

## **REPORT ON**

# **TRAINING WORKSHOPS IN EFFECTIVE MANAGEMENT OF HAZARDOUS MATERIALS, HAZARDOUS WASTES AND CONTAMINATED SITES WORKSHOP REPORT VANUATU**

Submitted to :

South Pacific Regional Environment Programme

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Apia, Samoa

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**ACRONYMS**

<b>DOF</b>	Department of Finance
<b>DOL</b>	Department of Lands
<b>EU</b>	Environment Unit
<b>GTS</b>	Government Training Centre
<b>HD</b>	Health Department
<b>LD</b>	Labour Department
<b>OHS</b>	Occupational Health and Safety
<b>PCBs</b>	Polychlorinated Biphenyls
<b>PICs</b>	Pacific Island Countries
<b>POPs in PICs</b>	Persistent Organic Pollutants in Pacific Island Countries Project
<b>PVM</b>	Port Vila Municipality
<b>SLO</b>	State Law Office
<b>SPREP</b>	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 (PIC's). 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 four day training workshop was delivered in Vanuatu from Tuesday 6 thorough Friday 9 March, 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 Vanuatu's capacity for the effective management of hazardous materials and hazardous waste;
- To upgrade Vanuatu's capacity for effective management of contaminated sites;
- To encourage the development of specific strategies for managing hazardous materials in Vanuatu; and
- To raise awareness in Vanuatu communities of issues associated with the generation and management of hazardous wastes.

Prior to the workshop commencing, a Pre-Workshop Questionnaire was prepared and distributed to workshop participants. The purpose of the questionnaire was to obtain preliminary information on participants understanding of hazardous materials management and any desired workshop outcomes. No responses had been received at the time of preparing this report.

## 2.0 WORKSHOP PARTICIPANTS

### 2.1 Organisations Represented

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

### 2.2 Organisations Not Represented

Several applicable organisations were unable to send a representative to the training workshop, including :

- Department of Geology and Mines and Water Resources;
- Physical Planning Unit;
- Rainbow Gardens;
- Air Vanuatu;

- Natural Disaster Office;
- Port Vila Hospital;
- Agricultural Supplies;
- Pacific Chemicals;
- Boral Gas;
- Luganville Municipality; and
- a number of major Port Vila resorts.

### **3.0 MAJOR ISSUES IDENTIFIED**

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

1. Limited effectiveness of existing waste education programs in reaching both decision makers and the public;
2. While some signage of chemical stores exists, there is limited multi-lingual (i.e. English, French and Bislama) signage and labelling. This limits the effectiveness of warning messages and essential information (e.g. recommended first-aid treatment);
3. Lack of co-ordination of hazardous chemicals management across government agencies;
4. Lack of hazardous waste disposal infrastructure;
5. There are numerous chemical stockpiles located in Vanuatu that are required to be better managed, particularly those arising from timber treatment and power generation activities;
6. Need for training of key government personnel in hazardous materials and waste management;
7. Need for better segregation of hazardous waste from general waste streams; and
8. Need for development of databases regarding the location and nature of existing and future chemical stockpiles and contaminated sites. This would provide essential management information to relevant agencies such as the Fire Service.

### **4.0 COUNTRY REPORT UPDATE**

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

- Four shipping containers, two of which are known to contain obsolete agricultural chemicals, are located at an old horticulture site several kilometres from the Bouffa landfill. These chemicals were used by an Australian company who previously used the land in the early 1990's for squash growing. A ni-Vanuatu is currently living in a third container, located adjacent to the stockpile;
- A small scale local chemical manufacturing and repackaging operation is now operated by Pacific Chemicals Ltd. This facility includes the storage of a significant amount of raw

materials and manufactured products primarily used for household and commercial cleaning purposes;

- UNELCO have constructed a new 8 megawatt power station at Tagabe. Activities conducted at the site include storage of large quantities of fuel. A small chemical store also exists on site, which at present does not comply with dangerous good segregation requirements;
- At the Bouffa landfill, it is no longer possible to dispose of liquid waste to the leachate ponds located on site. This may lead to inappropriate disposal of liquid waste elsewhere; and
- It is suspected that there are also significant quantities of chemicals stored at a number of commercial retail outlets in Port Vila.

## **5.0 EVALUATION ISSUES**

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

1. A number of participants indicated they would like more information on some of the treatment technologies discussed during the workshop, in particular remediation of contaminated soil using bioremediation;
2. There is a need for more training of a similar nature to be undertaken in the future;
3. The workshop content was considered to be applicable to activities conducted within Port Vila, however the content was less applicable to rural situations;
4. There is a need to improve access to information regarding the management of hazardous materials;
5. More information is required on International Conventions and policies relating to hazardous materials management; and
6. A number of participants were disadvantaged by the presentation of the workshop in English. As a result, during the workshop some translation of workshop material into Bislama was required.

## **6.0 ACTION PLANS**

### **6.1 General Action Plan**

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

**Table 1 – General Action Plan for Vanuatu**

<b>ACTION</b>	<b>WHO</b>	<b>TIMELINE</b>	<b>STATUS</b>
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	

## 6.2 Action Plan for Existing Stockpiles

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

**Table 2 – Action Plan for Existing Stockpiles**

<b>SITE NO.</b>	<b>SITE ACTIVITY</b>	<b>PROBLEMS</b>	<b>ACTION</b>	<b>RESPONSIBILITY</b>
N/A	Horticulture	Uncontrolled storage of obsolete chemicals in shipping containers.	Remove flammables and pesticides to suitable government store. Consider reuse or sale.	EU

## 7.0 RECOMMENDATIONS

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

**Table 3 – Recommendations Arising From Workshop**

RECOMMENDATION	RESPONSIBILITY
1 There is a need for stricter controls on the importation and use of hazardous materials.	SLO
2 There is an urgent need to segregate hazardous liquid wastes from the solid waste streams at Bouffa Landfill.	PVM, EU
3 Consideration should be given to increased recycling of waste oil generated from government activities. This could be achieved by co-operation with existing commercial recycling activities.	DOF
4 There is a need for a lead agency to be nominated to co-ordinate all waste management policy and sectoral activities.	EU
5 There is an urgent need to provide hazardous waste treatment and appropriate disposal facilities at the Bouffa Landfill. This would need to include appropriate investigations to characterise different waste streams requiring treatment and/or disposal.	PVM / EU

### GOLDER ASSOCIATES PTY LTD

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## **APPENDIX A**

### **Workshop Participants**

## **WORKSHOP PARTICIPANTS**

### **PORT VILA, VANUATU**

#### **Name**

#### **Organisation**

#### **Workshop Participants (20):**

James Hakwa	Public Works Department
Trinison Tari	Environment Unit
Yvon Eiriam	Vanuatu Maritime Authority
Bomma Avia	Vanuatu Fire Service
Jerome Malbeal	Dinhi (shipping)
Kevin Bong	Lady Deema (shipping)
Viran Tovv	Health Department
George K John	Department of Lands
Emil Mael	Department of Lands
Ernest Bani	Environment Unit
Glenn Talue	Vanair Ltd
Gaston Theophile	UNELCO
Herve Kasten	Labour Department
Albert Williams	Environment Unit
Tekon Timothy Tumukon	Quarantine Department
Marlene Kalmet	Energy Unit, Vila
William Frank	Vanair Ltd
Glenn Niowenmal	Mobil
Emily Kalsakan	Food Centre / Trade Department
Malcolm Dalesa	Port Vila Municipality

#### **Workshop Facilitators**

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