

# THE STATE OF ASBESTOS IN THE PACIFIC



Photo: E. Vandenberg SPREP

**13**

Number of Pacific island countries surveyed for asbestos by the PacWaste project.

**187,891** m<sup>2</sup>

Quantity of confirmed non-residential asbestos identified in the survey. Of this, 83% was found in just four countries.

**78%**

Percentage of confirmed non-residential asbestos that poses a high or moderate risk to human health.

**73**

Number of proposed PacWaste interventions to remove asbestos materials and waste.

**56**

Number of countries that have banned asbestos globally.

**0**

Number of Pacific island countries where asbestos is banned.

The Pacific region has a serious, but unevenly distributed, asbestos problem.

The risk of exposure is heightened by the incidence of natural disasters and extreme weather events, which can damage asbestos materials and release airborne fibres.

Evidence is now available that building products that contain asbestos continue to be imported into the region.

Asbestos is a naturally occurring rock fibre that it is harmful to humans. When products containing asbestos are damaged or wear down over time, small fibres are released and become airborne. Breathing in asbestos fibres can cause a range of diseases including cancer.

Globally, more than 100,000 people die each year from illnesses related to asbestos exposure. But until recently, there has been little information available about the prevalence of asbestos in the Pacific islands region.

Following the recent completion of a regional asbestos baseline survey, detailed information about the location and relative risk of asbestos materials on 25 different islands across 13 Pacific island countries is now publically available.

The regional survey was undertaken by the PacWaste (Pacific Hazardous Waste Management) project – a €7.85 million, four year project funded by the European Union and implemented by the Secretariat of the Pacific Regional Environment Programme (SPREP) to improve regional hazardous waste management across the Pacific.

# Asbestos in the Pacific: An uneven problem

There is a serious – but uneven – asbestos problem in the Pacific region, with some locations facing a notably higher risk than others.

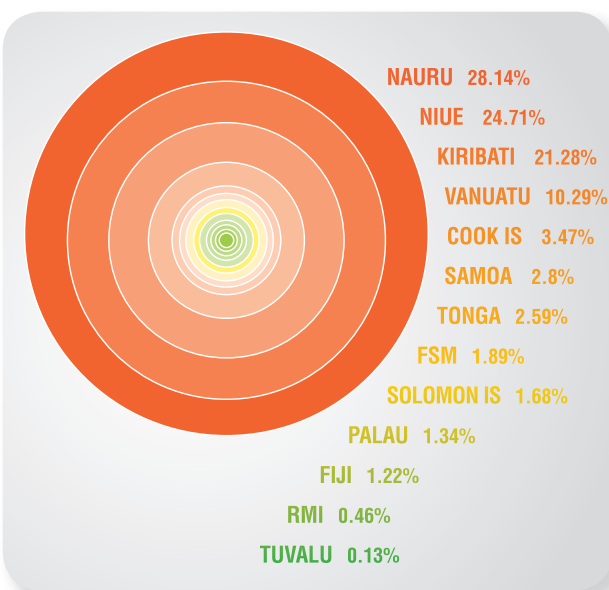
## Non-residential findings

The two countries found to have the highest amounts of confirmed asbestos-containing materials in non-residential locations were Nauru and Niue (see Table 1). The Governments of both these countries have recognised the risk posed by the large quantity of asbestos and, in both instances, programmes are underway to safely remove at least some of the asbestos present.

A very large amount of asbestos was also identified in Kiribati, however it should be noted that 98% of this was identified on Banaba (Ocean Island). Most buildings on Banaba are derelict, but an estimated 295 people still live there currently. There are many locations on Banaba where asbestos is in a deteriorating condition and some of these locations, such as the former phosphate processing plant, are very large. While there is a major asbestos clean-up needed on Banaba, this will be logistically challenging as there is no airport or regular shipping servicing the island.

Four of the 13 countries surveyed account for 83% of confirmed non-residential asbestos

CHART 1



Quantities and relative risk of confirmed asbestos-containing materials (non-residential) in selected Pacific island countries

TABLE 1

Country	Estimated quantities of confirmed ACM (m <sup>2</sup> )				Total
	High risk	Moderate risk	Low risk	Very low risk	
Cook Is	1,450	5,070	0	0	6,520
FSM	0	823	584	2,150	3,557
Fiji	100	1,720	220	265	2,305
Kiribati	4,336	5,160	11,196	19,300	39,992
RMI	0	160	400	300	860
Nauru	21,677	29,492	1,705	0	52,874
Niue	1,250	45,175	3	0	46,428
Palau	0	0	513	2001	2,514
Samoa	520	3955	785	0	5,260
Solomon Is	0	1,600	1,550	0	3,150
Tonga	2,550	2,020	280	0	4,850
Tuvalu	0	120	130	1	251
Vanuatu	2,000	17,000	300	30	19,330
Regional	33,883	112,295	17,666	24,047	187,891

Source: Contract Environmental Ltd and Geoscience Consulting. 2015. Survey of the regional distribution and status of asbestos-contaminated construction material and best practice options for its management in Pacific Island countries. Report prepared for SPREP. Auckland and Christchurch: Contract Environmental Ltd and Geoscience Consulting.

Note: High risk = significant potential to release asbestos fibres if disturbed and significant health risk to occupants of affected buildings.



Corrugated asbestos cement roofing, pictured above on a building in Vanuatu, is relatively easy to recognise through visual inspection. Photo: PacWaste



This typical residential dwelling on Tarawa, Kiribati may be built from asbestos cladding. However, testing would have to be undertaken to establish whether this is actually the case. Photo: PacWaste

## Residential findings

During the survey, a visual assessment of residential dwellings was undertaken at every location visited (see Table 2). While the residential survey results can only report the suspected existence of asbestos materials, the results were similar to the non-residential survey in that there were significant variances between locations. The estimates of suspected residential asbestos ranged from nil or practically nil (Fiji, Federated States of Micronesia, Palau, Republic of the Marshall Islands, Samoa) through to almost half of residential dwellings (Funafuti, Tuvalu).

These visual surveys are considered reliable for some types of asbestos-containing materials, such as roofing, but are speculative in other instances, notably with regard to asbestos cladding. The sampling and analysis of each individual house would be required in order to confirm exactly which materials contain asbestos.



Photo: Amol Lal

**Number and percentage of residential dwellings with suspected asbestos-containing materials in selected Pacific island countries**

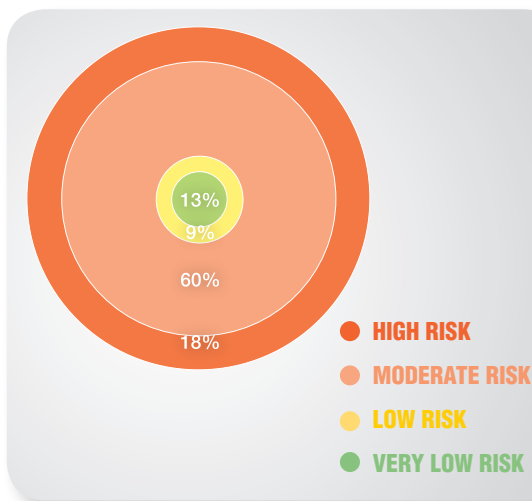
Country	Areas covered in survey	Total houses surveyed	Number of houses suspected of containing asbestos building materials	Percentage of houses with suspected asbestos out of total houses surveyed
Cook Is	Rarotonga, Aitutaki	2670	89	3.3%
Fiji	Vanua Levu, Viti Levu	3600	0	0%
FSM	Yap, Chuuk, Pohnpei, Kosrae	14,626	6	0.04%
Kiribati	Tarawa	698	202	28.9%
Nauru	Nauru	178	57	32%
Niue (occupied houses only)	Niue	865	88	10%
Palau	Koror, Babeldoab	2607	2	.07%
RMI	Majuro	4704	1	0%
Samoa	Upolu, Savai'i	2800	2	0%
Solomon Is	Guadalcanal, San Cristobal, Malaita, Gizo	2327	150	6.4%
Tonga	Tongatapu, Vava'u	1600	30	1.87%
Tuvalu	Funafuti	350	161	46%
Vanuatu	Efate, Espiritu Santo	600	4	0.66%

TABLE 2

Source: Contract Environmental Ltd and Geoscience Consulting. 2015. Survey of the regional distribution and status of asbestos-contaminated construction material and best practice options for its management in Pacific Island countries. Report prepared for SPREP. Auckland and Christchurch: Contract Environmental Ltd and Geoscience Consulting.

**Almost 80% of confirmed, non-residential asbestos in the Pacific presents a moderate – high risk to human health**

CHART 2



## Relative risk and natural disasters: the threat of the unknown

While the quantity of asbestos provides a good sense of the scale of the problem, the other important factor to consider is the relative risk that the asbestos presents. The PacWaste survey found that of the 187,891 square metres of confirmed, non-residential asbestos identified, 78% was classified as either high or moderate risk.

Almost all the asbestos identified through the survey had been non-friable at the time of installation. However, when non-friable asbestos (such as roofing and cladding) ages and deteriorates it starts to break down and may release fibres into the air. This deterioration was found to be present, to varying degrees, in many of the countries surveyed thus increasing the potential health risk.



This vacant building in Nauru, littered with asbestos debris, appears to be frequented by young adults from the local community. Photo: PacWaste

With global climate change contributing to changing weather patterns, a particular concern for the Pacific region is the potential for extreme weather events and natural disasters to damage and disturb building materials that contain asbestos.

Given that the cost of remediating asbestos-containing structures is substantially higher following a disaster than beforehand, there is a distinct economic advantage in removing asbestos from properties, particularly in cyclone prone areas, before disaster strikes.

There are also clear benefits to providing first responders with the known locations of structures containing asbestos materials, and providing them with the appropriate training to avoid or minimise asbestos exposure.



Although Fiji has relatively little asbestos, the situation identified at the Tamavua Twomey Hospital in Suva was found to be extremely high risk. PacWaste undertook remedial action at the site as soon as the problem was identified. Photo credits l-r: E.Vanderburg/SPREP; Amol Lal.

## New asbestos: a burgeoning problem

As a result of increasing health concerns, the use of asbestos has declined in many countries. As of February 2016, 56 countries (including Australia and all member states of the European Union) have banned asbestos but around two million tonnes of asbestos products are still produced annually<sup>1</sup>. Of the 13 Pacific island countries that participated in this survey, none have implemented a ban on asbestos.

During the course of the PacWaste survey, new building materials containing asbestos were identified in retail outlets in Vanuatu and the Solomon Islands. It is quite possible, probable even, that asbestos products are also being sold in other Pacific countries.

This raises the very real concern that the problem of asbestos in the Pacific is not simply a legacy issue. If regulations are not implemented to prevent the import and reuse of asbestos materials then it may continue to be used in both residential and non-residential locations across the region.



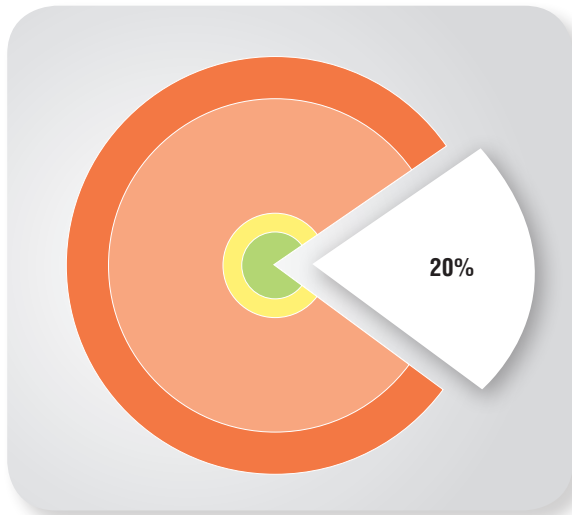
<sup>1</sup> World Health Organization (WHO), 2014. *Chrysotile asbestos*. [http://apps.who.int/iris/bitstream/10665/143649/1/9789241564816\\_eng.pdf?ua=1](http://apps.who.int/iris/bitstream/10665/143649/1/9789241564816_eng.pdf?ua=1)

The PacWaste survey team identified new asbestos building materials for sale at multiple sites in Solomon Islands and Vanuatu. Photo: PacWaste

# PacWaste asbestos interventions in the Pacific

By 2017, PacWaste will have safely removed and disposed of 20% of the region's confirmed, non-residential asbestos

CHART 3



As a result of its regional asbestos baseline survey, PacWaste has prioritised remedial actions in locations where asbestos poses the greatest risk to human health. In applying an asbestos risk management methodology, highest priority was given to public and government sites such as schools, hospitals and other places where members of the public are vulnerable to exposure.

The proposed programme of work identifies 73 separate interventions across 11 countries. Interventions will involve the removal of asbestos materials and wastes by trained experts using specialised equipment, followed by secure packaging, transport and safe disposal (including international export). PacWaste will also be assisting participating countries to develop a national asbestos strategy, to ensure that asbestos management is prioritised at the national level in accordance with best practice.

These activities will be supported by a region-wide public awareness campaign on the risks associated with asbestos and steps that can be taken to minimise exposure.

For more information, please visit [www.sprep.org/pacwaste](http://www.sprep.org/pacwaste)

## Towards the elimination of asbestos-related diseases

The following strategic directions are key to elimination of asbestos-related diseases:

- recognising that the most efficient way to eliminate asbestos-related diseases is to stop the use of all types of asbestos;
- providing information about solutions for replacing asbestos with safer substitutes and developing economic and technological mechanisms to stimulate its replacement;
- taking measures to prevent exposure to asbestos in place and during asbestos removal (abatement);
- improving early diagnosis, treatment, and rehabilitation services for asbestos-related diseases;
- establishing registries of people with past and/or current exposures to asbestos and organising medical surveillance of exposed workers;
- providing information on the hazards associated with asbestos-containing materials and products, and by raising awareness that waste containing asbestos should be treated as hazardous waste.

For more information, please visit [www.who.int/ipcs/assessment/public\\_health/asbestos/en/](http://www.who.int/ipcs/assessment/public_health/asbestos/en/)

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SPREP'S VISION: *The Pacific environment – sustaining our livelihoods and natural heritage in harmony with our cultures.*