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Environmental Security in Northeast Asia -A Study of Fukushima Wastewater Dispute-

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Graduate School of International Studies Seoul National University International Cooperation Major

Fornari Ilaria Adelia

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Sheen, Seong-Ho

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Fornari Ilaria Adelia

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Chair	Kim, Taekyoon	(Seal)
Vice Chair	Lee, Jaewon	(Seal)
Examiner	Sheen, Seong-Ho	o_(Seal)

Abstract

Environmental Security in Northeast Asia

A case study of the Fukushima wastewater dispute

Ilaria Adelia Fornari International Cooperation Major Graduate School of International Studies Seoul National University

Talks about environmental security in Northeast Asia are bound to become the center of many international discourses, as the region is home to strong rising powers while still not having a strong institutionalized space for regional dialogue. This constitutes a big risk for stability when environment-related accidents threaten the whole territory, as these are more and more likely to happen due to the fast development and increased need for energy sources.

The goal of this thesis is to provide a case study to understand and assess the possible security implications of environmental threats such as the recent Fukushima wastewater case in the Northeast Asian region between Japan and its neighbors, with the main focus on South Korea and consider the steps to take to mitigate and prevent crisis while promoting cooperation as fuel for regional stability, and attempt to analyze the debate through the lens of securitization theory. The first chapter will provide the theoretical framework for the understanding of environmental security relative to the region and will define how it applies to the salient issues at hand, that of the Fukushima wastewater which has high relevance and threat perception; it will then approach securitization theories which will be used to understand the origin of this dispute and its relevance in Korea. Chapter two will lay out a brief historical background of the relationship between the countries with the aim of better understanding the tensions between Japan and its neighbors and the relevance of the issues behind the Fukushima case, to then delve into the case study analyzing its history, the chronology of the incident and the aftermath. The third chapter will examine the regional response to the dispute, implications, and discussions it elicited, up until the current day resolutions, and ending with an analysis of the comparison between the different responses and will include the main arguments of this thesis. The fourth and final chapter will consist of final considerations and discussions, validate the application of constructivist theories to this issue, and propose a framework for conflict management aimed at reducing tensions and easing the unstable condition of mistrust and historical enmities plaguing the region. In it, I argue that cooperation in this area is needed and public diplomacy paired with regional coordination efforts are the best tools to tackle this long-going cycle of crises and fallouts.

This thesis will propose a case study of the Fukushima wastewater dispute, that takes into consideration the historical animosity and politicization of the issue and argue that securitizing acts are behind the escalation of the problem.

Keyword : Environmental security ; Northeast Asia ; Securitization ; Dispute Settlement ; National Security **Student Number :** 2021–27944

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Chapter One - Introduction

The Fukushima wastewater issue is but one of the many disputes that in recent decades soured the already bitter relationship between the neighbors in Northeast Asia: Japan, the Koreas, China, and Taiwan are still mistrusting each other primarily due to historical animosities, differences in political and social values, and the dividing effects of colonialism and the cold war. In 2011, following the aftermath of a disastrous earthquake that caused a tsunami to hit the Daiichi nuclear power plant in Fukushima, significant amounts of radioactive materials spilled into the Pacific Ocean and spread to the rest of Asia airborne, in the secondworst nuclear disaster since Chernobyl¹. This event caused a massive debate over the issue of transboundary radiation and pollution, and reignited enmity between the countries affected, especially over the handling of the wastewater collected during and after the nuclear meltdowns. This whole case is proof of the importance of environmental security as a major issue to be dealt with priority, as it still is a field of security that is underrepresented and understudied, but even more so a case of politicization and securitization, as at present the dispute is set to be considered a national security issue by the governments of South Korea, China, and North Korea.

Environmental security offers a scheme to study and prevent conflicts rooted in environmental degradation, which directly affects the quality of life, the normal progression of economic activity, and political stability both domestically and within the region. Especially In Northeast Asia, where environmental

¹ IAEA, "Fukushima Nuclear Accident Update Log." *IAEA*, 11 Apr. 2011.

degradation is proceeding at alarming rates, issues related to the environment and its branching have the potential to contribute to political instability in an already not-so-stable region, with Japan being a declining world power, China a controversial rising power with access to nuclear artillery and North Korea being a nuclear-armed rogue nation, topped with the ongoing division between the two Koreas and a potential military flashpoint between China and Taiwan, the stakes are high in the region and the risks are enormous at the international level as well.

Already at the turn of the millennium, experts warned that Northeast Asia could be a future battleground due to its characteristic regional hostilities and the state of the environmental problems destined to get worse.² But at the same time, it offered a perfect case in which to study the possibility of a correlation between environmental conflict and cooperation prospects, and to reflect on the relationship between environment and security, which as climate change worsens, will be a more and more prominent theme in international debates.³ Experts agree that overlooking environmental issues can prove fatal for international security and stability, and as a threat multiplier, environment-related matters can exasperate existing conflicts and spill over to different problems altogether. Specifically in Northeast Asia, and even more so when it regards Japan, a country that has lots of enemies due to its past colonial expansion and the controversial handling of apology and history, environmental disasters can fuel a chain of reactions that it is

² Hayes, Peter, and Lyuba Zarsky. "Environmental Issues and Regimes in Northeast Asia: Nautilus Institute for Security and Sustainability." *Nautilus Institute for Security and Sustainability*, International Environmental Affairs, 20 Mar. 2012, pp 1.

³ "Energy, Environment and Security in Northeast Asia: Defining a U.S.-Japan Partnership for Regional Comprehensive Security." *The Nautilus Institute*, The Nautilus Institute and Center for Global Communications, Dec. 1994, pp 2.

easy to agree it best be avoided. Regarding the Fukushima wastewater issue, it is important to note that due to its highly politicized nature and the aforementioned historical enmities, different sources show different levels of engagement and threat analysis, as expected from countries in not entirely amicable terms. Security can not be assumed to be fully objective, as states define their security in different ways and the debate about a state's security is usually conducted domestically; environmental security therefore can also be seen as subjective and socially constructed, as I will argue in later chapters.

The scope of this thesis is to compile the discussions around the issue of Fukushima wastewater from a comprehensive point of view that takes into consideration each involved country's security interests and possible politicization and securitization, in order to better understand the issue at hand and hopefully come to a better acknowledgment for the better handling of the wastewater issue specifically, as it is still a case in process, but also the prevention of future environmental disasters in general. For the scope of my research, I included Japan, South Korea, North Korea, China and Taiwan as the main actors involved, as they are the ones directly affected by the water radiation, but also considered the IAEA as it is the intergovernmental organization in charge of supervising nuclear projects and providing international guidelines and overlooking the discharging project. All of these actors will be considered, as I argue that this case offers a perfect study subject to advance the advocacy for increased focus on environmental considerations and environmental security in general as a fundamental and inalienable area of security studies, not just as a 'non-traditional security' field, often overlooked in favor of military security.

As of now at the time of writing of this study, the debate over the terms of

the wastewater release is still fiery, just as Japan has received the green light this past May to start releasing the stored wastewater from next year (2023) over the course of 40 years. Opposition is strong mainly regionally, among environmentalist groups and fishing communities, with the US seeming to be not too concerned over the alleged radiation risks. The recent change in South Korea's presidency and Abe's succession may leave the spot to a possible concord, but the time is tight before the scheduled release operations begin. My study will position itself in this delicate time frame and provide a comprehensive study of this issue in being, and examine the processes of securitization as developed by the Copenhagen School, focusing on the critical years following 2021 when Japan announced its plans to release the stored wastewater contaminated by the reactors into the Pacific Ocean. This thesis argues that understanding both the objective and subjective features of this issue and the process by which it was securitized will better enable policymakers and the international community at large to resolve the conflict and lay a precedent for future handling of transboundary environmental security issues.

My research question is focused on the understanding of the case and its intrinsicalities, whether the case of the wastewater release by Japan is an issue that has been securitized by its neighbors and if so, whether there is a possibility for desecuritization moves, to de-escalate the debate and prevent meltdowns between already tense neighbors. And further on, whether it is possible to envision a peaceful progression of the wastewater release without major conflicts and repercussions regionally between the state actors, but also at large, how can security and cooperation be improved when it comes to the field of environmental stability, and to what extent can environmental efforts be considered a soft power asset for regional cooperation and conflict avoidance.

Chapter Two - Theoretical Framework

2.1. Environmental Security

Environmental security is becoming more and more of a discussed topic within security discussions as states are starting to realize that many of the most pressing threats to the population and the economy are not strictly military but are branching out to include threats tied to the degradation of the environment. Diseases, pollution, radiation, and resource scarcity are becoming major themes of debate in national security talks as the world is inexorably moving towards a climate crisis and is starting to see the destructive effects of environment-related threats. Environmental security is still treated as 'non-traditional security', since its relevance has only been recognized in recent years with the worsening of climate change and the series of issues that the world is just beginning to experience. The result of worsening environmental climate is tied to increased risks to virtually every other threat, as it exasperates the conditions and resources these threats are founded on. Although talks about environmental security started in the late 1980s with considerations over nuclear disasters and pollution⁴, it's only in 2007 that the relation between environmental degradation and international security was first initiated at the UN Security Council,⁵ and since then, more has been done to include and study environmental security as a prominent field of security studies. In 1998, Buzan, Wæver, and De Wilde conceptualized the notion of environmental

 ⁴ Anthony, Mely Caballero, and J. Jackson Ewing. "Environmental Security." An Introduction to Non-Traditional Security Studies: A Transnational Approach, SAGE Publications Ltd, London, 2016, pp 96.
 ⁵ Levaillant, Melissa. "Defence Diplomacy and Environmental Security:

Cooperation in the Indo-Pacific and Beyond." pp 1.

security as "the environmental sector is about relationships between human activity and the planetary biosphere [...] Environmental security concerns the maintenance of the local and the planetary biosphere as the essential support system on which all other human enterprises depend".⁶

Traditionally, security has been linked with military action and focused mainly on the protection of national borders⁷ and was mostly event-driven, that is, based on a specific 'attack' which threatened security⁸, therefore making the concept state-centered and military-oriented⁹. However, it became more and more obvious that threats to the survival of nations and its population are not always strictly military or concerning the physical safety of sovereign states from foreign threats¹⁰, and so the concept of security has expanded to include new types of threats, and the new term of "non-traditional security" was coined. The environment belongs to this category, which includes all those issues that challenge the survival and well-being of people and states, but do not arise from military sources nor competition between states or shifts in the balance of power.¹¹ More differences are that their referent is not simply the state but also the people, both at

⁶ Buzan, Barry, Jaap de Wilde, Ole Wæver. *Security a New Framework for Analysis.* Lynne Rienner, 1998. pp 7-8

⁷ Brauch, Hans Günter, and Miranda A. Schreurs. "Environmental Security in Northeast Asia." *Facing Global Environmental Change: Environmental, Human, Energy, Food, Health and Water Security Concepts* Springer, Berlin, 2009, pp. 829

⁸ "What Is Environmental Security?" *Yale Insights*, Yale School of Management, 15 Apr. 2012. www.insights.com.yale.edu/insights/what-is-environmental-security.

⁹ Anthony, Mely Caballero, "Understanding Non-Traditional Security." *An Introduction to Non-Traditional Security Studies: A Transnational Approach*, SAGE Publications, Los Angeles Etc., 2016, pp. 5

¹⁰ Lee, Geun. "Environmental Security in East Asia: The Regional Environmental Security Complex Approach." *Asian Perspective*, vol. 26, no. 2, 2002, pp. 78

¹¹ Anthony, Mely Caballero, 2016 pp 6

the individual and societal level, and they can cause both societal and political instability indirectly, which become threats to security. Moreover, the dangers of non-traditional security issues are often transnational and require multilateral approaches and are often caused by human-induced disturbances.¹² These new areas were individuated by Buzan et al. in the environmental sector, economic, societal, and political, but later more were added, such as food, water, energy, and health security among others.

However, many were still critical of the inclusion of these categories in the field of security, citing that there are at least five reasons that would leave out the environment from security studies: environmental studies are speculative and uncertain, in that the outcomes of any change to it are mostly unknown and it's hard to tell whether effects are inevitable; they're undirected, as they are not an action done to us; they're undeterrable, as most of the times they're not done by an identifiable enemy; they're normal, as there have always been droughts, floods, radiation etc; and they're amorphous, meaning that environmental problems are so diffuse that it's difficult (or impossible) to address them. The response to this type of argument can be found in Alan Collins's Contemporary Security Studies, where in the introduction to environmental security, the author highlights how "insecurity being the risk of something bad happening to a thing that is valued [...] so security can apply to many different things that are valued and refer to many different kinds of risks".¹³ The environment is both a causal and consequential factor, meaning that it can be both an object to be secured and a source of risk, but it can also exasperate existing security issues as it can create tensions that make it easier for actors to

¹² Anthony, Mely Caballero, 2016 pp 6

¹³ Collins, Alan. *Contemporary Security Studies*. Oxford University Press,2013. pp 191

securitize each other and see each other as threats. By adopting constructivist notions, we can see security as anything related to survival, urgency and emergency,¹⁴ which obviously includes the environment as well, and makes any critique irrelevant if we agree that environmental factors can be the cause of conflicts, aggravate existing tensions or threaten the population of states. More on security and constructivism will be studied in the second part of chapter one. This broader understanding of security does not need to fall under the strict categorizations of traditional security studies, but thanks to it, the depth of security studies gets widened to include risks that do not only relate to war directly, and also can be employed in both the critical and applied dimension.¹⁵ As long as environmental security can help us identify risks and potential sources of conflict and maintain a secure environment for the sustainment of people, we should study it as a core security discipline in international security.

Especially in a region such as Northeast Asia, where the security context is in a delicate balance prone to breakdowns, it is of utter significance to understand the implications that environment-related threats can have at the national and regional level. Environmental degradation and competition over scarce resources due to over-population are cardinal issues in Northeast Asia and have the potential to contribute to instability and reignite pre-existing tensions, as is often the case between Japan, China and South Korea as they share an inimical past. Sadly, given the continuing military tensions in Northeast Asia, with the Koreas division and regional hostilities with Japan, to the China-Taiwan issue, environmental security

¹⁴ Trombetta, Maria Julia. "Environmental Security and Climate Change: Analysing the Discourse." *Cambridge Review of International Affairs*, vol. 21, no. 4, Dec. 2008, pp 588

¹⁵ Collins, Alan. *Contemporary Security Studies*. Oxford University Press, 2013. pp 191

has not been high in the security agenda, thus leaving room for potential conflict and preventing bilateral or multilateral efforts to tackle environmental problems. This environment-security nexus is critical in studying the regional issues and debates arising between these actors to prevent fallings-out of relations and escalation of conflict.

What makes environmental security so salient in Northeast Asia is not only the negative state of the environment itself (pollution, resource scarcity...) and the poor state of country relations, but also recalling what was previously said of environmental issues, they are transboundary in nature, and more often than not require multilateral action to approach them. In this region, however, there is no "habit of dialogue" on which to draw for environmental commitment and cooperation¹⁶, which makes dealing with these security issues even more difficult than it would normally be. When enmities are present, issues like resource scarcity or degradation will be blamed on a target and securitized or actors will securitize themselves (an example could be the blaming of all or most of South Korean pollution on China – when in fact it's responsible for about 20% of the total¹⁷) or as I will explore in this thesis, the case of the Fukushima nuclear disaster and the subsequent issue surrounding the radioactive wastewater, which although fundamentally different in nature, shares the features of being a transboundary issue between states on not good terms (Japan and South Korea and China).

The Fukushima issue on wastewater is indeed an environmental security

¹⁶ Hayes, Peter, and Lyuba Zarsky. "Environmental Issues and Regimes in Northeast Asia: Nautilus Institute for Security and Sustainability." *Nautilus Institute for Security and Sustainability*, International Environmental Affairs, 20 Mar. 2012, pp 1

¹⁷ Kim, Moon Joon. *The effects of transboundary air pollution from China on ambient air quality in South Korea*, Heliyon, Volume 5, Issue 12, 2019.

threat that as I will prove in the next section, has been politicized and securitized. States might see this issue in varying levels of threat, as one would expect from an understanding of security that is constructive (therefore subjective) in nature, and it poses a threat to the environment itself and potentially human civilization as argued by some of the actors involved. It is non-traditional again because it is not directly related to an imminent threat of war, but that of possible escalations, conflict, and political or societal instability. As I will discuss in chapter two of my case study, this environmental issue did produce both political and societal instability and, as such, requires interventions and non-unilateral efforts to prevent it from escalation. Political actors involved, in this case South Korean and Chinese governments, can either respond to the science behind the environmental threat as either a political or a security concern, and I will consider this in future chapters. Whether the Fukushima issue has been securitized and what it entails is still a novel line of argument since the news of the Japanese release of the stored wastewater only reached the public this past April 2021¹⁸, and in this following subchapter I will proceed to delineate the features of securitization.

¹⁸ McCurry, Justin. "Fukushima: Japan Announces It Will Dump Contaminated Water into Sea." *The Guardian*, Guardian News and Media, 13 Apr. 2021

2.2. Securitization Theories

The theory of securitization was developed by the Copenhagen School in the 1990s to "set out a comprehensive new framework for security studies" that would enable the discipline to explain a broader range of security-related phenomena than the traditional state and military-centric conception of security.¹⁹ The Copenhagen school is a branch of academic thought founded by Barry Buzan, Ole Wæver and Jaap De Wilde which sets the theoretical framework for nontraditional security studies and generally belongs to the constructivist school, which sets itself in between the neo-neo debates of realism and liberalism to overcome the views of a unitary and fixed universe of units that act solely on material interests.²⁰ For constructivism, the structure of the international system is a network of shared norms, and state relations are built through these norms which are created through interaction. Therefore, the key structures of the state system are intersubjective rather than material, and thus the form of states is always transforming according to their identity and interests. In short, the structure of the international system is the interplay of both shared constructs and material distribution of capabilities.²¹ The very understanding of *security* and *threat* is constructivist in nature, as states define security in different ways and in varying degrees. Security is described by Buzan et al., the founders of the Copenhagen

¹⁹ Buzan, Barry, Jaap de Wilde, Ole Wæver. *Security a New Framework for Analysis*. Lynne Rienner, 1998. pp. 1

²⁰ Wendt, Alexander. *Social Theory of International Politics*. Cambridge University Press, 2014.

²¹ Hu, Weixing. "Seeking Nontraditional Security in'Traditional'Ways: Northeast Asia and Emerging Security Challenge." *Broadening Asia's security discourse and agenda: political, social, and environmental perspectives.* United Nations University Press Tokyo, 2004. pp 274–275

School, as being "a self-referential practice, because it is in this practice that the issue becomes a security issue-not necessarily because a real existential threat exists but because the issue is presented as such a threat."²² Threat perception is at the heart of constructivist views as it is about the construction being more important than the truth – that is to say that the way we perceive or are led to perceive is, at the end of the day, more important than the objective reality, as it is what will lead to action. It is identity, interests, and culture that affect state choice, which are endogenous elements of the social structure.²³ Identity is socially contingent and so are national interests, and culture is understood as comprising of shared beliefs, traditions, historical experiences including national humiliation and glory, values, national identity, and strategic culture, which are all components that affect security perception and practice.²⁴ All of these features will prove relevant in the case between Japan and Korea presented in this thesis, as their history keeps them rooted in a negative perception of each other and arguably, especially in the case of South Korea, nation-building is intensely focused on shared threat perception.²⁵ Threat perception is shaped by probability more than possibility, with probability based more on history, previous interactions, and likelihood; rather than possibility, which includes the chances of all possible outcomes. States, for constructivist theorists, define their own security agendas through subjective processes of probability rather than responding to an objectively true security

²² Buzan, Barry, Jaap de Wilde, Ole Wæver. Security a New Framework for Analysis. Lynne Rienner, 1998. pp. 24

 ²³ Hu, Weixing. "Seeking Nontraditional Security in'Traditional'Ways: Northeast Asia and Emerging Security Challenge." *Broadening Asia's* security discourse and agenda: political, social, and environmental perspectives. United Nations University Press Tokyo, 2004. pp 275
 ²⁴ Ibid. pp 275

²⁵ De Wilde, Jaap H. "Environmental Security Deconstructed." *Hexagon Series on Human and Environmental Security and Peace*, 2008, pp. 596

scenario, as traditional security studies assume.

As with any other school of thought, constructivism has its share of criticism: mostly from realists and neorealists, for whom norms and perceptions are inconsequential in the system, as unit-level explanations of politics are usually disregarded as reductionist.²⁶ Other critiques point the finger at the habit of anthropomorphizing the state by giving it too many variable features, and constructivism's shortcomings in predicting future outcomes, as it tends to look backward to explain the status quo. To these, Wendt argues in "Anarchy is What States Make of it" that neorealist approaches fail short of predicting the dynamics of states and the effect that interests and identities of key actors hold: the system is made of intersubjective constructions that come from social interactions over time²⁷ and by overlooking the importance of agency, there would be no solution to the question why states act differently towards enemies than they do to friends, and why for example British missiles are not seen as threatening as Soviet missiles by the United States.²⁸ This cannot be explained by realism by pure notions of the system, as both the U.S., the UK, and Russia are states in the same anarchic system. The reason is for constructivists in the perception that the countries have of each other's identities, which are acquired through interaction and represent a social construction. States are not as rigid as realism makes them to be, but their form and perception can change, and so do their interests, which change based on identity.

²⁶ Waltz, Kenneth Neal. *Theory of International Politics*. Waveland Press, 2010. pp. 19

²⁷ Wendt, Alexander. "Anarchy Is What States Make of It: The Social Construction of Power Politics." *International Organization*, vol. 46, no. 2, 1992, pp. 406
²⁸ Ibid. op. 207

²⁸ Ibid. pp. 397



Figure 1. The codetermination of institutions and process - Wendt (1992)

States and relevant actors may see security as achievable through socialization or conflict depending on the social constructions behind it, thus making security something that is inalienable from perceptions being one itself, and threats too as socially constructed.²⁹ Any public issue that arises in the international or domestic realm can be located on a spectrum that goes from non-politicized (when the issue can be ignored), to politicized (when it can be dealt with normal political processes), to securitized (when it's elevated to a level in which extreme measures are justified.³⁰ Threats are therefore securitized risks.³¹

 ²⁹ Hu, Weixing. "Seeking Nontraditional Security in'Traditional'Ways: Northeast Asia and Emerging Security Challenge." *Broadening Asia's security discourse and agenda: political, social, and environmental perspectives*. United Nations University Press Tokyo, 2004. pp. 275
 ³⁰ Buzan, Barry, et al. *Security a New Framework for Analysis*. Lynne Rienner, 1998. pp.23-24

When an issue becomes a security issue, the difference between politicization and securitization is that for a politicized issue, it means that the issue has entered the political agenda, but securitization means that it has been given top priority on that agenda, and can be seen as a stronger version of politicization.³²

The theory of securitization argues that there are no objective threats, and that various issues can be transformed into security issues if constructed as such through a process of discourse called securitization, which is the result of a successful speech act.³³ Securitization is itself a speech act – a statement that is neither true nor false, but which requires others to respond as just speaking is not enough. Securitization speech acts are perlocutionary: they require persuasion and the uptake of a relevant audience to be effective. An issue can be considered a national security threat when it is constructed as such by a state or by relevant actors. Securitization in this realm is the process by which a credible actor convinces a significant audience that some 'other' is an existential threat to an important referent object and there follows an urgent mobilization of resources, which constitutes the securitizing move.³⁴ An example of a securitizing move is for example, the Korean government stating to media outlets that "Japanese claims to Dokdo negate Korean independence."

 ³¹ De Wilde, Jaap H. "Environmental Security Deconstructed." *Hexagon Series on Human and Environmental Security and Peace*, 2008, pp. 595
 ³² Ibid. pp. 595-596

³³ Trombetta, Maria Julia. "Environmental Security and Climate Change:
Analysing the Discourse." *Cambridge Review of International Affairs*, vol. 21, no. 4, Dec. 2008, pp. 588

³⁴ Buzan, Barry, Jaap de Wilde, Ole Wæver. Security a New Framework for Analysis. Lynne Rienner, 1998. pp. 25

Key elements of a securitizing move are:

- a *securitizing actor*, which has to be credible but can be both public (e.g. state governments, intergovernmental organizations...) or private (political parties, movements, corporations, activists...) and is the one that performs the security speech act;
- *a functional actor*, which is an actor that affects the decisions in the field by being involved in the issue raised;
- an *audience*, which has to be persuaded by the speech act and has to have influence such as being a large portion of the society or being the ruling/influential elite;
- *urgent action*, that is what makes the issue a securitized one, not merely a politicized one. Urgent action admits measures that are out of the normal bounds of political procedure, like breaking of rules, treaties, insurgence, boycott....
- *referent object(s)*, are the very things to be protected, important enough to
 justify securitization and real enough to be threatened; it can be anything of
 value, and even values and culture themselves like religion or traditions for
 constructivism, but traditionally the referent object has always been the
 state.

If securitization is successful, it will lead to emergency measured being taken, whose aim is to eliminate the threat by either reducing the risk or managing its effect.³⁵ Other times, the security discourse becomes institutionalized and in

³⁵ De Wilde, Jaap H. "Environmental Security Deconstructed." *Hexagon Series on Human and Environmental Security and Peace*, 2008, pp. 597

time it will just become part of ordinary politics.³⁶ De Wilde notes how nongovernmental institutions usually make the security discourse more intense, while governmental and intergovernmental institutionalization moves the issue towards *des*ecuritization.³⁷

If securitization communicates an emergency situation and its security policies, desecuritization is the aim of said security policies.³⁸ Desecuritization can mean return to the status quo or a condition of normalcy, but it does not always follow from security policies, as it can be achieved through shifts in the security discourse (due to change in priorities, even when the risk remains the same)³⁹.



Figure 2 Securitization Theory - Buzan, Wæver, De Wilde (1998)

³⁶ De Wilde, Jaap H. "Environmental Security Deconstructed." *Hexagon Series on Human and Environmental Security and Peace*, 2008, pp. 596 ³⁷ Ibid.

³⁸ Ibid.

³⁹ Ibid.

Critiques to securitization theory and its speech act theory are mainly critiques against the widening of security discourse to non-traditional realms and worry about the lack of ability of the current system to deal with different types of security that are not military, in non-military terms which are the way that issues had always been tacked in the past.⁴⁰ But securitization being a theory of process, it could be argued that it is more useful in explaining and tracing the formation of security discourses and identities rather than a theory that can promote military action. The Copenhagen School, with this theory, aims really at just highlighting the difference between the existence of a potential threat and where it falls on the securitization-politicization-non-politicization spectrum. And as for speech act theory, it finds its most fierce critiques in realism, as it is hard to combine a theory of speech with one that only assumes one unchanging reality of the international system. Thierry Balzacq argues that "language does not construct reality; at best it shapes our perception of it. Moreover, it is not theoretically useful nor is it empirically credible to hold that what we say about a problem would determine its essence".⁴¹ It is true, language does not change reality, but as argued by the Copenhagen School, it has the power to shape perceptions and initiate security policies or mobilize people. Without words, audience, and context, no security measure can be initiated. Speech act theory is used to analyze the procedure that is behind the framing of a security issue as such.

Regarding the securitization of the environment, it is a concept still not

 ⁴⁰ Trombetta, Maria Julia. "Environmental Security and Climate Change:
 Analysing the Discourse." *Cambridge Review of International Affairs*, vol. 21, no. 4, Dec. 2008, pp.589

⁴¹ Thierry Balzacq, "The Three Faces of Securitization: Political Agency, Audience and Context." *European Journal of International Relations*, 2005; 11(2), p. 181.

widely explored, as De Wilde (one of the theorists of securitization theory) states, securitization of environmental risks has contributed only to a small and fragmented community, including environmental movements, green parties, activists and few environmental ministries.⁴² However, his statement dates back to 2008, and since then, the discourse has widened and attracted a more relevant audience, mainly due to the worsening of climate change and the vocality of the intensity of some environmental issues (Fukushima nuclear disaster, for one, but also the numerous oil spills, 63 only in the past decade⁴³, mass extinctions, desertification...) which have brought the public attention to the environment.

When it comes to securitizing the environment, securitizing actors can be both public or private, but the peculiar feature of environmental securitization is the role of science: respected scientists and research institutions offer their knowledge on environmental problems and list those that have the capacity to disrupt the normal progress of civilization.⁴⁴ To this scientific agenda, politicians or civilians have no reason to question their report other than their skepticism, which is to say that the audience can only really put their trust or mistrust in the professionals and then make the political choices on that intuitive ground.⁴⁵ From the scientific agenda, the political agenda follows, to judge whether the presumed urgency called for by the scientists is a political issue.⁴⁶ This combination of agenda gives space to high degrees of controversy, which is often found in environmental security issues. As for the referent object, another specificity of

 ⁴² De Wilde, Jaap H. "Environmental Security Deconstructed." *Hexagon Series on Human and Environmental Security and Peace*, 2008, pp. 596
 ⁴³ "Oil Tanker Spill Statistics 2021." *ITOPF*, 2022

⁴⁴ Buzan, Barry, Jaap de Wilde, Ole Wæver. Security a New Framework for Analysis. Lynne Rienner, 1998. pp. 72

⁴⁵ Ibid.pp. 72

⁴⁶ Ibid. pp. 73

environmental security is that securitization can happen for the environment itself or for the people living in it: issues can be differentiated between threats *to* the environment (securitization of the environment) or threats *from* the environment (securitization of societies and people that depend on it).⁴⁷

Concerning the securitization of the environment, some critics have warned against this practice, both by saying that it hasn't proved very successful, as only a few appeals to environmental securitization have mobilized the society; but also by pointing out how usually when it comes to the environment, the focus is on emergency management rather than emergency prevention, and in this case, there is the risk of "applying a mindset of security against the possible advantages of [...] mobilization."⁴⁸ This is a very valid argument, but again, one must recall that securitization and the acceptance and enactment of securitization moves are always political choices, and the goal is *de*securitization.⁴⁹

The reason I decided to pick this theory of securitization, and in specific the speech act theory among many, is because, for one, it's a relatively under-used theory of process to explain the way issues become accepted as a security threat and subsequent action is then taken; and secondly, because in the specific case of the Fukushima wastewater debate as I will delve deeper in later chapters, one prominent feature is that the IAEA, the International Atomic Energy Agency, has already signed off the water release project, which means that more than looking at possible policy recommendations or plans of action to solve this issue, what I'll be

⁴⁷ De Wilde, Jaap H. "Environmental Security Deconstructed." *Hexagon Series on Human and Environmental Security and Peace*, 2008, pp. 598
⁴⁸ Buzan, Barry, Jaap de Wilde, Ole Wæver. *Security a New Framework for Analysis*. Lynne Rienner, 1998. pp. 29
⁴⁹ Ibid. looking is at the history of the construction of this as a security issue; on the fabrication and acceptance of the debate which includes speech analysis and is mostly past-looking due to said limitations. I will be tracing the speech act through utterance to acceptance in order to put some clarity on the origins, meanings, and implications of this issue as a debate between the specific actors of Japan, South Korea, and China and hopefully provide a novel insight to fellow scholars to understand and maybe resolve the conflict in the future. Moreover, as this is a very recent issue which only surfaced last year in 2021, no other attempt has been made that I know of to try and uncover the inner workings of this dispute starting from a constructivist notion of the speech-act theory. Specifically, the notions that explain how security choices and policies are also delineated and affected by constructivist notions of national identity and historical experience, I argue, apply perfectly to my case, which notably is between historical enmities and, in the case of South Korea, possibly carry an underlying notion of humiliation and national identity when it with comes to its security practices Japan:

"Culture could be broadly understood as enduring and widely shared beliefs, traditions, attitudes and symbols. Historical experiences (such as national humiliation or glory), values, beliefs, national identity, and strategic culture (historically rooted strategic preferences) are important components of cultural factors that affect security perception and practice." ⁵⁰

⁵⁰ Hu, Weixing. "Seeking Nontraditional Security in'Traditional Ways: Northeast Asia and Emerging Security Challenge." *Broadening Asia's security discourse and agenda: political, social, and environmental perspectives.* United Nations University Press Tokyo, 2004. pp. 275

As the excerpt explains, threat perception is largely traceable to history and cultural factors, so it is worth analyzing that the way Japan is seen as threatening or unreliable may also be partly due to its past as a colonizer in South Korea. This argument comes from the thought that if it's true that Japanese claims to Dokdo undermine South Korea's struggles for independence (from president Roh's statement in 2005: [Japan's claims to Dokdo] could mean that Japan is trying to justify the war in its past and deny the independence of Korea³⁵¹), then it is safe to assume that South Korea, in considering security policies vis-à-vis Japan, is (subconsciously or not) formulating them including their sense of national identity value based on historical struggle and humiliation. Here I say "humiliation" quoting the author; although it may come off as too strong of a word, it could be argued that being colonized can explain that sentiment.

Regarding the case of Fukushima's wastewater pollution, I then came to the discovery that the scientific agenda and the political agenda of environmental securitization prove to be very distant, as on one side, there is the IAEA, an organization internationally recognized and relied upon for any nuclear issue (it's the same agency that was entrusted with overseeing the Yongbyon dismantling project in North Korea⁵²), saying that the release plan is safe and giving its approval, and on the other side is the skeptical government and society groups, who distrust the Japanese water purification system and oppose the wastewater release. This is not to say that either one is correct or wrong; that is not the goal of

⁵¹ Kim Jung-Hun, "No More Japanese Intentions Toward Hegemony," *The Dong-A Ilbo*, March 23, 2005.

⁵²"Fact Sheet on DPRK Nuclear Safeguards." *IAEA*, IAEA - International Atomic Energy Agency, 25 July 2014

my thesis. But to trace the process of securitization behind the dispute and understand how the debate was formed and maintained is my main interest and focus, which I will attempt to study in chapter three.

2.3. Methodology

The methodology in this work is primarily based on a qualitative study of different primary sources such as official reports and speeches, statements, interviews and statistics reports, and secondary sources such as third party analysis and articles; and is deductive in nature: in the following chapters, I will attempt to prove that the Fukushima wastewater issue and specifically its different response in neighboring countries, can be best explained by using existing theories, namely securitization and desecuritization theory. By proving how these theories apply to the case at hand, I will analyze its elements and deduct conclusions on where the issue has been securitized, how, why, and whether there is a possibility for deescalation of conflict, or de-securitization. I will also attempt to incorporate a comparative framework between the Northeast Asian countries involved in the dispute to better understand and visualize what features elicited the different responses. Based on the propositions of the theory of securitization, I derived my reasoning which follows from the hypothesis that the wastewater case is an environmental issue that has been securitized, thus making it a matter of subjective security on top of its objective security feature. This mechanism is to ultimately come up with a thorough analysis to elucidate and provide a better understanding of environmental security in Northeast Asia based on the Fukushima case, which I will do by analyzing each element of securitization and searching for its correspondent manifestation in South Korea, China, Taiwan, and Japan. On top of this, the historical analysis linked to the theoretical framework tries to understand whether historical enmities also play a role in the process of securitization. This last hypothesis, if proven correct, would make future environmental issues in the

region trickier, as they are potentially more likely to be securitized if Japan is involved, but also, through the understanding of all the mechanisms of securitization and its elements, it can provide a way to better account for new types of vulnerability and the potential for conflict that ensues from these components. By merging the theoretical framework with the unique historical background, I will shed light on the inner workings and reasonings behind the response to the Fukushima wastewater issue in the specific context of current Northeast Asia.

Chapter Three – Fukushima Incident

3.1. Historical Background

The history between Japan and its regional neighbors is marked by a long past of feuds and war, dating back centuries. Before that, for over two thousand years, the countries of China, Japan, and Korea were mostly at peace and accepting of each individual institution with lots of trade, cultural exchange and values in common (Buddhism, Confucianism, Chinese characters and medicine were spread all across the region). This is not to say that there was never conflict before the last centuries, but records show that for about two millennia, lots of cultural assimilation took place, through peace mostly and war (recalling the Mongol's conquest of Korea and China, and subsequent failed attempts at conquering Japan) until the last nineteenth century. Then likely due to Western imperialism opening up trade with Asia and signing trade treaties, the situation changed drastically. China tried to fend off the imperialists by giving concessions, but it eventually backfired during the Opium Wars where Chinese military inferiority showed and which resulted in the collapse of the Qing Dynasty. Japan on the other hand, took advantage of this new market and followed the Western steps to industrialization, fought and won against China in 1895 during the Sino-Japanese conflicts and took control over Korea, while also defeating Russia soon after and gaining control over Manchuria. In the following years, Japan incorporated Korea as a colony of the Japanese empire and separated Manchuria from China by establishing a government there. Another second war with China was fought and only ended when Japan had to surrender unconditionally due to the two bombings of Hiroshima and Nagasaki which ended its empire and bellicose activity. During the

expansionist years, Japan enacted brutal policies in colonial Korea, with sexual exploitation of women to serve the Japanese army and killing or punishments of those who were rebelling against Japan, among many other wrongs that still haunt the country nowadays. In China and especially Manchuria Japan had a similar attitude, but the most regretful memory in Chinese minds is the Nanjing massacre where Japanese commanders massacred anyone they encountered entering the capital of China, hoping to terrorize the nation into surrender. When the conflict was over and after Korean independence, new tensions still arose due to reparation owed by Japan because of its occupation and the atrocities committed, which the two countries could not agree on and still to this day recall as an ongoing dispute. Issues regarding apologies for its colonization, reparations, persecutions, territorial claims on Dokdo / Takeshima, return of Korean artifacts, revisionism of history books, statements by politicians and Yasukuni shrine, naming of the East Sea / Sea of Japan among many others like trade wars and boycotts, still stain the relations between the two neighbors and seem not to find resolution even pushed by the United States to create a trilateral agreement.

A similar situation is found in China, who also holds grudge against Japan for its wartime invasion and Japan being closer to the United States hence supporting Taiwan in the issue with China and more recently, with the East China Sea dispute that saw claiming quarrels over the islands of Senkaku / Diaoyu. More frictions are also due to the heavy American military presence in Japan and their security co-operation, issues of war reparations and history revisionism. Similarly to Korea, due to historical grudges many of these issues become sensitized and worsen the already negative threat perception that these countries have of each other, and the latest Fukushima wastewater debate is one more on the list of debates in Northeast Asia worsened by historical sentiment. Not helping the unstable situation of relations between these three countries is the great political gap between Communist China and more Capitalist and democratic Japan and Korea, and the issue of North Korea still firing missiles over Japanese water renders the whole region at high vulnerability for conflict escalation and one where efforts for cooperation and peace need to be studied.

3.2. Chronology of the incident

On the afternoon of March 11th 2011, a massive earthquake of the magnitude of 9.1 of the Richter scale (whose measurements stop over 9.0⁵³) strikes just about 70km off the coast of Japan, causing a massive tsunami that hits straight at the Fukushima Daiichi Nuclear Power Plant just 40 minutes later, with waves over 15 meters.⁵⁴ This earthquake alone places itself among the five largest earthquakes ever recorded⁵⁵ and the waves it ensued were able to breach the 10-meter sea wall built to protect the nuclear power plant from ocean waves. Following the inundation of the plant, power panels got drowned and even backup generators got taken out, causing loss of power which is fundamental in such a plant: as soon as the power is out, the reactors start overheating as no mechanism is in place for the cooling of the reactive cores. Control rooms also remain without electricity, which leaves the operators unable to monitor the reactors. Out of the six reactors, four were irreparably damaged, as units 1, 2, and 3 started releasing radioactive contamination due to nuclear meltdowns and three hydrogen explosions which further damaged the structure and exposed the cores and fuel rods.⁵⁶ At 7pm prime minister Naoto Kan declares a nuclear emergency and evacuation orders for more than 150.000 people ⁵⁷ and the Tokyo Electric Power Company (TEPCO), which is

 ⁵³ "Richter Magnitude Scale." *Wikipedia*, Wikimedia Foundation, 28 Oct. 2022.
 ⁵⁴ Janos, Adam. "Fukushima Timeline: How an Earthquake Triggered Japan's 2011 Nuclear Disaster." *History.com*, A&E Television Networks, 5 Mar. 2021.

⁵⁵ "Largest Earthquakes Ever Recorded." *Highest Magnitude & Biggest Earthquakes*, SMS Tsunami Warning.

⁵⁶ Janos, Adam. "Fukushima Timeline: How an Earthquake Triggered Japan's 2011 Nuclear Disaster." *History.com*, A&E Television Networks, 5 Mar. 2021.

⁵⁷ "Fukushima Nuclear Accident Update Log." *IAEA*, 11 Apr. 2011.
the company that operates the plant, begins venting steam and seawater directly into the damaged units to cool them down, but this action means that some radioactive material had to be released in the air and water.⁵⁸ Just few days later, radiation near the plant is 1.5 million times stronger than it should be and the results are seen in radioactive products such as milk and water.⁵⁹ Dangerous radioactive elements like iodine-131, caesium-137, strontium-90 and carbon-14, which all have long environmental half-lives (half-life: the amount of time it takes for one-half of the radioactive isotope to decay⁶⁰), were released in the surrounding environment. Environmental half-life calculates the time it takes for the isotopes to disappear from the food chain, where they usually linger in fish and soil sediments, which can be as much as 5000 years for carbon-14.61 The human body can metabolize carbon-14 in about three months, but continuous exposure to it means that the isotope can linger in the body and be integrated in cellular DNA, with the potential to cause a wide array of illnesses.⁶² On April 12^{th,} 2011, the International Atomic Energy Agency (IAEA) gives the Fukushima nuclear disaster a rating of 7 on their International Nuclear and Radiological Event Scale, which sets it next to Chernobyl crisis as the only events with such a score.⁶³

⁵⁸ Janos, Adam. "Fukushima Timeline: How an Earthquake Triggered Japan's 2011 Nuclear Disaster." *History.com*, A&E Television Networks, 5 Mar. 2021

⁵⁹ Ibid.

⁶⁰ "Radiation Studies - CDC: Properties of Radioactive Isotopes." *Centers for Disease Control and Prevention*, 20 Aug. 2015,

⁶¹ Burnie, Shaun. "The Reality of the Fukushima Radioactive Water

Crisis." *Greenpeace*, Greenpeace Germany, Oct. 2020.

⁶² Ibid.

⁶³ "International Nuclear and Radiological Event Scale (INES)." *IAEA – International Atomic Energy Agency*, IAEA, 31 May 2019.



Figure 3. INES Rating Description - IAEA

Since then, many measures have been taken to try and curb the spread of radiation, like pouring concrete on the ocean floor near the plant to isolate contaminated sediments; building an ice wall to contain contaminated water from seeping into the ground and preventing rainwater from spreading radiations in the terrain nearby; installing a shielding wall to reduce the amount of radioactive waste reaching the sea.⁶⁴ Screening for nearby residents for thyroid cancer has been rolled by the Fukushima Prefecture and showed an increased risk of any type of cancer to be around 1%. Surprisingly enough, no instant death due to radiation burn was ensued to the nuclear incident itself, as even the workers exposed to the radioactive materials were still not exposed to life-threatening levels.⁶⁵ However, one single confirmed death from radiation exposure occurred four years after the incident and dozens of non-fatal injuries were diagnosed among the plant workers and responders, including cancer and leukemia.⁶⁶ The evacuation and the measures taken were able to curb the casualties from radiation exposure, but the greatest

⁶⁴ "Fukushima Daiichi: Timeline of Events." *Atomic Archive*, 2019.

⁶⁵ "Fukushima Daiichi Accident." *World Nuclear Association*, May 2022.

⁶⁶ "Ibid.

tragedies occurred due to the tsunami waves, which killed more than fifteen thousand people and displaced more than 450.000.⁶⁷ to put it into perspective, the Chernobyl disaster killed 60 people with either immediate blast trauma, acute radiation syndrome, or cancer and the instances of ailments although uncertain are certainly great. ⁶⁸ Although ten times less radiation was released during the Fukushima accident than the infamous Chernobyl one, this major release of radiation to the ocean and air had huge impacts on the environment not only of Japan, as particles spread in the region and affected animals, products, and people. Airborne isotopes reached as far as Europe and North America, and the ocean currents worried neighboring China and South Korea of seafood radiation and other dangers.⁶⁹

To these worries, both local and regional, Japan set restrictions on any sort of agricultural product and meat coming from the region of Fukushima, after products with extremely high concentration of cesium were found in the markets.⁷⁰ However, local communities and consumers were apprehensive, and that worry was also shared by neighboring South Korea and China, who are importers of products from Japan, mainly fish which after the disaster appear to be the most affected animal source and showing levels thousands of times higher than the safety standards.⁷¹ The response from South Korea was to indefinitely ban the import of fish

⁶⁷ "Tohoku Earthquake and Tsunami." *National Geographic Society*, National Geographic Society, 27 Sept. 2022.

⁶⁸ "Radiation: The Chernobyl Accident." *World Health Organization*, World Health Organization, 18 Mar. 2016.

⁶⁹ Hong, G H, et al. "Radioactive Impact in South Korea from the Damaged Nuclear Reactors in Fukushima: Evidence of Long and Short Range Transport." *Journal of Radiological Protection* 32.4, 2012. pp. 406
⁷⁰ Tabuchi, Hiroko. "Radiation-Tainted Beef Spreads through Japan's Markets." *The New York Times*, The New York Times, 19 July 2011.
⁷¹ Conley, Michaela, and Enjoli Francis. "High Radiation in Japanese Fish Raises Concerns." *ABC News*, ABC News Network, 5 Apr. 2011.

originating in the Fukushima region and nearby prefectures, concerned over the environmental impact of the radioactive leaks and skeptical of the data provided by TEPCO regarding radiation levels, which the South Korean ministries promised to keep checking themselves for radiation levels.⁷² South Korea had imported 5000 tonnes of fish the previous year from the area, and the export ban was supported by the WHO⁷³ and China followed along by banning seafood, dairy and vegetables imports despite reassurances from Japan.⁷⁴



Figure 4. Volume of seafood imported from Japan into South Korea (The Guardian, 2013)

Even though both China and South Korea enacted import bans on many Japanese products, ties with Japan did not fundamentally deteriorate, even during the WTO ruling to reverse the ban, which the WTO rejected in favor of South

⁷² Conley, Michaela, and Enjoli Francis. "High Radiation in Japanese Fish Raises Concerns." *ABC News*, ABC News Network, 5 Apr. 2011.

⁷³ Kim, Tong-hyung, and Mari Yamaguchi. "WTO Upholds South Korean Ban on Fukushima Seafood." *AP NEWS*, Associated Press, 12 Apr. 2019.

⁷⁴ McCurry, Justin. "South Korea Bans Fish Imports from Japan's Fukushima Region." *The Guardian*, Guardian News and Media, 6 Sept. 2013.

Korea.⁷⁵ Although skeptical of some of the radiation measurements, it seemed like the world trusted Japan with the handling of the Fukushima accident and the measures taken to limit the spread of its radiation.

However, there is one specific measure taken by Japan and relevant core for this thesis, which is the most controversial measure to handle the nuclear waste, that is the storing of the water that had been used for cooling down the reactors. When the accident happened, TEPCO had to start pouring water into the smoldering site of the reactors to keep it from melting, and this process has been going on for more than 10 years as the nuclear fission generates such amount of heat that the area is still as of now at the time of writing this thesis, being watered to keep cool. But pumping water for 10 years means that a huge amount of it builds up, and new water constantly needs to be pumped in the plant: highly radioactive water pools in the buildings and slowly seeps into the groundwater, to which TEPCO has found the temporary solution to store it by containing it in huge tanks. This water is too radioactive and can't be reused, and in 10 years these tanks have increased to fill up most of the plant site, which is now a storage area for more than one million tons of wastewater contained in more than a thousand tanks.⁷⁶

⁷⁵ Kim, Tong-hyung, and Mari Yamaguchi. "WTO Upholds South Korean Ban on Fukushima Seafood." *AP NEWS*, Associated Press, 12 Apr. 2019.

⁷⁶ Kingdon, Amorina. "Fukushima's Radioactive Wastewater Dilemma." *Hakai Magazine*, Hakai Magazine - Coastal Science and Society, 26 Nov. 2020.



Figure 5. Contaminated water tanks piled up at the Fukushima Daiichi Nuclear Power Plant (yonhap)

Space on site to store water is expected to run out by 2023⁷⁷, as water keeps being pumped and rainwater and groundwater seep into the plant through the molten basement making up for 140 tonnes accumulating each day.⁷⁸ Although the tanks keep the toxic water from spreading into the surroundings, this was thought of as just a temporary solution and was eventually scheduled to be purified and released into the ocean.

To this purpose, in 2011 right after the accident, the American company Purolite approached TEPCO to provide their technology for water purification from radionuclides, which proved to be successful in decontaminating the wastewater; however, the contract was breached and responsibility for the water system were awarded to a Japanese company, Hitachi, which did not have any

⁷⁷ The Asashi Shimbun. "Fukushima Plant to Add Tanks for Radioactive Water Storage:" *The Asahi Shimbun*, 28 May 2021.

⁷⁸ McCurry, Justin. "Fukushima: Japan Announces It Will Dump Contaminated Water into Sea." *The Guardian*, Guardian News and Media, 13 Apr. 2021.

experience in radioactive water purification.⁷⁹ A lawsuit followed, with Purolite claiming that Hitachi had used their technology and highlighting how this could have negative effects on the performance of their so-called "Advanced Liquid Processing System" (ALPS) which was originally set to remove radionuclides to achieve safe levels as delineated by the regulations on nuclear waste discharge, but under Hitachi was unable to be developed successfully.⁸⁰ Nobody in the world had a technology that could provide purification to the specified levels, and the results of this were shown in 2018, when it surfaced that Hitachi's ALPS system was found to be faulty and because of such failure, more than 70% of the stored water would need to go under re-processing. This system was apparently faulty since 2013, but only in 2018 did TEPCO publicly admit so, adding to the doubts and mistrust from the communities involved.⁸¹ Beside the immediate concerns for the environment following the incident however, not much talk was dedicated to the issue as it seemed to be almost resolved, with the byproducts of radiation containment being safely stored in these tanks. Only environmental groups seemed to be actively concerned over these tanks, as rumors circulated that Japan could release the content much sooner than later, knowing about the failure to properly purify the wastewater to safe levels.

Greenpeace in 2020 released a report uncovering some of the incoherence's around the water tanks and the treatment of the disposal water, highlighting how any possible plan related to the release of said water would be unthinkable and

 ⁷⁹ Burnie, Shaun. "The Reality of the Fukushima Radioactive Water Crisis." *Greenpeace*, Greenpeace Germany, Oct. 2020. pp. 11
 ⁸⁰ Ibid.

⁸¹ Ibid.. pp. 10

under no circumstance viable for the environment.⁸² In the report, it is of particular interest the argument that TEPCO, who was the company running the plant, is also the agency in charge of the radioactive wastewater disposal, which would seem to leave room for conflict of interest when it comes to choosing expensive but environmentally friendly solutions versus cheaper but riskier options. The most contested and feared solution, dumping the wastewater slowly over the course of years, is in fact the quickest, cheaper and easiest solution for TEPCO and the Japanese government, as they would reduce the costs of storing water and would not need to expand storage area to keep the accumulating number of tanks, on top of being able to proceed with the decommissioning of the plant and leave that chapter behind. The scientific body of experts at Greenpeace and the communities of local people, fishermen and neighboring countries all oppose this move, as the effects of prolonged release of these dangerous substances (although within safe levels as promised by Japan and IAEA), is still yet unknown. Any release plan would mean that radioactive materials enter the ocean over a long period of time and can build up and be integrated into all living matters in high concentration for many generations to come. Greenpeace argues that their reports show that carbon-14 is present in many of the stored tanks, which is a highly hazardous material current technology is still not able to remove from water, so it would go through the ALPS system and contaminate the oceans, even though the Japanese government is sustaining its stance that the water that may be released would not be contaminated.⁸³ Greenpeace again outs its mistrust of TEPCO and the Japanese

⁸² Burnie, Shaun. "The Reality of the Fukushima Radioactive Water Crisis." *Greenpeace*, Greenpeace Germany, Oct. 2020. pp. 5

⁸³ Burnie, Shaun. "The Reality of the Fukushima Radioactive Water Crisis." *Greenpeace*, Greenpeace Germany, Oct. 2020. pp. 6

government in the handling of this situation and mainly of their misleading comments about the water's safety, having highlighted 1- the controversies and shortcomings behind their water purification systems, including dishonesty in the content of the water, and 2- the misleading comments about water's safety. Already in 2020, some scientists outside of Greenpeace as well were worried about the fact that if Japan were to go along with the release plan, that would be a point of non-return for the environment as long-term effects of some of the elements present have not been studied for long, and due to currents and migrating animals, it would be impossible to contain the risk to Japan but it would become a regional if not an international issue. And on top of that, deliberately allowing a wastewater release could potentially open the stage for other countries to release radioactive waste as part of their operations.⁸⁴

The environmental concerns and the strong resistance from scientific communities highlight the role I exposed in my theoretical framework of science in environmental security issues: differently from other type of traditional security issues or even the new non-traditional security issues, environmental ones have to rely on respected scientists and institutions to offer their knowledge and build a scientific agenda, from which a political one may follow. As up until 2021 the issue was mostly dormant, this scientific agenda wasn't strong or vocal enough to bring the attention to the general audience, which mostly forgot about the Fukushima radiation issues until 2021, when things took a different turn politically.

⁸⁴ Normile, Dennis. "Japan Plans to Release Fukushima's Wastewater into the Ocean." *Science*, Science.org, 13 Apr. 2021.

3.3. Japan's Policy after the Incident

In April 2021, prime minister Yoshihide Suga announced during a meeting of ministers and then at the 66th IAEA General Conference that the Japanese government had decided to start releasing the collected and treated wastewater into the Pacific Ocean, arguing it was the best and most realistic option to allow Fukushima's plant recovery, and citing the fact that it is not possible to keep storing the water indefinitely, as by doing so does not allow the plant to be decommissioned.⁸⁵ The Japanese government has reached out to the IAEA to assure that the release project runs smoothly and safely, to which the IAEA, a major entity for nuclear security issues, has agreed to the plan and has accepted to oversee the process for purification and disposal.⁸⁶ To this news, communities of fishermen in Japan and South Korea, nearby governments and environmentalist groups and local communities reacted really negatively and started calling for more controls and a possible stop of the plan altogether, beginning a series of actions to bring the issue to the public sphere and give it more audience and reach for support.⁸⁷ The news of the wastewater release plan caused a strong reaction from opposers of the plan who cited the lack of multilateral consensus preceding this big decision and the potential impact, both to the environment, people's health and economic price, since many businesses will be negatively affected: fishing businesses and agriculture mainly, as concerned buyers will try to avoid buying

⁸⁵ McCurry, Justin. "Fukushima: Japan Announces It Will Dump Contaminated Water into Sea." *The Guardian*, Guardian News and Media, 13 Apr. 2021.
⁸⁶ Krikorian, Shant, and Vasiliki Tafili. "IAEA and Japan Atomic Energy Agency to Work Together in Decommissioning, Radioactive Waste Management, and Nuclear Security." *IAEA*, 29 Nov. 2021.
⁸⁷ Palatino, Mong, and Nevin Thompson. "Despite Widespread Opposition, Japan Plans to Dump Water from Fukushima Plant into the Pacific Ocean." *Global Voices*, 30 Dec, 2021.

products from this part of Northeast Asia. No matter how reassuring the IAEA reports seem, communities have already suffered from the tragedy and the subsequent economic loss and do not seem to take this issue too lightly, but are caught in between dissonating reports and wildly different accounts of the discharge plan in the scientific community.

The environmental concerns and the strong resistance from scientific communities such as Greenpeace, clearly headbutted with the other side of the scientific community which includes the IAEA: if one side is screaming emergency and is trying to bring attention to the dangers of releasing this radioactive water which could have irreversible effects on the environment, wildlife and human health for generations and generations, on the other side is the most respected entity for nuclear safety assuring that the levels of isotopes is completely within safety limits and constantly monitored to ensure of its harmlessness. The scientific agenda of this environmental issue is in itself split into two, divided between strong opposition and strong support without any real middle ground, as there is currently no available technology to deal with the wastewater in any different way: it can either be stored for the next decades, or be released, as nothing has still been developed capable of cleaning carbon-14 and tritium. And both sides have good arguments in sustain of their view: on one side, it is understandable to see how immense of an impact the release of radioactive isotopes can have on the ocean and all its products, eventually reaching human consumption, and how taking irreversible choices should be the very last option to consider; and on the other side, it is also understandable how storing millions of gallons of radioactive water over the next decades is highly costly and ineffective, as risks from uncontrolled spills increase, and space to safely store this water is quickly running out (as of now,

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after ten years of piling up the water in the tanks is enough to fill one thousand Olympic pools⁸⁸; it is problematic to envision a future where the Fukushima region gets filled with millions and millions of tanks of radioactive water. But my thesis is not focusing on the solutions to the debate, rather the analysis of the origin of the debate itself and its features as a unique example of environmental security issue which has the peculiarity of being a transnational issue between inimical countries. So I will not take a stand for or against any view, one for the aforementioned reasons as being out of the scope of this thesis, and secondly due to my lack of any scientific knowledge to be able to make educated reasonings on these matters of biology and health safety. But the purpose of this paragraph is to point out how from a divided scientific agenda, an even more divided political agenda ensues. As I reported in my theoretical framework section, environmental issues have the peculiarity of having the concurrence of both scientific and political agendas, one influencing the other and playing together into the perception of the security threat and the way it is dealt with. Quoting again from earlier paragraphs, "This combination of agenda gives space to high degrees of controversy, which is often found in environmental security issues". This is exactly the case for the Fukushima wastewater debate, as I will show in later paragraphs the scientific and the political agendas will both have high relevance for this case and interplay into the issue and contribute to the controversies that have characterized this matter.

In the next chapter I will proceed then by analyzing the formation of the debate and its securitization in South Korea and the neighboring countries mainly China, considering whether and where the securitizing moves started and if they were

⁸⁸ Elliott, Josh K. "Japan to Dump Wastewater from Fukushima Nuclear Disaster in the Ocean - National." *Global News*, Global News, 13 Apr. 2021.

preceded by any politicization attempts. I will analyze each instance under public and private reactions to the debate and look for patterns of securitization as delineated in the theory by the Copenhagen School.

Chapter Four – Case Study

4.1 South Korean Response

To the news of the imminent release of the radioactive water, media outlets in South Korea responded immediately with distress and skepticism over the project, and unambiguous concerns due to the geographical proximity of the release site to South Korean waters and fishing areas. The news came almost as a surprise and it caused a lot of traction among Koreans, upset by the unilateral decision made by Japan without consulting its neighbors, on this issue that is not just a matter of Japanese domestic politics but has a regional impact. Fisheries groups in South Korea started being very vocal about their disapproval, followed by activists and students who in the following days enacted a series of protests and manifestations to call for government action and even boycott of Japanese products. Many local governors of regions of South Korea closest to Japan and reliant on fishing for their economy were also especially vocal in calling for Japan to halt its plan and for the government to act urgently.⁸⁹ In the days after the official statement by president Suga of Japan, 25 fisheries groups held a demonstration in front of the Japanese embassy to call for the stop of the dumping plan, arguing it would have immense consequences on the domestic Korean fish market as well, since people would start avoiding fish products due to concerns of contamination from the nearby Japanese water. They were strongly calling the South Korean government for urgent action by declaring that if nothing is done to stop Japan, they will move to demonstrate in

⁸⁹ Smith, Frank. "Protests Grow in South Korea over Japan's Fukushima Water Plan." *Fukushima News*, Al Jazeera, 3 May 2021.

front of the Korean government and demand it takes more action and if not successful, even for a ban on all imports from Japan.⁹⁰ Some marts took a stand and stopped selling products of Japanese origin, invoking national pride and recalling images of Japanese colonial wrongs to Korea (see figure 7 below).



Figure 6. South Korean environmental activists protest outside the Japanese embassy at the decision (AFP via Getty Images)

Figure 7. 하나로마트 수산코너 '일본산 제품판매하지 않습니다' (뉴시스) 2021

Protests against Japan seem to draw on historical grievances and link Japanese colonial rule to their current politics whenever there is disagreement between the two countries. Recalling the constructivist approach to threat perception, "security policy [draws] upon the power of culture, ideas, and identity. [...] Enduring and widely shared beliefs, traditions, attitudes and symbols [...] historical experience (such as national humiliation or glory), values, beliefs, national identity, and

⁹⁰ South Korea Aims to Fight Japan's Plan to Release Water from Fukushima Nuclear Plant at Tribunal." CNA, YouTube, 14 Apr. 2021.

strategic culture (historically rooted strategic preferences) are important components of cultural factors that affect security perception and practice^{"91} (Wu, 275). In this specific case, the boycott protests were quick to tie the wastewater dispute to wider grievances from the colonial period, crossing out the flag of the red rising sun of colonial Japan. This is in accordance with the aforementioned constructivist ideas, as at least partly, we can see how the threat perception of the Japanese wastewater is exacerbated by the negative historical experiences and carry a meaning of national sentiment in it.

In terms of securitization, the first securitizing moves towards Fukushima wastewater and the Japanese government occurred at the civil society level, with associations and civil groups being the ones calling for measures to be taken urgently for the immediate stop to the release plan, and considering action outside of normal politics (boycott and import bans) to protect South Korean territory, economics, and safety. Extraordinary steps were demanded building on a linkage with other unresolved issues with Japan, the many which sour the relations between the two countries and have been worsening in recent years (Yasukuni shrine, revisionist history texts, trade war, Dokdo comments, issues over comfort women and colonial period reparations and more), and a general mistrust in Japanese actions and commitment grounded on the negative sentiment of distrust built upon years of historical enmity. For many of these groups carrying the manifestations and representing the national sentiment, dumping the treated water represented a potentially existential threat to their livelihood and South Korean

⁹¹ Hu, Weixing. "Seeking Nontraditional Security in'Traditional'Ways: Northeast Asia and Emerging Security Challenge." *Broadening Asia's security discourse and agenda: political, social, and environmental perspectives.* United Nations University Press Tokyo, 2004. pp.275

safety, and promptly demanded the government to take extraordinary action, distrusting Japan and its scientific backing.

Right after the Japanese president announced his plan of releasing the water alongside IAEA collaboration, the IAEA released a statement about their commitment to provide safe guidelines and reliable scientific data as their mission on nuclear handling and their role as primary body for secure decommissioning of nuclear plants.⁹² Their commitment will be a comprehensive safety review of the water to undergo treatment before the release, continuously checking samples of the tanks to be released; during the release process to ensure no incident occurs; and after, by keeping the levels of tritium in the sea under check through independent sampling.⁹³ Japan has also promised to be transparent with its monitoring and to only release water that has below the legal limit levels of radiation, and to keep working with IAEA to provide reliable measurements.⁹⁴

Despite IAEA's report on safe guidelines and its role in overseeing the release process, and the Japanese government and TEPCO's ensuring commitment to internationally agreed safe levels, part of the scientific body backed by Greenpeace were still very skeptical about this plan and the long-term effects of dumping water containing tritium and carbon-14, citing uncontrolled levels of isotopes can buildup in the food chain and have negative impacts on the environment of the Pacific Ocean. While the IAEA and the United States were supportive of Japan's plan of controlled dumping of the water, Greenpeace and

⁹² Krikorian, Shant, and Vasiliki Tafili. "IAEA and Japan Atomic Energy Agency to Work Together in Decommissioning, Radioactive Waste

Management, and Nuclear Security." IAEA, IAEA, 29 Nov. 2021

⁹³ Harvey, Sinead. "IAEA Review of Treated Water Discharge at Fukushima Daiichi to Report Findings in 2023." *IAEA*, IAEA, 27 Sept. 2022.

⁹⁴ Yamaguchi, Mari. "Japan Oks Preparation Step for Fukushima Plant Water Release." AP NEWS, Associated Press, 22 July 2022.

other scientific bodies and experts were very concerned about this project, as the effects of these types of elements are not fully known yet and once the release is underway, there is no coming back from these effects.

The scientific agenda itself in this dispute is fragmented, with the experts of the field divided in their opinion on the safety and viability of this project, one side reassuring of no damage to the environment and its people, and the other side wondering if this is indeed the best course of action, or if other options are available and less risky. More on the analysis of this fracture between scientific agendas will be presented in the analysis section of this chapter.

If the international scientific body of IAEA and the United States' approval of the release project were not able to steer public opinion in South Korea to trust the plan for safe treatment of the wastewater to be released, the civic group themselves weren't completely able in convincing or steering urgent action from the South Korean government towards Japan: at the time of the announcement of the Fukushima plan, president Moon Jae-in was scoring very low in approval ratings domestically and was at the end of his term, but promised to take action to look into legal means to block Japan's discharge, mostly looking at a possible appeal to the International Tribunal for the Law of the Sea⁹⁵ and citing how the signatories to the London Convention of 1972 (followed-up with updated protocols in 2006) whose Japan is a signatory, are sworn to promise to prevent pollution of the marine environment by prohibiting radioactive dumping, which seems to be incongruent to what Japan has proposed in its dumping program.⁹⁶ President Moon

⁹⁵ Oh, Grace. "S. Korea Considering Taking Japan's Fukushima Plan to Int'l Tribunal: Oceans Minister." *Yonhap News*, 1 Aug. 2022.

⁹⁶ Smith, Frank. "Protests Grow in South Korea over Japan's Fukushima Water Plan." *Fukushima News*, Al Jazeera, 3 May 2021.

was willing to come harshly at Japan for this move, but his words underline a commitment to "political" and "legal" tools to solve this issue: during a speech welcoming the new Japanese ambassador to South Korea, he said "there are significant concerns here about the decision as a country that is geographically closest and shares the sea with Japan", and ordered government officials to petition an international court.⁹⁷ These are not features of a securitizing speech, but of a politicizing one: by promising to commit to a legal way to bring Japan to the International Court, president Moon of the liberal Democratic Party of Korea was effectively taking this security issue to a politicized level. It is evident how he meant urgency, but the bad timing meant his term would be over between the announcement from Suga and the beginning of the actual discharge project. Following president Moon was president Yoon, of the conservative People Power Party, who generally hold different stances toward Japan. President Yoon seemed to be more moderate in his dealing with Japan, although since his term has just begun at the time of my writing, I have only few sources and comments available for analysis. Relevant are however his comments about being only concerned about Japan's decision without strong protest or opposition⁹⁸ but prompting Japan to "provide transparent explanation about the issue of dealing with contaminated water for neighboring countries and gain consent", without elaborating further.99 The different urgency in dealing with this security issue may be due to president Yoon's aim at mending diplomatic ties and improving bilateral communication

⁹⁷ Nam, Hyun-woo. *Korea, Japan Lock Horns over Sharing Info on Fukushima Water*. The Korea Times, 24 Apr. 2021.

⁹⁸ 송현수. "일본 후쿠시마 오염수 방류 인가 윤 정부는 항의 않고 우려 표명만." 부 산일보, 24 July 2022.

⁹⁹ "Japan Should Seek Neighbors' Consent before Releasing Fukushima Wastewater-Yoon." *INQUIRER.net*, The Korea Herald, 27 July 2022.

with Tokyo, which he intends to uphold through his proposition of reinforcing maritime radiation monitoring and food safety improvements¹⁰⁰ instead of taking a harsher stance like ex-president Moon had hinted at. He also stressed how the government will convey concerns about marine emissions to Japan "through bilateral communication and consultation channels"¹⁰¹ which hints at a diplomatic dealing with the issue and under much relaxed terms than president Moon's, but still not as actively unforgiving as the public would have hoped. In other words, the securitizing moves coming from civil groups and the larger population, were not successful in persuading the government to securitize the Fukushima wastewater issue yet, due to many different reasons but the most relevant I've individuated in the change in South Korean presidency falling in between the announcement of the discharge and its enactment, which undermines stable commitment but also shifts public's attention to the elections themselves; a move towards closer ties with Japan both economically and politically, and also the fact that the US supports Japan in its decision, leaves little space for the government to act against its major allies.

In this case, although the securitizing moves were not successful in persuading the South Korean government to securitize the wastewater dumping, since the debate is still active and it will probably peak right before the scheduled waste release will begin (Spring 2023), it is possible to see changes in the securitizing discussion. Anti-Japanese backlash will be likely in the instance that the wastewater project kickstarts, and the response will not just be outrage but

¹⁰⁰ Ji, Da-gyum. "Japan Should Seek Neighbors' Consent before Releasing Fukushima Wastewater: Yoon." *The Korea Herald*, 26 July 2022.

¹⁰¹ 송현수. "일본 후쿠시마 오염수 방류 인가 윤 정부는 항의 않고 우려 표명 만." *부산일보*, Busan Ilbo, 24 July 2022.

possibly another round of securitizing moves from the sub-state level. With perceptions of Japan at a historical low for the past years, threat perception will be affected and likely bring more destabilizing forces into play. While at the government level the push is for the maintaining of good ties with Japan and bilateral communication, pointing at politicization efforts, at the civic level the push is for securitization and urgent action to halt the project at any cost, mentioning the livelihoods at stake for those relying on the sea and the market blow that will ensue.



Your impression of the other country (2013-2020)

Figure 8. South Korean attitudes towards Japan have worsened dramatically, annual survey finds (The Genron NPO)

For a better picture of this securitization narrative relative to South Korea, I will employ Mely Caballero-Anthony's approach to examine securitization in Asia specifically, from "An Introduction to Non-Traditional Security Studies : A Transnational Approach" which identifies seven steps to evaluate the securitization process, to which I will add one that I find to be relevant to this case especially. On top of the traditional elements of securitization, which I listed in my theoretical framework as securitizing actor, functional actor, audience, urgent action and referent object, Caballero-Anthony adds issue area, security concept, process, degree of securitization impact on the threat and conditions affecting securitization. I will merge these elements to provide an overview of the securitizing move that is as accurate as possible.

Beginning with the *securitizing* actor(s), I find that Korean civic groups and fishing communities are the most vocal, but at large, the actor is private as in movements, corporations, activists involved in the securitizing speech are not part of the government.

For what concerns the *referent object*, it seems that in South Korea both the people of the civic groups campaigning for action and the government believe that the thing to be protected is South Korean fishing economy and the safety of the Korean people from dangerous radioactive materials. However, I notice how the Korean government, rightly so, is also concerned about maintaining good ties with Japan, but since the government's move is not securitization, I will not include it in the following table.

As for *issue area*, which is to say the nature of the threat, I had some trouble figuring out exactly if the issue at hand being securitized is the environment itself or the economy and wellbeing of Korean people. More on this will be studied in the analysis section, but for now I argue that the main issue area is actually the South Korean fishing market and the safe continuation of economy for the fishing communities, as the fishing ban and radiation monitoring is already in place, the real issue is the fear that buyers will not purchase fish, not necessarily that the fish may be dangerous. To reach this conclusion I had to look up interviews with the manifesters which all seemed to stress the economic damage more than the environmental damage. "When Fukushima contaminated water is discharged, people will avoid seafood and fishermen will lose their jobs" said a 72-year-old fisherman in one of the manifestations when interviewed by Al Jazeera; and again "our industry is on course to suffer annihilating damage, just with people's concerns about a possible radioactive contamination of marine products" told a coalition of South Korean fisheries communities in a letter to the Japanese embassy¹⁰². These statements seem to support the argument that the main referent object for the securitizing actors themselves is the fishing market in the first place, followed by health concerns and then lastly environmental.

Functional actors, which are the actors with the power to affect decisions in the field, are probably both the government but only minimally, as both the IAEA and the US have given their support to Japan, I can see how the South Korean government has only a little window to act without putting at stake its major allies and economic partners. Other functional actors would be radioactivity checking institutes and also in small part nuclear plants in South Korea, which also release tritium as a standard practice but are not willing to release their data yet to compare it with the Fukushima plan. If they decided to do so, this may have an impact on either public opinion or the Japanese guidelines.

The *audience* of this securitization move is first, the Korean government, and after that it's the Japanese government. The manifesters are trying to push the

¹⁰² Smith, Frank. "Protests Grow in South Korea over Japan's Fukushima Water Plan." *Fukushima News*, Al Jazeera, 3 May 2021.

Korean government to take action, and shall that fail, they will take their actions to the Japanese embassy and boycott Japanese products to show their disapproval to Japan.

The *security concept* invoked in this debate is what responds to the question "whose security?" and in this case it will be the security of Korean citizens and mostly, the security of Korean consumers and fishermen. It doesn't seem to have much of environmental concerns when framed by the securitizing actor of civic groups, although the environmentalist groups certainly focus on bio marine safety more than its economic effects on the market.

When talking about *urgent action*, the manifesting groups were calling for immediate halt of the project and threatening to boycott products of Japanese origin. The urgent action originated from the little timeframe between the announcement of the release plan and the scheduled enactment of said plan, which at the time was about two years.

By 'process', the author means the use of speech acts to declare that a specific issue is an existential threat. Here she highlights the difference between a speech act that creates the threat and a threat that creates the speech act: for this case, I am convinced that the threat is indeed there, whether for the maritime life of the South Korean economy and health. So it will be the threat of wastewater contaminating local products and hurting the economy, and the speech act it employed were the manifestations in front of the Japanese embassy and the petitions called for by the active population, including the decisions to stop selling Japanese products taken by some big marts and local shops. This category also includes considerations as to whether there are visible cases of 'grafting', or attempts at defining new threats by linking them with a prior recognized threat.

While I see how there may be reasons to think that it could be the case, as ties to Japan as a colonizer and historical enmity certainly do play a role, I also believe that the issue itself stands its ground in the securitization discourse without necessarily having to draw from Japanese colonialism grudges. However, I will say that the focus of the speech act in the boycott episodes, showing the old colonial flag of Japan, may be inadequate for the debate at hand, though maybe necessary to persuade the audience and more of the general population about the urgency of the threat, recalling the wrongs done in the past by Japan and the sentiment of rejection of its policies.

For the *degree of securitization*, I analyze to what extent securitization has taken place. As of now, nothing more than protests and some dispersed boycotts has taken place, held back by the change in government and the support of the US towards Japan. Legislation has taken place in the form of a promise for heightened screening of dangerous materials in fish and imported products ¹⁰³, and the extension of the ban on fish import from the Fukushima prefecture which has been in place since 2013.¹⁰⁴ Under this category of analysis also falls a consideration on elements that may resist securitization, which in this case can be a government willing to work things with Japan diplomatically, and pressure from the United States to accept and trust the provisions set by the IAEA. Important to consider in this bracket is the timeframe within which the success or failure of the act of securitization is to be measured, which for the case studied happens to be by Spring 2023 when the water release project would start. She also suggests considering

¹⁰³ "South Korea to Increase Radiation Testing of Japanese Food." *Reuters*, 21 Aug. 2019.

¹⁰⁴ Oh, Grace. "(Lead) S. Korea Not to Lift Fukushima Seafood Import Ban for CPTPP Entry Push: Oceans Minister." *Yonhap News Agency*, 25 May 2022.

what success and failure may look like, and an overall sense of success would be measured in Korea's effort in either halting the project, or finding a way to allow it to continue while at the same time reassuring the Korean consumers about the safety of domestic fish products. Failure would probably lie in Japan going forward with the program and domestic fisheries either suffering huge losses or going on strikes to protest, but also another trade war with Japan should be considered in my view a loss.

Impact on the threat refers to the impact of securitization on the handling of the problem, which in this case did not yield major changes as of yet. The issue made headlines as soon as it was announced, but got then overtaken by other issues and is not currently not being talked about much any longer, with boycotts possibly over as well. However, I predict a heightening of the threat perception and securitization dialectic right before the project will begin this coming Spring. The possible impact that the securitizing act may have on the problem, is that of increased pressure on Korea-Japan relations and maybe even Korea-U.S. relations as well, and considering how the other major player involved in this issue is China, it may draw Korea and China closer together, much to the U.S.'s disappointment.

Lastly, for the *conditions affecting securitization*, I already mentioned the historical grievances between South Korea and Japan which affect the threat perception and urgency of the issue, but also the U.S.'s support for Japan and the IAEA's project, which may hinder South Korea in opposing it as it would inevitably put in question its commitment to the United States' security alliance. But also, as South Korea is a signatory of the IAEA, which it entrusted the handling of North Korea's Yongbyon plant dismantling, opposing its plan or doubting its report may affect the relations South-North Korea as North Korea will

have reasons to criticize its own plan of nuclear supervision by IAEA. But other factors may also be as mentioned earlier, the new president's commitment to improving ties with Japan, which can't really happen if the issue is securitized and Japan is made to stop its plan.

Securitization table for South Korea:

Securitizing actor(s)	South Korean civic groups: fishing communities, environmentalists
	etc.
Referent object	Protection of the fishing market ; South Korean consumers' safety
Issue area	Economics; health ; environment
Functional actor(s)	Domestic nuclear plants
Audience	Korean government ; Japanese government
Security concept	South Korean consumers ; South Korean fishermen
Urgent action	Immediate halt of the wastewater release program
Process	Manifestations, boycotts, protests
Degree of securitization	Legislative
Outcomes	Success: halting of the project ; reassurance to Korean people of
	safety
	Failure: process goes on ; tense relation with Japan and market loss
Timeframe	Before Spring 2023
Impact on the threat	Strain on Korea-Japan relations and closer ties with China
Impact on the threat Conditions affecting	Strain on Korea-Japan relations and closer ties with China Historical grievances ; U.S.'s support for IAEA and Japan's plan ;
Impact on the threat Conditions affecting securitization	Strain on Korea-Japan relations and closer ties with ChinaHistorical grievances ; U.S.'s support for IAEA and Japan's plan ;IAEA signatory ; new presidency's commitment to improve ties with

4.2. Regional Response

Regionally, the news of the release of the wastewater made headlines as concerned nations in Northeast Asia were all taken aback by the sudden announcement and were dubious of the safety of this project. Russia, China, Taiwan and even North Korea all voiced their disapproval and uneasiness over the Japanese plan. They all agreed that Japan should have informed them about the plan for the treated water discharge before getting the approval from the IAEA, and all show a relevant disquiet over the perceived lack of information and data sharing about the specificities of the release plan, deeming the current documentation provided 'insufficient' as it lacks an assessment of the environmental risks for the Pacific region which these countries share.¹⁰⁵ This is an understandable worry, as considering the geographical proximity of these countries to Japan, I would expect them to be worried about the possible effects on their own ecosystems and economy. However, the fact that the United States, which sits at the opposite end of the Pacific Ocean, gave its approval to Japan's release project, sparked almost as much dissent as the news of the release itself: some Chinese reporters complained about how the West, usually the most vocal and critical towards environmental risks, seemed too quiet in this issue and they were certain that had it been China doing the radioactive wastewater release, they would have reacted much different and they definitely would have opposed it.¹⁰⁶

In China, which is the country that has been most vocal about its dissent

¹⁰⁵ Guenot, Marianne. "Russia Joins China and South Korea in Expressing 'Serious Concern' at Japan's Plan to Release Waste Water from the Fukushima Nuclear Disaster." *Business Insider*, 14 Apr. 202.

¹⁰⁶ Yang, Danxu. "Fukushima Wastewater: Why China Is Protesting While the US Gives the Nod." *ThinkChina*, 15 Apr. 2021.

after South Korea, disapproval came first from officials and then trickled down to the population: "China expresses its strong dissatisfaction and firm opposition" the Ministry of Foreign Affairs said in a statement, and again "A Japanese official said it's okay if you drink this water, then please drink it" Chinese Foreign Ministry spokesman Zhao Lijian said at a news briefing.¹⁰⁷ The Chinese reaction was very firm and stern, possibly aggravated by the bad relations between Japan and China, rooted in Japanese comments on the Xinjiang issue, Hong Kong and Taiwan sovereignty, on top of the joint statement released by Japan and the U.S. in March regarding the "Strengthening of the Free and Open International Order" which was aimed in many points at China.¹⁰⁸ The general sentiment behind the American endorsement of the Japanese release plan seems to be that the U.S. is trying to rally its allies against China, and supporting Japan would mean an exchange of political benefits between the United States and Japan at the expense of China.¹⁰⁹ But also, one Chinese reporter highlighted how the endorsement by the U.S. of the Fukushima wastewater plan is one of the many issues to be hijacked by geopolitics, in a row of disputes in which China is at the target of fire (5G technology, Covid pandemic origin, vaccine approval, Xinjiang cotton etc.). In the case of China we cannot really talk about securitization, but there is certainly a strong push for politicization which may or may not evolve into securitization. The securitizing actor in this case is the Chinese government, with the Chinese people following

¹⁰⁷ Taylor, Adam. "China to Japanese Official: If Treated Radioactive Water from Fukushima Is Safe, 'Please Drink It'." *The Washington Post*, 14 Apr. 2021.

¹⁰⁸ "Japan-U.s. Joint Leaders' Statement: Strengthening the Free and Open International Order ." *The White House*, The United States Government, 23 May 2022.

¹⁰⁹ Yang, Danxu. "Fukushima Wastewater: Why China Is Protesting While the US Gives the Nod." *ThinkChina*, 15 Apr. 2021.

along with the comments made by the CCP's spokespersons.



Figure 9. Lijian Zhao, spokesperson for the ministry of foreign affairs of People's Republic of China, on twitter

The Chinese response seems to be more critical of the plan by Japan of dumping right away without finding a different solution to the problem, like many in Beijing have suggested redirecting the water in the sewage system or using it for building underground structures or for washing.¹¹⁰ No comments were released on a possible plan of action by China should the waste plan succeed other than that there would be 'repercussion' if Japan moved unilaterally¹¹¹; nor was it actively calling for extraordinary action, but it did prompt the Ministry of Environment to

¹¹⁰ Stapczynski, Stephen. "China Dares Japanese Officials to Drink Fukushima Wastewater." *Bloomberg.com*, 16 Apr. 2021.

¹¹¹ Chen, Frank. *Fukushima Water Release Making Waves in China*. Asia Times, 12 Oct. 2021.

strengthen monitoring of the radiation levels.¹¹² Being the media in China under scrutiny and censorship, I deemed the Chinese case inadequate for thorough analysis like the South Korean case, in which lots of public interviews, official statements and civic action were reported: in the Chinese case, most of the comments came from public figures and the small number of statements, though strong in their content, don't seem to point at any securitization move, maybe not even a politicization either, as the comments were just showing disapproval without hinting at a possible response from China nor how China should revisit its security policy to include the Fukushima wastewater dispute. Some experts in China even reassured that the currents from the Fukushima site would likely not reach Chinese shores so easily, and produced a model to show that other regions in Asia would likely be the most affected, suggesting more nations come together under the UNCLOS (United Nations Convention on the Law of the Sea) and collectively sue Japan and demand compensation if radioactive pollutants were to be found in the food chain¹¹³.



A computer-generated map that illustrates the possible flow of pollutants from Fukushima into the Pacific once more water is discharged. Photo: Handout

Figure 10. Possible flow of pollutants from Fukushima into the Pacific (Asia Times)

¹¹² "Fukushima Nuclear Wastewater 'Fundamentally Different' from Normal Plants: Chinese Ministry." *Global Times*, 18 Apr. 2021.

¹¹³ Chen, Frank. *Fukushima Water Release Making Waves in China*. Asia Times, 12 Oct. 2021.

Different from the response elicited in China, in Taiwan the DPP (Democratic Progressive Party) did not take a strong stance against Japan's plan, to which some in the country protested saying that Taiwan was bowing to Washington and Tokyo to try and not displease them for political reasons.¹¹⁴ At the beginning of February 2022 the ban on food products from the Fukushima prefecture was lifted in the nation, allowing for anything except mushrooms and animal meat products to enter the Taiwanese marts after passing radiation inspection.¹¹⁵ Reasons behind the ban lift were explained as a facilitator for Taiwan's application to join the CPTPP (Comprehensive and Progressive Agreement for Trans-Pacific Partnership) for which Japan plays a big role after the United States withdrew in 2017. Taiwan's Atomic Energy Council (AEC) released a statement expressing regret over Japan's decision and calling Japan to conduct studies of the radiation levels of seawater and its marine life in the Pacific Ocean waters near Taiwan, to then release the data, as it seem that Taiwan will be one of the most affected regions if the dumping plan goes on.¹¹⁶

North Korea also joined China, Taiwan and South Korea in condemning Japan for its plan of dumping water without prior hearing with its regional neighbors. The official Korean Central News Agency (KCNA) released an official statement where they called the Japanese project "a threat to human existence" and an "unpardonable criminal decision" which "comes to be another clear instance

¹¹⁴ Xu, Keyue. "DPP's Loose Response to Fukushima Nuclear Dump Faces Huge Backlash in Taiwan for Bowing to Washington and Tokyo." *Global Times*, 16 Apr. 2021.

¹¹⁵ *Taiwan Lifts Import Ban on Japan Food Linked to Fukushima Disaster.* Nikkei Asia, 21 Feb. 2022.

¹¹⁶ Ishida, Koichiro. "Taiwan Now Scoffs at Aso over 'Drinkable' Water from Fukushima: The Asahi Shimbun: Breaking News, Japan News and Analysis." *The Asahi Shimbun*, 22 Apr. 2021.

showing Japan's shamelessness and gangster-like nature"¹¹⁷.

Domestically, the perception of the Fukushima wastewater issue seems to be less treacherous, as the general Japanese population seems to be less worried about the potential health risk than people from nearby countries. Following an online survey conducted by Japan Times, only 14.7% of the Japanese interviewees said they would refrain from buying food items produced in the Fukushima prefecture, versus a figure of 77.7% in South Korea.¹¹⁸ High percentages of people that would rather avoid produce and fish from the Fukushima region were also recorded in other countries outside of Asia, solidifying the local agricultural and fishing sectors' worries about an incumbent worsening of Fukushima's reputation damaging their already suffering businesses.¹¹⁹ Protests were held in Tokyo to show opposition to the release plan, mostly citing the lack of data shared and clear explanation and study of the effects on the domestic environment, as well as mentioning how there should certainly be alternatives.¹²⁰ According to a report by Ibaraki Shimbun, more than 44% of the voters in the homonymous prefecture were opposing the discharge plan, more than the 35% who showed support¹²¹, showing a high degree of polarization on the matter. Many of the complaints were pointing at a lack on the part of the government, in thoroughly fostering public awareness and understanding of the release plan and its safety standards, in order to avoid rumors

¹¹⁷Ul Khaliq , Riyaz. "Japan's Nuclear Waste Plan 'Unpardonable': North Korea." Anadolu Agency, AA News Broadcasting System (HAS), 16 Apr. 2021.

¹¹⁸ "Release of Fukushima Water to Have Limited Impact on Consumer Habits, Poll Shows." *The Japan Times*, 27 Apr. 2022.

¹¹⁹ Sato, Yuhei. "Releasing Radioactive Water Would Further Damage Fukushima's Reputation." *The Japan Times*, 9 Mar. 2020.

¹²⁰ "Japan's Nuclear Regulator Approves Treated Fukushima Water Release Plan." *The Japan Times*, 23 July 2022.

¹²¹ "Businesses Worry about Reputational Damage from Fukushima Water Discharge." *The Japan Times*, 26 Sept. 2022.

and sensationalism from hurting the already suffering economy. They stressed that unless clear and reassuring information is spread, the sole scientific promises of "safety" are not enough to guarantee a sense of security in consumers.¹²² Especially when it comes to international reputation, local communities feel like it's imperative that the government work to reassure of the Japanese food safety, as many of the people working in the region are still affected by bad notoriety: "even in Japan, some people think that Fukushima food is bad for health" said the executive director of the Japan Fisheries Association, adding that the water release should not be operated as long as the reputational damage is still ongoing.¹²³ The same executive remarked how proceeding with the plan will just extend the time before import restrictions are lifted internationally on the Fukushima region, which currently has been banned off imports from more than 150 countries, and how the release plan will affect not only the fishing and agricultural economy but also tourism.¹²⁴ These bans however, are not as easy to convince to lift, as many countries still are concerned about food safety and feel like Japan is not providing enough data, with Japan responding that import restrictions run counter to TPP rules, and urging countries to lift them as they lack scientific backing to prove that the restrictions are needed.¹²⁵ Some experts also point out how a very small percentage of the population knows what tritium is, and that many other nuclear plants in the world release it as standard operation, which Fukushima will do in

¹²² "Businesses Worry about Reputational Damage from Fukushima Water Discharge." *The Japan Times*, 26 Sept. 2022.

¹²³ "Fisheries Executive Concerned about Water Release from Fukushima Plant." *The Japan Times*, 10 Mar. 2022.

¹²⁴ Ibid.

¹²⁵ "Japan to Press China and South Korea to Lift Food Import Ban." *The Japan Times*, 22 Feb. 2022.

dosages much inferior to international standards.¹²⁶ The Fukushima region has suffered immensely both economically, reputationally and in terms of health: market figures show how the fisheries industry, one of the largest, has been hit the most in the aftermath of the nuclear incident. And despite regular monitoring both from Japanese authorities and foreign safety bodies, with data showing that radioactivity in seafood has mostly stabilized to safe levels, the economy itself has not gotten back to its original status (see figures 9 and 10 below) and it is understandable how a big part of the local population would be concerned about adding more negative reputation to the already struggling market.



Figure 11. Fukushima Prefecture Fishing Industry (nippon.com)

Figure 12. Inspections for radioactive material in seafood products (nippon.com)

Despite these voiced concerns, the Japanese government insists on carrying on with their original plan of starting the water release next year, by releasing the treated water with radionuclides removed other than tritium, after

¹²⁶ "Release of Fukushima Water to Have Limited Impact on Consumer Habits, Poll Shows." *The Japan Times*, 27 Apr. 2022.

diluting it with seawater to reach the internationally safe levels for release. But again, the opposition underlines how tritium is not the only dangerous material present in the water, and considering the great variability in content between water tanks, a full assessment of all the tanks is needed, while for now only a few have been tested.¹²⁷ Any release plan without an accurate knowledge of the content of each tank is too rushed and irresponsible, they argue, and even diluting highly concentrated tritium would increase the time and expenses allocated, while it has been reported that the budget for the dealing of the wastewater has instead been reduced by 13%, which is not encouraging nor reassuring at all.¹²⁸ And even the reassurances that TEPCO would build pipelines to discharge the water 1km from the coast to protect coastal fishing don't seem enough to comfort concerned locals and international buyers. In Japan, all in all, even though the public opinion mostly opposes the plan, it seems to be mostly because of environmental and reputational reasons only in the region affected, while outside of it, it seems like it's mostly economic reasons.

Again, since no strong move for securitization is visible in Japan from the civic group, I will move on to the analysis where I will try to understand the difference in standpoints in South Korea versus the other regional neighbors which although equally as affected, did not seem to be as vocal and committed as South Korea.

¹²⁷ Buesseler, Ken, et al. "More Data Needed before Ocean Release of Fukushima Water." *The Japan Times*, 26 Aug. 2022.

¹²⁸ Lee, Jung-Youn. *Budget to Deal with Fukushima Radioactive Wastewater Reduced*. The Korea Herald, 6 Sept. 2022.
4.3. Analysis

As seen in the case study, some features such as history and politics reveal a great deal about the nature of the Fukushima dispute. The securitization moves were wildly different from country to country, with South Korea being the most committed and actually pushing for securitizing moves, China being vocally threatening in official comments by members of the CCP while fairly inactive at the civic level, to then North Korea which joined in sharing its dissent against "criminal" Japan, to finally Taiwan, which had the mildest reaction among all the Northeast Asian countries while also being geographically one of the closest and most likely to receive contaminated water from the discharge plan. Remarkably enough, though, each country made its own official statement, which certainly says a lot about the relevance of this case for the region, so much so that even a secluded and unconstrained country like North Korea, felt the need to express its view and disapproval of TEPCO's wastewater project.

Starting with a final discussion on South Korea's securitization effort, I argue that this is notably the best example to understand the implementation of the constructivist theory and also the most elaborate in terms of threat perception, identity, history and the construction of security. Being the only country which in my analysis has enacted a securitization move, it is the one I will spend the most words for. As shown in my table on page 54, the securitization narrative is that Fukushima wastewater threatens the prosperity of South Korean fishing economy and by extension, the safety of South Korean consumers. I will say, that since an import ban has been enacted in South Korea to prevent fish from the Fukushima region from entering the Korean market, the real threat comes from Korean people not buying Korean fish under the suspicions of contamination from Japan, which

it's different and relevant in its own way. Moreover, the fact that only seafood from Fukushima prefecture has an import ban in South Korea, other products potentially as dangerous as fish are, and have been, sold in the South Korean market: meat, produce and other products still legally enter the market without much uproar, which is different from China for example, which banned a whole series of products including vegetables and meat¹²⁹ which from a neutral standpoint makes more sense in terms of risk management. But the most interesting feature of the South Korean case of securitization came from the fact that the securitizing and politicizing efforts coexist together: while the civic groups are pushing for harsher, extraordinary measures to stop Japan's plan at all costs, the governing elite is pushing on the other side for maintaining good relations with Japan and only politicize the issue to the extent that South Korean safety and Japanese amicability are balanced. Amicability does not mean here being on good terms necessarily, but not on conflictual bad terms. The context of the Fukushima securitization in South Korea starts possibly with the Japanese occupation of Korea, and the deep resentment that still lingers in people's sensitivities. In part, the widespread anti-Japanese feeling means that provocation in any issue can easily spill over into other areas and worsen any dispute at hand. However, the renewed trilateral promise of cooperation and a government willing to work to improve Korea-Japan ties, explain the competing politicization narrative from the government unwilling to put at stake its ties with Japan, with the securitizing one at the civic level, of people who still hold a grudge against Japan and feel that historical issues are not solved. The government has many reasons to push for politicization against securitization

¹²⁹ "Japan to Press China and South Korea to Lift Food Import Ban." *The Japan Times*, 22 Feb. 2022.

at this specific moment in time, where sour relations with Japan would mean a weaker partnership with the other regional power under the U.S. umbrella. And if the fragmented political agenda was not unique enough, this case adds a second layer of fragmentation, that in the scientific agenda between those who support the authority of the IAEA and the U.S.'s comments, and those who believe Greenpeace and independent experts. More on this will be discussed in chapter four, but for now I would like to point out how in environmental security, threats can be divided into threats from the environment and threat to the environment: in the South Korean case, it seems like securitization has been developed around the fear of a danger *from* the environmental pollution of the Pacific Ocean, rather than concerns over the marine wildlife and the ocean biosphere, which would be threats to the environment. This ties back to the comments that interviewed protesters left, as being concerned for the Korean economy and people avoiding buying Korean fish first, before a concern for the safety of the oceans and its life. The reasons are maybe also to be found in the way the rhetoric was constructed around the Japanese wastewater release plan, together with an intertwining of historical and political reasons (here I assume many people's sensitivities increase when the actor involved is Japan, but not to mean that it would not be an issue if the actor was not Japan, just that maybe it would have been met with less hostility, like in the case of Taiwan and the West). But again, when many geopolitical forces are at play, it's hard to pinpoint which one is the stronger one, so I'm just limiting myself at listing a series of possible reasons other than the obvious, behind the strong push for securitization in South Korea which were not present in other Northeast Asian countries. Other than proving to be a unique case where bottom-up securitization competes with a top-down politicization narrative, the South Korean case for the Fukushima dispute also sheds light on another unique feature of constructivism and more specifically on the notion of threat perception. As Wu pointed out in his study on threat perception construction, this sense of threat is what affects policy at the state level, which is noticeable in the different stance that South Korea took vis-àvis the release announcement, versus how for example Taiwan took it. This is in line with what the constructivist theory says about the role of identity and history in affecting threat perception and subsequently, security policies and state attitudes toward each other. As for China, although it exhibited a strong response from government officials and ministries, including undefined intimidations, securitization was not really present, possibly because of China's known power and confidence in its deterring strength and the absence of a strong push from the civic society (from which I could not find much involvement: blame either the language barrier or the censorship in the country). From the Japanese standpoint, there was never really a need for securitization, as the audience and the securitizing actor would probably be intertwined, and most Japanese people seem to understand the need for plant decommissioning and trust their government to a certain extent. It's no more than worries for the impact on the Fukushima market if media and the relevant entities fail to reassure the public of the safety of the project, rather than an urgent need to steer the government away from their plan.

To better identify visually the different approaches and responses to this issue taken by Japan and its neighbors, what follows is a table where the elements to evaluate securitization are listed, and under each country report a O if said step is present, and X if it was not part of the process.

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	South Korea	China	Taiwan	Japan
Securitizing actor(s)	0	0	X	*
Referent object	0	X	X	0
Issue area	0	X	X	X
Functional actor(s)	0	X	X	0
Audience	0	X	X	_*
Security concept	0	0	X	0
Urgent action	0	0	X	X
Process	0	X	X	X*
Degree of securitization	0	X	X	X
Outcomes	0	Х	X	0
Timeframe	0	0	0	0
Impact on the threat	0	X	X	X
Conditions affecting securitization	0	0	0	0

As immediately visible and argued in the previous subchapter, South Korea exhibits every element of the securitization process and thus rightly fits its narrative into that of the securitization model proposed by the constructivists. As each category was previously analyzed thoroughly, I will move on to the next country, China. China seems to have a possible securitizing actor in the government and its officials, who have come off very straightforwardly against the Japanese plan, but lack a specific referent object (is it the environment? The upholding on international agreements? Is it the economy? Or protection against a Japan-U.S. strengthened alliance?) and possibly lack any meaningful audience due to the general weakness of its civil society and the obstacles for civic groups to demonstrate and be vocal. No clear steps for securitization are present either, but only threats and vague promises of repercussions which do not delineate a clear plan of action from China should the Fukushima discharge move forward. China did set a timeframe, which seems to be coherent with the South Korean one as 'before Spring 2023'' when the plan is scheduled to take off. For conditions affecting securitization, I mentioned the worries of a stronger partnership between Japan and the U.S. , the recent bad relations between Japan and the Mainland , and the issues of Xinjiang, Coronavirus and Taiwan which always create fiery debates and fuel existing problematics. Ultimately, since no securitizing moves were set in motion, there is no impact of Chinese provocations on the handling of the problem, which seems to have proceeded unaltered and unaffected by the Chinese response.

Moving on to Taiwan, this strikes as being the country with the least number of securitizing elements – only two in fact : a timeframe, which is common to all involved nations, and conditions affecting securitization which turn out to be Taiwan's wish for closeness to the U.S. and Japan, and its hope to join the CPTPP which push against securitization moves on Japan. Taiwan's reaction has been the mildest, without any real threat signaled, without any use of strong language or referent object and has thus not gained the audience and urgency necessary to be even considered a move at all, let alone a securitizing one. It seems like for Taiwan, this issue was not worth risking their alliances and potential democratic partners, and so it's not been discussed extensively in the country outside of the scientific community.

As for Japan, after South Korea it's the country with the most elements of securitization but falls short of a major, fundamental one that is urgent action: Japanese citizens involved in the fishing industries and most affected by the wastewater issue do not seem to have a deadline for the issue to be tackled, nor a clear speech act that defines the wastewater plan as an existential threat in a way that justifies actions outside of normal politics (aka boycott, insurgence, manifestations etc.). There have been manifestations against the plan, but not strong and comprehensive enough like the South Korean case, to be able to be defined as a securitizing move. Moreover, since the main issue in Japan seems to be tied to reputation more than economics or environment, it is hard to justify securitizing moves based on reputation (difficult to quantify) and on top of that, Japanese buyers and citizens in general seem to be more trusting of their own government than the South Koreans, which further inhibits radical action. Securitizing actor and audience in Japan are quite hard to discern, as they could be intertwined, although there is a clear idea of what success and failure of dealing with the wastewater in a clear way would mean, as people seem to be aware of the risks that each choice causes.

If I have to reduce the reasons for the lack of securitizing moves in China, Taiwan and Japan, I would say that this case proved the importance of a strong civil society for the formation of securitizing discourses, as the lack of one (as is the case in China) leaves no dialogue or debate to be held in a large scale. Secondly, a clear idea of the referent object and distrust of the functional actors also seems to be a shared element in my analysis.

Chapter Five – Concluding Remarks

5.1. Considerations

The case study analyzed in the previous section showed how the theory of threat perception and speech act theory of securitization work in uncovering and explaining the roots and mechanisms of the formation behind the construction of a securitized debate. It elucidated on the workings and narratives behind the specific debates about Fukushima wastewater in the instances of South Korea, China, and in minor detail Taiwan and North Korea. What the case proved, is that there is definitely a transboundary feature to environmental security, as outlined by the theory: the Fukushima wastewater issue is not strictly an issue of Fukushima or Japan, but it affects the whole region of Northeast Asia and by extension of alliances and geopolitical forces and interests, also has international ramifications. As Buzan rightfully states, "Environmental security concerns the maintenance of the local and the planetary biosphere as the essential support system on which all other human enterprises depend".¹³⁰ Here the stress is not just on the local, but after seeing the effects that the Fukushima radiation issue had on the rest of Asia, I can understand the second part of the statement where the subjects are "planetary biosphere" and "all human enterprises". This is especially clear when we consider how local Korean people were concerned about the normal continuation of their fishing economy enterprise not being affected by the wastewater. The Fukushima instance, being transboundary in nature, surpasses country borders and encompasses both scientific, political and economic realms, proving once again

¹³⁰ Buzan, Barry, Jaap de Wilde, Ole Wæver. Security a New Framework for Analysis. Lynne Rienner, 1998. pp 7-8

how multifaced any debate can be. Even more interestingly in my opinion, it shows how it's possible to have two competing and fragmented agendas, the public one pushing for politicization, and the private one for securitization, while the scientific agenda also splits between supporters (IAEA experts) and opposers (Greenpeace) in a high state of controversy. Scientific agendas seem to be primarily concerned with the issues representing a threat to the environment, and involved in finding solutions to reduce the human impact on it; on the other side, political agendas both public and private seem to be more interested in finding ways to prevent threats from the environment from hurting the social systems and human activities. And these two agendas, besides influencing each other, can also support different parties within that agenda and affect the way the debate is framed. This is relevant in understanding more of the nuances behind environmental security studies, which in itself is a new field of security, still stigmatized by the umbrella term "nontraditional security". Ideally, the environmental concerns would trump economic concerns and take the priority, but in the real world that is not the case, as the case proved, most worries were redirected to either the economic, reputational or political field. This case also highlighted the weight that history, identity and geopolitics have on threat perception and security policies, as we've seen how colonial grudges were recalled during the protests in South Korea in linkage with other bad sentiments against Japan.

One of the other aspects and possibly advantages of securitization theory, besides providing with the tools to better understand the background and formation of a debate, is that it also provides a clear path towards de-escalation of security conflict through a process called *de*-securitization: desecuritization seeks to move issues from the security agenda back into the political / diplomatic realm and in this

case it can provide a way to avoid a souring of the already strained Japan-Korean relations and foster better economic cooperation with the regional powers. If securitizing Fukushima does not bring any benefit (as things seem, local Japanese enterprises and civic groups are not specifically worried about the South Korean reaction, but more generally about their reputation internationally, so whether South Korea securitizes Fukushima dispute or not, it likely would not improve Korea's position in any measurable way) then desecuritizing it may be a wiser choice, as it would prevent regional strifes between China, Japan and South Korea and also set a precedent for cooperation and dialogue rather than conflict. In this, each of these countries has a responsibility to maintain talks and keep into consideration the other parties' interests. On this note, I recall an article by the Nautilus institute, which affirmed how "environmental problems cause conflict ; environmental cooperation causes peace"¹³¹ which seems to be a good starting point to consider possible moves forward for a better handling of debates like this one.

Proposing steps and solutions for this issue may prove not as easy, and maybe even outside the scope of this thesis, but I would like to point out some of the points to pay attention to, as they are still difficult to tackle with politics. First, although a transnational issue, the release project does take place in Japanese waters, and with the support of IAEA, the released wastewater would fall under the internationally agreed levels, to which South Korean, Chinese and many other countries' plants abide by without external scrutiny. Secondly, I realize how

¹³¹ "Energy, Environment and Security in Northeast Asia: Defining a U.S.-Japan Partnership for Regional Comprehensive Security." *The Nautilus Institute*, The Nautilus Institute and Center for Global Communications, Dec. 1994. pp.4

straining this cost may be for Japan, which although partly at fault for the plant meltdown, this was caused by a one-of-a-kind natural disaster, which could have affected any country and would have made as much chaos just anywhere else. Demanding more time for storing the water used to prevent further spills and demanding more technological studies to treat said water on Japanese soil would seem a bit pretentious to me, without a body to provide funds to do so. So this one is one of the few recommendations I may have: institute a body to provide Japan with funds to properly deal with the wastewater treatment and storage, as it would encourage it to find different measures to deal with it and would give more authority to South Korea and China making the demands on Japanese land. One more consideration, is that since most of the securitizing efforts come from the private and civic groups, efforts should be made to advance public diplomacy to reassure people of Japanese intentions and IAEA trustability, while cooling down many of the adverse reactions from having Japan specifically at the center of the issue (for example, instruct on the levels of tritium released in Fukushima versus the levels internationally, and better inform the public to prevent misinformed protests based on sentiment rather than science). While I don't have many other propositions, I can see what a best case and worst-case scenario could look like: in the best outcome, regional actors involved can provide support to encourage Japan to consider dealing with the wastewater in a different and more sustainable manner, while making efforts to establish cooperation in the environmental sector which can be a good precedent for future debates as well, considering how environmental issues will become more and more prevalent it's important to have an institution that can deal with it at a regional level. In this case, countries would improve their diplomatic ties and strengthen regional cooperation. In the worst-case scenario

however, Japan goes along with its plan unilaterally which causes South Korea, China, and possibly North Korea to react negatively and leads to a strain in relations and a worsening of regional security and cooperation which can lead to all sorts of negative outcomes in this region where security is in a delicate balance. Environmental security after all requires multi/bilateral efforts to be tackled successfully, and in this case provided, it can warn of unique situations where historical and geopolitical reasons work against cooperative efforts at the civic or governmental level. Finally, I restate how de-escalation and cooperation can offer the safest and most stable outcomes in the long term, as keeping the issue in the security agenda can only have counterproductive effects.

5.2. Conclusion

This case has provided an interesting example of a transboundary environmental issue where bottom-up securitization coexisted with top-down politicization in South Korea, and an instance of a multi-faceted security issue that allowed to reflect on the roles of science, history, identity, geopolitics and economics in the making of threat perception and security policy. It also elucidated on the effects of a fragmented scientific agenda, and the consequences of a divided political agenda structured around citizen-led protests and government response. In the Fukushima case in South Korea, the securitizing actor was civil society and the significant audience was (ultimately) the government, which is unusual for a securitization case as it's usually the other way around, but proved to be an interesting aspect to study. Looking at how South Korea responded to the issue, allowed to understand why no other neighboring country in the region was able or willing to enact this securitization move, whether it be from a lack of civil society, or political considerations that trump the worries of contaminated water. As this is a tough case to solve, with diverging agendas, strong influences from history, the fact that it's a new type of security threat with not much precedent to look at, it highlights the importance of tackling environmental issues in a new, comprehensive way, as soon they won't be 'new, non-traditional' any longer and before they will escalate to conflict. And as stated in my introduction and proved through this thesis, Northeast Asia does provide the greatest potential to enhance cooperation in the region, and being such a unique mix of regional powers, middle powers and historical enemies, it gives ground for all sorts of studies centered around the construction of disputes, of which the region is rich of.

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Bibliography

Books

- "Security Issues in 2020: A Global Overview." SIPRI Yearbook 2021: Armaments, Disarmament and International Security, Oxford University Press, New York, 2022.
- Buzan, Barry, Jaap de Wilde, Ole Wæver. Security a New Framework for Analysis. Lynne Rienner, 1998.
- Caballero-Anthony, Mely, and Emmers Ralf. "Understanding the Dynamics of Securitizing Non-Traditional Security." *Non-Traditional Security in Asia: Dilemmas in Securitization*, Ashgate, Aldershot, 2006, pp. 13–24.
- Caballero-Anthony, Mely, ed. An introduction to non-traditional security studies: a transnational approach. Sage, 2015.

Collins, Alan. Contemporary Security Studies. Oxford University Press, 2013.

- Walt, Stephen M. "The Renaissance of Security Studies." *International Studies Quarterly*, vol. 35, no. 2, June 1991, pp. 211–239., https://doi.org/10.2307/2600471.
- Waltz, Kenneth Neal. Theory of International Politics. Waveland Press, 2010.
- Wendt, Alexander. Social Theory of International Politics. Cambridge University Press, 2014.

Articles

- "Businesses Worry about Reputational Damage from Fukushima Water Discharge." *The Japan Times*, 26 Sept. 2022, https://www.japantimes.co.jp/news/2022/09/26/national/ibarakifukushima-water/.
- "Energy, Environment and Security in Northeast Asia: Defining a U.S.-Japan Partnership for Regional Comprehensive Security." *The Nautilus Institute*, The Nautilus Institute and Center for Global Communications, Dec. 1994, http://nautilus.org/wp-content/uploads/2011/12/ESENAfinalreport.pdf.
- "Fisheries Executive Concerned about Water Release from Fukushima Plant." *The Japan Times*, 10 Mar. 2022, https://www.japantimes.co.jp/news/2022/03/10/national/fukushima-water-fisheries-executive/.

- "Fukushima Nuclear Wastewater 'Fundamentally Different' from Normal Plants: Chinese Ministry." *Global Times*, 18 Apr. 2021, https://www.globaltimes.cn/page/202104/1221363.shtml.
- "Japan Should Seek Neighbors' Consent before Releasing Fukushima Wastewater– Yoon." *INQUIRER.net*, The Korea Herald/Asia News Network, 27 July 2022, https://newsinfo.inquirer.net/1634974/japan-should-seek-neighborsconsent-before-releasing-fukushima-wastewater-yoon.
- "Japan to Press China and South Korea to Lift Food Import Ban." *The Japan Times*, 22 Feb. 2022, https://www.japantimes.co.jp/news/2022/02/22/national/fukushima-food-ban-lifting/.
- "Japan's Nuclear Regulator Approves Treated Fukushima Water Release Plan." *The Japan Times*, 23 July 2022, https://www.japantimes.co.jp/news/2022/07/23/national/tepcoradioactive-water-release-ok/.
- "Release of Fukushima Water to Have Limited Impact on Consumer Habits, Poll Shows." *The Japan Times*, 27 Apr. 2022, https://www.japantimes.co.jp/news/2022/04/27/national/fukushima-waterconsumer-impact-limited/.
- "South Korea Aims to Fight Japan's Plan to Release Water from Fukushima Nuclear Plant at Tribunal." *CNA*, YouTube, 14 Apr. 2021, https://www.youtube.com/watch?v=Zsa7RqNo-n4. Accessed 11 Nov. 2022.
- "South Korea to Increase Radiation Testing of Japanese Food." *Reuters*, 21 Aug. 2019, https://www.reuters.com/article/cnews-us-southkorea-japan-food-radiation-idCAKCN1VB094-OCATP.
- Akaha, Tsuneo. Non-traditional security cooperation in Northeast Asia. Broadening Asia's security discourse and agenda: political, social, and environmental perspectives. United Nations University Press Tokyo, 2004.
- Brauch, Hans Günter, and Jon Barnett. "Environmental Security in the Asia-Pacific Region: Contrasting Problems, Places, and Prospects." *Facing Global Environmental Change: Environmental, Human, Energy, Food, Health and Water Security Concepts ; with 135 Tables*, Springer, Berlin, 2009, pp. 939–950.
- Brauch, Hans Günter, and Miranda A. Schreurs. "Environmental Security in Northeast Asia." Facing Global Environmental Change: Environmental, Human, Energy, Food, Health and Water Security Concepts ; with 135 Tables, Springer, Berlin, 2009, pp. 829–841.

- Buesseler, Ken, et al. "More Data Needed before Ocean Release of Fukushima Water." *The Japan Times*, 26 Aug. 2022, https://www.japantimes.co.jp/opinion/2022/08/26/commentary/japancommentary/radioactive-water-release/.
- Chen, Frank. *Fukushima Water Release Making Waves in China*. Asia Times, 12 Oct. 2021, https://asiatimes.com/2021/04/fukushima-water-releasemaking-waves-in-china/.
- Conley, Michaela, and Enjoli Francis. "High Radiation in Japanese Fish Raises Concerns." *ABC News*, ABC News Network, 5 Apr. 2011, https://abcnews.go.com/Health/radiation-japans-fish-raise-concernsworld/story?id=13302515.
- Conley, Michaela, and Enjoli Francis. "High Radiation in Japanese Fish Raises Concerns." *ABC News*, ABC News Network, 5 Apr. 2011
- Danxu, Yang. "Fukushima Wastewater: Why China Is Protesting While the US Gives the Nod." *ThinkChina*, 15 Apr. 2021, https://www.thinkchina.sg/fukushima-wastewater-why-china-protestingwhile-us-gives-nod.
- De Wilde, Jaap H. "Environmental Security Deconstructed." *Hexagon Series on Human and Environmental Security and Peace*, 2008, pp. 595–602., https://doi.org/10.1007/978-3-540-75977-5_45.
- Elliott, Josh K. "Japan to Dump Wastewater from Fukushima Nuclear Disaster in the Ocean National." *Global News*, Global News, 13 Apr. 2021, https://globalnews.ca/news/7754677/fukushima-disaster-water-nuclear-plant-japan-dump/.
- Guenot, Marianne. "Russia Joins China and South Korea in Expressing 'Serious Concern' at Japan's Plan to Release Waste Water from the Fukushima Nuclear Disaster." *Business Insider*, 14 Apr. 2021, https://www.businessinsider.com/russia-japan-plans-fukushimawastewater-nuclear-south-korea-china-2021-4.
- Haque, M. Shamsul. "How critical is 'environmental security' as a nontraditional security issue in North–east Asia." *Broadening Asia's security discourse* and agenda: political, social, and environmental perspectives. United Nations University Press Tokyo, 2004.
- Harvey, Sinead. "IAEA Review of Treated Water Discharge at Fukushima Daiichi to Report Findings in 2023." *IAEA*, IAEA, 27 Sept. 2022, https://www.iaea.org/newscenter/news/iaea-review-of-treated-waterdischarge-at-fukushima-daiichi-to-report-findings-in-2023.

- Hayes, Peter, and Lyuba Zarsky. "Environmental Issues and Regimes in Northeast Asia: Nautilus Institute for Security and Sustainability." *Nautilus Institute* for Security and Sustainability, International Environmental Affairs, 20 Mar. 2012, https://nautilus.org/staff-publications/environmental-issuesand-regimes-in-northeast-asia/.
- Hong, G H, M A Hernández-Ceballos, R L Lozano, Y I Kim, H M Lee, S H Kim, S-W Yeh, J P Bolívar, and M. Baskaran. "Radioactive Impact in South Korea from the Damaged Nuclear Reactors in Fukushima: Evidence of Long and Short Range Transport." *Journal of Radiological Protection* 32.4 (2012): 397-411.
- Hu, Weixing. "Seeking Nontraditional Security in'Traditional'Ways: Northeast Asia and Emerging Security Challenge." *Broadening Asia's security discourse and agenda: political, social, and environmental perspectives.* United Nations University Press Tokyo, 2004.
- Ishida, Koichiro. "Taiwan Now Scoffs at Aso over 'Drinkable' Water from Fukushima: The Asahi Shimbun: Breaking News, Japan News and Analysis." *The Asahi Shimbun*, 22 Apr. 2021, https://www.asahi.com/ajw/articles/14335411.
- Ji, Da-gyum. "Japan Should Seek Neighbors' Consent before Releasing Fukushima Wastewater: Yoon." *The Korea Herald*, 26 July 2022, https://www.koreaherald.com/view.php?ud=20220726000580.
- Karakır, İrem. "Environmental Foreign Policy as a Soft Power Instrument: Cases of China and India." *Research Gate*, Journal of Contemporary Eastern Asia 17(1):5-26, July 2018, https://www.researchgate.net/publication/326710806_Environmental_For eign_Policy_as_a_Soft_Power_Instrument_Cases_of_China_and_India.
- Kim, Jung-Hun. "'No More Japanese Intentions toward Hegemony." The Dong-A Ilbo, 23 Mar. 2005, https://www.donga.com/en/article/all/20050323/240422/1.
- Kim, Moon Joon. *The effects of transboundary air pollution from China on ambient air quality in South Korea*, Heliyon, Volume 5, Issue 12, 2019.
- Kim, Tong-hyung, and Mari Yamaguchi. "WTO Upholds South Korean Ban on Fukushima Seafood." *AP NEWS*, Associated Press, 12 Apr. 2019, https://apnews.com/article/573aa55b26c14bcca33310ff3635f792.
- Lee, Geun. "Environmental Security in East Asia: The Regional Environmental Security Complex Approach." *Asian Perspective*, vol. 26, no. 2, 2002, pp. 77–99., https://doi.org/10.1353/apr.2002.0024.

- Lee, Jung-Youn. *Budget to Deal with Fukushima Radioactive Wastewater Reduced*. The Korea Herald, 6 Sept. 2022, https://www.koreaherald.com/view.php?ud=20220906000647.
- Levaillant, Mélissa. "Defence Diplomacy and Environmental Security: Cooperation in the Indo-Pacific and Beyond." *ORF*, 26 May 2021, https://www.orfonline.org/expert-speak/defence-diplomacyenvironmental-security-cooperation-indo-pacific-beyond/.
- McCurry, Justin. "Fukushima: Japan Announces It Will Dump Contaminated Water into Sea." *The Guardian*, Guardian News and Media, 13 Apr. 2021, https://www.theguardian.com/environment/2021/apr/13/fukushima-japanto-start-dumping-contaminated-water-pacific-ocean.
- McCurry, Justin. "South Korea Bans Fish Imports from Japan's Fukushima Region." *The Guardian*, Guardian News and Media, 6 Sept. 2013, https://www.theguardian.com/world/2013/sep/06/south-korea-fish-japanfukushima.
- Nam, Hyun-woo. Korea, Japan Lock Horns over Sharing Info on Fukushima Water. The Korea Times, 24 Apr. 2021, https://www.koreatimes.co.kr/www/nation/2022/11/113_307705.html.
- Normile, Dennis. "Japan Plans to Release Fukushima's Wastewater into the Ocean." *Science*, Science.ord, 13 Apr. 2021, https://www.science.org/content/article/japan-plans-release-fukushima-scontaminated-water-ocean.
- Odeyemi, Christo, and Takashi Sekiyama. "A Review of Climate Security Discussions in Japan." *International Journal of Environmental Research and Public Health*, MDPI, 6 July 2022, <u>https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9318022/</u>.
- Oh, Grace. "(Lead) S. Korea Not to Lift Fukushima Seafood Import Ban for CPTPP Entry Push: Oceans Minister." *Yonhap News Agency*, 25 May 2022, https://en.yna.co.kr/view/AEN20220525009251320.
- Oh, Grace. "S. Korea Considering Taking Japan's Fukushima Plan to Int'l Tribunal: Oceans Minister." *Yonhap News*, Yonhap News Agency, 1 Aug. 2022, https://en.yna.co.kr/view/AEN20220801009400320.
- Sato, Yuhei. "Releasing Radioactive Water Would Further Damage Fukushima's Reputation." *The Japan Times*, 9 Mar. 2020, https://www.japantimes.co.jp/news/2020/02/25/national/socialissues/fukushima-radioactive-water-damage/.
- Smith, Frank. "Protests Grow in South Korea over Japan's Fukushima Water Plan." *Fukushima News*, Al Jazeera, 3 May 2021,

https://www.aljazeera.com/news/2021/5/3/protests-grow-in-south-korea-over-japan-fukushima-disposal-plan.

- Stapczynski, Stephen. "China Dares Japanese Officials to Drink Fukushima Wastewater." *Bloomberg.com*, 16 Apr. 2021, https://www.bloomberg.com/news/articles/2021-04-16/china-daresjapanese-officials-to-drink-fukushimawastewater?leadSource=uverify+wall.
- Tabuchi, Hiroko. "Radiation-Tainted Beef Spreads through Japan's Markets." *The New York Times*, The New York Times, 19 July 2011, https://www.nytimes.com/2011/07/19/world/asia/19beef.html?_r=1.
- Taiwan Lifts Import Ban on Japan Food Linked to Fukushima Disaster. Nikkei Asia, 21 Feb. 2022, https://asia.nikkei.com/Economy/Trade/Taiwan-liftsimport-ban-on-Japan-food-linked-to-Fukushima-disaster.
- Taylor, Adam. "China to Japanese Official: If Treated Radioactive Water from Fukushima Is Safe, 'Please Drink It'." *The Washington Post*, 14 Apr. 2021, https://www.washingtonpost.com/world/2021/04/14/china-japanfukushima-water-drink/.
- Thakur, Ramesh, and Edward Newman. *Broadening Asia's Security Discourse and Agenda Political, Social, and Environmental Perspectives*. United Nations University Press, 2004.
- Thierry Balzacq, "The Three Faces of Securitization: Political Agency, Audience and Context." *European Journal of International Relations*, 2005.
- Tow, William T. "Alternative security models: Implications for ASEAN." (2001): 257-279. *Broadening Asia's security discourse and agenda: political, social, and environmental perspectives*. United Nations University Press Tokyo, 2004.
- Trombetta, Maria Julia. "Environmental Security and Climate Change: Analysing the Discourse." *Cambridge Review of International Affairs*, vol. 21, no. 4, Dec. 2008, pp. 585–602., https://doi.org/10.1080/09557570802452920.
- Ul Khaliq, Riyaz. "Japan's Nuclear Waste Plan 'Unpardonable': North Korea." *Anadolu Agency*, AA News Broadcasting System (HAS), 16 Apr. 2021, https://www.aa.com.tr/en/asia-pacific/japans-nuclear-waste-planunpardonable-north-korea/2211103.
- Watson, Iain, and Chandra Lal Pandey. "Environmental Security and New Middle Powers: The Case of South Korea." *Asian Security*, vol. 10, no. 1, 2014, pp. 70–95., <u>https://doi.org/10.1080/14799855.2013.874336</u>.

- Wendt, Alexander. "Anarchy Is What States Make of It: The Social Construction of Power Politics." *International Organization*, vol. 46, no. 2, 1992, pp. 391–425., https://doi.org/10.1017/s0020818300027764.
- Wendt, Alexander. "Constructing International Politics." *International Security*, vol. 20, no. 1, 1995, pp. 71–81. *JSTOR*, https://doi.org/10.2307/2539217.
- Xu, Keyu. "DPP's Loose Response to Fukushima Nuclear Dump Faces Huge Backlash in Taiwan for Bowing to Washington and Tokyo." *Global Times*, 16 Apr. 2021, https://www.globaltimes.cn/page/202104/1221220.shtml.
- Yamaguchi, Mari. "Japan Oks Preparation Step for Fukushima Plant Water Release." *AP NEWS*, Associated Press, 22 July 2022, https://apnews.com/article/japan-tokyo-united-nations-wastewatera7e003d719f8a9c4b01545e95cba75e1.
- 송현수. "일본 후쿠시마 오염수 방류 인가 윤 정부는 항의 않고 우려 표명만." *부산일보*, Busan Ilbo, 24 July 2022, https://www.busan.com/view/busan/view.php?code=20220724000067.

Websites

- "Fact Sheet on DPRK Nuclear Safeguards." *IAEA*, IAEA International Atomic Energy Agency, 25 July 2014, https://www.iaea.org/newscenter/focus/dprk/fact-sheet-on-dprk-nuclearsafeguards.
- "Fukushima Daiichi Accident." *World Nuclear Association*, May 2022, https://world-nuclear.org/information-library/safety-and-security/safetyof-plants/fukushima-daiichi-accident.aspx.
- "Fukushima Daiichi: Timeline of Events." *Atomic Archive*, 2019, https://atomicarchive.com/science/power/fukushima-timeline.html.
- "Fukushima Nuclear Accident Update Log." *IAEA*, IAEA, 11 Apr. 2011, https://www.iaea.org/newscenter/news/fukushima-nuclear-accidentupdate-log-15.
- "Fukushima Nuclear Accident Update Log." *IAEA*, IAEA, 11 Apr. 2011, https://www.iaea.org/newscenter/news/fukushima-nuclear-accidentupdate-log-15.
- "International Nuclear and Radiological Event Scale (INES)." *IAEA International Atomic Energy Agency*, IAEA, 31 May 2019, https://www.iaea.org/resources/databases/international-nuclear-and-radiological-event-scale.

- "Japan-U.s. Joint Leaders' Statement: Strengthening the Free and Open International Order ." *The White House*, The United States Government, 23 May 2022, https://www.whitehouse.gov/briefing-room/statementsreleases/2022/05/23/japan-u-s-joint-leaders-statement-strengthening-thefree-and-open-international-order/.
- "Largest Earthquakes Ever Recorded." *Highest Magnitude & Biggest Earthquakes*, SMS Tsunami Warning , https://www.sms-tsunamiwarning.com/pages/highest-magnitude-earthquake#.Y2kgny8Rq8U.
- "Oil Tanker Spill Statistics 2021." *ITOPF*, 2022, https://www.itopf.org/knowledge-resources/data-statistics/statistics/.
- "Radiation Studies CDC: Properties of Radioactive Isotopes." *Centers for Disease Control and Prevention*, Centers for Disease Control and Prevention, 20 Aug. 2015, https://www.cdc.gov/nceh/radiation/isotopes.html.
- "Radiation: The Chernobyl Accident." *World Health Organization*, World Health Organization, 18 Mar. 2016, https://www.who.int/news-room/questionsand-answers/item/radiation-the-chernobyl-accident.
- "Richter Magnitude Scale." *Wikipedia*, Wikimedia Foundation, 28 Oct. 2022, https://en.wikipedia.org/wiki/Richter_magnitude_scale#Richter_magnitud es.
- "Tohoku Earthquake and Tsunami." *National Geographic Society*, National Geographic Society, 27 Sept. 2022, https://education.nationalgeographic.org/resource/tohoku-earthquake-andtsunami.
- "What Is Environmental Security?" *Yale Insights*, Yale School of Management, 15 Apr. 2012, https://insights.som.yale.edu/insights/what-is-environmentalsecurity.
- Britannica, The Editors of Encyclopaedia. "Fukushima accident". *Encyclopedia Britannica*, 22 Aug. 2022, https://www.britannica.com/event/Fukushimaaccident.
- Burnie, Shaun. "The Reality of the Fukushima Radioactive Water Crisis." *Greenpeace*, Greenpeace Germany, Oct. 2020, https://storage.googleapis.com/planet4-japan-stateless/2020/10/5768c541the-reality-of-the-fukushima-radioactive-water-crisis_en_summary.pdf.
- Burnie, Shaun. "The Reality of the Fukushima Radioactive Water Crisis." *Greenpeace*, Greenpeace Germany, Oct. 2020, https://storage.googleapis.com/planet4-japan-stateless/2020/10/5768c541the-reality-of-the-fukushima-radioactive-water-crisis_en_summary.pdf.

- IAEA, "International Nuclear and Radiological Event Scale (INES)." *IAEA*, IAEA, 31 May 2019, https://www.iaea.org/resources/databases/international-nuclear-and-radiological-event-scale.
- Janos, Adam. "Fukushima Timeline: How an Earthquake Triggered Japan's 2011 Nuclear Disaster." *History.com*, A&E Television Networks, 5 Mar. 2021, https://www.history.com/news/fukushima-nuclear-disaster-japanearthquake-timeline.
- Kingdon, Amorina. "Fukushima's Radioactive Wastewater Dilemma." *Hakai Magazine*, Hakai Magazine - Coastal Science and Society, 26 Nov. 2020, https://hakaimagazine.com/article-short/fukushima-radioactivewastewater-dilemma/.
- Krikorian, Shant, and Vasiliki Tafili. "IAEA and Japan Atomic Energy Agency to Work Together in Decommissioning, Radioactive Waste Management, and Nuclear Security." *IAEA*, IAEA, 29 Nov. 2021, https://www.iaea.org/newscenter/news/iaea-and-japan-atomic-energyagency-to-work-together-in-decommissioning-radioactive-wastemanagement-and-nuclear-security.
- McCurry, Justin. "Fukushima: Japan Announces It Will Dump Contaminated Water into Sea." *The Guardian*, Guardian News and Media, 13 Apr. 2021, https://www.theguardian.com/environment/2021/apr/13/fukushima-japanto-start-dumping-contaminated-water-pacific-ocean.
- Military Advisory Board. "National Security and the Threat of Climate Change." *CNA*, The CNA Corporation, 5 Jan. 2007, https://www.cna.org/reports/2007/national-security-and-the-threat-ofclimate-change.
- Palatino, Mong, and Nevin Thompson. "Despite Widespread Opposition, Japan Plans to Dump Water from Fukushima Plant into the Pacific Ocean." *Global Voices*, 30 Dec. 2021, https://globalvoices.org/2021/12/30/despite-widespread-opposition-japanplans-to-dump-water-from-fukushima-plant-into-the-pacific-ocean/.
- Stangarone, Troy. "10 Issues to Watch for on the Korean Peninsula in 2022." Korea Economic Institute of America, 3 Feb. 2022, https://keia.org/the-peninsula/10-issues-to-watch-for-on-the-koreanpeninsula-in-2022/.
- The Asashi Shimbun. "Fukushima Plant to Add Tanks for Radioactive Water Storage:" *The Asahi Shimbun*, 28 May 2021, https://www.asahi.com/ajw/articles/14360321.

Abstract in Korean

동북아시아의 환경안보 -후쿠시마 폐수 분쟁에 관한 연구-

서울대학교 국제대학원 국제학과 포르나리 일라리아

동북아 지역의 환경 안보에 대한 논의는 지역 대화를 위한 제도화된 공간이 아직 충분하지 않은 반면 강력한 신흥 강대국들의 본거지이기 때문에 많은 국제적 담론의 중심이 될 수밖에 없다. 이는 급속한 발전과 에너지원의 필요성 증가로 인해 전 국토를 위협하는 환경 관련 사고가 발생할 경우 안정 성에 큰 위험이 된다.

본 논문의 목적은 최근 동북아시아 지역에서 발생한 후쿠시마 폐수 사건과 같은 환경적 위협의 가능한 안보적 함의를 이해하고 평가하기 위한 사 례 연구를 제공하는 것이며, 한국을 중심으로 위기를 완화하고 예방하기 위한 조치를 검토하는 것이다.협력을 지역 안정의 연료로 삼으며, 증권화 이론의 렌즈를 통해 논쟁을 분석하려고 시도한다.

첫 번째 장에서는 지역과 관련된 환경 보안에 대한 이해를 위한 이론 적 프레임워크를 제공하고 관련성과 위협 인식이 높은 후쿠시마 폐수의 주요 문제에 어떻게 적용되는지 정의할 것이다. 그런 다음 이해에 사용될 증권화 이론에 접근할 것이다. 이 분쟁의 원인과 한국에서의 관련성 제2장에서는 일 본과 이웃 국가들 사이의 긴장과 후쿠시마 사건 이면의 문제들의 관련성을 더 잘 이해하기 위한 목적으로 국가들 사이의 관계에 대한 간략한 역사적 배경을 설명할 것이다. 그런 다음 세 번째 장에서는 사례 연구의 역사, 결과, 시사점, 그리고 현재의 해결책까지 도출된 반응과 논의를 분석하여 사례 연구를 자세 히 살펴볼 것이다. 제4장과 마지막 장에서는 지역을 괴롭히고 있는 불신과 역 사적 앙금의 불안정한 상태를 완화하고 긴장을 완화하기 위한 갈등 관리의 틀 을 제안할 것이다. 그 안에서 나는 이 분야에서 협력이 필요하며 지역 협력 노 력과 결합된 공공 외교가 사실 이 긴 위기와 낙오의 순환을 해결하기 위한 최 고의 도구가 될 수 있다고 주장할 것이다.

본 논문은 후쿠시마 폐수 분쟁의 역사적 반감과 정치화를 고려한 사 례 연구를 제안하고, 문제의 확대 배경에 보안 행위가 있다고 주장할 것이다.

키워드 : 환경보장, 동북아, 증권화, 분쟁해결, 국가안보

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