

## **11. POPs in PICs—A project to eliminate persistent organic pollutants from Pacific Island countries**

### **Introduction**

For hundreds of years, people living in the Pacific Island countries (PICs) have lived in close harmony with their environment, in a region that is as immense as it is diverse. The Pacific Islands region covers over 30 million square kilometres of which only 2 per cent is land mass. The vast marine environment surrounding the land is rich in biodiversity and is vital to the survival and livelihoods of many Pacific Islanders.

Decades of European settlement eventually connected the islands with the larger world, bringing much advancement but also introducing many products and technologies that PICs were simply not equipped to deal with. An example of this was the exposure of the Pacific Islanders to chemicals including POPs. Many of these chemicals were brought in bulk as part of development aid and have ended up as stockpiles which the PICs have had difficulty managing.

### **Problem that was addressed**

POPs such as Dieldrin, DDT and PCBs are hazardous, persistent and accumulate in the food chain, creating serious health risks to humans and the environment. People in the Pacific Islands region are specifically at risk because of their high reliance on their surrounding environment for sustenance.

Many open air dumps containing chemicals and contaminated material were endangering the health of people and the already vulnerable environment. This situation arose because of the lack of understanding of the risks posed by these chemicals and because disposing of POPs is difficult for PICs due to their limited resources, inappropriate technologies and remoteness from appropriate disposal facilities in other countries.

### **How the problem was addressed**

In the early to mid 1990s, recognizing the potential threats to Pacific Islanders' way of life from waste management practices, the Australian Agency for International Development (AusAID) developed the "Persistent Organic Pollutants in Pacific Island Countries" (POPs in PICs).

The aim of the POPs in PICs project was to reduce the threat to human health and the environment posed by POPs and related chemicals. The nine-year project was funded by the Australian Government (AusAID) to a value of approximately AUD 6.5 million and implemented by the Secretariat of the Pacific Regional Environment Programme (SPREP) which is the Pacific inter-governmental agency tasked with promoting environmental protection within the PICs.

The project was implemented in 13 of the 21 Pacific Island members of SPREP, and included Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Marshall Islands, Nauru, Niue, Palau, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu. Key partners in each PIC generally included the Na-

tional Ministries of Foreign Affairs and Environment Agencies, the Government of Australia through AusAID and GHD Pty Ltd—the Australian Managing Contractor who provided the technical support and advise for the project.

## **Implementation**

The project consisted of two phases. Phase I was implemented by SPREP and ran for 3 years from 1997–2000. It involved an assessment of stockpiles of waste and obsolete chemicals and the identification of the contaminated sites in the thirteen PICs. A review of the relevant legislation in the countries was also carried out to strengthen their capacity to manage future chemical wastes.

Phase II of the project lasted for a period of six years (2000–2006) and was undertaken in two distinct parts: Part 1 was focused on undertaking an initial visit on each island to inspect identified storage sites, to confirm contents and volumes of all chemicals and to conduct any field testing or sampling required. If the composition of chemicals was unclear, samples were collected and sent to Australia for analysis.

The availability of handling equipment, transportation options and local resources were also explored. In cases where chemicals were discharged to the environment, some preliminary repackaging and remediation work was undertaken to secure chemicals and reduce potential for exposure.

The second part of the Phase II work focused on the collection, packaging and shipment of the identified wastes to a suitable facility in Australia for eventual destruction or disposal.

Once the POPs were securely repackaged, import permits were sought from the Australian Department of Environment and Heritage. Capacity building exercises were implemented to help the PICs comply with the obligations related to transboundary movement of hazardous wastes under the Basel and/or Waigani Conventions<sup>33</sup>.

In Australia, state-of-the-art POPs destruction technology utilizing non-incineration catalyzed dechlorination (BCD) and plasma arc processes were deployed to dispose of the POPs.

During the entire implementation of the project, awareness activities were conducted among government officials, chemicals users, non-government organizations and the communities in order to increase their awareness of the dangers of toxic waste. In addition, contacts with officials were established to discuss the international legal requirements relating to the repackaging and shipment of wastes. Relationships and increased awareness established proved very useful and contributed significantly to the success of the project.

## **Impacts**

As a result of the project, 140 tones of POPs were removed from the 13 PICs involved. This quantity represents about 30 per cent of the total chemicals identified. Nonetheless, removal of this quantity of waste is a huge step forward for the Pacific region realizing significant environmental and health benefits.

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<sup>33</sup> Waigani Convention to Ban the Importation into Forum Countries of Hazardous and Radioactive Wastes and to Control the Transboundary Movements and Management of Hazardous Wastes within the South Pacific Region

Table IV.11.1 outlines the approximate volumes of POPs collected by the end of project in 2006 for each country.

**Table IV.11.1 Approximate volumes of POPS collected**

Country	Estimated Field Quantity of Chemical, kg	Estimated Field Quantity of Chemical Containers, kg	Estimated Combined Casing Weight, kg	Estimated Combined PCB Oil Volume, kg	Total
<i>Cook Islands</i>	4,236	1,386	0	0	5,622
<i>FSM</i>	4,118	1,347	10,500	5,165	21,131
<i>Fiji</i>	28,203	9,228	0	0	37,430
<i>Kiribati</i>	327	107	0	0	433
<i>Marshall Island</i>	0	0	15,000	720	15,720
<i>Nauru</i>	0	0	500	179	679
<i>Niue</i>	2,992	979	0	0	3,971
<i>Solomon Islands</i>	6,508	900	300	100	7,808
<i>Samoa</i>	3,301	1,080	6,000	1,234	11,615
<i>Tonga</i>	443	145	5,000	1,345	6,933
<i>Tuvalu</i>	0	0	500	324	824
<i>Vanuatu</i>	3,080	1,008	20,000	4,529	28,617
<b>Totals</b>	<b>53,208</b>	<b>16,180</b>	<b>57,800</b>	<b>13,596</b>	<b>140,783</b>

### Lessons learned

The project has been widely acclaimed to be a success story for the region. There were a number of lessons learned during its implementation including:

Attaining political endorsement at the Ministerial level for work to be done on the ground is crucial.

- *Local people need to be involved in all phases of the project and to establish key contacts with the government.*
- *Communication lines from the project team to the local communities have to be regular and at a level that is understood by all involved.*
- *Training activities need to be carried out before implementing key activities to make sure all stakeholders are engaged and that all personnel is capacitated to manage hazardous wastes in the future.*
- *Adequate funding is primordial to make sure that the project is properly implemented and, where necessary, followed up.*

### **Next steps**

Despite the tremendous benefits of this project, the Pacific is still faced with some significant hazardous waste management challenges; not all the identified chemicals were removed during this project and limited work has been undertaken to date in conducting similar inventories of inorganic chemicals and other hazardous wastes in other islands in the region.

Work will continue to identify opportunities for removing the remaining legacy of chemicals and also for putting sustainable programmes in place for managing POPs and other chemical and hazardous materials in order to minimize the accumulation of chemical and hazardous wastes in the future.

### **Conclusions**

The POPs in PICs project was a successful example of how to comply with a number of International chemicals- and waste-related conventions and agreements, as well as national and local environmental regulations. The project has achieved several significant milestones within just five years by successfully managing the identification, cleanup and destruction of POPs wastes. It also highlights the complexities of transporting chemicals across international boundaries.

This project has increased the awareness of hazardous chemicals at a range of levels in the Pacific countries involved. In many instances the work of the project team was broadcast on local radio and television to promote general knowledge and understanding of chemical management. Government officials, chemicals users, NGOs and the communities themselves all learned how to better identify and manage these types of chemicals. They also learned more about the health problems that could potentially arise from exposure to chemicals.