Chuuk, FSM

ACTION	WHO	TIMELINE
Coordinate Funding for PPE and other equipment (ie. computer facilities)	EPA, National Government, Foreign Aids	Immediately
Coordinate a system to deal with existing stockpiles of pesticides and PCBs.	EPA, Department of Agriculture, Disaster Control Office, CPUC, Chuuk Transportation, Department of Public Safety, Department of Public Works, Civil Action Team	Upon availability of above funding
Raise Public Awareness (ie. Radio programs and training for other government agencies and departments)	EPA, Department of Education	Immediately
Commence efforts to implement a hazards benefit allowance for personnel	State Government, National Government, Private Sectors	10/01
Efforts to attain technical assistance for sampling and analysis at PCB contaminated sites	EPA, National Government	03/01
Designate a central storage location for hazardous wastes	EPA	02/01
Control the importation of substances	EPA, Customs, Department of Public Safety	03/01
Implement the enforcement of existing environmental regulations	EPA, Department of Public Safety, State Government	06/01

General Action Plan for the Cook Islands

ACTION	WHO	TIMELINE
Development of regulations and monitoring of regulations to put into effect the existing legislation on pesticides.	Environment Service/Pesticide Board/Health Ministry/Ministry of Agriculture	
Develop a total and integrated waste management plan for Cook Islands	Environment Service/Pesticide Board/Health Ministry	
Industry to ensure that PCB is safely stored, if on site	Industry	
Revise the existing recycling programmes for aluminium cans and glass and increase public awareness of it	Environment Service	
Waste Oil to be returned to supplier. Mobil to expand existing service to domestic consumers. The other oil company to be encouraged to provide the same service. (Transport costs are a problem for other islands)	Environment Service, individual SOE	
Ensure the waste oil at Aitutaki is secured	Environment Service or Power Company or Aitutaki Island Government	
Use the routine General Inspection for Public Health as an opportunity for education of the public on managing domestic waste	Health Ministry	
Convene a working group to identify the key sectors where Codes of Practices/Standards are required	Industry, Government, SOE	07/01
Reconvene existing Pesticide Board to consider its current role, or a changing role in managing hazardous substances, or to develop guidelines on pesticide disposal.	Ministry for Agriculture	06/01
Continue with the Integrated Pest Management Strategy – field work, research, training, farmer education	Ministry of Agriculture	On-going
Marine Oil Spill response plan	Environment Service/Others	
Use a landfill management plan to monitor and control activities at the proposed landfills, including monitoring, type of waste to be deposited, controlling burning and access.	Environment Service	
Increase control of activities at the old landfill e.g. controlled access, monitoring and third party inspections, increased separation of waste	Environment Service	
Guidelines on disposal of hazardous waste	SPREP	2006
Increase resources, equipment and training for Environment Service for monitoring and compliance	Environment Service	
To identify all procedures required to collect and send samples away for analysis overseas, in the event that there was a significant incident.	Environment Service	03/01
Feedback to people within each organisation on the workshop	All participants	03/01

General Action Plan for the Cook Islands (Cont'd)

ACTION	WHO	TIMELINE
Develop maintenance programmes within industry and government to minimise the potential for generation or release of hazardous material	Management within industry and government	
Internal audit of site management procedures	Mobil	07/01
Audit of Compliance of Avatui Power Station	Avatui Power Station	02/01
Raise awareness of hazardous waste management by providing additional copies of SPREP video	Golder Associates/SPREP	02/01
<p>The Environment Service has a waste management programme in place. It could consider and report back on the following ideas to raise awareness of waste management</p> <ul style="list-style-type: none"> • school curriculum, • farmer education • World Environment Day, • media, • posters/pamphlets • newsletter. 	Environment Service (with Ministry of Agriculture for farmer education)	03/01

General Action Plan for Fiji

ACTION	WHO	TIMELINE
Revise and update Draft Workplace Conditions legislation	Department of Health	06/01
Review the Draft Mining Act including: hazardous waste and mine closure/rehabilitation.	MRD and Department of Environment	06/01
Develop hazardous chemicals/waste, mining and exploration activities waste audit program.	MRD and Department of Environment	06/01
Review incident/emergency response plan for mining operations, particularly for hazardous chemicals	MRD and Department of Environment	09/01
Disposal of contaminated solvents and waste oil to Fletcher Steel Ltd.	Waqā Ledua / Hira Lai, Orica, Fletcher Steel	02/01
Design new labels for repacked chemicals	Waqā Ledua /Orica	06/01
Implement a national program for waste management planning	Department of Environment, NGO's	Annual Review
Implement source segregation into the landfill and reduce landfill volume in general	Schools through CSSP and UPS	Annual Review
Review and implement chemical management at USP and IAS	USP and consultants	12/01
Develop a register for contaminated sites	Department of Environment/Local Authority	12/02
Establish an in-country remediation task force	CSSP / Department of Environment	2001
Undertake large scale remediation trials	CSSP/USP	2001

General Action Plan for Kosrae, FSM

ACTION	WHO	TIMELINE
Create HAZMAT taskforce	Attendees	July 2001
Post details of equipment supplier details on hazchems.com website	Golder	May 2001
Post details of recycling companies on hazchems.com web site	Golder	June 2001
Initiate hazardous materials management plan	HAZMAT Taskforce	March 2002
Create Contaminated Site Register based on POPs in PICs report	EPAs / DRC	September 2001
Create hazardous materials import / export database	National / State (Customs, Quarantine, Health, EPAs, DRC)	December 2001
Review, update or amend environmental regulations to improve enforcement ability	Heads of States / National EPAs, DRC and SPREP	March 2002
Publish bi-annual status report on status of POPs in PICs project (all phases)	Environment Unit to seek information from SPREP	September 2001
Develop hazardous materials information network in-country and regionally	HAZMAT Taskforce	September 2001
Initiate education program on hazardous materials and recycling in communities	EPAs / DRC / Education / HAZMAT Taskforce	April 2001
Provide examples of hazardous materials management plans	Environment Unit to seek assistance from SPREP	September 2001
Improve import regulations to include English translations on materials and health and safety training	HAZMAT Taskforce	March 2002
Initiate and update health and safety regulations	HAZMAT Taskforce	March 2002
Train-the-trainer programs in hazardous materials management	Environment Unit to seek assistance from SPREP	2002
Provision of suitable personal protective equipment (PPE)	HAZMAT Taskforce	March 2002

General Action Plan for Kiribati

ACTION	WHO	TIMELINE
Initiation of a plastic bag recycling/elimination program	Environmental and Conservation Division/Federation of the people of the South Pacific	2002
Plastic cup reduction/reuse program	Education Department/Peace Corps	09/01
Letter campaign to MP's for the signing of the Basel Convention	Workshop Participants	05/01
Public information campaign for hazardous materials	ECD/Peace Corps	04/01
Register of contaminated sites and areas	ECD	03/01
Investigaaion of warehouse facilities at Betio port for the storage of hazardous chemicals and materials	Ministry of Health, Ministry of Agriculture & Customs Dept.	09/01
Monitor S.A.P.H.E. project progress	Ministry of Health, Ministry of Agriculture, participants as Hazchem team under ECD	04/01 – next meeting

General Action Plan for the Republic of Marshall Islands

ACTION	WHO	TIMELINE
Initiation of a bilgewater disposal programme.	Ministry of Health and Environment	05/01
Establishment of the statutes regarding the Basel and Waigani Convention commitment.	Ministry of Health and Environment Ministry of Foreign Affairs	04/01
Initiation of a waste recycling/collection programme for car batteries.	Ministry of Health and Environment	08/01
Undertake a waste audit of Majuro.	Department of Public Works, Local Government, Ministry of Health and Environment	09/01
Investigation of options and preparation of a funding proposal for an incinerator for Majuro.	Ministry of Health and Environment, Department of Public Works	02/02
Initiation of a plastic bag education programme.	Department of Education, Ministry of Health and Environment	05/01
Relocation of Uliga Elementary School and surrounding residents.	Ministry of Education, Ministry of Environment	05/01
Preparation of a funding proposal for two large autoclaves for Majuro Hospital Medical Waste.	Paul Lalita, Ministry of Health and the Environment	06/06

General Action Plan for Nauru

ACTION	WHO	TIMELINE
Investigation of the feasibility of restarting aluminium can recycling for the Island	Dempsey Detenamo	Feasibility 07/01 Initiation 01/02
Investigation of the feasibility of initiating plastics recycling.	Tim Aingimea	Feasibility 09/01
Public education program for waste reduction and recycling	Tara Akiri	07/01
Investigate waste oil recycling and feasibility	Pene Agadio	09/01
Formation of hazardous material and waste management taskforce	All participants directed by IED and NRC	05/01
Recommend the enactment of pending environmental, Occupational Health and Safety and Environmental Impact Assessment Legislation.	Golder Associates, SPREP & WMT	04/01
Carry out a public awareness program for waste and hazardous substance management	WMT	01/02
In country training in hazardous waste management and risk assessment	Nauru Gov. Departments, NPC and Attendees	10/01
Investigation of external funding sources for waste management infrastructure and training	Joseph	08/01
T.C.L.P. testing of cadmium slimes to assess potential environmental and public health hazard.	NPC & IED	05/01
Investigation of reported oil contamination of groundwater in Aiwo district.	NPC & IED	03/02
Repair or obtain new incinerator to improve current disposal practices of medical waste	WMT	03/03

General Action Plan for Niue

ACTION	WHO	TIMELINE
Form a Hazardous Chemicals and Waste committee, based on the inoperative pesticides committee	DAFF, DH, PWD	03/01
Responsibilities assigned and authority given to Hazardous Chemicals Committee	Govt	06/01
It is recommended that the following actions be considered by the committee		
<ul style="list-style-type: none"> • Control importation 	HCC	06/01
<ul style="list-style-type: none"> • Guidelines for hazard chemicals and hazardous waste 	HCC	08/01
<ul style="list-style-type: none"> • Site management plans for storage above specified volumes of hazardous chemicals 	HCC	
<ul style="list-style-type: none"> • Negotiating removal of hazardous waste with suppliers 	HCC	02/02
Discussion paper on co-ordination of environmental disciplines which are spread over a number of departments to strengthen it and make it more effective	DH	04/01
Discussion paper to government recommending appointment of OHS person	DH	03/01
Draft educational program	DH, ES DCA	08/01
Prepare Codes of Practice for key industries/activities	DH	02/02
Continue collection of recyclable material from residential premises eg batteries	DH	Ongoing
Include recycling of for hazardous waste when contracts are being negotiated eg waste oil	All	Ongoing
Education and public awareness	ES DCA, DH, DAFF	
Premises storing hazardous chemicals to provide a list and site plan to Fire Rescue	DAFF, DH, Niue Power	09/01
Signage and MSDS for hazardous chemicals held on site	DAFF, DH, Niue Power, Private Industry	09/01

General Action Plan for Palau

ACTION	WHO	TIMELINE
Expand hazardous materials regulations	Health, EQPB	06/01
Control chemical imports / enforcement	Customs Quarantine, EQPB	06/01
Ratify conventions for waste shipments	Foreign Affairs	12/01
Raise public awareness	Education, EQPB	12/01
Increase PPE availability	Commerce and Trade	03/01
Medical surveillance for at risk employees	R.O.P	TBA
Develop hazard allowances scale	TBA	TBA
Review PPE inventory	PNCC	02/01
Develop site management plan for APP	PPUC	03/01
Induction training module on chemicals	TBA	06/01
Review PPE and establish database	BPS/ Fire Division	06/01
Review conventions applicable	Office of President	03/01
Chemicals store at Water Treatment Plant	Water Dept/MRD	06/01
Establish central ordering for agricultural chemicals	DAMR	03/01
Implement hazardous waste plan	States, MRD	12/01
Establish national landfill	MRD	12/02

General Action Plan for Pohnpei, FSM

ACTION	WHO	TIMELINE
Create HAZMAT taskforce	Attendees	July 2001
Post details of equipment supplier details on hazchems.com website	Environment Unit to seek assistance from SPREP	May 2001
Post details of recycling companies on hazchems.com web site	Golder	June 2001
Initiate hazardous materials management plan	HAZMAT Taskforce	March 2002
Create Contaminated Site Register based on POPs in PICs report	EPAs / DRC	September 2001
Create hazardous materials import / export database	National / State (Customs, Quarantine, Health, EPAs, DRC)	December 2001
Review, update or amend environmental regulations to improve enforcement ability	Heads of States / National EPAs, DRC and SPREP	March 2002
Publish bi-annual status report on status of POPs in PICs project (all phases)	Environment Unit to seek information from SPREP	September 2001
Develop hazardous materials information network in-country and regionally	HAZMAT Taskforce	September 2001
Initiate education program on hazardous materials and recycling in communities	EPAs / DRC / Education / HAZMAT Taskforce	April 2001
Provide examples of hazardous materials management plans	Environment Unit to seek assistance from SPREP	September 2001
Improve import regulations to include English translations on materials and health and safety training	HAZMAT Taskforce	March 2002
Initiate and update health and safety regulations	HAZMAT Taskforce	March 2002
Train-the-trainer programs in hazardous materials management	Environment Unit to seek assistance from SPREP	2002
Provision of suitable personal protective equipment (PPE)	HAZMAT Taskforce	March 2002

General Action Plan for Samoa

ACTION	WHO	TIMELINE
Promote the adoption of a National Waste Policy	DLSE	04/01
Formalise a technical working group to co-ordinate responses	Cabinet/ National Government.	06/01
Introduce a community education program on hazardous materials	DLSE	04/01
Implement routine inspections of storage sites, stockpiles and known contaminated areas.	DL / DH / DLSE	09/01
Strengthen import controls on listed chemicals	CD	12/01
Provide additional chemicals handling training for key government personnel and operators	TWG	09/01
Develop design standards for chemical storage facilities	Fire Department / DLSE / PWD	08/01
Pursue Waigani Convention ratification to prepare for export of certain hazardous wastes	DLSE	12/01
Investigate key contaminated sites and develop remediation plans (including the Power Station and former timber treatment mill).	DLSE / MAFFM	06/02

General Action Plan for Solomon Islands

ACTION	WHO	TIMELINE
SPREP to be approached to assist in identifying aid sources for assistance with interim hazardous material storage and educational materials to raise broader public awareness.	Ministry of Forestry, Environment and Conservation	04/01
Honiara City Council to co-ordinate improvements to waste disposal problems at the Ranadi site. Emergency funding from external agencies to be sought.	Honiara City Council	-
Draft Environmental Legislation to be enacted and implemented.	Ministry of Health and Ministry of Forestry, Environment and Conservation	-
Review current DDT storage and handling procedures.	DLET OH&S division	07/01
Prepare report on medical wastes to enable an appropriate medical waste incinerator to be constructed.	Ministry of Health	12/01
Prepare industry guidelines for the use of PPE	Industry/ DLET OH&S division	2002
Form H&S committees in workplaces	All/industry	Ongoing
Commence radio programs to raise public awareness on hazardous materials issues	Ministry of Health	03/01
Develop regulations and procedures for Environmental Auditing.	Ministry of Health/ Ministry of Forestry, Environment and Conservation / DLET OH&S division	2002

General Action Plan for Tonga

ACTION	WHO	TIMELINE
Undertake a community awareness campaign to educate about hazardous materials.	MOE, DOE, MOW, MOH	12/01
Develop site management plans for relevant industry.	MOW, DOE, MOH	06/01
Allocate sufficient resources for implementing future departmental or community programs.	Parliament	12/01
Amend and develop legislation to assign departmental responsibilities and resources.	MOW, DOE, MOH	12/02
Remediate existing contaminated sites / stockpiles.	Site owners, DOE, MOW	12/02
Control chemical imports and develop a chemicals registrar for tracking chemical distribution.	Customs Department, DOE	06/01
Ratify the Basel and Waigani conventions for waste shipments.	Foreign Affairs	12/01
Place conditions on the suppliers of hazardous chemicals to ensure safe transport, handling and storage of chemicals.	MLCI, MOW	06/03
Implement a monitoring program for surface water and ground water near contaminated sites.	DOE, MOH	06/01
Develop a registrar of contaminated sites and potentially contaminating industries.	DOE	06/01
Remediate the existing landfill.	DOE, MOH	12/01
Implement a reliable rubbish collection system.	MOH, DOE	12/01
Upgrade the incinerator facility	MOH, DOE	06/03
Implement a recycling program to minimise waste generation (ie. waste oil, plastics, aluminium)	MLCI, DOE	06/02

General Action Plan for Tuvalu

ACTION	WHO	TIMELINE
Implement Site Management Plan at Hazardous Waste Store	WMP	11/00
Draft Site Management Plan for PWD and conduct PWD Supervisor Training	PWD	01/01
Purchase PPE for TSECS Staff (Outer Islands)	TSECS	01/01
Training in Monitoring and Testing for PICCAP Staff	PICCAP	01/01
Signage at Hazardous Waste Store and Staff Training	WMP	11/00
Conduct Training and provide PPE to TCS Branches (Outer Islands)	TCS	01/01
Raise Awareness of Department of Health staff	MOH	11/00
Prepare Site Management Plan for Hospital, including Chemical Inventory and Staff Awareness	PMH	01/01
Action Plan for Translation of Course Manual	FK	11/00
Conduct Audit of Site Management Plans Prepared by Various Organisations & Departments	Environment Unit	04/01
Raise Public Awareness <ul style="list-style-type: none"> • Radio Broadcasts (6 weeks) • Information Sheets, Posters & Public Information 	FK Public Health and MOH & MHA	11/00 to 01/01
Increase Availability of PPE	TCS and Hardware Stores	06/01
Include Hazardous Substances in Draft Bill for next Parliament Session	Drugs Committee	12/00
Prepare Funding Submission for Long Term Storage/Disposal for Outer Island Solar Batteries	TSECS	03/01
Establish Basic Testing Laboratory	MOE	06/01
Management Training	WMP	03/01
Budget Support for Actions	Ministerial Level	12/00
Tuvaluan Wording on HazChem Signs	Public Health Unit / Language Board	06/01
SPREP Liaison Concerning Future Programs	WMP	12/00

General Action Plan for Vanuatu

ACTION	WHO	TIMELINE
Develop effective education and awareness campaign on hazardous materials targeted to decision makers and public.	EU / PVM / HD	04/01 (& ongoing)
Enforce all existing legislation.	EU / All Depts	12/01
Implement a National Waste Policy to achieve segregation of hazardous wastes from general solid waste.	EU (& the proposed lead agency)	04-05/01
Use multi-lingual signage and labelling for hazardous materials and sites storing/handling chemicals.	LD	08/01
Prepare and maintain a contaminated land register for use in land planning programs.	DOL	07/01
Provide further training in hazardous material and waste management for key personnel.	EU	05/01
Transfer knowledge and procedures from private sector to government, including OHS techniques.	GTC	05/01
Upgrade information database on chemicals stored by industry for Fire Service use.	EU	12/01
Upgrade facilities for hazardous waste disposal at Bouffa Landfill and address existing site management practices.	EU / PVM / DOL	07/01
Consider ratifying Waigani convention and the POPs convention.	SLO	12/01

General Action Plan for Yap

ACTION	WHO	TIMELINE
Coordinating and implementing the closing, relocating and control over the existing landfill and the hazardous and non-hazardous waste in the landfill.	OPB, EPA, Public Health, Foreign Experts	12/01
Finalising the Draft Pesticide Regulations	OPB, EPA, Department of Agriculture	06/01
Coordinating funding for testing and cleanup of existing stockpiles	OPB, EPB, YMH, PW&T	10/01
Resuming the dismantling and clean up of shipwrecks	OPB, MRMD, EPA, PW&T, R/D	06/01
Organising a central location for hazardous waste storage	OPB, EPA, Foreign Experts, PW&T	06/01
Administration of a recycling facility in association with the landfill.	OPB, Department of Tourism, R/D	12/01
Identifying, labelling and classification of chemicals on contaminated sites	YSPSC	04/01
Education of necessary staff and enforcement of the use of PPE	YSPSC	04/01
Seeking of assistance and provision of awareness to the Local Traditional Leaders and Councils	EPA	07/01