

Shadow Report to the 89<sup>th</sup> Session of the CEDAW

# JAPAN'S OCEAN DUMPING OF RADIOACTIVE WASTE WATER: THREATS TO WOMEN'S HUMAN RIGHTS IN PACIFIC ISLAND COUNTRIES



Shadow Report to the 89<sup>th</sup> Session of the CEDAW  
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# **JAPAN'S OCEAN DUMPING OF RADIOACTIVE WASTE WATER: THREATS TO WOMEN'S HUMAN RIGHTS IN PACIFIC ISLAND COUNTRIES**

Submitted by:



DEVELOPMENT  
ALTERNATIVES  
WITH WOMEN  
FOR A NEW ERA





# **CONTENTS**

|   |           |
|---|-----------|
| <b>1. INTRODUCTION</b>  | <b>4</b>  |
| <b>2. JAPAN'S HUMAN RIGHTS AND ENVIRONMENTAL OBLIGATIONS</b>                            | <b>8</b>  |
| <b>3. GOVERNANCE CONCERNS ABOUT JAPAN AND THE INTERNATIONAL ATOMIC ENERGY AUTHORITY</b> | <b>9</b>  |
| <b>4. SPECIFIC VIOLATIONS OF THE OBLIGATIONS CONTAINED IN CEDAW ARTICLES</b>            | <b>11</b> |
| <b>5. QUESTIONS FOR JAPAN</b>   | <b>15</b> |
| <b>6. RECOMMENDATIONS</b>   | <b>16</b> |
| <b>7. REFERENCES</b>  | <b>17</b> |

## I. INTRODUCTION

This report highlights the risks of serious human rights violations including transboundary and intergenerational harms as well as reputational harms posed by Japan's commencement on 24 August 2023 of its controversial 30-40 year plan to dump more than 1.3 million metric tonnes of radionuclide-contaminated waste water into the Pacific Ocean. The waste water which is stored on land in 1,000 tanks was used to cool three nuclear reactors at the Fukushima Daiichi nuclear power plant following their catastrophic meltdown after the 2011 earthquake and tsunami.

Japan's plan, which was first announced on April 13 2021, was conceived without due regard for the enormous risks of causing irreversible harm to the ocean and marine life and intergenerational harm to humans. It also took no consideration of the reputational harm it posed to the fisheries industries of Pacific Island states, or of the threat to food security, food safety and the subsistence livelihoods of Pacific Island people.

Both the Japanese government and Tokyo Electric Power Company Holdings, Inc (TEPCO), the 55.94% government-owned company that operated the Fukushima nuclear power plant, claimed that the radioactive waste water had been treated by the Advanced Liquid Processing System (ALPS), and was safe to dump in the ocean. Japan also claimed that the International Atomic Energy Agency (IAEA), the global regulatory body on atomic and nuclear energy, was satisfied with TEPCO's proposed treatment of the wastewater, and had approved the disposal plan.

A panel of independent expert scientists was commissioned by Pacific Island states through the Pacific Islands Forum (PIF) to examine the adequacy and thoroughness of TEPCO's methodology of treating the wastewater and checking for the presence of radionuclides. A summary of the conclusions of the panel of experts is appended (*Annex 1*) and two of its reports are included in the References.

In brief, the experts found serious flaws and deficiencies in Japan's ALPS system of treating and testing the waste water for the presence of radionuclides. They unanimously concluded that TEPCO's knowledge of 'the specific radionuclide contents of the tanks [was] seriously deficient; that the treatment of the wastewater and testing for radionuclides by TEPCO had been erratic, neither thorough nor systematic, with 'only a fraction of the tanks...sampled' (in data shared with the Pacific Islands Forum only nine of 64 total radionuclides were sampled); that considerations of ecological impact and bioconcentration were 'seriously deficient

and did not provide a sound basis for estimating impact'; that the method for determining safety [was] 'deficient and insufficient since it [did] not consider that some radionuclides like strontium-90 could be reconcentrated in ocean ecosystems by several orders of magnitude' causing 'subsequent harm' (intergenerational, transboundary and reputational); and that 'monitoring after discharge assuming safety [would] not prevent problems and subsequent harm, but only document their occurrence'.

The experts strongly advised against the ocean dumping plan and proposed three feasible alternative safe ways for Japan to dispose of the radioactive wastewater - on land, within its own jurisdiction.<sup>1</sup> They emphasised that 'dissolution is not a solution to pollution in the ocean', because 'the uptake of radionuclides in the waste water by marine organisms would enter the food chain', with potentially dire implications for human health.

Professor Robert Richmond of the University of Hawaii, one of the independent experts, explained clearly the serious long-term danger to human health of uptake of radionuclides in the wastewater by marine organisms entering the food chain:

'Releasing radioactive contaminated water into the Pacific is an irreversible action with transboundary and transgenerational implications. As such, it should not be unilaterally undertaken by any country....Many of the 62-plus radionuclides present in the Fukushima water have long periods over which they can cause harmful effects, called half-lives, of decades to millennia... Issues like this really do matter, as once radioactive materials enter the human body, including those that release relatively low-energy radiation (beta particles), they can cause damage and increase the risk of cancers, damage to cells, to the central nervous system and other health problems'.<sup>2</sup>

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1- The three options proposed to Japan were: 1) Processing the waste in ALPS and storing the wastes with mainly tritium in tanks that are far more secure to allow tritium to decay; 2) Bio-remediation in which animals (e.g., bivalves) plants and fungi would concentrate radionuclides into solid form making them more secure from a transboundary contamination point of view; and Treatment in ALPS and use of the treated water to make concrete with low human contact potential, shielding tritium beta particles from the environment.

2- Alternatives to dumping Fukushima wastewater into the Pacific, Newsroom, 15 July 2023 <https://newsroom.co.nz/2023/07/15/alternatives-to-dumping-fukushima-wastewater-into-the-pacific/>

Indigenous people in the Pacific region are well aware of the implications and effects of human exposure to radiation as many already live with those effects in their bodies as well as on their islands and in their lagoons and ocean from decades of nuclear weapons testing in their homelands by colonial powers. The legacy of unconsented nuclear weapons testing and waste dumping in Pacific Island states includes uninhabitable nuclear-contaminated islands and permanently displaced communities (in French Polynesia and the Republic of the Marshall Islands); risks of increased leakage into the ocean of nuclear waste buried in a dome-covered crater on an atoll (in the Republic of the Marshall Islands); and, most insidious of all, serious ongoing intergenerational health problems in populations that were exposed to radiation through fallout from nuclear weapons testing, such as higher than normal incidences of cancers, including female-specific breast and uterine cancers, as well as infertility, miscarriages, birth abnormalities, infant deaths and other reproductive health problems experienced by women (in French Polynesia and Republic of the Marshall Islands).

Japan's dumping of radioactive, radionuclide-contaminated waste water carries serious risks of further harming and violating the human rights of present and future generations of people in Pacific Island countries who live off the bounty of the ocean. Specifically, the rights to health, including reproductive health, to food safety, food security, sustainable livelihoods and to a safe, clean, healthy and sustainable environment are at risk.

In response to the expert panel's report, the then Secretary General of the Pacific Islands Forum issued a strong statement, condemning the ocean dumping plan and insisting that Japan consider an alternative method of disposal.<sup>3</sup> Japan responded by embarking on an eleventh-hour mission, just weeks ahead of the planned date for commencing the release of the radioactive radionuclide-contaminated wastewater into the ocean, to secure support for the disposal plan from Pacific Island leaders.

Civil society organisations continued to oppose Japan's plans. A week before Japan commenced its ocean dumping of nuclear contaminated waste water, a substantive formal complaint was submitted to Human Rights Council Special Procedures by Ocean Vision Legal (OVL), on behalf of the Pacific Network on Globalisation (PANG). The complaint was endorsed by 56 Pacific and allied NGOs including DAWN. A Summary of pertinent issues raised in the OVL/PANG Complaint is appended (*Annex 2*) and the full Report is listed in the References.

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3- Pacific Islands Forum (2023) 'Statement: Pacific Islands Forum Secretary General Henry Puna on the Fukushima Treated Nuclear Wastewater, 26 June 2023, Media Releases and News, 26 June, 2023. <https://forumsec.org/publications/statement-pacific-islands-forum-secretary-general-henry-puna-fukushima-treated-nuclear>

Among the issues raised in the Special Procedures complaint, some drawn from the report of the independent experts, were:

- The discharge affects the whole Pacific region and the Ocean worldwide, as “the problems of ocean space are closely interrelated” (Preamble of UNCLOS).
- The Ocean is one of the main repositories of biodiversity on Earth. It provides for over 90% of the habitable space on the planet and contains around 250,000 known species, with at least two-thirds of the world’s marine species still unidentified. Marine biodiversity is critical to the health of people and our planet.
- The ALPS treatment [is] ‘not capable of removing tritium (a radioactive isotope of hydrogen) or carbon-14 from the water and had inconsistent results with other radionuclides, such as strontium-90, cesium-137 and cobalt-60.’
- Phytoplankton, the base of all marine food webs, can capture and accumulate radionuclides such as tritium and carbon-14. When eaten, the contaminants will not be broken down but stay in the cells and accumulate in invertebrates, fish, marine mammals and ultimately humans.
- Straddling and migratory fish, such as tuna, have been found to carry radionuclides from Fukushima across the Pacific.
- It is highly unlikely that the discharge will go according to plan for a period as long as 30 to 40 years ... There is also no guarantee that TEPCO will strictly follow the gradual discharge plan.

We are alarmed by the dangers posed by Japan’s ocean dumping of radioactive radionuclide-contaminated wastewater to the marine environment, marine ecosystems and marine life, with which Oceanic peoples of the Pacific share kinship. We are concerned about the long-term threats to ocean health, ocean livelihoods and economies, and above all, to the food security, health and wellbeing of present and future generations of Pacific people who depend on marine food sources.

By the time Japan reports to the CEDAW Committee, it would have released radioactive waste water into the Pacific Ocean for more than 14 months. Altogether, Japan has conducted 8 releases of the ‘treated’ radioactive waste water into the Pacific Ocean. There have been reports of two accidents during this period, raising further concerns about transparency and accountability.

It is not too late to hold Japan accountable for breaches of its extraterritorial obligations to ensure its activities do not violate the human rights of persons living in other jurisdictions.

## 2. JAPAN'S HUMAN RIGHTS AND ENVIRONMENTAL OBLIGATIONS

Japan has ratified six of the core international human rights treaties, including the International Covenant on Economic, Social and Cultural Rights, (ICESCR), the International Covenant on Civil and Political Rights (ICCPR), the International Convention on the Elimination of All Forms of Racial Discrimination (CERD), the International Convention on the Elimination of all Forms of Discrimination against Women (CEDAW), and the Convention on the Rights of the Child (CRC).

All of these international human rights treaties oblige States Parties to respect, protect and fulfil the human rights of all persons within their territorial jurisdiction. States Parties are also obliged to ensure that any activities for which they are directly responsible that have impacts beyond their territorial jurisdiction, do not violate the human rights of persons living in other jurisdictions.

Japan's international human rights and environmental obligations require it to comply with broader, extraterritorial obligations to not violate the human rights of persons, or cause irreparable environmental harm, beyond its territorial jurisdiction.

The CEDAW General Recommendation 30 (2013) specifically affirms that States Parties are responsible for all their actions affecting human rights, regardless of whether the affected persons are in their territory.

Evidence of the violations of human rights from Japan's disposal of radioactive, radionuclide-contaminated waste water will only be seen in the future. However, Japan must be held accountable now for the risks of serious environmental harm and human rights violations that its 30-40 year ocean dumping activity poses. Japan should be pressed to end its ocean dumping of radioactive, radionuclide contaminated waste water and seek other, safer options for disposing of the waste water within its own territorial jurisdiction to minimize harming the ocean, marine life and the health and wellbeing of people in other jurisdictions.

Japan is also in breach of the spirit and intent of the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matters, 1972 (London Convention) which was ratified by Japan on 14 November 1980; and the Protocol to the London Convention (London Protocol 1996) which Japan ratified on 2 October 2007. The London Convention which came into force in 1975 is one of the first global conventions adopted to protect the marine



environment. Irrespective of the definitions of ‘dumping’ and ‘man-made structures at sea to discharge’ omitting specific mention of a ‘pipeline’ in the LC and LP, their objectives are to promote effective control of all sources of marine pollution and prevent pollution of the sea by the dumping of wastes and other matter.

Additionally, Japan’s ocean dumping of radioactive, radionuclide-contaminated waste water deliberately flouts Art. 7 - Prevention of Dumping of the 1985 South Pacific Nuclear Free Zone Treaty<sup>4</sup> which emerged from decades-long opposition by Pacific Island states and citizens to nuclear weapons testing in the Pacific region.

### **3. GOVERNANCE CONCERNS ABOUT JAPAN AND THE INTERNATIONAL ATOMIC ENERGY AUTHORITY**

We have concerns about Japan’s irresponsibility as a user of nuclear power; its prioritisation of appeasing its citizens at the expense of the health of the ocean, marine life and people beyond its territorial jurisdiction; and its dishonesty about the impossibility of alternative options for disposing safely of the radioactive radionuclide-contaminated Fukushima waste water on land within Japan.

The contaminated water crisis at the Fukushima Daiichi [NPS] was assessed by Greenpeace in a 2020 report<sup>5</sup> to be not just a product of the events of March 2011 and subsequent decisions but ‘a consequence of decisions taken more than fifty years [earlier] and a failure to act on evidence of major seismic and tsunami risks to the plant’. The author of the report, Shaun Bernie, alleged that the Japanese Government and TEPCO had ‘constructed a narrative based on a number on untruths’ to support their ocean dumping plan, namely: that there would be no further space for storing water; that the water is not contaminated (that radioactive tritium is the only radionuclide in the water and it is harmless); and that there are no alternatives to disposing of the water in the ocean. According to Bernie long term storage is ‘the only viable option’ but was ‘not acceptable to the Japanese government as the Fukushima contaminated water crisis highlights and exposes the complexity and consequences of operating nuclear power.’

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4- South Pacific Nuclear Free Zone (Treaty of Rarotonga) Rarotonga Treaty Text [https://media.nti.org/documents/treaty\\_of\\_rarotonga.pdf](https://media.nti.org/documents/treaty_of_rarotonga.pdf)

5- Shaun Bernie (2020) *Stemming the Tide: The Reality of the Fukushima Radioactive Water Crisis*. [https://www.greenpeace.org/static/planet4-japan-stateless/2020/10/5e303093-greenpeace\\_stemmingthetide2020\\_fukushima\\_radioactive\\_water\\_crisis\\_en\\_final.pdf](https://www.greenpeace.org/static/planet4-japan-stateless/2020/10/5e303093-greenpeace_stemmingthetide2020_fukushima_radioactive_water_crisis_en_final.pdf)

‘In the minds of Tokyo policymakers, dumping the water into the Pacific [Ocean] creates the impression that substantial progress is being made in the early decommissioning of the Fukushima Daiichi reactors’ (Bernie, 2020:28).

The OVL/PANG Special Procedures complaint pointed out that TEPCO had a record of ignoring safety standards, including earlier warnings by the IAEA of safety standards of the Fukushima Daiichi Nuclear Power Station being ‘not up to date’ and, specifically, ‘not adequately prepared for a 15-metre tsunami wave’, which was a predicted possibility. The company also had been known to manipulate processes at the Fukushima Daiichi NPS in the past, to ‘hide a higher-than-reported containment leak rate’.

We submit that a sovereign state which chooses to use nuclear power takes enormous risks and that the fallout from any unfortunate accident or natural disaster affecting a nuclear power plant within its sovereign territory must be remediated by the state concerned, within its own territorial boundaries. It cannot be conveniently externalised to the global commons - namely the open ocean and its living resources – with serious known long-term risks for human health and life beyond that territory. Japan’s dumping of radionuclide-contaminated water breaches its extraterritorial obligations to respect and protect the economic, social and cultural rights of persons beyond Japan’s territorial jurisdiction.

The IAEA’s endorsement of Japan’s ocean dumping proposal, immediately after Japan announced it, is also troubling. The OVL/PANG Special Procedures complaint raised concern about the agency prematurely welcoming Japan’s ocean dumping plan before conducting an independent investigation.

IAEA’s Director General, Rafael Grossi, betrayed a primary concern with decommissioning the Fukushima plant. His endorsement of Japan’s chosen method of disposing of the nuclear waste in the ocean as being ‘in line with international practice’ was rightly criticised by one of PIF’s experts who said ‘Ocean dumping of radioactive waste cannot be and should not be justified on the ground that tritiated water is routinely dumped by nuclear power plants and reprocessing operations such as those at La Hague in France or Sellafield in the UK’. The ‘large volume of liquid radioactive waste with significant tritium contamination’ he said presented

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6- IAEA, Statement by IAEA Director General on Fukushima Water Disposal from 13 April 2021. <https://www.iaea.org/newscenter/multimedia/videos/statement-by-iaea-director-general-on-fukushima-water-disposal> Cited in OVL/PANG Special Procedures Complaint to the Office of the High Commissioner for Human Rights, 14 August 2023.

an opportunity to ‘set a better precedent for dealing with future catastrophes’ by shifting to ‘more ecologically protective’ ways of dealing with radioactive waste.<sup>7</sup>

The clear failings on the part of Japan and TEPCO to apply the highest standards of precaution in view of the risks of their dumping operation causing serious transgenerational, transboundary and reputational harm are indefensible and breach Japan’s extraterritorial obligations. IAEA’s ready acceptance of Japan’s chosen plan erodes confidence in the standards and autonomy of the regulatory body.

## 4. THE SPECIFIC VIOLATIONS OF THE OBLIGATIONS CONTAINED IN CEDAW ARTICLES

There is heightened attention today to the extraterritoriality of human rights obligations. The CEDAW Committee in General Recommendations 28 and 30 clarified that ‘States parties are responsible for all their actions affecting human rights, regardless of whether the affected persons are in their territory.’

For people of the Pacific Islands/Oceania who rely on the ocean for their food supply, livelihoods, cultural practices and way of life, protecting the immediate environment of the ocean and marine life is critical to enjoying the substantive rights to life, food, food safety and food security, to an economic livelihood, to the highest attainable standard of health and to practice one’s culture. Equally important to protecting their ocean environment is the procedural right of indigenous people to consultation on all activities or developments affecting or impacting on their ocean environment and marine resources.

The CEDAW Committee has recognized that environmental degradation threatens the enjoyment of many of the human rights explicitly protected under the convention.

These include:

- (a)** the right to the highest attainable standard of physical and mental health;
- (b)** the right to an adequate standard of living, including the rights to adequate food and safe and clean drinking water;
- (c)** the right to development.

In the spirit of Article 12 the Committee recognized the relationship between general

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7- Alternatives to dumping Fukushima wastewater into the Pacific, Newsroom, 15 July 2023 <https://newsroom.co.nz/2023/07/15/alternatives-to-dumping-fukushima-wastewater-into-the-pacific/>

environmental harms and the right to health in its Concluding Observations to Kazakhstan, expressing its “concern about the degree of environmental degradation in the country and its extremely negative impact on the health of the whole population, in particular women and children.”

In other examples the Committee has addressed the harm to women’s health resulting from the use of certain agricultural products,<sup>9</sup> arsenic contamination of groundwater resources,<sup>10</sup> and the presence of excessive radiation stemming from the Chernobyl nuclear disaster.<sup>11</sup>

The Committee has further stated that the full enjoyment of all human rights under CEDAW can be impaired by general environmental degradation...<sup>12</sup>

Article 14 of CEDAW recognizes the right to an adequate standard of living. Interpreting this right in relation to environmental harms, the Committee has focused on three particular forms of harm: climate change, general environmental degradation and environmental pollution.

We urge the committee to expand these harms to include the effects of environmental degradation due to the dumping of toxic and dangerous products and wastes in the ocean which can threaten the enjoyment of individuals’ and communities’ **rights to an adequate standard of living**.

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8- *Report of the Committee on the Elimination of Discrimination against Women for the Twenty-fourth & Twenty-fifth sessions, Consideration of reports of States parties: Kazakhstan*, 15 January-2 February 2001, 2-20 July 2001, U.N. Doc. A/56/38(SUPP); *see also Consideration of reports of States parties: Uzbekistan*, note 12 *supra*, 185-186.

9- See Report of the Committee on the Elimination of Discrimination against Women for the Thirty-second & Thirty-third sessions, Consideration of reports of States parties: Paraguay, 10-28 January 2005, 5-22 July 2005, U.N. Doc. A/60/38(SUPP). Concluding Observations of the Committee on the Elimination of Discrimination against Women for the Fiftieth session, Paraguay, 8 November 2011, U.N. Doc. CEDAW/C/PRY/CO/6.

10- See Report of the Committee on the Elimination of Discrimination against Women for the Thirtieth & Thirty-first sessions, Consideration of reports of States parties: Bangladesh, 12-30 January 2004, 6-23 July 2004, U.N. Doc. A/59/38(SUPP).

11- See Report of the Committee on the Elimination of Discrimination against Women for the Thirtieth & Thirty-first sessions, Consideration of reports of States parties: Belarus, 12-30 January 2004, 6-23 July 2004, U.N. Doc. A/59/38(SUPP). *see also* Concluding Observations of the Committee on the Elimination of Discrimination against Women for the Forty-eighth session, Belarus, 6 April 2011, U.N. Doc. CEDAW/C/BLR/CO/7.

12- Report of the Committee on the Elimination of Discrimination against Women for the Twenty-fourth & Twenty-fifth sessions, Consideration of reports of States parties: Uzbekistan, 15 January-2 February 2001, 2-20 July 2001, U.N. Doc. A/56/38(SUPP).



The UN Independent Expert of the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment has reiterated that Human rights obligations relating to the environment include inter alia procedural obligations of States:

1. to **assess environmental impacts on human rights** and to **make environmental information public**, and
2. to facilitate **inclusive participation in environmental decision-making**<sup>13</sup>

[States] have additional obligations to members of groups particularly vulnerable to environmental harm, including women, children and indigenous peoples, to protect them against environmental harm that interferes with the enjoyment of human rights, including harm caused by private actors.

Human rights under CEDAW that are implicated by environmental degradation and exploitation and State parties' procedural and substantive obligations relating to the protection of the environment that have been recognized by the Committee, include specific duties that are owed to members of particularly vulnerable groups, including women.

CEDAW has no explicitly stated definitive right to a healthy environment. However, the Committee has recognized that the Convention mandates State parties to undertake specific actions to safeguard a range of rights when these are jeopardized or compromised due to harm to the environment. State parties are therefore bound by clear substantive and procedural obligations to ensure the non-discrimination and inclusion of women in the development and execution of measures and policies aimed at protecting the environment.

The Committee has also noted that specific acts of environmental pollution may adversely affect the right to safe drinking water. Highlighting dangerous levels of contaminants in [marine] groundwater resources, the Committee's Concluding Observations to Bangladesh in 2004 expressed its concern about "the impact of the arsenic poisoning of water, which is disproportionately affecting rural women of reproductive age."<sup>14</sup>

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13- <https://www.ohchr.org/en/special-procedures/sr-environment/mapping-report>.

14- See *Consideration of reports of States parties: Bangladesh*, note 21 supra, ¶¶ 259-260.

Article 3 of CEDAW expressly provides for the right to development. It has emphasized the need for women to be part of all decision-making processes that seek to develop specific measures to counteract environmental degradation.<sup>15</sup>

The CEDAW Committee has also called for policies and measures addressing climate change and other environmental harms to incorporate the perspective of indigenous women.<sup>16</sup> In doing this the Committee has sought to protect the rights of indigenous women to access the natural resources of their lands, water and natural resources.

Japan's actions in commencing the dumping of radioactive, radionuclide-contaminated Fukushima waste water into the Pacific Ocean, with the intention to continue doing so for 30-40 years, is a specific and continuing act of environmental pollution and harm which jeopardizes the substantive rights of Pacific women to life, health and wellbeing, to food, food safety and security, to semi subsistence livelihoods and to decision-making on their ocean environment.

Japan's ocean dumping of radioactive radionuclide-contaminated waste water was not consented to by *citizens* of the Pacific. Japan's emergency meetings with individual leaders of Pacific Island States to secure consent from them for its controversial nuclear waste dumping plan less than two months before commencing the operation, was calculated to exclude consultations with citizens of Pacific Island states and thereby deny the majority indigenous peoples of Pacific Island states their procedural right of free, prior and informed consent on a matter seriously threatening their environment, food supply, food safety, health and wellbeing. As exposure to radionuclides holds especially serious risks of permanently harming Pacific women's health, denying women any say on the controversial plan to dispose of nuclear waste in the Pacific Ocean represents a violation of women's procedural right to participate in decision-making and thereby act to protect their immediate environment and themselves from irreversible harm.

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15- See *Implementation of Article 21 of the Convention: Gender and sustainable development*, note 23 *supra*, ¶ 429(h), (j), & (k); see also *Concluding Observations of the Committee on the Elimination of Discrimination against Women for the Forty-ninth session, Djibouti*, 2 August 2011, U.N. Doc. CEDAW/C/DJI/CO/1-3, ¶¶ 37-38 (expressing concern that rural women are particularly affected by, among other things, adverse climatic conditions such as drought and recommending that the State party continue efforts to create income-generating activities for women in rural areas, including providing pastoralist women and men whose herds are being decimated due to drought and poverty with alternative livelihoods).

16- See *Report of the Committee on the Elimination of Discrimination against Women for the Twenty-sixth, Twenty-seventh & Exceptional sessions, Consideration of reports of States parties: Suriname*, 14 January- 1 February 2002, 3-21 June 2002, 5-23 August 2002, U.N. Doc. A/57/38(SUPP), ¶ 65 (expressing concern about the situation of rural women, in particular the indigenous Amerindians and the Maroons, who are disadvantaged by environmental pollution).

Untreated and bioconcentrated radionuclides that enter the food chain through uptake by marine organisms are eventually ingested by humans, men and women, through fish and other marine species they consume. In radionuclide contamination, there are well-known gender-specific risks and resulting permanent harms suffered inter-generationally by women due to their role in procreation and societal expectations that married women bear and raise healthy children.

Incontrovertible evidence exists in regions of the Pacific of the intergenerational impacts of exposure to radiation on women's reproductive health, including impaired ability to conceive, or carry pregnancies to term, or give birth to live, healthy babies who survive after birth.<sup>17</sup> Japan's irresponsible dumping of radioactive waste water containing dangerous radionuclides violates women's reproductive rights and right to the highest standard of health.

The harm to women's reproductive rights extends to women being held (or feeling) personally responsible for radiation-induced reproductive failings, and suffering pain, stigma, shame and sometimes abandonment, in silence.

As women more regularly collect marine foods from the reef, inshore waters, lagoons and other marine habitats for home consumption and sale than men, who fish offshore when weather permits, Japan's dumping of nuclear waste water containing radionuclides risks contaminating marine foods and violating women's rights to food safety, food security and economic livelihoods.

## 5. QUESTIONS FOR JAPAN

- 1) Is Japan prepared to suspend its controversial and dangerous dumping of radionuclide-contaminated waste water into the Pacific Ocean, and move towards implementing instead a safer method of disposal of the waste water, on land within Japan's territorial jurisdiction?
- 2) Can Japan provide details to the Committee of what it intends to do to ensure regular, independent monitoring and testing for impacts of its dumping of radionuclide-contaminated water on marine life and the health of populations at risk, particularly women?

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<sup>17</sup>- See, for instance, *The Consequences of Nuclear Testing on Women's Rights in French Polynesia - Ma'ohi Nui*, Shadow Report submitted to the 86th Session of the CEDAW for the Review of France, 9-27 October, 2023, Submitted by *Moruroa e Tātou* and Development Alternatives with Women for a New Era (DAWN)

3) What environmental remediation measures is the Japanese government prepared to take in the event of being presented with clear evidence of harm to the marine environment, marine life and human health being directly traceable to radionuclide exposure through the Fukushima wastewater?

4) What reparations will Japan make in the event of international legal action being brought against Japan for damage caused by its ocean disposal of radionuclide contaminated Fukushima wastewater?

5) Will Japan set up a compensation system to meet claims for economic loss and damage including reputational loss resulting from transboundary impacts of its dumping of radioactive wastewater?

## **6. RECOMMENDATIONS**

1) We recommend that Japan takes serious steps as soon as possible to responsibly and safely dispose of the radionuclide-contaminated waste water from the Fukushima nuclear power plant within Japan.

2) In recognition of its extraterritorial obligations to protect members of groups particularly vulnerable to environmental harm, including women, children and indigenous peoples, against environmental harm that interferes with the enjoyment of human rights, we recommend that Japan provides funding for independently-conducted tests of ocean water and marine life across the Pacific region, for traces of tritium, carbon-14 and other radionuclides likely or known to be of Fukushima origin.

3) We further recommend that Japan makes legislative provision now for the establishment of a Fukushima Claims Tribunal to receive extraterritorial damage claims from and provide full compensation to States and persons for transboundary harms resulting from the effects of the dumping of radioactive, radionuclide-contaminated Fukushima waste water into the Pacific Ocean.



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## ANNEX 1

# SUMMARY OF CONCERNS RAISED BY INDEPENDENT SCIENTISTS COMMISSIONED BY PACIFIC ISLAND STATES

On 11 August 2022, the 5-member Expert Panel<sup>18</sup> of independent scientists commissioned by Pacific Island Leaders to scrutinize Japan's claim that the treated radioactively-contaminated wastewater it planned to begin discharging into the Pacific Ocean is safe issued a memorandum.<sup>19</sup> In summarizing their conclusions and views of the scientific status of the planned release of radioactively contaminated cooling water from the Fukushima nuclear power plant disaster,<sup>20</sup> the experts said they felt a 'scientific and ethical responsibility' to set down their analysis, conclusions and recommendations 'as clearly and forthrightly as possible'. Expert Panel members were unanimous in their scientifically-based view that the treated waste water was not safe for discharge into the ocean, and that the construction of the discharge infrastructure should be stopped.

Among the specific concerns raised by the Expert Panel were the following:

- TEPCO's knowledge of the specific radionuclide contents of the tanks was seriously deficient
- The amount of ALPS testing that had been carried out was inadequate.
- Only a fraction of the tanks holding the waste water had been sampled for testing, and in almost all cases only nine out of 64 total radionuclides had been sampled in the data shared with the Pacific Islands Forum;

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18- Members and credentials of the Expert Panel: *Dr Ken Buesseler*, Senior Scientist and Oceanographer, Woods Hole Oceanographic Institution; *Dr Arjun Makhijani*, President, Institute for Energy and Environmental Research; *Dr Antony Hooker*, Associate Professor and Director, Centre for Radiation Research, Education and Innovation, The University of Adelaide; *Dr Ferenc (Jacob Rolf) Dalnoki-Veress*, Scientist-in-Residence & Adjunct Professor, James Martin Center for Nonproliferation Studies, Middlebury Institute of International Studies at Monterey; and *Dr Robert H. Richmond*, Research Professor and Director, Kewalo Marine Laboratory, University of Hawaii at Manoa.

19- Summary of Information and Data Gathered at Meetings and the Expert Panel's Views of the Scientific Status of the Planned Release of Radioactively Contaminated Cooling Water from the Fukushima Nuclear Power Plant Disaster, 11 August 2022 <https://ieer.org/wp/wp-content/uploads/2023/06/Expert-Panel-Memorandum-Summarizing-Our-Views-After-Meetings-with-Japan-and-Observation-of-PIF-meeting-with-IAEA-2022-08-11.pdf>

20- Information had been gathered from 3 meetings with the Japanese government and TEPCO (at one of which a representative of the International Atomic Energy Authority (IAEA) was present; TEPCO-provided data on radionuclide contents; and a briefing by IAEA Director General, Rafael Grossi, to the Pacific Island Forum meeting on 6 July 2022, at which some members of the panel were observers.

- TEPCO's measurement protocol was statistically deficient and biased and provided unreliable estimates of the radionuclide content of the tanks. The company's assumptions about the 55 radionuclides that had only rarely been measured and were left out of the routine measurement protocol were not a good scientific basis for planning the ALPS treatment and the eventual dilution and ocean disposal plan.
- The endorsement of Japan's ocean disposal plan by the International Atomic Energy Authority (IAEA) was premature. AIEA had not insisted that measurements be taken in a way that was statistically representative of the contents of the tanks. Moreover, the IAEA 'did not seem to have exercised the due amount of pre-operational scientific diligence; postponing that to the stage immediately preceding discharge, which was far too late in the process'.
- The presence of sludges in the tanks that received water in the years immediately after the accident and up until 2013 and 2014 was confirmed. The sludges had neither been sampled then, nor since that time, 'the plan being to remove the water above the 30-cm mark in the tanks and leave the interstitial water in the sludges and the sludges themselves to be dealt with as part of tank decommissioning'.
- Considerations of ecological impact and bioconcentration (a particular concern with strontium-90 which concentrates in the bone) were 'seriously deficient and did not provide a sound basis for estimating impact. In the case of tritium, the drinking water model used for estimating organically bound tritium (OBT) [was] wrong since it does not apply to ocean ecosystems and the associated biota'.
- The 'sum of ratios' method for determining safety was deficient and insufficient since it did not consider that some radionuclides like strontium-90 could be re-concentrated in ocean ecosystems by several orders of magnitude. Monitoring after discharge assuming safety [would] not prevent problems and subsequent harm, but only document their occurrence'.
- The assumption that "dilution is the solution to pollution" is 'scientifically outdated and ecologically inappropriate', especially in the case of the proposed discharges, which will 'inflict substantial reputational damage to fisheries in Japan, and beyond'.
- The proposed discharge also posed '*transgenerational and transboundary issues* that deserved to be much more seriously considered; specifically, they required that *ecosystem and reputational harm and transboundary harm be avoided if possible*'. This demanded a wider and more in-depth exploration of options than had occurred.

The Expert Group recommended the following:

- Construction of the pipeline should be indefinitely postponed.
- Previously considered options should be revisited from the point of view of preventing intergenerational, transboundary, and reputational harm, particularly to the fishing industry within Japan and the Pacific Ocean region generally.
- While there was no risk-free option, three options that could reduce risks by *orders of magnitude* and also prevent most of the intergenerational, transboundary, and reputational harm, were:
  - a.** Processing the waste in ALPS and storing the wastes with mainly tritium in tanks that are far more secure to allow tritium to decay.
  - b.** Bio-remediation in which animals (e.g., bivalves) plants and fungi would concentrate radionuclides into solid form making them more secure from a transboundary contamination point of view.
  - c.** Treatment in ALPS and use of the treated water to make concrete with low human contact potential, shielding tritium beta particles from the environment.



## ANNEX 2

### **CONCERNING ISSUES RAISED IN A HUMAN RIGHTS COUNCIL SPECIAL PROCEDURES COMPLAINT SUBMITTED BY OCEAN VISION LEGAL (OVL) & PACIFIC NETWORK ON GLOBALISATION (PANG)**

On 14 August 2023, 56 nongovernment organisations endorsed a complaint submitted by Ocean Vision Legal (OLV) and Pacific Network on Globalisation (PANG) to the Office of the High Commission for Human Rights in Geneva, addressed to the following mandate holders:

- Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes;
- Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment;
- Special Rapporteur on the right of everyone to the enjoyment of the highest attainable standard of physical and mental health;
- Special Rapporteur on the right to food; and
- Special Rapporteur on the human rights to safe drinking water and sanitation.

Commissioned by PANG, the complaint focused on ‘the imminent risk of severe Human Rights violations [being] caused by the disposal of nuclear-contaminated wastewater from the Fukushima Daiichi Nuclear Power Station ...into the Pacific Ocean by the Government of Japan and the Tokyo Electric Power Company (TEPCO)’. Reference was made to previous communications between Special Procedures and Japan (from 20 April 2020 to 11 March 2021) on Japan’s ocean discharge plan.

The following issues raised in the Special Procedures complaint corroborated the concerns of the Expert Group:

- The ALPS treatment was ‘not capable of removing tritium (a radioactive isotope of hydrogen) or carbon-14 from the water and had inconsistent results with other radionuclides, such as strontium-90, cesium-137 and cobalt-60.’ As such, dumping the Fukushima waste water in the Pacific Ocean ‘would ...lead to varying degrees of biological uptake, trophic transfer and bioaccumulation of these radionuclides’ and present ‘an attendant risk of uptake associated with seafloor sediments at the outfall point, and propagation of radioactive exposure through oceanic currents, ecosystems and food webs.’

- The volume of contaminated water had been continuing to increase through additional cooling water, rainwater and groundwater in contact with the cores and it was estimated that by 2030 a further 500,000 litres would have been added to the present volume of contaminated water.<sup>21</sup>
- There was no guarantee that TEPCO would strictly follow the ‘gradual’ discharge plan, as assumed by IAEA in its assessment. It was highly unlikely that the discharge would go according to plan for a period as long as 30 to 40 years given unpredictable events such as natural catastrophes, war or technical issues which would likely disrupt the process.
- TEPCO had a record of ignoring safety standards, including earlier warnings by the IAEA that safety standards of the Fukushima Daiichi Nuclear Power Station ‘were not up to date and, specifically, were not adequately prepared for a 15-metre tsunami wave’, which was a predicted possibility. The company also had been known to manipulate processes at the Fukushima Daiichi NPS in the past, to hide a higher-than-reported containment leak rate.
- “Straddling and migratory fish, such as tuna had been found to carry radionuclides from Fukushima across the Pacific. Phytoplankton, the base of all marine food webs, can capture and accumulate radionuclides such as tritium and carbon-14. When eaten, the contaminants are not broken down but stay in the cells and accumulate in invertebrates, fish, marine mammals and ultimately humans.”<sup>22</sup>
- No ‘justification assessment’ (as required) was conducted by either the Japanese government or the IAEA to determine whether the ‘expected benefits to individuals and to society from introducing or continuing the practice outweigh the harm (including radiation detriment) resulting from the practice.’

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21- Whether this would mean a far longer duration of disposal or, more worryingly, the possibility of a shift from the proposed gradual disposal plan to a stepped-up pace and increased volume of waste water being dumped is unclear.

22- Madigan, Daniel J., Baumann, Zofia, Fisher, Nicholas S. (2012) ‘Pacific bluefin tuna transport Fukushima-derived radionuclides from Japan to California’, *PNAS*, June 12, 2012, Vol. 19, No. 24, p. 9483-9486, <https://www.pnas.org/doi/epdf/10.1073/pnas.1204859109>; <https://www.newsroom.co.nz/alternatives-to-dumping-fukushima-wastewater-into-the-pacific>. Cited in OVL/ PANG Complaint. p7



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