

REPORT ON

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

WORKSHOP REPORT

TONGA

Submitted to :

South Pacific Regional Environment Programme

PO Box 240

Apia, Samoa

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ACRONYMS

CCA	Copper, Chrome, Arsenate (timber treatment chemicals)
DOE	Department of Environment
EPB	Electric Power Board
MAF	Ministry of Agriculture and Forestry
MOH	Ministry of Health
MOE	Ministry of Education
MOF	Ministry of Fisheries
MOMP	Ministry of Marine and Ports
MOW	Ministry of Works
MLCI	Ministry of Labour, Commerce and Industry
PCB	Polychlorinated Biphenels
PICs	Pacific Island Countries
POPs in PICs	Persistent Organic Pollutants in Pacific Island Countries Project
SPREP	South Pacific Regional Environment Programme

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, AusAID, in conjunction with 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, training workshops will be held in thirteen PICs to create awareness and understanding on the **effective management of hazardous materials, hazardous wastes and contaminated sites**.

A five day training workshop was delivered in **Tonga** during the period 19-23, February 2001, and included interactive activities and exercises, site inspections and practical field demonstrations. The workshops were designed and delivered by Golder Associates under contract to SPREP with the following objectives:

- To upgrade Tonga's capacity for the effective management of hazardous materials and hazardous waste;
- To upgrade Tonga's capacity for effective management of contaminated sites;
- To encourage the development of specific strategies for managing hazardous materials in Tonga; and
- To raise awareness in Tonga's communities of issues associated with the generation and management of hazardous wastes.

Prior to the workshop commencing, a pre-workshop questionnaire was prepared and sent to the in-country contact. The purpose of the questionnaire was to obtain preliminary information on participants understanding of hazardous materials management and any desired workshop outcomes. This questionnaire was unable to be distributed to the participants prior to the workshop commencing ~~and distributed to participants~~. This questionnaire was distributed and discussed at the beginning of the workshop. A summary of responses received from the questionnaires is provided in Appendix A.

2.0 WORKSHOP PARTICIPANTS

1.4.2.1 Organisations Represented

A complete list of workshop participants is provided in Appendix B.

1.22.2 Organisations Not Represented

Several applicable organisations with a significant involvement with hazardous chemicals were unable to send a representative to the training workshop, including:

- Ministry of Agriculture and Forestry ~~and Fisheries~~;
- Tonga Hospital;
- Customs Department;
- Tonga Timber; and
- Tonga EPB and Shoreline Power;

3.0 MAJOR ISSUES IDENTIFIED

The following major in-country issues were agreed by workshop participants, in order of priority:

1. There is a need for **community education and training** on the effective management of hazardous materials and contaminated sites to raise public awareness of the issues involved;
2. There is a need to implement **site management plans** for existing contaminated sites, existing stockpiles and potentially contaminating industries, including those not in attendance;
3. There is a need to **assign responsibility** to various government departments to manage the different aspects associated with the management of hazardous chemicals (ie. importation, contaminated sites, enforcement, site management plans, etc). This delegation of responsibility would need to be supported by **legislation** and/or **regulations**;
4. There is a need for **sufficient resources**, including financial and personnel to implement any future programs to effectively manage hazardous materials;
5. There is a need for **importation controls** and an accurate **chemicals registrar** to track hazardous materials entering Tonga;
6. There is a need to implement and maintain a **monitoring program** (ie. surface water and ground water) near existing contaminated sites and potentially contaminating sites to safeguard public and environmental health;
7. There is a need to **remediate the existing landfill** and implement an **efficient rubbish collection system** to reduce the potential of uncontrolled dumping; and

8. There is recognition that the use of an **incinerator** and the implementation of a **recycling program** would be beneficial to reduce the amount of rubbish disposed of the landfill.

4.0 COUNTRY REPORT UPDATE

The following current information was obtained from participants and/or during site inspections:

- The existing landfill is likely to contain a number of hazardous chemicals and presents a ~~likely~~ source of ground water and surface water contamination;
- Surplus CCA chemicals were noted as being stored at the Tonga Timber site, not the government store. Delegates did think that the timber treatment activity used to be conducted somewhere else, so there is a potentially contaminated site not covered under in the SPREP report.
- CCA sawdust is being provided for fuel; and
- Bitumen drums are provided for storage of drinking water.

~~2.0~~5.0 EVALUATION ISSUES

The following issues were noted in the daily workshop evaluation forms:

1. Requests for further information on specific health effects on the marine life from contaminated sites;
2. There is a concern about the low awareness of the hazardous chemical issues at higher levels of government;
3. There is a need for more participants to attend the workshop from a wider spectrum of industry and government to raise public awareness;
4. Requests for further information on the environmental fate of a number of relevant chemicals; and
5. Request to develop educational material suitable for schools on hazardous chemicals.

3.06.0 ACTION PLANS

3.16.1 General Action Plan

To address the identified major issues, during the workshop participants developed and agreed to implement the Action Plan shown in Table 1 below.

Table 1 – General Action Plan for Tonga

ACTION	WHO	TIMELINE	STATUS
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	

3.2

3.36.2 Action Plan for Existing Stockpiles

A proposed action plan to manage existing stockpiles of hazardous materials was developed by participants, following the site inspections, as shown in Table 2.

Table 2 – Action Plan for Existing Stockpiles

SITE NO.	SITE ACTIVITY	PROBLEMS	ACTION	RESPONSIBILITY
Tong01	Power Station	PCB contamination from old transformers	Proper storage of transformers. Remediate site contamination. Monitor lagoon waters.	Tonga EPB and Shoreline Power
Tong02	Vehicle servicing	Bitumen and oil contamination	Remediate contaminated soils. Developed suitable storage areas for chemical	MOW
Tong03	Timber Treatment Yard	Improper storage of CCA sludge	Properly label drums. Store drums in a separate container shed.	Tonga Timber

7.0 RECOMMENDATIONS

Based on the training workshop outcomes, Golder Associates recommendations to achieve the defined project objectives in Tonga are outlined in Table 3 below.

Table 3 – Recommendations Arising From Workshop

RECOMMENDATION	RESPONSIBILITY
1. Upgrade coverage of hazardous materials regulations (i.e. imports, transportation, storage, handling, use and disposal).	MOW, DOE, MOH
2. Undertake a public awareness campaign in 2001 to raise awareness of hazardous chemicals.	DOE, MOH
3. Review international conventions governing off-island transportation of certain hazardous wastes. The Basel and Waigani Conventions must be ratified to facilitate participation in regional disposal programs.	Parliament
4. Develop site management plans for relevant industries to ensure worker safety and environmental protection.	DOE, MOW, MOH
5. Develop a monitoring program of surface waters and ground waters near existing or potentially contaminated sites.	DOE, MOH
6. Ensure Material Safety Data Sheets are provided by all suppliers of hazardous chemicals and distributed to users.	MLCI, DOE, MOH
7. Provide educational workshops for workers regularly handling and using hazardous chemicals.	DOE, MOH

GOLDER ASSOCIATES PTY LTD

David Bruckner
Workshop Facilitator

Margaret Leonard
Workshop Facilitator

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APPENDIX A

Responses to Pre-Workshop Questionnaire

RESPONSES TO PRE-WORKSHOP QUESTIONNAIRE

3.4

Profile of Participants:

Participants representing the government sector included:

- MOH, DOE, MOE, MOW, MLCI, MOMP and MOF

Participants representing the private sector included:

Asian Paints Ltd and Shell Co. Ltd.

Expectations:

- Information on hazardous wastes;
- Managing hazardous wastes;
- Identifying hazardous wastes;
- Disposal of hazardous wastes (Industry);
- Handling hazardous wastes;
- Environmental effects;
- PIC's experience with hazardous waste;
- How to identify hazardous materials and contaminated land.

Current Perceptions on Hazardous Materials and Hazardous Wastes:

- There is an awareness that hazardous materials cause adverse health effects;
- There exists some uncertainties in regards to the health risks of certain chemicals.

Sites to Visit During Workshop:

- Tonga Timber site;
- Landfill site;
- Power Station;
- Hospital; and
- Ministry of Works Depot.

Techniques of Interest:

- Battery disposal;
- Management of waste oils.

Other Comments:

- There needs to be an improved public awareness of issues; and
- There needs to be a knowledge or awareness of health/first aid requirements.

Implications For Workshop: Participants included both operational personnel and regulators. The workshop needs to be able to cater for issues facing each of these groups.

APPENDIX B

Workshop Participants

| 4.0

WORKSHOP PARTICIPANTS

NUKU ‘ALOFA, TONGA

Name

Organisation

Workshop Participants (12)

Moses Fifita	Ministry of Health
Tevita Veituna	Ministry of Labour, Commerce and Industry
Paula Havea	Ministry of Education
Lou Pale	Ministry of Marine and Ports
Tukia Lepa	Department of Environment
Paula Taufu	Department of Environment
Michael Singh	Asian Paints Ltd
Tevita Puloka	Ministry of Works
Khokan Bagchi	AusAID
Anitimoni Petelo	Ministry of Fisheries
Asipeli Pavaki	Department of Environment
Taani Hau	Shell Co. Ltd

Facilitators:

Margaret Leonard	Golder Associates
David Bruckner	Golder Associates