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The extraterritorial human rights obligations of Japan in regard to Fukushima nuclear contaminated water

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This article adopts a human rights approach to observe Japan's policy on releasing nuclear contaminated water into the Pacific Ocean. It aims to provide a new discourse for stakeholders to push Japan to deal with Fukushima's water in a responsible way. In doing so, it needs to elucidate an important normative question, namely whether a State has extraterritorial human rights obligations, given that international human rights law was traditionally perceived to deal with relationship between a State and its population. This stereotype would frustrate the world people to challenge the Japan's decision based on human rights. In the era of economic globalization, however, there is an increasing need for the extraterritorial application of human rights treaties. Human rights theory and practice have gradually developed the jurisprudence on extraterritorial obligations of States based on an interpretation of jurisdiction. Such an approach has expanded from regulating State overseas military actions to tackling trans-boundary environmental harms. In the latter sense, the Fukushima incident is a good case, which urgently calls for a comprehensive examination of Japan's extraterritorial human rights obligations. This article undertakes such a task by providing a logical interpretation of human rights treaty provisions. It is argued that the release of nuclear contaminated water entails a variety of extraterritorial obligations to respect, protect, and fulfill human rights on the part of Japan.

KEYWORDS

Japan, FUKUSHIMA, nuclear contaminated water, human rights, extraterritorial obligation, marine environment

1 Introduction

On 13 April 2021, the Government of Japan issued its policy on handling of the treated water from "Advanced Liquid Processing System" (ALPS) at the Tokyo Electric Power Company Holdings' Fukushima Daiichi Nuclear Power Station (The Inter-Ministerial Council for Contaminated Water, Treated Water and Decommissioning Issues, 2021). Such a policy indicates that Japan has approved a direct releasing of Fukushima's

contaminated water, which was the byproduct of the 2011 devastating earthquake and its aftermath, into the Pacific Ocean over years. Although the Japanese government repeatedly proclaimed the water under discussion has been processed to safe levels, a couple of States and a large number of stakeholders have protested Japan's decision (Xu and Wilson, 2023; Yamaguchi, 2023). It has been reported that the ALPS process can deal with most radionuclides but it cannot remove radioactive carbon-14 and tritium (Nogrady, 2023). In order to respond to international pressure and reputational damage, the Japanese government seems to have taken a couple of preparatory actions before formally implementing its policy, including getting support from the International Atomic Energy Agency (IAEA) which considered the Japan's decision to be consistent with IAEA Safety Standards (IAEA, 2023). These measures including the IAEA's report, however, do not smooth the worry and anger from neighbouring States especially South Korea and China (Global Times, 2023). China has claimed that the water to be released by Japan is nuclear-contaminated water which is totally different from the water released from normally functioning nuclear power plants (Xinhua, 2023). The continuous controversy over Fukushima's water has successfully raised academic attention, and it calls for not only scientific but also legal response.

The release of Fukushima's water is primarily an international law issue, as the scope of its potential influence is not only within the Japanese territory but also regional and even global through ocean currents and food chain. In this regard, previous research has mainly adopted a State-centered approach, namely exploring State obligations vis-a-vis another State under general international law and international law of sea. For example, some scholars have argued that Japan should "take all necessary measures to prevent the potentially harmful consequences and cooperate with the States likely to be affected" (Wang and Li, 2022; Li et al., 2023). Some have explored State responsibility that Japan might incur due to the discharge of nuclear-contaminated water (Chang et al., 2022; Liu and Hoskin, 2023) and relevant international dispute settlement mechanisms to invoke Japan's responsibility, including seeking an advisory opinion from international tribunals (Chen and Xu, 2022). These research has contributed a lot to the international governance of transnational harms in the context of nuclear accidents. But only State-centered approach is not enough, given that State's willingness to invoke the responsibility of another State sometimes depends on diplomatic considerations. In fact, in the Fukushima incident, many western States, most of whom are Japan's allies and who are probably less influenced by water release, have been silent on Japan's discharge plan (Moretti, 2021; China Daily, 2023). This may substantially reduce the chance of challenging the legality of Japan's discharge before an international tribunal such as the International Court of Justice (ICJ) and an arbitral tribunal established in accordance with Annex VII of United Nations Convention on the Law of the Sea. In this sense, there probably exists a gap between State obligations, such as the duty of cooperation and due diligence, derived from the State-centered approach and their real invocation in international judicial practice.

Another drawback of the State-centered approach is that it is hard to invoke Japan's responsibility of causing trans-boundary harm before a real harm to the environment or human bodies can be proven. At the current stage, Japan has not implemented its releasing plan, although it will soon put the plan into practice (Yeung et al., 2023). It might take time to collect enough evidence of the harm caused by the release of contaminated water. Of course, at this stage, other States can still invoke Japan's responsibility of not discharging some procedural obligations such as exchange of information and prior consultation with stakeholders. But the legal consequences of the breach of these procedural obligations are so feeble that cannot sufficiently deter Japan's releasing.

This article adopts a human rights approach to observe the Fukushima incident, which can complement the prevailing State-centered approach. The advantage of the human rights approach is that it creates State obligations vis-a-vis individuals, in parallel to State obligations vis-a-vis another State which are traditional international law obligations. At this point, individuals might have separate legal interests in the Fukushima incident, which might be different from the stance of his government out of diplomatic considerations. Besides, human rights doctrine and practice have developed a tripartite typology of State obligations, namely "the obligation to respect, to protect and to fulfill" (De Schutter, 2014). The State responsibility in breach of the obligation to protect or to fulfill does not necessarily depend on a real harm caused by the release of water to human bodies. However, the academic research on the Fukushima incident from a human rights perspective is rare. One scholar has analyzed a wide range of rights that could be potentially violated by Japan, including "indigenous peoples' rights", the "right to dignity and culture", the "rights to consultation and free, prior informed consent", and the "right to a safe, clean, healthy and sustainable environment" (Zheng, 2021). However, the aforementioned research is vague on an important normative question: which specific group of persons may claim a right towards Japan? It seems self-evident that the Japanese citizens especially fishermen or people living close to the coast may claim a variety of rights towards Japan in regard to the release of Fukushima's water. But what about foreigners or persons living beyond the Japanese borders? Or to put it another way: what is the scope of Japan's obligations on human rights? These questions are theoretically important because human rights treaties concluded since World War II were originally considered to monitor the relationship between a sovereign State and its own population instead of transnational rights protection (Hathaway, 2011). This article attempts to fill in the above research gap and it adopts an extraterritorial obligation approach, which is an emerging fashion in the area of human rights law, to depict the human rights obligations of Japan in relation to the Fukushima incident. To achieve such a goal, it mainly adopts a treaty interpretation approach rather than a law making approach. To be specific, it provides a reasonable interpretation of the function and meaning of the term 'jurisdiction' or the jurisdiction clause as a whole in human rights law.

2 Human rights treaty provisions

2.1 The elastic definition of rights

There are nine core international human rights treaties, and Japan has joined eight of them, nearly all with the exception of the International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families (ICMW). At this point, almost all the rights that are already or potentially affected by Japan's decision on the release of contaminated water can find their legal basis in a treaty to which Japan is a State party. These rights include but are not limited to the right to life, the right to health, the right to food, the right to work, and the right to enjoy their own culture. Besides concrete rights, the protection of the enjoyment of rights by vulnerable groups such as women, children, and the persons with disability, is also relevant. It should be noted that the contents of most rights are so expandable and adaptable that they can easily respond to the development of the society. For example, "no one shall be arbitrarily deprived of his life" is the textual expression of the right to life under the International Covenant on Civil and Political Rights (ICCPR) (United Nations, 1983). The literal meaning and the context of the sentence do not indicate the relevance of such a right to environmental damage. However, the Human Rights Committee, which is the monitoring body of the ICCPR, has established a link between the right to life and the environment. It has stated that: "Implementation of the obligation to respect and ensure the right to life … depends, inter alia, on measures taken by States parties to preserve the environment and protect it against harm, pollution and climate change caused by public and private actors" (Human Rights Committee, 2019, para.64.). This example is not an isolated case in the domain of human rights law, and other rights can also be interpreted to adapt to the change of the world. It is implied that the normative content of a concrete right is not a big problem in the context of the Fukushima incident. In fact, UN human rights experts have already established a link between the release of nuclear contaminated water and many affected human rights (United Nations, 2021).

It should be noted that the current human rights law is established on the basis of anthropocentrism. Under human rights treaties, nature or the environmental system is not a right-holder, and there is not an environmental right in human rights treaties either. However, recent posthuman feminist theory has criticized the dualisms of culture/nature, and human/non-human, as well as the presumption that the human and the culture prevail over the nature and other species (Fox and Alldred, 2020). This has urged lawyers to take the nature seriously and simultaneously called for a legal reform for the benefit of the environment. It is also argued that the posthumanist thinking could be addressed in the current human rights system by acknowledging an environment-related right for the time being (Neimanis, 2014). As a response, in 2022, the UN General Assembly adopted a resolution affirming the human "right to a clean, healthy, and sustainable environment" (United Nations General Assembly, 2022). Given the authority of the resolution and continuous academic elaboration of such a right, the right to the environment is becoming an emerging human right which is relevant for the Fukushima case. Such a trend would further push the world people to closely scrutinize, instead of being a bystander, the Japan's move in regard to nuclear contaminated water.

2.2 The precondition of the application of human rights treaties

A tough but often neglected question is the precondition of applying a human rights treaty, or the scope of State obligations as far as the Fukushima incident is concerned. People often hold that everyone enjoys human rights simply because he is a human being. Nevertheless, could everyone assert any right against any State in the world consisting of nearly 200 States? As regard to the Fukushima incident, one may wonder if individuals living in China or Mongolia could assert the right to health, the right to food or whatever right against Japan.

International human rights law is a branch of international law, but it is quite maverick in that most human rights treaties were drafted to supervise how a State treats its own nationals, which is a domestic affair in essence, rather than individuals living in another State. For example, Article 2 of the ICCPR provides that: "Each State Party to the present Covenant undertakes to respect and to ensure to all individuals within its territory and subject to its jurisdiction the rights recognized in the present Covenant" (United Nations, 1983). The Convention on the Rights of the Child (CRC) adopts a less demanding criterion which only refers to "each child within their jurisdiction". The International Convention on the Elimination of All Forms of Racial Discrimination (ICERD), the ICMW, and some regional human rights treaties such as the European Convention on Human Rights (ECHR) and the American Convention on Human Rights (ACHR) contain more or less similar expressions limiting the range of general obligations on human rights. Although several treaties such as the International Covenant on Economic, Social and Cultural Rights (ICESCR) and the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) do not contain such a limitation, human rights treaties as a whole were traditionally perceived as "regulating the vertical relationship between individuals and their rulers" (Heupel, 2018, p.522). International human rights law, despite containing a word "international", did not necessarily entail "transnational obligations" which are the main course of most international treaties (Skogly and Gibney, 2002). At first sight, the semantic meanings of the above mentioned terms make it difficult for an individual living in China or Mongolia to assert a right against Japan unless he is deemed within the jurisdiction of Japan. But an affirmation of jurisdiction has perplexed a multitude of lawyers and practitioners including judges from the European Court of Human Rights (ECtHR) (Altiparmak, 2004).

The aforementioned phenomenon has aroused academic interests in the extraterritorial application of human rights treaties since 1990s (Meron, 1995). As an active response to economic globalization, in the process of which "the exercise of State power is increasingly having effects on individuals in the

territory of another State" (Yu, 2017), scholars have contended that human rights law can be applied to situations beyond national borders (Gondek, 2009; Coomans, 2011; Wilde, 2013). Since then, human rights academia and practice have mutually promoted the extraterritorial obligation approach of human rights. Although the view that extraterritorial obligations form an integral part of a State's human rights obligations is fairly widespread today (Heupel, 2018), a few States represented by United States and Israel still strongly resist such an approach. For example, Israel has stated in its periodic report to the Committee on Economic, Social and Cultural Rights (CESCR) that "it is Israel's position that the Covenant is not applicable beyond a State's national territory" (Israel, 2019, para.8). What about Japan? No evidence shows Japan has made an explicit statement on its stance concerning the extraterritorial application of human rights treaties. Nor was such an issue raised to Japan during the State reporting procedures of human rights treaty bodies, although many States including Japan's neighboring State China have faced such a problem in monitoring process. In this sense, the issue of the extraterritorial application of human rights treaties not only has academic values but also implies practical significance for Japan's human rights practice. The Fukushima incident provides a good opportunity to review Japan's extraterritorial human rights obligations, and it has potential to develop the extraterritorial obligation approach because its peculiar scenario (marine pollution) is different from most-discussed cases such as occupation and overseas military actions as far as the topic is concerned.

3 The jurisprudence concerning extraterritorial human rights obligations

This section induces the jurisprudence on extraterritorial human rights obligations that is tailored for the Fukushima case through a conceptual analysis of legal terms and by reviewing legal doctrine and the case law of regional human rights courts, human rights treaty bodies, and the ICJ.

3.1 Jurisdiction as a benchmark for extraterritorial obligations

The first question concerns the benchmark for extraterritorial obligations. As is already noted, some treaties such as the CRC and the ECHR adopt a simple term "jurisdiction" as the precondition for application of the treaty. This at least makes the extraterritorial application possible, still difficult though, by finding situations in which a person is beyond a national border but within the jurisdiction of the State. Unlike the CRC and the ECHR, however, a double requirement can be found in Article 2(1) of the ICCPR, respectively "within its territory" and "subject to its jurisdiction" (United Nations, 1983). The extraterritorial application of the ICCPR is seemingly impossible if one is loyal to the semantic meaning which in any case requires a person claiming a right to be within the territory of a State. In fact, a very few States, such as United States, insist on a conjunctive interpreting approach and assert that a State only has obligations towards individuals within its territory and at the same time subject to its jurisdiction (Human Rights Committee, 2006). By contrast, the Human Rights Committee has interpreted Article 2(1) in a disjunctive way that a State has obligations to the individuals within its territory and to the individuals subject to its jurisdiction. (Human Rights Committee, 2004). The ICJ has also adopted "jurisdiction" in a broad sense in place of "territory" criterion. It has stated in the *Wall Advisory Opinion* that: "The International Covenant on Civil and Political Rights is applicable in respect of acts done by a State in the exercise of its jurisdiction outside its own territory" (International Court of Justice, 2004).

The conjunctive interpretation caters to literal meaning, but it may lead to an absurd result that "encourages a State to perpetrate human rights violations on the territory of another State, which it could not perpetrate on its own territory" (Yu, 2017). By contrast, the "disjunctive interpretation has in fact interpreted the term 'and' in the territory and jurisdiction clause as meaning 'or'"(Yu, 2017). Its purpose is to avoid the absurd result that would come according to the conjunctive approach pursued by the United States. The disjunctive interpretation has prevailed in subsequent human rights law practice, and a consensus can be reached among scholars that "jurisdiction" instead of "territory and jurisdiction" serves as the precondition of extraterritorial obligations. In this regard, it is interesting to point out that, some Japanese scholars have also analyzed the extraterritorial reach of human rights treaties by interpreting "jurisdiction" (Yoko, 2015; Toriyabe, 2020).

It should be noted that a few human rights treaties, for example the ICESCR and the CEDAW, do not contain a jurisdictional clause or any other limitation on the scope of application at all. A question arises as to whether the notion of jurisdiction is relevant for the scope of obligations arising out of these treaties. Or to ask in a broad way: Is the extraterritorial application of the ICESCR or the CEDAW self-evident? Or is a State obliged to respect, protect and fulfill the rights of everyone in the world? The answer is probably no, simply because it is hard to expect the United States to provide food, education, health for people living in North Korea. It seems reasonable to require a certain link between a right holder (individual) or the situation in which a right is at stake and the duty bearer (State) guaranteeing the enjoyment of the right. On this basis, the concept of jurisdiction was recalled in analyzing the extraterritorial scope of the ICESCR. Most tribunals have treated human rights treaties without a jurisdictional clause as if they had such a criterion, although the formulas used by different tribunals are slightly different. For example, the Inter-American Commission on Human Rights has affirmed the extraterritorial application of the American Declaration of the Rights and Duties of Man, which lacks a jurisdictional clause, by reading into it a concept of jurisdiction (Inter-American Commission on Human Rights, 1999). The jurisprudence of the ICJ has not distinguished between human rights treaties with a jurisdictional clause and those without such a clause. Recalling the jurisprudence in *Wall Advisory Opinion*, the ICJ has stated in *Armed Activities on the Territory of the Congo* that: "international human rights instruments are applicable in respect of

acts done by a State in the exercise of its jurisdiction outside its own territory, particularly in occupied territories" (International Court of Justice, 2005). The CESCR has adopted the criterion of jurisdiction over a private perpetrator or activities to analyze the extraterritorial obligations to protect human rights (Committee on Economic, Social and Cultural Rights, 2002). It seems to become a mainstream fashion to acknowledge the relevance of jurisdiction to the extraterritorial scope of all human rights treaties, with or without a jurisdictional clause.

3.2 The understanding of jurisdiction in case law and legal doctrine

The second question concerns the assessment of jurisdiction in specific circumstances. It should be noted, first of all, that the treaty term, namely "individuals within their jurisdiction", is used in a way that may easily cause a dilemma, because it seems to indicate an abstract judgment of whether a person is within the jurisdiction of a State irrespective of which specific human rights obligation is invoked by an individual. In this aspect, if the benchmark for extraterritorial jurisdiction is too high, claiming a right in an extraterritorial case would be impossible. If the benchmark is too low, a State would incur unforeseeable or unaffordable obligations. The ECtHR struggled to deal with such a problem in several cases concerning overseas military actions taken by its contracting parties. It failed to advance a coherent definition of jurisdiction, but envisaged extraterritorial jurisdiction on an exceptional basis. According to the ECtHR, a State's jurisdiction is primarily territorial, but there are a number of exceptional circumstances capable of giving rise to an exercise of jurisdiction by a State outside its own territorial boundaries, including "effective control over an area" and "control over individuals" (European Court of Human Rights, 1996; European Court of Human Rights, 2011). Although the ECtHR case law has raised global attention to extraterritorial application of human rights treaties, its jurisprudence has been criticized to be myopic in that it overlooked some important circumstances where the extraterritorial aspects of human rights are imperative (Gondek, 2005). The circumstances overlooked or undiscussed by the ECtHR jurisprudence include, inter alia, transnational investments (whether a home State of business owes obligations to individuals in a host State) and trans-boundary pollution (whether the State of origin owes obligations to individuals abroad). The ECtHR's criteria, either "effective control over an area" or "control over individuals" (European Court of Human Rights, 1996; European Court of Human Rights, 2011), cannot respond to these circumstances.

The unsatisfactory formulation of the ECtHR is rooted in an abstract understanding of jurisdiction. If one sticks to understanding jurisdiction in an abstract way, he or she will probably think that jurisdiction is an "all-or-nothing" matter and that at some point a person can only be within the jurisdiction of one State (Besson, 2012). In today's reality, however, it is common that a person is under the authority of several States at the same time. For example, a person residing abroad usually needs to pay taxes to both the State of nationality and the State where he lives. Now more and more scholars tend to understand jurisdiction in a purpose-driven approach, namely looking for the link between a State and a situation in which a right is at stake. In this regard, the Maastricht Principles represent the academic consensus to date, which define jurisdiction as one of the followings: "situations over which it exercises authority or effective control, whether or not such control is exercised in accordance with international law; situations over which State acts or omissions bring about foreseeable effects on the enjoyment of economic, social and cultural rights, whether within or outside its territory; situations in which the State, acting separately or jointly, whether through its executive, legislative or judicial branches, is in a position to exercise decisive influence or to take measures to realize economic, social and cultural rights extraterritorially, in accordance with international law" (ETO Consortium, 2013). The Maastricht Principles have in fact turned the inquiry of jurisdiction over individuals claiming a right into the inquiry of jurisdiction over a situation or event in which a right needs to be protected. (Shaack, 2014). This approach has been adopted by the CESCR to deal with "business and human rights" issues, for which an influential document called UN Guiding Principles on Business and Human Rights refused to admit the extraterritorial obligations of a home State of transnational corporations (United Nations, 2011). The CESCR has stated that: "Extraterritorial obligations arise when a State party may influence situations located outside its territory, consistent with the limits imposed by international law, by controlling the activities of corporations domiciled in its territory and/or under its jurisdiction, and thus may contribute to the effective enjoyment of economic, social and cultural rights outside its national territory" (Committee on Economic, Social and Cultural Rights, 2017). The CESCR has substantiated the obligations of a home State by concentrating on State's jurisdiction over situations rather than probing State's jurisdiction over individuals in a host State in an abstract way.

The Inter-American Court of Human Rights (IACHR) has adopted a literally different but substantially equivalent approach to deal with trans-boundary environmental damages. Its basic instrument (America Convention on Human Rights) provides that State parties "undertake to respect the rights and freedoms recognized herein and to ensure to all persons subject to their jurisdiction the free and full exercise of those rights and freedoms". In its advisory opinion on State obligations in relation to the environment, the IACHR indicated at the outset that "the State obligation to respect and to ensure human rights applies to every person who is within the State's territory or who is in any way subject to its authority, responsibility or control" (Inter-American Court of Human Rights, 2017). But the court did not probe State jurisdiction over individual right-holders in an abstract way. Instead, when it comes to trans-boundary damage, the IACHR has stated that: "the exercise of jurisdiction by a State of origin is based on the understanding that it is the State in whose territory or under whose jurisdiction the activities were carried out that has the effective control over them and is in a position to prevent them from causing transboundary harm that impacts the enjoyment of human rights of persons outside its territory. The potential victims of the negative consequences of such activities are under the jurisdiction

of the State of origin for the purposes of the possible responsibility of that State for failing to comply with its obligation to prevent transboundary damage" (Inter-American Court of Human Rights, 2017). The IACHR's jurisprudence indicates that State jurisdiction over a perpetrator or activities in a specific context is tantamount to State jurisdiction over potential victims of such activities. This is essentially the same with the Maastricht Principles.

The IACHR's jurisprudence has paved the way for the application of the extraterritorial obligations approach to the field of trans-boundary environmental damages, to which the release of nuclear contaminated water belongs. Trans-boundary environmental harm is believed to be a new scenario for extraterritorial human rights obligations (Raible, 2023). It is interesting to note that a Japanese scholar has also analyzed the extraterritorial obligations concerning environmental damage on the basis of the IACHR's jurisprudence (Toriyabe, 2020). Based on recently doctrinal and practical developments, it can be summarized that the State of origin of trans-boundary pollution has a series of extraterritorial obligations in relation to the prevention and remedy of the trans-boundary damages. Generally, this conclusion is applicable to the Fukushima incident and therefore justifies the existence of extraterritorial obligations on the part of Japan. But the Fukushima incident has something unique in that the Japanese government has asserted that the water to be released is safe and even drinkable. Does this affect the justification of Japan's extraterritorial obligations? Here, a distinction needs to be made between the existence of extraterritorial obligations and the breach of extraterritorial obligations. In the context of trans-boundary environmental damages, a reasonable doubt of risks to the environment or human bodies is sufficient to give rise to a wide range of extraterritorial obligations for the State which has the overall control of the events causing the risks. If it finally turns out to be no harm, it just indicates that the State of origin has not breached its extraterritorial obligation to respect the right to health or environment by permitting the implementation of relevant activities. However, that is just one of the many extraterritorial obligations arising out of a whole event. It can be concluded that the facts that the Japanese government knows or ought to know the risks of the release of Fukushima's water and that it has approved the releasing plan has formed jurisdiction over the whole releasing event, and therefore Japan has extraterritorial obligations to respect, to protect, and to fulfill relevant human rights during the whole process including prior to, during, and in the aftermath of the formal release.

3.3 The enumeration of Japan's extraterritorial obligations in the Fukushima case

Although the main task of this article is not to investigate how Japan violates specific rights by releasing nuclear contaminated water into ocean, it might be interesting to at least enumerate some important obligations that Japan bears due to extraterritorial application of human rights treaties to the Fukushima case. To understand State obligations, it is useful to adopt the tripartite typology as an analytical tool. The notion of tripartite typology is that every human right entails three different types of State obligations: the obligation to respect, to protect and to fulfill. "The obligation to respect requires States to refrain from interfering with the enjoyment of human rights. The obligation to protect requires States to prevent violations of human rights by third parties. The obligation to fulfill requires States to take appropriate legislative, administrative, budgetary, judicial, and other measures towards the full realization of human rights" (Flinterman, 1997). There are a multitude of human rights and corresponding State obligations. It is impractical to envisage all of them before they are actually invoked in combination with factual details. The following paragraph just mentions some, and perhaps they are just a tip of the iceberg.

First of all, Japan has extraterritorial obligations to respect the right to life, the right to health, and the right to the environment. These obligations require Japan to refrain from causing harm to marine environment as well as human beings through the actions or omissions of its agency or the organization it controls. The Tokyo Electric Power Company was a private company at first, but after the 2011 earthquake it was nationalized by the Japanese government. Now Japan has controlling shares in the company (Tokyo Electric Power Company Holdings, 2023). In human rights practice, there is a trend to attribute the behaviors of a State-owned company to the State which has the majority ownership over the company (European Court of Human Rights, 2012; European Court of Human Rights, 2015). Therefore, Japan is obliged to conduct a scientific assessment before releasing the water into ocean by its State-owned company. If the future releasing proves to be harmful, the Japanese government should bear the responsibility of breaching the obligations to respect the right to life, health or the environment. Secondly, Japan has extraterritorial obligations to protect the right to life, the right to health, and the right to the environment. These obligations require Japan to keep monitoring the marine environment that is likely to be affected, separately and in cooperation with other States, during and after its releasing activities. Japan should stop further releasing once any harmful result is detected. Japan should also ensure adequate compensation available to any potential victim. Thirdly, Japan has extraterritorial obligations to respect, protect, fulfill the right to food and other adequate standard of living. These obligations indicate that Japan should refrain from poisoning global seafood. Japan should also tolerate the importing banning policy against Japanese seafood for the purpose of food safety made by other States, and refrain from challenging such a policy in front of the WTO regime. Japan is also expected to make a reparation to fishermen who traditionally make a living in polluted ocean areas for their loss of income due to consumer's worry about seafood safety. It should be noted that the existence of a multitude of extraterritorial obligations

on Japan does not necessarily indicate that Japan has already breached these obligations and that Japan should bear responsibility for the breach of its obligations. Japan may raise several reasons to defend its releasing policy. For example, Japan might argue that it has no other choice to deal with contaminated water; it may also argue that the whole world should provide assistance to Japan and should tolerate Japan's choice for the existence of the nation. However, in any case, Japan should discharge its extraterritorial obligations in good faith, especially by disclosing accurate information, providing scientific evidence, negotiating with other States, and monitoring potential risks in the whole process.

4 Implementation

Now that Japan's extraterritorial obligations have been proven, the next question to be discussed is how to implement these obligations. Usually, individuals care about their own rights and are therefore willing to defend their rights through international or domestic human rights regimes, irrespective of whether their State of origin is willing or not to invoke the responsibility of a perpetrating State. First of all, Japanese domestic courts cannot be counted on. Some research by Japanese scholars shows that Japanese judiciary is not active in enforcing constitutional rights or applying human rights treaties to provide effective remedies to the alleged victims of human rights violations (Yakushiji, 2003; Kuramochi, 2015). Secondly, Japan has not accepted any individual complaint procedure of treaty bodies (United Nations Treaty Body Database, 2023). Thirdly, although Japan is bound by interstate communication procedure of the Committee on Enforced Disappearances and the Committee on the Elimination of Racial Discrimination (United Nations Treaty Body Database, 2023), the treaties monitored by these committees have little relevance to the release of contaminated water.

By process of elimination, State reporting procedures of treaty bodies and the universal periodic review (UPR) procedure of the UN Human Rights Council seem to be possible channels to implement the extraterritorial obligations of Japan. Generally speaking, human rights treaty bodies have been active in pushing the extraterritorial application of human rights treaties, but they have not mentioned extraterritorial obligations in their concluding observations concerning Japan. However, the monitoring gap was filled by the UPR procedure. In the fourth circle of the UPR, Japan's human rights performance was reviewed. In this recent round of review, some States have expressed concerns about Japan's releasing plan, for example China and The Marshall Islands (United Nations Human Rights Council, 2023). Some States have made specific recommendations to Japan. For instance, Samoa has suggested Japan "intensify research, investment and utilization of alternative discharge and storage methods of nuclear waste that minimize harm to human health and environmental damage" (United Nations Human Rights Council, 2023). Timor-Leste has suggested Japan "consider delaying any decision on the dumping of nuclear wastewater for the reactor of Fukushima Daiichi until after proper international consultation has been conducted" (United Nations Human Rights Council, 2023). Vanuatu has stated that: "Do not discharge/dump from Fukushima any nuclear contaminated wastewater and waste from Fukushima nuclear power plant into the Pacific Ocean without providing further satisfactory scientific evidence of the safety of any discharged contaminated waste and materials" (United Nations Human Rights Council, 2023). These recommendations have substantially touched Japan's extraterritorial obligations in relation to the Fukushima incident and the UN Human Rights Council provides a good opportunity to challenge Japan's releasing plan from the perspective of human rights. The interplay between Japan and other States in the process of the UPR may accumulate the evidence of subsequent practice, which is an authentic means of interpretation according to the Vienna Convention on the Law of Treaties and which may take a variety of forms (International Law Commission, 2018), on extraterritorial application of human rights treaties. It is submitted that human rights treaty bodies are also expected in the future to monitor Japan's extraterritorial obligations concerning the release of nuclear contaminated water in their State reporting procedures. In addition to challenging the human rights obligations of the Japanese government, potential victims or environmentalists may also litigate the Tokyo Electric Power Company before a Japanese court by recourse to the fashionable discourse of business and human rights (United Nations, 2011). The corporate human rights duties are beyond the topic of the current article. However, what is relevant for the current topic is that Japan is obliged to guarantee a fair and impartial judicial system for non-residents due to its extraterritorial obligations in the Fukushima incident.

5 Conclusion

The release of nuclear contaminated water by Japan is not only an international environmental law issue, but also an important human rights topic. In the Fukushima incident, the Japanese government owes a variety of human rights obligations to its own population and more importantly to people living abroad according to the human rights treaties to which Japan is a State party. The Fukushima incident urgently calls for a comprehensive examination of Japan's extraterritorial human rights obligations, and it indicates that trans-boundary environmental harm is an emerging scenario of extraterritorial application of human rights treaties. The findings of this article may also lend support to the governance of other

environmental issues such as plastic pollution, deep-ocean mining, and climate change, in the process of which the extraterritorial obligations are concerned. In a world of more interaction and interdependence, one may envisage more and more occasions of extraterritorial application of human rights treaties, which will change the stereotype that human rights law was only about how a State treated its population. In this regard, we may expect that international human rights law would become real international law.

Author contributions

LY: Conceptualization, Writing – original draft, Main Arguments, WX: Data curation, Literature review, Investigation.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

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