Cutting the Gordian Knot: Is an Effective Cooperation Regime for Marine Scientific Research in Northeast Asia Feasible?

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Abstract

This article considers an approach for achieving an effective cooperation regime for marine scientific research (MSR) in Northeast Asia. Specifically, it addresses the causes of MSR-related disputes in undelimited maritime areas and explores its reality in Northeast Asia through case studies. It further examines the legality of unilateral research or survey activities in undelimited maritime areas, considering Articles 74(3) and 83(3) of the United Nations Convention on the Law of the Sea. Based on such discussions, it offers suggestions for realizing a cooperative regime for MSR. This article's primary argument is that it is worth considering a regime-building suggestion in alignment with the original spirit of MSR, despite the challenges it may entail. To that end, it emphasizes that efforts should be made to remove the causes of disputes

* PhD in Law (Seoul National University); Attorney-at-Law (Korean Bar Association). This article is based on the author's presentation, which was delivered on 4 December 2020, at the third session of the fifth International Conference on the Law of the Sea on 3–4 December 2020, in Seoul, Korea, co-hosted by the Korean Society of International Law, the Ministry of Foreign Affairs of the Republic of Korea, and the International Tribunal for the Law of the Sea. The author wishes to express his most sincere gratitude to the organizers of this Conference for striving to make it happen despite the COVID-19 crisis. In addition, the author would like to thank the moderator, Dr. Pemmaraju Sreenivasa Rao, the other speakers, Prof. Sookyeon Huh, and Dr. Nong Hong, the two discussants, Dr. Ki Beom Lee and Chang-Youl Lee, and the anonymous reviewers of the early draft of this article, who provided great inspiration and insights through their intriguing comments, presentations, and questions. For the author's presentation, see INTERNATIONAL CONFERENCE ON THE LAW OF THE SEA, available at <https://www.icls.or.kr:43722/media/video.php>. The article was completed on 19 September 2021. The websites cited were current as of this date.

and recommends a cooperative regime led by international institutions and a joint research regime as a *modus vivendi*.

Keywords

marine scientific research (MSR) – undelimited maritime areas – Northeast Asia – international cooperation – law of the sea

1 Introduction

In January 2021, it was reported that a Korean coast guard vessel and a Japanese survey ship had confronted each other for three days in the waters between Japan and the Republic of Korea (Korea). According to media reports, the Japan Coast Guard's survey ship *Shoyo* had been conducting surveys since January 10 in the waters 126 km southeast of Jeju Island. The Korean Coast Guard demanded an immediate stop and eviction due to the fact that it conducted surveys without the Korean government's prior consent. In response, the Japanese government lodged a complaint with Korea over the incident through a diplomatic channel, as it claims that the surveyed area falls under Japan's exclusive economic zone (EEZ).¹

This incident is one of the latest conflicts surrounding marine scientific research (MSR) in Northeast Asia. Indeed, in the absence of fixed maritime boundaries, such incidents are not new in this region. For instance, Korea and Japan experienced a crisis that was triggered by Japan's East Sea research project in April 2006. A couple of years ago, China's installation of buoys in the Yellow Sea aroused Korea's suspicions that the chief purpose of the project was to monitor naval traffic and submarines. Korea's operation of the Ieodo Ocean Research Station in the East China Sea has also generated tensions between Korea and China since its installation in 2003. Although China and Japan have implemented a mutual prior-notification regime since 2001, it has not solved conflicts related to unilateral research or survey activities in disputed waters, which include the waters adjacent to the Senkaku/Diaoyu Islands.

1 Ministry Says S. Korea's Call for Japanese Ship to Stop Research and Leave its EEZ was Legitimate Law Enforcement, YONHAP NEWS AGENCY, 12 January 2021, available at <https://en.yna.co.kr/view/AEN20210112010000325>; S. Korean, Japanese Coast Guards Face Off in Waters off Jeju for 3 Straight Days, HANKYOREH, 13 January 2021, available at http://english.hani.co.kr/arti/English_edition/e_international/978644.html.

The adoption of the United Nations Convention on the Law of the Sea (UNCLOS)² marked a revolutionary change in the history of the law of the sea. In particular, the incorporation of the EEZ and continental shelf regimes into the law of the sea has greatly expanded the scope of coastal States' maritime jurisdiction. This was an innovative modification of *mare liberum*, which has been around for more than 300 years since Hugo Grotius.³ However, the extension of maritime jurisdictions also increased the overlap between the jurisdictional zones of these coastal States and tasked them with maritime boundary delimitation.⁴ Considering the various factors that make maritime delimitation difficult⁵ and the prevailing circumstances in Northeast Asia, a final agreement on maritime boundaries in Northeast Asian waters is unlikely to be reached easily. In fact, Korea has been steadily attempting to negotiate its maritime delimitation issue with neighboring States after the Convention entered into force. However, these efforts have not produced tangible results. Today, coastal States tend to react sensitively if their neighboring States conduct research or survey⁶ activities in undelimited maritime areas.⁷ The rising

2 Adopted on 10 December 1982 and entered into force on 16 November 1994. 1833 UNTS 3. Entered into force within the Republic of Korea on 28 February 1996. As for the parties to the Convention, see TABLE RECAPITULATING THE STATUS OF THE CONVENTION AND OF THE RELATED AGREEMENTS, available at https://www.un.org/Depts/los/reference_files/UNCLOS%20Status%20table_ENG.pdf.

3 As is well known, his Latin book first published in 1609, *Mare Liberum*, has been widely accepted as a symbol of the freedom of the seas. For the English version based on the Latin text of 1663, see H. Grotius, *The Freedom of the Seas or the Right which Belongs to Dutch to Take Part in the East Indian Trade*, Translated by R. Magoffin (Oxford University Press, New York, 1916).

4 Lagoni stated that "[d]isputes about delimitation are the price coastal states have to pay for the extension of their zones of national jurisdiction." R. Lagoni, *Interim Measures Pending Maritime Delimitation Agreements*, 78(2) American Journal of International Law 345–368 (1984), at 345. See N. Klein, *Provisional Measures and Provisional Arrangements in Maritime Boundary Dispute*, 21(4) International Journal of Marine and Coastal Law 423–460 (2006), at 426.

5 See S. P. Kim, *Maritime Delimitation and Interim Arrangements in North East Asia* (Martinus Nijhoff Publishers, Dordrecht, 2004), at 9–17; C. Schofield, *Parting the Waves: Claims to Maritime Jurisdiction and the Division of Ocean Space*, 1(1) Penn State Journal of Law & International Affairs 40–58 (2012), at 54–56.

6 There is a tendency in practice to use the term "marine scientific research" loosely when referring to all kinds of data collection (research) conducted at sea, such as oceanography, marine biology, fisheries research, scientific ocean drilling and coring, geological/geophysical scientific research. See S. Bateman, *Hydrographic Surveying in the EEZ: Differences and Overlaps with Marine Scientific Research*, 29(2) Marine Policy 163–174 (2005), at 163. Likewise, in this article the term "research or survey" is also used for all kinds of the maritime information-gathering activities, including MSR under UNCLOS.

7 The British Institute of International and Comparative Law described "undelimited maritime areas" as "areas where the continental shelves or EEZs of States overlap or may potentially

tensions surrounding such research or survey activities in undelimited waters may undermine well-intentioned MSR as well as other activities that can be protected under the freedom of the seas.

Considering the advancement of scientific technology and the importance of knowledge on the ocean, it is paramount for States to conduct research or survey activities in a stable manner. Despite its various challenges, States cannot cease collecting information on the ocean. Thus, it is necessary for Northeast Asian countries to devote greater attention to establishing an effective cooperation regime in the region. Against this backdrop, this article addresses the feasibility of setting up an effective cooperative MSR regime in Northeast Asia, and outlines its specific requirements and possible options. In the subsequent sections, this article explores the causes of the MSR-related disputes and the harsh reality of marine information-gathering activities in Northeast Asia through several cases. Then, it examines the legality of unilateral research or survey activities in undelimited waters in light of Articles 74(3) and 83(3) of UNCLOS. Finally, based on the above discussions, the article presents the requirements for the realization of a cooperative MSR regime, the practical options for constructing such a regime, and examines their applicability in Northeast Asia.

2 MSR Disputes in Undelimited Maritime Areas

2.1 *History and Current Legal Regime*

Oxman describes the modern law of the sea as having a history of “territorial temptation.”⁸ This metaphor indicates a dominant tendency to extend maritime jurisdictions of coastal States – known as “creeping jurisdiction.” This inclination also applies to the field of MSR. Before the mid-20th century, MSR was not considered to be among the major fields of maritime activity. Seaward of the territorial sea,⁹ MSR was primarily regarded as an expression of the

overlap, and no final delimitation is in place (whether by agreement or judicial award).” British Institute of International and Comparative Law, *Report on the Obligations of States under Articles 74(3) and 83(3) of UNCLOS in respect of Undelimited Maritime Areas* (2016), para. 4.

8 According to Oxman, starting with the 1945 Truman Proclamation, “[t]he territorial temptation thrust seaward with a speed and geographic scope that would be the envy of the most ambitious conquerors in human history.” B. Oxman, *The Territorial Temptation: A Siren Song at Sea*, 100(4) *American Journal of International Law* 830–851 (2006), at 832.

9 The 1958 Convention on the Territorial Sea and Contiguous Zone did not have specific provisions on MSR, but it has been widely accepted that the consent of the coastal State must be given to the research in the territorial sea because the territorial sea is subject to the

freedom of the high sea in general.¹⁰ However, as the development of scientific technology following World War II resulted in the popularization of MSR,¹¹ coastal States also extended their control on MSR activities. The development of the consent regime for MSR paralleled this tendency.

The first specific provision on MSR appeared in the 1958 Convention on the Continental Shelf.¹² Article 5(8) of the Convention states that “[t]he consent of the coastal State shall be obtained in respect of any research concerning the continental shelf and undertaken there.” After the Third United Nations Conference on the Law of the Sea (UNCLOS III), a similar consent regime was subsequently introduced to the EEZ regime when the 1982 UNCLOS was adopted. Consequently, under the UNCLOS regime, coastal States have the basic right to regulate, authorize, and conduct MSR in their EEZ and on their continental shelf (Art. 246(1)). MSR in the EEZ and on the continental shelf are to be conducted with the consent of the coastal State (Art. 246(2)). In this regard, Section 3 of Part XIII of UNCLOS outlines considerable provisions on conducting MSR in the EEZ and on the continental shelf (Arts. 246–253).¹³

sovereignty of the State. R. Churchill & A. Lowe, *The Law of the Sea*, 3rd Ed. (Manchester University Press, Manchester, 1999), at 401.

10 See M. Nordquist, N. Grandy, S. Rosenne, & A. Yankov (Eds.), *United Nations Convention on the Law of the Sea 1982: A Commentary*, Volume IV (Martinus Nijhoff Publishers, Dordrecht, 1991), at 429.

11 Nordquist, Grandy, Rosenne, & Yankov (Eds.), *supra* note 10, at 430. See also Churchill & Lowe, *supra* note 9, at 401. The 1958 Convention on the High Seas recognized the freedom of the seas without specifically mentioning the freedom of MSR. In the commentary of the draft articles on the law of the sea adopted by the International Law Commission (ILC) in 1956, with respect to draft article 27 on the freedoms of the high seas, the ILC stated that it had “merely specified four of the main freedoms, but it is aware that there are other freedoms, such as freedom to undertake scientific research on the high seas[.]” Nordquist, Grandy, Rosenne, & Yankov (Eds.), *supra* note 10, at 430; *Yearbook of the International Law Commission: Documents of the eighth session including the report of the Commission to the General Assembly*, Volume II (United Nations, New York, 1957), at 278. In the ILC’s commentary on draft article 68 regarding the continental shelf, it emphasized that the freedom to conduct MSR in the waters above a continental shelf was not affected by the coastal State’s consent regime over the continental shelf. *Ibid.*, at 298.

12 Adopted on 29 April 1958 and entered into force on 10 June 1964. 499 UNTS 311. For the full text, see CONVENTION ON THE CONTINENTAL SHELF 1958, available at https://legal.un.org/ilc/texts/instruments/english/conventions/8_1_1958_continental_shelf.pdf.

13 The Convention takes a dualistic approach with regard to consent. As for pure MSR activities, which are carried out “exclusively for peaceful purposes and in order to increase scientific knowledge of the marine environment for the benefit of all mankind,” coastal States shall in normal circumstances grant their consent in accordance with Article 246(3). In other words, coastal States are obligated to grant consent under such circumstances. In contrast, based on their discretion, coastal States may withhold their consent under certain circumstances. The specific instances under which consent can be withheld are

Another point to note is that the UNCLOS does not provide an accurate definition of MSR. During UNCLOS III, delegations widely recognized the basic right to engage in MSR, but they failed to reach an agreement of the concrete definition provision, despite various proposals. For example, in the informal single negotiating text (ISNT) suggested during UNCLOS III, MSR was defined as “any study or related experimental work designed to increase man’s knowledge of the marine environment.”¹⁴ Yet, this definition was deleted in subsequent amendments. Such failure was mainly due to the difficulty of distinguishing between pure MSR and applied MSR in connection with the controversy over the degree of consent and control by coastal States.¹⁵ The 1958 Convention on the Continental Shelf also covered two types of research, namely, fundamental or pure research, and applied or resource-oriented research. This distinction is maintained in paragraphs (3) and (5) of Article 246 of UNCLOS. However, both of the two Conventions contain no precise definition of the two types of research.¹⁶ The lack of the MSR definition in UNCLOS seems to be a result of an inevitable balance between the coastal States’ control on MSR activities and the other States’ wishes to conduct MSR more freely. Nevertheless, it is obvious that a definition is required to determine what may be regulated by the UNCLOS regime. Thus, the lingering question as to the scope of MSR has arisen.¹⁷

listed in each subparagraph of Article 246(5) as follows: (a) where the project is of direct significance for the exploration and exploitation of natural resources; (b) where the project involves drilling into the continental shelf, the use of explosives, or the introduction of harmful substances into the marine environment; (c) where the project involves the construction, operation or use of artificial islands, installations, and structures; and (d) where inaccurate information regarding the nature and objectives of the project are communicated or where the researching State has outstanding obligations to the coastal State from a prior research project.

14 Article 1 of the Part II: Marine Scientific Research, in Informal Single Negotiating Text, Part III (A/CONF.62/WP/8/PARTIII), *Official Records of the Third United Nations Conference on the Law of the Sea*, Volume IV, at 177. See also F. Wegelein, *Marine Scientific Research: The Operation and Status of Research Vessels and Other Platforms in International Law* (Martinus Nijhoff Publishers, Dordrecht, 2005), at 11.

15 Nordquist, Grandy, Rosenne, & Yankov (Eds.), *supra* note 10, at 444.

16 Contrary to the first sentence of Article 5(8) of the 1958 Convention, Article 5(1) forbids the coastal State “any interference with fundamental oceanographic or other scientific research carried out with the intention of open publication.” In addition, the second sentence of Article 5(8) stipulates that “the coastal State shall not normally withhold its consent if the request is submitted [...] with a view to purely scientific research into the physical or biological characteristics of the continental shelf.” See Y. Tanaka, *The International Law of the Sea* (Cambridge University Press, Cambridge, 2012), at 337.

17 For example, in the context of the distinction between pure MSR and applied MSR, the question is whether the increase in knowledge must be the sole purpose or whether

2.2 *What Complicates MSR Disputes*

Despite such limitations, the above definition of MSR provided in the ISNT seems to be generally accepted as the close meaning of MSR that was envisaged by the drafters. This definition implies that it is conducted for a good cause, specifically, to enhance human knowledge regarding the ocean. However, MSR-related disputes in undelimited maritime areas seem to be difficult to handle or solve. What makes such disputes complicated?

2.2.1 Unclear Boundaries of National Jurisdictions

There are no boundaries at sea pending ultimate delimitation; this means that the scope of national jurisdiction remains unclear in such undelimited waters. The maritime claims of certain States overlap, typically in the waters where the distance between States is less than 400 nautical miles (NM). In addition, delimitation disputes are often compounded by sovereignty disputes over insular features. There tends to be a sense of nationalism and a passionate public opinion associated with such sovereignty disputes.¹⁸ Thus, when a disputed island exists in the ocean, it becomes significantly more challenging to resolve MSR disputes in waters adjacent to that island.

Despite the provisions on delimitation in UNCLOS, maritime delimitation is not easily accomplished due to the lack of clear rules associated with it and the inefficiency of the dispute settlement process outlined in Part xv. Articles 74(1) and 83(1) of UNCLOS emphasize the fundamental importance of agreement in the delimitation of maritime boundaries. These articles state that the EEZ and continental shelf delimitation “shall be effected by agreement on the basis of international law.” Thus, States have discretion over the methodology chosen and the outcome arrived at in order to achieve an equitable solution.¹⁹ The drafters provided the basic principle applicable to the process of maritime delimitation in Articles 74(1) and 83(1). However, with regard to the EEZ and the continental shelf, despite the considerable deliberation between the equidistance principle and the equitable principles during UNCLOS III, UNCLOS prioritized neither of the two. These provisions on delimitation in UNCLOS are simply a result of a compromise avoiding any clear reference either to the equidistance principle or the equitable principles. The Convention specifies

economic purposes and applications can be added. For a detailed discussion, see N. Matz-Lück, ‘Article 238: Right to conduct maritime scientific research,’ in A. Proelss (Ed.), *United Nations Convention on the Law of the Sea: A Commentary*. 1605–1614, (C. H. Beck, Hart, Nomos, Munich, 2017), at 1606, 1609. See also section 2.2.2 below.

18 See Kim, *supra* note 5, at 14; See also Schofield, *supra* note 5, at 15.

19 S. Fietta & R. Cleverly, *A Practitioner's Guide to Maritime Boundary Delimitation* (Oxford University Press, Croydon, 2016), at 114.

only the objective of an equitable solution, which reflects the ambiguous and conciliatory stance of UNCLOS on the confrontation between the equidistance principle and the equitable principles.²⁰ In Articles 74(2) and 83(2), the drafters also provide the obligation to settle maritime delimitation disputes in accordance with Part xv. Nevertheless, coastal States can opt out of the compulsory binding procedure based on the declaration under Article 298(1)(a) (i). In this case, while a party having made such a declaration is obliged to accept the submission of the boundary dispute to compulsory conciliation if the other party requests it, the result of this procedure is legally non-binding, as per Article 7(2) of Annex v of UNCLOS.²¹

2.2.2 Vulnerabilities of the Current MSR Regime

Another factor that complicates the disputes arising from unilateral research or surveys is the limitations of international law with respect to the MSR regime, particularly the ambiguous distinction between MSR and other similar marine information-gathering activities. This problem can be divided into two aspects: normative uncertainty and practical difficulties in distinguishing activities. These are unique features demonstrated in research or survey activities, unlike activities related to other rights or jurisdictions with respect to the EEZ or continental shelf.

As mentioned earlier, MSR has not been defined in UNCLOS. Thus, there has been a constant debate over the notion of MSR as well as the distinction between MSR and other activities, such as hydrographic surveys, military surveys, and operational oceanography.²² The consent of coastal States will be required for these undertakings if the MSR regime regulates them. In this regard, nations such as the United States have assumed that consent is not required for these data collecting activities.²³ In general, they regard such activities as still protected by the freedom of the high seas.²⁴

20 See Kim, *supra* note 5, at 9; Fietta & Cleverly, *supra* note 19, at 5.

21 "The report of the commission, including its conclusions or recommendation, shall not be binding upon the parties." Article 7(2) of Annex v.

22 See S. Huh & K. Nishimoto, 'Article 246: Maritime scientific research in the EEZ and on the continental shelf,' in A. Proelss (Ed.), *United Nations Convention on the Law of the Sea: A Commentary*. 1649–1664, (C. H. Beck, Hart, Nomos, Munich, 2017), at 1656–1657; A. Proelss, 'Article 58: Rights and duties of other States in the exclusive economic zone,' in A. Proelss (Ed.), *United Nations Convention on the Law of the Sea: A Commentary*. 444–457, (C. H. Beck, Hart, Nomos, Munich, 2017), at 453–454.

23 See Huh & Nishimoto, *supra* note 22, at 1656–1657.

24 For operational oceanography conducted in the EEZ, there is also the view that it is the case where UNCLOS does not attribute rights or jurisdiction to the coastal State or to other States within the EEZ in accordance with Article 59, namely the so-called "residual

In contrast, nations like China have assumed that consent is required for these activities if they are conducted in their EEZ or on their continental shelf. What makes this argument more convincing is that it is difficult to conclusively distinguish between these activities and MSR.²⁵ Today, regardless of their formal categorization and name (e.g., marine scientific research vessels, hydrographic surveying vessels, oceanographic research vessels, seismic exploration vessels, or fisheries research vessels), many vessels that undertake marine data collection are equipped with technologies and devices capable of conducting MSR. Most hydrographic surveying vessels also have the capability to conduct oceanographic research and may do so routinely as part of their surveys. For example, they may conduct bottom sampling and collect data on currents and tidal streams.²⁶ Given these circumstances, coastal States are concerned about foreign States conducting disguised activities in their waters, and monopolizing or abusing the information acquired.

Additionally, there are challenges arising from the advent of new marine information-gathering tools, such as surface drifting buoys, profiling floats, and underwater gliders. Given the development of scientific technology, the emergence of devices that were not originally envisaged by drafters is inevitable. However, the corresponding norms have not kept up with these technological developments. Thus, there is uncertainty regarding the regulation of activities that utilize such newly invented devices. Although there have been some efforts to bridge the gap between the norms and reality, such as the case of the Argo Program,²⁷ a legal vacuum is unavoidable. Despite these efforts to regulate new devices, unless their operations and the information acquired are transparent, it is inevitable for coastal States to be concerned about disguised activities, particularly those for military purposes.

rights." A. Proelss, 'Article 59: Basic of the resolution of conflicts regarding the attribution of rights and jurisdiction in the exclusive economic zone,' in A. Proelss (Ed.), *United Nations Convention on the Law of the Sea: A Commentary*. 458–463, (C. H. Beck, Hart, Nomos, Munich, 2017), at 460–461.

25 Bateman, *supra* note 6, at 166.

26 *Ibid.*

27 In 2008, the Executive Council of the International Oceanographic Commission (IOC) adopted guidelines on the deployment of floats within the framework of the Argo Profiling Float Program. The guidelines only mandate the provision of information or notification in advance to coastal States and do not mandate the acquisition of consent, which would typically be required if the operation of the floats were to be considered MSR. See Huh & Nishimoto, *supra* note 22, at 1657, citing IOC, Guidelines for the Implementation of Resolution XX-6 of the IOC Assembly Regarding the Deployment of Profiling Floats in the High Seas within the Framework of the Argo Programmes, IOC Doc. IOC/EC-XLI/3 (2008), Annex II, 7–9.

3 The Harsh Reality of Northeast Asia

3.1 Overview

A considerable part of the waters around China, Japan, and Korea have no permanent maritime boundaries, except for the partial boundary on the northern part of the continental shelf between Korea and Japan, which was constructed in accordance with the agreement that the two States reached in 1974.²⁸

In particular, the three States have taken starkly contrasting positions on maritime delimitation. With respect to the principles and rules applicable to the delimitation of the EEZ and continental shelf, the Japanese government has consistently relied on the principle of equidistance.²⁹ Japan's adherence to the equidistance principle is reflected in Articles 1(2) and 2 of the 1996 Japanese Law on the Exclusive Economic Zone and the Continental Shelf.³⁰ In contrast, the Chinese government has been an ardent proponent of equitable principles and has persistently denied the customary law status of the equidistance principle.³¹ China's support for the principle of equity is clearly stipulated in the third sentence of Article 2³² of the 1998 Chinese Exclusive Economic Zone and the Continental Shelf Act.³³ Unlike its neighboring States, the Korean government adopted an eclectic approach. With regard to the Yellow Sea and the East Sea, Korea has invoked the principle of equidistance. In contrast, it seems that it has considered a dualistic approach with regard to the East China Sea. It

28 See Agreement between Japan and the Republic of Korea concerning the establishment of boundary in the northern part of the continental shelf adjacent to the two countries. Signed on 30 January 1974 and entered into force on 22 June 1978. The English text of the Agreement is available at <https://www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/TREATIES/jap-kor1974north.pdf>. For a more detailed discussion on this agreement, see Kim, *supra* note 5, at 190–193.

29 K. G. Lee, 'A critical perspective on maritime delimitation in East Asia,' in C. Paik (Ed.), *International Law in Korean Perspective*, 177–219, (Seoul National University, Seoul, 2004), at 186.

30 Law No. 74 of 1996. See Law on the Exclusive Economic Zone and the Continental Shelf, in Division for Ocean Affairs and the Law of the Sea Office of Legal Affairs, *Law of the Sea Bulletin No. 35*, 94–96, (United Nations, New York, 1997), at 94–95.

31 Lee, *supra* note 29, at 191.

32 "Conflicting claims regarding the exclusive economic zone and the continental shelf by the People's Republic of China and States with opposite or adjacent coasts shall be settled, on the basis of international law and in accordance with *the principle of equity*, by an agreement delimiting the areas so claimed." Article 2 of China's Exclusive Economic Zone and Continental Shelf Act of 1998. Emphasis added.

33 Adopted at the third session of the Standing Committee of the Ninth National People's Congress, 26 June 1998. See Exclusive Economic Zone and Continental Shelf Act of 26 June 1998, available at https://www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/chn_1998_eez_act.pdf.

has been understood that Korea might apply the equidistance principle to EEZ (water column) delimitation, whereas with respect to the continental shelf, it has taken the position that the geological and geomorphological features of the seabed should be considered based on the natural prolongation of land territory reaching the Okinawa Trough.³⁴ In addition to such conflicting positions on maritime boundaries, Northeast Asia has also struggled with issues regarding sovereignty over insular features, such as the Senkaku/Diaoyu Islands issue between Japan and China (including Taiwan) and the Dokdo/Takeshima issue between Korea and Japan.

In 2006, both China and Korea declared the non-applicability of compulsory procedures entailing binding decisions (Section 2 of Part xv) with respect to the maritime delimitation disputes in accordance with Article 298(1)(a) (i).³⁵ Thus, it became difficult to resolve the delimitation issues that plagued the Northeast Asian nations by resorting to the compulsory settlement mechanism devised by the UNCLOS regime. In other words, maritime delimitations between or among these States are to be settled through arduous negotiations, which grant the countries greater discretion over the methodology and the outcome of such delimitations.

The Northeast Asian States set up several bilateral provisional regimes for fisheries and mineral resources in accordance with Articles 74(3) and 83(3) of UNCLOS. With respect to fisheries, these include the Korean-Japan agreement that entered into force in 1999, the China-Japan agreement that entered into force in 2000, and the Korea-China agreement that entered into force in 2001; and with respect to mineral resources, these include the Korea-Japan agreement concerning joint development on the continental shelf that entered into force in 1978 and the China-Japan principled consensus on the East China Sea that was reached in 2008. There are no cooperation regimes in the field of MSR, except for the 2001 China-Japan mutual prior notification framework,³⁶ which has been found to be rather ineffective in resolving MSR-related disputes.

34 See Kim, *supra* note 5, at 211–213; Lee, *supra* note 29, at 184.

35 See DECLARATIONS AND RESERVATIONS, available at https://treaties.un.org/Pages/ViewDetailsIII.aspx?src=TREATY&mtdsg_no=XXI-6&chapter=21&Temp=mtdsg3&clang=_en#EndDec.

36 See K. Morikawa, *Japan's Response to Marine Research Activity by Foreign Vessels in its Exclusive Economic Zone (EEZ): Current Status and Agenda of National Legislation*, 1(1) *Journal of Maritime Research* 85–97 (2011), at 93–94; J. M. Van Dyke, *Military Ships and Planes Operating in the Exclusive Economic Zone of Another Country*, (28) *Marine Policy* 29–39 (2004), at 34.

3.2 *MSR Regime of Korea*

Korea ratified UNCLOS in 1996. At that time, several domestic laws were enacted to implement UNCLOS, including the Marine Scientific Research Act (MSR Act).³⁷ It is understood that despite several minor amendments, the Act's major factors have been largely preserved since its enactment.

According to Article 1 of the current MSR Act,³⁸ its purpose is to provide procedures for MSR conducted by Korean nationals, foreigners or international organizations and to contribute to the advancement of marine science and technology by efficiently managing and publishing research data. In Article 2, which provides the definitions of the terms used in the Act, MSR is defined as "conducting research, exploration, etc. into the seabed, subsoil, superjacent waters, and lower atmosphere to study and discover the natural phenomena of the sea." Article 4 contains the principles for conducting MSR,³⁹ and Article 7 outlines the consent regime in the EEZ and on the continental shelf by incorporating the procedural and substantive requirements for MSR provided by UNCLOS. Article 7(4) enumerates the cases where the Korean government may refuse to grant its consent for MSR, which contains the four items stipulated in Article 246(5) of UNCLOS and three items that are not included in that article.⁴⁰

37 Enforcement Date: 6 July 1995. Act No. 4941; 5 January 1995, New Enactment. The full English text of some Korean laws can be found at the KOREAN LAW INFORMATION CENTER, *available at* <https://www.law.go.kr/LSW/eng/engMain.do>.

38 Enforcement Date: 23 June 2021. Act No. 17750; 22 December 2020, Partial Amendment.

39 The items provided in Article 4 are as follows: (1) marine scientific research shall be conducted only for peaceful purposes; (2) marine scientific research shall not unfairly interfere with other legitimate use of the sea; (3) marine scientific research shall be conducted by scientific methods or means complying with international agreements related thereto; and (4) marine scientific research shall not violate related international agreements for the protection and preservation of the marine environment.

40 The specific cases are as follows: (1) where the content of the research plan has a direct effect on the exploration and development of marine resources conducted by a national or government agency of the Republic of Korea; (2) where the content of research plan contains matters concerning drilling on the continental shelf, the use of explosives, or the input of substances harmful to the marine environment; (3) where the content of the research plan contains the construction, operation, or use of artificial islands, installations, or structures; (4) where the content of the research plan is unclear or violates a related law of the Republic of Korea or international agreement; (5) where a government agency or national of a foreign country that has refused the MSR of a Korean national, etc. without justifiable grounds submits the research plan; (6) where the content of the research plan violates the principles of conducting MSR under Article 4; and (7) where a foreigner, etc. that has filed an application for consent to MSR fails to perform their obligations toward the Republic of Korea in relation to other MSR conducted pursuant to this Act.

The Korean commentators assess that the Korean MSR Act generally incorporates the MSR regime outlined by UNCLOS.⁴¹ However, despite the Korean MSR Act and other legislation, there exists a degree of uncertainty in terms of the distinction between MSR and other information-gathering activities. For example, despite the existence of relevant domestic laws,⁴² it is unclear whether a foreign State requires Korea's consent to conduct a hydrographic survey in the Korean EEZ. Additionally, Korea has no legislation pertaining to military surveys.

3.3 Case Studies

3.3.1 Japan's Research/Survey Project in the East Sea

The conflict between Korea and Japan, which arose due to Japan's research/survey project in the East Sea in April 2006, is frequently cited as a conflict case related to research or survey activities in Northeast Asian waters. This Japanese project gave rise to acrimonious distrust and hostility from Korea. On April 14, 2006, the Japan Coast Guard (JCG) notified the International Hydrographic Organization regarding its maritime project, which was to be conducted in parts of the EEZ claimed by the Korean government. At that time, the unlimited EEZs around Dokdo/Takeshima, not including the territorial sea, were included in the waters where JCG planned to conduct research or survey activities (Figures 1 and 2). Thus, the issue of how to counter the activities conducted by the Japanese emerged as a matter of public concern in Korea.⁴³

Ultimately, the project was not implemented. Through diplomatic negotiations between the two governments, they concluded that the Japanese side would abandon its project and that the two governments would resume talks related to maritime delimitation (negotiations had stalled at that time). Nevertheless, this case generated heated debates regarding the distinction

41 Y. Lee, 'Haeyang-gwahagjosajedo [The Regime of Marine Scientific Research],' in Korea Maritime Institute (Ed.), *Daehanmingug-ui haeyangbeobsilhaeng* [Korean Practices on the Law of the Sea], 409–445, (Ilchokak, Seoul, 2017) (written in Korean), at 442.

42 Before 2021, hydrographic surveys were governed by the "Act of the Establishment, Management, etc. of Spatial Data." This Act was replaced by the "Act on the Marine Research and Utilization of Marine Information" in 2021.

43 At that time, the Korean President delivered his special message, stressing that this issue is "a matter that calls for a public and dignified response." Weekly Domestic/Foreign Press Briefing (H. E. Ban Ki-moon, Minister of Foreign Affairs and Trade), 26 April 2006, available at https://www.mofa.go.kr/eng/brd/m_5679/view.do?seq=298109&srchFr=&srchTo=&srchWord=&srchTp=&Bmulti_itm_seq=0&Bitm_seq_1=0&Bitm_seq_2=0&Bcompany_cd=&Bcompany_nm=&page=137&titleNm=.

FIGURE 1
Research/survey area and median line
from the Korean perspective (*Dokdo
gugjebunjaenggiyeoghwa gyesandoen dobal*
[A Calculated provocation over Dokdo],
DONG-A ILBO, 15 April 2006) (written in
Korean) (text added)

FIGURE 2
Research/survey area and median line from
the Japanese perspective (Japan Coast Guard,
*Hydrographic Survey on the South-west sea area of
Japan*, 21 April 2006) (fn. 44)

between MSR and hydrographic surveys among Korean scholars in the law of the sea field.

This incident is strictly categorized as a dispute in waters where the EEZ claims of two States overlap and is not considered a territorial dispute. The territorial sea of Dokdo/Takeshima was not included in the planned research or survey area. However, the Korean public regarded this as a Japanese provocation over the sovereignty of Dokdo/Takeshima. Furthermore, due to the controversy over the legal nature of the project, the situation was significantly more complex. The Korean government characterized the proposed Japanese activities as MSR that would be conducted in the Korean EEZ, and took the position that this project should not be carried out without Korea's consent. In

contrast, the Japanese government maintained that even without Korea's consent, this project was internationally legitimate, as it would be conducted in Japan's waters. However, regarding the legal nature of the activities, it has been assessed that Japan took a rather ambiguous stance without officially revealing its position on whether this project was an MSR or a hydrographic survey.⁴⁴

If we regard the legal nature of the Japanese project as a hydrographic survey, and further assume that conducting a hydrographic survey in another State's EEZ does not necessitate the acquisition of said State's consent, the 2006 Japanese project can be deemed legitimate. However, from the Korean perspective, there remains the problem of identifying and verifying the real intention and substance of Japanese project in order to distinguish the project from MSR. Due to the practical difficulties related to distinguishing such activities, even if the Korean government had regarded hydrographic surveys as an activity that can be conducted without its consent in its EEZ under the freedom of the seas, it could not have allowed Japan to conduct the project without its consent. Thus, some in Korea have argued that Japan had intended to stir up the Dokdo/Takeshima issue by cunningly leveraging the ambiguous legal nature of the project and the debate over the distinction between MSR and hydrographic surveys.⁴⁵

Until now, Japan and Korea have experienced a variety of conflicts arising from research or survey activities conducted in the waters adjacent to Dokdo/

44 On 21 April 2006, JCG posted a position paper about this project on its homepage. See HYDROGRAPHIC SURVEY ON THE SOUTH-WEST SEA AREA OF JAPAN SEA, available at <https://www1.kaiho.mlit.go.jp/GIJUTSUKOKUSAI/koho/nihonkai/nihonkaioie.pdf>. In this paper, JCG used the term "hydrographic survey" or "survey" to refer to this project. JCG also argued that despite the fact that "[t]he waters in which the Japan Coast Guard will conduct the survey include the overlapping area, this survey will be carried out only within Japan's claimed EEZ." This implies that JCG thought that if this project were carried out in the Korean EEZ, then prior consent from Korea would be required. In contrast, some high-level Japanese officers commented that Japan's project was internationally lawful because it was a hydrographic survey.

45 M. Kim, *Jungcheobsuyeog-eseoui haeyang-gwahagjosa* [Marine Scientific Research in the Overlapping Waters Adjacent to the Korean Peninsula], 22(2) Seoul International Law Journal 149–186 (2015) (written in Korean), at 23. For an analysis from the Japanese perspective, see A. Kanehara, *Marine Scientific Research in the Waters Where Claims of the Exclusive Economic Zones Overlap Between Japan and the Republic of Korea: Incidents between the two States in 2006*, 49 The Japanese Annual of International Law 98–122 (2006). For an analysis from the Korean perspective, see C. H. Shin, *Ilbon-ui donghae cheughyang/josagyehoeog sageon-e daehan gugjebeobjeog pyeong-ga* [Survey/Research Project of Japan in the East Sea from the Perspective of International Law of the Sea], 13(1) Seoul International Law Journal 113–189 (2006) (written in Korean).

Takeshima, including its territorial sea.⁴⁶ Japan has constantly protested the research or survey activities conducted by Korea in these waters. In response, Korea has strongly maintained its position that the prior consent of Japan is not required because Dokdo is Korea's inherent territory.⁴⁷

3.3.2 China's Installation of Buoys in the Yellow Sea

It was recently found that China has installed its buoys in various locations, including within the overlapping waters of the Yellow Sea. According to media reports, the first buoy was discovered in 2014, and eight buoys were subsequently spotted in the Yellow Sea (Figure 3).⁴⁸ The Chinese government argued that the buoys serve a network of sensors that observe the weather and ocean currents, but the Korean government feared that their chief purpose is to monitor naval traffic and gather data on passing ships and submarines.⁴⁹ It was also reported that China installed similar buoys in the East China Sea and the South China Sea to monitor submarines.⁵⁰

The Korean government also installed buoys in waters adjacent to the Korean Peninsula. The Korea Hydrographic and Oceanographic Agency – the governmental agency responsible for conducting marine research or survey activities, has been collecting various oceanic data using research vessels, buoys, coastal stations, ocean research stations, and so on (Figure 4).⁵¹ The data-gathering activities of these buoys are generally considered operational oceanography.

46 *Dokdo-Scientific Research*, YONHAP NEWS AGENCY, 18 May 2017; *S. Korea to Conduct Seabed Exploration near Dokdo*, YONHAP NEWS AGENCY, 12 March 2019, available at <https://en.yna.co.kr/view/AEN20190308012100320?input=2106m>.

47 Similar confrontations are lingering in the waters adjacent to the Senkaku/Diaoyu Islands. For details, see footnote 96.

48 *Han-mijamsuham tamji? jung-gug, hangugijog seohae daehyeong bupyo ggae ttuwo* [Detecting Submarines? China installed 9 buoys in the Yellow Sea], CHOSUN-ILBO, 14 September 2018 (written in Korean), available at https://www.chosun.com/site/data/html_dir/2018/09/14/2018091400242.html.

49 *S. Korea Military Keeps Monitoring China's Installation of Buoys: Ministry*, YONHAP NEWS AGENCY, 14 September 2018, available at <https://en.yna.co.kr/view/AEN2018091400800315>; T. Roehrig, *South Korea: The Challenges of a Maritime Nation*, THE NATIONAL BUREAU OF ASIAN RESEARCH, 23 December 2019, available at <https://www.nbr.org/publication/south-korea-the-challenges-of-a-maritime-nation>.

50 *China Installs 17 Sets of Submerged Buoys in Pacific Ocean: Report*, THE STRAITS TIMES, 22 October 2014, available at <https://www.straitstimes.com/asia/east-asia/china-installs-17-sets-of-submerged-buoys-in-pacific-ocean-report>; S. Stashwick, *New Chinese Ocean Network Collecting Data to Target Submarines*, THE DIPLOMAT, 2 January 2018, available at <https://thediplomat.com/2018/01/new-chinese-ocean-network-collecting-data-to-target-submarines>.

51 See KOREA REAL TIME DATABASE FOR NEAR-GOOS, available at <http://www.khoa.go.kr/oceangrid/khoa/koofs.do>. Text added.

FIGURE 3
Status of China's installation of buoys in the Yellow Sea, as of 2018 ((1) in 2014, (2)–(9) in 2018) (fn. 48)

FIGURE 4 Jeju Southern Ocean Buoys (Korea Real-time Ocean Database, Korea Hydrographic and Oceanographic Agency) (fn. 51)

The data acquired and the results of the analysis of this data are universally accessible online for free. The observed areas were wide, and the period of data collection was relatively long. Thus, it is likely that the buoys' data collection activities have less of an impact on maritime delimitation, as argued that the operation of buoys in the EEZ is to be protected by the freedom of the seas by some States. However, it is difficult to consider the activity of China's buoys in the Yellow Sea to be operational oceanography, because the lack of transparency regarding the collected data may indicate the concealment of their actual purpose. In other words, one cannot determine the legal nature of the buoys' operation based only on the fact that the devices are buoys. Though China is explaining the activity of its buoys as part of operational oceanography, its actual purpose and function must be verified in order to support this argument.

3.3.3 Ieodo Ocean Research Station

Korea's Ieodo Ocean Research Station in the East China Sea has long been a controversial issue. Ieodo, internationally known as Socotra Rock (Suyan-Jiao in Chinese), is a remote, underwater reef about 149 km (92.5 miles) from Korea's southernmost island, Marado (Figure 5). It lies in the waters that both Korea and China claim to be their respective EEZ.⁵² Legally, this submerged feature in the East China Sea is not an island or rock under Article 121 of UNCLOS. In June 2003, the Korean government completed the construction of the Ieodo Ocean Research Station on this reef (Figure 6).⁵³

The Korean government has maintained that the Ieodo Station's installation and operation are completely legitimate because its location is much closer to Korea's coast.⁵⁴ In contrast, the Chinese government countered that the Korean argument is not convincing, as the station is also located within

52 *China Roils Waters Again on Ieodo Reef Dispute*, KOREA JOONGANG DAILY, 11 March 2012, available at <https://koreajoongangdaily.joins.com/news/article/article.aspx?aid=2949753>.

53 For a brief outline on the Ieodo Ocean Research Station, see ABOUT OCEAN RESEARCH STATION, available at <http://www.khoa.go.kr/eng/kcom/cnt/selectContentsPage.do?cntId=31080200>.

54 Ministry of Foreign Affairs (ROK), *Press Release: Comments of the Authorities Concerned Regarding China's Objections to the Ieodo Ocean Research Station*, 15 September 2006 (written in Korean), available at https://www.mofa.go.kr/www/brd/m_4080/view.do?seq=290467&srchFr=&srchTo=&srchWord=%EC%9D%B4%EC%96%B4%EB%8F%84&srchTp=0&multi_itm_seq=0&itm_seq_1=0&itm_seq_2=0&company_cd=&company_nm=&page=1.

FIGURE 5
Location of Ieodo (fn. 53)

FIGURE 6
Ieodo Ocean Research Station
(fn. 52)

200 NM from China's coast and the maritime boundary between the two States remains undetermined.⁵⁵

Unlike buoys or research vessels, an ocean research station legally falls within the category of "installations" or "structures" under Articles 56(1)(b)(i), 60(1)(b), and "scientific research installations" under Article 258. The Ieodo Station has been conducting research oceanography and operational oceanography.⁵⁶ Particularly, the MSR project involving the construction, operation, or use of "installation and structures referred to in Article 60" is regulated as applied MSR under Article 246(5). Thus, the coastal State may disallow a

55 For the debate regarding the Ieodo Ocean Research Station between China and Korea, see S. Fox, *China, South Korea, and the Socotra Rock Dispute: A Submerged Rock and Its Destabilizing Potential* (Palgrave, Singapore, 2019), at 58–70.

56 For the concepts of research oceanography and operational oceanography, see Wegelein, *supra* note 14, at 20.

foreign State from conducting such an MSR project. This implies that judging the legality of research or survey activities conducted by the ocean research station in undelimited waters may require a somewhat different approach from the activities that utilize mobile or floating devices and ships, such as buoys and research vessels.

4 Legality of Unilateral Research or Survey Activities in Undelimited Maritime Areas

4.1 *UNCLOS Articles 74(3) and 83(3): Obligations of Cooperation and Self-restraint*

MSR has contributed to human knowledge of the ocean environment, economic growth, environmental protection, and human well-being. If that is the case, are unilateral research or survey activities in undelimited waters legal or illegal? If we can draw guidelines for this, we may shift or relax the sensitive perception regarding such activities.

Reviewing the obligations of cooperation and self-restraint under Articles 74(3) and 83(3) of UNCLOS enables us to assess the legality of unilateral activities in undelimited waters. The drafters of UNCLOS formulated these obligations to provide a legal framework that would govern coastal States' behavior before the final delimitation. Framed in identical terms, Articles 74(3) and 83(3) state that, pending the final delimitation, "the States concerned, in a spirit of understanding and co-operation, shall make every effort to enter into provisional arrangements of a practical nature and, during this transitional period, not to jeopardize or hamper the reaching of the final agreement." These provisions echo the general principles of good faith and peaceful settlement of disputes,⁵⁷ and contain two obligations: the first is the obligation of cooperation ("shall make every effort to enter into provisional arrangements of a practical nature") and the second is the obligation of self-restraint ("shall make every effort ... during this transitional period, not to jeopardize or hamper the reaching of the final agreement"). The introductory words "a spirit of understanding and co-operation" and the words "shall make every effort" apply to both – qualifying them as obligations of conduct.⁵⁸

57 E. Milano & I. Papanicolopulu, *State Responsibility in Disputed Areas on Land and at Sea*, 71 *Zeitschrift für ausländische öffentliches Recht und Völkerrecht* 587–640 (2011), at 611.

58 *Delimitation of the Maritime Boundary in the Atlantic Ocean Case (Ghana/Côte d'Ivoire)*, Judgment of 23 September 2017, ITLOS Reports 2017, 4, at para. 629; Milano & Papanicolopulu, *supra* note 57, at 612.

These provisions are a product of a compromise between the equidistance group and the equitable principle group during UNCLOS III.⁵⁹ Article 61(3) of the ISNT, Part II of 1975 read: "Pending agreement, no State is entitled to extend its exclusive economic zone beyond the median line or the equidistance line."⁶⁰ However, a fundamentally different approach was presented a year later in the Revised Single Negotiating Text, Part II (RSNT, Part II). Article 62(3) of the RSNT, Part II provided: "Pending agreement or settlement, the States concerned shall make provisional arrangements, taking into account the provisions of paragraph 1."⁶¹ This approach was carried over to the Informal Composite Negotiating Text (ICNT) of 1977 and the first revision of that text (ICNT/Rev.1) in 1979.⁶² Consequently, in the discussions of UNCLOS III, these two approaches became the focal points of suggestions on interim measures. The delegations that advocated the median or equidistance line as a general principle of delimitation supported a provision on interim measures along the same lines as in the ISNT (the preventive approach). On the other hand, the delegations that favored delimitation in accordance with the equitable principles adhered to the formulation of the RSNT and the subsequent ICNT and ICNT/Rev.1 (the incentive approach). The equitable principle group preferred not to mention the median or equidistance line due to the concern that such lines would play a certain role in the final delimitation if they appeared in the text concerning the interim measures.

A compromise between these conflicting positions was reached based on the proposal that Morocco suggested in April 1978⁶³ at the Negotiating Group 7 (NG7), which was established in order to discuss the issues of maritime delimitation and the settlement of disputes thereon in the framework of UNCLOS III. After minor revisions, the text was adopted in 1982. Consequently, without mentioning the median or equidistance line, Articles 74(3) and 83(3) include not only the use of provisional arrangements supported by the equitable principle group, but also restrictions on some actions supported by the equidistance group.

59 For the details of the negotiating history, see Lagoni, *supra* note 4, at 349–354.

60 A/CONF.62/WP.8/Part II (Informal Single Negotiating Text (Part II), 7 May 1975). Article 70(3) of the ISNT, Part II provided the same for the continental shelf.

61 A/CONF.62/WP.8/Rev.1/Part II (Revised Single Negotiating Text (Part II), 6 May 1976). Article 71(3) of the RSNT, Part II provided the same for the continental shelf.

62 Articles 74(3) and 83(3), A/CONF.62/WP.10 (Informal Composite Negotiating Text, 15 July 1977); Articles 74(3) and 83(3), A/CONF.62/WP.10/Rev.1 (Informal Composite Negotiating Text (Revision 1), 28 April 1979).

63 Lagoni, *supra* note 4, at 352, citing informal suggestions by Morocco, Conf. Doc. NG7/3 (21 April 1978).

4.2 Relevant Case Law

Articles 74(3) and 83(3) contain primary rules that specifically address the situations related to undelimited maritime areas.⁶⁴ In particular, it is understood that the obligation of self-restraint does not require coastal States to cease and prohibit all marine activities in overlapping waters.⁶⁵ Accordingly, commentators have discussed which unilateral activities are allowed in undelimited waters.⁶⁶ In this regard, some cases need to be explored.

The first is the 1976 *Aegean Sea Continental Shelf (Greece v. Turkey, Interim Measures)* case.⁶⁷ This case, which was referred to the International Court of Justice (ICJ), has greatly influenced the contemporary interpretation and application of the obligation of self-restraint under Articles 74(3) and 83(3). The ICJ addressed Greece's request for the indication of interim measures against Turkey's unilateral seismic exploration on the continental shelf where the claims of the two States overlap. Turkey's seismic exploration was carried out by a vessel that caused small explosions to send sound waves through the seabed. In the ICJ's order of 1976, which rejected Greece's request, the Court emphasized that Turkey's seismic exploration did not come under any of the following three criteria: (1) activities involving any risk of physical damage to the seabed or subsoil or to their natural resources, (2) activities of a non-transitory character, such as the establishment of installations on or above the seabed, and (3) activities involving the actual appropriation or other use of natural resources of the areas in dispute.⁶⁸ Based on this reasoning, the Court decided that Turkey's seismic exploration did not pose the risk of an irreparable prejudice to Greece's right in issue.⁶⁹ This approach was carried over to the "permanent physical impact on the marine environment" criterion – opined as the standard for judging a violation of the shelf-restraint obligation in *Guyana v. Suriname*.

64 Milano & Papanicolopulu, *supra* note 57, at 611.

65 According to the Virginia Commentary, the phrase "not to jeopardize or hamper the reaching of the final agreement" does not exclude the conduct of some activities by the States concerned within the disputed area, so long as those activities would not have the effect of prejudicing the final agreement. See M. Nordquist, N. Grandy, S. Nandan, & S. Rosenne (Eds.), *United Nations Convention on the Law of the Sea 1982: A Commentary*, Volume II, (Martinus Nijhoff, Dordrecht, 1993), at 815.

66 For example, see Lagoni, *supra* note 4, at 366. R. Churchill & G. Ulfstein, *Marine Management in the Disputed Areas: The Case of the Barents Sea*, (Routledge, London, 1992), at 86.

67 *Aegean Sea Continental Shelf, Interim Protection*, Order of 11 September 1976, I.C.J. Reports 1976, 3, available at <https://www.icj-cij.org/public/files/case-related/62/062-19760911-ORD-01-00-EN.pdf>.

68 *Ibid.*, at para. 30.

69 *Ibid.*, at paras. 32–33.

After the adoption of UNCLOS, in the *Guyana v. Suriname* case,⁷⁰ the Arbitral Tribunal under Annex VII of UNCLOS addressed the legality of unilateral activities conducted in undelimited maritime areas by applying Articles 74(3) and 83(3) for the first time. In this case, Suriname argued that Guyana breached its obligation to Suriname under Articles 74(3) and 83(3) of UNCLOS by authorizing its concession holder to drill an exploratory well in disputed waters. In this regard, the Tribunal distinguished between unilateral acts that do not cause a physical change to the marine environment, such as seismic exploration, and those that do, such as exploitation of oil and gas reserves. In the Tribunal's view, the former would not have an effect of jeopardizing or hampering the reaching of a final agreement on maritime delimitation. However, the latter would have to be undertaken pursuant to an agreement between the parties, as they may hamper or jeopardize the reaching of a final agreement on delimitation.⁷¹

Subsequently, the Tribunal concluded that its distinction between activities having a permanent physical impact on the marine environment and those that do not is consistent with the jurisprudence of international courts and tribunals on interim measures, citing the *Aegean Sea Continental Shelf (Greece v. Turkey, Interim Measures)* case.⁷² Consequently, the Tribunal concluded that Guyana violated the self-restraint obligation by authorizing exploratory drilling in disputed waters.

After a ten-year break, the Special Chamber of the International Tribunal for the Law of the Sea (the Chamber) made a judgment concerning the interpretation and application of Article 83(3) of the Convention in the *Ghana/Côte d'Ivoire* case, which was triggered by Ghana's oil activities in the field situated on the continental shelf that was also claimed by Côte d'Ivoire. The Chamber prescribed provisional measures to prohibit Ghana's new drilling in April 2015⁷³ and subsequently rendered the final judgment in September 2017.⁷⁴ In its final submissions, Côte d'Ivoire requested the Chamber to declare and adjudge that

70 In the Matter of an Arbitration between Guyana and Suriname, Award of the Arbitral Tribunal (The Hague, 17 September 2007), available at <https://pcacases.com/web/sendAttach/902>.

71 *Ibid.*, at para. 467.

72 *Ibid.*, at paras. 468 and 470.

73 Delimitation of the maritime boundary in the Atlantic Ocean (*Ghana/Côte d'Ivoire*), Provisional Measures, Order of 25 April 2015, ITLOS Reports 2015, 146, available at https://www.itlos.org/fileadmin/itlos/documents/cases/case_no.23_prov_meas/23_published_texts/2015_23_Ord_25_Avr_2015-E.pdf.

74 Delimitation of the Maritime Boundary in the Atlantic Ocean Case (*Ghana/Côte d'Ivoire*), Judgment of 23 September 2017, ITLOS Reports 2017, 4, available at https://www.itlos.org/fileadmin/itlos/documents/cases/case_no.23_merits/23_published_texts/C23_Judgment_20170923.pdf.

“(2) ... the activities undertaken unilaterally by Ghana in the Ivorian maritime area constitute a violation of: ... (iii) the obligation not to jeopardize or hamper the conclusion of an agreement, as provided for by Article 83, paragraph 3, of UNCLOS.”⁷⁵ However, the Chamber rejected this request because: (1) Ghana suspended its activities by implementing its obligations in accordance with the order of April 2015 and (2) the Ghanaian activities did not meet the qualification of the aforementioned submission of Côte d'Ivoire since they did not take place “in the Ivorian maritime area.”⁷⁶

4.3 Assessment

4.3.1 Critiques of the Case Law

For the purpose of conciseness, this article does not provide a detailed analysis of each case. Nevertheless, it is necessary to comment on the decision of the *Ghana/Côte d'Ivoire* case. Despite the excellent reasoning regarding the other legal issues in the 2017 judgment, the decision of the Chamber with respect to Article 83(3) is quite problematic. Considering the first reason for the Chamber's rejection of the above submission of Côte d'Ivoire, it appears that the Chamber inferred the obligation to exercise self-restraint had not been applied to Ghana before the prescription of the provisional measures by the Chamber's order of April 2015. However, this reasoning is very dubious, as Côte d'Ivoire had conveyed its claims on the maritime boundary to Ghana before the 2015 order and had lodged constant complaints over Ghana's unilateral activities since 2009.⁷⁷ With respect to the second reason given by the Chamber, Côte d'Ivoire indicated in its submission (2)(iii) that Ghana's activities “in the Ivorian maritime area” constitute a violation of the self-restraint obligation, as described above. According to the maritime delimitation conducted by the

75 *Ibid.*, at para. 63.

76 *Ibid.*, at paras. 632–633.

77 For a detailed critique based on factual grounds, see Separate Opinion of Judge Paik, in *Ghana/Côte d'Ivoire*, *supra* note 74, at paras. 13–16, available at https://www.itlos.org/fileadmin/itlos/documents/cases/case_no.23_merits/23_published_texts/C23_Judgment_20170923_SepOp_Paik.pdf. Bankes believed that “[t]he Special Chamber's reasoning is not convincing because Ghana's obligation not to jeopardize or hamper pre-dated the provisional measures Order and it not based on that Order.” N. Bankes, *ITLOS Judgment in the Maritime Boundary Dispute between Ghana and Côte d'Ivoire*, THE NCLOS BLOG, 27 October 2017, available at <https://site.uit.no/nclos/2017/10/27/itlos-judgment-in-the-maritime-boundary-dispute-between-ghana-and-cote-divoire>. Similarly, Churchill stated that “[t]his reasoning is unconvincing. The transitional period to which the obligation applies clearly began well before the order of provisional measures.” R. Churchill, *Dispute Settlement in the Law of the Sea: Survey for 2017*, 33(4) International Journal of Marine and Coastal Law 653–682 (2018), at 665.

Chamber in its judgment, the water in question was not attributed to Côte d'Ivoire. Thus, the Chamber concluded that the submission of Côte d'Ivoire was not upheld. However, this conclusion is formalistic and technical, as it did not consider and reflect the actual intention contained in Côte d'Ivoire's submission. From the Ivorian perspective, the term "in the Ivorian maritime area" seems to have been used only to indicate the waters in question where Ghana had conducted unilateral hydrocarbon activities.⁷⁸ Given such failures in reasoning, it is unsuitable to regard the conclusion of the *Ghana/Côte d'Ivoire* case as a meaningful precedent, at least in terms of the interpretation and application of Articles 74(3) and 83(3) of UNCLOS.

Despite its conciseness and usefulness, it is also difficult to argue that the "permanent physical impact on the marine environment" criterion proposed in the *Guyana v. Suriname* case is a perfect or complete standard for judging a violation of the self-restraint obligation. Commentators have highlighted the various limitations of this criterion. First, it is unclear what constitutes permanent physical impact and how such an impact can be determined.⁷⁹ Second, this criterion is not directly inferred from the interpretation and application of Articles 74(3) and 83(3) of UNCLOS. As previously mentioned, this is not based on the result of the interpretation and application of Articles 74(3) and 83(3), but on the risk of irreparable prejudice as the requirement for the indication of interim protection orders, as addressed in the *Aegean Sea Continental Shelf (Greece v. Turkey, Interim Measures)* case.⁸⁰ Third, this criterion originates from the norms that govern coastal States' behaviors on the continental shelf, where their claims overlap. Thus, it is questionable whether this criterion can be applied to EEZ-based activities, such as fishery activities and MSR, among others. In this regard, Anderson and van Logchem attempted to classify unilateral actions as either those that jeopardize/hamper the final agreement

78 For the similar critical comments, see Bankes, *supra* note 77; Y. van Logchem, *The Rights and Obligations of States in Disputed Maritime Areas: What lessons can be learned from the maritime boundary dispute between Ghana and Côte d'Ivoire?*, 52(1) *Vanderbilt Journal of Transnational Law* 121–177 (2019), at 172; M. McCreath & Z. Scanlon, *The Dispute Concerning the Delimitation of the Maritime Boundary Between Ghana and Côte d'Ivoire: Implications for the Law of the Sea*, 50(1) *Ocean Development & International Law* 1–22 (2019), at 14. Judge Paik also described this reason as "formalistic." Separate Opinion of Judge Paik, *supra* note 77, at para. 1.

79 Likewise, van Logchem pointed out the inconsistent use of terminology in the *Guyana v. Suriname* award. Y. van Logchem, 'The Scope for Unilateralism in Disputed Maritime Areas,' in C. Schofield, S. Lee & M. S. Kwon (Eds.), *The Limits of Maritime Jurisdiction*, 175–197, (Martinus Nijhoff Publishers, Leiden, 2013), at 184–185.

80 For the similar critical comments, see van Logchem, *supra* note 79, at 186–191; Kim, *supra* note 45, at 146.

and those that are permitted in undelimited waters based on their impact on the marine environment.⁸¹ However, they also state that “[t]here remains ... some doubts as to whether the standards set out in the *Aegean Sea (Interim Measures)* case or in *Guyana v. Suriname* [case] can be generaliz[ed] as being definitive statements on the scope for unilateralism in areas of overlapping maritime claims.”⁸²

In this regard, noteworthy comments were found in the separate opinion of Judge Paik in the *Ghana/Côte d'Ivoire* case. According to his view, a key criterion is whether the actions in question would have the effect of endangering the process of reaching a final agreement or impeding the progress of negotiations to that end, depending on the “particular circumstances of each case.” Furthermore, he stated that it would not serve the purpose of Article 83(3) of UNCLOS to attempt to identify which activities are permissible activities and which are not. He also pointed out that determining which acts would cause irreparable prejudice to the rights of the parties and identifying the acts that would jeopardize or hamper the realization of a final agreement are different. Subsequently, he added that in assessing whether the conduct of States would jeopardize or hamper the reaching of a final agreement, several factors may be considered, including the type, nature, location, and timing of the acts and the manner in which they are carried out.⁸³ In terms of jurisprudence with respect to the interpretation and application of Articles 74(3) and 83(3), these comments should be considered important. This is a critical view of the “permanent physical impact on the marine environment” criterion, reviewed and officially recorded by international courts and tribunals for the first time.

4.3.2 Assessment on the Legality of Unilateral Research or Survey Activities

How can we assess the legality of unilateral research or survey activities in undelimited waters? Judge Paik noted that, in principle, there is no single criterion that should be applied in all situations, and various factors should be considered.⁸⁴ However, despite various limitations, we can try to devise certain general guidelines.

First, the “permanent physical impact on the marine environment” criterion cannot comprehensively assess the legality of unilateral activities. Nevertheless,

81 D. Anderson & Y. van Logchem, ‘Rights and Obligations in areas of Overlapping Maritime Claims,’ in S. Jayakumar, T. Koh & R. Beckman (Eds.), *The South China Sea Disputes and Law of the Sea*. 192–228, (Edward Elgar, Cheltenham, 2014), at 218–220.

82 *Ibid.*, at 220.

83 Separate Opinion of Judge Paik, *supra* note 77, at paras. 6–10.

84 *Ibid.*, at para. 10.

it is undeniable that this criterion is still one of the effective standards that has been applied in previous cases. In particular, it may be generally agreed upon that activities using mobile or floating devices and ships, such as buoys and research vessels, have a relatively smaller impact on the marine environment. Pure MSR, hydrographic surveys, and operational oceanography are normally carried out in such a manner. Second, the distinction between pure MSR and applied MSR should also be considered. As noted earlier, the UNCLOS regime clearly differentiates between the two in granting the consent of the coastal State. From a general legal perspective, whether an act could jeopardize or hamper the reaching of a final agreement can be inferred from this distinction, at least abstractly. In other words, from a conceptual perspective, it is relatively certain that the UNCLOS regime envisages that applied MSR is considered more serious than pure MSR, including the other activities conducted under the freedom of the seas. Third, other factors should be considered. As suggested by Judge Paik, the type, nature, location, timing, and manner of the activities are examples of such factors. For instance, considering these factors, research activities conducted by a State in the overlapping EEZs near its own coast by using mobile or floating devices over a relatively short time may be regarded as less aggressive under normal circumstances.

Consequently, it seems possible to infer that pure MSR activities for peaceful purposes and information-gathering activities that are covered (albeit controversially) by the freedom of the seas, such as hydrographic surveys and operational oceanography, are not likely to violate the self-restraint obligation.⁸⁵ However, this does not mean that pure MSR activities, including other information-gathering activities that may be conducted under the name of the freedom of the seas, are always allowed and that applied MSR activities are always prohibited. In assessing the legality of unilateral research or survey activities, a case-by-case approach is inevitable, and the obligation of cooperation, which is another critical component with respect to the legality of unilateral activities, should be considered. Nevertheless, at least in terms of the self-restraint obligation, we can draw a general spectrum as analyzed above. This implies that if we return to the original spirit of MSR and perceive the UNCLOS regime according to the drafters' intentions, the sensitivity surrounding MSR disputes could be lowered.

85 Anderson and van Logchem also categorized similar activities as the ones allowed in undelimited waters, e.g., marine scientific research into matters not related to the exploitation of resources, and seismic work having no damage to the resources of the seabed or to fish stocks. Anderson & van Logchem, *supra* note 81, at 220.

4.3.3 A New Interpretative Trend?

In the *Ghana/Côte d'Ivoire* case, the former's activities were much more serious than Guyana's activities, which were found to be a violation of Articles 74(3) and 83(3) in the *Guyana v. Suriname* case. However, the Chamber recognized the legality of Ghana's unilateral hydrocarbon activities, which were carried out within the Ghanaian waters based on the provisional equidistance line claimed by Ghana. These waters were consequently attributed to Ghana according to the outcome of the Chamber's judgment. What is noteworthy here is that some commentators have recently argued that some activities carried out in good faith within the hypothetical equidistance or median line could be considered permissible.⁸⁶ This view is based on the aforementioned result of the *Ghana/Côte d'Ivoire* case. There is also the assessment that as a result of considering a circumstance particular to the case, that is, a certain accumulation of practice using the equidistance line as the boundary for hydrocarbon activities, the Chamber did not raise questions regarding the type of activities conducted by Ghana.⁸⁷ In this regard, as noted earlier, in the negotiating history of Articles 74(3) and 83(3) during UNCLOS III, proposals were raised using the equidistance or median line as the limit of the interim regime, that is, the prohibition of the extension of the coastal State's jurisdiction beyond such lines – e.g., Articles 61(3) and 70(3) of the 1975 ISNT, Part II.⁸⁸

Is the interim regime based on the equidistance or median line the actual outcome of the interpretation and the application of Articles 74(3) and 83(3)? Above all, in the context of the *Ghana/Côte d'Ivoire* case, it is difficult to assess that the Chamber upheld the distribution of tentative jurisdiction pursuant to the equidistance or median line as the general result of the interpretation and application of Articles 74(3) and 83(3). As mentioned earlier, the Chamber rejected the Ivorian claims with respect to Ghana's breach of Article 83(3) on the grounds that the obligations of cooperation and self-restraint were not applicable to Ghana and that Ghana's activities in question had not taken place "in the Ivorian maritime area." There were no clear references that implied the possibility of or support for the interim regime based on the equidistance or median line in the reasoning of the Chamber. Thus, the proposition that the Chamber regarded the interim regime based on the equidistance or median

86 N. A. Ioannides, *The Legal Framework Governing Hydrocarbon Activities in Undelimited Maritime Areas*, 68(2) International and Comparative Law Quarterly 345–368 (2019), at 366.

87 K. Nishimoto, *The Obligation of Self-Restraint in Undelimited Maritime Areas*, 3(1) Japan Review 28–38 (2019), at 32.

88 Japan also submitted similar proposals in 1974. A/CONF.62/C.2/L.31/Rev.1 (Japan: Revised draft article on the continental shelf, 16 August 1974).

line as the outcome of the interpretation and application of Articles 74(3) and 83(3) seems to go too far.

Theoretically, if the spatial allotment of jurisdiction along the equidistance or median line is evaluated as “a general practice” and is accepted as law (*opinio juris*), a customary rule that supplements the interpretation and application of Articles 74(3) and 83(3) may emerge. This newly established practice may be engaged in the interpretation and application of Articles 74(3) and 83(3) in the form of a “subsequent practice” under Article 31(3)(b) of the 1969 Vienna Convention on the Law of Treaties (VCLT).⁸⁹ Here, in order to be taken into account in the application of the treaty, a subsequent practice must “establish the agreement of the parties” regarding its interpretation.⁹⁰ However, some States have admittedly taken positions supporting the equitable principles with respect to rules and methods related to the delimitation of the EEZ or continental shelf. In other words, despite today’s prevailing three-stage approach in the jurisprudence of international courts and tribunals, there still exists no uniform and general State support for the equidistance or median line with respect to maritime delimitation. Therefore, as of now, it is not likely that the interim regime based on the equidistance or median line acquires the status of a customary rule, or of the ‘subsequent practice’ regarding the interpretation and application of Articles 74(3) and 83(3) in the VCLT context. Furthermore, it should be noted that requests for referring to the equidistance or median line as the limits of the interim regime were not accepted in the negotiations on current Articles 74(3) and 83(3) during UNCLOS III, as mentioned earlier. This implies that the interim regime based on the equidistance or median line is beyond the drafters’ intentions.⁹¹

5 Toward Cooperation in Northeast Asia

5.1 *Cutting the Gordian Knot: Lessons from the 2001 China-Japan Regime*

In the absence of fixed maritime boundaries and an effective MSR cooperation regime, Northeast Asia has witnessed several conflicts related to unilateral research or survey activities. There are many issues to overcome in order

89 Adopted on 23 May 1969 and entered into force on 27 January 1980, 1155 UNTS 331.

90 “There shall be taken into account, together with the context: ... (b) any subsequent practice in the application of the treaty which establishes the agreement of the parties regarding its interpretation.” Article 31(3)(b) of the 1969 VCLT.

91 For the view that the unilateral establishment of the equidistance or median line as a tentative maritime boundary before the final delimitation constitutes a violation of UNCLOS, see Kim, *supra* note 5, at 27–28.

to defuse conflicts and achieve an effective cooperation regime in this region. These issues include: divergent views on maritime boundaries, territorial disputes over insular features, unclear practices on the distinction between MSR and other marine information-gathering activities, strategic competition among States, and nationalistic sentiments entangled with history. Given these circumstances, it seems quite difficult to build a successful cooperation regime in this region. However, it is worth considering regime-building suggestions for the region's policymakers.

In this regard, we can learn some lessons from the experience of the 2001 China-Japan mutual notification framework. Though loose, it has a symbolic meaning as a cooperative regime in Northeast Asia. China and Japan established this framework in February 2001 by the exchange of notes verbales between the Chinese Ministry of Foreign Affairs and the Japanese Embassy in China.⁹² The two States agreed that if either carries out MSR in the East China Sea, it shall provide prior notification to the other at least two months in advance of the starting date.⁹³ However, it has been assessed that due to both substantive and procedural uncertainty, MSR disputes between the two States have become more complicated. Looking closely at MSR-related disputes between China and Japan, there are some clues to such assessments.

The most notable aspect is the vagueness of the agreement. According to the notes verbales of both sides, Japan should notify China when carrying out MSR in the "seas adjacent to Japan (excluding Japanese territorial sea)" and China should notify Japan when carrying out MSR in the "seas adjacent to Japan where Japan has an interest (excluding Japanese territorial sea)."⁹⁴ Nothing in the notes verbales provides a more specific geographical description of the location of the waters covered by the notification framework. Due to this vagueness, Japan has understood that the sea areas where China must notify Japan to conduct its MSR activities include the following: (1) the waters

92 For a brief background of this agreement, see Van Dyke, *supra* note 36, at 34. See also Japanese Ministry of Foreign Affairs, *Kaiyō chōsa katsudō no sōgo jizen tsūhō no wakugumi no jissai no tame no kōjōsho no kōkan ni tsuite* [Regarding the exchange of notes verbales for the implementation of a mutual prior notification framework for MSR], 13 February 2001 (written in Japanese), available at http://www.mofa.go.jp/mofaj/press/release/13/pdfs/rls_0213d.pdf.

93 See Morikawa, *supra* note 36, at 93.

94 Though the notes verbales exchanged by the two States have not been open to the public, some Japanese articles have revealed their primary contents. See M. Miyoshi, 'Haitatekikeizaisuiiki ni okeru chōsa katsudō [Research Activities in the Exclusive Economic Zone]', in T. Kuribayashi & T. Sugihara (Eds.), *Nihon ni okeru kaiyō-hō no shuyō kadai* [Major Issues of Japan in the Law of the Sea], 165–192, (Yushindo, Tokyo, 2010) (written in Japanese), at 178.

of the Japanese side based on the median line between the two States, (2) the waters adjacent to the Senkaku/Diaoyu Islands, and (3) the EEZ waters of 200 NM from Okinotorishima. However, China has not notified Japan when conducting MSR in the aforementioned waters.

For example, one can sometimes witness that Chinese government vessels cease and evict any Japanese vessels conducting survey or research activities in the waters to the east of the China-Japan hypothetical median line.⁹⁵ According to the Chinese perspective, which is based on equitable principles, some waters east of the China-Japan median line would have to be attributed to China. Moreover, the sovereignty issue over the Senkaku/Diaoyu Islands is also not addressed in the notes verbales. Admittedly, the Senkaku/Diaoyu Islands have effectively been under Japan's control, but China has also regarded the region as its own territory. Thus, China does not find it necessary to inform the Japanese when it conducts MSR in the waters adjacent to the Senkaku/Diaoyu Islands.⁹⁶ The legal status of Okinotorishima is a core issue with respect to MSR disputes in the waters adjacent to it. Japan has argued that

95 For relevant conflict cases, see Morikawa, *supra* note 36, at 94; M. Mori, 'Higashishinakai ni okeru gaikoku kōsen e no taiō ni tsuite [Response to the Foreign Governmental Vessels in the East China Sea]', in *Heisei 22-nendo kaiyō ken'eki no kakuho ni kakaru kokusai funsō jirei kenkyū (dai 3-gō)* [2010 International Conflict Case Studies for Securing the Rights of the Sea (No. 3)]. 44–54, (Japan Coast Guard Foundation, 2011) (written in Japanese), at 44 and 50; Japan Coast Guard, 'Chūgoku kōsen kara no kaiyō chōsa chūshi yōkyū jian [Case of Request to Stop the Marine Survey from the Chinese Governmental Vessels]', in *Kaijō ho-an repōto 2012* [Maritime Security Report 2012] (written in Japanese), available at https://www.kaiho.mlit.go.jp/info/books/report2012/html/topics/p007_04.html.

96 For the relevant conflict cases in the waters adjacent to the Senkaku/Diaoyu Islands, see S. Sakamoto, 'Gaikoku senpaku ni yoru kaiyō chōsa no jishshi to shikkō sochi [Marine survey conducted by Foreign governmental vessels and enforcement measures]', in *Heisei 20-nendo kaiyō ken'eki no kakuho ni kakaru kokusai funsō jirei kenkyū (dai 1-gō)* [2008 International conflict case studies for securing the rights of the sea (No. 1)]. 13–27, (Japan Coast Guard Foundation, 2009) (written in Japanese), at 16. The remarks of the Spokeswoman of the Chinese Ministry of Foreign Affairs, Jiang Yu, which were made in the Regular Press Conference on 8 February 2007, clearly indicate China's position on the issue of MSR in the waters adjacent to the Senkaku/Diaoyu Islands. She stated, "The mutual informing mechanism is an independent measure to enhance mutual understanding which will benefit the general interest of the bilateral ties. It does not affect the position of the two sides on questions concerning laws of the sea. On the marine survey question, we have made our position clear. The normal survey activity by Chinese ships in waters near the Diaoyu Island is to exercise the legitimate sovereignty rights of China. It has no connection with the informing mechanism. As for what will be discussed during the meeting between the two Foreign Ministers, I think they will exchange views on bilateral relations and issues of mutual interest." Foreign Ministry Spokeswoman Jiang Yu's Regular Press Conference on 8 February 2007, available at <http://www.china-embassy.org/eng/fyrth/t296526.htm>.

these insular features have full entitlements to the EEZ and continental shelf. However, China has not recognized the status of this rocky feature as an island with full entitlements of the EEZ and continental shelf under Article 121(1), but as a rock having only 12 NM of the territorial sea under Article 121(3).⁹⁷ Accordingly, China believes that the waters beyond the 12 NM territorial sea of Okinotorishima are not Japan's EEZ, but the high seas where it can conduct MSR without notifying Japan or seeking its consent.⁹⁸ These lingering conflicts between China and Japan clearly reveal the harsh reality of MSR activities in Northeast Asia and the difficulties in formulating an effective cooperation regime in this region.

5.2 *Prerequisites to Be Achieved*

Then, the following question arises: Is an effective cooperative MSR regime feasible in Northeast Asia? What regional measures do we need to build such a regime in this region? Above all, it may be agreed that it is crucial for this region to remove the causes that complicate MSR-related disputes. To this end, some prerequisites must be satisfied.

First, the incompleteness of MSR norms needs to be remedied. In light of the controversy over the applicability of the MSR rules to other information-gathering activities, such as hydrographic surveys and operational oceanography, it is desirable to build certain uniform practices or common positions in regulating MSR and other activities, at least at a regional level. This will lead to a reduction in the normative confusion arising from the ambiguity of MSR rules and will clarify the scope of a cooperative regime. A good example is the 2005 "Guidelines for Navigation and Overflight in the Exclusive Economic Zone," which was developed by a group of experts from the Asia-Pacific region who participated in a series of meetings held between 2002 and 2005 under the auspices of Japan's Ocean Policy Research Foundation. The Guidelines are a set of non-binding, voluntary principles that provide the basis for a common

97 The Chinese position on the legal status of Okinotorishima is illustrated in the Chinese notes verbales with respect to the Japanese information on the limits of the continental shelf beyond 200 NM, available at https://www.un.org/Depts/los/clcs_new/submissions_files/submission_jpn.htm. Korea has maintained the same position as China on the legal status of Okinotorishima.

98 For one of the relatively recent conflict cases in the waters beyond the 12 NM territorial sea of Okinotorishima, see Japan Coast Guard, *Wagakuni shūhen kaitiki ni okeru kaiyō chōsa-sen no katsudō jōkyō: Chūgoku kaiyō chōsa-sen 'Jia Geng' no shinin ni tsuite* [The Activity Status of Marine Research Vessels in the Sea Areas Adjacent to Japan: On the visible confirmation of the Chinese marine research vessel 'Jia Geng'], available at <https://www.kaiho.mlit.go.jp/info/topics/post-485.html>.

understanding and an approach to issues arising from the implementation of the EEZ regime.⁹⁹

Second, transparency must be ensured to minimize the concerns regarding disguised activities and information monopolies. Despite normative supplementation, States could still be concerned about disguised activities, especially for military purposes, as well as information monopolization. Such concerns can be assuaged by promoting the publication or dissemination of the scientific information acquired by the State conducting research as well as encouraging joint research. For example, China and South Korea established the Joint Ocean Research Center in May 1995 and launched several joint research projects, particularly in the Yellow Sea.¹⁰⁰ It is also necessary to actively communicate regarding such joint research activities and the issues related to the sharing of information acquired at a governmental and non-governmental level.

Third, the perception of MSR activities needs to be altered through an emphasis on national jurisdiction to promote regional cooperation. This is related to psychological aspects of the public with respect to foreign States' MSR activities in undelimited waters. MSR has increased the human knowledge of the ocean. If the value of MSR and its original nature are explained to the people, policymakers, and lawmakers of this region, the nationalistic perception can be decoupled from MSR itself. To that end, efforts should be made to prevent MSR-related issues from being politicized. In this regard, it is important to detach MSR cooperation from other maritime disputes, especially sovereignty issues surrounding insular features by setting aside sensitive political and legal issues. Legally, the coastal State's jurisdiction to regulate MSR under UNCLOS is not as exclusive as its other rights over the EEZ or the continental shelf. Several provisions of Part XIII of UNCLOS eloquently illustrate such a nature: the obligatory nature of granting consent for pure MSR (Art. 246(3)); non-recognition of MSR as the legal basis for claims (Art. 241); the obligation to publish and disseminate information and knowledge resulting from MSR (Art. 244); and the obligation to allow the coastal State to participate in the project and to access all data acquired (Art. 249). In other words, MSR is characteristically not a completely exclusive activity.

99 See EEZ Group 21, *Guidelines for Navigation and Overflight in the Exclusive Economic Zone*, OCEAN POLICY RESEARCH FOUNDATION, 26 September 2005, available at <https://nippon.zaidan.info/seikabutsu/2005/00816/pdf/0001.pdf>.

100 See Z. Keyuan, *Governing Marine Scientific Research in China*, 34(1) *Ocean Development & International Law* 1–27 (2003), at 19; C. H. Shin, *Hanjung-il-eseoui hyoyuljeog-in haeyang-gwahagjosa hyeobhyeogcheje-ui mosaeg* [Effective Cooperation Regime for Marine Scientific Research in North East Asia], 14(2) *Seoul International Law Journal* 171–202 (2007) (written in Korean), at 192.

5.3 *Seeking a Modus Vivendi*

The above points are the basis for reducing conflicts over MSR in Northeast Asia and promoting regional cooperation. In particular, how do we construct a provisional regime in this region? To achieve a *modus vivendi*, we consider the following three approaches.

The first is a linear approach, which includes a prior notification or a consent-based regime that relies on provisional boundary lines. However, this approach has not been successful in Northeast Asia. It is extremely unlikely that China, Japan, and Korea will agree on clear provisional lines due to their conflicting views on maritime delimitation and issues related to sovereignty over islands, as demonstrated by the various aforementioned conflict cases and the failure of the 2001 China-Japan mutual notification regime. It was reported that immediately after the 2006 incident between Korea and Japan, the Japanese government proposed the establishment of a mutual notification regime in the East Sea to the Korean government.¹⁰¹ In this regard, Japanese scholar A. Kanehara commented that tightening the prior notification system for MSR in the disputed sea areas can be an option to avoid unnecessary conflicts. She also suggested that considering the jurisprudence of international courts and tribunals based on the equidistance and relevant circumstances methods, an equidistance line could serve as a provisional line in provisional arrangements.¹⁰² However, given the conflicting positions of Northeast Asian nations on maritime delimitation, this approach appears to be difficult to realize in practice. It is also doubtful that this suggestion has a fully convincing legal basis. It may be agreed that today's prevailing jurisprudence of international courts and tribunals – the three-stage approach – is based on a method that is centered on the equidistance principle. Nevertheless, as indicated before, the reference to the equidistance or median line was dropped during the negotiations surrounding Articles 74(3) and 83(3). Thus, it may be a logical leap to propose that a tendency in international jurisprudence on maritime delimitation should be applied to the establishment of the interim regime – the outcome of the interpretation and application of Articles 74(3) and 83(3). In addition, despite the interpretative trend of international courts and tribunals on maritime delimitation, it is also an undeniable fact that not all coastal States prioritize the equidistance principle in the process of delimiting maritime boundaries

101 Shin, *supra* note 100, at 202.

102 A. Kanehara, 'Provisional Arrangements as Equitable Legal Management of Maritime Delimitation Disputes in the East China Sea,' in C. Schofield (Ed.), *Maritime Energy Resources in Asia: Energy and Geopolitics*. NBR Special Report # 35, 129–147 (2011), at 147.

or in the construction of an interim regime before the final delimitation. This means that the equidistance principle is not completely representative of the real practices of all coastal States and is not regarded as the subsequent practice in the interpretation of Articles 74(3) and 83(3).

The second is a zonal approach, which means that States can conduct research or survey activities freely or jointly in designated zones. One may question how such zones can be established. Theoretically, such zones can be established in the areas over which the claims of States overlap – the areas surrounded by respective boundary lines claimed by the concerned States, which represent intersections between two lines of national claims. It is also possible to include more areas beyond the disputed waters that encompass the aforementioned intersections. In either event, it is necessary to exclude territorial seas adjacent to the disputed island, given the difficulties in handling territorial disputes. Of the two, the latter has more benefits because it separates individual MSR activities from the concept of national jurisdiction. In this regard, in Northeast Asia, there are already many similar zones constructed owing to bilateral agreements for fisheries – known as intermediate zones or provisional measure zones. In terms of concerns about disguised activities and information monopolies, nations may prefer a joint research regime to a free one. Nevertheless, the vulnerabilities of the free regime may also be remedied by establishing a joint monitoring system that enables the monitoring personnel of the coastal State to board the research vessels of the neighboring States and ensures the sharing of the data acquired.

The last option is a cooperation regime led by international institutions. In this option, MSR is conducted by or under the auspices of independent international organizations without establishing a particular line or zone. Thus, establishing a new regional organization and using existing platforms is possible. Specifically, this option is consistent with Articles 242, 243, and 247 of UNCLOS. Given the above relevant articles of UNCLOS, it seems possible for States to seek cooperation through international organizations while maintaining their claims to national jurisdiction in undelimited waters. This option is also in line with Article 123(c) on the cooperation of States bordering enclosed or semi-enclosed seas. The Northeast Asian waters – the East Sea, Yellow Sea, and East China Sea – meet the qualifications of enclosed or semi-enclosed seas, as stipulated in Article 122. Thus, according to Article 123(c), it is possible to establish a cooperative regime throughout each sea without specifying a certain zone based on national jurisdiction or relevant claims of the concerned States. An independent organization can also lead and coordinate the joint research conducted by the States and the sharing of the results on

an *ad hoc* basis.¹⁰³ Thus, this approach can serve as the best way to facilitate harmonious cooperation, provided the specific procedure for cooperation is well-constructed.

5.4 *Managing Sovereignty Issues*

Though briefly addressed previously, it cannot be denied that one of the central issues affecting MSR in Northeast Asia is the dispute related to sovereignty over insular features. Territorial conflicts tend to fuel nationalistic sentiments by creating a confrontational perception of the other State, as seen in the conflict cases of Dokdo/Takeshima and the Senkaku/Diaoyu Islands. Unfortunately, these competing territorial claims are related to the colonial history of this region, and thus it appears to be much more difficult to practically manage sovereignty issues. Moreover, territorial disputes are often entangled with strategic and economic concerns under the name of national interest.

In this vein, sovereignty issues cannot be overlooked in achieving the harmonious cooperative regime for MSR as well as the final delimitation. In this regard, the Yellow Sea has no territorial disputes over insular features.¹⁰⁴ Thus, the realization of a cooperation regime for MSR seems to be comparatively easier, enabling us to envisage cooperation in the Yellow Sea as a first step in the geographical context. A more delicate approach would be required in the Northeast Asian waters other than the Yellow Sea. For example, as witnessed in some of the delimitation precedents of international courts and tribunals, giving reduced or zero weight to small islands may, to some extent, prevent them from causing a distorting effect on the delimitation line.¹⁰⁵ If agreed upon between the concerned States, this approach can apply to the cooperation regime for MSR in conjunction with the other interim options such as a linear, zonal, or institutional approach, as explained before. However, sovereignty issues lie beyond the UNCLOS regime. Thus, it is difficult to deal with MSR cooperation in territorial waters adjacent to the disputed islands, though, technically and theoretically, seeking a *modus vivendi* is not impossible. To overcome this challenge, or at least take a step closer to resolving the obstacles of territorial disputes, it should be noted that the concerned States need to make an effort to continue a consistent dialogue, supported by a political will to pursue sincere cooperation. Furthermore, the States should try to view MSR cooperation in a functional manner so that the situations do not become

¹⁰³ Shin, *supra* note 100, at 202.

¹⁰⁴ Particularly, both the Chinese and Korean governments agreed that the conflicts surrounding the submerged reef, Ieodo/Suyan-Jiao, is not a territorial dispute, but a problem caused by the absence of a firm EEZ between the two States. Fox, *supra* note 55, at 61–62. This is one of the good examples of delinking maritime issues from territorial issues.

¹⁰⁵ Fietta & Cleverly, *supra* note 19, at 73–79.

complicated or entangled with sovereignty issues or nationalism. In addition, through cooperation we can draw out broader discourses, negotiations, and initiatives toward managing territorial disputes beyond a legal perspective.

6 Concluding Remarks: Opportunities and Challenges

The increasing demand for marine knowledge and the development of scientific technology has resulted in a greater importance being placed on activities that collect oceanic information. In these circumstances, it is important to avoid unnecessary conflict related to research or survey activities in undelimited waters. Thus, it is preferable for Northeast Asia to have an effective, stable cooperation regime in order to facilitate the execution of research and survey activities in undelimited waters in a sustainable manner.

To that end, we should first understand the actual causes and complexity of MSR disputes in undelimited waters. Next, we should remove the causes of disputes at the regional level by remedying the incompleteness of MSR norms, securing transparency, and altering the perceptions regarding MSR activities. Lastly, we should design an effective cooperation framework without prejudicing the final delimitation. It is particularly important to bear in mind that constant efforts need to be made to build the momentum of cooperation and maintain it through close communication and joint research practices at the governmental and non-governmental level.

This article explores the various challenges related to formulating harmonious practices for MSR in Northeast Asia. These challenges include the divergent views on maritime boundaries, territorial disputes over insular features, unclear distinction between MSR and other activities, strategic competition among States, and nationalistic sentiments that are entangled with history. As a matter of fact, given these challenges, it is certainly not easy to achieve this goal of cooperation. It is true that there has also been significant skepticism about the possibility of successful cooperation in this region. Nevertheless, if we return to the original spirit of MSR and perceive the UNCLOS regime in accordance with its drafters' intentions, it is not a completely impossible dream. Ideally, it is worth considering a regime-building suggestion. To that end, it should be noted that efforts should be made to build the momentum of cooperation by shifting perception from a conflictual *mare clausum* approach to an ocean-knowledge-promoting *mare liberum* regime.

The article ends by pointing out the following points that have not been mentioned before. One thing to note is that as long as maritime research or survey activities do not share or publicize the acquired data, such a *mare clausum* perspective cannot be completely removed. In this regard, the treatment of

research or survey activities for military purposes to be conducted in undelimited maritime areas would be a challenging issue. This is because these types of activities are characteristically opaque and do not disclose the data acquired. If the possibility of disguised activities exists, the cooperation regime would remain vulnerable. As seen in the case of China's installation of buoys, it may be a practical challenge to distinguish military activities from other activities and regulate them or exclude them from the scope of the cooperation regime.

Another point worth noting is that the fundamental way to solve MSR disputes in undelimited waters is to reach a final delimitation. This means that constant efforts to reach a final delimitation agreement through a continuation of negotiations should not be overlooked. Parallely, such efforts may have a positive impact on the operation of the MSR cooperation regime by ensuring close communication between States. It is also true that this is preferable in managing territorial disputes and reduce tensions in the region. The final and crucial piece to complete cooperation is the dialogue itself. Conceivably, such talks can then be extended step-by-step from a bilateral dimension to the trilateral or multilateral dimension.

The last point concerns the trilateral cooperation regime associated with the future of the East China Sea. It might face the termination of the 1974 Korea-Japan Joint Development Agreement in 2028 at the earliest.¹⁰⁶ From a trilateral perspective, if this agreement comes to an end, more demands for unilateral research or survey activities in the East China Sea are likely to emerge, especially activities related to natural resources. Looking at the bigger picture, this change might also have an effect on the *status quo* in the East China Sea, including the waters adjacent to the Senkaku/Diaoyu Islands. The Northeast Asian States must deliberate on the manner in which they will face the new era.

106 As for the basic information about this agreement, see *supra* note 28. According to paragraphs (2) and (3) of Article 31, this agreement shall remain in force for a period of fifty years and shall continue in force thereafter until terminated by either party's written notice to the other party giving three years prior to the effect of the termination. Given the date of entry into force, this agreement will be terminated in 2028 at the earliest. However, even after 2028, it may be prolonged without unilateral termination of either party. For a detailed analysis on the possibility of a 2028 termination, especially focused on the futility of the Japanese side, see M. Kim 'Han-il daelyugbung-gongdong-gaebalhyeobjeong jonglyo hu dongjunggughae jilseo daehan jeonmang-gwa gwaje [The Post-2028 East China Sea: A prospect and challenge in Korean perspective],' *International Law Policy Research*. 1-57 (Korea National Diplomatic Academy, Seoul, 2020) (written in Korean), at 30-37, available at <https://www.ifans.go.kr/knda/com/fileupload/FileDownloadView.do?storeId=c61b04e5-0182-4c75-ad21-82ecacfb855&uploadId=13821368666348692&fileSn=1>.