


# BANNING NUCLEAR WEAPONS

## A PACIFIC ISLANDS PERSPECTIVE

**“For almost 60 years, we have been displaced from our homeland, like a coconut floating in the sea.”**

– LEMYO ABON, NUCLEAR TEST SURVIVOR, MARSHALL ISLANDS





**By Nic Maclellan**

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**Cover:** The 10.4-megaton "Ivy Mike" shot, conducted by the US at Enewetak Atoll in 1952, was the first successful hydrogen bomb test.

**This page:** A mushroom cloud rises above Moruroa Atoll after a French nuclear test in 1970.

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**Marshall Islands:** Iroji Kebenli, a Marshallese boy, suffered radiation burns to his skin after contact with "Bikini snow" – radioactive ash from US nuclear tests. *Credit: US Government*

## Map: Pacific nuclear test sites

From 1946 to 1958, the **UNITED STATES** conducted 67 atomic and hydrogen bomb tests at **Bikini** and **Enewetak** atolls in the Marshall Islands, accounting for 32 per cent of all US atmospheric tests. In the 1960s, there were 25 further US tests at **Christmas (Kiritimati) Island** and nine at **Johnston (Kalama) Atoll**.

The **UNITED KINGDOM** tested nuclear weapons in Australia and its Pacific colonies in the 1950s. Starting in 1952, there were 12 atmospheric tests at the **Monte Bello Islands**, **Maralinga** and **Emu Field** in Australia (1952–57). There were also more than 600 "minor" nuclear trials, such as the testing of bomb components and the burning of plutonium, uranium and other nuclear materials, conducted at the **Maralinga** test site.

Under "Operation Grapple", the British government conducted another nine atomic and hydrogen bomb tests at **Kiritimati** and **Malden** islands in the central Pacific from 1957 to 1958.

After conducting four atmospheric tests at Reganne (1960–61) and 13 underground tests at In Eker (1961–6) in the Sahara desert of Algeria, **FRANCE** established its Pacific nuclear test centre in French Polynesia. For 30 years between 1966 and 1996, France conducted 193 atmospheric and underground nuclear tests at **Moruroa** and **Fangataufa** atolls.

# Foreword

## A united Pacific voice to ban nuclear weapons

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**T**his year marks the 40th year of the Pacific Conference of Churches' efforts to bring justice to a region affected by nuclear testing. In 1967 the Young Women's Christian Association and the Student Christian Movement in Suva, Fiji's capital, convened a meeting on nuclear testing on Moruroa, Maohi Nui (French Polynesia).

Two years later, a large march took place in Suva against nuclear testing, and after a further five years the PCC Executive Committee passed resolutions in opposition to tests in the region. But for almost 70 years since the United States' first Pacific nuclear test on Bikini in 1946, church members have been forced to live with the legacy of this menace. Three of the world's major powers – the US, Britain and France – conducted nuclear tests in the Pacific with blatant disregard for human life and the environment.

This unwanted activity has maimed generations of Pacific people and hundreds of European servicemen and their families. To this day, they continue the fight for justice, knocking on the doors of governments, pleading for compensation, yet their cries fall on deaf ears.

The families of Fijian servicemen who took part in tests as part of "Operation Grapple" near Kiritimati Atoll from 1957 to 1958 continue to wait for compensation from Britain. In Maohi Nui (French Polynesia), local landowners remain unpaid for the damage caused on Moruroa and Fangataufa during nuclear testing between 1966 and 1996.

Today, despite the end of tests in the region, the Pacific continues to face two specific nuclear threats: the persistent radioactive contamination from the tests and the newer issue of fallout from the Fukushima nuclear power plant in Japan.

In March 2013 the PCC General Assembly in Honiara, the Solomon Islands, agreed to remain steadfast in its stand against nuclear testing and for the compensation of victims of this Western influence. The churches recognise that justice is an integral part of peace. Many of the Pacific's communities do not have peace because they continue to battle for justice. This includes

recognition of the intergenerational damage caused to the environment and human life by nuclear tests.

Our people remain in mental turmoil, seeking justice for the misuse of their lands and resources. The Pacific churches – through leaders such as Anglican priest Father Walter Lini of Vanuatu, Methodist Reverend Setareki Tuilovoni of Fiji, and John Doom of the Maohi Protestant Church – initiated the battle for justice and the end to nuclear testing. And with the resolution of the PCC General Assembly in 2013, Pacific governments have been urged to consistently call for the abolition of nuclear weapons and the just treatment of those affected by nuclear activities. This must continue despite the aid offered by Japan, China, France, the US and Britain.

To this end, it is necessary that our regional leaders – secular and faith-based – recognise the threats of nuclear weapons and speak forcefully for a ban. In international forums, including conferences on the humanitarian impact of nuclear weapons, the Pacific must speak with a united voice to bring about attitudinal change in the larger nations. We must speak out, for if we remain silent the larger countries will be under the misconception that their testing, development and construction of nuclear weapons are acceptable. In this shrinking world, it is quite possible for the Pacific to be affected by nuclear fallout half way across the world in less than a week. That is why we will continue to call for a global ban on nuclear weapons. These weapons are no good for the Pacific, and no good for the world.

**Rev. François Pihaatae**

GENERAL SECRETARY  
PACIFIC CONFERENCE OF CHURCHES

*Suva, Fiji, January 2014*

# Introduction

## The struggle for a nuclear-free and independent Pacific

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In 2014 Pacific islanders will mark the 60th anniversary of the “Bravo” nuclear test at Bikini Atoll in the Marshall Islands. This atmospheric nuclear test on 1 March 1954 spread radioactive fallout over inhabited islands. Today this date is marked across Oceania as “Nuclear Free and Independent Pacific Day”.

From the beginning of the nuclear age, Pacific islands have been used for the development and proliferation of nuclear weapons. The plane *Enola Gay* left the Micronesian island of Tinian to carry the atomic bomb to Hiroshima in August 1945.

The following year, the United States began testing nuclear weapons in the Marshall Islands. Over the next five decades, more than 315 nuclear test explosions were conducted across the region by France, Britain and the United States.

Seeking “empty” spaces, the Western powers chose to conduct Cold War programs of nuclear testing in the deserts of central Australia or the isolated atolls of the central and south Pacific. Missile testing ranges in the Pacific still provide the infrastructure for the development of the intercontinental ballistic missiles that are a key component of nuclear warfare preparations.

### Longstanding public opposition

Today many Pacific communities are living with the health and environmental impacts of this nuclear testing. Testimony from nuclear survivors in the Pacific has reinforced a deep concern over the humanitarian impacts of nuclear weapons and widespread popular support for a nuclear-free world.

Since the 1950s, churches, trade unions, women’s organisations and customary leaders in the islands have campaigned for an end to nuclear testing and the abolition of nuclear weapons.

Since gaining their independence from colonial powers, Pacific governments have also expressed their support for nuclear disarmament. At the height of the US–Soviet arms race, on Hiroshima Day in 1985, members of the South Pacific Forum signed and ratified the South Pacific Nuclear Free Zone

Treaty (SPNFZ), an important regional contribution to global nuclear disarmament.

Even since the end of nuclear testing in the region in 1996, many Pacific island governments have continued to support international efforts for nuclear disarmament. In the United Nations General Assembly and at international summits, Pacific nations have voted in favour of resolutions calling for a global treaty banning nuclear weapons.

### A continuing threat to all humanity

Today many thousands of nuclear weapons remain in the world – more than two decades since the end of the Cold War. Even though they have the greatest destructive capacity of all weapons, they are the only weapons of mass destruction not yet prohibited by an international convention. The detonation of just one nuclear bomb over a large city could kill more than a million people. The use of tens or hundreds could disrupt the global climate, causing widespread agricultural collapse and famine.

No matter the scale of the attack, an adequate humanitarian response would not be possible. Given the catastrophic effects of nuclear weapons, banning and eradicating them is the only responsible course of action. A global ban on nuclear weapons is long overdue and can be achieved in the near future with enough public pressure and political leadership. A ban would not only make it illegal for nations to use or possess nuclear weapons; it would also help pave the way to their complete elimination. Nations committed to reaching the goal of abolition should begin negotiating a ban now. Pacific island nations, whose people have experienced first-hand the devastating impact of nuclear weapons, should be at the forefront of such an effort.

## Marshall Islands: Nuclear test survivors speak out

Living on Rongelap Atoll in the Marshall Islands, Rinok Riklon was just 14 years old when the United States conducted a nuclear test on neighbouring Bikini Atoll. She was exposed to radioactive fallout from the “Bravo” nuclear test, which took place on 1 March 1954.

“People were playing with the fallout as it fell from the sky,” she says. “We put it in our hair as it was soap or shampoo. But later I lost all of my hair from it.”

The test spread fallout across the northern region of the Marshall Islands and was the largest ever conducted by the United States – estimated to be 1,000 times more powerful than the explosions at Hiroshima and Nagasaki.

### Inadequate compensation

Under an agreement between the United States and the Marshall Islands, a Nuclear Claims Tribunal was established to award compensation for damage to health and property from the US nuclear tests held between 1946 and 1958.

This court has made numerous rulings for people from Bikini, Enewetak, Rongelap and other atolls but has insufficient funds to pay the necessary compensation. So far, only US\$150 million has been paid and the US government still owes more than US\$2.3 billion to the Marshallese people.

Despite an official petition to the US Congress in 2000, the US government has refused to allocate further compensation to meet rulings issued by the Nuclear Claims Tribunal.

### Living in exile, six decades on

Lemyo Abon was also living on Rongelap during the 1954 “Bravo” test. “Immediately our drinking water turned yellowish and the food was bitter and tasteless,” she says.

Over time, she joined other villagers who were relocated from the northern atolls to the main islands of Kwajalein and Majuro. Mrs Abon, now in her 70s, longs for the day when she can return to her home atoll. However, only one-quarter of Rongelap has been



Top: Marshall Islands nuclear test survivors speak at a press conference in September 2013. Bottom: Survivors Lemyo Abon (left) and Rinok Riklon (right). Credit: Nic Maclellan

“rehabilitated” and made safe for habitation, while the rest remains contaminated with radionuclides such as caesium-137. Six decades after the “Bravo” test, people are still exiled from their home island.

“For almost 60 years, we have been displaced from our homeland, like a coconut floating in the sea with no place to call home,” she says. “We ask the United States for equal treatment and to compensate us for the suffering and damage caused to us, our homes, our families and our island atoll.”

Another nuclear survivor from Rongelap is Nerje Joseph, who hopes that the US will “right the wrong” it has done. “We were promised compensation and that is not enough,” she says. “The Nuclear Claims Tribunal has made some awards but we have not received a penny. We are the few left from the generation that saw the tests and suffered as a result. The US should not deny its moral responsibility and compensate us while we are still living. We don’t want our future generations to suffer like us.”

## Timeline of the nuclear era in the Pacific

### 1940s

**6 August 1945** The *Enola Gay* flies from Tinian Island in the Marianas Islands to drop an atomic weapon on the Japanese city of Hiroshima. Three days later, the city of Nagasaki is also destroyed with an atomic weapon.

**June 1946** The US government begins a series of nuclear tests on Bikini and Enewetak atolls in the Marshall Islands, a US-administered UN strategic trust territory. The testing program involved 67 atmospheric nuclear tests between 1946 and 1958.



*Enola Gay* crew members on 6 August 1945.

### 1950s

**October 1952** The UK begins nuclear testing in Australia at the Monte Bello islands, followed by tests on the land of the indigenous Anangu people at Maralinga and Emu Field.

**November 1952** The US tests the first hydrogen bomb, codenamed "Mike", at Enewetak Atoll in the Marshall Islands.

**1 March 1954** As part of Operation Castle, the massive "Bravo" test at Bikini Atoll spreads fallout across the northern atolls of the Marshall Islands, including Rongelap and Utirik, as well as a nearby Japanese fishing boat.

**November 1957** Between 1957 and 1958, the UK conducted nine atmospheric nuclear tests over Christmas Island and Malden Island (today part of the Republic of Kiribati).

### 1960s

**August 1963** The Partial Test Ban Treaty opens for signature.

**2 July 1966** After relocating its nuclear testing centre from Algeria, France conducts a nuclear test at Moruroa Atoll in French Polynesia – the first of 193 atmospheric and underground tests over 30 years.

**1 July 1968** The Non-Proliferation Treaty is signed. Non-nuclear-weapon states agree never to acquire nuclear weapons, and nuclear-weapon states give a legal undertaking to disarm.

**24 August 1968** France's first hydrogen bomb, codenamed "Canopus", is tested at Fangataufa atoll in French Polynesia.

**Background image:** The United States detonates an atomic bomb 27 metres underwater at Bikini Atoll on 25 July 1946, sinking eight of the surrounding warships, which had been positioned nearby for experimental purposes. The bomb's explosive yield of 23 kilotons is slightly greater than that of the Hiroshima and Nagasaki bombs, but several hundred times smaller than that of the infamous "Bravo" test at Bikini Atoll in 1954 – the largest US nuclear explosion in history. (Note that this image has been digitally colourised.)



## 1970s

**April 1975** The first Nuclear Free Pacific conference is held in Suva, Fiji, supported by the Pacific Conference of Churches, Against Testing on Moruroa (ATOM), and union, community and women's groups. This is the first of a series of regional conferences for the Nuclear Free and Independent Pacific movement that continue for the next 30 years.

## 1980s

**6 August 1985** The South Pacific Nuclear Free Zone Treaty is opened for signature in Rarotonga, the Cook Islands. The treaty prohibits the manufacturing, stationing or testing of nuclear weapons within the zone.

**June 1987** New Zealand's nuclear-free legislation prohibits port visits by nuclear-armed and -powered vessels.



The bombing of the *Rainbow Warrior* protest ship by France in 1985. Credit: Greenpeace

## 1990s

**September 1995** After a short moratorium, France resumes nuclear testing with six tests at Moruroa and Fangataufa atolls, sparking regional and international criticism. The final French nuclear test on 27 January 1996 marks the end of testing in the Pacific islands – but not the end of health and environmental impacts.

**24 September 1996** The Comprehensive Nuclear Test Ban Treaty opens for signature at the UN. China, France, the UK, Russia and the US all sign the treaty. India says it will not sign the treaty.



The 7th Nuclear Free and Independent Pacific Conference, in Suva, Fiji, 1996.



# Public opposition

## Resistance to nuclear testing and the build-up of nuclear arms

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**F**rom the beginning of the nuclear age, there have been community protests across the Pacific islands against nuclear weapons. There were anti-nuclear protests in French Polynesia in 1950, when the Tahitian leader Pouvanaa a Oopa – a veteran of the French army in both world wars – collected signatures for the Stockholm Peace Appeal.

In 1954 Marshall Islanders lodged a petition with the UN Trusteeship Council opposing US nuclear testing, which requested that “all experiments with lethal weapons in this area be immediately ceased”. It stated that people were “not only fearful of the danger to their persons from these deadly weapons”, but “also concerned for the increasing number of people removed from their land”.

In 1956, after the UK government announced that British nuclear testing would commence at Christmas Island, Western Samoa petitioned the Trusteeship Council to halt the tests (at the time, Samoa was still a trust territory of New Zealand).

The same year, the Rarotonga Island Council submitted a report to the Cook Islands Legislative Council, expressing concern and asking “that the testing area be situated at some greater distance than the Cook Islands”.

In 1957 the Fijian newspaper *Jagriti* noted: “Nations engaged in testing these bombs in the Pacific should realise the value of the lives of the people settled in this part of the world. They too are human beings, not ‘guinea pigs’.”

In 1975 the Pacific Conference of Churches joined with the Fiji YWCA and the anti-nuclear group Against Testing on Moruroa (ATOM) to host the first Nuclear Free Pacific conference in Suva, Fiji. The cause of disarmament was linked to the right to self-determination, with the delegate from New Hebrides stating: “The main objective of this conference is to end nuclear tests in the Pacific, but the more we discuss it, it becomes obvious that the main cause is colonialism.”

By 1980 the Nuclear Free and Independent Pacific (NFIP) movement had established a secretariat in Hawai’i – the Pacific Concerns

Resource Centre. The NFIP movement campaigned against nuclear testing, the dumping of nuclear wastes in the Pacific Ocean, the transport of nuclear materials through Pacific island fishing grounds and the mining of uranium on indigenous land.

In the 1980s, churches, trade unions and community organisations lobbied successfully for the creation of a South Pacific Nuclear Free Zone and supported nuclear-free legislation in countries such as Vanuatu, Palau and New Zealand.

### Strong public opposition today

Even after the end of French nuclear testing in 1996, citizens groups continued to campaign against nuclear proliferation, calling on the nuclear powers to address the health and environmental impacts of past nuclear testing. Former military and civilian personnel who staffed the nuclear test sites in the Pacific continue to campaign for clean-up of contaminated islands and compensation for people affected by exposure to radiation.

People from affected nations have increased their campaigning in recent years: Fijian soldiers and sailors seeking compensation for the effects of nuclear tests at Christmas Island; the lobbying of Moruroa e Tatou, which links the former test site workers from Moruroa and Fangataufa, to strengthen French compensation laws; Australian veterans of the atmospheric tests at Maralinga, Emu Field and the Monte Bello Islands campaigning for pension rights from the Australian and British governments; and the Marshall Islands government lodging a “changed circumstances” petition to the US Congress, seeking to increase the level of compensation provided by the US for damage to people and property caused by US nuclear tests.



Above: Nuclear Free and Independent Pacific protesters in Fiji, 1996.  
Right: A T-shirt rejecting nuclear weapons and waste in the Pacific.  
Below: Inauguration of nuclear testing memorial in Tahiti, 2012.



## Red Cross: Nuclear weapons must be banned and eliminated

National Red Cross societies in the Pacific islands are highlighting the humanitarian impact that a nuclear war would bring, and campaigning for a nuclear weapons ban treaty. In November 2011, Red Cross societies from the Cook Islands, Fiji, Kiribati, the Federated States of Micronesia, New Zealand, Palau, Papua New Guinea, Samoa, Tonga and Vanuatu joined their counterparts in 29 other nations to call for the prohibition and elimination of nuclear weapons. They spoke out against the “continued retention of tens of thousands of nuclear warheads, the proliferation of such weapons and

the constant risk that they could again be used”. Their demand for action was restated in November 2013 when the international Red Cross and Red Crescent movement set out a four-year plan towards establishing an agreement to ban and eliminate nuclear weapons.

Filipe Nainoca, director of Fiji Red Cross Society, believes that the issue of nuclear weapons is a pressing one for Pacific island nations, who have experienced their devastating effects through testing: “Though the bombs may have been detonated many years ago, their effects live on in our hearts, our minds and our homes forever.”

### The next generation

Zakiyya Ali, a student from Suva Muslim College in Fiji, won a regional Red Cross public-speaking competition in 2013 titled “From a Nuclear-Free Pacific to a Nuclear-Free World”.

She was given the opportunity to deliver her speech at a major Red Cross and Red Crescent global meeting in Sydney attended by more than 1,000 delegates: “Our efforts may feel like little spots in the ocean, but together we can create a huge wave of awareness. We can create change. We can build a better tomorrow, a nuclear-free tomorrow.”

## FemLINKPACIFIC: Women building a more peaceful Pacific

### Sharon Bhagwan Rolls Executive Director

Generations of Pacific island women have voiced concern about the humanitarian impact of nuclear weapons: nuclear fallout in the oceans, health and genetic damage, environmental pollution, impacts on the food chain and the forced migration of peoples.

FemLINKPACIFIC, as a member of the Global Partnership for the Prevention of Armed Conflict and ICAN, reaffirms that the catastrophic humanitarian consequences of nuclear weapons are a reality for the Pacific island region, which continues to bear the impact of the use and testing of nuclear weapons.

In the Pacific, as well as globally, unequal power relations, intolerance, lack of respect and valuing, and lack of access to and control over resources characterise the position of women relative to men. This fuels the pervasive nature of violence and the exclusion, marginalisation and invisibility of women at all levels of decision-

making, which is detrimental to human security. However, women are not just passive victims of violence and inequality; women of the Pacific region have been making significant contributions to human security within families, communities and nations. Our work dates back to the early days of the Fiji Young Women’s Christian Association, which provided the nurturing ground for the Nuclear Free and Independent Pacific movement.

We are keen to see linkages within the broader efforts of conflict prevention and human security and security sector governance so that governments actively work in close cooperation with civil society in disarmament and non-proliferation machinery, including for the elimination of nuclear weapons.

Women are “waging peace”, which needs to be supported by implementation of UN Security Council resolution 1325, ratification of the Convention on the Elimination of Discrimination Against Women, and development of collaborative partnerships between local,

national and regional organisations. Responding effectively to the complex and multifaceted threats and challenges to human security in the Pacific requires the participation, recognition and valuing of the experiences and role of women.

It is vital that there is support for strong Pacific island government and non-government organisations’ movement against nuclear weapons. We should exert pressure for the reallocation of funds currently devoted to militaries and nuclear weapons to human security needs, implementing the Millennium Development Goals and preparing for security threats such as climate change. The implementation of the Regional Human Security Framework should include close collaboration with civil society in eliminating nuclear weapons.

When women feel secure, peace is possible. When women feel secure enough to resist war and organise for peace – expressed through theatre, community media, public demonstrations and civil disobedience – peace is on its way.

# Health impact

## The long-term effects of nuclear testing in the Pacific

**D**uring and after US, British and French nuclear testing in the Pacific, radioactive fallout was dispersed in the Pacific region and globally, adding to global radiation risk and cancer burden. Hazards were greatest for the military and civilian personnel who staffed the test sites, as well as villagers living on nearby and downwind islands.

Years later, many of these nuclear survivors are suffering health problems related to their exposure to radiation from the nuclear test explosions. In all cases where adequate health studies of participants in atmospheric nuclear tests have been undertaken, adverse health consequences have been demonstrated, even many decades later.

Increased rates of cancer, including blood cancer (leukaemia), have been found among nuclear test veterans from the United Kingdom, United States, Australia, France and New Zealand. Test veterans from Pacific islands like Fiji faced no lesser hazards.

Downwind communities in the Marshall Islands bore the brunt of acute radiation sickness and direct organ radiation damage related to high radiation exposure, as well as long-term cancer risks including increased rates of thyroid cancer. As well as direct exposure to radioactive fallout, they confront long-term contaminated environments and food sources.

They also face ongoing psychological stress and anxiety and concern for subsequent generations. Some in Micronesia and Polynesia have also been subjected to the profound health impacts of dislocation and displacement. Environmental studies have documented serious levels of continuing radioactive contamination at nuclear test sites.

The nuclear-weapon states have been willing not only to expose people to direct fallout and contaminate their homes and food sources, but also leave substantial quantities of long-lived radionuclides in fractured underground and underwater environments. These warrant major remediation works and require indefinite monitoring. They have generally failed to adequately assess the long-term consequences, undertake thorough clean-up of nuclear test sites and minimise risk of

leakage of radionuclides into the biosphere. In the Marshall Islands, food plants such as breadfruit and coconut take up radioactive caesium-137 from the soil and this hazard continues on Rongelap and other contaminated islands to this day. To avoid exposure to this contamination, some nuclear survivors have been exiled from their home islands for decades.

**“According to testimony from the survivors, in the immediate aftermath of the nuclear testing, white ash fell from the sky, and shortly thereafter people began to experience skin burns, hair loss, finger discolouration, nausea and other symptoms of acute radiation poisoning. They also provided testimony of observing and experiencing ailments that they had never experienced before, including cancers and growth retardation in children.”**

– UN SPECIAL RAPPORTEUR, 2012

In French Polynesia, researchers investigating thyroid cancer have reported an increasing risk with increasing thyroid dose received before the age of 15 years. A 2010 study in the *British Journal of Cancer* notes that, while the risk is low, “the release of information on exposure, currently classified, would greatly improve the reliability of the risk estimation”. Much relevant health-related data for test workers and downwind communities has either not been appropriately collected, or been covered-up.

A 2012 report by the UN Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes found that:

## Moruroa Atoll: Clean-up workers unprotected from radiation

**T**eraivetea Raymond Taha was just 16 years old when he started working on Moruroa Atoll, the site of France's nuclear testing centre in the South Pacific.

"I left school at 12 years of age after my father died, as I had to help out the family," he explains. "At that time, the Pacific Testing Centre needed a lot of workers. For most Polynesians like me who started work in those years, it was the first time we would have a job and money in our pocket."

### No protection for workers

Like other Maohi (Polynesian) workers at the centre, Raymond was involved in clean-up operations. He recalls the aftermath of an atmospheric test in September 1966 on Moruroa: "We had to pick up all the dead fish and clean up all the debris that littered the roads."

The staff of the Radiological Safety Service were testing the soil with their apparatus.

"They were all dressed in special outfits with gloves and a mask. We Maohi workers were just following on behind them, without any special gear to protect us," he recounts.

"The bosses said: 'It's OK, you can go over there.' We were scared, but if we'd refused, we would have been on the next plane back to Tahiti. We would have lost our job, so we went ahead cleaning up



A French nuclear test in 1968 at Fangataufa Atoll.

without asking any questions."

In 1980 Raymond's daughter, Cinya, was born, the only girl of five children. She died a year later from complications with a malformed lung. In 1994 Raymond was diagnosed with leukaemia and sent on a stretcher to a hospital in Paris, where he underwent two years of chemotherapy.

### Seeking compensation

In 2009, for the first time, compensation cases were lodged in Tahiti for Maohi workers who staffed the test sites. Raymond's case was one of eight lodged before the Tribunal de Travail in the capital, Papeete – a court which can determine if his illness was caused in the course of his employment in an unsafe workplace.

Of the eight cases, only three of the survivors were present on the opening day of hearings. The other five workers had died of radiation-related illnesses and were represented in court by their family members. Thus far, his case has not been successful.

John Taroanui Doom, secretary of the Moruroa e Tatou association, says that French legislation to compensate nuclear survivors, known as the Morin law, is too restrictive:

"So far, the association has begun to compile case files for former Moruroa workers, of whom 146 have already died. But our workers don't have the documents required to win the court case, and very few have received any recognition or compensation."

"Displacement due to the nuclear testing, especially of inhabitants from Bikini, Enewetak, Rongelap and Utirik atolls, has created nomads who are disconnected from their lands and their cultural and indigenous way of life." The inhabitants of Rongelap Atoll were evacuated from their homes in 1946, returned in 1957 and, ultimately, moved voluntarily from Rongelap in 1985 on the Greenpeace vessel *Rainbow Warrior*. The US Congress has allocated US\$45 million to a Rongelap resettlement trust fund for the partial clean-up on the main island of the atoll. But less than 10 per cent of Rongelap, Rongerik and Ailinginae atolls have

been remediated, and exiled residents are calling for more comprehensive efforts before they return.

Another important health problem unrelated to radiation is ciguatera fish poisoning, a common problem in the Pacific. Certain dinoflagellate algae produce toxins, which accumulate up the food chain in fish and can poison people when eaten. These algae proliferate on dead and damaged coral surfaces. Large increases in ciguatera as well as dramatic outbreaks over a number of years occurred in the Marshall Islands and French Polynesia related to reef damage caused by nuclear test explosions and the extensive supporting infrastructure.

## Kiritimati: Decades on, physical and emotional wounds remain

**S**ui Kiritome is a citizen of the Republic of Kiribati, a group of 33 atolls spanning the equator in the central Pacific. During the 1950s, Kiribati was a British colony and the United Kingdom conducted a series of nuclear tests at Malden Island and Christmas Island (now called Kiritimati Island).

There were a number of Gilbertese plantation workers on Kiritimati, as the UK established a military base to support its nuclear testing program in 1957–58. Mrs Kiritome witnessed the nuclear test codenamed “Grapple Y” in April 1958, a 3-megaton detonation that sent fallout across the British naval task force and the military camp on Christmas Island.

### No protection from fallout

Local inhabitants of the island were informed “just before the test” that it was about to take place, she explains. Islanders were told to get on a British warship, where “a movie was shown, and sweets were shared around”. Her husband was an interpreter for the British military

and helped explain to the islanders what was happening.

“When the countdown to the blast began, my husband told the people to put their hands to their ears to muffle the sound of the blast. Just after the blast, the captain came to my husband and invited us to accompany him to the deck to see what happened after the blast,” she recalls.

“We went up on deck and we saw everyone on deck wearing protective clothes ... We went on deck wearing normal clothes. We were watching the black cloud and smoke from the blast, which was drifting towards us. When it came overhead, I felt something like a light shower falling on me. I thought it was rain.” When she arrived home later that day, she noticed the door and glass windows in their house were broken. The concrete wall was cracked, and the pet frigate bird was running around the house blind.

### Health effects of the test

“Some time after the test, something happened to my head

and face. Every time when I combed my hair, I was losing strands of my hair and something like burns developed on my face, scalp and parts of my shoulder,” she recalls.

“My face was the worst affected because I was looking up at the black cloud from the blast, which was directly above us when the light shower fell on my face ... The mark remains on my face till today. It has been on my face for the last 40 years or so now.”



Sui Kiritome



Fijian soldiers at the Christmas Island military camp for the 1957–8 British nuclear tests.

# Government action

## Pacific island leaders call for a total ban on nuclear weapons

In recent years, Pacific governments have called for action on nuclear weapons at the UN and international disarmament summits. Many Pacific island states, including the Solomon Islands, Papua New Guinea, Samoa, Tonga, Tuvalu and Vanuatu, have voted in favour of UN General Assembly resolutions calling for a treaty banning nuclear weapons.

At the Non-Proliferation Treaty preparatory committee meeting in 2013, Palau, Papua New Guinea, Fiji, the Solomon Islands, Samoa and Tonga all endorsed a joint statement highlighting the catastrophic humanitarian consequences of nuclear weapons and urging greater progress towards their complete worldwide elimination. Eleven island nations co-sponsored a similar statement at the UN General Assembly's First Committee in October 2013: Fiji, Kiribati, the Marshall Islands, Nauru, Palau, Papua New Guinea, Samoa, the Solomon Islands, Tonga, Tuvalu and Vanuatu.

### National positions

The Melanesian nation of Vanuatu declared itself nuclear-free after gaining independence in 1980 and today supports a treaty banning nuclear weapons. In a letter sent to ICAN in October 2012, Vanuatu's president, Iolu Abil, expressed his full support "for a common effort to outlaw and eliminate nuclear weapons and ensure the safety of humankind around the world". At the Oslo conference on the humanitarian impact of nuclear weapons in March 2013, the Vanuatu government affirmed its belief that "the total abolition of nuclear arms, testing and stockpiling by those in possession of them is the only way to secure a nuclear-free world".

Fiji too supports a treaty banning nuclear weapons. At the Oslo conference, Fijian delegates argued that "nuclear weapons serve no useful purpose to the world in this day and age" and "should be totally banned".

Because of their Compacts of Free Association with the United States, Palau and the Federated States of Micronesia have abstained from or voted against UN General Assembly resolutions on a treaty

banning nuclear weapons.

However, the other US Compact state, the Marshall Islands, supports a treaty banning nuclear weapons. As a nation living with the health and environmental effects of 67 atmospheric nuclear test explosions, Marshall Islanders have long campaigned for the abolition of nuclear weapons. In a letter sent to ICAN in November 2012, Marshall Islands President Christopher J. Loeak expressed his support for the conclusion of a nuclear weapons ban.

**"We hold the view that nuclear weapons serve no useful purpose to the world in this day and age but rather exist only as a risk that could lead to human catastrophes of unprecedented proportions ... Therefore ... nuclear weapons should be totally banned."**

**– STATEMENT BY FIJI, MARCH 2013**

Pacific island nations have long shown leadership in global efforts to eliminate nuclear weapons. At the 1992 World Health Assembly, the health ministers of Tonga and Vanuatu were among the co-sponsors of a successful resolution first requesting an advisory opinion by the International Court of Justice (ICJ) on the legal status of the use of nuclear weapons.

When the court addressed this question three years later, the Marshall Islands, Samoa and the Solomon Islands made strong submissions to the court. In the same year, the Federated States of Micronesia, the Marshall Islands, Samoa and the Solomon Islands joined New Zealand and Australia in taking France to the ICJ over its continued nuclear test explosions in Polynesia.



## Marshallese President: **We seek a nuclear-weapon-free world**

**Christopher J. Loeak**  
President, Marshall Islands

**T**he radiological legacy of US nuclear weapons testing in the Marshall Islands remains to this day and will persist for many years to come. Over the period from 30 June 1946 to 18 August 1958, the United States conducted 67 nuclear tests in the Marshall Islands, all of which were considered atmospheric.

The most powerful of those tests was the “Bravo” shot, a 15-megaton device detonated on 1 March 1954 at Bikini Atoll. That test alone was equivalent to 1,000 Hiroshima bombs. While the “Bravo” test is well known, it should be acknowledged that 17 other tests in the Marshall Islands were in the megaton range and the total yield of the 67 tests was 108 megatons, the equivalent of more than 7,000 Hiroshima bombs.

For the sake of comparison, it may be noted that from 1945 to 1988, the United States conducted a total of 930 known nuclear tests with a combined yield estimated to be 174 megatons. Approximately 137 megatons of that total was detonated in the atmosphere.

In other words, while the number of tests conducted in the Marshall Islands represents only about 14 per cent of all US tests, the yield of the tests in the Marshalls



President Loeak at the UN General Assembly in 2012. Credit: UN Photo/J Carrier

comprised nearly 80 per cent of the atmospheric total detonated by the United States.

The world should never allow suffering and devastation resulting from nuclear testing to be visited upon the human race, ever.

The Marshallese people know too well the horrific effects of nuclear weapons. On behalf of the government of the Republic of the Marshall Islands, I would like to take this opportunity to salute the International Campaign to Abolish

Nuclear Weapons for working with such commitment and creativity in pursuit of our shared goal of a nuclear-weapon-free world.

I stand with you to reinforce the views that have been expressed by representatives of over 140 countries in support of concluding a nuclear weapons convention. The Republic of the Marshall Islands pledges its full support for this important cause.

*This is an extract from a letter sent by President Loeak to ICAN in November 2012.*

### **The humanitarian approach**

The citizens of a region which has experienced more than 300 nuclear test explosions are well aware of the catastrophic humanitarian impacts of nuclear weapons. Small island states like Tuvalu – a country of just 10,000 people – attended the Oslo conference on the humanitarian impact of nuclear weapons in March 2013.

Even Pacific countries and territories that are not members of the United Nations, such as the Cook Islands, have spoken out in support of a treaty banning nuclear weapons. At the Oslo conference, the Cook Islands government expressed support

for the disarmament policies of the International Federation of the Red Cross and Red Crescent – which advocates negotiations for a treaty banning the use of and completely eliminating nuclear weapons.

Members of the Pacific Islands Forum continue to reiterate support for nuclear disarmament. On the international stage, Pacific Island governments have lobbied in support of the Comprehensive Nuclear Test Ban Treaty, and Fiji was the first nation in the world to ratify the treaty in October 1996. Forum members host monitoring stations to support the global verification regime under the treaty.

## Rarotonga Treaty: The South Pacific Nuclear Free Zone

**A**t the height of the nuclear arms race between the United States and Soviet Union, a treaty to create a South Pacific Nuclear Free Zone (SPNFZ) was opened for signature on Hiroshima Day in 1985, at the South Pacific Forum meeting in Rarotonga, the Cook Islands.

The Rarotonga Treaty was negotiated after decades of campaigning by unions, Pacific churches and the Nuclear Free and Independent Pacific movement. The governments of Fiji, New Zealand and Papua New Guinea had co-sponsored a UN resolution in 1975 calling for such a treaty.

### Obligations under the treaty

Under the treaty, countries in the zone commit never to develop nuclear weapons. There are also three protocols, where nuclear states with territories in the zone (France, Britain and the United States) agree to apply the treaty to their territories. In accepting the protocols, all nuclear powers also undertake not to use or threaten

to use any nuclear device against countries in the zone, and not to test nuclear devices in the zone.

Some Pacific island nations such as Papua New Guinea and the Solomon Islands sought a more comprehensive nuclear-free zone that would ban activities such as missile testing or port visits by nuclear-armed vessels.

However, Australia and New Zealand lobbied to ensure that the zone would not constrain



Anti-nuclear protesters in Rarotonga, the Cook Islands, in 1995. Credit: Greenpeace

deployments by their ANZUS ally, the United States.

An Australian Cabinet submission in April 1985 noted: “The proposal is designed to maintain the security advantages afforded to the South West Pacific through the ANZUS Treaty and the United States security presence in the region.”

Russia and China were first to sign the protocols, in 1986 and 1987 respectively, pledging not to store or test nuclear weapons in the region or use them against Australia, New Zealand or island nations. France, Britain and the United States refused to sign the treaty protocols for a decade, only signing on 25 March 1996 after the end of French nuclear testing at Moruroa and Fangataufa atolls.

Until now, however, the US government has failed to ratify its signature by passing legislation through the US Senate, even though President Barack Obama formally called on the Senate to ratify the SPNFZ protocols in May 2011.

### Time for action on a global ban

Many Pacific island nations have expressed their disappointment and frustration at the slow rate of progress currently being made towards a nuclear-weapon-free world. The nuclear-armed nations, despite being legally obliged to pursue negotiations “in good faith” for nuclear disarmament, have so far failed to present a clear road map to elimination. Instead, all are investing heavily in the modernisation of their nuclear forces, with the apparent intention of retaining them for many decades to come.

Continued failure on nuclear disarmament is not an option. So long as nuclear weapons exist, there

is a real danger they will be used again – whether by accident or design – and the consequences will be catastrophic. A treaty banning these worst weapons of terror and mass destruction is urgently needed.

The Oslo conference on the humanitarian impact of nuclear weapons in March 2013, together with other humanitarian-based disarmament initiatives in recent years, has helped build momentum for negotiations on a ban. Pacific island nations – which understand all too well the horrific effects of nuclear weapons – are perfectly placed to play a leadership role in this process, which will help ensure that no one else ever suffers as they have suffered.

**“It’s hard to see why, after almost half a century of the Non-Proliferation Treaty, there’s not better progress on achieving its promise of a nuclear-weapons-free world.”**

– JOHN KEY, PRIME MINISTER OF NEW ZEALAND, 2013

**“As a peace-loving country, Solomon Islands joins the world in seeking a world free of nuclear weapons. Nuclear tests have seen relocated peoples in the Pacific, and populations continue to suffer from health effects, including birth defects. Nuclear testing has also contaminated the environment. We agree that nuclear weapons do not provide security to people, but are a threat to humanity.”**

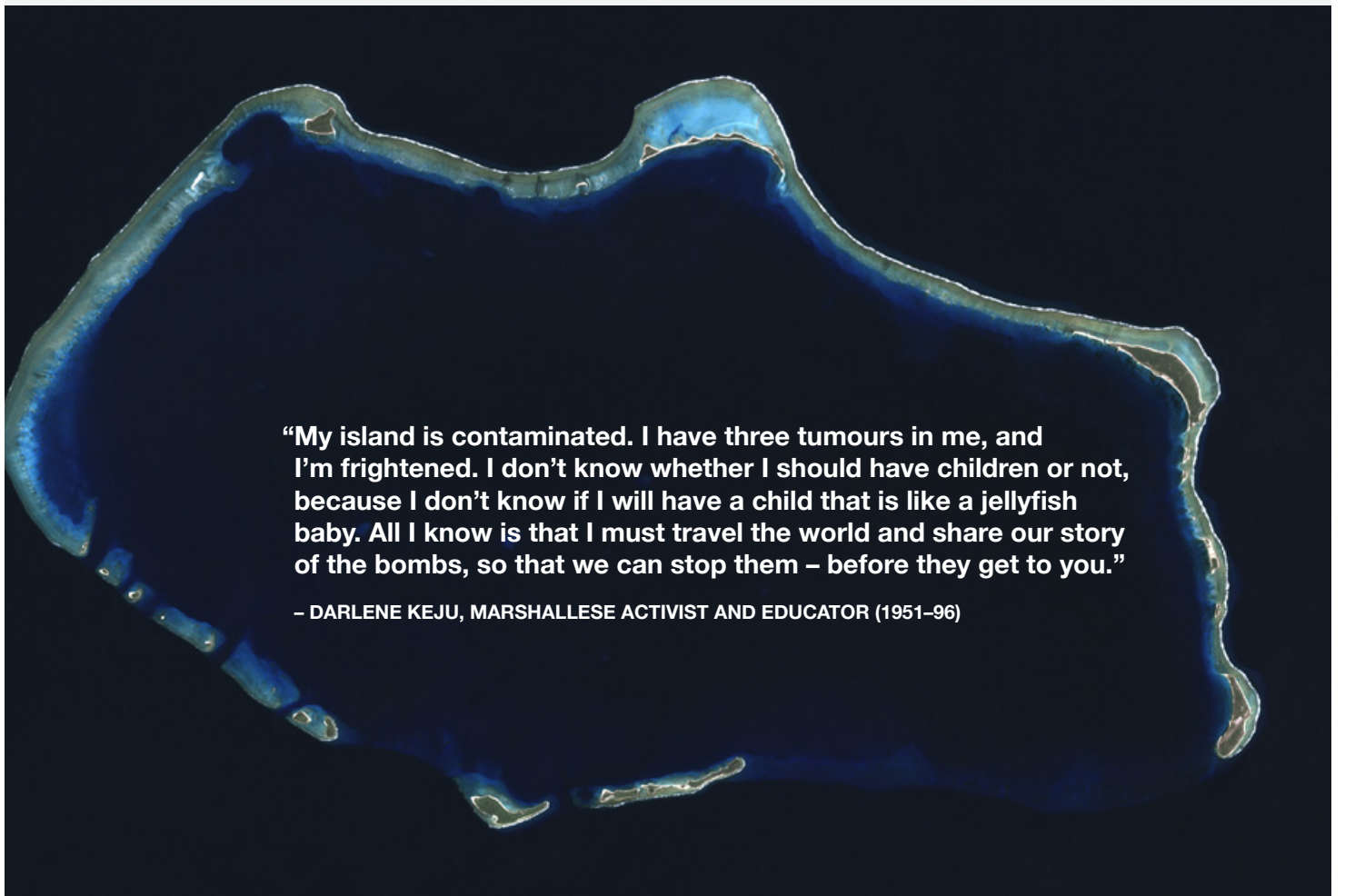
– CHRISTOPHER LAORE, POLICE MINISTER, SOLOMON ISLANDS, 2013

**“I wish to show my full support ... for a common effort to outlaw and eliminate nuclear weapons to ensure the safety of humankind around the world.”**

– IOLU JOHNSON ABIL, PRESIDENT OF VANUATU, 2012



The mushroom cloud from “Romeo”, an 11-megaton hydrogen bomb detonated by the US, rises over Bikini Atoll in March 1954.



**“My island is contaminated. I have three tumours in me, and I’m frightened. I don’t know whether I should have children or not, because I don’t know if I will have a child that is like a jellyfish baby. All I know is that I must travel the world and share our story of the bombs, so that we can stop them – before they get to you.”**

**– DARLENE KEJU, MARSHALLESE ACTIVIST AND EDUCATOR (1951–96)**



**Top:** A satellite image of Bikini Atoll today.  
**Left:** A US thermonuclear explosion in 1951.  
**Right:** Marshallese activist Darlene Keju.

