

Addressing the challenges and barriers to the full realisation of the human rights of the people of the Marshall Islands stemming from the State's nuclear legacy.

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Thank you for the opportunity to make this submission on the nuclear legacies that impede the full realisation and enjoyment of human rights for the people of the Republic of the Marshall Islands (RMI). As a development worker, journalist and researcher, I have worked for many years with affected communities impacted by nuclear testing in the Pacific islands (Australia, Kiribati, Marshall Islands, French Polynesia, Fiji, New Zealand and Guam). Beyond my journalism, I have written a number of books, reports and peer-reviewed articles on nuclear legacies in the region.¹

The submission makes suggestions for ways to assist affected communities in the Marshall Islands, though it acknowledges that the Marshallese people must set their own priorities and ways of working. Any actions by supportive states and community organisations to protect and enhance human rights must be based on a broad consultative process, with affected communities, families of victims, nuclear survivors' associations, government officials and relevant civil society actors.

There is, however, extensive opportunity to develop measures to address the long-term cultural, social, health and environmental effects of the 67 US nuclear tests conducted between 1946 and 1958 on Bikini and Enewetak atolls.

The submission discusses a number of barriers to the full realisation of human rights, but also presents examples of ways to overcome these barriers, drawing on the experience of other peoples affected by fifty years of US, UK and French nuclear testing in the Pacific Islands:

- 1) Barriers to receiving compensation in existing schemes
- 2) Addressing the contested role of science and research
- 3) Improving access to nuclear archives for affected communities
- 4) Community education for a new generation
- 5) Promoting awareness of the TPNW assistance provisions
- 6) Cultural ties, displacement and land tenure
- 7) Convergence of nuclear legacies and climate justice
- 8) Monitoring and management of nuclear waste dumps
- 9) Recognising the human right to health

¹ For example, Nic Maclellan: *Grappling with the Bomb* (Canberra: ANU Press, 2017); Losena Tubanavau-Salabula, Nic Maclellan and Josua Namoce: *Kirisimasi - Na Sotia kei na Lewe ni Mataivalu e Wai ni Viti e na vakatovotovo iyaragi nei Peritania mai Kirisimasi* (Suva: Pacific Concerns Resource Centre, 1999); Jean Chesneaux and Nic Maclellan: *La France dans le Pacifique - de Bougainville à Moruroa* (Paris: Editions La Découverte, 1992); Nic Maclellan: "Nuclear Testing and Racism in the Pacific Islands", in Steven Ratuva (ed), *The Palgrave Handbook of Ethnicity* (Palgrave Macmillan, 2019), pp885-904; Nic Maclellan: "Introduction: Resistance and Survival – The Nuclear Era in the Pacific", *The Journal of Pacific History*, Volume 59, March 2024.

1) Barriers to receiving compensation in existing schemes

The International Covenant on Civil and Political Rights requires that individuals have accessible and effective remedies to vindicate their rights.² However a central challenge for survivors of nuclear testing is the difficulty of translating pledges of financial support, medical aid and technical assistance into accessible and effective action on the ground.

This problem is manifested in different ways, including: delays in appropriating pledged funding; a focus on test site workers rather than neighbouring indigenous communities; issues of governance of funding; and the importance of non-monetary reparations and compensation. These challenges are compounded by the ongoing relationship between RMI and the responsible nuclear weapons state, the United States – their recently renewed Compact of Free Association constrains some potential responses by the RMI government in defence, security and foreign policy.

1.1 Delays in appropriating pledged funding

An ongoing problem is the refusal of the United States to provide full funding to meet the US\$2.3 billion of awards issued in the 1990s by the RMI Nuclear Claims Tribunal, to meet the full level of adequate compensation for past and future property damage, loss of land use, personal injury, hardship and suffering, as well as for clean-up of contaminated lands. Despite the 2000 RMI Changed Circumstances petition (which sought extra \$177 Compact funding), there are still shortfalls that have not been met by the US Congress.³

This parallels recent problems for the US Radiation Exposure Compensation Act (RECA), which is set to expire in mid-2024. At time of writing, extension of RECA and renewed funding is uncertain after the US Congressional leadership stripped reauthorisation of RECA from the FY24 National Defense Authorization Act. Survivors in Guam, Hawai'i and the United States are concerned about future delays due to political disfunction in Washington. A similar problem of dysfunction in the US Congress is highlighted by the delay to approve FY24 appropriations for the three renewed Compact of Free Association with Marshall Islands, Palau and Federated States of Micronesia, due to commence on 1 October 2023, but still delayed at time of writing.

These political and bureaucratic delays are also evident in other regions of the Pacific that suffered nuclear testing. For example, since 2010 France has established systems for compensation to nuclear survivors, in a belated response to the 193 nuclear tests at Moruroa and Fangataufa atolls in Mā'ohi Nui / French Polynesia and earlier tests in Algeria. After decades of denial that there were hazardous levels of radiation affecting the Mā'ohi people of French Polynesia, France has begun work on compensation and opening the nuclear archives. Under the 2010 Loi Morin, France established the *Comité d'Indemnisation des Victimes des Essais Nucléaires* (CIVEN), a commission to evaluate compensation claims from civilian and military personnel who staffed French nuclear test sites.⁴

² Article 2.3, International Covenant on Civil and Political Rights (ICCPR), <https://www.ohchr.org/en/instruments-mechanisms/instruments/international-covenant-civil-and-political-rights>

³ Lum, Thomas et al.: *Republic of the Marshall Islands Changed Circumstances Petition to Congress*. CRS Report for Congress, Congressional Research Service, 14 March 2005. See also Desmond Narain Doulatram: "Marshalllese Downwinders and a Shared Nuclear Legacy of Global Proportions", Presentation to conference on Human Rights, future generations and crimes in the nuclear age, University of Basil, Switzerland, 14-17 September 2017.

⁴ CIVEN documents and triennial reports at <https://www.gouvernement.fr/comite-d-indemnisation-des-victimes-des-essais-nucleaires-civen>

However there are significant flaws in the CIVEN process. During its first five years of operation, CIVEN approved only two per cent of claims submitted by personnel exposed to hazardous levels of ionising radiation at Moruroa and Fangataufa atolls.⁵ Changes to the CIVEN law since 2017 have improved the process, shifting the burden of proof and increasing compensation approvals, but more than half of all applications are still rejected by the commission.⁶

1.2 Focus on indigenous communities as well as civilian and military test site participants

Nuclear weapon states have often focused compensation programs on selected target groups, rather than the broader community or the whole country.

In the Marshall Islands, US health and environmental programs were initially focused on the population of four northern atolls, until documents released in 1996 revealed that radioactive fallout had impacted virtually every atoll in the Republic.⁷ The failure to release this and other relevant documents for 40 years undercut the work of the RMI Nuclear Claims Tribunal, limiting the number of people eligible for compensation.

Nuclear secrecy in French Polynesia has also led to underestimations of the size of affected communities. In 2021, French researchers re-interpreted documents released from government archives a decade ago. They documented how radioactive fallout spread across many more archipelagos than France had previously acknowledged, including the heavily populated main islands of Tahiti and Moorea.⁸ The research found “government estimates of effective doses received by the public have been underestimated by factors of 2 to 10. As a result, approximately 110,000 people, representing 90% of the French Polynesian population at the time, could have received doses greater than 1 mSv per year. Integrating updated dose estimates into the claim adjudication process would enlarge the pool of eligible claimants by a factor of 10.”⁹

Because of barriers relating to lack of documentation, cost, distance and language, less than a quarter of the applications to the CIVEN compensation scheme come from Mā’ohi people in French Polynesia, with nearly ¾ coming from French military personnel in metropolitan France. This is reflected in a bias towards those who staffed the test sites, rather than neighbouring indigenous communities – the 2022 CIVEN report notes that “applicants who worked for the Testing Centres located in the Sahara and/or in the Pacific (military and civilian) represent 70% of applications submitted compared to 30% for the Polynesian or Algerian population.”¹⁰

1.3 Governance of nuclear trust funds

Delayed appropriations, inadequate prioritisation and general mismanagement of financial resources can also cause divisions within affected communities. The governance and management of trust

⁵ Between 5 January 2010 and 15 March 2015, only 17 of 862 compensation applications (2%) were approved, with 845 rejected. Data from CIVEN: *Rapport d’activité 2019*, Comité d’Indemnisation des Victimes des Essais Nucléaires, p11.

⁶ CIVEN: *Rapport d’activité 2022*, Comité d’Indemnisation des Victimes des Essais Nucléaires, pp15-17.

⁷ For example, a crucial US Atomic Energy Commission report dated January 1955 was only released to RMI in 1996. “Radioactive Debris from Operation Castle, Islands of the Mid-Pacific” listed nearly two dozen islands and atolls in the Marshalls that received varying levels of fallout from all six of the 1954 hydrogen bomb tests at Bikini Atoll. The document can be found at <https://data.nuclearsecrecy.com/mindd/PDF/0058769.pdf>

⁸ Sébastien Philippe and Tomas Stadius, *Toxique – Enquête sur les essais nucléaires français en Polynésie* (Paris: PUF/Disclose, 2021).

⁹ Sébastien Philippe, Sonya Schoenberger & Nabil Ahmed: “Radiation Exposures and Compensation of Victims of French Atmospheric Nuclear Tests in Polynesia”, *Science & Global Security*, 30:2, 2022, pp62-94.

¹⁰ CIVEN: *Rapport d’activité 2022*, Comité d’Indemnisation des Victimes des Essais Nucléaires, p12.

funds remains a crucial concern, requiring more transparency and accountability. For example, media reports have criticised the US Department of the Interior “for failing to predict that a 2017 decision to lift oversight from a \$59 million trust fund for Pacific Islanders displaced by American nuclear testing would lead to the fund’s exhaustion through mismanagement and alleged fraud.”¹¹

1.4 The importance of non-monetary reparations and accountability

Beyond the problems of appropriating and governing trust funds for nuclear survivors, attention should also be paid to non-monetary reparation and compensation. There is a need for a comprehensive approach incorporating a wide range of judicial and non-judicial measures.

Monetary compensation is not always appropriate or valued in some cultural contexts, so there is a need to consult relevant cultural leaders, youth and women on what they consider to be adequate redress and reparations. These might include legal prosecutions, truth and justice commissions, institutional reform, increased access to nuclear archives (discussed below) or community education programs for the younger generation. Above all, non-monetary mechanisms can help ensure accountability, provide remedies to victims, and promote healing and reconciliation.

In cooperation with the RMI government and affected communities, US authorities should instigate and fund a truth, justice and reconciliation mechanism, and participate in public apologies, public memorials and guarantees of non-repetition. The United States and other countries should help finance the development of a museum and research facility in Majuro, dedicated to the history of the nuclear era.

2) Addressing the contested role of science and research

Another major roadblock to addressing the human rights of affected communities is a legacy of distrust of US authorities. This is, in part, based on the contested role of scientific and medical personnel, ongoing scientific disputes over the health, environmental and intergenerational effects of radiation, and concerns over the independence and ethics of overseas researchers.

The sordid history of medical research on Marshall Islanders without free, prior and informed consent – exemplified by Project 4.1 and Project Sunshine – continues to raise concerns about the independence and objectivity of medical and scientific researchers. Under Project 4.1, medical studies were undertaken on at least 539 men, women and children, including experimental surgery and injections of chromium-51, radioactive iodine, iron, zinc and carbon-14.¹²

This impacts community responses to contemporary challenges, with the 2023 RMI National Adaptation Plan noting: “Public awareness and engagement in climate adaptation is hindered by consultation fatigue, diverse project messages, and historical trauma from nuclear testing.

¹¹ Pete McKenzie: “Trump-era officials under fire as nuclear fund for Bikini islanders is squandered”, *The Guardian*, 5 June 2023. Pete McKenzie: “\$59 Million, Gone: How Bikini Atoll Leaders Blew Through U.S. Trust Fund”, *New York Times*, 3 May 2023.

¹² In the first 15 years after the 1954 Bravo test, 54 medical studies were published by Project 4.1 researchers. For background, see E.P. Cronkite, R.A. Conard and V.P. Bond: ‘Historical events associated with fallout from Bravo shot—Operation Castle and 25 years of medical findings’, *Journal of Health Physics*, Vol. 73, No. 1, 1997, pp176–186; On US and UK human radiation experiments, see Nic Maclellan: *Grappling with the Bomb*, op.cit. pp100ff, and Merrill Eisenbud: “Human radiation studies, remembering the early years”, US Department of Energy, Office of Human Radiation Experiments, DOE/EH-0456, May 1995.

Marshallese fear losing control over their futures.”¹³ Addressing this problem requires multi-faceted efforts, with a focus on mental health, trauma and youth empowerment.

Today, the RMI National Nuclear Commission (NNC) has expressed concern about ongoing exploitative and extractive practices by researchers, academics and scientists, noting “the Marshallese people and land is often violently exploited by outsiders who use the Marshall Islands to advance their own interests, careers, learning, or power. The exploitive and extractive activities reached an apex during the testing program, but these practices are not limited to the past, nor only to US Government researchers.”¹⁴

The NNC has adopted protocols requiring researchers to engage in ethical research, requiring local permissions, ethics reviews and commitments to post-research data transfer, all detailed in pre-departure written submissions to the NNC. These are complemented by protocols developed by civil society groups like the Nuclear Truth Project (discussed below).

There are also significant problems with scientific reticence about the long-term hazards of low-level ionising radiation. As UN Special Rapporteur Calin Georgescu noted in 2012:

“Scientific contention focuses on whether low-level radiation can be linked to cancer; whether the effects of radiation are specific to the individual (given that certain people may have a predisposition to cancer without any radiation exposure from nuclear testing), or conversely whether certain people are particularly susceptible to radiation; and whether such radiation causes genetic and intergenerational harm...Both Governments provided the Special Rapporteur with an analysis by their respective experts, who reached differing conclusions on the safety of the islands for human habitation.”¹⁵

Historians have suggested that US environmental legislation during the post-testing era in the 1960s and 1970s often overlooked issues of environmental racism and injustice.¹⁶ While US scientists have conducted investigations of ecosystems affected by US nuclear testing these programs of “ecosystems management” have been critiqued as failing to details the way ecosystems were recreated by the US program.

As Professor Laura Martin has argued: “the making of ecosystems entailed injustice, and even horror: the dispossession of Marshall Islanders; the radiation sickness of thousands of soldiers and civilians; simulations of World War III; and the creation of the massive US nuclear complex, which by the end of the Cold War occupied more than 8,500 km² and whose radioactive legacy will persist for at least ten thousand years.”¹⁷

¹³ Republic of Marshall Islands: *National Adaptation Plan (Pāpjelmae)*, op.cit., p166.

¹⁴ RMI: *Ethics protocols for researchers and study abroad instructors*. Republic of the Marshall Islands National Nuclear Commission, n.d.

¹⁵ Calin Georgescu: *Report of the Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes, on his mission to the Marshall Islands (27-30 March 2012) and the United States of America (24-27 April 2012)*. United Nations Human Rights Council, Twenty-first session, 3 September 2012. A/HRC/21/48/Add.1

¹⁶ Mary X. Mitchell: “Offshoring American Environmental Law: Land, Culture, and Marshall Islanders’ Struggles for Self-Determination During the 1970s”, *Environmental History* 22, 2017, pp209–234.

¹⁷ Laura Martin: “Proving Grounds: Ecological Fieldwork in the Pacific and the Materialization of Ecosystems”, *Environmental History*, 23, 2018, pp567–592.

Despite these problems, there have been a series of scientific studies over the last five years that document the ongoing effects of radioactive contamination at various sites around the Marshall Islands.¹⁸

3) Improving access to nuclear archives for affected communities

During the hearings of the RMI Nuclear Claims Tribunal in the 1990s, officials recorded witness statements on audio and video cassettes, which serve as vital evidence for any future litigation, especially with many of the witnesses ageing, ill or dying. Preserved, these recordings also serve as an irreplaceable historical asset for future generations. However, access to and preservation of historic records of the nuclear era remains an ongoing problem, which needs human and financial resources. RMI lacks the staff, finance and archival facilities to protect many fragile records, or investigate the kilometres of records about nuclear testing stored in the United States.

The United States has long wavered between a culture of “restricted data” and a tradition of public accountability and oversight that allows access to nuclear archives.¹⁹ Cost is a major barrier: in 2022, the US Public Interest Declassification Board examined the feasibility of declassifying more Marshall Islands records, but argued that any reopening of nuclear-era archives would take up to six years, would cost between US\$100 million and \$200 million, and would need around a hundred staff “who are fully cleared at the Top Secret and Q levels” and “trained to identify and review technical nuclear weapons data.”²⁰

While the US government must take responsibility for opening its archives, in line with previous initiatives like the Clinton administration’s “Openness Initiative” in the mid-1990s, there is also a role for other governments, NGOs and academic institutions to support this work.

A striking example was the solidarity shown by the municipal government of Girona in Catalonia and SwissPeace in Switzerland, who digitised and stored crucial audio, video and documentary records from the RMI Nuclear Claims Tribunal.²¹ To protect crucial documents about the testing program at Bikini and Enewetak Atolls that were being removed or hidden from the official Department of Energy website, US researchers created the Marshall Islands Nuclear Document

¹⁸ Hart Rapaport et al.: “Initial Strontium-90 concentrations in ocean sediment from the northern Marshall Islands”, *Journal of Radiation Research and Applied Sciences*, 15(1), March 2022, pp17-20; Maveric Abella et al.: “Background gamma radiation and soil activity measurements in the northern Marshall Islands”, *Proceedings of the National Academy of Sciences of the United States of America*, 116, 2019, pp15425–15434; A. S Bordner et al.: “Measurement of background gamma radiation in the northern Marshall Islands”, *Proceedings of the National Academy of Sciences of the United States of America*, 113, 2019, 6833–6838; K.O. Buesseler et al., “Lingering radioactivity at the Bikini and Enewetak atolls”, *The Science of the Total Environment*, 621, 2018, pp1185–1198; Emlyn Hughes et al.: “Radiation maps of ocean sediment from the Castle Bravo crater”, *Proceedings of the National Academy of Sciences of the United States of America*, 116, 2019, pp15420–15424; Carlisle Topping et al.: “In situ measurement of cesium-137 contamination in fruits from the northern Marshall Islands”, *Proceedings of the National Academy of Sciences of the United States of America*, 116, 2019, pp15414–15419.

¹⁹ Alex Wellerstein: *Restricted Data: The History of Nuclear Secrecy in the United States* (Chicago: University of Chicago Press, 2021).

²⁰ US Public Interest Declassification Board: *Declassification of Records Relating to Nuclear Weapons Testing and Cleanup Activities in the Marshall Islands - Feasibility Study* (Washington, PIDB, 2022), p8.

²¹ The story of how a lawyer in the Marshall Islands, a former US national archivist and a Catalan museum director came together to protect vital archives is told in Nic Maclellan: “Preserving nuclear memories”, *Inside Story*, 20 November 2023. <https://insidestory.org.au/preserving-nuclear-memories/>

Database, preserving public access to more than 13,700 official documents that would otherwise be restricted from public access.²²

Indigenous survivors and researchers from the Nuclear Truth Project have engaged in a process to develop best practice about access to nuclear archives, as well as protocols for appropriate engagement with nuclear survivor communities. A 2023 NTP research study outlined barriers to accessing nuclear archives, with proposals for governments, academic institutions and research centres to improve their processes and allow greater release of the documentary evidence required for compensation programs.²³ The NTP has also developed protocols to ensure any efforts for remediation and assistance are focused on redress for both historic and future harms from nuclear activities, based on rights, respect and reciprocity.²⁴

4) Community education for a new generation

The October 2022 resolution of the Human Rights Council recognised the need for greater technical assistance and capacity-building to address the human rights implications of the nuclear legacy in the Marshall Islands.²⁵

They are already a range of locally driven initiatives to raise awareness in the community, especially amongst younger generations, about the legacies of the 67 US nuclear tests in the 1940s and 1950s. These include activities organised by the RMI National Nuclear Commission, the College of the Marshall Islands (CMI), women's organisations, youth and student groups such as Jodrikdrik in Jipān Ene Eo Ekutok Maroro (Jo-Jikum), Youth to Youth in Health and MISA4the Pacific.

International agencies, non-government organisations and governments could extend their support to these local initiatives, through financial grants, internships and staff exchanges, information exchanges, technical support for media, filmmaking and archival projects and in many other areas.

Given the long-lasting impacts of radioactive contamination, especially in the northern atolls, there was a need to disseminate information – especially in Kajin Majol and appropriate, accessible language – about the ongoing hazards of exposure to ionising radiation. Promotion of information through risk reduction education programs can help reduce exposure, complemented by capacity building, improved coordination, and sustainable funding sources

5) Promoting awareness of the TPNW assistance provisions

The Treaty on the Prohibition of Nuclear Weapons (TPNW) entered into force in January 2021. Articles 6 and 7 of the nuclear ban treaty include unprecedented obligations requiring state parties to provide assistance to nuclear survivors and contribute to environmental remediation of nuclear

²² *Marshall Islands Nuclear Document Database*: <https://data.nuclearsecrecy.com/mindd/>

²³ Marco de Jong, Nic Maclellan and Carla Cantagallo: *Challenging Nuclear Secrecy - A discussion of hierarchies, ethics and barriers to access in nuclear archives* (Nuclear Truth Project, Oklahoma, 2023).

²⁴ Nuclear Truth Project: *Rights, Respect, and Reciprocity - Protocols for Seeking Nuclear Truth with Integrity*, October 2023. <https://nucleartruthproject.org/protocols/>

²⁵ UNHRC: *Technical assistance and capacity building to address the human rights implications of the nuclear legacy in the Marshall Islands*. Resolution A/HRC/51/L.24/Rev.1 of the United Nations Human Rights Council, 44th meeting, 7 October 2022.

sacrifice zones. These TPNW provisions “which do not appear in earlier nuclear weapon treaties, set new international standards for dealing with the effects of the use and testing of these weapons.”²⁶

Over the last three years, Kiribati and Kazakhstan have coordinated international consultations on ways to implement these TPNW nuclear assistance provisions. In December 2023, their UN Ambassadors successfully piloted a joint resolution on Victim Assistance and Environmental Remediation through the UN General Assembly in a 171-4-6 vote.²⁷

More than half the members of the Pacific Islands Forum have now signed and ratified TPNW, but as yet, the Republic of the Marshall Islands has not. There have been debates in the Nitijela and government that have delayed signature, suggesting a reluctance to remove the focus on US responsibility for compensation and cleanup. International human rights groups have, in contrast, argued that Marshall Islanders would benefit from the so-called “positive obligations” in TPNW Articles 6 and 7.²⁸

One concrete step forward would be to promote wider discussion in the Nitijela, government and community about the TPNW and its assistance provisions, to correct misconceptions and misrepresentations. This dialogue could draw on the experience of other nuclear affected communities across Oceania who are actively mobilising around the TPNW.

6) Cultural ties, displacement and land tenure

Article 8 of the UN Declaration on the Rights of Indigenous Peoples says that “States shall provide effective mechanisms for prevention of, and redress for...b) Any action which has the aim or effect of dispossessing them of their lands, territories or resources; (c) Any form of forced population transfer which has the aim or effect of violating or undermining any of their rights.”²⁹

It also states that “No relocation shall take place without the free, prior and informed consent of the indigenous peoples concerned and after agreement on just and fair compensation and, where possible, with the option of return.”³⁰

The RMI’s cultural history has been marked by displacement due to historic nuclear testing. The relocation of Marshall islanders from the northern atolls, including Bikini, Rongelap, Enewetak and Utrok, has had long-lasting cultural and social effects. This trauma resonates today, as people in the low-lying atoll nation face further displacement from sea-level rise and the adverse effects of extreme weather events on food and water security.

After the 1 March 1954 atmospheric nuclear test on Bikini atoll, codenamed Bravo, Marshallese customary leaders, teachers and business people sent a petition to the UN Trusteeship Council. It highlighted the importance of land as a source of culture and identity – land that was being vaporised

²⁶ IHRC: *Victim Assistance and Environmental Remediation in the Treaty on the Prohibition of Nuclear Weapons – Myths and Realities*. International Human Rights Clinic, Harvard Law School, April 2019, p8.

²⁷ Of the states conducting nuclear testing in the Pacific, the United States abstained on the resolution while France and the United Kingdom joined Russia and North Korea as the only four countries in the world to oppose the resolution “Addressing the legacy of nuclear weapons: providing victim assistance and environmental remediation to member states affected by the use or testing of nuclear weapons”, UNGA resolution A/RES/78/240, December 2023.

²⁸ IHRC: *Victim Assistance and Environmental Remediation in the Treaty on the Prohibition of Nuclear Weapons*, op.cit.

²⁹ Article 8 (2) of the *UN Declaration on the Rights of Indigenous Peoples*, Resolution adopted by the UN General Assembly, 13 September 2007.

³⁰ Article 10 of the *UN Declaration on the Rights of Indigenous Peoples*, Resolution adopted by the UN General Assembly, 13 September 2007.

or contaminated by the nuclear tests. Beyond the health hazards, the 1954 petition stressed that the Marshallese people “are also concerned for the increasing number of people removed from their land land means a great deal to the Marshallese. It means more than just a place where you can plant your food crops and build your houses or a place where you can bury your dead. It is the very life of the people. Take away their land and their spirits go also.”³¹

Many people from Bikini, Rongelap and other atolls remain in exile to this day. In Majuro in 2013, the author interviewed nuclear survivors from Rongelap, who were still displaced from their home islands. Mrs. Lemeyo Abon said: “We are still living in this place in exile from our homeland, like a coconut floating in the sea. The United States has to live up to their responsibility and make sure our children and grandchildren will be cared for.”³² Sadly, Mrs Abon died before returning to Rongelap, after living in exile for decades.

To protect human rights, particular emphasis should be placed on solutions aimed at reconciling the traditional land tenure system with durable solutions to displacement. Given the important cultural relationship with lands, territories, waters, coastal seas and other resources, the United States and other nations have obligations to maintain this land for future generations.

7) Convergence of nuclear legacies and climate justice

The Republic of Marshall Islands National Adaptation Plan (NAP), launched at COP28 on 5 December 2023, provides an important framework for addressing the right to a clean, healthy and sustainable environment. The NAP draws explicit connections between nuclear legacies and changing environmental conditions driven by climate change (including sea level rise, storm surges and cyclones, and other extreme weather events).

RMI Climate Envoy Kathy Jetnil-Kijiner has highlighted two interconnected features in the national climate adaptation initiative:

“One is the human rights core of it, but then it’s also going to be one of the few National Adaptation Plans that takes into consideration the nuclear legacy, and how the nuclear legacy can inform how we plan for climate change action.”³³

The NAP explicitly links the traumatic heritage of nuclear testing and the need for a rights-based approach to the challenges of global heating:

“Our colonial legacies influence climate vulnerability. For example, the legacy of the nuclear weapons testing program forced many of our people to migrate to different islands that are unsuitable and more climate vulnerable. We do not want to perpetuate the subordination that has affected our country in the past, and instead will respect self-determination and human

³¹ Nic Maclellan: “MANUSCRIPT XLIII: Petition to the United Nations Trusteeship Council from the Marshallese People, 20 April 1954”, *The Journal of Pacific History*, Volume 59, March 2024.

³² Interview by the author with the late Lemeyo Abon, Majuro, September 2013. For discussion of displacement, see “The survivors - Lemeyo Abon and Rinok Riklon” in Nic Maclellan: *Grappling with the Bomb* (Canberra: ANU Press, 2017), 54.

³³ Nic Maclellan: “Marshall Islands adapting to a changing world”, *Islands Business* magazine, August 2021.

rights by centering climate adaptation decision-making in the hands of our communities and elected leaders.”³⁴

The connection between nuclear legacies and rising sea levels is highlighted by the potential for the leaching of nuclear contaminants into the marine environment, especially from the Runit Dome on Enewetak atoll.

Built in the late 1970s, the concrete containment structure on the north end of Runit Island contains more than 100,000 cubic yards of soil and debris contaminated by radiation, inside an unlined nuclear test crater (known as the Cactus Crater). According to a 2020 report to Congress from the US Department of Energy, “the Runit Dome is not in any immediate danger of collapse or failure.” However the DoE acknowledges “the main risk posed by the Dome will be derived from the flow of contaminated groundwater from beneath the containment structure into the local marine environment.”³⁵

On Enewetak Atoll, ongoing concern about nuclear contamination from the Runit Dome is impacting on people’s health, nutrition and mental well-being. The RMI National Adaptation Plan notes that “Many women in Enewetak are concerned about the health implications of consuming marine species, given their fears of sea-level rise causing greater contamination from radiation leached from the Runit Dome.”³⁶

The RMI government has repeatedly raised the issue of the Runit Dome and nuclear contamination at annual summits of the Pacific Islands Forum, and through a Nuclear Taskforce involving agencies from the Council of Regional Organisations of the Pacific (CROP).³⁷ The latest RMI Climate Security Risk Assessment stresses: “Nuclear waste represents an ongoing threat to the Marshallese people and the environment because of the risk that nuclear waste stored in the Runit Dome cannot be contained.”³⁸

Runit also features significantly in the poetry, paintings and literature of young Marshall Islanders, who constantly reaffirm concern about the lingering effects of contamination. This is exemplified by poems and videos such as “Anointed” and “History Project” by Kathy Jetnīl-Kijiner, which have received international attention.³⁹

³⁴ Republic of Marshall Islands: *National Adaptation Plan (Pāpjelmae) – Responding to the challenge of climate change* (RMI Government, October 2023), p19. See also L. Ahlgren, et al: “Rising Oceans, Climate Change, Food Aid, and Human Rights in the Marshall Islands”, *Health and Human Rights Journal*, 16:1, 2014.

³⁵ US Department of Energy: *Report on the status of the Runit Dome in the Marshall Islands*. Report to Congress, June 2020. <https://www.energy.gov/ehss/downloads/report-status-runit-dome-marshall-islands>

³⁶ Republic of Marshall Islands: *National Adaptation Plan (Pāpjelmae)*, op.cit., p99.

³⁷ The final communiqué of the July 2022 Pacific Islands Forum summit in Suva, Fiji stated: “Leaders noted the progress to address the ongoing impacts of nuclear testing through the CROP Taskforce on Nuclear Legacy issues in the Pacific, and the arrangements for a Preliminary Independent Review relating to Nuclear Contamination in the Pacific, including in the Nuclear Test Site at Runit Dome on Runit Island of the Republic of the Marshall Islands, which is expected to commence in the second half of 2022, to provide the evidentiary basis for ongoing Forum advocacy on nuclear legacy issues.”

³⁸ UNDP: *Republic of Marshall Islands Climate Security Risk Assessment* (Suva: United Nations Development Program, December 2023).

³⁹ Kathy Jetnīl-Kijiner: *Iep Jaltok—Poems from a Marshallese Daughter* (University of Arizona Press, Phoenix, 2017), pp20–23; Michella Keown: “Children of Israel: US Military Imperialism and Marshallese Migration in the Poetry of Kathy Jetnīl-Kijiner”, *Interventions*, 19:7, 2017, pp930-947; Rebecca Hogue: “Nuclear Normalizing and Kathy Jetnīl-Kijiner’s ‘Dome Poem’”, *Amerasia Journal*, 47(2), 2022, pp208-229.

This OHCHR report should encourage greater collaboration between the Republic of Marshall Islands and regional and international organisations, including the United Nations Environment Program (UNEP), the Pacific Islands Forum (PIF) and Pacific Regional Environment Program (SPREP), to address these legacies within a rights-based framework that highlights climate justice and responses to nuclear contamination in the region.

8) Monitoring and management of nuclear waste dumps

The OHCHR report should also advocate for best practice on radiation monitoring and cleanup, including: more independent, comprehensive radiological surveys of the entire territory and ocean; programs to monitor, secure and remove nuclear wastes on a scale and standard comparable to the clean-up of domestic testing sites in the United States; improved systems to keep contamination out of the food chain; and better measures to prevent people from interacting with contaminated areas until comprehensive remediation can be completed.

Of particular concern, given changing sea levels and ocean acidification, is the proper monitoring and cleanup of nuclear waste dumps around the Pacific Ocean, which requires regional and international co-ordination. The danger to the marine environment from the Runit Dome is replicated in other parts of the Pacific islands, because the Western powers used the ocean as a dumping ground as they completed their 20th Century nuclear testing programs.

For example, a 2017 French government report on ocean dumping of nuclear waste acknowledges that 2,580 tonnes of nuclear waste in concrete drums were dumped into the ocean in 1974-82 at a site codenamed Oscar, located around five kilometres off Moruroa atoll.⁴⁰ This dumping followed the disposal of 76 tonnes of untreated radioactive waste, submerged at the nearby November site between 1972-75. ICAN France has also documented significant amounts of waste contaminated with radiation buried in the Sahara desert after France's 17 nuclear tests in Algeria.⁴¹

Under Operation Fishbowl in 1962, the US military caused severe nuclear contamination at Kalama (Johnston Atoll), after a number of aborted nuclear missile launches caught fire or exploded, causing plutonium contamination that lingers to this day.⁴²

British nuclear test sites in the Monte Bello Islands and South Australian desert are also scarred with the radioactive legacies of atmospheric tests. Even worse than the atmospheric fallout from 12 atomic tests were the hundreds of experiments (codenamed Kittens, Tims, Vixen and Rats) that sent plumes of burning plutonium and uranium across the desert on the land of the indigenous Anangu people.⁴³

A valuable contribution to addressing nuclear legacies would be more extensive programs of cultural and technical exchanges between Marshall Islanders and other affected communities in the Pacific (and beyond). As one example, the author accompanied Tahitian activists to Algeria in 2007, to meet

⁴⁰ ANDRA: *Les déchets radioactifs immergés - Dossier thématique de l'Inventaire national des matières et déchets radioactifs*. Agence nationale pour la gestion des déchets radioactifs (ANDRA), March 2017, p17.

⁴¹ Jean-Marie Collin and Patrice Bouveret: *The Waste From French Nuclear Tests in Algeria - Radioactivity Under the Sand (Analysis with regard to the Treaty on the Prohibition of Nuclear Weapons)*, Heinrich Böll Foundation, July 2020.

⁴² Plutonium-contaminated soil and debris was bulldozed into the atoll's lagoon, polluting the surrounding marine environment. For details of these repeated disasters, see Nic Maclellan: *Grappling with the Bomb*, op.cit. pp272-274.

⁴³ Elizabeth Tynan: *Atomic Thunder, the Maralinga Story* (Sydney: NewSouth Press, 2016); Elizabeth Tynan: *The Secret of Emu Field: Britain's forgotten atomic tests in Australia* (Sydney: NewSouth Press, 2022).

with government and community representatives to discuss, compare and contrast programs for compensation, land protection and environmental remediation in desert and ocean environments.⁴⁴

9) Recognising the human right to health

In 2012, UN Special Rapporteur Calin Georgescu reported that “the nuclear testing resulted in both immediate and continuing effects on the human rights of the Marshallese...radiation from the testing resulted in fatalities and in acute and long-term health complications.”⁴⁵

The right to health is an inclusive right that extends to the underlying determinants of health, such as access to an adequate supply of safe food and to safe and potable water. The United States makes extensive commitments to development through the Compact of Free Association, but overseas programs must be integrated into the systems and priorities of the Republic of Marshall Islands government and community organisations.

In Marshall Islands, there is a need to improve health research and screening for intergenerational diseases associated with nuclear fallout and contaminated land and water. This should be supported by more funding and technical assistance for the treatment of ongoing physical and psychological injuries linked to the testing of nuclear weapons.

In other Pacific countries, there has been innovative research on potential genetic and intergenerational health effects from nuclear testing. One example is the study led by Professor Al Rowland at Massey University in Aotearoa-New Zealand, who documented significant genetic translocations in a peer-reviewed control group study of the 551 New Zealand sailors who participated in Operation Grapple, the UK nuclear testing program in Kiribati in 1957-58.⁴⁶

⁴⁴ As the Algerian government sought information about cleaning up the Reggane nuclear test site in the Sahara desert, the author presented information of an A\$108 million attempted cleanup of a former British nuclear test site on indigenous Anangu land in the desert of outback South Australia. See Nic Maclellan: *Expérimentations nucléaires britanniques dans le désert australien et les îles du Pacifique*, paper for the International conference “The consequences of nuclear testing around the world – the case of the Algerian Sahara”, Algiers, 13-14 February 2007. The failed attempt to clean up radioactive contamination on APY lands in South Australia in the 1990s was documented by former scientific adviser Alan Parkinson in *Maralinga - Australia's Nuclear Waste Cover-up* (Sydney: ABC Books, 2007).

⁴⁵ Calin Georgescu: *Report of the Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes, on his mission to the Marshall Islands (27-30 March 2012) and the United States of America (24-27 April 2012)*. United Nations Human Rights Council, Twenty-first session, 3 September 2012. A/HRC/21/48/Add.1

⁴⁶ The Rowland study found that “the total [genetic] translocation frequency is three times higher in the veterans as a group than the control group... This result is indicative of the veterans having incurred long-term genetic damage as a consequence of performing their duties relating to Operation Grapple.” M.A. Wahab, F.M. Nickless, M. Najar, R. Kacher, C. Parmentier, J.V. Podd, R.E. Rowland: “Elevated chromosome translocation frequencies in New Zealand nuclear test veterans”, *Cytogenetic and Genome Research*, Vol. 12, No. 2, 2008, pp. 79–87. For detailed discussion of this study, see Nic Maclellan: *Grappling with the Bomb*, op.cit. pp291-309.