DOI: 10.37420/j.mlr.2023.009

Analysis of international criminal law in response to the Fukuyama nuclear sewage discharge incident inapan

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Abstract

On April 13, 2021, theapanese government issued a notice to discharge sewage fromapan's Fukuyama nuclear power plant into the sea, an irresponsible act that was strongly resisted and solemnly condemned by countries around the world. From the perspective of international criminal law,apan's actions may constitute international environmental crimes and crimes against humanity, andapan should bear the corresponding perpetrator responsibility and state responsibility in each state of criminal responsibility. In addition,apan should take effective measures to deal withapan's act to minimize the damage caused byapan's irresponsible discharge of nuclear wastewater.

Keywords

nuclear sewage, environmental crimes, crimes against humanity, state responsibility

Introduction

The first part is the background ofapan's discharge of Fukuyama nuclear sewage into the ocean. The Fukuyama nuclear power plant, one of the largest nuclear power plants in the world, was first commissioned in 1971, and on March 11, 2011, a magnitude 9 earthquake and tsunami struckapan, followed by a power outage caused by seawater backwater, resulting in explosions and meltdowns in three of the six nuclear reactors, and theapanese Security Agency rated the accident as category seven, making it the largest nuclear disaster since the Chornobyl accident in 1986.

Ten years from 2011 to the present, plant managers are still grappling with another dangerous flood: the massive daily volume of radioactive wastewater produced by damaged plants. At present, more than 1.2 million tons of contaminated wastewater are stored in more than 1,000 huge steel containers, and 170 tons of nuclear wastewater are generated every day to be stored, andapan has no clear plan for what to do with this wastewater. In addition,apan's current nuclear sewage storage space is about to run out, and according to relevant data, the capacity ofapan's nuclear sewage storage tanks will reach the upper limit in 2022.apan's treatment methods are concentrated into two options: release after evaporation and discharge into the sea after dilution, and discharging nuclear sewage into the sea is the most economical and convenient method, estimated to cost only 1.7 to 3.4 billion yen, which can save dozens or even hundreds of times the cost compared with the most expensive solid burial in the ground, so it is not difficult to understand theapanese government's statement on April 13 that it will discharge nuclear sewage from the Fukuyama nuclear power plant into the sea. However, there is no doubt thatapan's act of discharging nuclear sewage into the sea is extremely irresponsible, and this

behavior may have an incalculable adverse impact on the global marine environment and even human health and safety.

Discussion

The second part is an analysis of the criminal possibility and liability ofapan's nuclear sewage discharge into the sea.

International environmental crimes

Ifapan insists on disregarding the objections of other countries and not consulting with neighboring countries on more appropriate solutions, and directly discharges nuclear effluent from the Fukuyama nuclear power plant, which may cause serious environmental damage, into the ocean,apan's actions will constitute international environmental crimes.

From the perspective of the main body, the discharge of nuclear sewage from Fukuyama inapan was made at the behest of theapanese cabinet the direction ofapanese Cabinet and Tokyo Electric Power Company, and we believe that both individuals and countries are the subjects of international environmental crimes, and should bear individual criminal responsibility and national criminal responsibility respectively.apan's act of discharging nuclear water into the sea meets the constituent elements of the subject.

Subjectively, either intentional or negligent can constitute an international environmental crime. The intention of environmental crime means that a natural person or non-natural person knows that his discharge and disposal will cause pollution and damage to the environment, but still hope or allows such results to occur, thus constituting a crime. Theapanese government and Tokyo Electric Power Company knew that the discharge of Fukuyama into the sea could cause environmental pollution and ecological damage, but they still chose this low-cost method of treating nuclear wastewater for their interests. In addition, in addition to the "tritium" contained in the nuclear sewage that theapanese government has disclosed may cause damage to the marine environment and ecological environment, the German Marine Science Research Agency also showed through computer modeling that the nuclear sewage discharged fromapan can pollute the entire Pacific Ocean in only 57 days, and finally, the global ocean will be polluted, and the ecosystem is facing serious challenges; Greenpeace nuclear experts point out that radioactive elements contained in nuclear sewage can cause damage to human genes; According to Rakov, an expert at the Russian Institute of Oceanography, carbon-14 in nuclear sewage has a half-life of 15.7 million years and enters marine organisms, resulting in the eventual entry into humans. These possible damages are all things that theapanese government should have known and should have disclosed but have not made public, so theapanese government's subjective and deliberate attitude and deceptive attitude can also be seen. The fact that the Government ofapan is aware of the significant damage caused by the discharge of nuclear sewage to the global environment and ecology meets the subjective requirements of international environmental crimes.

From this perspective of the object of international environmental crime, the object of international environmental crime is the ecological environment on which human beings depend, which is embodied in the survival interests of human beings and all animal and plant populations, as well as the quality of life and economic benefits. From the perspective of the target of the crime, it includes environmental elements such as the atmosphere, water, ocean, forest, grassland, flora, and fauna.apan's discharge of Fukuyama nuclear sewage into the

sea will directly cause damage to the global marine environment, and then affect the living environment of animals and plants in the ocean, which may cause genetic mutations in marine organisms and genocide.apan's discharge of nuclear sewage will have an extremely bad impact on the global ecological environment, and Pacific Rim countries, including China and South Korea, will bear the brunt of the damage, seriously threatening the environmental interests of many countries on which they depend, and harming the survival interests, quality of life and economic interests of all mankind and marine animal and plant populations.apan's act of discharging nuclear sewage into the sea meets the requirements for constituting international environmental crimes.

From the objective aspect of international environmental crime, we divide environmental crime into pollution and sabotage through criminal means.apan's act of discharging nuclear sewage into the sea is an act of polluting the environment, that is, theapanese government injected a large number of harmful substances or energy into the environment, which exceeds the self-purification and regulation function of the environment, causing a decline in environmental quality, and causing dangerous acts that may have serious consequences. Taking the target of the crime as the criterion for distinguishing the crime,apan's actions mainly violate the following three aspects of the objective aspects of international environmental crimes: First, the discharge, dumping, and discharge of pollutants that seriously pollute the environment into the sea and international rivers in violation of international standards.apan's discharge of Fukuyama nuclear sewage into the Pacific Ocean has seriously damaged the marine environment and is an act of polluting the ocean. The second is pollution pass-through, which transports domestic waste and garbage outside the country for disposal and dumping.apan's attempt to discharge nuclear effluent into the ocean to avoid its responsibility to dispose of large amounts of nuclear water alone is an act of pollution pass-through – diverting its waste and garbage at the expense of other countries environmental and economic interests. The third is the transnational destruction of plant community ecosystems that endanger biodiversity.apan's discharge of Fukuyama nuclear sewage into the sea will not only cause major damage to the marine environment itself, but also pose a major threat to the animals and plants in the ocean, and the radioactive elements in the nuclear sewage may enter the body of marine organisms, causing the mutation of marine organisms and even the serious consequences of death and extinction. apan's discharge of nuclear effluent into the sea has seriously damaged biodiversity.

To sum up,apan's act of discharging nuclear sewage into the sea meets the subjective, subjective, object and objective elements of international environmental crimes, andapan should bear criminal responsibility for crimes endangering the international environment.

Jurisdiction over international environmental crimes is governed by the principle of universal jurisdiction enshrined in international conventions, and each State party has the right to exercise jurisdiction over offenders who have escaped the place where the crime was committed. The States parties to the relevant conventions had jurisdiction, and in general,apan bore State responsibility and actor responsibility.

The State, as a subject of international law, is only a legal person, and as an actor, it manifests itself only in the activities of persons who regard it as an organ. A person who acts as an organ of the State indicates that his activities belong to the unity of personification of the domestic legal order. Theapanese government's act of discharging Fukuyama nuclear sewage into the sea is fundamentally a manifestation of the national will, and theapanese state should bear the corresponding national criminal responsibility.

There is no consensus among the international community on what international criminal responsibility States should bear. According to relevant international treaties, customs, and international judicial practice, it can be seen that the internationally recognized forms of State responsibility mainly include termination of wrongful

acts, compensation, restitution, compensation, apologies, guarantees of non-recurrence, and international compensation. We believe thatapan should shoulder the following responsibilities.

First, stop the aggression. Since many crimes continue to damage the environment when they are discovered, cessation of the encroachment should be the first international criminal responsibility of the State to mitigate or halt the trend of environmental degradation and provide conditions and opportunities for further measures. Onceapan discharges nuclear sewage into the sea, it will cause irreparable damage and disaster, and ifapan has indeed discharged part of the nuclear sewage, it should immediately stop this damage to avoid causing a greater disaster.

Second, restore the status quo ante as much as possible. When there is a possibility of restoration of the damaged environment, the State concerned shall be ordered to take measures to remedy it, and if restitution is possible, the State concerned shall be requested to restore the damaged environment to its original state. However, such measures should no longer be applied when the damaged environment is no longer possible or when the cost of restitution is too high, or even to the impact on the country's economy. The environmental damage caused byapan's discharge of nuclear sewage into the sea may be partially recoverable, andapan should first recover the damage caused to the environment as much as possible, and if there is no possibility of recovery, then refrain from taking this measure.

Third, compensation for losses. This is a punitive measure generally applicable in the international community, since States that commit international environmental crimes generally cause damage to the environmental rights and interests of other States, resulting in corresponding economic losses, and of course, they should compensate for the damage caused.apan's behavior will cause economic losses to many countries, including but not limited to the loss of water damage, the loss of fisheries, the loss of biological habitat destruction, and the loss of disposal pollutants.

Fourth, fines. This is a punitive way of assuming responsibility, which can not only punish the country that commits international environmental crimes, provide psychological comfort to the injured country and its nationals, but also urge the country concerned and other countries to use this as a warning to strengthen the supervision of their own and their nationals' behavior. However, the imposition of fines shall not prejudice the obligation of the parties to make economic reparations to other States, nor shall they cause fundamental damage to the economic order of the States concerned. Afterapan compensates the injured countries for their losses, the United Nations can demand that theapanese government pay a fine, which on the one hand is to makeapan deeply aware of the internationally wrongful nature of this act and prevent similar mistakes in the future, and on the other hand, to make other countries take a warning and reduce the occurrence of international environmental crimes.

It should be noted that the environmental criminal liability of the State is in addition to the international criminal liability of companies, enterprises, individuals, and unauthorized State officials who commit crimes in violation of international environmental law and international environmental protection conventions or treaties. As a political entity, the actions of the state are exercised through representatives or private individuals of specific government departments, government officials, or other enterprises and institutions. While States incur State responsibility under international law for such acts, they may nevertheless impose corresponding responsibility based on their domestic legal norms. In addition, the above-mentioned units and individuals should also bear corresponding international criminal responsibility.

Japan's act of discharging Fukuyama nuclear sewage into the sea was made by theapanese cabinet government and implemented through the Tokyo Electric Power Company because individuals can become the

subject of international environmental crimes, then theapanese cabinet, the cabinet prime minister and representatives of Tokyo Electric Power Company should bear criminal responsibility for crimes against the environment, the specific content of which will be determined by the International Court ofustice.

Crimes against humanity

The 2019 article "Brazil: Burning the Amazon is an Act of Crimes Against Humanity," published in Green Left Weekly, mentions that the government has handed over the Brazilian forest system to members of a powerful farm lobby, implemented military interventions in the Chico Mendes Institute (ICMBio), banned inspections by Brazilian environmental agencies, and publicly attacked civil servants working for all these institutions. Traditional peoples and communities in the Amazon are becoming targets for large landowners and police. Socio-environmental NGOs have also been criminalized and targeted by the Government. Finally, scientists from some organizations, universities, and even the world-renowned National Institute for Space Research (INPE) began to report and denounce the consequences, but they faced layoffs and orders prohibiting them from disclosing research data.

In 2019 alone, more than 70,000 fires were recorded, 33,000 of them in the Amazon. This has increased by an average of 60% over the past three years. Between August 10 and 11, this increase soared to 300%. Satellite imagery also showed that the fires were spreading at a rate not seen since the 1980s. The organization "La Via Campesina" considers this act by the Brazilian government to be a serious crime against humanity and constitutes crime against humanity. In our view, there is some justification in the organization's analysis, that the Brazilian Government's wanton burning of the Amazon grasslands seriously endangers the international environment, affects the survival interests of unspecified persons, and may violate item 11 of the "crimes against humanity", "other inhumane acts of the same nature that intentionally cause great suffering or cause serious harm to the body or physical or mental health". Next, this article will analyze whetherapan's discharge of Fukuyama nuclear sewage into the sea constitutes "other inhumane acts" within the meaning of "crimes against humanity."

From the perspective of the subject, at present, the individual is the subject of crimes against humanity, the legal person has not yet been determined as the subject of crimes against humanity, and the state, as the subject of legal fiction, cannot bear criminal responsibility like natural persons, so the state is not yet the subject of crimes against humanity.apan's decision to discharge Fukuyama nuclear sewage into the sea was made by theapanese cabinet government and implemented through the Tokyo Electric Power Company, and in the process of implementation, an individual needs to make specific decisions or actions, which meet the main elements of crimes against humanity.

From a subjective perspective, the Statute of the International Criminal Court holds that "a person is criminally responsible and punished for a crime within the jurisdiction of the Court only if he or she has intentionally and knowingly committed the material elements of the crime". That is, it requires that the subjective mental factor is intentional and that the attack is known to be part of a widespread or systematic attack.apan's act of discharging nuclear sewage into the sea is intentional, as discussed above, and will not be repeated here, andapan is aware that the discharge of nuclear sewage will have a large-scale adverse impact on the global marine environment and the living environment and ecological environment of marine organisms, and the impact on the ocean will eventually affect human beings, which may cause serious damage to human health and living environment, and may even cause human genetic mutations, which will widely affect unspecified

civilians.apan's conduct, therefore, meets the subjective element of crimes against humanity.

From both the object and objective perspectives, we will focus on whetherapan's actions are "other inhumane acts" among the 11 types of crimes.

The Statute of the International Criminal Court stipulates that "other inhumane acts" refer to other inhumane acts of the same nature that intentionally cause great suffering or cause serious harm to the body or physical or mental health.

First, the interpretation of "significant pain or serious injury". The Rome Statute does not provide a clear criterion for defining "great suffering or serious injury", nor does the discussion of this concept go into detail in the judgment of the major tribunals. However, they all put forward a "case by case" standard, that is, a specific analysis of the specific situation, but this has no significant effect on clarifying the standard. In the Mucić case, the Tribunal attempted to establish a uniform standard that when there was a lack of a criterion for "serious" and "significant", the focus should be on the basic meaning. The court referred to the Oxford dictionary's definitions of "severe" and "significant" and found that "serious" was not minor and that "significant" meant that it was much higher than average in size, quantity, or intensity.

We believe thatapan's discharge of nuclear sewage into the sea meets the criterion of "serious harm", and that radioactive substances in nuclear sewage cannot be completely removed, and that if it is discharged into the sea, it will cause adverse effects on the marine environment and marine life, thereby further affecting human beings at the top of the food chain, and may cause serious health damage or even genetic mutations, causing "serious harm" to humans.

Second, the interpretation of "the same nature". According to the definition of "nature" in the Constituent Elements of a Crime, "nature" refers to the "essence" and "seriousness" of the act. Crimes against humanity are always closely related to human rights, and these large-scale violations of human rights are seen as violations of the most basic standard of survival of "human beings", that is, basic human rights. The Rome Statute establishes crimes against humanity to protect fundamentally recognized human rights, in particular life, health, liberty, and dignity. At the same time, the 10 types of crimes against humanity already enumerated in the Rome Statute violate fundamental human rights, including violations of basic human rights such as life (murder, extermination), physical integrity (torture, sexual violence, persecution), freedom (slavery, expulsion, imprisonment, enforced disappearance, apartheid). We believe that the fundamental attribute of crimes against humanity is the violation of fundamental human rights.apan's discharge of nuclear sewage into the sea undoubtedly violates people's right to health and even the right to life and may cause harm to the human race and genes. As for "seriousness", we believe that it is not the same as the "serious harm" mentioned above, and the seriousness here refers more to factors such as the manner, means, and object of the crime.apan's irresponsible discharge of nuclear water directly into the sea is despicable and evades responsibility in its choice of means, and it has a high degree of "seriousness" because it will have an impact on a wide range of targets that are difficult to estimate.

Third, the interpretation of "inhumane acts". In the 1991 Draft Code of Crimes against Humanity, the Commission used the concept of "systematic or massive violations of human rights" to describe acts against humanity. The Kupreškić case states: "The interpretation of 'inhumane acts' can be defined in human rights standards. Ultimately, the ICC made it clear that "inhumane acts are grave violations of customary international law and fundamental human rights derived from the norms of international human rights law." It follows that what constitutes an "inhumane act" requires a violation of customary international law and a violation of fundamental human rights. In contrast to the violation of fundamental human rights above, to avoid the unlimited

expansion of the jurisdiction of crimes against humanity, it is necessary to violate the provisions of customary international law.apan's discharge of nuclear water into the sea violates the "precautionary principle", the "duty of precautionary duty", the "principle of environmental responsibility not harming abroad", the "principle of international cooperation" and the "polluter pays principle" in international law.

In addition,apan's actions will widely affect a large civilian population, and will not be an individual attack but a collective attack, which meets the requirements of the target of the crime; Crimes against humanity may be attacks against the civilian population that result in a large number of deaths, or acts of violence that are routinely and frequently committed and result in a small number of deaths, andapan's discharge of nuclear sewage may cause a large number of civilian populations to be injured by nuclear radiation and die or genetic mutations, which is a "widespread or systematic attack"; Finally,apan's behavior is influenced by its domestic policies and politics, and is not a random, unorganized individual behavior, consistent with policy factors.

In summary,apan's actions would constitute crimes against humanity, specifically "other inhumane acts" within the category of crimes against humanity.

At present, the state cannot be the subject of crimes against humanity, butapan's decision to discharge Fukuyama nuclear sewage into the sea was made by theapanese cabinet government and implemented through the Tokyo Electric Power Company because only individuals can become the subject of crimes against humanity, then theapanese cabinet prime minister should bear criminal responsibility for crimes against the environment, the specific content of which is determined by the International Criminal Court.

Conclusion

In the face ofapan's irresponsible behavior, China should respond positively and take effective measures to minimize the damage.

Develop national and local contingency plans

In the face ofapan's sudden discharge of nuclear wastewater into the ocean, the country must respond on time, formulate contingency plans at the national and local levels, and minimize the damage caused to our country byapan's actions.

The competent departments and functional departments of the state, such as the Ministry of Foreign Affairs, the Ministry of Ecology and Environment, and the Ministry of Natural Resources and emergency management, should promptly include the prevention and management of the impact and risks of the discharge of nuclear sewage from Fukuyama,apan, into the work plan, formulate and issue risk control and emergency plans at the national and local levels on the discharge of nuclear sewage into the sea inapan in a timely and effective manner, and accurately deploy the next response measures that can be taken by the national and local governments, especially in the coastal areas with greater impact. The negative impact ofapan's act of discharging nuclear sewage into the sea on our country continues to expand.

Computer modeling of nuclear sewage pollution damage

Although theapanese government only revealed that the "tritium" in the decision to discharge Fukuyama nuclear sewage into the sea may have a certain impact, the German Marine Science Research Agency, Green-

peace nuclear experts, and experts from the Russian Institute of Oceanography said that the impact ofapan's actions is far more than that, and may cause incalculable harm to the environment and human beings. And these speculations and judgments are based on scientific research results. Although the spokesperson of our Ministry of Foreign Affairs has repeatedly condemnedapan's actions, the scientific data cited do not come from China, so China urgently needs to carry out its computer modeling to provide more scientific data. China's National Marine Research Institute shall carry out research on the construction of computer models to deal with the discharge of nuclear wastewater from Fukuyama,apan, including but not limited to the scope of the spreading path of nuclear sewage pollution, environmental and ecological damage, economic and social impacts, human development and safety risks. With China's computer modeling scientific data, it can provide the necessary and reliable scientific basis for national decision-making, risk control, contingency planning, and public education.

Contribute Chinese solutions to the world

For a long time, in the establishment of international maritime public order, developed countries led by the United States have always been the controller of international ocean governance discourse and the provider of public goods, and the United States in the face ofapan's nuclear sewage discharge into the sea, is even more "double standard" to the end, on the one hand, supportapan's decision to discharge nuclear sewage into the sea, on the other hand, resist the import ofapanese aquatic products, so we should not pin our hopes on the United States and other developed countries, should send China's voice to the international community. China should actively provide the results of computer modeling of nuclear sewage discharge and related international law research to neighboring countries, the international community, and relevant international organizations as public goods, and contribute Chinese wisdom and Chinese solutions to solvingapan's nuclear sewage discharge behavior.

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