

中国海洋法学评论

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中国海洋法学评论

2018 年卷第 2 期 总第 28 期

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改制通告

为适应新形势，提高时效性，缩短文章发表周期，更好地服务于我国的海洋事业，在主管单位及主办单位的大力支持下，我刊在原有国际刊号（ISSN 1813-7350）的基础上，申请并正式获批国内刊号 [CN-35(Q) 试第 2018004 号]，同时改为季刊。

自 2019 年开始，《中国海洋法学评论》将更名为《中华海洋法学评论》（*China Oceans Law Review*），开启新征程，特此公告周知。我们将一如既往地致力于为读者提供高质量的海洋法律与政策论文，以及相关的新发展新文献材料。我们也诚恳地希望广大读者及各位专家学者能够继续关心支持本刊，不吝赐稿。

《中国海洋法学评论》编辑部

Announcement

It is hereby announced that starting from 2019, *China Oceans Law Review* will be published quarterly with both an international standard serial number (ISSN 1813-7350) and a Chinese standard serial number [CN-35(Q) Shi No. 2018004]. This peer-reviewed international Journal will endeavor to continue the tradition of publishing quality papers and reviews pertaining to oceans laws and policies. Scholarly contributions related to the oceans are sincerely welcome.

COLR Editorial

卷首语

本期《中国海洋法学评论》收录了2篇关于渔业的文章。

对公海渔船的登临检查是确保公海渔业资源养护和管理措施得到遵守的有效措施。黄硕琳教授等在分析公海登临权发展态势的基础上认为,在公海对他国渔船实施登临检查,有可能成为一项国际习惯法规则,并就我国对他国公海渔船行使公海登临权提出了相应建议。

近年来,我国渔民在北太平洋海域的捕捞活动遭遇越来越多的纠纷并面临各种挑战,这既包括区域性渔业管理组织和各沿海国加强对渔业资源管理的外部挑战,也包括我国在渔业法律构架方面和远洋渔业产业界自身存在不足的内部挑战。施余兵等学者认为,为了解决这些问题,我国有必要在立法、执法、国际法律谈判与合作,以及法律宣传与教育等方面加强研究和应对。

南海低敏感领域的合作中,环境保护无疑最受关注。

南海面临着严重的生态环境恶化风险,而越南政府规划设立的“南谿岛海洋保护区”并不是出于海洋环境保护目的而建,只是越南将其侵占岛礁“合法化”的一个举措。作者崔浩然认为,南海各国在合作保护生态环境的基础和共识上,应搁置争议,构建双边和多边合作机制,同时不应影响各国的南海权利主张,以及通过谈判解决相关问题的努力。

本期还有关于国际海底区域和南极的2篇文章。

作者程时辉通过分析中国参与“区域”活动面临的内部优势、劣势和外部机遇、挑战四大因素,构建SWOT-AHP模型,并绘制了中国参与“区域”活动的战略四边形,认为我国参与“区域”活动时应选择SO(增长型)战略。

南纬60度以南的海域受到《南极条约》体系和《联合国海洋法公约》体系的同时约束。《南极条约》体系所关注的公海保护区、IUU捕捞,以及南极陆地与海洋生物遗传资源的利用等问题,也是《公约》体系内BBNJ协定的核心内容。作者李敬昌提出参与BBNJ协定立法的各国代表们应注意上述现象,并应对该协定与《南极条约》体系的协调进行探讨,以为

将来 BBNJ 协定在南极海域的适用打下基础。

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万律 http://www.westlawchina.com/index_cn.html

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台湾华艺数位 <http://www.airitilibrary.com/>

维普 <http://www.cqvip.com/>

超星法源 <http://lawy.org/>

读秀 <http://www.duxiu.com/>

Heinonline <http://home.heinonline.org/>

网址: <http://colr.xmu.edu.cn/>

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EDITOR'S NOTE

The current Issue of COLR contains two articles on fisheries.

Boarding and inspecting fishing vessels on the high seas is considered an effective measure to ensure compliance with the conservation and management measures for high seas fisheries resources. After analyzing the evolvement of the right of visit on the high seas, Prof. HUANG Shuolin et al. argue that the enforcement of boarding and inspection of foreign-flagged fishing vessels on the high seas by a State is likely to constitute a rule of customary international law. Based on that, they put forward some suggestions for China to exercise the right to board foreign-flagged fishing vessels on the high seas.

When undertaking fishing activities in the North Pacific in recent years, Chinese fishermen encountered increasing disputes and challenges. These challenges include both external ones brought by the strengthening of fisheries resource management by regional fisheries management organizations and coastal States, and domestic ones caused by the insufficiency of China's legal fisheries framework and the distant-water fishery industry itself. In response to these challenges, Dr. SHI Yubing et al. propose that China should direct more efforts into legislation, law enforcement, international legal negotiations and cooperation, legal publicity and education, as well as other aspects.

With respect to the cooperation in low-sensitive areas in the South China Sea (SCS), environmental protection has, undoubtedly, attracted the most attention.

The SCS faces a serious risk of ecological environment deterioration. Against this backdrop, Vietnam took the opportunity to announce its plan to establish a marine protected area (MPA) around the "Nam Yet Island". However, this MPA was not designated for the purpose of protecting marine environment; rather, it is a step Vietnam took to "legalize" its occupation of the "Nam Yet Island". Mr. CUI Haoran holds that the States bordering the SCS should, on the basis of their consensus on the cooperative protection of the ecological environment, set aside their disputes and create a bilateral or multilateral cooperation mechanism for environmental protection in the region.

Such a mechanism should neither undermine the efforts of SCS littoral States to resolve their disputes through negotiations, nor should it prejudice the claims made by these States in the SCS.

This Issue also includes two articles on the international seabed area, also known as the Area, and the Antarctica.

Mr. CHEN Shihui uses the SWOT-AHP model to examine the internal strengths and weaknesses, external opportunities and threats of China when it plans to participate in the activities in the Area, and draws a strategic quadrilateral based on the foregoing analysis. In line with the quadrilateral, he asserts that China should adopt the SO (aggressive) strategy to engage in the activities in the Area.

The sea area south of 60° south latitude is regulated simultaneously by the UNCLOS system and Antarctic Treaty system. The latter system aims to deal with issues like IUU fishing and MPAs on the high seas, as well as the utilization of Antarctic land and marine genetic resources. Noteworthy, these issues are also the core matters that the agreement under the UNCLOS on the conservation and sustainable use of marine biodiversity of areas beyond national jurisdiction (“BBNJ Agreement”) seeks to address. Given the circumstances, Mr. LI Jingchang proposes that the delegates participating in the legislation work concerning the drafting of the BBNJ Agreement should be aware of the situation above and discuss the harmonization between the agreement and the Antarctic Treaty system, so as to pave way for its application in the Antarctic waters.

COLR Editorial

Databases:

Westlaw China http://www.westlawchina.com/index_cn.html

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公海登临权及其新发展 ——国际渔业管理的实践

黄硕琳* 沈卉卉** 吴峰***

内容摘要: 登临权指在公海上, 靠近和登上被合理地认为犯有国际罪行或其他违反国际法行为的船舶并进行检查的权利, 但传统海洋法中公海登临权的概念不适用于纯属公海捕鱼的渔船。《执行 1982 年 12 月 10 日〈联合国海洋法公约〉有关养护和管理跨界鱼类种群和高度洄游鱼类种群的规定》的协定》发展了公海登临权的概念, 将公海登临权适用于公海渔船, 并将公海登临的目的、手段、检查权限及船旗国的责任都扩大了。而区域渔业公约和区域渔业组织的实践则支撑和落实了公海登临权概念的发展。对公海渔船的登临检查被证实是确保公海渔业资源养护和管理措施得到遵守的有效措施。本文在分析公海登临权发展态势的基础上认为, 在公海对他国渔船实施登临检查, 有可能成为一项国际习惯法规则, 并就我国对他国公海渔船行使公海登临权提出了相应建议。

关键词: 海洋法 公海 登临权 渔船 区域渔业组织

20 世纪之前, 国际海洋法将沿海国对海洋渔业的管辖权限制在狭窄的领海水域, 而公海捕鱼自由则属于各国享有的公海权利。进入 20 世纪之后, 人们逐步意识到海洋生物资源的有限性, 如果不对人类的捕捞活动加以限制, 最终将导致海洋生物资源的衰退与枯竭。国际社会通过一系列谈判, 签署了养护与管理海洋生物资源的相关国际公约, 如 1946 年签订的《国际捕鲸管制公约》、1958 年联合国第一次海洋法会议签订的《公海公约》和《捕鱼与养护公海生物资源公约》等。这些国际公约对公海生物资源的养护和利用做了限制性的规定, 明确了公海捕鱼自由应受国际法规则的制约。1982 年的《联合国海洋法公约》(以下简称“《公约》”)

* 黄硕琳, 上海海洋大学海洋政策与法律研究所所长, 教授、博士生导师, 研究方向: 海洋法、渔业法、渔业政策。本文系国家社科基金项目《中国参与国际海洋渔业治理研究》(编号: 17VHQ010) 的阶段性研究成果。

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对公海捕鱼权利做了进一步的限制性规定,而 1995 年通过的《执行 1982 年 12 月 10 日〈联合国海洋法公约〉有关养护和管理跨界鱼类种群和高度洄游鱼类种群的规定的协定》(以下简称“《鱼类种群协定》”)做了更严格、更具体的规定。《鱼类种群协定》在对公海渔船的登临检查事项上,扩大了有关公海登临权的内容。此外,有关区域渔业组织对公海渔船实施登临检查的实践,丰富和发展了国际法中公海登临权的概念。

一、公海登临权的概念

1958 年《公海公约》第 1 条给公海下的定义是:“公海”一词是指不包括在一国领海或内水内的全部海域。¹也就是说,沿海国领海以外的海域,都属于公海的范畴。1982 年《公约》并没有直接给公海下定义,但其第 86 条规定,“本部分的规定适用于不包括在国家的专属经济区、领海或内水或群岛国的群岛水域内的全部海域”。²按照 1982 年《公约》的规定,领海、内水、专属经济区和群岛水域都不属于公海。“公海”是指专属经济区外部界限以外的全部海域。

在公海上的船舶,一般情况下,只受船旗国的专属管辖和有关国际法规则的约束,不受任何其他国家的管辖和支配。1958 年《公海公约》第 6 条规定:“船舶航行应仅悬挂一国国旗,并除国际条约或本公约条款明文规定的例外情况外,在公海应服从该国的专属管辖。”³1982 年《公约》第 92 条也有明文规定:“船舶航行应仅悬挂一国的旗帜,而且除国际条约或有关公约明文规定的例外情形外,在公海上应受该国的专属管辖”。⁴船旗国管辖是公海管辖的主要原则,在国际法上一直占据着主导地位。

但是,为了维护公海航行制度和公海的正常法律秩序,各国有权对在公海上发生的违反人类共同利益的国际罪行,以及某些违反国际法的行为进行管辖。登临权就是指,在公海上,靠近和登上被合理地认为犯有国际罪行或其他违反国际法的行为的船舶并进行检查的权利。⁵

二、《公约》有关公海登临权的规定

1 北京大学法律系国际法教研室编:《海洋法资料汇编》,北京:人民出版社 1974 年版,第 218 页。

2 《联合国海洋法公约》第 86 条。

3 北京大学法律系国际法教研室编:《海洋法资料汇编》,北京:人民出版社 1974 年版,第 220 页。

4 《联合国海洋法公约》第 92 条。

5 黄硕琳、唐议:《渔业法规与渔政管理》,北京:中国农业出版社 2010 年版,第 56 页。

《公约》在第七部分“公海”中，对登临权做了具体规定。在公海上除非有合理根据认为船舶有下列嫌疑，不得登临他国船舶：从事海盗行为；从事奴隶贩运；从事未经许可的广播，而且欲实施登临的船舶的船旗国具有管辖权；无国籍船；或该船虽悬挂外国旗帜或拒不展示旗帜，而事实上却与欲实施登临的船舶属同一国籍。⁶

登临权的行使还应遵守有关的国际规则和国际习惯，主要包括：

(1) 登临权应由军舰行使。有关登临权行使的规定比照适用于军用飞机，也适用于经正式授权并有清楚标志可以识别的为政府服务的任何其他船舶或飞机；⁷

(2) 军舰在公海上享有不受船旗国以外任何国家管辖的完全豁免权；⁸ 由一国所有或经营并专用于政府非商业性服务的船舶，在公海上享有不受船旗国以外任何国家管辖的完全豁免权；⁹ 这些船舶在公海上不得被他国登临；

(3) 实施登临要有合理依据。如果嫌疑经证明为无根据，而且被登临的船舶并未从事嫌疑的任何行为，对该船舶可能遭受的任何损失或损害应予赔偿；¹⁰

(4) 登临应按规定的方式进行，检查须尽量审慎进行。¹¹

从上述规定和《公约》关于登临权条款的行文方式可以看出，国际法对登临权的行使有着极其严格的限定，仅限于海盗行为、贩运奴隶行为、非法广播和无国籍船等，而公海上捕鱼活动的管辖权完全属于船旗国，其他国家无权干涉。

三、《鱼类种群协定》有关登临权的规定

1995年8月4日“联合国跨界鱼类种群和高度洄游鱼类种群会议”通过的《鱼类种群协定》是《公约》的补充执行协定，于2001年12月11日生效。¹²《鱼类种群协定》包含13个部分共50条及2个附件。截至2018年7月11日，共有59个国家或国际组织签署了《鱼类种群协定》，有89个国家或国际组织批准或加入了该协定。¹³1996年11月6日，中国政府签署该协定，但至2018年7月11日尚未

6 《联合国海洋法公约》第110条。

7 《联合国海洋法公约》第110条。

8 《联合国海洋法公约》第95条。

9 《联合国海洋法公约》第96条。

10 《联合国海洋法公约》第110条第3款。

11 《联合国海洋法公约》第110条第2款。

12 《国际渔业条约和文件选编》编写委员会编：《国际渔业条约和文件选编》，北京：海洋出版社2015年版，第3~28页。

13 United Nations Treaty Collection, Status of treaty, at <https://treaties.un.org/>, 13 September 2018.

批准。¹⁴ 签署时, 中国政府对该协定第 21 条第 7 款和第 22 条第 1 款的规定做出了声明。

《鱼类种群协定》第 21 条在“分区域和区域的执法合作”条头下, 规定:

1. 在分区域或区域渔业管理组织或安排所包括的任何公海区域, 作为这种组织的成员或安排的参与方的缔约国可通过经本国正式授权的检查员根据第 2 款登临和检查悬挂本协定另一缔约国旗帜的渔船, 无论另一缔约国是否为组织或安排的成员或参与方, 以确保该组织或安排为养护和管理跨界鱼类种群和高度洄游鱼类种群所订立的措施获得遵守。¹⁵

第 21 条第 2 款和第 3 款对登临检查程序的制定做出了规定; 第 4 款规定检查国应将检查员身份证明式样通告公海捕鱼国, 并规定检查船只应有清楚的识别标志; 第 5 款规定了违法证据的搜集及通知船旗国事项; 第 6 款规定了船旗国应在收到检查国通知的 3 个工作日内或在程序所规定的时间内做出答复, 并应毫不延迟进行调查, 采取后续行动。¹⁶ 特别是, 该条第 8 款规定, 登临检查后, 有明显理由相信船只犯下严重违法行为, 且船旗国未按规定做出答复或采取行动, 则检查员可留在船上收集证据, 并可要求船长协助作进一步调查, 包括在适当时立即将船舶驶往最近的适当港口或程序规定的其他港口。¹⁷

按照《鱼类种群协定》第 21 条第 11 款的规定, 严重违法行为是指: 未有船旗国颁发的有效许可证、批准书或执照进行捕鱼; 未按照有关规定保持准确的渔获量数据或与渔获量有关的数据, 或违反有关区域渔业组织或安排的渔获量报告规定, 严重误报渔获量; 在禁渔区、禁渔期内捕鱼, 或无配额或在配额满后捕鱼; 违反捕捞限制或禁捕种群的规定进行捕捞; 使用违禁渔具; 伪造或隐瞒渔船的标志、记号或登记; 隐瞒、篡改或销毁有关调查的证据; 多重违法行为; 有关渔业管理组织规定的其他违法行为。¹⁸

《鱼类种群协定》第 22 条在“根据第 21 条进行登临和检查的基本程序”的

14 United Nations Treaty Collection, Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, at https://treaties.un.org/pages/UNTSONline.aspx?&clang=_en, 13 September 2018.

15 《国际渔业条约和文件选编》编写委员会编:《国际渔业条约和文件选编》, 北京: 海洋出版社 2015 年版, 第 13~15 页。

16 《国际渔业条约和文件选编》编写委员会编:《国际渔业条约和文件选编》, 北京: 海洋出版社 2015 年版, 第 13~15 页。

17 《国际渔业条约和文件选编》编写委员会编:《国际渔业条约和文件选编》, 北京: 海洋出版社 2015 年版, 第 13~15 页。

18 《国际渔业条约和文件选编》编写委员会编:《国际渔业条约和文件选编》, 北京: 海洋出版社 2015 年版, 第 14~15 页。

条头下,对检查员的行为、检查范围、接受检查的船长的行为、不接受检查情况下船旗国的义务都作了规定。按照规定,公海登临检查的检查员有权检查船只、船舶执照、渔具、设备、记录、设施、渔获和渔产品及任何必要的有关证件。¹⁹同时,第22条第1款第f项规定:“避免使用武力,但为确保检查员安全和在检查员执行职务时受到阻碍而必须使用者除外,并应以必要程度为限。使用的武力不应超过根据情况为合理需要的程度。”²⁰对该项规定,中国政府在签署时,做了如下声明:

中国对该项规定的理解是:只有当经核实被授权的检查人员的人身安全、以及他们正当的检查行为受到被检查渔船上的船员或渔民所实施的暴力危害或阻挠时,检查人员方可对实施暴力行为的船员或渔民,采取为阻止该暴力行为所需的、适当的强制措施。需要强调的是,检查人员采取的武力行为,只能针对实施暴力行为的船员或渔民,绝对不能针对整艘渔船或其他船员或渔民。²¹

《鱼类种群协定》将公海登临的范围、目的、手段、检查权限及船旗国的责任都扩大了。从登临的范围上来看,该协定将《公约》第110条规定的5种情况进一步扩大到了公海捕鱼的渔船,且无论该渔船的船旗国是否为区域渔业组织或安排的参与方,其他缔约国的授权检查员都可以在公海上登临。在登临的目的上,该协定将为了核实嫌疑而登临嫌疑船舶的登临目的,扩大成为确保养护和管理措施获得遵守的登临目的。换句话说,经授权的检查船可在公海上随时登临公海捕鱼船舶,不需要有任何怀疑渔船违法的根据或理由。从采用的手段上来看,该协定将《公约》规定的审慎检查提升到可以使用武力。虽然该协定强调避免使用武力,但毕竟为公海登临权的行使提供了可以使用武力的条款,大大加强了公海登临的威慑性。在检查的权限上,该协定将《公约》规定的“检验船舶文件”,若仍有嫌疑可进一步检查的权限,扩大到检查船只、船舶执照、渔具、设备、记录、设施、渔获物和渔产品、任何必要的有关证件。笔者的理解是,在公海上被登临的渔船,除了船员或渔民的私人生活用品外,其他物品都可能被列入检查之列。除此之外,渔船的船旗国在公海登临权中的责任被放大了。《鱼类种群协定》第22条第3款和第4款规定,船旗国应确保其船长:接受检查员并方便其迅速、安全登临;对检查给予合作和协助;对检查员不加阻挠、恫吓或干预;允许检查员与船旗国和检查

19 《国际渔业条约和文件选编》编写委员会编:《国际渔业条约和文件选编》,北京:海洋出版社2015年版,第15~16页。

20 《国际渔业条约和文件选编》编写委员会编:《国际渔业条约和文件选编》,北京:海洋出版社2015年版,第15~16页。

21 《国际渔业条约和文件选编》编写委员会编:《国际渔业条约和文件选编》,北京:海洋出版社2015年版,第28页。

国当局联络;向检查员提供合理设施,包括酌情提供食宿;方便检查员安全下船。若船长拒绝接受登临和检查,船旗国应指令船长接受;若船长拒不接受指令,船旗国应实施处罚。²²

这些关于公海渔船登临权的规定,是对《公约》规定的登临权的一个重要发展。而《鱼类种群协定》生效之后,区域渔业管理组织在公海渔业管理上的实践,支撑和落实了公海登临权的发展。

四、区域渔业管理组织的实践

(一) 西北大西洋渔业组织 (NAFO)

NAFO 于 1979 年根据《西北大西洋渔业未来多边合作公约》成立,前身是 1949 年成立的西北大西洋渔业国际委员会,总部设在加拿大新斯科舍省达特茅斯。

NAFO 的总目标是通过磋商与合作致力于最适度地利用、合理地管理和养护公约区域的渔业资源。其主要活动是对管理区域内的生物资源进行评估,根据科学委员会的建议采取管理措施,包括渔获配额管理、渔具渔法限制等。目前,该组织共有加拿大、古巴、丹麦(法罗群岛和格陵兰)、欧盟、法国(圣皮埃尔和密克隆岛)、冰岛、日本、挪威、韩国、俄罗斯、乌克兰、美国等 12 个成员方。²³

NAFO 公约区域覆盖大西洋大部分,包括成员国中的 4 个沿海国沿岸 200 海里的管辖区域,管理涉及北大西洋除大马哈鱼、金枪鱼、鲸和定居种以外的大部分渔业资源。NAFO 实施的渔业管理措施包括:总可捕量、渔获配额、捕鱼区域或时间限制、珊瑚保护区、最小鱼体规格、兼捕管理及鲨鱼养护与管理措施。NAFO 还制定了一整套监测、控制和监督综合措施。

NAFO 从 2005 年起在其管辖海域内,包括公海,允许缔约方授权的检查员登临检查另一缔约方的渔船。登临检查要求在公平的基础上进行,避免对任一缔约方渔船造成不适当的登临检查次数。NAFO 制定了详细的登临检查程序及被登临渔船船长应遵守的事项。2018 年的登临检查程序包括:登临前,通知将被登临的渔船检查船的船名;在检查船和登临船展示规定的登临三角旗;登临期间,检查船与渔船保持安全距离;渔船拖曳、放网或起网时,不得要求渔船停船或调度;登临的人数不超过 4 人;向渔船船长出示由 NAFO 执行秘书长签发的检查证件;除非发现有严重违法行为,检查时间限制在 4 小时以内,或限制在起网和检查网具和

22 《国际渔业条约和文件选编》编写委员会编:《国际渔业条约和文件选编》,北京:海洋出版社 2015 年版,第 15~16 页。

23 NAFO, About us, at <http://www.nafo.int/>, 13 September 2018.

渔获物所需时间内。²⁴

不过,按照NAFO的规定,在其管辖海域内,对于非缔约方渔船的登临有2个前提条件:一是该渔船在NAFO管辖海域内进行捕鱼活动或是涉及IUU捕鱼,二是该渔船船长同意被登临。这一点,NAFO的规定比起《鱼类种群协定》的规定退了一步。但是,NAFO同时强调这些规定并不影响任何缔约方按照国际法,采取进一步措施,预防、制止和消除非缔约方渔船的IUU捕鱼活动。²⁵

(二) 南太平洋区域渔业管理组织 (SPRFMO)

SPRFMO是根据2009年11月14日在新西兰奥克兰签订的《南太平洋公海渔业资源养护与管理公约》(以下简称“《SPRFMO公约》”)成立的政府间区域性渔业管理组织,秘书处设在新西兰惠灵顿。截至2017年7月1日,SPRFMO的成员方有:澳大利亚、智利、中国、库克群岛、古巴、厄瓜多尔、欧盟、丹麦(法罗群岛)、韩国、新西兰、俄罗斯、秘鲁、美国、瓦努阿图。台湾地区作为捕鱼实体也是该区域渔业组织的成员。利比里亚和巴拿马是该区域渔业组织的非成员合作方。²⁶我国于2010年8月19日签署、2013年6月6日核准了《SPRFMO公约》。2013年7月6日该公约对我国生效,我国成为依据该公约成立的SPRFMO的成员。²⁷

SPRFMO的管辖范围是南太平洋国家管辖范围以外的水域,其目标是,通过实施渔业管理的预防性方法和生态系统方法,确保对渔业资源的长期养护和持续利用,并保护渔业资源所处的海洋生态系统。实施的渔业管理措施包括:捕捞限额、船位监测、派驻科学观察员、数据收集和报告、渔船注册系统等。²⁸

从2015年8月24日起,SPRFMO在其管辖海域内,允许对其成员的渔船,包括非成员合作方的渔船,实施公海登临检查措施。但是由于SPRFMO的登临检查程序还没有制订完成,其登临检查程序完全按照《鱼类种群协定》第21条和第22条的规定执行。这种状况将持续到SPRFMO完成登临检查程序的制订工作并开始实施之日为止。²⁹

24 NAFO, Conservation and Enforcement Measures (2018), Article 34.

25 NAFO, Conservation and Enforcement Measures (2018), Article 48.

26 SPRFMO, About SPRFMO, at <http://sprfmo.superstarwebsites.co.nz>, 13 September 2018.

27 《国际渔业条约和文件选编》编写委员会编:《国际渔业条约和文件选编》,北京:海洋出版社2015年版,第442-501页。

28 SPRFMO, Management measures, at <http://sprfmo.superstarwebsites.co.nz>, 13 September 2018.

29 SPRFMO, CMM 11-20151 Conservation and Management Measure Relating to Boarding and Inspection Procedures in the SPRFMO Convention Area.

(三) 中西太平洋渔业委员会 (WCPFC)

2000 年 9 月 5 日在美国夏威夷通过了《中西太平洋高度洄游鱼类资源养护和管理公约》(以下简称“《WCPFC 公约》”)。该公约于 2004 年 6 月 19 日生效。根据《WCPFC 公约》第 9 条的规定,为了实施该公约,建立中西太平洋渔业委员会。2004 年 12 月 9 日, WCPFC 正式成立。秘书处设在密克罗尼西亚联邦的波纳佩。截至 2015 年 5 月 27 日,共有 26 个成员方,7 个参与领地和 8 个非成员合作方。我国于 2004 年 11 月 2 日批准了《WCPFC 公约》。2004 年 12 月 2 日起该公约对我国生效,我国成为 WCPFC 的成员。³⁰

WCPFC 通过的养护和管理措施对各成员方以及非成员合作方有法律拘束力,主要措施包括:成员核准其国民的捕鱼权、WCPFC 渔船登记簿、渔船规范标记与识别、渔获量或捕捞努力量报告与限制、禁渔期(区)、禁用大型流网、派驻渔业观察员、渔船监视系统、公海登临检查、港口国监督、渔获物转运管制、IUU 捕捞渔船名单及制裁措施等。³¹

《WCPFC 公约》第 26 条规定:

为了确保养护和管理措施的遵守,委员会应制定公约区域的公海登临检查渔船的程序;委员会每一成员应确保悬挂其旗帜的渔船根据这类程序接受经正式授权的检查员登临;经正式授权的检查员应遵守登临和检查的程序。³²

WCPFC 经协商于 2006 年 12 月一致通过了《公海登临检查程序》(以下简称“《程序》”)。该《程序》强调公海登临检查的目的是确保《WCPFC 公约》规定和委员会通过并生效的养护和管理措施得到遵守,除此之外不得登临检查公海渔船;公海登临检查的实施应根据《WCPFC 公约》第 26 条以及附件三第 6 条第 2 款进行,实施步骤应是透明和非歧视性的;缺乏监督或者资源破坏力大的船只,如无船籍注册、无观察员派驻以及吨位大的渔船等,应优先考虑为被登临检查的船只。该《程序》对参与公海登临检查的船只和人员提出诸多要求,如在公约区域参与实施公海登临检查的船只和人员必须在委员会注册,实施登临检查时必须通知

30 《国际渔业条约和文件选编》编写委员会编:《国际渔业条约和文件选编》,北京:海洋出版社 2015 年版,第 280 页。

31 WCPFC, Conservation and management measures, at <https://www.wcpfc.int/>, 13 September 2018.

32 《国际渔业条约和文件选编》编写委员会编:《国际渔业条约和文件选编》,北京:海洋出版社 2015 年版,第 294-295 页。

委员会,必须按《程序》要求配置参与实施公海登临检查的船只和检查员等。³³

该《程序》要求,经授权的检查员在每一次登临检查时,要按照委员会指定的格式,完成实施公海登临检查的全面报告。实施登临检查的检查船的主管机构应在检查结束后3个工作日内将登临检查报告通告被检查渔船的船旗国,同时报送WCPFC。报告中要有检查员的名字及其授权机构,并清楚记录违规的事实和证据,指明违规的性质。³⁴

应该说,WCPFC建立了相对比较完整的公海渔船登临检查制度体系,赋予了成员方实施公海渔船登临检查的权利。³⁵为确保公海渔船登临检查的实施过程按照《WCPFC公约》的要求进行,WCPFC建立了成员方的参与机制,明确了实施登临检查的程序,定义了严重违规的行为,确立了登临检查的报告机制,规定了争议解决的机制,深化和细化了公海渔船登临检查的每一个环节。³⁶

在执行方面,WCPFC管辖海域是实施公海渔船登临检查最普遍的海域。自2006年《程序》通过后,WCPFC的相关成员方不断对在中西太平洋海域作业的渔船实施公海登临检查。从2008年至2016年相关成员方共实施渔船登临检查446次,检查范围遍布中西太平洋整个作业海域。³⁷通过公海登临和检查制度的实施,有效打击了违规的捕捞作业,促进各成员方遵守和执行WCPFC的养护管理措施,提升了中西太平洋渔业资源的养护和管理水平。³⁸

目前,实施公海渔船登临检查的力度和深度正在加大。在中西太平洋实施公海渔船登临检查的成员方主要有:美国(共登检184次)、法国(代表其海外领地法属玻利尼西亚,共登检141次)、新西兰、中国台北。此外,库克群岛、日本、韩国等国家也陆续参与公海登临和检查。表1显示了2008年至2013年7月,WCPFC公海登临和检查的情况。

33 WCPFC, Western and Central Pacific Fisheries Commission Boarding and Inspection Procedures, at <https://www.wcpfc.int/doc/cmm-2006-08/western-and-central-pacific-fisheries-commission-boarding-and-inspection-procedures>, 13 September 2018.

34 WCPFC, Western and Central Pacific Fisheries Commission Boarding and Inspection Procedures, at <https://www.wcpfc.int/doc/cmm-2006-08/western-and-central-pacific-fisheries-commission-boarding-and-inspection-procedures>, 13 September 2018.

35 腾云路、戴小杰、田思泉:《中西太平洋渔业委员会公海登临和检查制度的分析和探讨》,载于《上海海洋大学学报》2015年第1期,第115~120页。

36 腾云路、戴小杰、田思泉:《中西太平洋渔业委员会公海登临和检查制度的分析和探讨》,载于《上海海洋大学学报》2015年第1期,第115~120页。

37 黄硕琳、邵化斌:《全球海洋渔业治理的发展趋势与特点》,载于《太平洋学报》2018年第4期,第65~78页。

38 腾云路、戴小杰、田思泉:《中西太平洋渔业委员会公海登临和检查制度的分析》,载于《上海海洋大学学报》2015年第1期,第115~120页。

表 1 2008—2013 年 7 月 WCPFC 实施公海登临和检查情况³⁹

年份	登临检查并报告次数	登临和检查方数量
2008	7	1
2009	3	1
2010	26	3
2011	45	2
2012	55	3
2013 (1-7 月 31 日)	50	6

根据中国远洋渔业协会提供的数据,自从 2010 年 12 月我国第一艘渔船在中西太平洋公海海域被美国登检开始,到 2017 年 5 月我国渔船共被登临检查 140 多次,其中被美国登检 40 次。我国渔船被登临和检查的海域,主要是毗连沿海国专属经济区的公海海域,和被相关沿海国专属经济区环绕封闭的公海海域。⁴⁰ 2011—2016 年我国渔船在 WCPFC 管辖海域被实施登临和检查的情况见表 2,每年大约有 2~3 艘我国渔船被查出严重违规。我国渔业管理部门严格遵守 WCPFC 的相关规定,对缔约他方公海登临检出违规的我国渔船,按违规情况进行处罚;对严重违规者则处以撤销捕捞许可证、将违规渔船从 WCPFC 船籍注册系统中撤除的处罚,并指令回国接受进一步检查和处罚。⁴¹

表 2 我国渔船 2011—2016 年被登临情况

年份	被登临检查次数	登临检查船旗国(登检次数)
2011	29	美国、法国
2012	29	美国、新西兰、法国
2013	20(至 8 月 31 日)	美国、新西兰、法国、基里巴斯、图瓦卢
2014	17	美国(9)、法国(8)
2015	40	美国(7)、法国(11) 新西兰(16)、澳大利亚(2)、马绍尔群岛(2)、其他(2)
2016	32	美国(8)、法国(5)、新西兰(13)、 澳大利亚(4)、库克群岛(2)

39 腾云路、戴小杰、田思泉:《中西太平洋渔业委员会公海登临和检查制度的分析》,载于《上海海洋大学学报》2015 年第 1 期,第 115~120 页。

40 腾云路、戴小杰、田思泉:《中西太平洋渔业委员会公海登临和检查制度的分析》,载于《上海海洋大学学报》2015 年第 1 期,第 115~120 页。

41 腾云路、戴小杰、田思泉:《中西太平洋渔业委员会公海登临和检查制度的分析》,载于《上海海洋大学学报》2015 年第 1 期,第 115~120 页。

五、公海登临权发展展望

21 世纪之前,国际法和国家实践将公海登临权的适用严格限制在海盗行为、奴隶贩运、非法广播、无国籍船舶等五种情况下,公海上的捕捞渔船在不涉及上述活动的情况下,完全属于船旗国管辖,其他国家无权进行登临和检查,除非得到船旗国的授权。

2001 年 12 月 11 日《鱼类种群协定》生效之后,公海登临权的概念得到了较大的发展。根据《鱼类种群协定》关于公海登临检查的规定和一些区域渔业组织制定的公海登临检查程序,公海登临权被越来越多地适用于公海捕捞渔船。公海登临的目的,从为了核实犯罪嫌疑扩展到了为了确保渔业资源的养护和管理措施得到遵守。公海登临检查的内容也从传统的检查船舶文件扩展到检查船舶、执照,包括捕鱼执照、设备、设施、渔获物、渔捞和航海日志、渔产品等。在公海对渔船进行登临检查这一事项上,渔船船旗国被要求给予检查国更多的配合与回应,包括对检出犯有违规行为的渔船予以相应的处罚等。在区域渔业管理的实践中,这种在公海上对渔船的登临也被越来越多的渔船船旗国所接受。

从目前公海登临检查的实践来看,公海登临检查措施确实有效地打击了渔船在公海的违规行为,有力地促进了养护和管理措施得到遵守。公海渔业管理制度长期得不到遵守和执行,作为解决这一顽疾的有效措施,缔约方公海登临检查将会被越来越多的区域渔业组织所采用。除了本文提及的 3 个区域渔业组织外,养护大西洋金枪鱼国际委员会 (ICCAT) 也从 2015 年 8 月 2 日起,开始对东大西洋和地中海蓝鳍金枪鱼渔业实施公海登临检查措施。⁴² 2016 年起,ICCAT 将公海登临检查措施也应用于地中海的剑鱼渔业。⁴³ 可以预计,在不久的将来,公海登临检查的措施将会扩展到 ICCAT 管辖的公海海域和所有鱼种。根据 2015 年 7 月 19 日正式生效的《北太平洋公海渔业资源养护与管理公约》所建立的北太平洋渔业委员会 (NPFC),也于 2018 年 7 月 19 日开始在其管辖海域实施公海登临检查措施。⁴⁴

42 ICCAT, Recommendation 14-04 by ICCAT Amending the Recommendation 13-07 by ICCAT to Establish a Multi-annual Recovery Plan for Bluefin Tuna in the Eastern Atlantic and Mediterranean, Part V and Annex 7.

43 ICCAT, Recommendation 16-05 by ICCAT Amending the Recommendation 13-04 by ICCAT to Establish a Multi-annual Recovery Plan for Mediterranean Swordfish, Part IV and Annex 1.

44 《国际渔业条约和文件选编》编写委员会编:《国际渔业条约和文件选编》,北京:海洋出版社 2015 年版,第 508~544 页。

公海渔船登临权的实施正在进一步朝深化、具体化和规范化方向发展。⁴⁵ 区域渔业组织关于行使公海渔船登临权的规定包括:所有登临的检查员和检查船舶都必须得到相应的授权且必须在区域渔业组织注册;检查船及实施登临的小船都必须展示其行使登临权的标识旗;检查员登临时必须向渔船船长出示授权证件;检查后在规定时间内向渔船船旗国和区域渔业组织通告登临检查情况报告,报告内容包括检查船的船名和授权官员的名字、登临检查的时间、登临检查的经纬度、被登临检查的船名、检查出的严重违规情况和相应违规事实和证据;争议的解决办法等。⁴⁶ 几乎所有实施公海登临的区域渔业组织都对严重违规的行为进行了定义,基本上与《鱼类种群协定》的规定相一致。

参与实施公海渔船登临检查的国家越来越多,实施的频率也在逐年加大。不仅一些发达国家的执法船舶,如美国、法国、新西兰,参与了对公海渔船的登临检查,一些南太平洋岛国的执法船舶,如基里巴斯、图瓦卢、马绍尔群岛、库克群岛也参与了公海渔船登临检查。⁴⁷ 一些国家,如法国,不仅有渔业执法船舶还有海军参与公海渔船登临检查。⁴⁸ 一些传统的远洋渔业国家,如日本、韩国,也参与了对公海渔船的登临检查。台湾地区以捕鱼实体的身份加入了多个区域渔业组织,也参与了公海渔船的登临与检查。⁴⁹

今后发展的趋势是,以确保公海渔业资源养护与管理措施得到遵守为目的,以对公海渔船实施登临检查为手段,将成为区域或分区域渔业管理组织进行公海渔业管理的主要措施之一;他国对公海渔船的登临检查将成为公海登临中最常见、实施范围最广的国际实践,也将成为国际上被普遍接受的国际法规则。⁵⁰

六、关于我国参与公海渔船登临检查的建议

截至 2016 年底,我国远洋渔船近 2900 艘(含在建渔船),远洋渔业总产量 199 万吨,我国远洋渔船除在 42 个国家(地区)的专属经济区作业外,也涉及太

45 黄硕琳、邵化斌:《全球海洋渔业治理的发展趋势与特点》,载于《太平洋学报》2018 年第 4 期,第 65~78 页。

46 WCPFC, Western and Central Pacific Fisheries Commission Boarding and Inspection Procedures, at <https://www.wcpfc.int/doc/cmm-2006-08/western-and-central-pacific-fisheries-commission-boarding-and-inspection-procedures>, 13 September 2018.

47 腾云路、戴小杰、田思泉:《中西太平洋渔业委员会公海登临和检查制度的分析》,载于《上海海洋大学学报》2015 年第 1 期,第 115~120 页。

48 腾云路、戴小杰、田思泉:《中西太平洋渔业委员会公海登临和检查制度的分析》,载于《上海海洋大学学报》2015 年第 1 期,第 115~120 页。

49 腾云路、戴小杰、田思泉:《中西太平洋渔业委员会公海登临和检查制度的分析》,载于《上海海洋大学学报》2015 年第 1 期,第 115~120 页。

50 黄硕琳、邵化斌:《全球海洋渔业治理的发展趋势与特点》,载于《太平洋学报》2018 年第 4 期,第 65~78 页。

平洋、印度洋、大西洋公海以及南极海域的捕捞作业。⁵¹其中,公海作业渔船 1329 艘,产量 132 万吨,占世界公海渔业产量的 12%,船数和产量均居世界前列。⁵²由于我国近年来远洋渔业发展迅速,远洋渔船的作业状况已经吸引了众多区域或分区域渔业管理组织的关注。

我国是许多实施公海渔船登临检查措施的区域渔业组织的成员,如 WCPFC、SPRFMO、ICCAT、NPFC 等。我国也已经接受了许多由国家授权的船舶在公海区域对我国渔船进行的登临检查,特别是在 WCPFC 管辖海域。我国应当考虑如何切实增强我国远洋渔业企业履约责任和履约能力,努力消除公海渔业中的严重违规现象,提升我国负责任渔业大国的形象。首先,应当加强对远洋渔业企业和远洋渔船船员关于国际渔业法律法规的培训,明确严重违规行为的种类及违规的后果,提升他们遵守国际渔业资源养护措施的自觉性;其次,加强对我国远洋渔船特别是公海渔船作业的监控,按要求装备渔船监控设备,严格执行公海渔船捕鱼许可的审查制度,严厉惩处在公海渔业作业中严重违规的害群之马。另外,也要提醒远洋渔船船长,有理有节地应对个别不按登临程序规定的登临检查或歧视性登临检查,维护我国渔船的正当公海权益。

我国也应当考虑我国海警船舶参与对他国渔船的公海登临检查,行使和维护我国的海洋权益。实际上,中国渔政从 1994 年开始就在北太平洋公海与美国海岸警卫队开展联合执法,检查联合国大会第 46/215 号决议的执行情况。⁵³从 2002 年开始,中国渔政连续多年派遣渔政船赴北太平洋公海监督检查在公海作业的中国渔船。⁵⁴2013 年,中国海警成立之后,接手了该项工作。但是,无论中国渔政还是中国海警在北太平洋对公海渔船的登临检查,都只是对本国渔船的登临检查,并没有涉及在公海对其他国家渔船的登临检查。我国是 WCPFC 等区域渔业管理组织的成员国,也享有在公海对他国渔船进行登临检查的权利。中国海警应当考虑尽快行使该项权利,使我国在区域渔业管理组织内的权利与义务相均衡。

建议中国海警尽快提升参与对他国公海渔船登临的能力:(1)熟悉远洋渔业事务,特别是提升对各公海区域的主要捕捞鱼种、主要作业方式、主要作业船型的认知能力和重要保护水生野生动物种类的识别、检查能力;(2)加强对国际海洋法、国际渔业法的学习,特别是加深对各区域或分区域渔业管理组织制订的渔业资源养护和管理措施、公海渔船登临检查程序的掌握与理解;(3)加强与他国渔民或

51 《“十三五”全国远洋渔业发展规划》,下载于 http://jiuban.moa.gov.cn/zwl/m/ghjh/201712/t20171221_5985078.htm, 2018 年 9 月 14 日。

52 《“十三五”全国远洋渔业发展规划》,下载于 http://jiuban.moa.gov.cn/zwl/m/ghjh/201712/t20171221_5985078.htm, 2018 年 9 月 14 日。

53 黄硕琳、刘艳红:《海洋渔业执法的国际合作——我国大陆的执法实践》,载于《中国海洋法学评论》2009 年第 1 期,第 1~11 页。

54 黄硕琳、刘艳红:《海洋渔业执法的国际合作——我国大陆的执法实践》,载于《中国海洋法学评论》2009 年第 1 期,第 1~11 页。

他国渔业执法人员沟通能力的培训,适应涉外渔业合作和涉外渔业案件处理的要求;(4)配备适应公海渔业执法需要的舰艇和先进的定位、通讯和执法设施,满足公海渔业执法的需要。

Right of Visit on the High Seas and Its New Developments: International Fisheries Management Practices

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Abstract: The right of visit means the right to approach, board and inspect a ship on the high seas that is reasonably suspected to be guilty of an international crime, or any other violation of international law. In the traditional law of the sea, this right does not apply to fishing vessels solely for the purpose of harvesting fish on the high seas. The Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, also called FSA, developed the concept of the right of visit on the high seas. This was done via expanding its application scope to include fishing vessels on the high seas, and by increasing the purpose and means of boarding, the objects subject to inspection and the responsibilities of the flag State in this regard. It is worth noting that the regional fisheries conventions and the practice of regional fisheries management organizations spearheaded and sustained the development of this very concept. Boarding and inspecting fishing vessels on the high seas has proved to be an effective measure to ensure compliance with conservation and management measures for high seas fisheries resources. After analyzing the progression of the right of visit on the high seas, this paper argues that the enforcement of boarding and inspection of foreign-flagged fishing vessels

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on the high seas by a State is likely to constitute a rule of customary international law. Based on that, the paper puts forward some suggestions for China to exercise the right to board foreign-flagged fishing vessels on the high seas.

Key Words: Law of the sea; High seas; Right of visit; Fishing vessel; Regional fisheries organization

Before the 20th century, the law of the sea limited coastal States' jurisdiction over marine fisheries to the narrow width of territorial waters; and every State enjoyed the freedom of fishing on the high seas. When the 20th century began, people gradually realized that marine living resources were limited, and any failure to curb human fishing activities would eventually lead to the decline and depletion of such resources. The international community, through a series of negotiations, signed many international conventions relating to the conservation and management of marine living resources. These include the International Convention for the Regulation of Whaling signed in 1946 and the Convention on the High Seas and the Convention on Fishing and Conservation of the Living Resources of the High Seas concluded at the First United Nations Conference on the Law of the Sea, 1958. Such conventions contain restrictive provisions on the conservation and utilization of living resources of the high seas, and make it clear that freedom of fishing on the high seas is subject to the rules of international law. The 1982 United Nations Convention on the Law of the Sea, also known as the UNCLOS, laid down further restrictive provisions on the right to fish on the high seas, which were followed by more stringent and specific requirements in the 1995 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (hereinafter referred to as the "FSA"). The FSA expanded the content of the right of visit on the high seas, with respect to the objects of the fishing vessels subject to inspection. In addition, the practice of boarding and inspection of fishing vessels on the high seas by relevant regional fisheries organizations has enriched and developed the concept of the right of visit on the high seas in international law.

I. The Concept of Right of Visit on the High Seas

Article 1 of the 1958 Convention on the High Seas defines "high seas" as all

parts of the sea that are not included in the territorial sea or in the internal waters of a State.¹ It means that the high seas include all the sea areas beyond the territorial seas of coastal States. The 1982 UNCLOS failed to give an express definition to “high seas”, but its Article 86 provides that “The provisions of this Part apply to all parts of the sea that are not included in the exclusive economic zone, in the territorial sea or in the internal waters of a State, or in the archipelagic waters of an archipelagic State.”² According to the UNCLOS, the territorial sea, the internal water, the exclusive economic zone (EEZ) and the archipelagic waters are excluded from the geographic scope of the high seas, which include all parts of the sea beyond the outer limits of EEZ.

Vessels on the high seas are, in most cases, subject solely to the exclusive jurisdiction of the flag State and the relevant rules of international law, but not to the jurisdiction and control of any other States. Article 6 of the 1958 Convention on the High Seas states, “Ships shall sail under the flag of one State only and, save in exceptional cases expressly provided for in international treaties or in these articles, shall be subject to its exclusive jurisdiction on the high seas.”³ UNCLOS Article 92 also articulates: “Ships shall sail under the flag of one State only and, save in exceptional cases expressly provided for in international treaties or in this Convention, shall be subject to its exclusive jurisdiction on the high seas.”⁴ Flag State jurisdiction is the cardinal rule governing vessels sailing on the high seas, and has always played a dominant role in international law.

However, in order to maintain the regime of high seas navigation and the normal legal order of the high seas, States have the right to exercise jurisdiction over international crimes against the common interests of mankind and certain violations of international law committed on the high seas. Right of visit means the right to approach, board and inspect a ship on the high seas that is reasonably suspected to be guilty of an international crime, or any other violation of international law.⁵

1 International Law Teaching and Research Office of the Department of Law, Peiking University ed., *A Compilation of Data on the Law of the Sea*, Beijing: People’s Publishing House, 1974, p. 218. (in Chinese)

2 UNCLOS Article 86.

3 International Law Teaching and Research Office of the Department of Law, Peiking University ed., *A Compilation of Data on the Law of the Sea*, Beijing: People’s Publishing House, 1974, p. 220. (in Chinese)

4 UNCLOS Article 92.

5 HUANG Shuolin and TANG Yi, *Fisheries Regulation and Fisheries Management*, Beijing: China Agriculture Press, 2010, p. 56. (in Chinese)

II. Provisions Relating to the Right of Visit on the High Seas Under UNCLOS

UNCLOS Part VII – High Seas details on the right of visit. A foreign ship on the high seas should not be boarded unless there is reasonable ground for suspecting that: (a) the ship is engaged in piracy; (b) the ship is engaged in the slave trade; (c) the ship is engaged in unauthorized broadcasting and the flag State of the vessel attempting a boarding has jurisdiction; (d) the ship is without nationality; or (e) through flying a foreign flag or refusing to show its flag, the ship is, in reality, of the same nationality as the vessel attempting a boarding.⁶

The exercise of the right of visit should be also in compliance with relevant international rules and customs, which could be described mainly as follows:

(1) The right of visit shall be exercised by warships. The provisions regarding the exercise of the right of visit apply *mutatis mutandis* to military aircraft, and also apply to any other duly authorized ships or aircraft clearly marked and identifiable as being on government service;⁷

(2) Warships on the high seas have complete immunity from the jurisdiction of any State other than the flag State;⁸ and ships owned or operated by a State and used only on government non-commercial service shall, on the high seas, have complete immunity from the jurisdiction of any State other than the flag State;⁹ such ships shall not be boarded by any foreign States on the high seas;

(3) Boarding shall be carried out on reasonable ground. If the suspicions prove to be unfounded, and provided that the ship boarded has not committed any act justifying them, it shall be compensated for any loss or damage that may have been sustained.¹⁰

(4) Boarding shall be carried out in the way as provided, and examination must be carried out with all possible consideration.¹¹

The provisions above and the manner in which the articles of the UNCLOS relating to the right of visit are drafted show that international law imposes a very strict limit on the exercise of the right of visit. This right could be exercised only

6 UNCLOS Article 110.

7 UNCLOS Article 110.

8 UNCLOS Article 95.

9 UNCLOS Article 96.

10 UNCLOS Article 110(3).

11 UNCLOS Article 110(2).

in cases of piracy, slave trafficking, unauthorized broadcasting and ships without nationality, among others. However, the fishing activities of vessels on the high seas have complete immunity from the jurisdiction of any State other than the flag State.

III. Provisions in Respect to the Right of Visit on the High Seas Under FSA

The FSA, adopted at the United Nations Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks on 4 August 1995, is a supplementary agreement for the implementation of UNCLOS. This agreement, consisting of 50 articles divided into 13 parts, in addition to two annexes, entered into force on 11 December 2001.¹² As of 11 July 2018, a total of 59 States or international organizations had signed the FSA, and 89 States or international organizations had ratified or acceded to the agreement.¹³ The Chinese government signed the agreement on 6 November 1996, but has not yet ratified it as at 11 July 2018.¹⁴ At the time of signing, the Chinese government filed a declaration regarding the provisions of Articles 21(7) and 22(1).

FSA, Article 21 (subregional and regional cooperation in enforcement) stipulates that,

1. In any high seas area covered by a subregional or regional fisheries management organization or arrangement, a State Party which is a member of such organization or a participant in such arrangement may, through its duly authorized inspectors, board and inspect, in accordance with paragraph 2, fishing vessels flying the flag of another State Party to this Agreement, whether or not such State Party is also a member of the organization or a participant in the arrangement, for the purpose of ensuring compliance with conservation

12 Editorial Committee for *Selections of International Fisheries Treaties and Documents* ed., *Selections of International Fisheries Treaties and Documents*, Beijing: China Ocean Press, 2015, pp. 3~28. (in Chinese)

13 United Nations Treaty Collection, Status of treaty, at <https://treaties.un.org/>, 13 September 2018.

14 United Nations Treaty Collection, Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, at https://treaties.un.org/pages/UNTSONline.aspx?2&clang=_en, 13 September 2018.

*and management measures for straddling fish stocks and highly migratory fish stocks established by that organization or arrangement.*¹⁵

Article 21, paragraphs 2 and 3, provides for the establishment of the procedures for boarding and inspection. Paragraph 4 expresses that inspecting States shall inform all States whose vessels fish on the high seas of the form of identification issued to their duly authorized inspectors and the vessels used for inspection shall be clearly marked. Paragraph 5 provides for the securing of evidence supporting an alleged violation and notification of the flag State concerned. Paragraph 6 stipulates that the flag State shall respond to the notification within three working days of its receipt, or such other period as may be prescribed in procedures, and shall fulfill, without delay, its obligations to investigate and take further actions.¹⁶ *Inter alia*, paragraph 8 articulates that where, following boarding and inspection, there are clear grounds for believing that a vessel has committed a serious violation, and the flag State has either failed to respond or failed to take action as required, the inspectors may remain on board and secure evidence and may require the master to assist in further investigation including, where appropriate, by bringing the vessel without delay to the nearest appropriate port, or to such other port as may be specified in procedures.¹⁷

According to FSA Article 21(11), a serious violation means: (a) fishing without a valid license, authorization or permit issued by the flag State; (b) failing to maintain accurate records of catch and catch-related data as required, or serious misreporting of catch, contrary to the catch reporting requirements of relevant subregional or regional fisheries management organization or arrangement; (c) fishing in a closed area, fishing during a closed season or fishing without, or after attainment of, a quota; (d) fishing for a stock which is subject to a moratorium or for which fishing is prohibited; (e) using prohibited fishing gear; (f) falsifying or concealing the markings, identity or registration of a fishing vessel; (g) concealing, tampering with or disposing of evidence relating to an investigation; (h) multiple

15 Editorial Committee for *Selections of International Fisheries Treaties and Documents* ed., *Selections of International Fisheries Treaties and Documents*, Beijing: China Ocean Press, 2015, pp. 13~15. (in Chinese)

16 Editorial Committee for *Selections of International Fisheries Treaties and Documents* ed., *Selections of International Fisheries Treaties and Documents*, Beijing: China Ocean Press, 2015, pp. 13~15. (in Chinese)

17 Editorial Committee for *Selections of International Fisheries Treaties and Documents* ed., *Selections of International Fisheries Treaties and Documents*, Beijing: China Ocean Press, 2015, pp. 13~15. (in Chinese)

violations; or (i) such other violations as may be specified by the relevant fisheries management organization.¹⁸

FSA, Article 22 “Basic procedures for boarding and inspection pursuant to article 21”, provides for the actions of inspectors, scope of examination, actions of the master of the vessel under inspection, and the obligations of the flag State in the event that its vessel refuses to accept inspection. In line with the provisions, the inspectors boarding a ship on the high seas shall have the authority to inspect the vessel, its license, gear, equipment, records, facilities, fish and fish products and any relevant documents necessary.¹⁹ At the meanwhile, Article 22(1)(f) states that the inspectors shall “avoid the use of force except when and to the degree necessary to ensure the safety of the inspectors and where the inspectors are obstructed in the execution of their duties. The degree of force used shall not exceed that reasonably required in the circumstances”.²⁰ When signing FSA, the Chinese government made the following declaration with respect to the clause above:

*The understanding of the Chinese Government on this provision is that only when the personal safety of the authorized inspectors whose authorization has been duly verified is endangered and their normal inspecting activities are obstructed by violence committed by crew members or fishermen of the fishing vessel under inspection, may the inspectors take appropriate compulsory measures necessary to stop such violence. It should be emphasized that the action of force by the inspectors shall only be taken against those crew members or fishermen committing the violence and must never be taken against the vessel as a whole or other crew members or fishermen.*²¹

The FSA expanded the scope of vessels subject to boarding on the high seas, the purpose and ways of high seas boarding, the matters that inspectors are

18 Editorial Committee for *Selections of International Fisheries Treaties and Documents* ed., *Selections of International Fisheries Treaties and Documents*, Beijing: China Ocean Press, 2015, pp. 14~15. (in Chinese)

19 Editorial Committee for *Selections of International Fisheries Treaties and Documents* ed., *Selections of International Fisheries Treaties and Documents*, Beijing: China Ocean Press, 2015, pp. 15~16. (in Chinese)

20 Editorial Committee for *Selections of International Fisheries Treaties and Documents* ed., *Selections of International Fisheries Treaties and Documents*, Beijing: China Ocean Press, 2015, pp. 15~16. (in Chinese)

21 Editorial Committee for *Selections of International Fisheries Treaties and Documents* ed., *Selections of International Fisheries Treaties and Documents*, Beijing: China Ocean Press, 2015, p. 28. (in Chinese)

authorized to inspect and the responsibilities of flag States in this regard. With regards to the vessels subject to boarding, the FSA expanded the scope of such vessels as those under the five circumstances specified in UNCLOS Article 110, to include vessels fishing on the high seas. A State Party may, through its duly authorized inspectors, board the fishing vessels on the high seas, whether or not the flag State of the vessels is a member of a regional fisheries organization or a participant in a regional fisheries arrangement. In addition, the FSA increased the purpose of boarding, by adding the purpose of ensuring compliance with conservation and management measures to the initial one of proving suspicions. In other words, an authorized inspecting vessel may, at any time, board a fishing vessel on the high seas, whether or not there is reasonable ground for suspecting the fishing vessel is operating illegally. Furthermore, the FSA changed the ways of boarding and inspection from inspection with all possible consideration under UNCLOS to allowing use of force. While the agreement emphasizes the avoidance of the use of force, it does, after all, provide that the right of high seas visit may be exercised by using force. This provision greatly reinforced the deterrent effect of high seas boarding. Under the UNCLOS, the inspecting boat has the authority to examine the documents of the suspected vessel, and if suspicion remains after such examination, it may proceed to a further examination. However, the FSA augmented such authority to include those to inspect the vessel, its license, gear, equipment, records, facilities, fish and fish products and any relevant documents necessary. In the opinion of the authors, for the fishing vessels that are boarded on the high seas, all but the personal belongings of the crew or fishermen may be included in the list subject to inspection.

Apart from those above, the responsibilities of the flag State of the fishing vessel, with respect to the right of visit on the high seas, have been increased. FSA, Article 22, paragraphs 3 and 4, stipulates that the flag State shall ensure the vessel masters: (a) accept and facilitate prompt and safe boarding by the inspectors; (b) cooperate with and assist in the inspection of the vessel; (c) do not obstruct, intimidate or interfere with the inspectors; (d) allow the inspectors to communicate with the authorities of the flag State and the inspecting State; (e) provide reasonable facilities, including, where appropriate, food and accommodation, to the inspectors; and (f) facilitate safe disembarkation by the inspectors. In the case that the master of a vessel refuses to accept boarding and inspection, the flag State shall direct the master to submit to boarding and inspection and, if the master does not comply

with such direction, it shall impose penalty against the vessel.²²

The FSA provisions concerning the right of visit on the high seas represent an important development of the same right under the UNCLOS. After the entry into force of the agreement, the practice of regional fisheries management organizations with respect to high seas fisheries management has stimulated and sustained the development of the right.

IV. The Practice of Regional Fisheries Management Organizations

A. Northwest Atlantic Fisheries Organization (NAFO)

NAFO was founded in 1979 in accordance with the NAFO Convention on Future Multilateral Cooperation in the Northwest Atlantic Fisheries, as a successor to International Commission of the Northwest Atlantic Fisheries (ICNAF). The organization has its headquarters in Dartmouth, Nova Scotia, Canada.

The objective of NAFO is to ensure reasonable management, conservation and optimum utilization of the fishery resources in the Convention Area by negotiations and cooperation. The NAFO is primarily responsible for, among others, the assessment of the biological resources in its regulatory area and the adoption of management measures based on the advice provided by the Scientific Council, including managing fishing quota, and imposing restrictions on fishing gear and methods. Currently NAFO has 12 contracting parties: Canada, Cuba, Denmark (with respect to the Faroe Islands and Greenland), EU, France (with respect to St. Pierre et Miquelon), Iceland, Japan, Norway, Republic of Korea, Russian Federation, Ukraine and the USA.²³

The NAFO Convention Area encompasses a large portion of the Atlantic Ocean and includes the 200-nautical-mile zones under the jurisdiction of its four coastal State members. The organization is responsible for the management of most fishery resources of the Northwest Atlantic except salmon, tunas, whales, and sedentary species. It utilizes the following measures to manage fishery resources: total allowable catch, quotas, area and time restrictions, coral protection zones,

22 Editorial Committee for *Selections of International Fisheries Treaties and Documents* ed., *Selections of International Fisheries Treaties and Documents*, Beijing: China Ocean Press, 2015, pp. 15~16. (in Chinese)

23 NAFO, About us, at <http://www.nafo.int/>, 13 September 2018.

minimum fish size requirements, bycatch management, and conservation and management of sharks. NAFO has also developed an integrated set of monitoring, control and surveillance measures.

Since 2005, NAFO has allowed the inspectors duly authorized by a contracting party to visit the vessels of another contracting party in its regulatory area, including the high seas. Such boarding and inspection shall be conducted on a fair basis and shall avoid inspecting for inappropriate times. NAFO has developed detailed procedures for boarding and inspection, and the obligations of the master of a fishing vessel during inspection. The NAFO Conservation and Enforcement Measures (2018) states that the inspectors shall: (a) prior to boarding, notify the fishing vessel of the name of the inspection vessel; (b) display, on the inspection vessel and boarding vessel, the pennant as required; (c) ensure that during boarding, the inspection vessel remains at a safe distance from fishing vessels; (d) do not require the fishing vessel to stop or manoeuvre when towing, shooting or hauling; (e) limit each inspection team to a maximum of four inspectors; (f) present to the master their NAFO documents of identity issued by the Executive Secretary; and (g) limit inspections to four hours, or the time required for the net to be hauled in and both the net and the catch to be inspected, except in the case of a serious infringement.²⁴

In accordance with NAFO regulations, the inspectors may board a fishing vessel of non-contracting parties in the NAFO regulatory area, based on two conditions: (a) the vessel is engaged in fishing activities in the NAFO regulatory area or is suspected of IUU fishing, and (b) the master of the vessel has consented to the boarding. Compared to the FSA provisions in this regard, NAFO regulations seem to have taken a step back. Nevertheless, NAFO also stresses that all these regulations shall not be construed to affect the right of any contracting party to take additional measures as may be consistent with international law to prevent, deter and eliminate IUU fishing by non-contracting party vessels.²⁵

B. South Pacific Regional Fisheries Management Organization (SPRFMO)

SPRFMO, an intergovernmental regional fisheries management organization,

24 NAFO, Conservation and Enforcement Measures (2018), Article 34.

25 NAFO, Conservation and Enforcement Measures (2018), Article 48.

was founded in accordance with the Convention on the Conservation and Management of High Seas Fishery Resources in the South Pacific Ocean (SPRFMO Convention) signed in Auckland, New Zealand, on 14 November 2009. The SPRFMO Secretariat is seated in Wellington, New Zealand. As of 1 July 2017, SPRFMO had 15 members: Australia, Republic of Chile, People's Republic of China, Cook Islands, Republic of Cuba, Republic of Ecuador, European Union, Kingdom of Denmark in respect of the Faroe Islands, Republic of Korea, New Zealand, Republic of Peru, Russian Federation, the United States of America, Republic of Vanuatu, and Chinese Taiwan as a fishing entity. Republic of Liberia and Republic of Panama are the cooperating non-contracting parties of SPRFMO.²⁶ China signed the SPRFMO Convention on 19 August 2010 and ratified it on 6 June 2013. On 6 July 2013, the Convention became effective for China, and China became a member of the SPRFMO established under the Convention.²⁷

The regulatory area of SPRFMO covers the waters of the South Pacific Ocean beyond areas of national jurisdiction. The organization aims to ensure the long-term conservation and sustainable use of fishery resources and in so doing, safeguard the marine ecosystems in which the resources occur, through the application of the precautionary approach and an ecosystem approach to fisheries management. It enforces fishery management measures like setting catch quotas, monitoring vessel position, sending scientific observers on board, imposing requirements on data collection and reporting, and establishing a vessel registration system.²⁸

The boarding and inspection measures, since 24 August 2015, are allowed to be carried out in respect to the fishing vessels of contracting parties and cooperating non-contracting parties in SPRFMO regulatory area. However, as SPRFMO boarding and inspection procedures have not been in place, boarding and inspection may be conducted following the procedures contained in Articles 21 and 22 of the FAS. This practice shall be followed until such time when the SPRFMO adopts and implements a specific boarding and inspection regime.²⁹

26 SPRFMO, About SPRFMO, at <http://sprfmo.superstarwebsites.co.nz>, 13 September 2018.

27 Editorial Committee for *Selections of International Fisheries Treaties and Documents* ed., *Selections of International Fisheries Treaties and Documents*, Beijing: China Ocean Press, 2015, pp. 442~501. (in Chinese)

28 SPRFMO, Management measures, at <http://sprfmo.superstarwebsites.co.nz>, 13 September 2018.

29 SPRFMO, CMM 11-20151 Conservation and Management Measure Relating to Boarding and Inspection Procedures in the SPRFMO Convention Area.

C. Western and Central Pacific Fisheries Commission (WCPFC)

The Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean (WCPFC Convention) was adopted in Hawaii, the United States, on 5 September 2000, and came into force on 19 June 2004. In line with Article 9 of the WCPFC Convention, the WCPFC was established to implement the convention. On 9 December 2004, WCPFC was formally established, with its secretariat in Ponape, the Federated States of Micronesia. As of 27 May 2015, the Commission had 26 members, 7 participating territories and 8 cooperating non-members. China ratified the WCPFC Convention on 2 November 2004, which became effective for China on 2 December 2004, and China became a member of WCPFC thereafter.³⁰

The conservation and management measures adopted by WCPFC are legally binding on all members and cooperating non-members. Such measures primarily include: WCPFC members' authorization of their nationals to fish, WCPFC record of fishing vessels, specifications for the marking and identification of fishing vessels, fish catch or effort reporting and restrictions, closed seasons (areas), prohibiting the use of large scale driftnets, the regional observer programme, vessel monitoring system, high seas boarding and inspection, port State control, regulation of transshipment, establishing IUU vessel lists as well as imposing sanctions.³¹

Article 26 of WCPFC Convention provides,

*For the purposes of ensuring compliance with conservation and management measures, the Commission shall establish procedures for boarding and inspection of fishing vessels on the high seas in the Convention Area. Each member of the Commission shall ensure that fishing vessels flying its flag accept boarding by duly authorized inspectors in accordance with such procedures. Such duly authorized inspectors shall comply with the procedures for boarding and inspection.*³²

30 Editorial Committee for *Selections of International Fisheries Treaties and Documents* ed., *Selections of International Fisheries Treaties and Documents*, Beijing: China Ocean Press, 2015, p. 280. (in Chinese)

31 WCPFC, Conservation and management measures, at <https://www.wcpfc.int/>, 13 September 2018.

32 Editorial Committee for *Selections of International Fisheries Treaties and Documents* ed., *Selections of International Fisheries Treaties and Documents*, Beijing: China Ocean Press, 2015, pp. 294-295. (in Chinese)

The WCPFC, upon negotiations, unanimously adopted the Western and Central Pacific Fisheries Commission Boarding and Inspection Procedures (hereinafter referred to as the “Procedures”) in December 2006. The Procedures emphasizes that high seas boarding and inspection shall be conducted for the purpose of ensuring compliance with the provisions of the WCPF Convention and conservation and management measures adopted by the WCPFC and in force. Inspectors should not board the fishing vessels on the high seas for other purposes. These procedures for boarding and inspection shall be implemented pursuant to Article 26 and Annex III, Article 6(2), of the WCPF Convention, and in a transparent and non-discriminatory manner. Priority for boarding and inspection effort may be given to unsupervised vessels or vessels with massive destruction to resources, such as fishing vessels without nationality, fishing vessels without observers on board and large-scale fishing vessels. The Procedures also laid some requirements on the persons or vessels participating in the boarding and inspection effort on the high seas. For example, only vessels and inspectors listed on the WCPFC’s register are authorized to board and inspect fishing vessels on the high seas within the Convention Area; each contracting party that intends to carry out boarding and inspection activities shall so notify the WCPFC; inspection vessels and inspectors should be arranged with due respect to the requirements under the Procedures.³³

Pursuant to the Procedures, authorized inspectors shall prepare a full report on each boarding and inspection they carry out in accordance with a format that may be specified by the WCPFC. The authorities of the inspection vessel from which the boarding and inspection was carried out shall transmit a copy of the boarding and inspection report to the authorities of the fishing vessel being inspected, as well as the WCPFC, within three full working days of the completion of the boarding and inspection. Such report shall include the names and authority of the inspectors, clearly identify any suspected violation of the WCPF Convention or conservation and management measures in force, and indicate the factual evidence and the nature of such violation.³⁴

It is worth noting that the WCPFC has established a relatively complete system

33 WCPFC, Western and Central Pacific Fisheries Commission Boarding and Inspection Procedures, at <https://www.wcpfc.int/doc/cmm-2006-08/western-and-central-pacific-fisheries-commission-boarding-and-inspection-procedures>, 13 September 2018.

34 WCPFC, Western and Central Pacific Fisheries Commission Boarding and Inspection Procedures, at <https://www.wcpfc.int/doc/cmm-2006-08/western-and-central-pacific-fisheries-commission-boarding-and-inspection-procedures>, 13 September 2018.

of boarding and inspection of fishing vessels operating on the high seas, which grants its members the right to conduct such boarding and inspection activities.³⁵ In order to ensure that boarding and inspection of vessels on the high seas is carried out in accordance with the requirements under the WCPF Convention, WCPFC established the member participation mechanism, specified the procedures for boarding and inspection, defined the term “serious violation”, and created the reporting mechanism and the dispute resolution mechanism with respect to boarding and inspection. By doing so, it specified and detailed each step of the procedures to board and inspect the vessels on the high seas.³⁶

Notably, WCPFC regulatory area is the place where boarding and inspection procedures are implemented most often. The WCPFC members concerned, since the adoption of the Procedures in 2006, have been constantly boarding and inspecting the fishing vessels operating in the Western and Central Pacific waters. From 2008 to 2016, such members had carried out boarding and inspection of fishing vessels for 446 times on the high seas, covering the entire operating area of the Western and Central Pacific.³⁷ Illegal fishing operations, through the implementation of the high seas boarding and inspection regime, have been effectively curbed. The implementation of the regime urges the WCPFC members to follow and carry out the conservation and management measures, which will further improve the conservation and management level of the fishery resources in the Western and Central Pacific.³⁸

At present, WCPFC has been increasing its efforts to board and inspect the fishing vessels on the high seas. The members participating in such efforts in the Western and Central Pacific primarily include: the United States (184 times), France (141 times on behalf of its overseas territory French Polynesia), New Zealand, and Chinese Taipei. In addition, the Cook Islands, Japan, South Korea and other countries have also joined in such boarding and inspection efforts. Table

35 TENG Yunlu, DAI Xiaojie and TIAN Siqun, Analysis of Western and Central Pacific Fisheries Commission High Seas Boarding and Inspection Procedures, *Journal of Shanghai Ocean University*, No. 1, 2015, pp. 115~120. (in Chinese)

36 TENG Yunlu, DAI Xiaojie and TIAN Siqun, Analysis of Western and Central Pacific Fisheries Commission High Seas Boarding and Inspection Procedures, *Journal of Shanghai Ocean University*, No. 1, 2015, pp. 115~120. (in Chinese)

37 HUANG Shuolin and SHAO Huabin, Development Trends and Features of Global Marine Fisheries Governance, *Pacific Journal*, No. 4, 2018, pp. 65~78. (in Chinese)

38 TENG Yunlu, DAI Xiaojie and TIAN Siqun, Analysis of Western and Central Pacific Fisheries Commission High Seas Boarding and Inspection Procedures, *Journal of Shanghai Ocean University*, No. 1, 2015, pp. 115~120. (in Chinese)

1 shows the general information about the high seas boarding and inspection conducted by WCPFC from 2008 to July 2013.

**Table 1 High Seas Boarding and Inspection Conducted by WCPFC
from 2008 to July 2013³⁹**

Year	Times of boarding, inspecting and reporting	Number of boarding and inspecting States
2008	7	1
2009	3	1
2010	26	3
2011	45	2
2012	55	3
January – 31 July 2013	50	6

According to the data provided by China Overseas Fisheries Association, ever since December 2010 when the first Chinese fishing vessel was boarded and inspected by the United States in the Western and Central Pacific waters, Chinese fishing vessels had received such inspections for more than 140 times as of May 2017, of which 40 were conducted by the United States. The areas where Chinese vessels were visited are mainly the high seas adjacent to the EEZs of coastal States and those surrounded by the EEZs of relevant coastal States.⁴⁰ Based on the statistics about the Chinese fishing vessels that had been boarded and inspected in WCPFC regulatory area from 2011 to 2016, as shown in Table 2, we can see that 2~3 Chinese fishing vessels, approximately, were found to have committed serious violations each year. China's fishery management authorities strictly abides by the relevant provisions of WCPFC, and would impose penalties, as the case may be, on Chinese fishing boats that were found to have violated the relevant rules upon boarding and inspection by other members. The authorities would punish serious offenders by revoking their fishing license, removing the offending vessels from the WCPFC vessel registration system, and ordering them to return home for further

39 TENG Yunlu, DAI Xiaojie and TIAN Siquan, Analysis of Western and Central Pacific Fisheries Commission High Seas Boarding and Inspection Procedures, *Journal of Shanghai Ocean University*, No. 1, 2015, pp. 115~120. (in Chinese)

40 TENG Yunlu, DAI Xiaojie and TIAN Siquan, Analysis of Western and Central Pacific Fisheries Commission High Seas Boarding and Inspection Procedures, *Journal of Shanghai Ocean University*, No. 1, 2015, pp. 115~120. (in Chinese)

inspection and punishment.⁴¹

Table 2 Boarding and Inspection of Chinese Fishing Vessels (2011-2016)

Year	Times of boarding and inspection	Flag State of the inspecting vessel (inspecting times)
2011	29	The United States, France
2012	29	The United States, New Zealand, France
2013	20 (as of 31 August)	The United States, New Zealand, France, Kiribati, Tuvalu
2014	17	The United States (9), France (8)
2015	40	The United States (7), France (11), New Zealand (16), Australia (2), Marshall Islands (2), others (2)
2016	32	The United States (8), France (5), New Zealand (13), Australia (4), Cook Islands (2)

V. Prospect for the Right of Visit on the High Seas

Prior to the 21st century, international law and State practice strictly limited the application of the right of visit on the high seas to cases like piracy, slave trafficking, unauthorized broadcasting, and vessels without nationality. Fishing vessels on the high seas, except engaging in activities in the five cases described above, are under the exclusive jurisdiction of the flag State; no other State has the right to conduct boarding and inspection unless authorized by the flag State.

After the entry into force of the FSA on 11 December 2001, the concept of the right of visit on the high seas has been considerably developed. In accordance with the provisions relating to high seas boarding and inspection under the FSA, as well as the procedures for boarding and inspection established by some regional fisheries organizations, the right of visit is increasingly applied to fishing vessels operating on the high seas. The initial purpose of boarding, i.e., to prove suspicions, has been revised to include the purpose of ensuring compliance with the measures to conserve and manage the fishery resources. Apart from the conventional

41 TENG Yunlu, DAI Xiaojie and TIAN Siquan, Analysis of Western and Central Pacific Fisheries Commission High Seas Boarding and Inspection Procedures, *Journal of Shanghai Ocean University*, No. 1, 2015, pp. 115~120. (in Chinese)

documents of the suspected vessel, the vessel and its license, including fishing license, equipment, facilities, fish, fishing and sailing logs and fish products, are added to the list of the objects subject to examination. With regards to the boarding and inspection of fishing vessels on the high seas, the flag State of the fishing vessel is required to give further cooperation and response to the inspecting State than before, including to impose corresponding penalties for vessels found guilty of violations. Such boarding of fishing vessels on the high seas has, in regional fisheries management practice, also been accepted by a growing number of flag States.

The current practice of high seas boarding and inspection tells that, such measures have effectively cracked down on the violations by fishing vessels on the high seas and significantly boosted the compliance of conservation and management measures. Since the high seas fisheries management system has not been complied or implemented for a long duration, boarding and inspection of shipping vessels has become an effective measure to address this longstanding problem, which would be adopted by a growing number of regional fisheries organizations. In addition to the three regional fisheries organizations mentioned above, the International Commission for the Conservation of Atlantic Tunas (ICCAT), on 2 August 2015, also began to implement the measure to board and inspect the vessels harvesting bluefin tuna fisheries in the Eastern Atlantic and Mediterranean.⁴² Since 2016, ICCAT has also taken this measure to conserve and manage swordfish fisheries in the Mediterranean.⁴³ It can be expected that in the near future, the measure of high seas boarding and inspection will be extended to the high seas and all fish species falling under the jurisdiction of ICCAT. The North Pacific Fisheries Commission (NPFCC), which was founded in accordance with the Convention on the Conservation and Management of High Seas Fisheries Resources in the North Pacific Ocean (came into effect on 19 July 2015), also implemented this measure in its regulatory area on 19 July 2018.⁴⁴

The right of visit of fishing vessels on the high seas is being performed towards

42 ICCAT, Recommendation 14-04 by ICCAT Amending the Recommendation 13-07 by ICCAT to Establish a Multi-annual Recovery Plan for Bluefin Tuna in the Eastern Atlantic and Mediterranean, Part V and Annex 7.

43 ICCAT, Recommendation 16-05 by ICCAT Amending the Recommendation 13-04 by ICCAT to Establish a Multi-annual Recovery Plan for Mediterranean Swordfish, Part IV and Annex 1.

44 Editorial Committee for *Selections of International Fisheries Treaties and Documents* ed., *Selections of International Fisheries Treaties and Documents*, Beijing: China Ocean Press, 2015, pp. 508-544. (in Chinese)

the direction of doing so in line with detailed and standardized procedures.⁴⁵ The provisions promulgated by regional fisheries organizations with respect to the exercise of this right include: all inspectors and inspection vessels shall be duly authorized and listed on the register of the regional fisheries organization concerned; the inspection vessel and the boat used to board the fishing vessel shall fly the inspection flag; the inspectors shall present credentials to the master of the fishing vessel at the time of boarding; following the completion of the inspection, the inspectors shall provide a copy of the report on the boarding and inspection to the flag State of the fishing vessel and the regional fisheries organization, noting therein the names of the inspection vessel and inspectors, time of boarding and inspection, longitude and latitude of the boarding site, name of the vessel boarded, serious violation found, if any, and factual evidence of such violation, and methods of dispute settlement.⁴⁶ Nearly all regional fisheries organizations that enforce the boarding measure on the high seas have defined the term “serious violation”, which is basically consistent with the FSA provisions.

A growing number of States are participating in the boarding and inspection of fishing vessels on the high seas, and such activities are carried out in a more and more frequent manner. It is not only the law enforcement vessels of some developed States, such as the United States, France and New Zealand, that are participating in the boarding and inspection of fishing vessels on the high seas, but also the law enforcement vessels of some island States in the South Pacific, including Kiribati, Tuvalu, Marshall Islands and Cook Islands.⁴⁷ In some States, like France, both fisheries law enforcement vessels and the navy take part in the boarding and inspection of fishing vessels on the high seas.⁴⁸ Some traditional distant-water fishing States, such as Japan and South Korea, also participated in such boarding and inspection effort. Taiwan became a member of several regional fisheries organizations as a fishing entity, and has also participated in the boarding

45 HUANG Shuolin and SHAO Huabin, Development Trends and Features of Global Marine Fisheries Governance, *Pacific Journal*, No. 4, 2018, pp. 65~78. (in Chinese)

46 WCPFC, Western and Central Pacific Fisheries Commission Boarding and Inspection Procedures, at <https://www.wcpfc.int/doc/cmm-2006-08/western-and-central-pacific-fisheries-commission-boarding-and-inspection-procedures>, 13 September 2018.

47 TENG Yunlu, DAI Xiaojie and TIAN Siqian, Analysis of Western and Central Pacific Fisheries Commission High Seas Boarding and Inspection Procedures, *Journal of Shanghai Ocean University*, No. 1, 2015, pp. 115~120. (in Chinese)

48 TENG Yunlu, DAI Xiaojie and TIAN Siqian, Analysis of Western and Central Pacific Fisheries Commission High Seas Boarding and Inspection Procedures, *Journal of Shanghai Ocean University*, No. 1, 2015, pp. 115~120. (in Chinese)

and inspection of fishing vessels on the high seas.⁴⁹

The developing trend in this regard could be described as follows: with the purpose of ensuring compliance with conservation and management measures for fisheries resources on the high seas, boarding and inspection of fishing vessels on the high seas will become one of the principal measures taken by regional or sub-regional fisheries management organizations to manage high seas fisheries; boarding and inspection of fishing vessels of a State on the high seas by another State will become the most common and widely applied international practice with respect to high seas boarding, as well as a generally accepted rule of international law.⁵⁰

VI. Recommendations for China to Participate in the Boarding and Inspection of Fishing Vessels on the High Seas

By the end of 2016, China has nearly 2,900 ocean-going fishing vessels (including those under construction), with a total output of 1.99 million tons. Apart from the EEZs of 42 countries or regions, China's pelagic fishing vessels also operate in the Pacific Ocean, Indian Ocean, Atlantic Ocean and Antarctic waters.⁵¹ Among them, 1,329 vessels fishing on the high seas produce 1.32 million tons, accounting for 12% of the world's fishing output on the high seas; the number of Chinese vessels fishing on the high seas and their output are among the top in the world.⁵² Given the rapid development of China's distant-water fisheries in recent years, the operational condition of its fishing boats has attracted the attention of many regional or sub-regional fisheries management organizations.

China is a member of many regional fisheries organizations that implement the measure of boarding and inspecting fishing vessels on the high seas, such as WCPFC, SPRFMO, ICCAT and NPFC. China has also accepted the boarding and

49 TENG Yunlu, DAI Xiaojie and TIAN Siqian, Analysis of Western and Central Pacific Fisheries Commission High Seas Boarding and Inspection Procedures, *Journal of Shanghai Ocean University*, No. 1, 2015, pp. 115~120. (in Chinese)

50 HUANG Shuolin and SHAO Huabin, Development Trends and Features of Global Marine Fisheries Governance, *Pacific Journal*, No. 4, 2018, pp. 65~78. (in Chinese)

51 13th Five-year Plan for National Distant Water Fisheries Development, at http://jjuban.moa.gov.cn/zwl/m/ghjh/201712/t20171221_5985078.htm, 14 September 2018. (in Chinese)

52 13th Five-year Plan for National Distant Water Fisheries Development, at http://jjuban.moa.gov.cn/zwl/m/ghjh/201712/t20171221_5985078.htm, 14 September 2018. (in Chinese)

inspection of its fishing vessels by vessels authorized by other States on the high seas, especially in the WCPFC regulatory area. China should consider how to effectively strengthen the capacity of Chinese distant-water fishing enterprises to fulfill their contractual obligations and responsibilities, and make every effort to eliminate serious violations in high-seas fisheries and improve the image of China as a large, responsible fishing country. To this effect the following suggestions are being made. Firstly, China should enhance training on international fishery laws and regulations for its distant-water fishing enterprises and the crew members. Particularly, it should make it clear what kinds of activities constitute serious violations and the consequences of such violations, aiming to raise their awareness to comply with international conservation measures for fishery resources. Secondly, China should strengthen the monitoring of its oceanic fishing vessels, especially those operating on the high seas, by taking measures such as urging vessels to install vessel monitoring system (VMS) as required, strictly implementing the fishing permit review system for fishing vessels on the high seas, and severely punishing those having committed serious violations while fishing on the high seas. In addition, we should also remind the masters of Chinese fishing vessels of discriminatory boarding and inspection or those not conducted in line with the boarding procedures; for such activities, masters should respond in a reasonable and prudent manner, to protect their legitimate rights and interests on the high seas.

China should also consider dispatching its coast guard vessels to participate in the boarding and inspection of foreign flagged fishing vessels on the high seas. By doing so, China may exercise and protect its maritime rights and interests. It is worth noting that the China Fisheries Law Enforcement Command has been conducting joint law enforcement operations with the U.S. Coast Guard on the North Pacific high seas since 1994, for the purpose of examining the implementation of the United Nations General Assembly Resolution 46/215.⁵³ The Command has consistently since 2002 sent its ships to supervise and inspect Chinese fishing vessels operating on the high seas of the North Pacific.⁵⁴ This function was taken over by the China Coast Guard in 2013 upon its establishment. However, both agencies are recorded to have boarded and inspected only Chinese

53 HUANG Shuolin and LIU Yanhong, International Cooperation in Fisheries Law Enforcement at Sea: China Mainland's Practice, *China Oceans Law Review*, No. 1, 2009, pp. 230-247.

54 HUANG Shuolin and LIU Yanhong, International Cooperation in Fisheries Law Enforcement at Sea: China Mainland's Practice, *China Oceans Law Review*, No. 1, 2009, pp. 230-247.

fishing vessels on the North Pacific high seas, but not those of other States. As a member of the WCPFC and many other regional fisheries management organizations, China also enjoys the right to board and inspect the fishing vessels of other States on the high seas. The China Coast Guard should consider exercising this right with keen interest and without delay, so as to balance China's rights and obligations under these organizations.

The China Coast Guard is duly suggested to enlarge, as soon as possible, its capacity to participate in the boarding of foreign flagged fishing vessels on the high seas. To this end, the following points are suggested for consideration. First of all, it should obtain sufficient knowledge about distant-water fishery affairs; *inter alia*, it should raise its competency to take cognizance of the major fish species, the principal operation modes and the main types of fishing ships in various areas of the high seas, as well as the ability to identify and examine the key protected marine wildlife species. Secondly, it should further its study on the law of the sea and the international fisheries law, in particular, deepen the understanding of the measures for the conservation and management of fishery resources and the procedures for the boarding and inspection of fishing vessels on the high seas made by regional or subregional fisheries management organizations. Thirdly, it should intensify the training concerning the ability to communicate with foreign fishermen or foreign fishery law enforcement personnel, so as to be fully prepared to conduct fishery cooperation with foreign States and handle fishery cases involving foreign parties. Last but not least, China Coast Guard, for the purpose of meeting the needs of fisheries law enforcement on the high seas, should be equipped with vessels necessary for carrying out such law enforcement activities and advanced positioning, communication and law enforcement facilities.

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我国渔民赴北太平洋捕捞所面临的 挑战及法律对策

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内容摘要:北太平洋海域既包括我国的近海传统渔场,也包括我国渔民实施远洋捕捞的主要公海渔场和他国专属经济区。然而近年来,我国渔民在北太平洋海域的捕捞活动遭遇越来越多的纠纷并面临各种挑战,这既包括区域性渔业管理组织和各沿海国加强对渔业资源管理的外部挑战,也包括我国在渔业法律构架方面和远洋渔业产业界自身存在不足的内部挑战。为了解决这些问题,我国有必要在立法、执法、国际法律谈判与合作,以及法律宣传与教育等方面加强研究和应对。

关键词: 远洋渔业 北太平洋 渔业管理 渔民 法律对策

一、问题的提出

北太平洋海域是指太平洋位于赤道以北的部分,该区域由于寒暖流的交汇作用以及特有的海洋地理条件,形成了丰富的渔业资源。¹根据联合国粮农组织的报告,西北太平洋是世界渔业捕捞产量最高的区域。²北太平洋海域是我国渔民从事渔业活动的主要场所之一,其中既包括我国渔民从事近海渔业的传统渔场,如东海、黄海和南海北部渔区,也包括我国渔民从事远洋渔业的一些公海渔场和包括日本、俄罗斯、韩国、美国在内的一些主要国家的专属经济区。

就远洋渔业而言,它是指一国的公民、法人和其他组织“到公海和他国管辖海

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1 陈新军、陆化杰、刘必林、田思泉:《大洋性柔鱼类资源开发现状及可持续利用的科学问题》,载于《上海海洋大学学报》2012年第5期,第831~840页。

2 联合国粮农组织:《2016世界渔业和水产养殖状况》,第5页。

域从事海洋捕捞以及与之配套的加工、补给和产品运输等渔业活动”。³ 远洋渔业作为我国的战略性产业，它的发展可以保障国内产品供应、促进对外渔业合作，并能维护国家海洋权益，也是“21 世纪海上丝绸之路”倡议的重要组成部分。⁴ 我国远洋渔业始于 1985 年，除西非海域以外，1986 年就有我国渔业公司的大型拖网加工渔船在美国阿拉斯加海域开展捕捞作业。⁵ 经过 30 多年的发展，目前我国远洋渔业作业船数和产量均居世界前列，⁶ 渔业活动遍布太平洋、印度洋和大西洋海域，其中，北太平洋海域（主要是北太平洋公海海域和俄罗斯的专属经济区）已经成为我国渔民，特别是福建渔民，从事远洋捕捞的主要海域之一。⁷ 我国渔民赴北太平洋海域远洋捕捞的作业方式主要包括灯光鱿钓捕捞巴特柔鱼、灯光围网捕捞鲑鱼、光诱舷提网捕捞秋刀鱼等。⁸ 2017 年 12 月农业部印发的《“十三五”全国远洋渔业发展规划》指出，“‘十三五’是我国远洋渔业发展的关键转型期，更是迈向远洋渔业强国的重要机遇期”。虽然我国已跻身于世界远洋渔业大国之列，但是相比于日本、美国等远洋渔业发达的国家，仍存在体制机制、渔船装备、科技水平、企业实力及船员培训等诸多方面的不足，而这些因素也制约了我国远洋渔业的良性发展。

就近海渔业而言，近年来，我国渔民在中日、中韩协定水域的捕捞活动遭遇越来越多的挑战，我国渔民和渔船被日、韩执法人员抓扣的事件也时有发生。因此，本文的研究对象不仅包括我国渔民远赴北太平公海或其他国家管辖海域的远洋渔业，也包括我国渔民在北太平洋海域的近海渔业，主要是中日、中韩协定水域。

随着全球区域渔业管理的日趋严格，各国环境资源保护意识的不断提高，如何应对国际海洋渔业管理正在发生的重大变革，改变我国近海和远洋捕捞的传统发展模式，从而顺利实现向“渔业强国”转变的目标已经成为一个亟待解决的重要议题。从国际法的视角看，负责任渔业国家形象是“渔业强国”的应有之义，这就要求我国自觉遵守包括国际渔业法在内的国际法，并履行相应国际义务。在这一理念的指导下，本文拟以北太平洋海域为例，分析我国渔民在该海域近海和远洋

3 《远洋渔业管理规定》(中华人民共和国农业部 2003 年 4 月颁发)第 2 条。根据该条规定，该法所称的远洋渔业不包括我国渔民和渔船到黄海、东海和南海从事的渔业活动。

4 中华人民共和国农业部《“十三五”全国远洋渔业发展规划》。

5 中华人民共和国农业部编：《远洋渔业三十年大事记(上)(1985—2015)》，载于《中国水产》2015 年第 3 期，第 19 页。

6 中国的远洋船队总体规模和远洋渔业产量已大大超过欧盟、美国等发达经济体和传统渔业强国。参见《越走越远的中国远洋渔业》，下载于 <http://news.qq.com/cross/20161114/V59I7L2P.html>，2018 年 4 月 25 日。

7 唐峰华、岳冬冬、熊敏思、李励年、崔雪森：《〈北太平洋公海渔业资源养护和管理公约〉解读及中国远洋渔业应对策略》，载于《渔业信息与战略》2016 年第 3 期，第 211 页。

8 唐峰华、岳冬冬、熊敏思、李励年、崔雪森：《〈北太平洋公海渔业资源养护和管理公约〉解读及中国远洋渔业应对策略》，载于《渔业信息与战略》2016 年第 3 期，第 211 页；乐家华、陈新军、王伟江：《中国远洋渔业发展现状与趋势》，载于《世界农业》2016 年第 7 期，第 226—227 页。

渔业活动所适用的法律体系及其所面临的挑战,并从法律层面探讨解决这些挑战可能采取的相关对策。

二、我国渔民赴北太平洋海域捕捞所适用的法律构架

我国渔民赴北太平洋海域捕捞所适用的法律构架包含多边层面(即全球性法律文件和区域性法律文件)、双边层面(即双边协定)和国内层面(即相关国家的国内法和我国法律文件)这三个方面(见图1)。

(一) 多边层面

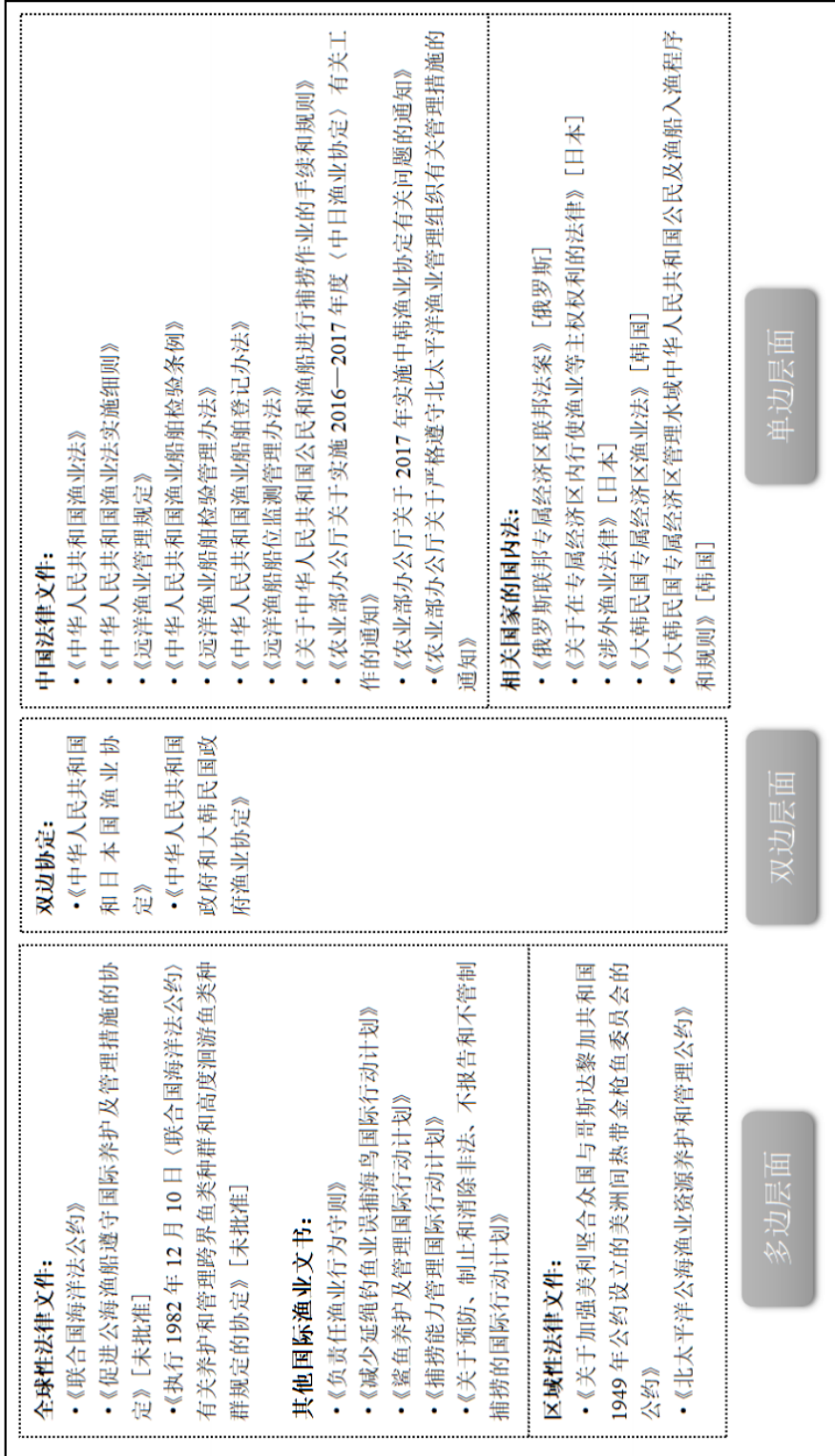
自1982年《联合国海洋法公约》(以下简称“《公约》”)缔结以来,各国普遍宣布建立200海里专属经济区或专属渔区,对渔业资源实行专属管辖,远洋捕捞国的部分船队被迫转移至公海。随着近海渔业资源逐渐衰退,公海更是成为各国争相开发的重点,过度捕捞导致公海渔业资源呈现迅速下降趋势。此后,实行“负责任渔业”的呼声日益高涨,在主要国际渔业组织的推动下,各种全球性和区域性公约及软法性国际渔业文书应运而生。迄今为止,国际渔业管理已经形成了一套机制,以《公约》为核心,以全球性和区域性国际公约为配套,软法性国际渔业文书为补充的规范体系,并依靠国际渔业组织予以落实。⁹

具体而言,《公约》为现代渔业资源养护制度奠定了基础,其确立了产出控制式的渔业管理模式;规定了不同海域的渔业资源养护管理制度,如专属经济区可捕量的剩余部分、公海的自由捕鱼权及其限制;还明确了各缔约国在国家管辖范围以内或以外的海域都有对海洋生物资源进行养护和管理的合作义务。¹⁰为了弥补《公约》在具体制度安排、实施能力等方面的不足,1993年《促进公海渔船遵守国际养护及管理措施的协定》(以下简称“《遵守协定》”)强化了船旗国的管理责任,确立了公海捕捞许可和登记制度,收紧了有关渔船管理和处罚的规定;1995年《关于执行〈联合国海洋法公约〉有关养护和管理跨界鱼类种群和高度洄游鱼类种群规定的协定》(以下简称“《鱼类种群协定》”)不仅赋予了非船旗国对公海渔船的强制管辖权(在必要时甚至可使用武力),还扩大了区域性渔业组织或安排的管

9 白洋:《后UNCLOS时期国际海洋渔业资源法律制度分析与展望》,载于《河南财经政法大学学报》2012年第5期,第120页。

10 产出控制是限定整个渔船的产出水平或个别捕捞单元(如个别渔民或个别渔业公司)每一次航行或特定时间范围内的产出水平,主要措施包括总可捕量制度(TAC制度)、个体配额制度(IQ制度)、个体可转让配额制度(ITQ制度)等产出控制制度。白洋:《后UNCLOS时期国际海洋渔业资源法律制度分析与展望》,载于《河南财经政法大学学报》2012年第5期,第119~120页。

图 1 中国渔民赴北太平洋海域捕捞所适用的法律构架



辖范围,即只有参与该组织或安排的国家,或者同意适用该组织或安排所制定的养护与管理措施的国家,才有权在该区域或分区域内从事符合该类措施的渔业活动。¹¹

国际社会还出台了许多不具有法律拘束力的国际渔业文书,对公海捕鱼活动提出了更高的要求 and 更多的义务。其中 1995 年《负责任渔业行为守则》是统领性的文件,涵盖了“负责任渔业”的方方面面,之后,全球性和区域性组织以及大多数海洋国家都采取了促进该文件实施的措施。¹²此外,为推动该守则的实施,联合国粮农组织还制定了一系列国际行动计划,涉及海鸟和鲨鱼的养护及管理,捕捞能力的管理,以及非法、不报告和不受管制渔业(以下简称“IUU 捕鱼”)的管理等。

为更好地实现区域渔业养护和管理,北太平洋海域也通过缔结区域性条约的方式建立了一些区域渔业管理组织。目前我国已加入《关于加强美利坚合众国与哥斯达黎加共和国 1949 年公约设立的美洲间热带金枪鱼委员会的公约》(以下简称“《安提瓜公约》”)和《北太平洋公海渔业资源养护和管理公约》。前者主要关注东北太平洋海域的金枪鱼和类金枪鱼的养护和管理,后者涵盖了我国在北太平洋海域的主捕种类,两者都是对《公约》《鱼类种群协定》《负责任渔业行为守则》及相关国际行动计划的具体践行。我国农业部专门针对《北太平洋公海渔业资源养护和管理公约》所规定的渔船注册、数据报告、公海登临检查、船位监测等管理措施出台了规范性文件,以促进相关主体对该公约的遵守。

(二) 双边层面

在中国的近海海域,作为划界协议未达成之前的“临时安排”,中日、中韩渔业协定成为中国渔民在黄海和东海捕鱼的重要规范。1997 年,我国与日本签署《中华人民共和国和日本国渔业协定》,该协定于 2000 年生效,有效期 5 年,一直续签至今。该协定适用于中日两国专属经济区,包括采取共同养护和管理措施的“暂定措施水域”、北太平洋一侧的日本专属经济区水域等。我国也与韩国于 2000 年签署了一份渔业协定,该协定于 2001 年生效,有效期 5 年,亦续签至今。该协定适用于中韩两国专属经济区,包括采取共同养护和管理措施的“暂定措施水域”、逐步减少渔业活动的“过渡水域”和“维持现有渔业活动水域”。每年农业部都会出台关于具体实施以上双边协定的规范性文件,内容包括在协定水域的捕捞配额、许可作业船数、渔具和设备标准、作业时间和水域、执法合作等事项。

11 胡学东:《公海生物资源管理制度研究》(博士学位论文),青岛:中国海洋大学 2012 年版,第 84-99 页。

12 胡学东:《公海生物资源管理制度研究》(博士学位论文),青岛:中国海洋大学 2012 年版,第 88 页。

(三) 单边层面

单边层面包括主要北太平洋国家的国内法和我国的国内法。前者主要调整一国专属经济区内外国渔船的捕鱼活动,对于两国双边渔业协定未规范或规范不明确之处,应遵守作业水域管辖国的国内法相关规定,如《关于在专属经济区内行使渔业等主权权利的法律》《涉外渔业法律》《俄罗斯联邦专属经济区联邦法案》等国内法中有关禁止性行为、执法程序、处罚方式与标准的规定。以日本为例,《关于在专属经济区内行使渔业等主权权利的法律》规定,外国船舶在日本专属经济区内捕鱼必须得到农林水产省的许可,¹³并按照规定缴纳渔费;¹⁴捕捞活动必须符合国际规则及相关规定,渔获量不得超过农林水产省令设置的上限;¹⁵外国船舶进行试验研究、渔业附属行为及探查等,需要取得农林水产省的承认,并缴纳手续费;¹⁶对于违反相应规定的行为,轻则取消许可、没收渔获渔具、罚款,重则按照日本刑法的规定予以判刑处理。¹⁷韩国也针对在其专属经济区捕鱼的外国船舶制定了与日本类似的规定,制裁措施也非常严厉。¹⁸

就远洋渔业而言,经过多年的发展,我国远洋渔业已经基本建成了一个以《渔业法》及《渔业法实施细则》为统领,以《远洋渔业管理规定》为核心,并辅之以其他行政法规、部门规章及规范性文件的法律体系。其中,我国《渔业法》规定应“鼓励、扶持远洋捕捞业的发展”,实行捕捞许可证制度,并对相关违法行为进行处罚;¹⁹《渔业法实施细则》对《渔业法》的捕捞许可证制度、相关管理机关以及违法行为的处罚做了更详细的规定。《远洋渔业管理规定》制定了三大机制,即远洋渔业项目审批和远洋渔企资格认定机制、远洋渔业项目年审确认和远洋渔企资格年审换证机制,以及远洋渔业行业自律协调机制;同时,该规定还加强了对远洋渔业的监管,提出了渔船船位监测、标准化渔捞日志、政府观察员、合法捕捞证明等方面的具体要求。²⁰2012年出台的《远洋渔船船位监测管理暂行办法》则对船位监测设备的安装、日常监测主体、监管主体等监督管理制度进行了详尽的规定;此外,针对远洋船舶的登记、检验等事项亦有专门的法规规章予以规范。

13 《关于在专属经济区内行使渔业等主权权利的法律》第5条。

14 《关于在专属经济区内行使渔业等主权权利的法律》第7条。

15 《关于在专属经济区内行使渔业等主权权利的法律》第6条。

16 《关于在专属经济区内行使渔业等主权权利的法律》第8条至第10条。

17 《关于在专属经济区内行使渔业等主权权利的法律》第13条、第18-23条。

18 全永波:《国际渔业制度与我国近海渔业的发展》,载于《海洋开发与管理》2002年第4期,第74页。

19 《中华人民共和国渔业法》第21条、第23-26条、第五章。

20 朱建康:《中国海洋环境保护法律制度》,北京:中国政法大学出版社2016年版,第134-135页。

三、我国渔民赴北太平洋海域捕捞所面临的挑战

目前,我国渔民及渔企在北太平洋海域开展渔业捕捞活动面临来自国内外两方面的诸多挑战,并伴随着渔业活动成本提高、效率不佳和违法现象多发等问题,这些情况都制约着我国在北太平洋海域捕捞活动的可持续发展。

(一) 区域性渔业管理组织的公海渔业管理日趋严格

《公约》生效之后,世界各国更关注渔业资源的养护和管理,对公海渔业的管制日趋严格,尤其是《鱼类种群协定》和《负责任渔业行为守则》的出台,标志着公海自由捕捞的时代已经终结,负责任渔业是未来国际渔业管理的大趋势。我国虽然还未批准《鱼类种群协定》和《遵守协定》,但作为远洋渔业大国,面对着国际政治和外交压力,我国一直努力遵循这些国际规定发展远洋渔业,加强对公海渔船的控制,同时,我国已经加入了美洲间热带金枪鱼委员会和北太平洋渔业委员会,这些区域性渔业管理组织基本遵循以《鱼类种群协定》和《负责任渔业行为守则》为代表的国际法律文件的规定来制定或修改区域渔业管理的规则,因此这些国际法律文件的规定会对各级渔业主管部门、远洋渔企和渔民产生一定的约束力。

我国渔民在北太平洋公海的主要捕捞对象是跨界鱼类和高度洄游鱼类。国际远洋渔业管理的加强,给我国金枪鱼渔业、鱿钓渔业等的生产经营带来更严格的考验。例如《安提瓜公约》规定对远洋渔船实行授权和许可捕捞制度,²¹要求美洲间热带金枪鱼委员会制定总允许捕捞量的分配、总允许捕捞能力(包括装载能力)或捕捞努力量水平的标准。²²这些规定使得原来从事北太平洋公海金枪鱼渔业的渔民必须降低捕捞强度,甚至有部分渔民不得不放弃从事该类渔业,从而影响企业或渔民的经济效益。又如《北太平洋公海渔业资源养护和管理公约》规定作业渔船必须配备实时卫星定位传送器,向委员会报告进入或离开公约区域的打算,还要求缔约国向作业渔船派遣观察员、接受检查员登临检查等。²³这不仅加重了船旗国对在公海上的本国渔船的管理责任,而且增加了赴北太平洋公海捕鱼的远洋渔企和渔民所承担的义务,特别是对于未受到良好培训的渔民而言,更增加了违规风险,以及由此产生的违法成本。

21 《安提瓜公约》第20条。

22 《安提瓜公约》第7条。

23 《北太平洋公海渔业资源养护和管理公约》第7条。

(二) 沿海国专属经济区渔业管理和执法力度加强

在世界各国专属经济区面临过度捕捞压力的背景下,北太平洋周边沿海国也纷纷加强了对在其专属经济区捕鱼的外国船舶的管制。这些区域既包括我国远洋渔业的重要目的地,如俄罗斯的专属经济区,也包括我国的近海渔场,如我国与日本、韩国的渔业协定渔区。

目前,中俄渔业合作尚未形成规模,但我国赴俄罗斯专属经济区捕鱼的渔民应遵守俄罗斯专属经济区捕鱼的相关法律规定。俄罗斯的专属经济区法对于外国渔船应履行的相关义务,制定了非常严格且详尽的规定,如向俄罗斯相关执法机构履行通知或报告义务、免费提供执法人员在船上期间的的生活、住宿、通讯和交通等。

自中日渔业协定生效以来,限定作业方式必须为拖网和鱿钓,而且为了限制中国渔民的捕捞活动,日本还加大了对暂定措施水域渔业资源捕捞的执法力度,客观上给我国渔民造成一定的压力,故我国在暂定措施水域作业渔船的控制总量呈下降趋势。

韩国专属经济区海域拥有丰富的渔业资源,也是渔业纠纷的多发区域,这也与韩国政府不断加强对外国渔船的管理密切相关。首先,自中韩渔业协定生效以来,双方划定了有效期为4年的“过渡水域”,在这期间逐步调整并减少在对方一侧过渡水域作业的本国国民及渔船的渔业活动。4年期满(即2005年6月30日)后,双方两侧的“过渡水域”按各自的专属经济区进行管理,因而我国渔船作业水域进一步减少,作业船数也进一步压缩。²⁴其次,韩国于2013年修订了《大韩民国专属经济区管理水域中华人民共和国公民及渔船入渔程序和规则》,设置了严苛的入渔标准,并规定了复杂繁多的作业条件和程序规则,如“特定禁区”、“特定水域”、渔船吨位、网目尺寸、集鱼灯亮度等方面的规定。最后,韩国海警加大了针对中国渔民的渔业执法力度。韩国日益收紧我国渔船到韩国一侧水域捕鱼的许可证数量,导致我国渔民非法越界捕捞的次数不断增长,韩国海警也对此采取越来越严厉的执法措施,针对中国渔船的临检次数不断增加,并要求时刻报告产量和船位,每次违规捕捞将可能面临最高为7000万韩元(约合人民币39.2万元)的罚款,有些渔民为了避免处罚,甚至贿赂海警,这些都增加了渔民的经济负担。²⁵

24 高强、王本兵、杨涛:《国际海洋法规对我国远洋渔业的影响与启示》,载于《中国渔业经济》2008年第6期,第81页。

25 《媒体称我国东部近海无鱼可捕致渔民赴韩捕捞》,下载于<http://news.sina.com.cn/c/2011-12-12/165723619335.shtml>,2018年2月1日;2016年以来,韩国仁川海警已抓捕涉嫌非法捕捞的中国渔船50艘,逮捕船员70余名,罚款18.3亿韩元(约合人民币1088万元),参见《韩媒:韩国海警又扣留3艘中国渔船,55人被押往仁川调查》,下载于http://www.thepaper.cn/newsDetail_forward_1545354,2018年2月1日。

韩国海警还降低武力执法门槛,²⁶ 组建特殊机动队, 增加舰艇部署, 并向警员发放高压喷射器、远距离声波控制器、电子冲击枪和闪光爆音弹等, 使得暴力执法事件的频次增多, 渔民的人身安全和合法权益遭受严重威胁。由于以上种种原因, 我国在韩国专属经济区入渔的船只数量基本呈递减趋势。²⁷

(三) 国内远洋渔业立法与产业界的发展模式亟待完善

1. 现行国内渔业法律存在不足

我国目前的远洋渔业管理机制尚不完善, 这是制约我国远洋渔业发展的根本挑战, 它主要表现在以下两方面。

第一, 法律位阶过低, 体系比较分散。在我国远洋渔业管理体系中, 只有《渔业法》及其实施细则和《渔业船舶检验条例》属于法律和行政法规, 作为核心法律文本的《远洋渔业管理规定》仅仅是部门规章。虽然国家大力支持发展远洋渔业, 但是我国的法律法规中并未对其进行具体规定, 只有零星一两条提及远洋渔业, 这不利于提高各级部门、远洋渔企及渔民对远洋渔业的重视程度。我国亦有关于远洋渔业船舶检验、船舶登记、船位监测等方面的专门性规定, 但分散于各个部门规章之中。此外, 为了更好地遵守《北太平洋公海渔业资源养护和管理公约》的管理措施, 农业部发布了专门的规范性文件, 但还未将其真正转化为国内法, 执行效果并不理想。

第二, 《渔业法》的域外效力有待强化。²⁸ 我国《渔业法》第2条及第8条对该法适用范围的规定表明了其采用属地管辖原则, 而非属人管辖, 即我国渔民在我国管辖范围以外海域进行的捕捞活动并不受《渔业法》规制。由于我国远洋渔业的相关法律法规并不足以实现《渔业法》的相关要求, 许多远洋渔业的违法行为不受我国法律规制, 违法捕捞事件频发, 使得我国负责任渔业国家的形象受到损

26 2016年11月8日, 韩国海洋警备安全本部表示将发布和实施《武器使用指南》, 规定海警在执法过程中遇到暴力抗法时, 可立即动用所有火力武器进行抓捕, 并允许“先开火后报告”。其中, 使用手枪等单兵武器由海警个人决定, 使用机枪、舰炮等班组武器则由现场指挥官决定; 使用武器的条件由此前“对方向警卫力量(警卫力量包括海警、舰艇、航空器等)发起攻击时”改为“发起攻击或试图发起攻击时”; 使用班组武器的条件为“在对方用凶器进行攻击或试图攻击, 海警人员的人身安全难以保障时”、“对方利用船体实施挤撞, 海警人员的人身安全难以保障时”、“根据现场指挥官的判断, 情况十分紧急, 需使用班组武器防御或反击时”。参见《韩海警发布〈武器使用指南〉允许先开火后报告》, 下载于 <http://www.chinanews.com/gj/2016/11-08/8056927.shtml>, 2018年2月1日。

27 据韩国农林水产食品部数据显示, 自中韩渔业协定生效以来至2012年, 韩国已经逮捕了4628艘在韩国海域非法作业的中国渔船。参见高美:《韩国海警曾向中国渔民开5枪》, 载于《新京报》2012年10月18日第A10版。

28 薛桂芳、房旭:《我国〈渔业法〉域外效力的强化——兼论负责任远洋渔业国家形象的维护》, 载于《太平洋学报》2018年第2期, 第60页。

害。²⁹

第三,相关规定比较笼统且标准过低,无法与国际规定接轨。例如在渔业数据统计方面,《公约》《鱼类种群协定》和《负责任渔业行为守则》都规定了渔业国家在渔业统计上的责任和义务,明确了收集和利用渔业统计数据的具体要求。中国已加入的北太平洋渔业委员会和其他区域渔业管理组织也都对渔业统计数据有严格的要求。相比之下,我国的《渔业法》除了要求“大中型渔船应填写捕捞日志”之外,并没有对远洋渔业数据统计做出进一步详细的规定,也没有规定强制性措施。《远洋渔业管理规定》虽然规定了远洋渔企在申请远洋渔业项目和项目执行期间应该向农业部及相关主管部门报送的文件和生产情况,但对远洋渔业数据的统计要求并不明确,且低于中国已经加入的相关国际条约的要求。³⁰ 这种现状导致我国渔民和渔企在进行远洋捕捞作业时经常无意中违反相关海域的法律规定,从而导致渔业纠纷的产生。

2. 远洋渔业产业“大而不强”

虽然我国作为远洋渔业大国,远洋渔业资源的捕捞量居世界前列,但我国远洋渔业相比于日本等国的远洋渔业尚有一定的差距。首先,现有的远洋渔业生产模式较为粗放,在渔船数量急剧增加的同时生产效率和效益却较为低下,加之渔业合作方式和经营管理效果不佳,使得我国的远洋渔业难以获得持续稳定的发展。其次,目前我国公海渔业产业基础还比较薄弱,除了在西非某些海域已经建立了基地,并形成相对完善的捕捞、加工、运输产业链外,在包括北太平洋在内的其他海域,远洋渔业尚未形成完善的产业链。再次,我国现有的远洋渔船总体装备水平还不高,加之渔船老化,有些捕捞方式并不符合当地区域性渔业管理组织的要求,导致这些渔船经常成为国际执法的主要对象。最后,我国远洋渔业产业界对主要渔业合作国和公海渔业资源状况不够了解,缺少对科学研究的投入,也影响了我国远洋渔业的进一步发展。³¹

3. 渔民法律意识淡薄且欠缺运用法律解决争端的意愿和能力

在公海作业的中国渔船数量相当庞大,但我国渔民文化水平普遍不高。尽管近些年我国渔政管理部门已经加强了对渔民的培训,但覆盖面和力度还有待提升。目前,我国渔民赴北太平洋公海捕捞的违规行为主要包括无许可证作业,没有按照区域渔业管理组织的要求记录渔业统计数据,违反禁渔区或禁渔期的规定,捕

29 薛桂芳、房旭:《我国〈渔业法〉域外效力的强化——兼论负责任远洋渔业国家形象的维护》,载于《太平洋学报》2018年第2期,第61页。

30 聂启义:《我国远洋渔业管理政策研究》(硕士学位论文),上海:上海海洋大学2011年版,第35页。

31 唐峰华、岳冬冬、熊敏思、李励年、崔雪森:《〈北太平洋公海渔业资源养护和管理公约〉解读及中国远洋渔业应对策略》,载于《渔业信息与战略》2016年第3期,第215页。

捞禁捕鱼种,违反产量或配额限制,使用禁止的捕鱼方法,以及抗拒执法等。³²此外,一些渔民或渔企并没有关注到我国与北太平洋周边各沿海国所签署的渔业协定的内容差异,从而导致无证或违规作业,这也可能引起合作国对我国渔民或渔船的抓扣,从而造成涉外渔业事件。³³

除了因法律意识淡薄而导致违规捕鱼外,我国从事远洋捕捞的渔民在涉外渔业事件发生后也欠缺运用法律解决争端的意愿和能力,往往希望通过“关系运作”来解决问题,但经常事与愿违。一方面,渔民经常会逃逸和抗拒外国执法人员的登临检查,有时会导致对方过度使用武力;另一方面,北太平洋沿海国的执法人员在执法过程中侵害我国渔民合法权益的情形也时有发生。

四、保障我国渔民赴北太平洋捕捞的法律对策

近年来,我国渔民赴北太平洋海域捕捞的涉外事件频发,主要原因在于国内立法滞后于国际立法,以及远洋渔业产业界欠缺遵守和运用法律的意愿和能力。针对这些问题产生的原因,本文提出以下四个方面的法律对策。

(一) 完善我国远洋渔业的国内立法

针对我国远洋渔业管理法律体系的不足,未来有必要整合分散的法律体系,将远洋渔业的相关内容整合进《远洋渔业管理法》中,或者整合进《渔业法》及其实施细则中,使之从部门规章、规范性文件的位阶逐步上升至法律或行政法规的高度,以提高其法律权威性,同时也能让各级渔业行政部门、远洋渔企或者渔民更便捷地查阅并学习相关规定。

在公海上或他国专属经济区捕鱼的渔民应遵守相关国际条约、国家间渔业协定或他国法律的规定,但是由于我国远洋渔业的管理措施与国际规定以及他国的法律标准还存在一定的差异,加之渔民对国际法律文件理解不当,所以往往会发生技术性违规的情况。我国作为捕捞大国,应当积极与国际标准接轨,主动研究以《公约》《遵守协定》《鱼类种群协定》《负责任渔业行为守则》等为代表的国际法律文件中我国已经认可的相关措施,并将它们逐步转化为我国国内法,进而完善国内渔业法规和管理措施。例如,参考《鱼类种群协定》中关于提交渔业数据统计的相关规定,明确细化我国远洋渔业数据统计应遵循的原则以及所要搜集的数

32 唐峰华、岳冬冬、熊敏思、李励年、崔雪森:《〈北太平洋公海渔业资源养护和管理公约〉解读及中国远洋渔业应对策略》,载于《渔业信息与战略》2016年第3期,第214页。

33 王金奎:《我国远洋渔业的国际合作与风险分析》,载于《对外经贸实务》2009年第3期,第33~34页。

据类型等,提高渔民对搜集数据的重要性的认知;针对我国赴北太平洋公海捕捞的渔船存在的船龄较长、船体老旧和安全隐患较多等问题,我国应该在远洋渔业船舶检查、入渔许可等方面提高渔船及其设备的合格标准,并辅之以政府补贴等方式,促进老旧渔船的淘汰升级,以及推进新材料、新技术、新设备和新能源的应用,提高我国远洋捕捞企业的实力;我国对北太平洋公海中上层渔业资源的加工水平基本处于中低端层次,缺乏对渔业资源的头部、内脏、眼睛等加工废弃物精深加工和综合利用的能力,应通过立法手段鼓励、引导渔企合理收集和利用渔业资源的加工废弃物,提高企业产业效益;同时,我国应强化《渔业法》的域外效力范围,使之可适用于在我国管辖范围以外海域从事捕捞活动的渔业主体,并通过立法进一步加大在北太平洋公海违规捕鱼船舶和渔民的处罚力度,从而形成强大威慑力,更好地维护负责任渔业国家形象。

(二) 完善渔船监督机制并适时在北太平洋公海开展联合执法和军舰护渔

首先,完善渔船监督机制,加强事前监督。结合上文的讨论可知,为了最大限度地防范 IUU 捕鱼活动的发生,我国需要积极应用包括北斗系统在内的技术手段来加强对船舶的跟踪管理,并完善渔船的船位监测和预警系统,逐步提高远洋渔船观察员覆盖率,提高我国的国际履约能力;建立健全远洋渔业从业人员“黑名单”制度,以加强对违规行为的制裁力度;另外,还要建设远洋渔业风险预警体系,增强风险防控能力。

其次,在目前执法机构改革的背景下,对我国在北太平洋公海的重要渔场适时开展联合执法和军舰渔业护航。近年来,随着中外渔业纠纷和暴力冲突事件的频繁发生,为保护我国渔民权益,我国已经将原先的渔政、海监、海事、边防等海上执法管理部门整合成中国海警和中国海事两支力量。2018年3月出台的《深化党和国家机构改革方案》又将中国海警纳入武警部队,由中央军委统一管理。这些举措无疑将大大提高我国包括渔业执法在内的海上执法的效率,有利于在遇到冲突时出面保护我国渔民权益和海洋主权。但另一方面,对于在公海发生的 IUU 捕鱼活动,我国执法部门还有必要加强与北太平洋周边国家的合作,开展北太平洋公海联合执法检查,从而及时妥善处理远洋渔业涉外违规事件,避免发生暴力执法事件。

同时,为了应对一些国家的暴力执法现象,建议我国适时在一些重要公海渔场定期开展军舰渔业护航,从而有效维护我国渔企和渔民的合法权益。这种军舰护渔行动符合国际法律实践。例如,在著名的红十字军号案件中,丹麦军舰对英国“红十字军号”渔船从领海内开始紧追,并未经实弹警告即进行实弹炮击,但追至公海时被英国军舰阻挡,从而避免丹麦军舰过度使用武力并防止事态恶化,有

效地维护了英国本国渔船的权益。³⁴

(三) 积极开展国际合作并增强中国在渔业谈判中的话语权

就我国的近海捕鱼而言,面对我国渔民赴韩国和日本海域捕鱼时出现的纠纷,农业农村部等部门未来应该争取提高我国渔民到中日和中韩暂定共同作业水域捕鱼的配额,同时也可发挥渔业协会等民间经济组织的力量,与日韩两国的渔业协会开展渔业资源合作方面的交流与谈判,为我国渔民在北太平洋海域的近海捕鱼争取更多的权益。此外,目前正在进行的中韩划界谈判应该将我国渔民在该传统鱼场的捕鱼实践作为一个重要相关事项予以考量,从而切实维护我国渔民的利益。当然,从长期来看,通过加强近海渔业管理,恢复严重衰退的近海渔业资源,从而缓解我国渔船对中日、中韩协定水域的依赖,这或许是一条更可行的途径。

就我国渔民赴北太平洋海域的远洋渔业活动而言,我国应做好两方面的工作。一方面,我国应该积极参与联合国粮农组织和北太平洋区域渔业管理组织的事务及相关法律文件的谈判工作,从而增强中国的话语权,推动构建公平合理的国际渔业治理机制。要增强我国在国际渔业组织和区域渔业管理组织中的话语权,其中很重要的一条是要加强我国对相关海域的渔业数据收集和渔业资源调查评估。在这方面我国做得还不够,相关工作还有待进一步改进和完善。另一方面,我国可以借助中俄“冰上丝绸之路”的平台,积极扩大与俄罗斯在捕鱼方面的合作,争取与俄罗斯就中国渔民在该国一些重要渔场的捕鱼活动签署双边协定,从而更好地推进我国远洋渔业的发展。

(四) 加强法律宣传与教育

面对我国在北太平洋海域捕鱼的渔民法律观念淡薄的问题,我国有必要从两个层次入手来加强相关法律宣传与教育活动。一方面,我国要重视培养一批通晓国际海洋和渔业法规的专门人才,参与国际渔业合作和渔业涉外事件的谈判;大力支持建立维护渔民权益的非政府组织,培育维护渔民人权的公益律师队伍,当渔民在海外遭受执法人员扣押或处罚时,由非政府组织或公益律师出面为其提供法律援助,防止渔民的合法权益遭受侵害。另一方面,我国应加强对渔业企业和渔民的法制教育培训,督促其了解和遵守相关国际条约、双边渔业协定以及相关国家的国内法,教育渔民积极配合执法人员的检查工作,提高其遵法守法的自觉性,还要了解相关法律文件的规定,维护自身的合法权益;同时,进一步引导渔业企业提高捕捞效率,并根据捕捞技术的发展适时应用更为环保和高效的渔具和渔法,

34 徐鹏:《海上执法比例原则研究》,上海:上海交通大学出版社2015年版,第342~343页。

促进公海渔业资源的保护和可持续利用。

Challenges for Chinese Fishermen to Fish in the North Pacific and Their Legal Solutions

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Abstract: The North Pacific waters include not only the traditional coastal fishing grounds of China, but also the primary high seas fishing grounds and the exclusive economic zones of other States where Chinese fishermen carry out distant fisheries activities. However, in recent years, when undertaking fishing activities in the North Pacific, Chinese fishermen encountered increasing disputes and challenges. These challenges include both external ones brought by the strengthening of fisheries resource management by regional fisheries management organizations and coastal States, and domestic ones caused by the insufficiency of China's legal fisheries framework and the distant-water fishery industry itself. In response to these challenges, China should direct more efforts into legislation, law enforcement, international legal negotiations and cooperation, legal publicity and education and other aspects.

Key Words: Distant-water fisheries; North Pacific; Fisheries management; Fisherman; Legal solution

I. Introduction of the Research Question

The North Pacific is the portion of the Pacific Ocean on the north of the equator. Due to the intersection of cold and warm currents in this area and its

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unique oceanic and geographic conditions, this area is rich in fisheries resources.¹ According to a report of the Food and Agriculture Organization of the United Nations (FAO), the Northwest Pacific is the most productive area for capture fisheries in the world.² The North Pacific is one of the primary fishing areas for Chinese fishermen, which includes traditional fishing grounds where Chinese fishermen conduct coastal fishery activities, such as the East China Sea, the Yellow Sea and the northern fishing area of the South China Sea. Some high seas fishing grounds, and the exclusive economic zones (EEZs) of certain major States like Japan, Russia, South Korea and the United States where Chinese fishermen engage in distant-water fisheries are also part of the North Pacific.

“Distant-water fisheries” means “marine fishing, the associated fishery processing, supply and product transportation and other fishery activities” carried out by citizens, legal persons or any other entities of a State “on the high seas and in the sea areas under the jurisdiction of any other States”.³ Distant-water fishing is a strategic industry in China, therefore it is essential to encourage its development, which will not only guarantee the provision of domestic products and facilitate the cooperation between Chinese and foreign fishery enterprises, but also contribute to the protection of China’s marine rights and interests. Moreover, its development is an important component of the “21st Century Maritime Silk Road Initiative”.⁴ Chinese distant water fishing activities started in 1985. Large fishing trawlers with processing facilities owned by Chinese fisheries companies conducted, in 1986, fishing operations in the waters off Alaska, the United States, in addition to West African waters.⁵ After more than three decades of development, both the number of China’s oceanic fishing vessels and the output of its distant-water fishing industry

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- 1 CHEN Xinjun, LU Huajie, LIU Bilin and TIAN Siqun, Current Exploitation of Marine Soft Fish Resources and Some Scientific Issues in the Sustainable Utilization of Ommastrephidae, *Journal of Shanghai Ocean University*, No. 5, 2012, pp. 831~840. (in Chinese)
 - 2 FAO, *The State of World Fisheries and Aquaculture 2016*, p. 5.
 - 3 Provisions on the Management of Distant-Water Fisheries (issued by the Ministry of Agriculture of the People’s Republic of China in April 2003), Article 2. As per this article, “distant fisheries” as mentioned in the Provisions shall exclude fishery activities carried out by Chinese fishermen in the Yellow Sea, the East China Sea and the South China Sea.
 - 4 13th Five-year Plan for National Distant-Water Fisheries Development by the Ministry of Agriculture of the People’s Republic of China.
 - 5 Ministry of Agriculture of the People’s Republic of China ed., A Chronicle of China’s Distant Fisheries for Thirty Years (1985-2015), *China Fisheries*, No. 3, 2015, p. 19. (in Chinese)

are among the highest in the world.⁶ Fishery activities of Chinese fishermen can be spotted across the Pacific, the Indian Ocean and the Atlantic Ocean. And the North Pacific, particularly the North Pacific high seas and EEZs of Russia, has become one of the primary sea areas where Chinese fishermen, especially those from Fujian province, carry out distant-water fisheries activities.⁷ Chinese fishermen use various methods to fish in the North Pacific. For example, they catch ommastrephes bartrami by using squid lure light, fish for mackerel by light-purse seine, and saury by light stick-held dip net.⁸ China's 13th Five-Year Plan for National Distant-Water Fisheries Development, issued by the Ministry of Agriculture in December, 2017, states that "the '13th Five-Year Plan' period is a critical transition period for the development of China's distant-water fisheries, and also a golden opportunity for China to become a distant-water fishing power." China has become one of the largest distant-water fishing State; however, compared to the developed fishing States like Japan and the United States, China is still poor or insufficient in terms of pertinent systems and mechanisms, equipment of fishing vessels, scientific and technological level, corporate strength, and crew training, which has also hampered the healthy development of Chinese distant fisheries.

With respect to coastal fisheries, Chinese fishermen, when fishing in the waters specified in the agreement between China and Japan, or between China and South Korea, met growing challenges in recent years. Chinese fishermen and fishing vessels were seized, from time to time, by Japanese or South Korean law enforcement officers. Against this backdrop, this paper will discuss not only the distant fisheries of China where fishing activities are carried out on the North Pacific high seas or in the North Pacific waters under the jurisdiction of other States, but also coastal fisheries undertaken by Chinese fishermen in North Pacific

6 The overall size of China's ocean-going fleet and the output of its distant-water fisheries have greatly exceeded those of some developed economies and traditional fishing powers, such as the European Union and the United States. China's Distant Fisheries Are Growing Stronger, at <http://news.qq.com/cross/20161114/V59I7L2P.html>, 25 April 2018. (in Chinese)

7 TANG Fenghua, YUE Dongdong, XIONG Minsi, LI Linian and CUI Xuesen, Interpretation of Convention on the Conservation and Management of High Seas Fisheries Resources in the North Pacific Ocean and Coping Strategies from China Oceanic Fisheries, *Fishery Information and Strategy*, No. 3, 2016, p. 211. (in Chinese)

8 TANG Fenghua, YUE Dongdong, XIONG Minsi, LI Linian and CUI Xuesen, Interpretation of Convention on the Conservation and Management of High Seas Fisheries Resources in the North Pacific Ocean and Coping Strategies from China Oceanic Fisheries, *Fishery Information and Strategy*, No. 3, 2016, p. 211 (in Chinese); LE Jiahua, CHEN Xinjun and WANG Weijiang, Development Status and Trend of China's Distant Fisheries, *World Agriculture*, No. 7, 2016, pp. 226~227. (in Chinese)

waters, mainly in the areas specified in the agreements between China and Japan, and between China and South Korea.

The world has witnessed increasingly strict regional fishery management, with the international community becoming more aware of the importance of environmental resources protection. In this case, it is urgent to solve the following issues: how to respond to the significant changes of international marine fisheries management, and transform the traditional development mode of China's coastal and distant fisheries, and further to achieve the goal of turning China into a "fishing power"? On international law, a "fishing power" should naturally be a responsible fishing State, which requires that China, of its own free will abide by the international law, including international fisheries laws, and fulfill relevant international obligations. Based on this concept, the paper, taking the North Pacific waters as an example, analyses the legal system applicable to the coastal and distant-water fishing operations carried out by Chinese fishermen in this area and the challenges they met, and tries to explore the potential solutions to these challenges from a legal perspective.

II. The Legal Framework Applicable to the Fishing Activities by Chinese Fishermen in the North Pacific

The legal framework applicable to the fishing operations conducted by Chinese fishermen in the North Pacific includes three levels: the multilateral level (i.e., global and regional legal instruments), the bilateral level (i.e., bilateral agreements) and the domestic level (i.e., domestic laws of the relevant States and legal documents of China) (see Fig. 1).

A. Multilateral Level

Since the conclusion of the United Nations Convention on the Law of the Sea (UNCLOS) in 1982, most States in the world have declared 200 nautical miles of EEZs or exclusive fishing zones, and exercised exclusive jurisdiction over fishery resources in these zones. As a result, some fleets of the distant-water fishing States were forced to fish on the high seas. With the gradual depletion of coastal fishery resources, the high seas have become a highly contested arena for fishermen from all over the world, where overfishing has led to a rapid decline of the high seas fishery resources. Since then, a growing call for "responsible fisheries" emerged.

Fig. 1 The Legal Framework Applicable to the Fishing Activities by Chinese Fishermen in the North Pacific

<p>International legal instruments:</p> <ul style="list-style-type: none"> ·UNCLOS ·Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas [unratified by China] ·Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks [unratified by China] <p>Other international fishery instruments:</p> <ul style="list-style-type: none"> ·Code of Conduct for Responsible Fisheries ·International Plan of Action for Reducing Incidental Catch of Seabirds in Longline Fisheries ·International Plan of Action for Conservation and Management of Sharks ·International Plan of Action for the Management of Fishing Capacity ·International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing <p>Regional legal instruments:</p> <ul style="list-style-type: none"> ·Convention for the Strengthening of the Inter-American Tropical Tuna Commission Established by the 1949 Convention between the United States of America and the Republic of Costa Rica ·Convention on the Conservation and Management of High Seas Fisheries Resources in the North Pacific Ocean 	<p>Bilateral</p> <ul style="list-style-type: none"> ·Agreement of Fisheries Between the Government of the People's Republic of China and the Government of Japan ·Sino-Japanese Fisheries Agreement ·Agreement of Fisheries Between the Government of the People's Republic of China and the Government of Korea ·Sino-Korean Fisheries Agreement 	<p>Chinese legal instruments:</p> <ul style="list-style-type: none"> ·Fisheries Law of the People's Republic of China ·Rules for the Implementation of the Fisheries Law of the People's Republic of China ·Provisions on the Management of Distant-Water Fisheries ·Regulations of the People's Republic of China on the Inspection of Fishing Vessels ·Administrative Measures for the Inspection of Ocean-Going Fishing Vessels ·Measures of the People's Republic of China for the Registration of Fishing Vessels ·Administrative Measures for the Monitoring and Surveillance of Ocean-Going Fishing Vessels ·Procedures and Rules for Fishing Operations by Citizens and Fishing Vessels of the People's Republic of China ·Notification of the General Office of the Ministry of Agriculture on the Relevant Work Concerning the Implementation of the Sino-Japanese Fisheries Agreement in the Calendar Year 2016-2017 ·Notification of the General Office of the Ministry of Agriculture on the Relevant Issues Concerning the Implementation of the Sino-Korean Fisheries Agreement in 2017 ·Notification of the General Office of the Ministry of Agriculture on Strict Compliance with the Management Measures of the North Pacific Fisheries Management Organization <p>Domestic laws of relevant States:</p> <ul style="list-style-type: none"> ·Federal Act on the Exclusive Economic Zone of the Russian Federation [Russia] ·Act on the Exercise of the Sovereign Right for Fishery, etc. in the Exclusive Economic Zone [Japan] ·Act on Foreign Fisheries [Japan] ·Act of the Republic of Korea on Fisheries in the Exclusive Economic Zone [South Korea] ·Procedures and Rules for the Citizens and Fishing Vessels of the People's Republic of China to Fish in the Exclusive Economic Zone of the Republic of Korea [South Korea]
<p>Multilateral level</p>	<p>Bilateral level</p>	<p>Unilateral level</p>

In this context, under the efforts of major international fishery organizations, an array of global and regional conventions and international fisheries instruments of a soft law nature were drafted. So far, a standard system of international fisheries management has been established. With the UNCLOS as the core, the system is supported by other international or regional conventions, and supplemented by international fisheries documents of a soft law nature. And international fishery organizations are responsible for its implementation.⁹

The UNCLOS lays the foundation for the establishment of the modern fisheries resources conservation regime. Specifically, it established the yield control management approach, and provided for different regimes for the conservation and management of fisheries resources in different sea areas, such as the provisions concerning the remainder of the allowable catch in the EEZ, and the freedom of fishing on the high seas and its restrictions; and it also made clear that States Parties have a cooperative obligation to conserve and manage marine living resources within or beyond national jurisdiction.¹⁰ However, the UNCLOS is still insufficient in many aspects including the arrangement of specific regimes and implementation capacity. In order to fill in these gaps, the Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (hereinafter “Compliance Agreement”) was concluded in 1993. The agreement reinforced the flag State responsibility for management, established a regime of high seas fishing permit and registration and tightened regulations on the management of fishing vessels and the punishment of vessels committing illegal activities. The 1995 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, hereinafter referred to as the FSA, granted the non-flag States compulsory jurisdiction over fishing vessels on the high seas (even the right to use force, if necessary). The FSA also expanded the jurisdiction of the regional

9 BAI Yang, Analysis and Prospect of the Legal Regime on International Marine Fishery Resources in the Post-UNCLOS Era, *Journal of Henan University of Economics and Law*, No. 5, 2012, p. 120. (in Chinese)

10 Yield control is the restraint placed on the level of yield of a fishing vessel or a fishing unit (such as an individual fisherman or a company) per voyage or within a specific period of time. Relevant yield control measures are Individual Transferable Quota (ITQ) system, Individual Quota (IQ) system, Total Allowable Catch (ITQ) system and other yield control systems. BAI Yang, Analysis and Prospect of the Legal Regime on International Marine Fishery Resources in the Post-UNCLOS Era, *Journal of Henan University of Economics and Law*, No. 5, 2012, pp. 119~120. (in Chinese)

fisheries organizations or arrangements, since it provides that only those States which are members of such an organization or participants in such an arrangement, or which agree to apply the conservation and management measures established by such an organization or arrangement, shall engage in the fishing operations compatible with those measures in the region or subregion.¹¹

A number of international fishery instruments that are not legally binding have also been adopted, which impose higher requirements and more obligations on fishers operating on the high seas. Among them, the 1995 Code of Conduct for Responsible Fisheries, covering all aspects of “responsible fisheries”, plays a leading role. Since its adoption, global and regional organizations and most maritime States have taken measures to promote its implementation.¹² In addition, for the purpose of promoting the implementation of the Code, the FAO drafted a series of international plans of action, involving, among others, the conservation and management of seabirds and sharks, and the management of fishing capacity and illegal, unreported and unregulated fishing (IUU fishing).

Regional fisheries management organizations (RFMOs) have also been established, in accordance with regional conventions, in the North Pacific to better conserve and manage the fisheries in the region. China has acceded to the Convention for the Strengthening of the Inter-American Tropical Tuna Commission Established by the 1949 Convention between the United States of America and the Republic of Costa Rica (hereinafter the “Antigua Convention”) and the Convention on the Conservation and Management of High Seas Fisheries Resources in the North Pacific Ocean. The Antigua Convention focuses on the conservation and management of tuna and tuna-like species in the Northeast Pacific Ocean, and the latter convention covers the chief species that Chinese fishermen catch in the North Pacific. Both conventions are concrete steps taken to implement the UNCLOS, the FSA, the Code of Conduct for Responsible Fisheries and the associated international plans of action. The Ministry of Agriculture of China, in line with the stipulations on fishing vessel registration, data reporting, high seas boarding and inspection, vessel location monitoring, and other management measures set out in the Convention on the Conservation and Management of High Seas Fisheries Resources in the North Pacific Ocean, promulgated a normative document, aiming

11 HU Xuedong, *Study on the Management System of High Seas Living Resources* (Doctoral Dissertation), Qingdao: Ocean University of China, 2012, pp. 84–99. (in Chinese)

12 HU Xuedong, *Study on the Management System of High Seas Living Resources* (Doctoral Dissertation), Qingdao: Ocean University of China, 2012, p. 88. (in Chinese)

to urge the relevant entities to comply with the convention.

B. Bilateral Level

In regard to China's coastal waters, the Sino-Japanese and the Sino-Korean Fisheries Agreements, as "temporary arrangements" before the conclusion of delimitation agreements, have become important norms for Chinese fishermen to abide by when fishing in the Yellow Sea and East China Sea. The Agreement of Fisheries Between the Government of the People's Republic of China and the Government of Japan, signed in 1997, came into force in 2000. The agreement is valid for five years, and has been renewed until now. The agreement applies to both the EEZs of China and Japan, including the "Provisional Waters Zone" where joint conservation and management measures are taken, and the EEZ of Japan in North Pacific. China also signed a fisheries agreement with South Korea in 2000, which took effect in 2001. Similar to the agreement with Japan, this agreement is also valid for five years, and has been renewed until now. The scope of the agreement covers the EEZs of China and South Korea, including the "Provisional Waters Zone" where joint conservation and management measures are applicable, the "waters in transitional arrangement" where fisheries activities should be gradually reduced and the "waters where existing fishing activities would be maintained". The Ministry of Agriculture of China annually enacted normative documents regarding the implementation of the foregoing bilateral agreements, which cover, among others, fishing quotas, the number of licensed vessels, standards of fishing gear and equipment, operating hours and areas, and law enforcement cooperation in the agreed waters.

C. Unilateral Level

The legal framework, at the unilateral level, encompasses the domestic laws of the major States bordering the North Pacific and those of China. The former mainly governs the fishing operations of foreign fishing vessels in the EEZ of a State. Where a bilateral fisheries agreement fails to specify or the relevant provisions are unclear, the pertinent provisions of the domestic laws of the State with jurisdiction over the operating waters should prevail. Such provisions consist of the articles concerning prohibited actions, law enforcement procedures, and penalty method and standard under the Act on the Exercise of the Sovereign Right for Fishery, etc.

in the Exclusive Economic Zone, the Act on Foreign Fisheries and Federal Act on the Exclusive Economic Zone of the Russian Federation. For example, the Act on the Exercise of the Sovereign Right for Fishery, etc. in the Exclusive Economic Zone of Japan provides that, foreign vessels shall not fish in the EEZ of Japan, unless permitted by the Ministry of Agriculture, Forestry and Fisheries,¹³ and these vessels shall pay the fishing fee as provided;¹⁴ the fishery operations shall be conducted in line with the international rules and other relevant provisions, and the harvest of aquatic animals and plants shall not exceed the limit provided for in the Ordinance of the Ministry of Agriculture, Forestry and Fisheries;¹⁵ foreign vessels, if intending to harvest aquatic animals and plants for experiment and research purposes, to engage in activities incidental to fishing, or to do some surveys, shall obtain the authorization from the Ministry of Agriculture, Forestry and Fisheries, and pay the service charges;¹⁶ in case of other-than serious violation of the relevant provisions, the license of the offender may be cancelled, the catches and fishing gear of the offender may be confiscated, and/or the offender may be fined; in case of serious violation, the offender may even be sentenced to jail in accordance with Japan's criminal law.¹⁷ South Korea has developed similar rules regulating foreign vessels fishing in its EEZ, with sanctions against offenders being severe.¹⁸

After years of development, a legal system for distant-water fishery has basically been in place in China. With the Provisions on the Management of Distant-Water Fisheries as the core, and the Fisheries Law of the People's Republic of China and the Detailed Rules for the Implementation of the Fisheries Law playing the overriding role, this system is complemented by other administrative regulations, departmental rules and normative documents. Notably, the Fisheries Law of China provides that the State shall "encourage and support the development of distant-water fishery industry", implement fishing license system, and impose

13 Act on the Exercise of the Sovereign Right for Fishery, etc. in the Exclusive Economic Zone, Article 5.

14 Act on the Exercise of the Sovereign Right for Fishery, etc. in the Exclusive Economic Zone, Article 7.

15 Act on the Exercise of the Sovereign Right for Fishery, etc. in the Exclusive Economic Zone, Article 6.

16 Act on the Exercise of the Sovereign Right for Fishery, etc. in the Exclusive Economic Zone, Articles 8-10.

17 Act on the Exercise of the Sovereign Right for Fishery, etc. in the Exclusive Economic Zone, Articles 13, 18-23.

18 QUAN Yongbo, International Fisheries Regime and the Development of China's Coastal Fisheries, *Ocean Development and Management*, No. 4, 2002, p. 74. (in Chinese)

penalties on any illegal operations.¹⁹ The Detailed Rules for the Implementation of the Fisheries Law contains more specific provisions on the fishing license system, relevant administrative authorities and penalties against illegal activities than the Fisheries Law. The Provisions on the Management of Distant-Water Fisheries established three mechanisms, namely, (a) the mechanism on the examination and approval of oceanic fisheries projects as well as on the qualification accreditation of distant-water fishing enterprises, (b) the mechanism on the confirmation of annual examination of oceanic fisheries projects and the renewal of certificates upon annual qualification examination of distant-water fishing enterprises, and (c) the self-regulatory coordination mechanism of the distant-water fishery industry. In the meanwhile, the Provisions also strengthened supervision on distant fisheries, by imposing specific requirements on matters such as monitoring and control of fishing vessel position, standard fishing logs, government observers, and legal fishing certificates.²⁰ The Interim Management Measures for the Monitoring of the Position of Ocean-Going Fishing Vessels issued in 2012 details on the installation of vessel position monitoring equipment, the organization in charge of daily monitoring, the authority in charge of supervision, and other aspects relating to the supervision and management system. Additionally, there are also special regulations governing issues like the registration and inspection of ocean-going vessels.

III. Challenges for Chinese Fishermen to Fish in the North Pacific

At present, Chinese fishermen and fishery companies are confronted with many challenges both home and abroad in their fishing activities in the North Pacific. These challenges are accompanied by issues like the increase of the cost of fishery activities, the inefficiency of fishing operations and the frequent violation of applicable laws. All these factors limit the sustainable development of China's fishing operations in the North Pacific Ocean.

A. Regional Fisheries Management Organizations Have Become Tougher in the Management of High Seas Fisheries

19 *Fisheries Law of the People's Republic of China*, Article 21, Articles 23~26, Chapter V.

20 ZHU Jiangeng, *China's Legal System for Marine Environmental Protection*, Beijing: China University of Political Science and Law Press, 2016, pp. 134~135. (in Chinese)

After the entry into force of the UNCLOS, all countries around the world have paid closer attention to the conservation and management of fishery resources, and have tightened regulation on the fishing operations on the high seas. *Inter alia*, the adoption of the FSA and the Code of Conduct for Responsible Fisheries marks the end of the era of free fishing on the high seas, and the rising trend of responsible fisheries for future international fishery management. Although China has not yet ratified the FSA and the Compliance Agreement, China, as a large distant-water fishing State facing international political and diplomatic pressures, has always been striving to develop its distant-water fisheries and strengthen the control over fishing vessels on the high seas in accordance with the provisions under these agreements. In addition, China has joined the Inter-American Tropical Tuna Commission and the North Pacific Fisheries Commission. These RFMOs basically formulate or modify rules of regional fisheries management in compliance with the provisions of international legal instruments, as represented by the FSA and the Code of Conduct for Responsible Fisheries. Therefore, the provisions of these instruments will be considerably binding on fishery authorities of China at all levels, as well as China's ocean-going fishing companies and fishermen.

Chinese fishermen mainly catch straddling fish stocks and highly migratory fish stocks in the North Pacific high seas. Tougher management of international distant-water fisheries poses a more rigorous test to the production and operation of tuna and squid jigging fisheries in China. For example, the Antigua Convention enacted a licensing and permit regime for the fishing activities of ocean-going fishing vessels,²¹ requiring the Inter-American Tropical Tuna Commission to develop criteria for the allocation of total allowable catch, or total allowable fishing capacity, including carrying capacity, or the level of fishing effort.²² Such requirements forced the fishermen engaging in tuna fishing on North Pacific high-seas to reduce their fishing intensity, and some fishermen even had to abandon tuna fishing in this area, thus undermining the economic benefits of relevant enterprises or fishermen. Another example in this case is the Convention on the Conservation and Management of High Seas Fisheries Resources in the North Pacific Ocean. This Convention provides that a fishing vessel operating in the Convention Area should have real-time satellite position-fixing transmitters installed and report its plan to enter into and exit from the Convention Area to the Commission using these

21 Antigua Convention, Article 20.

22 Antigua Convention, Article 7.

transmitters. It also stipulates that each Contracting Party shall place observers on board fishing vessels entitled to fly its flag and ensure such vessels accept boarding by duly authorized inspectors and their inspection.²³ These provisions not only increased the responsibilities of the flag State for the management of the vessels flying its flag on the high seas, but also added additional obligations to distant-water fishing companies and fishermen operating on the North Pacific high seas. *Inter alia*, they increased the risk of violations and the resulting costs for undertrained fishermen.

B. Coastal States Have Strengthened Fishery Management and Law Enforcement in Their EEZs

Under the pressure of worldwide overfishing in the EEZs, coastal States around the North Pacific Ocean have tightened their regulation on foreign ships gaining access to their EEZs. These zones cover both the important destinations of China's distant-water fisheries sector, such as Russia's EEZ, and China's coastal fishing grounds, such as the agreed fishing zones under China's fishing agreements with Japan and South Korea.

Currently, fishery cooperation between China and Russia has not been large in scale, but Chinese fishermen operating in Russia's EEZs should abide by Russian laws and regulations with respect to fishing activities in EEZs. Russia's laws concerning EEZs are very strict and detailed with regard to the relevant obligations of foreign fishing vessels. For example, foreign fishing vessels shall perform the duty of notification or reporting to Russia's competent law enforcement agencies, and shall provide law enforcement officers with living, accommodation, communication and transportation free of charge during their stay on board the ships.

Since the Sino-Japanese Fisheries Agreement entered into force, fishing methods has been restricted to trawling and squid jigging only. Additionally, in order to limit the fishing operations of Chinese fishermen, Japan has increased law enforcement efforts to curb the harvesting of fishing resources in the Provisional Waters Zone, which objectively puts Chinese fishermen under considerable pressure. The total number of Chinese fishing vessels operating in the Provisional

23 Convention on the Conservation and Management of High Seas Fisheries Resources in the North Pacific Ocean, Article 7.

Waters Zone, consequently, shows a downward trend.

South Korea has abundant fishery resources in its EEZ, where fishery disputes occur frequently. These disputes are closely related to the Korean government's continuous strengthening of foreign fishing vessel management. First, upon the entry into force of the Sino-Korean Fisheries Agreement, the two parties designated "waters in transitional arrangements" valid for four years, during which one party shall gradually adjust and reduce the fishing activities of its nationals and fishing vessels in such waters on the side of the other party. After the expiry of the four-year term (i.e., 30 June 2005), the "waters in transitional arrangements" on both sides of the two parties should be managed in the same way as their respective EEZs. In that case, both the areas to which Chinese fishing vessels can gain access and the number of operating vessels are further reduced.²⁴ Second, South Korea revised the Procedures and Rules for the Citizens and Fishing Vessels of the People's Republic of China to Fish in the Exclusive Economic Zone of the Republic of Korea under the Jurisdiction of the Republic of Korea in 2013, which set strict standards for fishing and complicated conditions and procedures for fishing operations by setting provisions on "designated forbidden zones", "designated waters", tonnage of fishing vessels, mesh size, illumination of fish gathering lamps and others. Finally, the South Korean coast guard has stepped up its efforts to enforce fisheries law against Chinese fishermen. As South Korea tightens fishing permit issuance for Chinese fishing vessels to operate in waters in transitional arrangements on the South Korean side, the number of illegal fishing by Chinese fishermen in Korean waters has increased. The South Korean coast guard has adopted tougher law enforcement measures against such illegal operations, including increasing on-board inspections of Chinese fishing vessels, requiring Chinese vessels to report their output and positions at all times, and imposing a fine up to 70 million Won (about 392,000 yuan) for each illegal catch. In order to avoid punishment, some Chinese fishermen even bribed the coast guard, which added to their financial

24 GAO Qiang, WANG Benbing and YANG Tao, Impacts of International Marine Laws on Distant Water Fisheries in China, *Chinese Fisheries Economics*, No. 6, 2008, p. 81. (in Chinese)

burdens.²⁵ The South Korean coast guard also relaxed the conditions to enforce law by force.²⁶ It set up special armed forces, increased the deployment of ships, and distributed high-pressure ejectors, long-range acoustic devices, electroshock guns and flash-bang bombs to police officers, which has raised the frequency of violent law enforcement incidents and seriously threatened the safety and legal rights of fishermen. Due to the above reasons, the number of Chinese fishing vessels operating in Korean EEZ is basically decreasing.²⁷

C. The Development Mode of China's Distant-Water Fishery Industry and the Relevant Legislation Need to Be Improved Urgently

1. China's Current Fisheries Law Is Insufficient

At present, the management mechanism for China's distant fisheries, as illustrated below, is not yet mature and complete, posing fundamental challenge to the development of this industry.

First, Chinese laws or regulations relating to distant fisheries rank low in

25 Media Say No Fish Could Be Caught off the Coast of Eastern China So That Chinese Fishermen Go Fishing in South Korea, at <http://news.sina.com.cn/c/2011-12-12/165723619335.shtml>, 1 February 2018 (in Chinese); 50 Chinese fishing vessels have been detained by South Korean Incheon coast guard since 2016 over suspected illegal fishing activities, with more than 70 crew members arrested and fined 1.83 billion Won (about 10.88 million yuan), see *South Korean Media: South Korean Coast Guard Detained Three More Chinese Fishing Boats and Sent 55 People to Incheon for Investigation*, at http://www.thepaper.cn/newsDetail_forward_1545354, 1 February 2018. (in Chinese)

26 The Korea Coast Guard on 8 November 2016 indicated the implementation of the Guidelines for the Use of Weapons. It specifies the approval of the immediate use of weapons by the coast guards in enforcing the law when they face violent situations and thus allows for "shoot first and report later". Action commander may decide on the use of naval guns, machine guns and other crew-served weapons while the use of individual weapons is determined by a coast guard. The consideration for weapon use changed from "in the case of an attack against guard forces (including coast guards, ships and aircraft)" to simply, "in the case of an attack or attempted attack". For crew-served weapons, the conditions are: where the safety of coast guards are not easily guaranteed as a result of an attack or threat of attack with weapons, where other party's hull rams into the ship of coast guards and poses a threat to personal safety of the guards, and in urgent situations that demand the engagement of crew-served weapons for defense or counter strike according to the discretion of the action commander on the scene. See Korea Coast Guard Issued the Guidelines for the Use of Weapons, Allowing Shooting First and Reporting Later, at <http://www.chinanews.com/gj/2016/11-08/8056927.shtml>, 1 February 2018. (in Chinese)

27 According to the Ministry for Food, Agriculture, Forestry and Fisheries of South Korea, South Korea has arrested 4,628 Chinese fishing vessels for illegal operations in South Korean waters since the Sino-Korean Fisheries Agreement went into effect in 2012. See GAO Mei, South Korean Coast Guard Once Fired Five Shots at Chinese Fishermen, *The Beijing News*, 18 October 2012, p. A10.

China's legal hierarchy and the relevant provisions are scattered throughout the system. In China's system for distant fisheries management, only the Fisheries Law, Rules for the Implementation of the Fisheries Law and the Regulations on Fishing Vessel Inspection belong to laws or administrative regulations, while Provisions on the Management of Distant-Water Fisheries, as the core legal instrument in this system, is merely departmental regulations. Despite China's strong supports to the development of distant-water fisheries, its laws and regulations contain no specific provisions on the industry, only with a brief mention in one or two articles. All these may not help raise the attention of Chinese authorities at all levels, ocean-going fishing companies and fishermen to distant fisheries. China has made special regulations on ship inspection, registration and position monitoring with respect to distant-water fisheries, but they are scattered in various departmental rules. In order to better comply with the management measures under the Convention on the Conservation and Management of High Seas Fisheries Resources in the North Pacific Ocean, the Ministry of Agriculture of China issued special normative documents, which however have not been really transformed into domestic law, partly resulting in their undesirable implementation effect.

Second, China's Fisheries Law needs to enhance its extraterritorial effect.²⁸ The Fisheries Law of China provides for its scope of application in Articles 2 and 8. These provisions indicate that the law adopts the principle of territorial jurisdiction instead of personal jurisdiction. That is to say, fishing activities undertaken by Chinese fishermen in waters outside China's jurisdiction are not regulated by its Fisheries Law. As the laws and regulations with respect to China's distant fisheries are insufficient to meet the requirements laid down by its Fisheries Law, and many illegal practices in the distant-water fishery industry are not governed by Chinese laws, illegal fishing occurs frequently, causing damages to China's image as a responsible fishing State.²⁹

Third, the relevant provisions under China's management system are a bit general and the pertinent standards are too low, which are not able to meet international standards. With regard to fishery statistics, for example, the UNCLOS, the FSA and the Code of Conduct for Responsible Fisheries all provide for the

28 XUE Guifang and FANG Xu, Strengthening Extraterritorial Effect of China's Fishery Law: Maintaining the Image of a Responsible Distant Water Fishing Nation, *Pacific Journal*, No. 2, 2018, p. 60. (in Chinese)

29 XUE Guifang and FANG Xu, Strengthening Extraterritorial Effect of China's Fishery Law: Maintaining the Image of a Responsible Distant Water Fishing Nation, *Pacific Journal*, No. 2, 2018, p. 61. (in Chinese)

responsibilities and obligations of fishing States with respect to fisheries statistical data, and specify the requirements for the collection and utilization of such data. The North Pacific Fisheries Commission and other RFMOs that China has joined also contain strict requirements for fishery statistics. In contrast, China's Fisheries Law, except from requiring "large and medium-sized fishing vessels to keep fishing logs", does not set out further detailed provisions on the collection of statistical data on distant fishing, nor does it provide for mandatory measures. The Provisions on the Management of Distant-Water Fisheries of China stipulates that distant fishery companies shall submit the documents and their production conditions to the Ministry of Agriculture and the competent authorities as required when applying for any distant fishery projects and carrying them out; nevertheless, the requirements regarding the collection of fishery data are not clear but obviously lower than those laid down by relevant international treaties to which China has acceded.³⁰ As a result, Chinese fishermen and fishing companies, when conducting distant fishing operations, often inadvertently violate the legal provisions designed for the relevant waters, which further triggers fishery disputes.

2. China's Distant-Water Fishing Industry Is "Big but Not Strong"

Although China is a big oceanic fishing State whose catch of pelagic fishing resources is among the highest in the world, its distant fishing industry still lags behind that of Japan and of other countries. First, China's distant-water fishery currently adopts a relatively extensive mode of production. While the number of fishing boats grows sharply, their production efficiency and productivity are comparatively poor. In addition, the mode that China uses to cooperate with other States on fisheries is not good enough and its operation management fails to generate satisfactory effect, making it difficult for China's distant fisheries to achieve sustainable and stable development. Second, China's high seas fishery still lacks a solid industrial basis at present. Except the bases established in some waters off West Africa, where a relatively complete industrial chain of catching, processing and transportation has been created, a complete industrial chain for distant-water fishery has not yet been in place in other waters, including the North Pacific Ocean. Third, in addition to the aging of fishing vessels, China's existing ocean-going fishing vessels are not equipped with advanced equipment on the whole. And some of their fishing methods are not in line with the requirements of RFMOs, which

30 NIE Qiyi, *On China's Policy of Distant-Water Fishery* (Master's Dissertation), Shanghai: Shanghai Ocean University, 2011, p. 35. (in Chinese)

often makes such vessels become a prime target of international law enforcement efforts. Finally, China's distant fishery industrial community neither possesses enough knowledge about its major fishing partners or the status of high seas fishery resources, nor invests sufficiently in scientific research, which also affects the further development of the industry.³¹

3. With Weak Legal Awareness, Chinese Fishermen Are Reluctant and Incapable to Resolve Disputes by Law

The number of Chinese fishing vessels operating on the high seas is fairly large, but the Chinese fishermen generally do not have a high educational level. China's fishery administration authorities have strengthened the training for fishermen in recent years, however, the training coverage and intensity still need to be increased. Currently, illegal behaviors of Chinese fishermen fishing on the high seas of the North Pacific mainly include: (a) fishing without a license, (b) failing to maintain fisheries data as required by RFMOs, (c) violating the provisions on closed areas or seasons, (d) fishing for a stock for which fishing is prohibited, (e) violating output or quota limits, (f) using prohibited fishing methods, and (h) resisting law enforcement.³² In addition, some fishermen or fishing companies fail to pay attention to the differences in the contents of the fisheries agreements signed between China and different coastal States surrounding the North Pacific Ocean, which may lead to unlicensed or illegal operations, and also the arrest or detention of Chinese fishermen or fishing boats by the partner States, thus causing fisheries disputes with these States.³³

Apart from their weak legal awareness causing illegal fishing, Chinese fishermen engaging in distant fisheries also lack the willingness and ability to resolve disputes by law after the occurrence of fishery disputes involving foreign States. In most cases, they hope to solve disputes through employing "interpersonal relationships", but such practices often backfire. On the one hand, Chinese fishermen, on some occasions, escape and resist the boarding of foreign law

31 TANG Fenghua, YUE Dongdong, XIONG Minsi, LI Linian and CUI Xuesen, Interpretation of Convention on the Conservation and Management of High Seas Fisheries Resources in the North Pacific Ocean and Coping Strategies from China Oceanic Fisheries, *Fishery Information and Strategy*, No. 3, 2016, p. 215. (in Chinese)

32 TANG Fenghua, YUE Dongdong, XIONG Minsi, LI Linian and CUI Xuesen, Interpretation of Convention on the Conservation and Management of High Seas Fisheries Resources in the North Pacific Ocean and Coping Strategies from China Oceanic Fisheries, *Fishery Information and Strategy*, No. 3, 2016, p. 214. (in Chinese)

33 WANG Jinkui, International Cooperation and Risk Analysis of China's Distant Fisheries, *Practice in Foreign Economic Relations and Trade*, No. 3, 2009, pp. 33~34. (in Chinese)

enforcement officers for inspection, which sometimes results in officers' excessive use of force; on the other hand, the law enforcement personnel of the coastal States around the North Pacific would, from time to time, infringe upon the lawful rights and interests of Chinese fishermen during law enforcement.

IV. Legal Measures to Protect Chinese Fishermen Operating in the North Pacific Ocean

In recent years, the North Pacific waters has witnessed a frequent occurrence of incidents involving Chinese fishermen operating in this area. These incidents were mainly caused by the lagging of China's domestic legislation behind the international one, as well as the lack of willingness and ability of Chinese distant fisheries industry to abide by and apply the law. Given the causes of these incidents, this paper proposes four legal solutions as follows.

A. To Improve China's Domestic Law on Distant-Water Fisheries

In view of the insufficiency of China's legal system on distant fisheries management, it is necessary to create a unified system by integrating the scattered provisions related to distant fisheries into the Law on the Management of Distant-Water Fisheries, or into the Fisheries Law and its implementation rules. In that case, such provisions could gradually rise from the rank of departmental regulations or normative documents to laws or administrative regulations, and their legal authority would accordingly be enhanced. Meanwhile, it can also make it easier for fishery administrative authorities at all levels, distant fishery enterprises or fishermen to consult and learn relevant provisions.

Fishermen fishing on the high seas or in the EEZs of other States shall observe the relevant international treaties, inter-State fisheries agreements or the laws of other States. However, there are still differences between China's management measures for distant water fisheries and the provisions of the relevant international legal instruments as well as the legal standards of other States. In addition, due to fishermen's improper understanding of international legal documents, unintentional violations often occur. China, as a large fishing State, should take the initiative to keep in line with the international standards, by actively studying the relevant measures of some international legal instruments recognized by China, such as the UNCLOS, the Compliance Agreement, the FSA and the Code of Conduct for

Responsible Fisheries, and gradually transforming these measures into domestic laws to improve domestic fishery regulations and management measures. For example, China should, by referring to the relevant provisions on submission of statistical data on fishing operations under the FSA, specify the principles to be followed in China's collection of statistical data on distant fisheries and the types of data to be collected, so as to raise the awareness of its fishermen on the importance of data collection. Considering that Chinese fishing vessels operating on the high seas of the North Pacific are many years of age, their hulls are old, and face an array of potential safety hazards, China should raise the acceptable standard of fishing vessels and their equipment through measures such as vessel inspection and issuance of fishing permit for ocean-going fishing vessels; China may also grant government subsidies or take other measures to promote the elimination and upgrading of old fishing vessels, as well as the application of new materials, technologies, equipment and energy, and further to enhance the strength of China's distant water fishing enterprises. China's processing of the pelagic fishery resources in the North Pacific high seas is basically at the middle or low level, lacking the ability to intensively process and comprehensively utilize the processed wastes like heads, viscera and eyes of the fishery resources. Hence, China should, through legislative means, encourage and guide fishing companies to properly collect and utilize the processed wastes of fishery resources and raise their industrial productivities. In addition, China should enlarge the extraterritorial scope of its Fisheries Law, so that it can be applied to Chinese fishermen or fishing companies undertaking fishing operations in the sea areas beyond China's jurisdiction. China should also, through legislation, impose increased penalties against vessels and fishermen illegally fishing on the high seas of the North Pacific, which may create a strong deterrent against illegal fishing and better maintain China's image as a responsible fishing State.

B. To Improve the Fishing Vessel Monitoring Mechanism and Duly Carry out Joint Law Enforcement Activities and Deploy Warships to Protect Fishery on the North Pacific High Seas

First, China should enhance its fishing vessel monitoring mechanism and strengthen supervision in advance. According to the discussions above, in order to prevent the occurrence of IUU fishing activities to the maximum extent, China needs to proactively use technology, including the Beidou System, to strengthen

the tracking and management of vessels, and complete the position monitoring and early warning system for fishing vessels. China should also gradually require larger presence of observers on ocean-going fishing vessels, and enhance its capacities to perform international agreements. Apart from that, China should establish and complete the “blacklist” system for individuals illegally engaging in distant fisheries, and increase the severity of sanctions against illegal activities. Furthermore, China should build an early warning system for risks to distant fisheries and strengthen its capabilities to prevent and control risks.

Second, against the backdrop of the reform of law enforcement agencies, China should, in due time, carry out joint law enforcement activities and deploy warships to protect fisheries on the important high seas fishing grounds in the North Pacific Ocean. In recent years, Sino-foreign fishery disputes and violent conflicts occurred frequently. Seeking to protect the rights and interests of Chinese fishermen, China has integrated former maritime law enforcement agencies in charge of issues such as fishery, maritime surveillance, maritime affairs and border defense into two organs: China Coast Guard and China Maritime Safety Administration. The Plan on Deepening Reform of Party and State Institutions released in March 2018 incorporated China Coast Guard into the Armed Police Forces under the unified command of Central Military Commission. Undoubtedly, these measures will greatly improve the efficiency of maritime law enforcement, including fishery law enforcement, and help protect the rights and interests of Chinese fishermen and China’s marine sovereignty in case of conflict. On the other hand, with regard to IUU fishing activities on the high seas, China’s law enforcement agencies also need to strengthen cooperation with the States bordering the North Pacific Ocean to jointly carry out law enforcement operations and inspections on the North Pacific high seas, so as to timely and properly handle violations involving foreign parties in the distant-water fishing industry and avoid violent law enforcement incidents.

At the meanwhile, in response to violent law enforcement of some States, it is suggested that China duly send warships on a regular basis to protect fishery on some important high seas fishing grounds, so that the legitimate rights and interests of Chinese fishing enterprises and fishermen could be effectively protected. Such fishery protection operations are consistent with international legal practice. For example, in the famous *Red Crusader* case, a Danish frigate began hot pursuit of the British trawler *Red Crusader* in its territorial waters and then fired solid shots at the trawler without warning shots. The frigate was blocked by British naval vessels

when it sailed to the high seas, which prevented the excessive use of force by the Danish frigate, kept the situation from getting worse, and effectively safeguarded the rights and interests of British fishing vessels.³⁴

C. To Actively Carry out International Cooperation and Raise China's Voice in Fisheries Negotiations

With regard to China's coastal fisheries, given the disputes having arisen when Chinese fishermen went fishing in the waters of South Korea and Japan, the Ministry of Agriculture and Rural Affairs and other ministries of China should make efforts to increase the fishing quota for Chinese fishermen in the common fishery zones in transitional arrangements between China and Japan and between China and South Korea. Additionally, China could also leverage the strength of China Fisheries Association and other non-governmental economic organizations to carry out exchanges and negotiations on fishery resources cooperation with the counterparts of South Korea and Japan, pursuing to win more rights and interests for Chinese fishermen with respect to coastal fisheries in the North Pacific. Furthermore, the ongoing negotiations between China and South Korea on maritime delimitation should take the fishing practice of Chinese fishermen in this traditional fishing ground as a critically relevant issue to consider, which may effectively protect the interests of Chinese fishermen. Of course, in the long run, it may be a more feasible way to ease the dependence of Chinese fishing vessels on the waters in transitional arrangements between China and Japan and between China and South Korea, by strengthening the management of coastal fisheries and restoring the seriously declining coastal fishery resources.

With respect to the distant fishing operations of Chinese fishermen in the North Pacific Ocean, China is expected to do a good job in two aspects. On the one hand, China should actively participate in the affairs of FAO and North Pacific RFMOs, as well as the negotiations on relevant legal documents, aiming to raise China's voice in these organizations and promote the development of a fair and reasonable fisheries governance mechanism on the global level. To raise China's voice in such international and regional fisheries management organizations, one important step for China is to adequately collect fishery data and investigate and

34 XU Peng, *A Study on the Principle of Proportionality in the Enforcement of Law at Sea*, Shanghai: Shanghai Jiao Tong University Press, 2015, pp. 342~343. (in Chinese)

assess fishery resources in relevant waters. China has not done enough in this respect, which should be improved and enhanced. On the other hand, China could, by taking advantage of the initiative to build a “Polar Silk Road” with Russia, actively expand fishery cooperation with Russia and make every effort to conclude bilateral agreements with it with regard to the fishing operations conducted by Chinese fishermen in some of the important fishing grounds of Russia, so as to further drive the development of China’s distant-water fishing industry.

D. To Strengthen Legal Publicity and Education

Given the weak legal awareness of Chinese fishermen operating in the North Pacific, China should endeavor to increase the relevant legal publicity and education activities at two levels. On the one hand, China should make greater effort to cultivate a group of talents with a good knowledge of international maritime and fishery laws and regulations to participate in the negotiations on international fishery cooperation and the settlement of fishery events involving foreign States; China should strongly support the establishment of non-governmental organizations to safeguard fishermen’s rights and interests, and the cultivation of public interest lawyers to protect fishermen’s human rights. When Chinese fishermen are detained or punished by law enforcement officers overseas, non-governmental organizations or public interest lawyers should step in to provide legal assistance to fishermen to prevent their legitimate rights and interests from being compromised. On the other hand, China should strengthen the legal education and training for fishery enterprises and fishermen, and urge them to understand and abide by relevant international treaties, bilateral fishery agreements and domestic laws of the States concerned. China should teach fishermen to actively support the inspection work by law enforcement officers, and raise their willingness to abide by law. Fishermen should also be acquainted with the provisions of relevant legal instruments to safeguard their legal rights and interests. In addition to the recommendations above, China should further guide fishery enterprises to improve their fishing efficiency, and as fishing technologies develop, timely apply more environmentally friendly and efficient fishing gear and methods, so as to promote the protection and sustainable utilization of high seas fishery resources.

论越南划设“南谔岛海洋保护区”的违法性 ——兼析南海海洋环保合作机制的构建

崔浩然*

内容摘要: 2010年5月,越南政府决定规划设立“南谔岛海洋保护区”,该保护区位于中国南沙群岛海域,严重侵犯了中国的主权,违背了国际法的基本原则。诸多证据表明,“南谔岛海洋保护区”并不是出于海洋环境保护目的而建,它只是越南将其侵占岛礁“合法化”的一个举措,本质上是“主权宣示”的政治工具。南海面临着严重的生态环境恶化风险,海洋环境保护是一项系统工作,需要各国相互合作。南海各国有合作保护生态环境的基础和共识,各国应搁置争议,借鉴其它半闭海合作模式,构建南海海洋环保的双边和多边合作机制。这种合作机制不应影响国家通过谈判解决岛屿主权争端和海域划界的努力,也不应影响各国的南海权利主张。

关键词: “南谔岛海洋保护区” 违法性 环保 合作机制

海洋保护区的建立扩大了国家对相关海域的控制和管辖,在国家管辖范围内建立海洋保护区逐渐成为国际社会的普遍实践。媒体形象地称之为“新海洋圈地运动”。¹对于存在岛屿主权争端和海域划界尚未完成的争议海域,由于管辖权的不清晰,国家一般不会划设海洋保护区以行使国家权力。2010年5月,越南总理阮晋勇发布了关于“批准至2020年越南海洋保护区制度规划”的第“742/QĐ-TTg号法令”(以下简称“742/QĐ-TTg号法令”),²宣布到2020年时,越南将建

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1 丘君:《悄然兴起的“新海洋圈地运动”》,下载于<http://www.oceanol.com/gjhy/ktx/17581.html>,2018年11月12日。

2 2010年的“742/QĐ-TTg号法令”被认为是越南近10年(2010年-2020年)间关于海洋保护区建设和发展的全局性、战略性意义的法规。该法令明确海洋保护区建设和管理的责任主体为越南农业与农村发展部。制定了越南海洋保护区建设的总目标,即建立国家海洋保护区体系。具体目标是在2010至2015年间建立16个海洋保护区并投入使用,“南谔岛海洋保护区”赫然在列。参见越南总理府《批准至2020年越南海洋保护区制度规划》的第“742/QĐ-TTg”号法令。

立 16 个海洋保护区。在这 16 个海洋保护区中，越南在中国南沙群岛海域非法划设的“南谔岛海洋保护区”鲜有人关注。这可能是由于国内对越南的南海动向主要聚焦于海洋油气开发和军事活动，对其它方面的关注较少。³但越南划设保护区的行为将引发一系列问题：岛屿存在主权争端或海域划界尚未完成之前，一国单方面划设海洋保护区，对其行使管辖权，是否具有法律效力？这种行为又能否构成其主权声索的依据？南海争议海域的海洋环境保护工作如何开展？基于上述疑问，本文以《联合国海洋法公约》（以下简称“《公约》”）等国际法为依据，分析了越南划设“南谔岛海洋保护区”的违法性，探讨南海海洋环保合作机制的构建路径。

一、“南谔岛海洋保护区”基本情况

“南谔岛”位于南沙群岛的郑和群礁南部，北距太平岛约 12 海里，西北距南熏礁约 6.5 海里。该岛呈椭圆形，东西长 740 米，南北宽 140 米，面积约 0.08 平方公里。该岛最早为中国发现和命名。1935 年，民国政府水陆地图调查委员会将该岛命名为南伊岛。有些外文图书称为“Namyit Island”。据学者考证，“Namyit”由外国人纪录中国渔民的称呼“南乙”（海南方言）而来。⁴其后，为了纪念中国政府派往接收南沙群岛的中业舰副舰长杨鸿庥，1947 年民国政府出版的《南海诸岛位置图》将该岛命名为鸿庥岛。1983 年，中华人民共和国政府中国地名委员会公布的该岛名称仍为鸿庥岛。1975 年，越南利用南北统一之际乘机侵占了中国南沙群岛的 6 个岛礁，这其中就包括鸿庥岛。其后，越南将其改名为“南谔岛”，在岛

3 目前国内多数有关南海区域环保和渔业合作的文章，都提及包括越南在内的南海周边国家签署的国际公约，倡导周边国家以国际公约为法律依据构建南海区域合作机制。但关于越南海洋保护区的问题仅在一些学者的研究中零星提及，例如，邬勇在其硕士论文《我国南海海洋保护区制度研究》（海南大学 2014 年硕士论文）中介绍了 2008 年越南政府关于海洋保护区的 57 号法令，指出越南海洋保护区的“三级管理机制”，但可能限于篇幅，作者并未就越南海洋保护区的相关法律做详细介绍。刘丹在《南海海洋环保合作的困境和出路——兼及对“南海仲裁案”相关事项的辩驳》（《外交评论》2017 年第 5 期）一文中提及与中国有南海岛礁主权争端的越南、菲律宾、马来西亚、印尼、文莱都设立了与海洋有关的保护区或保护地，但作者没有关注到“南谔岛海洋保护区”的规划，认为东盟国家的海洋保护区并未设在南海“争议水域”。作者认为，任何一国如不考虑地区环保的整体利益，在南海“争议水域”采取单方面划设海洋保护区的行为，对地区性海洋环保合作并无裨益。在《南海沿岸国区域环保合作机制的构建——以国际海运业温室气体减排的立法与执法为研究视角》（《海南大学学报人文社会科学版》2018 年第 2 期）一文中，施余兵认为在争议海域设置海洋保护区是南海低敏感度环保合作中与岛礁主权和岛礁法律地位密切相关的环保合作，这类合作中相关海域性质是困扰各方的一大难题，作者主张南海周边各国应优先在国际海运业温室气体减排的立法和执法上进行与岛礁主权和岛礁法律地位关联不大的环保合作。

4 韩振华：《南海诸岛史地论证》，香港：香港大学亚洲研究中心 2003 年版，第 14 页。

上建造了灯塔、瞭望台等建筑物,并部署了军事力量。⁵2007年越南将该岛“划入”庆和省“长沙岛县”(越南称南沙群岛为“长沙群岛”)管辖。

2009年2月17日,菲律宾国会通过《领海基线法案》,将中国的黄岩岛和南沙群岛部分岛礁划为菲律宾领土。中国和越南外交部均发表声明表示反对菲律宾将南沙岛礁划为菲律宾领土的行为。2009年5月6日,越南联合马来西亚共同向联合国大陆架界限委员会提交“南海南部200海里以外大陆架外部界限联合划界方案”,企图绕开中国,借助联合国的权威为其南海权利主张谋求“合法性”。5月7日,越南又单独向联合国提交涉及南海北部的200海里以外大陆架划界方案。⁶但由于中国向联合国秘书长提交照会,要求大陆架界限委员会按相关规定不审议上述“划界案”,越南的2个提案才暂时搁浅。⁷此后,越南并未放弃这方面的“努力”,一直寻找包括国内立法和行政法规在内的其它途径谋求侵占岛礁的“合法化”。

对沿海国来说,海洋保护区作为一种新型的海洋管理工具,可以通过制定相应的管制措施,限制其他国家的活动,从而提高国家对相关海域的管控能力。越南在南海“划设”的海洋保护区是因其侵占岛礁“南谔岛”为中心,且多次强调该保护区对“保护国家领土主权和海洋资源方面具有法律效力”。⁸也就是说,对侵占岛礁和海域划设海洋保护区,是越南谋求岛礁“合法化”的新手段。

按照越南的规划,以“南谔岛”为中心的海洋保护区总面积达350平方公里,其中海洋面积200平方公里。未来“建成”后,将成为越南总面积最大的海洋保护区。该岛及其附近海域是野生动植物资源分布的中心,珊瑚礁分布广泛,同时也是南海的鱼类和其他海洋物种的重要栖息地之一。⁹2012年,庆和省人民委员会向越南农业与农村发展部请求同意设置“南谔岛海洋保护区”,并制定了此保护区的实施规划。但截至目前,该规划仍未公开。越南将“南谔岛海洋保护区”同其

5 《南海岛礁外军:越军最强将死守2岛 菲军最弱》,下载于<http://war.163.com/14/1217/08/ADLFA60P00014OVf.html>,2018年11月14日。

6 Submission to the Commission on the Limits of the Continental Shelf Pursuant to Article 76, Paragraph 8 of the United Nations Convention on the Law of the Sea 1982, Partial Submission in Respect of Vietnam's Extended Continental Shelf: North Area (VNM-N), 7 May 2009, at http://www.un.org/Depts/los/clcs_new/submissions_files/submission_vnm_37_2009.htm, 14 November 2018.

7 联合国《大陆架界限委员会议事规则》规定,如果已存在陆上或海上争端,委员会不应审议争端任一当事国提出的“划界案”。

8 《“南谔”——越南最大的海洋保护区》,下载于<http://baobinhphuoc.com.vn/Content/nam-yet---khu-bao-ton-bien-lon-nhat-cua-viet-nam-54615>,2018年11月15日。(越南文)

9 鸿麻岛及其附近海域是南海许多海洋物种的发源地,野生动植物资源丰富。有185种浮游植物,307种浮游动物,86种海藻,2种海草,225种海底定居种生物,414种珊瑚礁鱼类,2种海龟。珊瑚礁共有246种,其中包括222种石珊瑚,13种软珊瑚,9种角珊瑚和2种蓝珊瑚,还有极为珍稀的红珊瑚。海洋物种诸如龙虾、鲍鱼、巨蛤、海参、鹦鹉螺、绿海龟、玳瑁等亦广泛分布。陆生植物含有19种,包括近100年及其以上的植物等。参见《“南谔”——越南最大的海洋保护区》,下载于<http://baobinhphuoc.com.vn/Content/nam-yet---khu-bao-ton-bien-lon-nhat-cua-viet-nam-54615>,2018年11月15日。(越南文)

它国家管辖范围内的海洋保护区置于同一文件(742/QĐ-TTg 法令)中予以规划,按照规划,文件中的其它海洋保护区都已建成并投入使用,唯独“南谔岛海洋保护区”只停留在规划阶段,后续工作未有新的消息。

二、越南划设“南谔岛海洋保护区”的违法性分析

(一) 越南侵犯了中国的领土主权

设置海洋保护区乃一国主权范围内之事,倘如越南并无该岛之主权,又何能通过政府号令行使主权权利。中国在南海的长期历史实践证明,中国先发现、先使用、先管理南沙群岛,并已经通过国际法上的“先占”取得了南沙群岛的领土主权。第二次世界大战结束后,中国收复日本在侵华战争期间非法侵占的中国南海诸岛,并恢复行使主权。中国政府为加强对南海诸岛的管理,于1947年审核修订了南海诸岛地理名称,编写了《南海诸岛地理志略》,绘制了标绘有南海U形线的《南海诸岛位置图》,并于1948年2月正式公布,昭告世界。

越南非常清楚中国的南海主张,而且越南统一之前,中国和越南不存在关于南沙群岛主权的争端。这一时期,无论越南政府的声明、照会,还是报刊、地图和教科书,都承认西沙群岛和南沙群岛为中国的领土。¹⁰越南现在的南海立场与之前有根本性的改变。因此,越南划设的海洋保护区是建立在对中国鸿麻岛非法侵占的基础上。按照国际法,非法侵占当然不能构成权利主张,这是一项基本准则。

10 越南明确承认中国对西沙、南沙群岛拥有主权的证据有:1956年6月15日,越南民主共和国外交部副部长雍文谦接见中国驻越南大使馆临时代办李志民,郑重表示:“根据越南方面的资料,从历史上看,西沙群岛和南沙群岛应当属于中国领土。”越南外交部亚洲司代司长黎禄进一步具体介绍了越南方面的材料,指出:“从历史上看,西沙群岛和南沙群岛早在宋朝时就已经属于中国了”;1958年9月4日,中国政府发表声明,宣布中国的领海宽度为12海里,明确指出:“这项规定适用于包括西沙群岛……在内的中华人民共和国的一切领土”。9月6日,越南劳动党中央机关报《人民报》在第一版全文刊登中国政府领海声明。9月14日,越南政府总理范文同照会中国国务院总理周恩来,郑重表示:“越南民主共和国政府承认和赞同中华人民共和国政府1958年9月4日关于领海决定的声明”,“越南民主共和国政府尊重这项决定”;1965年5月9日,越南民主共和国政府就美国政府确定美军在越南的“作战区域”问题发表声明,指出:“美国总统约翰逊把整个越南和越南海岸以外宽约100海里的附近海域,以及中华人民共和国西沙群岛的一部分领海规定为美国武装力量的作战区域”,这是“对越南民主共和国及其邻国安全的直接威胁”;1972年5月越南总理府测量和绘图局印制的《世界地图集》,用中国名称标注西沙群岛。1974年越南教育出版社出版的普通学校九年级《地理》教科书,在《中华人民共和国》一课中写道:“从南沙、西沙各岛到海南岛、台湾岛、澎湖列岛、舟山群岛……这些岛呈弓形状,构成了保卫中国大陆的一座‘长城’。”参见韩振华主编:《我国南海诸岛史料汇编》,北京:东方出版社1988年版,第542~569页;《“981”钻井平台作业:越南的挑衅和中国的立场》,下载于<http://www.fmprc.gov.cn/nanhai/chn/snhwtlcwj/t1163255.htm>,2018年11月14日。

因此,越南划设的“南谒岛海洋保护区”是对中国领土主权的侵犯,完全不具备法律效力,更不能作为其“主权声索”的依据。

(二) 越南违背了《公约》第300条“善意履行条约义务”的原则

即使抛开中越关于南沙群岛的主权争议,越南单方面“划设”海洋保护区的做法本身,也违背了《公约》的相关规定。越南声称依据《公约》赋予的权利,划设海洋保护区。《公约》第十二部分专门规定了各国保护和保全海洋环境的义务,其中第194条规定沿海国可采用“包括为保护和保全稀有或脆弱的生态系统,以及衰竭、受威胁或有灭绝危险的物种和其他形式的海洋生物的生存环境,而有必要的措施”。一般认为,这种措施应当包括海洋保护区的设置。但《公约》第300条明确规定:“缔约国应诚意履行根据本公约承担的义务并应以不致构成滥用力度的方式,行使本公约所承认的权利、管辖权和自由。”也就是说,沿海国在依照《公约》相关条款设立海洋保护区时,必须以“保护和保全海洋环境”为目的。事实上,该条款为国际法上“善意履行条约义务”原则的体现。“善意履行条约义务”原则是国际法上一项重要原则。1969年《维也纳条约法公约》第26条将该原则具体表述为:“凡有效之条约对其各当事国有拘束力,必须由各该国善意履行。”¹¹ 国家规避自己承担的国际义务,而行使与权利本身目的和宗旨相反的行为就是对权利的滥用和善意原则的违反。¹²

在“毛里求斯诉英国查戈斯群岛海洋保护区仲裁案”中,毛里求斯请求仲裁庭裁决英国建立海洋保护区的行为违反了《公约》第300条的规定。毛里求斯认为英国设立海洋保护区的真实目的并不是保护海洋环境,而是排除毛里求斯在这一海域的合法权利。仲裁庭在该问题的实体裁决中判定,英国设立海洋保护区的行为没有适当顾及毛里求斯在查戈斯群岛海域捕鱼等合法权利,没有善意履行其对毛里求斯所作出的承诺,也未就设立海洋保护区向毛里求斯提供充分的信息,违背了其在《公约》下的义务。¹³ 在该案法官詹姆斯·卡特卡和吕迪格·沃尔夫鲁姆提交给仲裁庭的联合反对意见¹⁴中,两位法官认为,英国在设立海洋保护区的目的上有所隐瞒,违背了善意原则。

11 《维也纳条约法公约》, 下载于 http://www.fmprc.gov.cn/web/ziliao_674904/tytj_674911/tyfg_674913/t83909.shtml, 2018年11月14日。

12 Myron H. Nordquist and Shabtai Rosenne, *United Nations Convention on the Law of the Sea, 1982: A Commentary*, Leiden: Martinus Nijhoff Publishers, 1995, p. 152.

13 Chagos Marine Protected Area Arbitration (Mauritius v. United Kingdom), Award, 18 March 2015, paras. 536 & 541, at <https://files.pca-cpa.org/pcadocs/MU-UK%2020150318%20Award.pdf>, 14 November 2018.

14 Chagos Marine Protected Area Arbitration (Mauritius v. United Kingdom), Dissenting and Concurring Opinion, 18 March 2015, pp. 21~22, at <https://pcacases.com/web/sendAttach/1570>, 14 November 2018.

越南“划设”该保护区的真正目的并非保护海洋环境，而是排斥中国在这一海域的合法权利。多年来，为巩固对南沙岛礁的“占领”，“保卫”非法所得，越南政府不断出台多项优惠和奖励措施，大力鼓励越南渔民开赴南沙群岛海域捕鱼，甚至被中国罚扣的渔民还能得到越南政府的“补偿”。这些措施都被视为越南“主权宣示”工作的重要组成部分。¹⁵ 越南2017年最新修订的《渔业法》中，第5条规定了关于渔业活动的原则，其中第1项原则即为“渔业活动必须紧密结合防务和安全维护”。¹⁶ 为了落实“海上全民国防”策略，越南大力发展海上民兵等准军事力量，为赴南海作业的渔船配备海上民兵，组成有规模的船队，集体出入南海，并干扰别国渔民在该海域的正常作业。每年伏季，中国为养护渔业资源，在南海实施休渔时，越南却鼓励渔民在争议海域照常作业，并引导渔民成立船队，派遣舰船进行海上护航，阻止中国实施休渔令。¹⁷ 需要指出，越南渔民赴南海捕鱼时，很多采用“炸鱼”这种非法捕捞方式，给生态环境造成极大破坏，而且越南政府对此类活动基本坐视不管。¹⁸ 以上行为显然与养护生物资源、保护海洋环境的目标背道相驰。总而言之，越南假借环境保护和养护生物资源之名，谋取某些政治目的的行为歪曲了设立海洋保护区的本意，已构成对“善意”原则的违背。

（三）越南违背了中越两国合作保护南海生态环境的共识

2011年10月，中越签署《关于指导解决中越海上问题基本原则协议》。该协议明确规定，中越两国要从战略和全局高度出发，坚持通过友好协商，本着循序渐进、先易后难的精神妥善处理和解决海上问题。¹⁹ 协议指出两国应积极推进海上低敏感领域合作，包括海洋环保、海洋科研等领域。也就是说，两国对于南海的环保问题是有合作共识的，共同协商合作才是解决南海环保问题的正确路径。

实际上，在岛屿存在主权争议的情况下设置海洋保护区不仅不能保护海洋环

15 Master Plan on Fisheries Development of Vietnam to 2020, Vision to 2030, at <http://asemconnectvietnam.gov.vn/default.aspx?ZID1=14&ID8=30446&ID1=2>, 14 November 2018.

16 《越南渔业法》（2017年修订草案），第5条，下载于 <https://thuvienphapluat.vn/van-ban/Tai-nguyen-Moi-truong/Luat-Thuy-san-338490.aspx>，2018年11月15日。（越南文）

17 《反对中国颁布南海禁渔令》，下载于 <https://www.vietnamplus.vn/phan-doi-trung-quoc-ban-hanh-quy-che-cam-danh-bat-ca-tren-bien-dong/494098.vnp>，2018年11月15日。（越南文）

18 近年来，媒体多次报道越南渔民非法侵入我国南海岛礁附近海域进行炸鱼作业，被中国执法部门扣押的新闻。“炸鱼”这种非法捕捞方式对环境的破坏相当大。一旦采用这种方式捕鱼，海域中大大小小的鱼类会被“通杀”，而渔民往往只捞取其中体重比较大、价格比较贵的品种，剩下很多体积小、经济价值低的鱼类“陈尸海上”，导致鱼类资源补充“后续无人”。参见《侵入中国领海被扣押的越南渔民获人道主义关怀》，下载于 <http://www.chinanews.com/gn/2012/03-27/3777188.shtml>，2018年11月14日。

19 《关于指导解决中华人民共和国和越南社会主义共和国海上问题基本原则协议》，下载于 <http://www.chinanews.com/gn/2011/10-12/3382401.shtml>，2018年11月14日。

境,还会使争议扩大化。上文提到的“毛里求斯诉英国查戈斯群岛海洋保护区仲裁案”就是个典型例子。2010年4月1日,英国外交部宣布,将在印度洋的查戈斯群岛海域建立世界上最大的海洋保护区,该保护区的范围覆盖了自查戈斯群岛外200海里的全部海域。英国表示,这一措施将进一步显示英国认真履行保护海洋环境的义务。商业捕鱼及深海采矿等行为将会在该保护区范围内被禁止。毛里求斯认为该群岛主权属于毛里求斯,英国无权建立海洋保护区,并根据《公约》第287条和附件七请求成立仲裁庭对相关争议进行仲裁。²⁰2015年3月18日,仲裁庭做出决定,宣布英国在查戈斯群岛周围单方面宣布设立海洋保护区违反了《公约》相关规定。仲裁庭认为,英国在设立海洋保护区时,有义务与毛里求斯进行磋商。也就是说,不论岛屿主权归属哪方,双方都有义务就相关问题进行协商与合作,否则很容易引发冲突。对于这一点,越南学者曾撰文指出:“越南单方面在南沙群岛海域规划的‘南谒岛海洋保护区’很可能遭到中国和菲律宾的抗议,从而引发新的争议。”²¹实际上,不光是越南,未来任何南海争端国如不考虑区域环保的整体利益,在南海争议海域单方面划设海洋保护区,都将损害区域整体的海洋环保合作。

三、南海各国合作保护南海海洋环境的必要性和可行性

(一) 海洋环境的整体性和南海生态环境的恶化

海洋环境具有整体性的特征,海洋环境污染不同于陆地、大气污染。海洋一旦被污染,由于其扩散范围大、持续性强的特点,往往会影响到多个国家和地区。另外,海洋环境污染严重危害生物多样性。例如,南海的珊瑚礁退化明显,严重威胁生态安全。珊瑚礁占据世界海洋表面面积不到0.1%,但为近30%的海洋物种提供栖息地,同时对保护沿海社区至关重要,是抵御飓风和海平面上升的天然屏障,

20 Chagos Marine Protected Area Arbitration (Mauritius v. United Kingdom), Award, 18 March 2015, at <https://files.pca-cpa.org/pcadocs/MU-UK%2020150318%20Award.pdf>, 14 November 2018.

21 Vu Hai Dang, *Marine Protected Areas Network in the South China Sea: Charting a Course for Future Cooperation*, Boston: Martinus Nijhoff Publishers, 2014, p. 191; Aldo Chircop, Regional Cooperation in Marine Environmental Protection in the South China Sea: A Reflection on New Directions for Marine Conservation, *Ocean Development and International Law*, Vol. 41, Issue 4, 2010, p. 349.

全球有 2.75 亿人直接依赖珊瑚礁获取食物和维持生计。²² 但是与上世纪 70 年代相比,南海的珊瑚礁面积累计丧失 80%,红树林面积累计丧失 73%,整体形势严峻。²³

南海周边国家大都处在国家工业化发展的快速阶段,沿海地区又属于各国经济发展程度较高区域。密集的人口、工业,以及大量的废水和固体废物倾入海洋,海洋污染日趋严重。南海普遍存在的过度捕捞、油气开采、船舶污染、填海造地等现象,给生态系统造成极大破坏。联合国环境署和全球环境基金联合制定的《南中国海项目》指出,南海地区面临的三大环境问题:沿海栖息地的丧失、海洋生物资源的过度开发以及陆源污染。²⁴ 南海生态环境恶化的严峻形势,要求各国展开合作,采取必要措施保护海洋环境。

(二)《公约》半闭海合作之义务

南海是半闭海,《公约》第 123 条明确规定,闭海或半闭海沿岸国在行使和履行本公约所规定的权利和义务时,应互相合作,协调海洋生物资源的管理、养护、勘探和开发,协调行使和履行其在保护和保全海洋环境方面的权利和义务。国内外很多学者也都主张南海国家应该依据《公约》所规定的义务在南海开展区域环

22 《海洋塑料:对珊瑚礁构成新威胁》,下载于 <https://www.unenvironment.org/zh-hans/news-and-stories/gushi/haiyangsuliaoduishanhujiagouchengxinweixie>, 2018 年 11 月 14 日。

23 《南海珊瑚礁“严重退化”海底“造林”百亩拯救》,下载于 <http://tech.sina.com.cn/dn/2017-10-27/doc-ifynfvar4390743.shtml>, 2018 年 11 月 14 日。

24 The UNEP/GEF South China Sea Project, at http://www.unepscs.org/Project_Background.html, 14 November 2018.

境保护合作,例如构建南海渔业合作机制等。²⁵

南海周边国家虽存在岛屿主权和海域划界争议,但并非不能进行有关生物资源养护和海洋环境保护方面的合作。实际上,《公约》完全支持这一合作。《公约》第74条第3款和第83条第3款规定,在达成划界协议以前,有关各国应基于谅解和合作精神,尽一切努力作出实际性的临时安排,这种安排应不妨害最后界限的划定。²⁶《公约》第63条第1款规定,如果有出现在两个或两个以上沿海国专属经济区的跨界种群,有关国家应直接或通过适当的分区域或区域组织,设法就必要措施达成协议,协调并确保这些种群的养护和发展。需要指出的是,南海区域内的所有经济鱼类都是跨界种群,只有周边国家共同合作,才能真正建立有效的区域渔业资源养护管理机制。

(三) 南海各国合作保护海洋环境的可行性

鉴于南海各国大多为东盟国家,以及东盟在海洋环保领域取得的成就和作用,南海多边合作模式可在中国—东盟合作框架下进行。笔者认为,要构建这种多边环保合作机制,需要考察南海各国在海洋环境保护方面合作的可行性。

首先,从东盟方面来说,东盟成立之初就开始关注海洋环境的保护。1981年,印度尼西亚、马来西亚、菲律宾、新加坡和泰国五国通过了联合国环境规划署编制

25 傅岷成教授认为,南海周边国家应在南海法律地位“三级层论”的基础上就南海渔业资源管理开展合作,并指出了建立南海渔业资源区域性合作机制的可能途径及基本原则。有关南海海洋环境保护合作方面的研究,可参见傅岷成:《南(中国)海渔业资源区域合作护养管理研究》,载于《中国海洋法学评论》2005年第1期,第33~49页;张相君:《区域合作保护南海海洋环境法律制度构建研究》,载于《中国海洋法学评论》2011年第1期,第171~179页;刘丹:《南海海洋环保合作的困境和出路——兼及对“南海仲裁案”相关事项的辩驳》,载于《外交评论》2017年第5期,第113~140页;任洪涛:《论南海海域环境保护管辖的冲突与协调》,载于《河北法学》2016年第8期,第118~119页;NTA Hu, *Semi-enclosed Troubled Waters: A New Thinking on the Application of the 1982 UNCLOS Article 123 to the South China Sea*, *Ocean Development and International Law*, Vol. 41, No. 3, 2010, pp. 281~314; Hai-Dang Vu, *A Bilateral Network of Marine Protected Areas between Vietnam and China: An Alternative to the Chinese Unilateral Fishing Ban in the South China Sea?*, *Ocean Development and International Law*, Vol. 44, No. 2, 2013, pp. 145~169; Aldo Chircop, *Regional Cooperation in Marine Environmental Protection in the South China Sea: A Reflection on New Directions for Marine Conservation*, *Ocean Development and International Law*, Vol. 41, Issue 4, 2010, p. 349; Christopher Linebaugh, *Joint Development in a Semi-enclosed Sea: China's Duty to Cooperate in Developing the Natural Resources of South China Sea*, *Columbia Journal of Transnational Law*, Vol. 52, No. 2, 2014, pp. 542~568.

26 有学者指出,《公约》第63(1)条和第74(3)条或第83(3)条规定的义务并不相互排斥。国家实践清楚地表明,渔业合作能够实现养护和开发鱼类种群的目标。南海渔业安排的好处是显而易见的,鉴于渔业合作的低敏感特征,当南海石油和天然气联合开发的前景依然难以捉摸时,渔业合作是暂时的且对争议方有益的安排。See Thang Nguyen Dang, *Fisheries Cooperation in the South China Sea and the (Ir)relevance of the Sovereignty Question*, *Asian Journal of International Law*, Vol. 2, No. 1, 2012, pp. 59~88.

的《关于保护和发展东亚海洋环境和沿海区域的行动计划》。到1994年,澳大利亚、柬埔寨、中国、韩国和越南五个国家加入该计划,合作范围基本覆盖整个南海。其后,联合国环境规划署于2008年制定了“南中国海战略行动计划”,²⁷该项目涵盖整个南海周边国家,重点关注海洋污染的来源和后果等问题。自1994年以来,东盟环境部长会议先后达成了《东盟环境教育行动计划》《有关可持续发展的雅加达决议》《东盟2020年远景规划》等一系列约束性文件,初步形成东盟环境合作的制度架构。东盟还设立了专门的沿海和海洋环境工作组对海洋环境事务进行管理与协调。可以说,近年来东盟逐步建立和完善了本地区近海海域综合管理体制,并在生态旅游管理、生态保护区保护、海岸沼泽和海岸退化治理、海洋废弃物管理等方面取得一定成效。²⁸这些经验可为东盟与中国开展合作提供有益的借鉴。另外,2015年底发布的《东盟社会文化共同体2025年蓝图》强调,不仅要在东盟国家间进行合作,还要和地区内其它国家在包括海洋环境保护和生物多样性养护、海洋科学研究和技术转让、可持续利用海洋资源,以及集体应对海洋威胁方面开展合作。²⁹

其次,从中国方面来说,中国国家海洋局于2012年、2016年分别发布《南海及其周边海洋国际合作框架计划》。³⁰合作领域包括海洋与气候变化、海洋环境保护、海洋生态系统与生物多样性、海洋资源开发利用、海洋防灾减灾、区域海洋学研究、海洋政策与管理等多个方面。2017年,由国家发展和改革委员会、国家海洋局联合发布的《“一带一路”建设海上合作设想》指出,中国政府将用绿色发展的新理念指导“一带一路”建设海上合作,加强与沿线国在海洋生态保护与修复、海洋濒危物种保护、海洋污染防治、海洋酸化、赤潮监测、海洋领域应对气候变化以及蓝色碳汇等领域的国际合作,并将在技术和资金上提供援助。³¹从2015年起,中国三沙市筹措资金5亿多元,实施岛礁的垃圾污水处理和海水淡化“全覆盖、双保障”工程,在赵述岛、羚羊礁等岛礁实施生态整治修复工程等。³²

27 United Nations Environment Programme, Strategic Action Programme for the South China Sea, at http://www.unepscs.org/remository/Download/20_-_Strategic_Action_Programme_for_the_South_China_Sea/Strategic_Action_Programme_Document/Strategic_Action_Programme_for_the_South_China_Sea.html, 14 November 2018.

28 《东盟:探索生存发展与保护海洋环境之路》, 下载于 <http://www.cafs.ac.cn/info/1053/25097.htm>, 2018年11月14日。

29 The ASEAN Secretariat Jakarta, *The ASEAN Socio-Cultural Community Blueprint 2025*, March 2016, p. 11.

30 《国家海洋局发布〈南海及其周边海洋国际合作框架计划〉》, 下载于 http://www.soa.gov.cn/xw/dfdwdt/jgbm_155/201611/t20161108_53692.html, 2018年11月14日。

31 《国家海洋局局长王宏解读〈“一带一路”建设海上合作设想〉》, 下载于 http://www.soa.gov.cn/xw/ztbd/ztbd_2017/gjhyj21sczl/gzbs/201706/t20170621_56620.html, 2018年11月14日。

32 《三沙:垃圾“各扫门前雪”转集中处理 岛礁卫生环境大变样》, 下载于 <http://www.hinews.cn/news/system/2016/11/13/030822168.shtml>, 2018年11月14日。

最后,中国和东盟各国达成的双边协议和多边协议中,均明确表示支持海上务实合作。2016年7月,中国和东盟联合发表《全面有效落实〈南海各方行为宣言〉的联合声明》,再次重申“各方可在包括航行安全、搜救、海洋科研、环境保护以及打击海上跨国犯罪等各领域探讨或开展合作。”³³为全面有效落实《南海各方行为宣言》,中国于2011年倡导成立了海洋科研与环保、航行安全与搜救、打击海上跨国犯罪3个专门技术委员会。同年,中国设立了“中国—东盟海上合作基金”,推动南海周边国家在海上搜救、海洋科研与环保等领域开展合作。³⁴目前,中国与东盟各国正在就《南海各方行为准则》(以下简称“《准则》”)进行谈判磋商,为继承《南海各方行为宣言》精神,在海洋环保领域谋求长效合作机制将会是该《准则》谈判的重要方向。

四、南海海洋环保合作机制的构建路径

(一) 双边模式

1. 北部湾渔业合作之经验

在南海海洋环境出现恶化以及生物资源不断衰退的背景下,中国和越南直接开展双边合作是应对此问题的有效策略。当然,南海其它国家也可以开展此类双边合作,例如菲律宾与马来西亚、马来西亚与印度尼西亚等。限于篇幅,本文只对中越之间的双边合作做相关考察。

学界对此问题已有讨论。例如,越南学者武海登认为,印度尼西亚、马来西亚、新加坡三国在苏鲁—苏拉威西海洋生态区建立的区域海洋保护区的成功案例值得中越两国学习,作者分析论述了建设海洋保护区双边网络的优势,建议中国和越南在南海西北部(北部湾)建立这种保护区网络。³⁵北部湾是中越两国渔民的传统作业渔场,中越两国在进行北部湾划界的同时,签署了《中越北部湾渔业合作协定》,对北部湾渔业活动做出过渡性安排。协定通过设立共同渔区、过渡性安排水域和小型渔船缓冲区等形式,在一定程度上减轻了北部湾划界对双方现有渔业活动的影响。协定还设立了中越北部湾渔业联合委员会来协商协定水域渔业合作、

33 《中国和东盟国家外交部长关于全面有效落实〈南海各方行为宣言〉的联合声明》,下载于 <http://www.fmprc.gov.cn/ce/ceat/chn/zgyw/t1384157.htm>, 2018年11月14日。

34 《温家宝:中方将设30亿元中国—东盟海上合作基金》,下载于 <http://www.chinanews.com/gn/2011/11-18/3470532.shtml>, 2018年11月14日。

35 Hai-Dang Vu, A Bilateral Network of Marine Protected Areas between Vietnam and China: An Alternative to the Chinese Unilateral Fishing Ban in the South China Sea?, *Ocean Development and International Law*, Vol. 44, No. 2, 2013, pp. 145~169.

渔业资源养护和可持续利用的有关问题。³⁶

2017年1月12日,习近平总书记和越共中央总书记阮富仲会晤时,双方签署了《关于开展北部湾渔业资源增殖放流与养护合作的谅解备忘录》³⁷,决定联合开展北部湾渔业资源增殖放流活动。双方承诺将以北部湾渔业资源养护为突破口,全面推进鱼类捕捞、种苗培育、饲料研究等领域的合作,共同养护海洋资源。2017年5月8日,中越北部湾渔业资源联合增殖放流与养护活动于广西东兴市北仑河口正式启动。通过此次放流活动,“黑鲷回捕率为15.7%,长毛对虾回捕率高达39%,放流种类的产量整体提高两成,主要经济种类得以有效补充,渔民收入明显增加。”³⁸越南媒体也高度评价这一活动,认为此举对水产养殖和渔业资源养护作出了积极的贡献,改善了渔民的生计和北部湾的生态环境。³⁹2017年5月的《中越联合公报》、2017年11月的《中越联合声明》也都高度评价北部湾渔业资源增殖放流与养护项目。2018年5月8日,中越两国再次开展北部湾渔业资源联合增殖放流与养护活动,共向北部湾水域投放石斑鱼等鱼虾类苗种近4300万尾。

2. 北部湾湾口海域作为南海环境保护合作的突破口

北部湾渔业合作经验可以逐步推广到南海更大范围。考虑到争议海域的复杂性,两国需将岛屿主权争端搁置,只针对具体的渔业养护和环境保护开展合作。而合作区域的选址至关重要,笔者认为,前期可以选定临近北部湾的“湾口外海域”⁴⁰作为具体的合作海域,之所以选择该海域,主要有两方面原因。

第一,《关于指导解决中越海上问题基本原则协议》(2011)、《中越联合公报》(2017)、《中越联合声明》(2017)等多份两国政府间的协议文件都提及两国要推进北部湾湾口外海域划界谈判,并积极推进该海域的共同开发。在此海域开展渔业合作既是两国高层达成的广泛共识,又是南海低敏感领域合作的主要内容。更重要的是,中越北部湾海洋划界完成以来,两国最有可能也最先完成的南海海域划界就是北部湾湾口海域。且该海域基本不涉及中越双方各自划定的海上石油

36 《中华人民共和国政府和越南社会主义共和国政府北部湾渔业合作协定》,下载于 http://www.fmprc.gov.cn/web/ziliao_674904/tytj_674911/tyfg_674913/t556668.shtml, 2018年11月14日。

37 《中越北部湾渔业资源联合增殖放流与养护活动在北仑河口举行》,下载于 http://www.shuichan.cc/news_view-322131.html, 2018年11月14日。

38 《中越联合举行北部湾渔业资源联合增殖放流活动》,下载于 http://www.farmer.com.cn/jjpd/yy/zyhb/201805/t20180514_1376721.htm, 2018年11月14日。

39 《越中投放4300万鱼种以养护北部湾渔业》,下载于 <https://www.vietnamplus.vn/viettrung-tha-43-trieu-con-ca-giong-de-bao-ton-thuy-san-vinh-bac-bo/501506.vnp>, 2018年11月14日。(越南文)

40 北部湾湾口海域位于北部湾以南,是北部湾南向出口外的海域。其西北界为中越北部湾划界的南向边界,为我国海南岛西南部的莺歌海与越南昏果岛的连线。湾口海域东南部毗邻我国的西沙群岛,整个海域处在海南岛、西沙群岛和越南之间。参见《“美丽中国”生态环境调研实践团调研广西北部湾海洋生态环境状况》,下载于 <http://today2.hit.edu.cn/news/2017/08-21/6374725180RL0.htm>, 2018年11月14日。

招标区,距离石油丰富、高敏感度的“万安滩”海域较远,相关海域内也没有争议岛礁,不会因实施生物资源的共同养护而引发主权和管辖权方面的冲突。

第二,在此海域内开展渔业合作相对南海其它争议海域,有现实的合作基础。中越两国于 2015 年 12 月 19 日正式启动北部湾湾口外海域共同考察海上作业,并于 2016 年 4 月 23 日顺利完成既定考察任务。截至目前,中越“北部湾湾口外海域工作组”已就北部湾湾口外海域划界和共同开发等议题进行了 9 轮磋商。双方共同考察海上作业和多次磋商的经验可为将来在此海域内制定包括禁渔区、禁渔期等渔业资源养护制度,建立包括渔业信息监测中心、数据交换平台等在内的技术合作机构提供帮助。

选址确定后,针对具体的合作事项,可在渔业合作的基础上,划定以生物资源养护为核心的海洋保护区。该保护区应具备以下特征:其一,保护区参照世界范围内先进保护区的发展经验,设置“严格保护区”、“缓冲区”、“科研区”等不同类型的保护区域;其二,保护区管理机构由中越两国政府相关渔业、海事、环保和科研机构的专家和官员组成,共同协商保护区的管理和建设;其三,在海洋划界未完成之前,强调此类保护区的建设不影响双方权利主张,也不对将来的海洋划界产生任何影响。

(二) 多边模式

参照全球范围内其它闭海或半闭海合作的成功经验,很多学者认为南海海洋保护区的建设应当学习“地中海合作模式”。⁴¹地中海国家和南海周边国家一样,在海域划界方面存在争议。地中海合作模式是以 1995 年《地中海海洋环境和沿海区域保护公约》和其后多个议定书为合作基础构建的一种“综合—分立”双层级

41 有关“地中海合作模式”的研究,可参见 Mitja Grbec, *The Extension of Coastal State Jurisdiction in Enclosed or Semi-enclosed Seas*, London: Routledge, 2014; Michelle E. Portman and Daniel Nathan, Conservation “Identity” and Marine Protected Areas Management: A Mediterranean Case Study, *Journal for Nature Conservation*, Vol. 24, April 2015, pp. 109~116; Sofia Frantzi, What Determines the Institutional Performance of Environmental Regimes?: A Case Study of the Mediterranean Action Plan, *Marine Policy*, Vol. 32, Issue 4, 2008, pp. 618~629. 国内学者多主张南海周边国家应借鉴“地中海合作模式”,在南海低敏感领域进行合作。可参见张相君:《东亚海区域海洋环境保护法律制度的构建》,载于《广东海洋大学学报》2011 年第 2 期,第 7~12 页;王秀卫:《南海低敏感领域合作机制初探》,载于《河南财经政法大学学报》2013 年第 3 期,第 151~155 页;郑凡:《地中海的环境保护区域合作:发展与经验》,载于《中国地质大学学报(社会科学版)》2016 年第 1 期,第 81~90 页;邓颖颖、蓝仕皇:《地中海行动计划对南海海洋保护区建设的启示》,载于《学术探索》2017 年第 2 期,第 24 页;刘丹:《南海海洋环保合作的困境和出路——兼及对“南海仲裁案”相关事项的辩驳》,载于《外交评论》2017 年第 5 期,第 113~140 页。

海洋保护法律制度。⁴² 该合作模式有两大特点。第一，将海洋保护区分为一般海洋保护区和争议海域海洋保护区，前者指非争议海域的海洋保护区。对于非争议海域海洋保护区的建设，相关主体须承担区域生物多样性保护的责任。而对于争议海域，海洋保护区的建设需要由行动计划缔约国协商一致决定，并由定义明确的行政机构负责。⁴³ 第二，通过设置“权利保留”条款，有效地避免了因海域划界等其它问题造成的争议，最大程度地促成了地中海范围内国家之间的合作。1995年的《地中海特别保护区和生物多样性议定书》第2条规定，“本议定书的任何内容或任何在本议定书基础上采取的行动，不应损害任何国家与海洋法有关的权利、当前及未来的主张以及法律观点，尤其是关于海域的性质及范围、海岸相向或相邻国家间海域划界、在公海的航行自由、通过用于国际航行的海峡的权利及形式、在领海的无害通过权，以及沿海国、船旗国及港口国管辖权的性质及范围”。⁴⁴

值得注意的是，2017年9月，亚洲海事透明度倡议⁴⁵组织南海专家工作组制定了《南海渔业管理与环境合作蓝图》。作为一种多边合作设想，其主张南海渔业与环保合作包括以下6个方面：

(1) 借鉴包括澳大利亚大堡礁海洋公园和《奥斯陆巴黎保护东北大西洋海洋环境公约》在内的成功先例，建立渔业和环境管理区；

(2) 强调各方参与渔业和环境管理区的建设和管理，不构成对占领岛礁的主权或其法律地位（如岛屿、岩礁、低潮高地）的判断，也不被视为承认他国的主张；

(3) 岛屿占领方与船旗国共同分担责任；

(4) 争端方承诺不使用补贴来鼓励已经过度捕捞的南海渔业；

(5) 避免破坏南海海洋环境或改变海床的活动；

(6) 合作开展南海海洋科学研究。⁴⁶

42 邓颖颖、蓝仕皇：《地中海行动计划对南海海洋保护区建设的启示》，载于《学术探索》2017年第2期，第24页。

43 Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean, 10 June 1995, at http://www.minambiente.it/sites/default/files/archivio/allegati/biodiversita/protocollo_ASP.pdf, 14 November 2018.

44 Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean, 10 June 1995, at http://www.minambiente.it/sites/default/files/archivio/allegati/biodiversita/protocollo_ASP.pdf, 14 November 2018.

45 亚洲海事透明倡议由战略和国际研究中心（CSIS）所构思与设计，定期更新有关亚洲海洋安全的信息、分析与政策交流。CSIS新成立的南海问题工作小组汇集了各国杰出的海洋法、国际关系以及海洋环境专家。专家组成员希望声索国和相关方能够达成共识，共同寻找能够增强海洋合作、管控紧张局势的现实可行措施。专家组定期召开会议解决必要问题，以期能成功管控南海争端，并为争端相关方铺就前进道路蓝图。通过这一反复过程，专家组希望提出一个既在法律上又在政治上可行的稳健模式来管控争端。从本质上来讲，即为一个最终的《南海各方行为准则》勾画蓝图。参见亚洲海事透明倡议网站，下载于 <https://amti.csis.org/about/?lang=zh-hans>, 2018年11月14日。

46 A Blueprint for Fisheries Management and Environmental Cooperation in the South China Sea, at <https://amti.csis.org/coc-blueprint-fisheries-environment/#>, 14 November 2018.

结合其它半闭海合作模式之经验和南海的特殊情况,笔者认为,构建南海海洋环保多边合作机制的关键在于如何处理岛屿主权和海洋划界争议。2017 年 5 月 18 日,中国与东盟 10 国通过了《准则》框架草案,其中一个重要共识就是:各方确认《准则》不涉及岛屿主权和海洋划界问题,坚持通过地区规则框架管控分歧,深化海上低敏感领域合作。也就是说,未来达成的《准则》将会是争议管控与合作机制而非问题解决机制。可见,岛屿主权和海洋划界争议与海洋环保这类低敏感领域的合作完全不是同一性质的话题,在海上合作时可以将此类问题进行技术化处理,对其有效搁置。

综上,未来南海海洋环保多边合作机制应包括以下实质:其一,通过设置“权利保留”条款巧妙地搁置争议,进而合作推动南海海洋保护区建设,优先选择在渔业管理、生物资源养护及海洋科学研究方面开展合作。其二,鉴于东盟在南海事务中的重要作用,应当认识到南海海洋环保多边合作机制将与现有的双边合作机制和中国与东盟国家在《南海各方行为宣言》框架下的多边磋商机制相辅相成、并行不悖。也就是说,未来的海洋环保合作机制将是对现有双边和多边机制的补充,并为开展相关技术合作提供新的平台。

五、结 语

就在本论文即将完成之时,马来西亚媒体报道,马来西亚沙捞越州政府决定将中国南沙群岛南端的中康暗沙设立为海洋国家公园,并宣称由于中康暗沙附近丰富的石油资源引起许多国家“虎视眈眈”,沙捞越政府将加强在此区域的执法。⁴⁷在南海争端日益趋向于法律战的背景下,可以预见,今后还会有其他的南海争端国假借海洋保护之名,行资源窃取之实。归根结底,海洋保护区虽是一国进行生物资源养护与海洋环境保护的重要举措,但在争议海域设置此类机制往往与其宗旨相悖。“南谳岛海洋保护区”早在 2010 年的越南海洋保护区规划中就已有提出,直到现在尚未向外界正式公布此保护区的具体位置和保护范围,也没有制定相关的保护措施和规定,充分表明,越南此举真正目的并不是为了保护海洋环境,而是作为“主权宣示”的一个手段,配合政治宣传需要。

南海虽涉及岛屿主权归属和海域划界争议,但不可否认,南海各国的生存和发展共同依赖这片海域,南海生态环境的恶化和海洋环境的整体性需要各国在南海进行生物资源养护和海洋环境保护。在构建南海环境保护的区域合作机制过程中,包括中国和越南在内的所有南海国家存在巨大的合作空间,深化合作的关键在于设置“权利保留”条款。中国和越南可以在北部湾渔业合作的基础上,谋求南

47 《边谈友好边抢地盘? 马来西亚在南海“圈地”禁止中方进入》, http://www.sohu.com/a/254342516_100200965, 2018 年 11 月 14 日。

海更大范围内的双边合作，以合作的示范效应带动本区域内其它国家的参与。对南海各国来说，在享有《公约》赋予权利的同时，必须履行相应的国际义务，共同构建南海环境保护的区域合作机制。虽然以上合作可能不会最终化解南海争议，但至少可以为南海争议海域下海洋环境保护缺失的现实困境提供解决思路。

On the Illegality of the Designation of “Nam Yet Island Marine Protected Area” by Vietnam: Also on the Construction of a Cooperation Mechanism for Marine Environmental Protection in the South China Sea

CUI Haoran*

Abstract: In May 2010, the Vietnamese government approved the plan to establish the “Nam Yet Island Marine Protected Area” in the waters adjacent to China’s Nansha Islands. This act sabotaged China’s sovereignty and breached many principles of international law. A bundle of evidences suggests that the planning of this marine protected area (MPA) was not made for the purpose of protecting marine environment; rather, it is a step Vietnam took to “legalize” its occupation of the “Nam Yet Island”. The “Nam Yet Island MPA”, in essence, is a political tool Vietnam employed to declare its “sovereignty” over the island. The South China Sea (SCS) faces a serious risk of ecological environment deterioration. However, marine environmental protection is a systematic project that requires interstate cooperation. The States bordering the SCS have reached a consensus with respect to the cooperation on protecting the ecological environment. These States should set aside their disputes and create a bilateral or multilateral cooperation mechanism for environmental protection in the region, by drawing experiences from the cooperation models designed for other semi-enclosed seas. Such a mechanism should neither undermine the efforts of SCS littoral States to resolve their disputes

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over the sovereignty of some islands or to delimit their maritime boundaries through negotiations, nor should it prejudice the claims made by these States in the SCS.

Key Words: “Nam Yet Island Marine Protected Area”; Illegality; Environmental protection; Cooperation mechanism

Given that the establishment of marine protected areas (MPAs) has the function to reinforce or expand a State’s control and jurisdiction over relevant sea areas, creating MPAs within national jurisdiction has gradually become a universal practice in the international community. This phenomenon was reported as a “new ocean enclosure movement” by the media.¹ A State generally will not, due to obscure jurisdiction, set up MPAs to exercise rights in the waters where there are sovereignty disputes over the islands concerned, or in waters whose boundaries have not been defined. In May 2010, the Vietnamese Prime Minister Nguyen Tan Dung issued Decision No. 742/QĐ-TTg Approving the Planning of Marine Protected Areas System by 2020, hereinafter referred to as “Decision No. 742/QĐ-TTg”.² In accordance with the Decision, Vietnam will set up 16 MPAs by 2020. Of the 16 MPAs, the “Nam Yet Island Marine Protected Area” (“Nam Yet Island MPA”) illegally designated in the waters around China’s Nansha Islands has attracted little attention. Since China is focusing its attention on offshore oil and gas exploitation and military activities in the South China Sea (SCS), not enough

1 QIU Jun, The Emerging “New Ocean Enclosure Movement”, at <http://www.oceanol.com/gjhy/ktx/17581.html>, 12 November 2018. (in Chinese)

2 Decision No. 742/QĐ-TTg of 2010 is considered to be of overall and strategic significance to the construction and development of marine protected areas (MPAs) in Vietnam in the decade between 2010 and 2020. The Decision specifies that the Ministry of Agriculture and Rural Development is responsible for the building and management of MPAs. It has set the overall goal of MPA construction in Vietnam, that is, to establish the national system of MPAs. Specifically, it aims to establish and put into use 16 MPAs between 2010 and 2015, including “Nam Yet Island MPA”. See the Decision No. 742/QĐ-TTg of the Prime Minister Approving the Planning of Marine Protected Areas System by 2020.

attention is devoted to other important aspects.³ Nonetheless, Vietnam's planning of the MPA has given rise to a host of questions: Is it legally effective for a State, before the resolution of sovereignty disputes over some relevant islands and the delimitation of maritime boundaries, to unilaterally set up an MPA and exercise jurisdiction over it? Can such a behavior constitute the basis to support a State's claim of sovereignty? How should the marine environment in the disputed waters of SCS be protected? Bearing these questions in mind, this paper, by referring to the United Nations Convention on the Law of the Sea (UNCLOS) and other pertinent international laws, examines the illegality of the designation of "Nam Yet Island MPA", and then explores the approach to building a cooperation mechanism to help protect marine environment in the SCS.

I. Basic Information about the "Nam Yet Island MPA"

3 At present, most articles drafted by Chinese scholars on regional environmental protection and fishery cooperation in the South China Sea (SCS) have invoked the international conventions concluded by the States neighboring the SCS, including Vietnam. Such scholars propose that the littoral States should build regional cooperation mechanisms in the SCS on the basis of international conventions. However, the MPAs of Vietnam are only mentioned sporadically in some scholars' research. For example, WU Yong, in his master dissertation entitled "Study on System of Marine Protected Area in the South China Sea" (Master Dissertation, Hainan University, 2014), introduced Decision No. 57 of the Vietnamese government on MPAs dated 2008, and highlighted the "three-level management mechanism" of MPAs in Vietnam; however, possibly due to the limitation of space, WU did not elaborate on the laws relevant to MPAs in Vietnam. LIU Dan, in her paper *Difficulties for Cooperating on Marine Environmental Protection in the South China Sea and Their Solutions: Also a Refutation of the Philippines' Claims in the South China Sea Arbitration* (*Foreign Affairs Review*, No. 5, 2017), notes that Vietnam, the Philippines, Malaysia, Indonesia and Brunei, which have disputes with China over maritime features in the SCS, have all created protected zones or reserves relating to the seas. Failing to notice the planning of the "Nam Yet Island MPA", Dr. LIU assumes that the MPAs of ASEAN member States are not located in the "disputed waters" of the SCS. She holds that a State's unilateral establishment of MPAs in the "disputed waters" of the SCS, without due regard to the overall environmental interests of all the States in the region, will not benefit regional cooperation on marine environmental protection. Dr. SHI Yubing, in his paper titled "Building a Regional Cooperative Mechanism for the Coastal Countries in the South China Sea: A Perspective of Legislation and Enforcement in the Reduction of Greenhouse Gas Emissions from International Shipping" (*Humanities & Social Sciences Journal of Hainan University*, No. 2, 2018), argues that the establishment of MPAs in the disputed waters of the SCS is a kind of low-sensitive environmental cooperation closely related to the sovereignty and legal status of some maritime features. The nature of the sea areas involved in such cooperation is a major problem troubling all parties. Dr. SHI holds that in the legislative and law enforcement efforts to reduce greenhouse gas emission from international shipping, SCS littoral States should give priority to cooperation on environmental protection which has little to do with the sovereignty and legal status of maritime features.

“Nam Yet Island”, or Hongxiu Island as the Chinese call it, is a small oval-shaped island in Zhenghe Reefs of Nansha Islands in the south. Being approximately 12 nautical miles (nm) to the south of Taiping Island, and about 6.5 nm to the southeast of Nanxun Reefs, it is 740 meters in length and 140 meters in width, covering an area of 0.08 km². This island was first discovered and named by China. In 1935, the Committee of Reviewing Water and Land Maps of the Republic of China named the island “Nanyi”. Some foreign books recorded the island as “Namyit Island”. According to academic research, “Namyit” as recorded by foreigners, actually originated from “Nanyi”, the name used for the island by Chinese fishermen in Hainan dialect.⁴ Later, in memory of YANG Hongxiu, vice-captain of *Zhongye* warship sent by the Chinese government to recover Nansha Islands, *Nanhai Zhudao Weizhi Tu* (Location Map of South China Sea Islands), which was published by the government of the Republic of China in 1947, named the island Hongxiu Island. In 1983, the Committee on Geographical Names of the People’s Republic of China published the standard names for some islands in the SCS, where the island maintained its name of “Hongxiu”. In 1975 when the process of reunification of the South and the North began, Vietnam took the occasion and occupied six maritime features of China’s Nansha Islands, including Hongxiu Island. Vietnam then renamed this island “Nam Yet Island”, where it built lighthouses, watchtowers and other facilities, and deployed military forces.⁵ In 2007, Vietnam “placed” the island under the jurisdiction of “Truong Sa county” (Nansha Islands was called “Truong Sa archipelago” by the Vietnamese) of Khanh Hoa Province.

On 17 February 2009, the Philippine Congress passed Republic Act No. 9522 (Baseline Law). The Act illegally included into the Philippines’ territory China’s Huangyan Island and some insular features of Nansha Islands. Both the Chinese and the Vietnamese Ministries of Foreign Affairs issued statements opposing the Philippines’ inclusion of these features. On 6 May 2009, Vietnam and Malaysia jointly submitted to the United Nations Commission on the Limits of the Continental Shelf, hereinafter called “CLCS”, information on the limits of

4 HAN Zhenhua, *Historical and Geographical Evidences of the South China Sea Islands*, Hong Kong: Centre of Asian Studies, the University of Hong Kong, 2003, p. 14. (in Chinese)

5 Foreign Troops on South China Sea Islands: Vietnamese Army Is the Strongest, Which Will Defend Two Islands to Death, and the Philippine Army is the Weakest, at <http://war.163.com/14/1217/08/ADLFA60P00014OVF.html>, 14 November 2018. (in Chinese)

the continental shelf beyond 200 nm from the baselines from which the breadth of the territorial sea is measured in respect of the southern part of the SCS, attempting to bypass China and take advantage of the power of the United Nations to “legitimize” its claims of rights in the SCS. On 7 May of the same year, Vietnam separately submitted to the CLCS information on the limits of the continental shelf beyond 200 nm from the baselines from which the breadth of the territorial sea is measured in respect of the northern part of the SCS.⁶ Vietnam’s Submissions were temporarily suspended only after China submitted notes to the Secretary-General of the United Nations, requesting the CLCS not to consider the aforementioned “Submissions” in accordance with the relevant provisions.⁷ Since then, Vietnam has not given up its efforts in this regard, but looking for other ways to “legalize” its occupation of some features, including through domestic legislation and administrative regulations.

MPA is regarded as a new tool to manage the oceans by coastal States. With the establishment of MPAs, a State may restrict the activities of other States by developing corresponding control measures, and may further strengthen its own capacity to control relevant sea areas. The MPA that Vietnam planned to create in the SCS encircles “Nam Yet Island”. The Vietnamese authorities have, on many occasions, reiterated that the MPA had legal effect on “the protection of national territorial sovereignty and marine resources”.⁸ To put it another way, setting up an MPA in the waters adjacent to an occupied feature is a new way that Vietnam is using to “legitimize” its occupation of such features.

According to Vietnam’s plan, the total area of the MPA encircling “Nam Yet Island” is 350 km², of which the ocean area is 200 km². It will be the largest MPA in Vietnam if it is duly “established” in the future. Containing rich wildlife resources and coral reefs, the “Nam Yet Island” and its surrounding waters serve

6 Submission to the Commission on the Limits of the Continental Shelf Pursuant to Article 76, Paragraph 8 of the United Nations Convention on the Law of the Sea 1982, Partial Submission in Respect of Vietnam’s Extended Continental Shelf: North Area (VNM-N), 7 May 2009, at http://www.un.org/Depts/los/clcs_new/submissions_files/submission_vnm_37_2009.htm, 14 November 2018.

7 According to the Rules of Procedure of the United Nations Commission on the Limits of the Continental Shelf, in cases where a land or maritime dispute exists, the Commission shall not consider and qualify a submission made by any of the States concerned in the dispute.

8 “Nam Yet” – the Largest Marine Protected Area in Vietnam, at <http://baobinhphuoc.com.vn/Content/nam-yet---khu-bao-ton-bien-lon-nhat-cua-viet-nam-54615>, 15 November 2018. (in Vietnamese)

as a major habitat for fish and other marine species in the SCS.⁹ In 2012, the People’s Committee of Khanh Hoa Province submitted a document to the Ministry of Agriculture and Rural Development of Vietnam, asking for permission to set up the “Nam Yet Island MPA”. The committee also formulated a plan for the implementation of the MPA, which, however, has not been made public so far. Vietnam developed its plan for the establishment of “Nam Yet Island MPA”, together with other MPAs lying within national jurisdiction, in the same document (Decision No. 742/QĐ-TTg). All the MPAs listed in the document, except the “Nam Yet Island MPA”, have been set up and put into operation under the plan. This exceptional MPA only stays at the planning stage, and no information has been updated about its follow-up work.

II. Illegality of Vietnam’s Designation of the “Nam Yet Island MPA”

A. Vietnam Has Infringed China’s Territorial Sovereignty

The designation of an MPA is subject to the sovereignty of a State over the area concerned. If Vietnam does not have the sovereignty of the “Nam Yet Island”, how can it exercise the sovereign rights over the waters adjacent to the island through the enacting of government orders? China’s long history of practice in the SCS proved that China is the first to have discovered, exploited and managed the Nansha Islands, and has, in line with the principle of “occupation” on international law, acquired the territorial sovereignty over the group of islands. Following the end of the Second World War, China recovered and resumed the exercise of sovereignty over the SCS Islands which had been illegally occupied by Japan during its war of aggression against China. To strengthen the administration over

9 Hongxiu Island and its adjacent waters are the birthplace of many marine species in the SCS. Being rich in wildlife resources, this sea area contains 185 types of phytoplankton, 307 types of zooplankton, 86 types of algae, 2 types of seaweed, 225 types of marine sedentary organisms, 414 species of coral reef fish, and 2 types of turtles. It also has 246 types of coral reefs, including 222 types of stony corals, 13 types of soft corals, 9 types of horn corals and 2 types of blue corals, as well as the extremely rare red corals. Marine species such as lobsters, abalone, giant clams, sea cucumbers, nautilus, green turtles, hawksbill turtles are also widely distributed in this sea area. There are 19 kinds of terrestrial plants on the island, including plants aging almost 100 years or more. See “Nam Yet” – the Largest Marine Protected Area in Vietnam, at <http://baobinhphuoc.com.vn/Content/nam-yet---khu-bao-ton-bien-lon-nhat-cua-viet-nam-54615>, 15 November 2018. (in Vietnamese)

the SCS Islands, the Chinese government, in 1947, reviewed and updated the geographical names of the islands in the SCS, compiled *Nanhai Zhudao Dili Zhilüe* (A Brief Account of the Geography of the South China Sea Islands), and drew *Nanhai Zhudao Weizhi Tu* (Location Map of the South China Sea Islands) on which the dotted line is marked. This map was officially published and made known to the world by the Chinese government in February 1948.

Vietnam is quite conscious of China's claims of rights in the SCS. Before the reunification of the North and South Vietnam in 1976, Vietnam had no sovereignty disputes with China over the SCS Islands. At that time, Vietnam officially recognized Xisha and Nansha Islands as part of China's territory. This position was reflected in its government statements and notes as well as its newspapers, maps

and textbooks.¹⁰ Vietnam’s current position towards the SCS is fundamentally different from its previous one. Notably, Vietnam’s designation of the “Nam Yet Island MPA” is based on its illegal occupation of China’s Hongxiu Island. In accordance with international law, illegal occupation certainly does not constitute a law-backed jurisdictional claim, which is a basic norm of international law. In that case, Vietnam’s designation of the “Nam Yet Island MPA” is an obvious violation of China’s territorial sovereignty, and therefore not legally effective. It cannot serve as a basis for Vietnam’s claim of sovereignty.

10 The evidences that Vietnam explicitly recognized China’s sovereignty over the Xisha and Nansha Islands include: On 15 June 1956, Vice-Foreign Minister Un Van Khiem of the Democratic Republic of Vietnam received LI Zhimin, Chargé d’ Affaires ad interim of the Chinese Embassy in Vietnam, and told him that, “according to Vietnamese data, the Xisha and Nansha Islands are historically part of Chinese territory”. Le Loc, Acting Director of the Asian Department of the Vietnamese Foreign Ministry was present and specifically cited Vietnamese data and pointed out that “judging from history, these islands were already part of China at the time of the Song dynasty”. On 4 September 1958, the Chinese government issued a declaration, stating that the breadth of the territorial waters of the People’s Republic of China shall be 12 nautical miles and making it clear that “this provision applies to all the territories of the People’s Republic of China, including ... the Xisha Islands”. On 6 September, *Nhan Dan*, the official newspaper of the Central Committee of Vietnamese Workers’ Party, published on its front page the full text of the Chinese government’s declaration regarding China’s territorial sea. On 14 September, Premier Pham Van Dong of the government of Vietnam sent a diplomatic note to Premier ZHOU Enlai of the State Council of China, solemnly stating that “the government of the Democratic Republic of Vietnam recognizes and supports the declaration of the government of the People’s Republic of China on its decision concerning China’s territorial sea made on 4 September 1958” and “the government of the Democratic Republic of Vietnam respects this decision”. On 9 May 1965, the government of the Democratic Republic of Vietnam issued a statement with reference to the designation by the US government of the “combat zone” of the U.S. armed forces in Vietnam. It says, “US President Lyndon Johnson designated the whole of Vietnam, and the adjacent waters which extend roughly 100 miles from the coast of Vietnam and part of the territorial waters of the People’s Republic of China in its Xisha Islands as ‘combat zone’ of the United States armed forces”, which “is in direct threat to the security of the Democratic Republic of Vietnam and its neighbors.” *The World Atlas* printed in May 1972 by the Bureau of Survey and Cartography under the Office of the Premier of Vietnam designated the Xisha Islands by their Chinese names. The geography textbook for ninth graders published by Vietnam’s Educational Press in 1974 carried in it a lesson entitled “The People’s Republic of China”. It reads, “The chain of islands from the Nansha and Xisha Islands to Hainan Island, Taiwan Island, the Penghu Islands and the Zhoushan Islands ... is shaped like a bow and constitutes a ‘Great Wall’ defending the Chinese mainland.” See HAN Zhenhua ed., *Compilation of Historical Data on the South China Sea Islands*, Beijing: The Oriental Press, 1988, pp. 542~569 (in Chinese); The Operation of the *HYSY 981* Drilling Rig: Vietnam’s Provocation and China’s Position, at <http://www.fmprc.gov.cn/nanhai/chn/snhwtlcwj/t1163255.htm>, 14 November 2018. (in Chinese)

B. Vietnam Has Violated the Principle of UNCLOS Article 300 on Performance of Treaty Obligations in Good Faith

Even regardless of Sino-Vietnamese disputes over the Nansha Islands, Vietnam's unilateral "designation" of the MPA, *per se*, breached the relevant provisions of the UNCLOS. Vietnam claimed that it planned the MPAs in accordance with its rights conferred by the UNCLOS, which in Part XII provides for each State's obligation to protect and preserve the marine environment. Particularly, Article 194 stipulates that coastal States may take the measures including "those necessary to protect and preserve rare or fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other forms of marine life." Such measures, as generally agreed, should include the establishment of MPAs. However, UNCLOS Article 300 articulates that:

States Parties shall fulfill in good faith the obligations assumed under this Convention and shall exercise the rights, jurisdiction and freedoms recognized in this Convention in a manner which would not constitute an abuse of right.

This provision implies that when coastal States plan to set up MPAs in accordance with the pertinent provisions of the UNCLOS, they shall be established for the purpose of "protecting and preserving the marine environment". In fact, Article 300 embodies the principle of "performance of treaty obligations in good faith", which is an essential principle of international law. Article 26 of the 1969 Vienna Convention on the Law of Treaties expresses the principle as such: "Every treaty in force is binding upon the parties to it and must be performed by them in good faith."¹¹ A State's circumvention of international obligations and exercise of actions contrary to the purposes and aims of a right itself is an abuse of the right and violation of the principle of good faith.¹²

In the *Chagos Marine Protected Area Arbitration (Mauritius v. United Kingdom)*, Mauritius requested the Arbitral Tribunal to decide that the MPA established by the United Kingdom was in violation of UNCLOS Article 300. Mauritius claimed that the real purpose for the UK's creation of the MPA was not

11 Vienna Convention on the Law of the Treaty, at http://www.fmprc.gov.cn/web/ziliao_674904/tytj_674911/tyfg_674913/t83909.shtml, 14 November 2018. (in Chinese)

12 Myron H. Nordquist and Shabtai Rosenne, *United Nations Convention on the Law of the Sea, 1982: A Commentary*, Leiden: Marinus Nijhoff Publishers, 1995, p. 152.

to protect the marine environment, but to exclude the lawful rights of Mauritius in that sea area. In the proceedings on the merits, the Tribunal concluded that the UK had violated its obligations under the UNCLOS with respect to the declaration of the MPA, given the lack of due regard to Mauritius’s lawful rights, such as the right to fishing in the waters around the Chagos Islands, non-performance of its commitments to Mauritius in good faith, and absence of sufficient information provided to Mauritius concerning the establishment of the MPA.¹³ In the Dissenting and Concurring Opinion jointly submitted by Judge James Kateka and Judge Rüdiger Wolfrum to the Tribunal,¹⁴ the two judges asserted that the UK concealed its real purpose to set up the MPA, which derogated from the principle of good faith.

Vietnam declared the planning of the “Nam Yet Island MPA” for the purpose of excluding China’s legal rights in the area, instead of protecting the marine environment. In order to cement its illegal “occupation” of some features of the Nansha Islands and “safeguard” its unlawful gains, the Vietnamese government has, over years, taken a number of preferential and incentive measures to encourage Vietnamese fishermen to go fishing in the waters adjacent to the Nansha Islands; fishermen who have been punished by Chinese authorities could even get “compensated” by the Vietnamese government. These measures are regarded as an important part of Vietnam’s efforts to “declare its sovereignty” over these illegally occupied features.¹⁵ Article 5 of the newly revised Fisheries Law of Vietnam (2017) provides for the principles of fishery activities. Among them, the first principle is that “fishery activities shall maintain a close integration with national defense and security”.¹⁶ For the purpose of implementing the “national defense at sea” strategy, Vietnam put great efforts into building its paramilitary forces, such as maritime militia; specifically, it assigned maritime militias to fishing vessels operating in

13 Chagos Marine Protected Area Arbitration (Mauritius v. United Kingdom), Award, 18 March 2015, paras. 536 & 541, at <https://files.pca-cpa.org/pcadocs/MU-UK%2020150318%20Award.pdf>, 14 November 2018.

14 Chagos Marine Protected Area Arbitration (Mauritius v. United Kingdom), Dissenting and Concurring Opinion, 18 March 2015, pp. 21–22, at <https://pcacases.com/web/sendAttach/1570>, 14 November 2018.

15 Master Plan on Fisheries Development of Vietnam to 2020, Vision to 2030, at <http://asemconnectvietnam.gov.vn/default.aspx?ZID1=14&ID8=30446&ID1=2>, 14 November 2018.

16 Fisheries Law of Vietnam (Revised Draft of 2017), Article 5, at <https://thuvienphapluat.vn/van-ban/Tai-nguyen-Moi-truong/Luat-Thuy-san-338490.aspx>, 15 November 2018. (in Vietnamese)

the SCS, and these vessels, forming a large fleet, enter and leave the SCS together. Such operations, actually, have interfered with the normal activities conducted by the fishermen of other States in this sea area. In each summer closed fishing season, when China suspends fishing in the SCS for the sake of conserving fishery resources, the Vietnamese government, contrarily, encourages its fishermen to operate as usual in the disputed waters, and guides them to set up fleets of fishing boats and dispatches military vessels to escort them at sea, preventing China from enforcing the moratorium.¹⁷ It should be noted that many Vietnamese fishermen used illegal fishing methods, including “blast fishing” to harvest fish in the SCS, resulting in great ecological damages. Nevertheless, the Vietnamese government, in most cases, turned a blind eye to such illegal activities.¹⁸ These behaviors obviously go against the purpose of conserving biological resources and protecting marine environment. All in all, Vietnam’s efforts to seek certain political end under the guise of protecting environment and conserving biological resources have distorted the original intention of establishing MPAs, which thus constitutes a violation of the principle of “good faith”.

C. Vietnam Has Violated Its Consensus with China to Jointly Protect the SCS Ecological Environment

China and Vietnam signed an agreement on basic principles guiding the settlement of maritime issues existing between the two countries in October 2011. The agreement explicitly states that the two parties shall proceed from strategic and holistic perspectives to address and resolve maritime issues gradually, through

17 Objections to China’s Issuance of Fishing Moratorium in the South China Sea, at <https://www.vietnamplus.vn/phan-doi-trung-quoc-ban-hanh-quy-che-cam-danh-bat-ca-tren-bien-dong/494098.vnp>, 15 November 2018. (in Vietnamese)

18 In recent years, it has been repeatedly reported that Vietnamese fishermen were detained by Chinese law enforcement authorities for illegally blasting fish in waters near China’s SCS Islands. “Blast fishing”, being an illegal fishing method, is quite destructive to the environment. When this fishing method is used, fish, large or small, would all be killed in the sea. Fishermen, in most cases, only keep the species with more weight and higher economic value, leaving a lot of small-size, low economic value ones “dead on the sea”. This method ultimately leads to unsustainable replenishment of fishery resources. See *The Vietnamese Fishermen Detained for Intruding into Chinese Territorial Waters Have Received Humanitarian Care from Chinese Side*, at <http://www.chinanews.com/gn/2012/03-27/3777188.shtml>, 14 November 2018. (in Chinese)

friendly consultations and tackling the simple issues first.¹⁹ The agreement further stipulates that the two States should actively promote cooperation in low-sensitive areas, including marine environmental protection and scientific research. These provisions indicate that China and Vietnam have reached a consensus concerning their cooperation on environmental protection in the SCS; it is therefore appropriate and right to resolve environmental issues in this region through consultations and cooperation.

Establishing MPAs in waters surrounding islands whose sovereignty are in dispute would not, in fact, have the effect of protecting marine environment; it may instead amplify the existing disputes. The above-mentioned *Chagos Marine Protected Area Arbitration* is a perfect example in this case. On 1 April 2010, the UK Foreign and Commonwealth Office (FCO) announced the establishment of the world’s largest MPA in the waters adjacent to the Chagos Islands in the Indian Ocean, covering all the waters extending 200 nm from the Chagos Islands. The UK declared that the measure was a further demonstration of how the UK took its international environmental responsibilities seriously. Commercial fishing and deep-sea mining would be banned within the MPA. However, Mauritius contended that the UK was not entitled to establish an MPA in the waters surrounding Chagos Islands, since Mauritius (not the UK) had the sovereignty over the archipelago. In this context, Mauritius requested the constitution of an arbitration tribunal to arbitrate their disputes in accordance with UNCLOS Article 287 and Annex VII.²⁰ On 18 March 2015, the Tribunal delivered its award, declaring that the UK’s unilateral announcement of the establishment of an MPA around the Chagos Islands violated relevant provisions of the UNCLOS. The Tribunal held that the UK was obliged to consult Mauritius when establishing the MPA. To put it another way, no matter which party had the sovereignty over this group of islands, both parties were obligated to negotiate and cooperate with each other on relevant issues; otherwise conflicts could possibly arise. In this regard, a Vietnamese scholar once noted that: “Vietnam’s unilateral planning of the ‘Nam Yet Island MPA’ off the Nansha Islands is highly likely to be met with protests from China and the Philippines,

19 The Agreement on Basic Principles Guiding the Settlement of Maritime Issues between the People’s Republic of China and the Socialist Republic of Vietnam, at <http://www.chinanews.com/gn/2011/10-12/3382401.shtml>, 14 November 2018. (in Chinese)

20 *Chagos Marine Protected Area Arbitration (Mauritius v. United Kingdom)*, Award, 18 March 2015, at <https://files.pca-cpa.org/pcadocs/MU-UK%2020150318%20Award.pdf>, 14 November 2018.

which would spark fresh controversies.”²¹ A State’s unilateral creation of MPAs in the waters of the SCS, without considering the overall environmental interests of all the adjacent States, would possibly ruin the whole picture of their cooperation on marine environmental protection in the region. This is not only applicable to Vietnam, but also to all disputant States in the SCS.

III. Necessity and Feasibility of Cooperation among SCS Littoral States in Protecting the Marine Environment in the Region

A. The Holistic Nature of the Marine Environment and the Deterioration of the Ecological Environment in the SCS

Due to the holistic nature of the marine environment, marine environmental pollution differs from land or air pollution. Once the oceans are contaminated, the contamination would spread widely across many countries and regions, causing long-standing effects. In addition, marine pollution seriously endangers biodiversity. For example, the obvious degradation of coral reefs in the SCS poses a big threat to ecological security. Coral reefs, covering less than 0.1% of the world’s ocean surface, provide habitat for nearly 30% of marine species. They are also crucial to protecting coastal communities, since they provide a natural “buffer” against hurricanes and rising sea levels, and 275 million people worldwide directly depend on them for food and sustenance.²² However, the SCS is facing a fairly grim scenario, considering that it has lost 80% of its coral reefs and 73% of its mangrove since the 1970s.²³

Most of the SCS littoral States are rapidly industrializing themselves at the moment, with their coastal areas having a higher degree of economic development.

21 Vu Hai Dang, *Marine Protected Areas Network in the South China Sea: Charting a Course for Future Cooperation*, Boston: Martinus Nijhoff Publishers, 2014, p. 191; Aldo Chircop, Regional Cooperation in Marine Environmental Protection in the South China Sea: A Reflection on New Directions for Marine Conservation, *Ocean Development and International Law*, Vol. 41, Issue 4, 2010, p. 349.

22 Marine Plastics: A New Threat to Coral Reefs, at <https://www.unenvironment.org/zh-hans/news-and-stories/gushi/haiyangsuliaoduishanhujiagouchengxinweixie>, 14 November 2018. (in Chinese)

23 Restoration of Seriously Degraded Coral Reefs in the South China Sea through Afforestation of the Seabed of 100 Mu, at <http://tech.sina.com.cn/d/n/2017-10-27/doc-ifynfvar4390743.shtml>, 14 November 2018. (in Chinese)

Nonetheless, marine pollution has become increasingly acute as large amounts of waste water and solid wastes arising from intensive population and industry are being dumped into the oceans. In the SCS, common phenomena, such as overfishing, oil and gas exploitation, ship pollution and land reclamation, are causing serious damage to the ecosystem. The UNEP/GEF South China Sea Project pointed out the three major environmental problems facing the SCS: (a) the loss and degradation of coastal habitats; (b) over-exploitation of marine living resources; and (c) land-based pollution.²⁴ The grave environmental degradation in the SCS requires all the littoral States to cooperate with each other and take the measures necessary to protect the marine environment.

B. Obligations of Cooperation for States Bordering a Semi-Enclosed Sea under the UNCLOS

The SCS is a semi-enclosed sea. UNCLOS Article 123 mandates that States bordering an enclosed or semi-enclosed sea should: cooperate with each other in the exercise of their rights and in the performance of their duties under this Convention; coordinate the management, conservation, exploration and exploitation of the living resources of the sea; and coordinate the implementation of their rights and duties with respect to the protection and preservation of the marine environment. Scholars, both home and abroad, have also proposed that SCS littoral States should, in accordance with their obligations under the UNCLOS, implement regional cooperation on environmental protection in the SCS, including

24 The UNEP/GEF South China Sea Project, at http://www.unepscs.org/Project_Background.html, 14 November 2018.

establishing a fishery cooperation mechanism.²⁵

Despite their disputes over island sovereignty and maritime delimitation, the States surrounding the SCS are not incapable of collaborating on the conservation of living resources and the protection of the marine environment. Actually, the UNCLOS fully supports such cooperation. UNCLOS Article 74(3) and Article 83(3) provide that, pending agreement on delimitation, the States concerned, in a spirit of understanding and cooperation, shall make every effort to enter into provisional arrangements of a practical nature, and such arrangements shall be without prejudice to the final delimitation.²⁶ UNCLOS Article 63(1) stipulates that where straddling stocks occur within the exclusive economic zones of two or more coastal States, these States shall seek, either directly or through appropriate

25 Prof. Kuenchen FU argues that the States bordering the SCS should, on the basis of his “three-tier” theory concerning the legal status of the SCS, cooperate on the management of the fishery resources in the region. He also proposes the possible approach to and basic principles for the establishment of a mechanism for regional cooperation on fishery resources management. For the research about the cooperation on marine environmental protection in the SCS, please see Kuen-chen FU, A Study on Regional Cooperation on Fishery Resources Conservation and Management in the South China Sea, *China Oceans Law Review*, No. 1, 2005, pp. 314~340; ZHANG Xiangjun, On Framing a Legal Regime for Marine Environmental Protection through Regional Cooperation in the South China Sea, *China Oceans Law Review*, No. 1, 2011, pp. 180~203; LIU Dan, Difficulties for Cooperating on Marine Environmental Protection in the South China Sea and Their Solutions: Also a Refutation of the Philippines’ Claims in the South China Sea Arbitration, *Foreign Affairs Review*, No. 5, 2017, pp. 113~140 (in Chinese); REN Hongtao, On the Conflict and Coordination of the Jurisdiction of the Marine Environmental Protection in the South China Sea, *Hebei Law Science*, No. 8, 2016, pp. 118~119 (in Chinese); NTA Hu, Semi-enclosed Troubled Waters: A New Thinking on the Application of the 1982 UNCLOS Article 123 to the South China Sea, *Ocean Development and International Law*, Vol. 41, No. 3, 2010, pp. 281~314; Hai-Dang Vu, A Bilateral Network of Marine Protected Areas between Vietnam and China: An Alternative to the Chinese Unilateral Fishing Ban in the South China Sea?, *Ocean Development and International Law*, Vol. 44, No. 2, 2013, pp. 145~169; Aldo Chircop, Regional Cooperation in Marine Environmental Protection in the South China Sea: A Reflection on New Directions for Marine Conservation, *Ocean Development and International Law*, Vol. 41, Issue 4, 2010, p. 349; Christopher Linebaugh, Joint Development in a Semi-enclosed Sea: China’s Duty to Cooperate in Developing the Natural Resources of South China Sea, *Columbia Journal of Transnational Law*, Vol. 52, No. 2, 2014, pp. 542~568.

26 It is argued that the obligations under UNCLOS Article 63(1) and Articles 74(3)/83(3) are not mutually exclusive. State practice has clearly demonstrated that fisheries cooperation can meet the objectives of conserving and developing fish stocks. The benefit of a fisheries arrangement in the SCS is evident. When the prospect for joint development of oil and gas in the SCS remains elusive, fisheries arrangement is a suitable provisional arrangement, given the low-profile character of fisheries cooperation. See Thang Nguyen Dang, Fisheries Cooperation in the South China Sea and the (Ir)relevance of the Sovereignty Question, *Asian Journal of International Law*, Vol. 2, No. 1, 2012, pp. 59~88.

subregional or regional organizations, to agree upon the measures necessary to coordinate and ensure the conservation and development of such stocks. Notably, given that all the commercial fish species in the SCS are straddling stocks, an effective mechanism for regional fishery resources conservation and management could be established only when all neighboring States cooperate with each other.

C. Feasibility of Cooperation among States Bordering the SCS in Protecting the Marine Environment

Given that the majority of the SCS littoral States are members of the Association of South East Asian Nations (ASEAN), an association which has achieved much and played a critical role in the field of marine environmental protection, the multilateral cooperation in the SCS could be carried out under the framework of China–ASEAN cooperation. Before building such a multilateral cooperation mechanism on environmental protection, we should first examine the feasibility of cooperation among these States in the SCS.

We will start from the perspective of ASEAN. This association began to pay attention to the protection of marine environment since its creation. Indonesia, Malaysia, the Philippines, Singapore and Thailand adopted, in 1981, the Action Plan for the Protection and Development of the Marine and Coastal Areas of the East Asian Region prepared by the United Nations Environment Programme (UNEP). By 1994, five countries, including Australia, Cambodia, China, South Korea and Vietnam, had joined the programme, and their cooperation covered the entire SCS. Then, in 2008, UNEP developed the Strategic Action Programme for the South China Sea,²⁷ which covers all the States neighboring the SCS and focuses on issues such as the source and consequences of marine pollution. The ASEAN Ministerial Meeting on the Environment has adopted successively since 1994, a series of binding documents including, among others, ASEAN Environmental Education Action Plan, Jakarta Resolution on Sustainable Development, and ASEAN Vision 2020. An institutional framework of ASEAN environmental cooperation took its initial shape. ASEAN also set up the Working Group on Coastal and Marine Environment to manage and coordinate marine environmental

27 United Nations Environment Programme, Strategic Action Programme for the South China Sea, at http://www.unepscs.org/remository/Download/20_-_Strategic_Action_Programme_for_the_South_China_Sea/Strategic_Action_Programme_Document/Strategic_Action_Programme_for_the_South_China_Sea.html, 14 November 2018.

affairs. In recent years, ASEAN could be said to have gradually established and improved the integrated management system of the regional offshore waters, and have accomplished much in the areas such as protection of ecological reserves, and management of eco-tourism, coastal marshes and coastal degradation, and marine wastes.²⁸ These experiences can provide useful insights into the cooperation between ASEAN and China. In addition, the ASEAN Socio-Cultural Community Blueprint 2025, released at the end of 2015, emphasizes cooperation not only among ASEAN member States, but also with other States in the region in the fields of marine environmental protection and biodiversity conservation, marine scientific research and technology transfer, sustainable exploitation of marine resources and collective response to marine threats.²⁹

Second, on the part of China, the State Oceanic Administration (SOA) of China issued the document entitled “The Framework Plan for International Cooperation for the South China Sea and Its Adjacent Oceans” in 2012 and 2016, respectively.³⁰ Cooperation under the plan encompasses, among others, marine and climate change, marine environmental protection, marine ecosystem and biodiversity, marine resources exploration and exploitation, marine disaster prevention and mitigation, regional oceanographic studies, and marine policy and management. The National Development and Reform Commission (NDRC) and the SOA of China jointly issued, in 2017, the Vision for Maritime Cooperation under the Belt and Road Initiative. According to the document, the Chinese government will use the new concept of green development to guide maritime cooperation under the “Belt and Road Initiative”; it will further international cooperation with States along the Maritime Silk Road in the areas including, marine ecological protection and restoration, marine endangered species protection, prevention and control of marine environmental pollution and ocean acidification, red tide monitoring, and developing response measures to climate change and blue carbon sink, and it will provide technical and financial assistance to such efforts.³¹ Since 2015, China’s

28 ASEAN: To Explore the Ways to Survive, Develop and Protect the Marine Environment, at <http://www.cafs.ac.cn/info/1053/25097.htm>, 14 November 2018. (in Chinese)

29 The ASEAN Secretariat Jakarta, *The ASEAN Socio-Cultural Community Blueprint 2025*, March 2016, p. 11.

30 State Oceanic Administration (SOA) Issued The Framework Plan for International Cooperation for the South China Sea and Its Adjacent Oceans, at http://www.soa.gov.cn/xw/dfdwdt/jgbm_155/201611/t20161108_53692.html, 14 November 2018. (in Chinese)

31 The Interpretation of the Vision for Maritime Cooperation under the Belt and Road Initiative by SOA Director General WANG Hong, at http://www.soa.gov.cn/xw/ztbd/ztbd_2017/gjhyj21sczl/gzbs/201706/t20170621_56620.html, 14 November 2018. (in Chinese)

Sansha Municipal Government has raised more than 500 million yuan to carry out projects for treating waste and sewage and desalinizing seawater on all the islands or reefs under its jurisdiction, and to implement ecological restoration projects on Zhaoshu Island, Lingyang Reef and other insular features.³²

Finally, both bilateral and multilateral agreements between China and ASEAN member States have expressed their support for practical maritime cooperation. In July 2016, China and ASEAN jointly published the Joint Statement of the Foreign Ministers of ASEAN Member States and China on the Full and Effective Implementation of the Declaration on the Conduct of Parties in the South China Sea. The Parties reaffirmed that they may “explore or undertake cooperative activities, in fields such as navigation safety, search and rescue, marine scientific research, environmental protection, and combating transnational crimes at sea.”³³ In order to effectively implement the Declaration on the Conduct of Parties in the South China Sea (DOC), China initiated in 2011 the establishment of three special technical committees, respectively, on marine scientific research and environmental protection, navigation safety and search and rescue, and combat of transnational crimes at sea. In the same year, China established the China–ASEAN Maritime Cooperation Fund to promote cooperation among SCS littoral States on maritime search and rescue, marine scientific research and environmental protection, as well as other domains.³⁴ At present, China is negotiating and consulting with ASEAN member States regarding the Code of Conduct in the South China Sea (COC). Aiming to preserve the spirit embodied by the DOC, negotiations on the COC will be directed towards the creation of a long-term mechanism for cooperation on marine environmental protection.

32 Sansha: The Change from Decentralized to Centralized Waste Treatment Made a Big Difference in the Sanitary Environment of the Islands and Reefs Concerned, at <http://www.hinews.cn/news/system/2016/11/13/030822168.shtml>, 14 November 2018. (in Chinese)

33 Joint Statement of the Foreign Ministers of ASEAN Member States and China on the Full and Effective Implementation of the Declaration on the Conduct of Parties in the South China Sea, at <http://www.fmprc.gov.cn/ce/ceat/chn/zgyw/t1384157.htm>, 14 November 2018. (in Chinese)

34 WEN Jiabao: China Will Set up a China–ASEAN Maritime Cooperation Fund of Three Billion Yuan, at <http://www.chinanews.com/gn/2011/11-18/3470532.shtml>, 14 November 2018. (in Chinese)

IV. The Approach to Building a Mechanism for Cooperation on Marine Environmental Protection in the South China Sea

A. *Bilateral Mode*

1. Experiences of Fisheries Cooperation in Beibu Gulf

Considering the deterioration of the marine environment and the decline of biological resources in the SCS, conducting bilateral cooperation between China and Vietnam would be an effective strategy to tackle these problems. Such bilateral cooperation can be carried out also by other countries bordering the SCS, such as between the Philippines and Malaysia, and between Malaysia and Indonesia. Due to limited space, this paper only discusses the bilateral cooperation between China and Vietnam.

The issue mentioned above has already been discussed in the academia. For example, Hai-Dang Vu, a Vietnamese scholar, believes that the success of the regional MPA established by Indonesia, Malaysia and Singapore in the Sulu-Sulawesi Marine Ecoregion could provide some valuable insights for China and Vietnam. After analyzing the benefits of building a bilateral network of MPAs, Vu suggests that China and Vietnam establish such a network in the northwest of the SCS (Beibu Gulf).³⁵ Beibu Gulf is the traditional fishery grounds for both Chinese and Vietnamese fishermen. While trying to settle their maritime boundaries in the Beibu Gulf, China and Vietnam signed the Agreement on Fishery Cooperation in Beibu Gulf, which made transitional arrangements for fishery activities in Beibu Gulf. Through the establishment of common fishing zones, waters in transitional arrangements and buffer zones for small fishing vessels, the agreement alleviated, to some extent, the impact of the maritime delimitation in Beibu Gulf on the current fishing activities of both sides. The China-Vietnam Joint Commission on Fisheries in the Beibu Gulf was created, in accordance with the agreement, to discuss and negotiate on matters pertinent to fishery cooperation, and conservation

35 Hai-Dang Vu, A Bilateral Network of Marine Protected Areas between Vietnam and China: An Alternative to the Chinese Unilateral Fishing Ban in the South China Sea?, *Ocean Development and International Law*, Vol. 44, No. 2, 2013, pp. 145~169.

and sustainable exploitation of fishery resources in the agreed waters.³⁶

On 12 January 2017, Chinese President XI Jinping, also General Secretary of the Communist Party of China Central Committee, met Nguyen Phu Trong, General Secretary of the Communist Party of Vietnam Central Committee. The two sides signed the Memorandum of Understanding on Cooperation in the Proliferation, Release and Conservation of Fisheries Resources in Beibu Gulf,³⁷ and decided to jointly proliferate and release fishery resources in Beibu Gulf. Both sides agreed to embark on their journey of cooperation from joint conservation of fishery resources in Beibu Gulf first, and then to comprehensive collaboration in fish harvesting, fingerling breeding, fish feedstuff research and other fields. By doing so, they aim to conserve the marine resources in the region together. On 8 May 2017, China and Vietnam jointly launched a project at Beilun estuary in Dongxing City, Guangxi Province, pursuing to proliferate, release and conserve fishery resources in Beibu Gulf. Thanks to this project, “the recapture rate of black porgy reached 15.7% and the figure for long-haired prawn reached as high as 39%; the overall output of the released species increased by 20%, and the main commercial fish species were effectively replenished, resulting in the significant increase of fishermen’s income.”³⁸ Vietnamese media spoke highly of the project, saying that it contributed much to fish farming and fishery resources conservation, as well as the improvement of the livelihood of fishermen and the ecological environment of Beibu Gulf.³⁹ This project has also received lavish praise from both parties, which was reflected in documents such as the Sino-Vietnamese Joint Communiqué of May 2017 and Sino-Vietnamese Joint Statement of November 2017. On 8 May 2018, China and Vietnam carried out such joint activities in Beibu Gulf one more time, releasing nearly 43 million grouper and other fish and shrimp seedlings into the waters of the Beibu Gulf.

36 Agreement between the People’s Republic of China and the Socialist Republic of Vietnam on Fishery Cooperation in Beibu Gulf, at http://www.fmprc.gov.cn/web/ziliao_674904/tytj_674911/tyfg_674913/t556668.shtml, 14 November 2018. (in Chinese)

37 China-Vietnam Joint Proliferation, Release and Conservation of Fishery Resources in Beibu Gulf Was Formally Launched at Beilun Estuary, at http://www.shuichan.cc/news_view-322131.html, 14 November 2018. (in Chinese)

38 China and Vietnam Jointly Carry out Activities to Proliferate and Release Fishery Resources in Beibu Gulf, at http://www.farmer.com.cn/jjpd/yy/zyhb/201805/t20180514_1376721.htm, 14 November 2018. (in Chinese)

39 Vietnam and China Jointly Released 43 Million Fish Fingerlings to Conserve Fisheries in the Beibu Gulf, at <https://www.vietnamplus.vn/viettrung-tha-43-trieu-con-ca-giong-de-bao-ton-thuy-san-vinh-bac-bo/501506.vnp>, 14 November 2018. (in Vietnamese)

2. Initiating SCS Environmental Protection Cooperation in the Waters at the Mouth of Beibu Gulf

The experiences of fishery cooperation in the Beibu Gulf can be gradually applied to a wider area of the SCS. Given the complex nature of the disputed waters, China and Vietnam should shelve their disputes over insular sovereignty, and cooperate solely on matters relating to fishery conservation and environmental protection. The location of the cooperation area is of great importance. The author believes that, based on the following grounds, the “waters off the mouth”⁴⁰ of Beibu Gulf is an ideal location in the early stage of cooperation.

First and foremost, a number of agreements and documents between the governments of the two countries, including the Agreement on the Basic Principles Guiding the Resolution of Maritime Issues between China and Vietnam (2011), Sino-Vietnamese Joint Communique (2017), and Sino-Vietnamese Joint Statement (2017), have mentioned that the two countries should push forward negotiations on maritime delimitation in waters off the mouth of the Beibu Gulf and actively promote joint development of this sea area. Being an item that has gained extensive consensus from high-level leaders of the two countries, fishery cooperation is a primary type of cooperation on low-sensitive areas that is feasible between the two sides in the SCS. More importantly, after the final settlement of their maritime boundaries in Beibu Gulf, the first possible maritime delimitation in the SCS between the two countries is most likely to be effected in the waters around the mouth of the Beibu Gulf. This sea area, basically, does not involve the offshore oil areas available for bidding as designated by China and Vietnam respectively. Without disputed islands and reefs in the relevant waters, it is far from the oil-rich and highly sensitive waters surrounding “Wan-an Bank”. Therefore, no conflicts of sovereignty and jurisdiction would possibly arise from their joint conservation of biological resources.

Second, there is a practical basis for fishery cooperation in the waters off the

40 Being located to the south of Beibu Gulf, the waters off the mouth of Beibu Gulf is the sea area outside the southern end of the Gulf. This sea area is bordered on the northwest by the southern boundary line between China and Vietnam in the Beibu Gulf, i.e., the line connecting the Yingge Sea to the southwest of Hainan Island with Con Co Island of Vietnam. The waters off the mouth of the Gulf, being adjacent to China's Xisha Islands in the southeast, is surrounded by Hainan Island, Xisha Islands and Vietnam. See the Investigation of the Marine Ecological Environment in the Beibu Gulf, Guangxi Province by the “Beautiful China” Ecological Environment Research and Practice Team, at <http://today2.hit.edu.cn/news/2017/08-21/6374725180RL0.htm>, 14 November 2018. (in Chinese)

mouth of the Beibu Gulf, as compared with other disputed waters in the SCS. On 19 December 2015, China and Vietnam officially launched the joint inspection of the waters off the mouth of Beibu Gulf, and completed the mission on 23 April 2016. Up to now, the China-Vietnam working group on waters off the mouth of the Beibu Gulf has held nine rounds of consultations on many issues, such as the delimitation and joint development of the waters in this area. The experiences gained from the joint inspection and consultations could provide valuable insights into the future creation of closed fishing areas, moratorium, and other fishery resources conservation mechanisms, as well as the establishment of technical cooperation agencies in this area, including fishery information monitoring centers and data exchange platforms.

Upon the determination of the location of the cooperation area, MPAs, with biological resources conservation as their core purpose, may be designated on the basis of fishery cooperation. Such MPAs should have the following features: first, by learning from the experiences of advanced protected areas worldwide, different types of protected zones, such as “strict protected zones”, “buffer zones” and “scientific research zones” should be set up in the MPAs; second, the regulatory authority of the MPAs should be composed of experts and officials from fishery, maritime, environmental protection and scientific research institutions of both China and Vietnam, who should negotiate and work together to build and manage the MPAs; and third, prior to the completion of maritime delimitation, it should be emphasized that the establishment of such MPAs should neither prejudice the claims of both parties, nor affect any future maritime delimitation.

B. Multilateral Model

Reviewing the successful experiences of cooperation in other enclosed or semi-enclosed seas around the world, many scholars believe that, when constructing MPAs in the SCS, the “Mediterranean cooperation model” could

be used as a reference.⁴¹ Mediterranean States, like the SCS littoral States, have disputes over their maritime delimitation. Based on the 1995 Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean and the subsequent protocols, the Mediterranean cooperation model is a two-tier (integrated and separate) legal system for marine protection.⁴² This model has two main features. First, MPAs are divided into two types: general MPAs (those in waters involving no disputes) and those in disputed sea areas. For the construction of the first type of MPAs, the relevant parties should bear the responsibility for protecting regional biodiversity. In contrast, the establishment of the second type should be decided by consensus of the parties to a plan of action; and the pertinent responsibility should be borne by well-defined administrative bodies.⁴³ Second, by drafting the “reservation of rights” clause, disputes caused by maritime delimitation and other issues have been effectively avoided and the cooperation between Mediterranean States has been promoted to the greatest extent. Article 2 of the 1995 Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean provides that:

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- 41 For the research on the “Mediterranean cooperation model”, please see Mitja Grbec, *The Extension of Coastal State Jurisdiction in Enclosed or Semi-enclosed Seas*, London: Routledge, 2014; Michelle E. Portman and Daniel Nathan, Conservation “Identity” and Marine Protected Areas Management: A Mediterranean Case Study, *Journal for Nature Conservation*, Vol. 24, April 2015, pp. 109~116; Sofia Frantzi, What Determines the Institutional Performance of Environmental Regimes?: A Case Study of the Mediterranean Action Plan, *Marine Policy*, Vol. 32, Issue 4, 2008, pp. 618~629. Many Chinese scholars contend that States neighboring the SCS should learn from the “Mediterranean cooperation model” and conduct cooperation in low-sensitive areas in the SCS. See ZHANG Xiangjun, On Framing the Legal Regime for Regional Cooperation on Protecting Marine Environment in the East Asian Seas, *Journal of Guangdong Ocean University*, No. 2, 2011, pp. 7~12 (in Chinese); WANG Xiuwei, A Preliminary Exploration on the Mechanism for Cooperation in Low-Sensitive Areas in the South China Sea, *Journal of Henan University of Economics and Law*, No. 3, 2013, pp. 151~155 (in Chinese); ZHENG Fan, Regional Cooperation on Environmental Protection in the Mediterranean: Development and Experiences, *Journal of China University of Geosciences (Social Sciences Edition)*, No. 1, 2016, pp. 81~90 (in Chinese); DENG Yingying and LAN Shihuang, Inspiration of Mediterranean Action Plan for the Construction of the South China Sea Marine Protected Areas, *Academic Exploration*, No. 2, 2017, p. 24 (in Chinese); LIU Dan, Difficulties for Cooperating on Marine Environmental Protection in the South China Sea and Their Solutions: Also a Refutation of the Philippines’ Claims in the South China Sea Arbitration, *Foreign Affairs Review*, No. 5, 2017, pp. 113~140. (in Chinese)
- 42 DENG Yingying and LAN Shihuang, Inspiration of Mediterranean Action Plan for the Construction of the South China Sea Marine Protected Areas, *Academic Exploration*, No. 2, 2017, p. 24. (in Chinese)
- 43 Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean, 10 June 1995, at http://www.minambiente.it/sites/default/files/archivio/allegati/biodiversita/protocollo_ASP.pdf, 14 November 2018.

*Nothing in this Protocol nor any act adopted on the basis of this Protocol shall prejudice the rights, the present and future claims or legal views of any State relating to the law of the sea, in particular, the nature and the extent of marine areas, the delimitation of marine areas between States with opposite or adjacent coasts, freedom of navigation on the high seas, the right and the modalities of passage through straits used for international navigation and the right of innocent passage in territorial seas, as well as the nature and extent of the jurisdiction of the coastal State, the flag State and the port State.*⁴⁴

Notably, in September 2017, under the auspices of the Asia Maritime Transparency Initiative (AMTI),⁴⁵ an expert working group on the SCS produced a Blueprint for Fisheries Management and Environmental Cooperation in the South China Sea. As a multilateral cooperation initiative, the Blueprint asserts that fishery and environmental protection in the SCS should encompass six aspects of cooperation. In other words, claimants and littoral States in the region should:

(a) Establish a fishery and environmental management area in the SCS with implementation and enforcement drawing from successful precedents including the Great Barrier Reef Marine Park and the OSPAR Convention;

(b) Emphasize that participating in the building and management of the fishery and environmental management area neither constitutes a judgment about sovereignty over occupied features or their legal status as islands, rocks or low-tide elevations, nor a recognition of the claims of other States;

(c) Split enforcement responsibilities between occupiers and flag States;

44 Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean, 10 June 1995, at http://www.minambiente.it/sites/default/files/archivio/allegati/biodiversita/protocollo_ASP.pdf, 14 November 2018.

45 The Asia Maritime Transparency Initiative (AMTI) was conceived of and designed by the Center for Strategic and International Studies (CSIS). It is a regularly-updated source for information, analysis, and policy exchange on maritime security issues in Asia. CSIS' newly-launched working group on the South China Sea brings together prominent experts on maritime law, international relations, and the marine environment. The group members hope that the claimants and the relevant parties can reach a consensus and jointly seek feasible measures to enhance maritime cooperation and manage their disputes. The group meets regularly to tackle issues that it considers necessary for the successful management of the SCS disputes and produces blueprints for a path forward on each. The group hopes to produce a robust model for managing the disputes that would be both legally and politically feasible – in effect, a blueprint for an eventual code of conduct. See Asia Maritime Transparency Initiative, at <https://amti.csis.org/about/>, 14 November 2018.

(d) Agree not to use subsidies to encourage fishing within the already overfished SCS;

(e) Avoid activities that damage the marine environment or alter the seabed of the SCS; and

(f) Cooperate in marine scientific research in the SCS.⁴⁶

Based on the experiences of the cooperation models designed for other semi-enclosed seas and the unique situation of the SCS, the author argues that the key to the creation of a multilateral cooperation mechanism for marine environmental protection in the SCS lies in how to deal with disputes over island sovereignty and maritime delimitation. On 18 May 2017, China and the 10 ASEAN member States adopted the draft framework for a COC. An important consensus was reached among these States. That is, the parties affirmed that the COC did not involve the sovereignty of islands or maritime delimitation, and insisted on managing disputes through the framework of regional rules and deepening cooperation in low-sensitive areas at sea. In other words, the “COC” to be reached in the future is a mechanism for dispute control and cooperation, rather than a problem resolution mechanism. Since disputes over sovereignty of islands and delimitation of maritime boundaries are not of the same nature as cooperation in such low-sensitive areas as marine environmental protection, they could be handled delicately and shelved effectively in maritime cooperation.

In conclusion, the future multilateral mechanism for cooperation on marine environmental protection in the SCS should contain the following elements. First, through drafting “reservation of rights” clause, existing disputes could be skillfully set aside, and the relevant States may cooperate to construct MPAs in the SCS. Priority should be given to cooperation in fishery management, biological resource conservation and marine scientific research. Second, considering the important role of ASEAN in SCS affairs, it should be recognized that the future multilateral cooperation mechanism should be complementary and compatible with the existing bilateral cooperation mechanism, as well as the multilateral consultation mechanism between China and ASEAN member States within the framework of the DOC. In other words, the future cooperation mechanism will complement the existing bilateral and multilateral mechanisms and provide a new platform for relevant technical cooperation.

46 A Blueprint for Fisheries Management and Environmental Cooperation in the South China Sea, at <https://amti.csis.org/coc-blueprint-fisheries-environment/#>, 14 November 2018.

V. Conclusion

As this paper was about to be completed, Malaysian media reported that the Sarawak authorities decided to set up a marine national park at the Zhongkang Shoals at the southern end of China’s Nansha Islands. The Sarawak authorities would increase law enforcement efforts in this area, since many States were coveting the rich oil resources in the vicinity of Zhongkang Shoals, the media added.⁴⁷ With the SCS disputes turning increasingly into legal battles, it is predictable that in the future, other disputes will emerge in this region in the name of marine protection, but with the real purpose of stealing resources. In the final analysis, although MPAs could be taken as an important measure by a State to protect biological resources and marine environment, the establishment of such a mechanism in disputed waters is often contrary to its purpose. The “Nam Yet Island MPA” has been proposed by Vietnam as early as 2010 in its planning of MPAs. Up to now, neither have the specific location or scope of this MPA come to light, nor have the relevant protection measures and regulations been formulated. These facts indicate clearly that the planning of this MPA is not for the purpose of protecting marine environment, but rather a political propaganda tool employed by Vietnam to declare its sovereignty.

The SCS is a scene of disputes over the sovereignty of some islands and maritime delimitation. It is undeniable, nevertheless, that the survival and development of all SCS littoral States depend on this sea to some extent. Additionally, the deterioration of the ecological environment and the holistic nature of the marine environment in the SCS require these States to pool their efforts toward a common goal: to conserve the biological resources and protect the marine environment in the area. In the process of building a mechanism for regional cooperation on environmental protection in the SCS, there is a huge room for all SCS littoral States, including China and Vietnam, to cooperate with each other. The key to deepening cooperation lies in the design of a clause on “reservation of rights”. China and Vietnam could, on the basis of their fishery cooperation in Beibu Gulf, seek bilateral cooperation in the SCS on a larger scale, and use their exemplary effects to attract other States in the region to join in these efforts. States

47 Grabbing Territory While Stressing Amity? Malaysia Is Enclosing Marine Areas in the South China Sea and Prohibiting China from Entering, at http://www.sohu.com/a/254342516_100200965, 14 November 2018. (in Chinese)

surrounding the SCS, while enjoying the rights conferred by the UNCLOS, should fulfill relevant international obligations and jointly build a mechanism for regional cooperation on environmental protection in the SCS. Although such cooperation may not ultimately resolve the SCS disputes, it could provide, at least, a solution to the dilemma caused by the absence of marine environmental protection in the disputed waters in the SCS.

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中国参与国际海底区域活动的战略选择 ——基于 SWOT-AHP 模型的分析

程时辉*

内容摘要: 国际海底区域既是“全球公域”的重要组成部分,也是我国推行“海洋强国战略”的重要一环。本文通过分析中国参与“区域”活动面临的内部优势、劣势和外部机遇、挑战四大因素,构建 SWOT-AHP 模型,并绘制了中国参与“区域”活动的战略四边形。我国参与“区域”活动面临的内部优势是综合国力稳步提升,政治、社会优势突出;最大内部劣势是深海采矿技术不足;最大外部机遇是和平、稳定的国际环境;最大外部挑战是海洋环境保护要求日趋严格,环境损害风险难以评估。综合来看,我国参与“区域”活动时应选择 SO (增长型) 战略。

关键词: 国际海底区域 SWOT 模型 AHP (层次分析法) 海洋强国战略

随着陆地资源的减少和科学技术的迅猛发展,人类逐渐将视线投向海洋深处——国际海底区域(以下简称“区域”)。¹ 作为“全球公域”的重要组成部分,“区域”的地位日益突出。不论是发达国家还是发展中国家,不论是传统的西方强国还是新独立的太平洋岛国,都在谋求制定符合本国国情和国际形势的“区域”政策或战略。在大规模商业开采预期越来越高的背景下,中国参与“区域”活动的战略选择关系国家发展空间、资源安全、经济利益、科技水平和海洋权益,研究这一问题无疑具有重要意义。

学术界对“区域”及相关问题的研究已取得不少成果,中国学者的研究主要集中在下述几个方面。一是国际海底区域制度,主要包括国际海底管理局(以下简称“海管局”)机制、资源开发制度、环境保护制度、法律规章制度等。针对当前“区域”制度以及我国国内海洋法制存在的诸多问题,如承包商义务、担保国责任和环

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1 根据《联合国海洋法公约》第 1 条第 1 款第 1 目规定, 国际海底区域是指“国家管辖范围外的海床、洋底及其底土”。

境损害风险等,部分学者提出完善海洋法制体系,加快深海采矿技术研究,注重海洋环保的法律和科学问题研究,注重参与“区域”活动的“软实力”构建等建议。²二是国外动态研究及经验借鉴。部分学者通过对国外有关“区域”理论和实践的研究,为中国参与“区域”活动提供借鉴。其中有代表性的诸如:沈鹏从美国“全球公域”资源开发政策出发,分析了其对确保美国国家安全、防止国际冲突、维护美国的资源利益和保护生态环境等的重要性,深入探讨了“全球公域”资源开发政策及政策制定的现实意义;刘曙光通过梳理深海开发的国外研究动态,从生态学和应用经济学的角度对包括深海采矿在内的热点问题进行了研究,指出中国应加快深海开发核心技术研究,注重生物多样性保护,加强海洋科技国际交流与合作。³三是有关“区域”发展战略的研究。国内有关“区域”战略的研究始于上世纪90年代,近年来得到更为广泛的重视。早在上世纪90年代,张海启、肖汉强等学者就呼吁从战略上认识深海矿产开发的重要性;李波等学者提出应尽快确立“区域”开发的全面战略,该战略应以维护权益为中心,以资源开发为目的,以技术发展为手段,以人才培养为保障,完善管理和运转机制。近年来,胡波等学者也深入探讨了中国的深海战略与海洋强国建设的关系。⁴四是对“区域”生物资源、基因资源等新议题的研究,并从法律制度基础、开采模式选择和生态安全等角度提出相应的对策建议。⁵国外学者关于中国参与“区域”活动的研究相对较少。从当前学术界研究现状来看,尽管针对中国参与“区域”活动战略选择的研究已逐渐受到重视,但是从总体上来看,关于这一问题的研究相对较少,且在研究思路和方法上仍有进一步提升的空间。

SWOT模型和AHP(层次分析)模型作为管理学经典模型,被认为是组织进行战略分析和战略选择最常用的模型。SWOT模型着重分析影响组织战略选择

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- 2 金永明:《国际海底区域的法律地位与资源开发制度研究》(博士学位论文),上海:华东政法大学2005年版;张辉:《国际海底区域制度发展中的若干争议问题》,载于《法学论坛》2011年第5期,第91~96页;姜秉国、韩立民:《深海战略性矿产资源开发的理论分析》,载于《中国海洋大学学报(社会科学版)》2011年第2期,第114~119页;张丹:《浅析国际海底区域的环境保护机制》,载于《海洋开发与管理》2014年第9期,第98~103页;付玉、邹磊磊:《国际海洋环境保护制度发展态势分析》,载于《太平洋学报》2012年第7期,第72~80页;朱永灵:《关于中国国际海底区域矿区采矿的思考》,载于《海洋开发与管理》2017年第8期,第109~112页。
 - 3 沈鹏:《试论美国“全球公域”资源开发政策》,载于《美国研究》2016年第3期,第52~68页;刘曙光:《当前深海开发问题国际研究动态及启示》,载于《人民论坛·学术前沿》2017年第18期,第29~36页。
 - 4 张海启、肖汉强:《深海底矿产资源开发前景及对策》,载于《中国地质》1994年第2期,第15~17页;李波:《尽快确立针对国际海底资源开发的更全面的战略》,载于《中国软科学》1996年第9期,第24~26页;胡波:《中国的深海战略与海洋强国建设》,载于《人民论坛·学术前沿》2017年第18期,第12~21页。
 - 5 张善宝:《浅析国际海底生物资源开发制度的构建》,载于《太平洋学报》2013年第3期,第1~9页;任秋娟、马风成:《国际海底区域基因资源生物采探中的生态安全问题》,载于《太平洋学报》2014年第9期,第90~97页。

的内外部优势、劣势等因素，AHP 模型则主要通过对影响组织战略选择的因素进行系统分层，并运用模型计算各因素权重，最终实现对组织战略选择的评估。SWOT 和 AHP 模型的结合能够更加准确、客观地评估组织的战略选择，以实现战略利益最大化。事实上，近年来 SWOT-AHP 模型已被广泛应用于诸多领域。运用 SWOT-AHP 模型，或许能够对客观认识我国参与“区域”活动的优劣势，科学评估我国参与“区域”活动的战略选择有所裨益。

一、中国参与“区域”活动的意义

自人类开始关注“区域”以来，“区域”逐渐凸显愈发重要的价值，在我国“海洋强国战略”的背景下，“区域”的意义更加突出。

首先，“区域”的空间价值巨大。人类对海底空间的关注始于第二次世界大战后，海底空间独特的军事战略价值开始凸显。⁶进入新世纪以来，“区域”更被认为是未来国家科技竞争、军事对抗、规则之争、资源争夺的新空间。⁷“‘区域’约占地球表面积的49%”，⁸而人类目前对海洋探测和了解的范围仅占5%左右。⁹因此，“区域”是“人类可以利用的最大潜在战略空间”，¹⁰对扩大人类活动空间和拓展中国海洋战略空间意义重大。

其次，“区域”蕴藏着极其丰富的生物资源和非生物资源，对保障国家资源安全和经济利益意义重大。“区域”孕育和栖息着数量庞大、种类繁多的海洋生物、微生物资源和基因资源。¹¹“深海底沉积物中含有数亿吨的DNA，是地球上最大的基因储库”。¹²“深海底沉积物中存在着地球上数量最多的细菌、古菌、病毒等

6 Arvid Pardo, Who Will Control the Seabed?, *Foreign Affairs*, Vol. 47, No. 1, 1968, pp. 123~137.

7 胡波：《中国的深海战略与海洋强国建设》，载于《人民论坛·学术前沿》2017年第18期，第12~21页。

8 金建才：《经略大洋拓展我国在国际海域的活动空间》，载于《海洋开发与管理》，2011年第4期，第35~37页。

9 孙松、孙晓霞：《对我国海洋科学研究战略的认识和思考》，载于《中国科学院院刊》2016年第12期，第1285~1292页。

10 胡波：《中国的深海战略与海洋强国建设》，载于《人民论坛·学术前沿》2017年第18期，第12~21页。

11 Robin Warner, *Protecting the Oceans Beyond National Jurisdiction: Strengthening the International Law Framework*, Leiden: Martinus Nijhoff Publishers, 2009, pp. 7~13.

12 金建才：《走向深海大洋是建设海洋强国的必然选择》，载于《海洋开发与管理》2012年第12期，第24~27页。

微生物”,¹³ 据统计,地球上约有 2/3 的微生物可能生活在洋底沉积物和地壳中。¹⁴ 就矿产资源而言,全球大洋底多金属结核资源总量约为 3 万亿吨,“其中仅太平洋洋底的锰结核蕴藏量就超过 1.66 万亿吨”。¹⁵ 根据对中北太平洋克拉里恩—克利伯顿区 6 个勘探合同区的调查统计显示,该区结核资源储量约为 340 亿吨,其中含锰 75 亿吨、镍 3.4 亿吨、铜 2.65 亿吨、钴 0.78 亿吨,按回收率 20% 和含水量 30% 估算,可回收 21 亿吨干结核矿石。¹⁶ 并且,“区域”蕴藏的镍、钴、铜、锰等金属资源的总储量远高于陆地相应储量,被看作是未来几十年陆地战略性金属资源的重要替代来源。¹⁷ 此外,更有专家指出,“国际海底区域将成为能源布局的新领域”。¹⁸

再次,积极参与“区域”活动有益于提升我国科研水平和科技实力。“区域”在生物学、生态学、医药学、能源矿产等领域有着重要的科研价值,对提升国家科技水平、增强科研实力意义重大。海底科学研究涉及到宇宙起源、地球起源、海洋形成与演化、生命起源、海底能源与深海矿产资源,甚至深海生物基因资源等,对于推动科学的进步具有深远的战略意义。¹⁹ 以海底基因资源研究为例,近年来人类申请海洋基因资源知识产权以每年 12% 的增长率快速增长,超过 18000 个天然产物和 4900 多项专利与海洋生物基因有关。²⁰ 此外,深海底热液口还存在着与原始生命系统极其相似的无机自养微生物系统,可据此探索地球外的生命形式。²¹ 由此可见,深入参与“区域”活动对我国科技水平的提升意义重大。

最后,“区域”是我国实施海洋强国战略的重要一环,经略“区域”有利于维护我国海洋权益。过去 5 年,我国新增“区域”矿区面积多达 8.6 万平方公里,已成为世界上获得矿种种类最全、矿区数量最多的国家之一。²² 党的十八大报告提

13 Corinaldesi C., *New Perspectives in Benthic Deep-sea Microbial Ecology*, *Frontiers in Marine Science*, Vol. 2, 2015, pp. 1~12.

14 张亮、秦蕴珊:《深海热液生态系统特征及其对极端微生物的影响》,载于《地球科学进展》2017年第7期,第696~706页。

15 John L. Mero ed., *The Mineral Resources of the Sea*, Amsterdam: Elsevier Publishing Company, 1965, p. 175.

16 张涛、蒋成竹:《深海矿产资源潜力与全球治理探析》,载于《中国矿业》2017年第11期,第14~18页。

17 Rahul Sharma, *Deep-Sea Mining: Resource Potential, Technical and Environmental Considerations*, New York: Springer International Publishing, 2017, p. vii.

18 杨泽伟:《国际能源秩序的变革:国际法的作用与中国的角色定位》,载于《东方法学》2013年第4期,第86~94页。

19 金翔龙:《海底科学与发展战略》,载于郑玉龙主编:《海底科学战略研讨会论文集》,北京:海洋出版社 2005年版,第1~5页。

20 Peter G. Pan, *Bioprospecting: Issues and Policy Considerations*, at <http://lrbhawaii.org/reports/legrpts/lrb/rpts06/biocon.pdf>, 15 November 2018.

21 张亮、秦蕴珊:《深海热液生态系统特征及其对极端微生物的影响》,载于《地球科学进展》2017年第7期,第696~706页。

22 乔思伟:《我国近五年新增国际海底区域矿区 8.6 万平方公里》,载于《中国国土资源报》2018年1月23日第001版。

出要“提高海洋资源开发能力，发展海洋经济……坚决维护国家海洋权益，建设海洋强国。”²³然而，“建设海洋强国，必须要走向深海大洋，任何一个海洋强国都不只是着眼本国海域”。²⁴

二、中国参与“区域”活动的 SWOT 分析

（一）SWOT 战略分析法

SWOT 模型²⁵是战略分析中最常用的方法之一。SWOT 分析的目的是确认组织当前的战略与特定的优劣势之间的关系程度，从而提高组织应对环境变化的能力，帮助组织找出新的战略选择。²⁶SWOT 分析的第一步是认清组织内部的优势和劣势；第二步是明确外部环境中的潜在机遇和挑战；第三步是列举与组织有关的优势、劣势、机遇、挑战因素，按照因素的重要性和相关度进行排列；第四步是通过内部条件和外部环境因素的匹配绘制 SWOT 战略矩阵，并根据 SWOT 二维象限图选择战略。通过各因素匹配，SWOT 模型会衍生出 4 种战略（见图 1）。²⁷

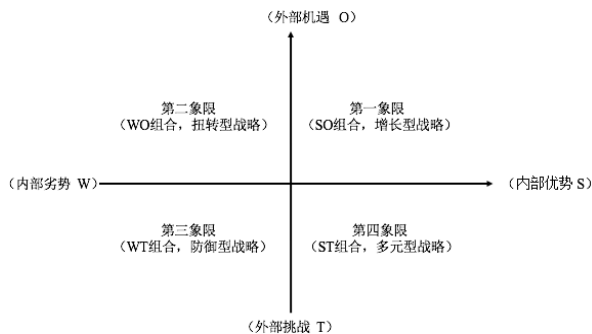


图 1 SWOT 模型二维象限图

- 23 《胡锦涛在中国共产党第十八次全国代表大会上的报告》，下载于 http://news.xinhuanet.com/18cpcnc/2012-11/17/c_113711665.htm，2017 年 12 月 23 日。
- 24 金建才：《走向深海大洋是建设海洋强国的必然选择》，载于《海洋开发与管理》2012 年第 12 期，第 24~27 页。
- 25 SWOT 模型是由哈佛大学肯尼思·安德鲁斯教授于 1971 年在其著作《公司战略概念》中首次提出的，S 和 W 分别是指通过对组织内部因素进行分析而判断出的组织内部优势和自身劣势；O 和 T 分别是指通过对组织所处外部环境进行分析来评估可以挖掘的外部机遇和可能面临的威胁。笔者认为中国参与“区域”活动面临着外部挑战，而非威胁，因此文中以挑战代替威胁，并不影响 SWOT 模型的运用。
- 26 谭力文、李燕萍：《管理学（第三版）》，武汉：武汉大学出版社 2009 年版，第 145 页。
- 27 SO 战略要求组织充分发挥内部优势，积极把握外部发展机会；WO 战略则要求组织利用外部机会以改善或终止自身劣势；WT 战略是一种较为被动的防御型和收缩型战略，组织应迅速采取措施弥补内部不足，并避免外部威胁；ST 战略则刚好与 WO 战略相反，要求组织发挥自身优势来规避外部的不利环境。参见李志平、刘成、陈鄂：《管理学概论》，北京：北京邮电大学出版社 2005 年版，第 88~90 页。

(二) SWOT 模型在中国“区域”战略选择中的应用

在“全球公域”备受关注,深海底科技日新月异的特殊背景下,中国参与“区域”活动的内外部各种因素都将变得更加复杂。要成功地实现设定的战略目标,必须着眼于影响战略选择的关键因素。²⁸ 如何选择关键因素,并对这些因素进行科学分类是需要深思熟虑的问题。

1. 内部优势分析

第一,矿区种类和数量优势明显。从本世纪初起,随着中国国力的增强、国际地位的上升,以及海洋技术的快速发展,中国在“区域”活动方面着实取得了较大的成绩。中国是获得矿种种类最全、矿区数量最多的国家之一,²⁹ 这为中国开展深海调查和科研、收集海洋数据、勘探海底空间提供了有利条件。国际实践表明,深入的科学研究是一国掌握“区域”活动话语权的有力保证。此外,中国作为在海管局登记的先驱投资者,对申请获得的矿区具有优先开发权,我国申请的矿种类越齐全、矿区数量越多,资源开采的可选择空间也就越大。

第二,深海科技发展较快。我国于“20 世纪 90 年代初开始在深海空间站技术领域开展相关论证和关键技术研究”。³⁰ 2002 年,我国开始启动“蛟龙”号载人深潜器的设计、研制工作,2012 年,“蛟龙”号 7000 米级海试取得成功。³¹ “蛟龙”号海试成功使得中国“成为继美国、日本、法国和俄罗斯后第五个拥有同等技术水平的国家”。³² 2013 年,经过现代化改装后的“大洋一号”船进入了国际先进科学考察船的行列,成为我国第一艘满足“区域”研究开发活动要求,并面向国内外开放的综合性科学考查船。³³ 此外,“海洋石油 981”钻井平台、深海无人遥控潜水器等已经投入使用;正在研制的深海载人空间站、海底观测网等也已经取得较大进展。深海科技的高速发展能为我国参与“区域”活动提供一定的优势。

第三,综合国力、社会和政治优势突出。首先,综合国力大幅跃升为我国参

28 刘新华:《中国发展海权的战略选择——基于战略管理的 SWOT 分析视角》,载于《世界经济与政治》2013 年第 10 期,第 96~117 页。

29 中国向国际海底区域申请获得的 4 块矿区分别是:2001 年,中国大洋协会与国际海底管理局签订了首份位于东太平洋的多金属结核勘探合同;2011 年,中国大洋协会与国际海底管理局签订了位于西南印度洋的多金属硫化物勘探合同;2013 年,中国大洋协会与国际海底管理局签订了位于西太平洋的富钴铁锰结壳勘探合同;2017 年,中国五矿集团公司与国际海底管理局签订了第二份位于东太平洋的多金属结核勘探合同,也是中国与国际海底管理局签订的第四份勘探合同。

30 李春峰:《中国海洋科技发展的潜力与挑战》,载于《人民论坛·学术前沿》2017 年第 18 期,第 37~43 页。

31 庞博:《盘点我国深海潜水器演变历程》,载于《中国海事》2016 年第 4 期,第 77 页。

32 杨舒:《“蛟龙”探海启新篇》,载于《光明日报》2017 年 6 月 9 日第 2 版。

33 《“大洋一号”进入国际先进科考船行列》,下载于 http://www.comra.org/2013-09/23/content_6322812.htm, 2017 年 12 月 5 日。

与“区域”活动奠定了坚实基础。改革开放以来,我国经济保持高速增长,目前已经成为世界第二大经济体;“科技水平显著提升,已建成较为完善的国家科技体系”;³⁴“过去十年间,我国现代海军舰队发展迅速,当前中国所拥有的资源已足以构建具有战略影响力的海军力量”;³⁵国内政治稳定、人民安居乐业,“综合国力、国际竞争力、国际影响力迈上一个大台阶,国家面貌发生新的历史性变化”。³⁶其次,国家领导人高度重视海洋,为我国经略“区域”提供了优越的内部条件。习近平主席在中央政治局第八次集体学习时也强调要进一步关心海洋、认识海洋、经略海洋,推动我国海洋强国建设不断取得新成就。³⁷党的十九大报告进一步指出,要“坚持陆海统筹,加快建设海洋强国”。³⁸综合国力稳步提升、国内政治稳定和海洋强国战略的实施,为我国参与“区域”活动奠定了坚实基础。

2. 内部劣势分析

第一,已申请获得的矿区面临若干问题。尽管中国已申请获得包含三大矿种的4块矿区,但已获得的矿区存在或面临的问题将制约中国在“区域”的进一步活动。首先,中国在已获批矿区的环境影响评估方面尚未开展实质性的工作,矿区资源评估也未完成。2017年,中国大洋协会与海管局签署了《国际海底多金属结核矿区勘探合同延期协议》,协议要求大洋协会补充环境基线数据和环境管理计划,优化采矿技术,跟踪分析“区域”金属资源国际市场,研判“区域”资源的商业开发时机。³⁹其次,中国当前的研究重点与国际研究趋势错位。比如,发达国家已经逐步将目光转向海底富钴结壳,而中国关注的却仍是多金属硫化物。⁴⁰再如,其他海洋强国已经着手对天然气水合物、生物资源、基因资源等进行研究和开发,而中国对这些的关注则远远不够。最后,中国已获批矿区的矿产质量较低。中国多金属结核矿区的资源品位与丰度低、海底地形复杂,达到同一勘探程度的单位面

34 杨晓丹、杨志荣:《我国从海洋大国向海洋强国转变仍然任重道远》,下载于 <http://world.people.com.cn/n1/2017/0920/c1002-29547939.html>, 2017年12月11日。

35 [美]陆伯彬(Robert Ross)著,赵雪丹译:《中国海军的崛起:从区域性海军力量到全球性海军力量?》,载于《国际安全研究》2016年第1期,第13~32页。

36 《胡锦涛在中国共产党第十八次全国代表大会上的报告》,下载于 http://news.xinhuanet.com/18cpcnc/2012-11/17/c_113711665_2.htm, 2017年12月11日。

37 《习近平:进一步关心海洋、认识海洋、经略海洋 推动海洋强国建设不断取得新成就》,下载于 http://news.xinhuanet.com/politics/2013-07/31/c_116762285.htm, 2017年12月11日。

38 《决胜全面建成小康社会 夺取新时代中国特色社会主义伟大胜利——在中国共产党第十九次全国代表大会上的报告》,下载于 http://news.cnr.cn/native/gd/20171027/t20171027_524003098.shtml, 2017年12月18日。

39 方正飞:《中国大洋协会与国际海底管理局签署国际海底多金属结核矿区勘探合同延期协议》,下载于 http://www.mlr.gov.cn/xwdt/hyxw/201705/t20170515_1507699.htm, 2017年12月18日。

40 何清华、李爱强、邹湘伏:《大洋富钴结壳调查进展及开采技术》,载于《金属矿山》2005年第5期,第4~7页;韦振权、何高文、邓希光、姚会强、刘永刚、杨永、任江波:《大洋富钴结壳资源调查与研究进展》,载于《中国地质》2017年第3期,第461~472页。

积前期投资远远高于西方国家。⁴¹

第二,深海采矿技术不够发达,与发达国家差距较大,制约了我国在“区域”的活动。当前,“深海资源开发处在从勘探向开采迈进的关键节点期”,⁴²先进的深海开采技术将成为决定一国“区域”活动的关键所在,世界主要海洋强国都在深海科技领域投入巨大的资金和智力资源。尽管我国深海勘探技术已取得长足进步,“但深海采矿技术能力严重不足、亟待提升”。⁴³“我国深海技术设备国产化率较低,海洋仪器进口率约占95%,技术总体水平与国外先进水平相差15~20年”,⁴⁴“海洋资源开发核心技术与先进国家差距较大,关键技术受制于人”。⁴⁵

第三,海洋管理体制不完善,海洋法制体系不完整,远洋、深海维权能力较弱。我国海洋维权管理体制目前尚未定型,直接影响到我国海洋维权的进程。⁴⁶目前,我国海洋管理体制存在条块分割、各自为政,海洋行政主管部门的行政级别较低,涉海管理混乱、难以理顺等问题,进而直接导致了宏观调控不利,微观领域盲目开发、重复建设的复杂局面。⁴⁷此外,我国多个部门都具有涉海职能,海洋行政管理职责不明、权责不清,未能建立统一协调的管理体制。并且,指导和维护“区域”活动的法规也不健全,尽管我国于2016年颁布实施了《中华人民共和国深海海底区域资源勘探开发法》,但尚未建立起完整的海洋法制体系。

3. 外部机遇分析

第一,和平、发展、合作、共赢是当今时代的主题,这为我国探索和利用“区域”提供了良好的外部环境。党的十八大以来,习近平主席指出应高举和平、发展、合作、共赢的旗帜,坚持和平发展的主线,为构建以合作共赢为核心的新型国际关系作出更为积极的努力。⁴⁸从整体上看,国际形势继续朝着和平、稳定的方向发展,国际社会都在和平中求发展,在合作中谋共赢。当今世界,政治、经济、文化全球化迅猛发展,各国相互联系更加紧密,相互依存,和平、发展、合作、共赢成为时代进步的必然要求,也是国际社会的最优选择。和平与发展的国际环境,合作与

41 栾维新、曹颖:《中国国际区域资源开发战略及关键技术选择》,载于《地域研究与开发》2005年第4期,第5~11页。

42 彭建明、鞠成伟:《深海资源开发的全球治理:形式、体制与未来》,载于《国外理论动态》2016年第11期,第115~123页。

43 朱永灵:《关于中国国际海底区域采矿的思考》,载于《海洋开发与管理》2017年第8期,第109~112页。

44 李颖红、任小波:《深海的呼唤——深海技术发展现状及对策思考》,载于《中国科学院院刊》2011年第5期,第561~569页。

45 成志杰:《中国海洋战略的概念内涵与战略设计》,载于《亚太安全与海洋研究》2017年第6期,第26~41页。

46 郁志荣:《完善我国海洋维权管理体制势在必行》,载于《中国海洋报》2014年8月22日第3版。

47 于思浩:《中国海洋强国战略下的政府海洋管理体制研究》(博士学位论文),吉林:吉林大学2013年版,第88页。

48 《推动和平发展合作共赢的时代潮流》,下载于http://news.xinhuanet.com/politics/2016-06/02/c_129035861.htm,2018年1月16日。

共赢的国际共识,有利于我国探索和利用“区域”。

第二,当前国际海洋体制确立了基本稳定、有效的制度框架。1982年通过的《联合国海洋法公约》(以下简称“《公约》”)被誉为当代“海洋宪章”,“是当代国际社会关系海洋权益和海洋秩序的基本文件,确立了人类利用海洋和管理海洋的基本框架”。⁴⁹《公约》及1994年《关于执行1982年12月10日〈联合国海洋法公约〉第十一部分的协定》(以下简称“《执行协定》”)确定了“区域”的法律地位,成立了海管局,明确了海管局的组织架构、权责范围、运作模式,从法律、技术、财务、开发制度、海洋环保等角度对人类在“区域”的活动作出了全面规定。进入21世纪后,海管局先后出台了三大勘探规章,⁵⁰对“区域”探矿规则进行了更深入的阐述和更详尽的补充。2012年,海管局秘书长在第18届理事会上提出《关于拟定“区域”内多金属结核开发规章的工作计划》,⁵¹2017年,海管局秘书处发布了《关于制定和起草“区域”内矿产资源开采条例(环境事项)的讨论文件》,⁵²开发规章正在加紧制定中。毫无疑问,开发规章将为各国开发“区域”提供制度保障。综上所述,以《公约》为首的当前国际海洋法律体制为深海资源的开采提供了有利条件。⁵³

第三,资源需求和技术进步为大规模商业开采提供了动力。随着人类社会的发展,对“区域”资源的需求将会越来越大。一方面,陆地资源的储量和种类将越来越少、资源品位和丰度会越来越低,开采难度和开采成本将逐步增高;另一方面,深海科技的迅速发展使得“区域”资源的开发成本和开采难度不断降低,加上矿产品品质和储量都远高于陆地,“区域”资源开采只是时间问题。⁵⁴更值得一提的是,“区域”所特有的生物资源、基因资源对人类医药、生物生命科学的发展有着不可替代的重要作用。在此背景下,海底资源开采引起国际社会极大的关注,各个海洋大国纷纷制定了海底资源商业开采计划。⁵⁵这些都为大规模开采“区域”资源提供了

49 杨泽伟:《国际法(第二版)》,北京:高等教育出版社2012年版,第174页。

50 海管局至今共制定了3个勘探规章,分别是:2000年通过的《“区域”内多金属结核探矿和勘探规章》(2013年进行了修订)、2010年通过的《“区域”内多金属硫化物探矿和勘探规章》和2012年通过的《“区域”内富钴铁锰结核壳探矿和勘探规章》。

51 See International Seabed Authority, Work Plan for the Formulation of Regulations for the Exploitation of Polymetallic Nodules in the Area, ISBA/18/C/4, 2012, pp. 1~10.

52 See International Seabed Authority, Implementation of the Decision of the Council in 2016 Relating to the Summary Report of the Chair of the Legal and Technical Commission, ISBA/23/C/8, 2017, p. 2.

53 萧汉强:《深海底资源开发的法律争端与商业开采前景》,载于《高科技与产业化》2009年第2期,第116~119页。

54 James R. Hein, Kira Mizell and Andrea Koschinsky, Deep-ocean Mineral Deposits as a Source of Critical Metals for High- and Green-Technology Applications: Comparison with Land-based Resources, *Ore Geology Reviews*, Vol. 51, 2013, pp. 1~14.

55 例如,英国、加拿大等海洋矿业公司宣称将于2020年左右开始商业采矿,日本、韩国等制定了10年内进行开采的计划,欧盟开始投资和研发深海采矿装置,美国在其《21世纪海洋蓝图》中也对深海采矿作出安排。参见彭建明、鞠成伟:《深海资源开发的全球治理:形式、体制与未来》,载于《国外理论动态》2016年第11期,第115~123页。

动力,也为我国开发“区域”资源提供了更好的契机。

4. 外部挑战分析

第一,各国对海底矿区“争夺”的热情上涨,竞争日趋激烈。⁵⁶近年来,各国在“区域”展开了新一轮的“蓝色圈地”运动。首先,矿区申请数量激增。从近几年向海管局提交的矿区申请就不难发现,各国明显加快了“抢占”国际海底的步伐。⁵⁷其次,矿区申请的海域范围由太平洋扩展到其他各大洋。⁵⁸再次,“抢占”对象趋于多样化。“抢占”的矿种由多金属结核转向富钴结壳和多金属硫化物,由单一的非生物资源拓展到新型的生物资源、遗传资源等。“蓝色圈地”运动的高涨一方面会使具备资金、技术实力的发达国家加快步伐,另一方面也会引起不具备勘探、开采实力国家的不满,加剧不同国家集团之间的矛盾,而《公约》等国际规制又无法有效遏止新一轮大国公域竞争。⁵⁹总之,当前的这一发展趋势是中国面临的外部不利因素之一。

第二,经济效益和市场需求的不确定性导致大规模商业开采的预期不确定。经济效益和市场需求是决定深海底资源开采的关键因素。⁶⁰因此,对大规模商业开采预期的判断,关键在于对全球资源供需关系的把握。对此,学者之间有不同看法。例如,有学者认为深海多金属资源的大规模商业开发有可能在2020—2030年间发生。⁶¹也有学者指出,“深海底采矿最关键的驱动力是建立在对金属的需求将持续增加,而供应将达到顶峰并逐步下降这一假设之上的”。⁶²事实上,影响全球金属供需的因素是多方面的,市场供需也存在极大的不确定性。从实践来看,2015年首批6份多金属结核勘探合同相继到期,承包商全部提交了延期申请,这似乎也在一定程度上说明大规模商业开采条件尚不具备。

第三,海洋环境保护要求日趋严格,环境损害风险难以评估。随着全球环境问题的凸显和海洋环境的恶化,保护海洋环境的呼声日趋高涨。首先,海管局在

56 陈明义:《积极参与国际海底矿产资源的勘探和开发》,载于《福建论坛(人文社会科学版)》2015年第7期,第24~28页。

57 从1996年到2010年,海管局共批准了8个“区域”探矿申请,而从2011年至今,海管局共批准21项探矿申请,趋势不可谓不明显。资料整理自国际海底管理局官网,下载于<https://www.isa.org.jm/deep-seabed-minerals-contractors>,2018年7月27日。

58 2011年以前,所有申请的矿区都集中在太平洋海域,2011年以后矿区逐步扩展到印度洋、大西洋海域。结论根据国际海底管理局官网整理而来,下载于<https://www.isa.org.jm/deep-seabed-minerals-contractors>,2017年12月13日。

59 韩雪晴:《自由、正义与秩序——全球公域治理的伦理之思》,载于《世界经济与政治》2017年第1期,第46~73页。

60 Rahul Sharma, *Deep-Sea Mining: Resource Potential, Technical and Environmental Considerations*, New York: Springer International Publishing, 2017, pp. 17~19.

61 张海启、肖汉强:《深海底矿产资源开发前景及对策》,载于《中国地质》1994年第2期,第15~17页;刘少军、杨保华、刘畅、戴瑜:《从市场、技术和制度看国际海底矿产资源的商业开采时机》,载于《矿冶工程》2015年第4期,第126~129页。

62 Rakhyun E. Kim, Should Deep Seabed Mining Be Allowed?, *Marine Policy*, Vol. 82, 2017, pp. 134~137.

立法上对海洋环保要求更加严格。从海管局制定的勘探规章和开采规章草案来看,风险预防原则、环境影响评估、最佳环境做法等成为更普遍、更直接的义务,对承包商和担保国提出了更高的要求。其次,国际海洋法法庭的咨询意见表明,承包商和担保国将承担更为严格的环境责任。2011 年国际海洋法法庭海底争端分庭就“担保国责任与义务”发表了咨询意见,分庭放弃采纳“共同但有区别责任原则”,认为发展中国家和发达国家应承担同样的环境责任,提高了环境“门槛”。⁶³再次,“深海是地球上最大且最不为人类所了解的生态系统”,⁶⁴“‘区域’内活动难度大、风险高,尤其是对深海环境的影响难以预料”,⁶⁵海洋环境损害的后果难以评估。以上的发展趋势对我国参与“区域”活动提出了更高要求,从而形成了更大挑战。

第四,当前“区域”制度的发展、变革或将产生不利于中国的因素。“区域”制度在确立前本就饱受争议,在“蓝色圈地”运动兴起的背景下,“区域”制度的发展面临着不确定性。开采规章尚在制定阶段,备受关注的财税制度、环保制度、担保国制度是否对中国有利并不确定;“区域”生物资源等“新领域”的出现,反映出了现行国际海洋法律制度的局限性,⁶⁶新一轮规则之争必然再起。其次,“平行开发制度”遭到动摇。“海底开采制度的实质性条款建立在‘平行开发制度’的基础上”。⁶⁷然而,从海管局制定的勘探规章来看,平行开发制度受到“冲击”,相应的保留区制度已被“残蚀”,发达国家绕过保留区制度,开始适用联合企业制度。⁶⁸“随着科技的进步和国际关系的演变,诸如国际海底开发制度……必将进

63 Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to activities in the Area (Request for Advisory Opinion Submitted to the Seabed Disputes Chamber), Case No. 17, Advisory Opinion, ITLOS, 2011, pp. 53~54, para. 158, at https://www.itlos.org/fileadmin/itlos/documents/cases/case_no_17/adv_op_010211.pdf, 4 June 2018.

64 Sabine Christiansen et al., Towards Transparent Governance of Deep Seabed Mining, at https://www.iass-potsdam.de/sites/default/files/files/policy_brief_transparency.pdf, 15 November 2018.

65 JIA Yu, Exploitation of Resources in the Area and the Sponsoring State Responsibility: New Developments in China's Legislative Work concerning the Deep Sea, *China Oceans Law Review*, Vol. 2016, No. 1, pp. 11~25.

66 Sunil Kr. Agarwal, Legal Issues in the Protection of Marine Biological Diversity Beyond National Jurisdiction, *Maritime Affairs: Journal of the National Maritime Foundation of India*, Vol. 11, No. 1, 2015, pp. 84~98.

67 张晏瑜:《国际海洋法》,北京:清华大学出版社 2015 年版,第 266 页。

68 张丹:《关于国际海底区域法律制度的研究——以保留区及平行开发制度为中心》,载于《太平洋学报》2014 年第 3 期,第 12~18 页。

一步演进”，⁶⁹“区域”新制度的道路不会平坦，旧分歧却可能再次被提及。⁷⁰

综上所述，中国参与“区域”活动既有得天独厚的优势，又存在着先天不足的劣势，既存在着前所未有的机遇，也面临着激烈的竞争和不可预知的风险。通过对内部优势、劣势以及外部机遇、挑战的分析，可以为我国参与“区域”活动的战略选择提供一个更加合理、直观和全面、客观的认识。（见表1）

表1 中国参与“区域”活动战略矩阵分析

	内部优势（S）	内部劣势（W）
	S1: 矿种和矿区数量优势； S2: 深海科技发展迅速； S3: 综合国力和社会、政治优势。	W1: 已获得的矿区面临若干问题； W2: 深海采矿技术不够发达； W3: 海洋管理体制有待改进，海洋法制体系不完善。
外部机会（O）	SO 战略（增长型）	WO 战略（扭转型）
O1: 和平与发展依然是当今时代的主题； O2: 当前国际海洋体制确立了稳定有效的制度框架； O3: 人类的资源需求为大规模商业开采提供动力。	1. 利用国际、国内稳定的环境积极开展“区域”活动（S3,O1,O2）； 2. 保持深海科技高速发展态势，做好商业开采的准备（S1,S2,O3）。	1. 完善我国海洋法制体系，建立更高行政级别、统一协调的海洋管理机构（O2,W3）； 2. 加快完成对已申请“区域”调查、评估；加快技术引进和创新，增进国际交流（O3,W1,W2）。
外部挑战（T）	ST 战略（复合型）	WT 战略（防御型）
T1: 海底矿区争夺激烈； T2: 大规模商业开采预期不确定； T3: 海洋环保要求日趋严格； T4: “区域”制度的发展或将产生不利于中国的因素。	1. 进一步提升综合国力，增强经略“区域”的实力（S3,T1,T4）； 2. 做好资源和环境调查、研究、评估（S1,S2,T2,T3）。	1. 解决已获批矿区存在的问题或采取“区域”放弃措施（W1,W2,W3,T2）； 2. 减缓在“区域”的活动（W2,W3,T1,T3,T4）； 3. 向发达国家学习先进技术、管理经验（W2,W3）。

69 杨泽伟：《〈联合国海洋法公约〉的主要缺陷及其完善》，载于《法学评论》2012年第5期，第57-64页。

70 Aline Jaeckel, Jeff A. Ardron and Kristina M. Gjerde, Sharing Benefits of the Common Heritage of Mankind – Is the Deep Seabed Mining Regime Ready?, *Marine Policy*, Vol. 70, 2016, pp. 198-204.

三、AHP 方法在中国参与“区域”活动的 SWOT 分析中的应用

利用 SWOT 模型,对要素进行评价和匹配,在此基础上进一步引入 AHP 分析法对上述影响战略决策的要素进行分层,并判断各要素的相对权重,能为组织战略选择提供更客观、科学的评估。

AHP 方法(层次分析法)⁷¹是定量分析和定性分析相结合的决策分析方法,常常用于对多目标、多要素、多层次的复杂决策问题,特别是战略决策问题的研究。⁷²用 AHP 方法进行战略决策分析,一般可以分为 4 个步骤:首先是将决策问题按照总目标、影响因素、具体子因素的顺序分解为不同层次结构,建立层次结构模型;其次,在每个层次中,用两两比较法构造出某项子因素对上一层次影响因素的判断矩阵,并根据所构造的判断矩阵求解各子因素的特征值和特征向量,并作出一致性检验;再次,运用加权求出各影响因素对总目标的最终影响权重;最后,根据各影响因素对总目标的影响权重构建战略选择四边形,求出战略四边形的重心坐标,进行战略选择。⁷³

(一) 中国参与“区域”活动的层次结构分析

根据中国参与“区域”活动战略选择的 SWOT 分析,各指标层次结构见表 2。

71 AHP (层次分析法)由美国运筹学家匹兹堡大学教授萨蒂(T. L. Saaty)于上世纪 70 年代初提出。AHP 被认为是定量分析和定性分析结合的典范, AHP 基本思路是首先找出解决涉及问题的主要因素,将这些因素按照关联、隶属关系构成阶梯层次模型,通过对各层次中各因素的两两比较的方式确定诸因素的相对重要性,然后进行综合判断,确定评价对象相对重要性的总排序。参见韩晓静:《层次分析法在 SWOT 分析中的应用》,载于《情报探索》2006 年第 5 期,第 119~122 页。

72 陶长琪、盛积良主编:《决策理论与方法》,北京:高等教育出版社 2016 年版,第 127 页。

73 [希]格雷戈里·P·普拉斯塔克斯(Gregory P. Prastacos)著,李辉译:《管理决策:理论与实践》,北京:清华大学出版社 2011 年版,第 104~108 页。

表2 中国参与“区域”活动战略选择层次结构

目标层	系统层	变量层
中国参与 “区域” 活动的战略选择	优势 (S)	S1: 矿区种类和数量优势; S2: 深海科技发展迅速; S3: 综合国力和社会、政治优势。
	劣势 (W)	W1: 已申请获得的矿区面临若干问题; W2: 深海采矿技术不够先进, 与发达国家差距较大; W3: 海洋管理体制不完善, 深海法制体系不完整。
	机遇 (O)	O1: 和平与发展依然是当今时代的主题; O2: 当前国际海洋体制确立了基本稳定、有效的制度框架; O3: 全球资源的需求为大规模商业开采提供动力。
	挑战 (T)	T1: 各国对海底资源争夺的热情上涨, 竞争日趋激烈; T2: 经济效益和市场需求的不确定性导致大规模商业开采预期时间不确定; T3: 海洋环境保护要求日趋严格, 可能制约“区域”活动; T4: 当前国际海底区域制度的变革或将产生不利于中国的因素。

(二) 确定各因素的相对重要度, 并计算判断矩阵的特征向量

AHP 重要性衡量标度法是 AHP 模型的重要方法, 也是将决策判断数量化的重要方法。萨蒂教授将该方法和其他标度方法进行对比, 经过大量模拟实验, 证明该方法比其他方法更能有效地将思维判断数量化。⁷⁴ 因此, 对 SWOT 的 4 组要素分别进行两两比较, 按照表 3 将 2 个要素的相对重要性程度值予以量化, 能够构建出该组要素的两两比较判断矩阵 A (见表 4)。(以优势组为例)

74 陶长琪主编:《决策理论与方法》,北京:中国人民大学出版社2010年版,第114~115页。

表 3 AHP 重要性衡量标度

标度	定义（比较因素 i 与 j）
1	因素 i 与 j 同样重要
3	因素 i 比 j 稍微重要
5	因素 i 比 j 较强重要
7	因素 i 比 j 强烈重要
9	因素 i 比 j 绝对重要
2、4、6、8	两个相邻判断因素的中间值
倒数	因素 i 与 j 比较得判断为 a，则因素 j 与 i 相比的判断为 1/a

表 4 优势组要素的两两比较矩阵 A

S	S1	S2	S3
S1	1	1/3	1/5
S2	3	1	1/2
S3	5	2	1

（注：各组各项子因素两两比较的相对重要性结果由若干专家评估后通过数据处理而来）

将优势组判断矩阵进行列归一处理，得到判断矩阵 A'：

$$A' = \begin{bmatrix} 1 & \frac{1}{3} & \frac{1}{5} \\ \frac{1+\frac{1}{3}+\frac{1}{5}}{3} & \frac{1+\frac{1}{3}+\frac{1}{5}}{1} & \frac{1+\frac{1}{3}+\frac{1}{5}}{2} \\ \frac{3}{3+1+\frac{1}{2}} & \frac{1}{3+1+\frac{1}{2}} & \frac{1}{3+1+\frac{1}{2}} \\ \frac{5}{5+2+1} & \frac{2}{5+2+1} & \frac{1}{5+2+1} \end{bmatrix} = \begin{bmatrix} 0.110 & 0.100 & 0.118 \\ 0.333 & 0.300 & 0.294 \\ 0.556 & 0.600 & 0.588 \end{bmatrix}$$

表 5 优势组列归一处理后的判断矩阵 A'

S	S1	S2	S3
S1	0.111	0.100	0.118
S2	0.333	0.300	0.294
S3	0.556	0.600	0.588

将列归一后的判断矩阵按行相加，进一步可以得出优势组比较矩阵的特征向量，即各指标权重 $G=[0.110, 0.309, 0.581]^T$ 。计算优势组矩阵的特征根：

$$AG = \begin{bmatrix} 1 & 1/3 & 1/5 \\ 3 & 1 & 1/2 \\ 5 & 2 & 1 \end{bmatrix} [0.110, 0.309, 0.581]^T$$

$$\text{求得: } AG_1 = 1 \times 0.110 + \frac{1}{3} \times 0.309 + \frac{1}{5} \times 0.581 = 0.329;$$

$$AG_2 = 3 \times 0.110 + 1 \times 0.309 + \frac{1}{2} \times 0.581 = 0.930;$$

$$AG_3 = 5 \times 0.110 + 2 \times 0.309 + 1 \times 0.581 = 1.749;$$

进一步可求矩阵的最大特征根:

$$\lambda_{\max} = \sum_{i=1}^3 \frac{(AG)_i}{nGi} = \frac{(AG)_1}{3G1} + \frac{(AG)_2}{3G2} + \frac{(AG)_3}{3G3} = 3.00365$$

(三) 对各组因素进行一致性检验

计算一致性指标 $CI = \frac{(\lambda_{\max} - n)}{(n-1)} = \frac{3.00365 - 3}{3 - 1} = 0.0018$, 查同阶平均随机一致性指标 (见表6) 知, 3阶对应的 $RI = 0.58$ 。 $CR = \frac{CI}{RI} = \frac{0.0018}{0.58} = 0.003 < 0.1$ 。

表明此比较判断矩阵符合一致性检验, 可以接受。

表6 平均随机一致性指标

阶数	3	4	5	6	7	8	9
RI	0.58	0.89	1.12	1.26	1.36	1.41	1.46

同理, 可得劣势组(W)、机遇组(O)、挑战组(T)的两两比较矩阵, 经计算, 各组平均向量、最大特征根及一致性检验结果见下表。

表7 劣势组比较判断矩阵

W	W1	W2	W3	G	一致性检验
W1	1	1/3	2/3	0.185	$\lambda_{\max} = 3.0045$, $CR = 0.0039 < 0.1$
W2	3	1	5/3	0.520	
W3	3/2	3/5	1	0.295	

表 8 机遇组比较判断矩阵

O	O1	O2	O3	G	一致性检验
O1	1	3	4	0.608	$\lambda_{\max}=3.0742$ CR=0.064<0.1
O2	1/3	1	3	0.272	
O3	1/4	1/3	1	0.120	

表 9 挑战组比较判断矩阵

T	T1	T2	T3	T4	G	一致性检验
T1	1	1/2	2/5	2	0.173	$\lambda_{\max}=4.0011,$ CR=0.004<0.1
T2	2	1	2/3	3	0.305	
T3	5/2	3/2	1	4	0.424	
T4	1/2	1/3	1/4	1	0.098	

(四) 通过计算因素总力度确定中国参与“区域”活动的战略四边形

各因素的总力度是各子因素的力度之和，各子因素的力度又由该因素的权重和强度决定。

表 10 各因素力度计算结果

因素	总力度 (Σ)	子因素	权重 (G)	强度	力度
S	$\Sigma S=8.052$	S1	0.110	6	0.660
		S2	0.309	7	2.163
		S3	0.581	9	5.229
W	$\Sigma W=-7.855$	W1	0.185	-6	-1.110
		W2	0.520	-9	-4.680
		W3	0.295	-7	-2.065
O	$\Sigma O=7.608$	O1	0.608	8	4.864
		O2	0.272	7	1.904
		O3	0.120	7	0.840
T	$\Sigma T=-6.923$	T1	0.173	-7	-1.211
		T2	0.305	-6	-1.830
		T3	0.424	-8	-3.392
		T4	0.098	-5	-0.490

(注:表 10 中各子因素强度由若干专家评估打分后求平均数得来,其中劣势和挑战以负值表示,优势和机遇以正值表示,绝对值越大表明强度越大)

(五) 中国参与“区域”活动的战略选择

在 SWOT 模型的二维象限坐标中分别描出优势总力度 ΣS 、劣势总力度 ΣW 、机遇总力度 ΣO 、挑战总力度 ΣT 的坐标, 构建中国参与“区域”活动的战略四边形。(见图 2)

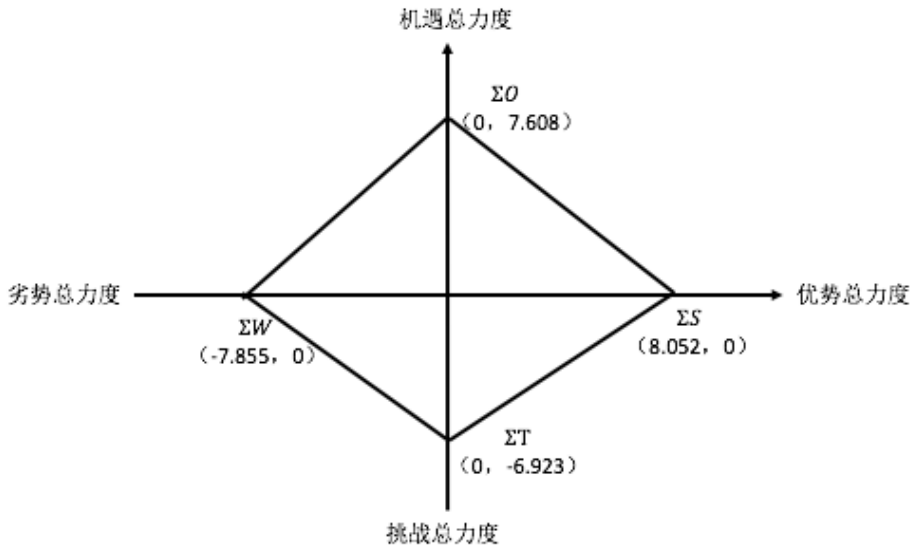


图 2 中国参与“区域”活动的战略四边形

战略四边形是在 SWOT 模式分析下, 中国参与“区域”活动四大主要因素作用的综合反映, 能为我国参与“区域”活动的战略选择提供参考。战略四边形重心所处的象限即对应我国在区域活动应作出的战略选择。不难求出, 战略四边形的重心坐标 $P(0.025, 0.086)$, 位于坐标轴第一象限, 因此, 我国参与“区域”活动应该选择 SO 战略(增长型战略)。

四、结论与建议

(一) 结论

通过运用 SWOT-AHP 模型对我国参与“区域”活动的内部优势、劣势及外部机遇、挑战的分析, 构建出我国参与“区域”活动的战略四边形, 我们可以得出以下几点结论。

综合来看, 当前中国参与“区域”活动应采取 SO (增长型) 战略, 整体形势

相对乐观。SWOT-AHP 模型分析表明,中国参与“区域”活动的战略四边形重心 P (0.025, 0.086) 位于第一象限,这说明总的来看,中国参与“区域”活动的内部优势强于内部劣势,外部机遇大于外部挑战,整体形势趋好。但是,从战略四边形重心 P (0.025, 0.086) 的坐标数值来看,中国参与“区域”活动的内部优势相较于内部劣势并不突出,外部机遇相较于外部挑战也并不明显,在今后经略“区域”的过程中内部劣势和外部挑战不容忽视。

具体来看,我国参与“区域”活动的内部优势、劣势及外部机遇、挑战方面均存在着较为突出的影响因素。我国参与“区域”活动面临的最大的内部优势是 S3 (综合国力稳步提升,政治、社会制度优势突出),这说明强大的综合国力是我国加快经略“区域”的有力保障;最大的内部劣势是 W2 (深海采矿技术不足),这表明深海技术是中国参与“区域”活动的内部最大“短板”;最大的外部机遇是 O3 (和平、发展、合作、共赢成为了时代主题),这说明和平、稳定的国际环境是中国参与“区域”活动的外在保证;外部挑战中有 2 项子因素的权重较大,分别是 T3 (海洋环境保护要求日趋严格,海洋环境损害风险难以评估)和 T2 (经济效益和市场需求的不确定性导致大规模商业开采预期时间不确定),这表明海洋环境保护的压力和大规模商业开采的不确定性为中国参与“区域”活动带来了挑战。

本质上讲,一国经略“区域”的能力最终是由该国综合国力决定的。“区域”是还未被人类充分探索的新公域,参与“区域”活动对一国科技水平、资金实力、制度优势有着较高要求。尽管和平、发展、合作、共赢的时代主题以及基本稳定、有效的国际海洋体制为各国探索、利用“区域”提供了条件,但是,倘若没有强大综合国力的基础,没有先进的深海技术和海洋科学研究,没有充分的资金和风险承受能力,没有稳定的政治制度,探索和利用“区域”的计划便只能是“水中花、镜中月”。

(二) 建议

首先,我国应加强参与“区域”活动的整体布局设计。人类对“区域”的探索还只是起步阶段,可以预见,随着“区域”的价值不断被发掘,各国在“区域”的活动必然会越来越频繁,因此我国应未雨绸缪,尽早加快我国在“区域”的整体布局设计。具体来讲,应做到“三个协调发展”。一是要加强深海勘探技术、开采技术、海洋科研和环境保护的协调推进。勘探技术是前提,开采技术是关键,海洋科研

是基础,环境保护是底线,四者之间符合“木桶定律”,⁷⁵只有四者协调发展,才能实现我国参与“区域”活动整体上的利益最大化。二是要加强我国海洋法制体系与海洋管理体制的协调发展,前者为我国参与“区域”活动提供法律依据和制度保障,后者负责监督和管理我国参与“区域”活动的具体实施,二者相辅相成,缺一不可。三是要加强对“区域”内各类资源研究、发掘的协调发展。尽管“区域”因储量惊人的矿产资源而广受各国重视,但近年来“区域”范围内生物资源、微生物资源和基因资源的价值也逐渐得到认可,因此,对各类资源研究和发掘应整体布局,协调发展。

其次,中国经略“区域”的过程中应发挥内部优势,弥补内部不足,积极把握外部发展机会,提前做好外部挑战的预判和应对,加快我国经略“区域”的步伐。具体来讲,一方面要保持我国综合国力的稳步提升,并坚持和平利用和开发“区域”,积极参与全球海洋治理。另一方面,应尽快补齐“短板”,加大对深海科研技术的投入,尽快缩小我国和发达国家之间的技术差距。此外,还应从法律和技术层面加强对海洋环境保护的研究,同时对“区域”资源的经济效益和市场需求进行科学、客观的评估和预判,为我国参与“区域”活动争取更大的国际话语权。

最后,经略“区域”应缓急适中,切不可急于求成。囿于科技水平有限,人类对“区域”的了解还不够,探索之路仍会很漫长。上文已提及,采矿规章尚在制定之中,采矿规章是“区域”大规模商业开采的前置条件。当前,世界各国和不同利益方为了争取各自的利益,围绕规章的制定展开的激烈博弈尚未结束,⁷⁶采矿规章的出台时间难以确定,中国需要更多的参与采矿规章的制订,提升我国在深海采矿方面的话语权。此外,“区域”资源大规模商业开采必然是以经济效益和市场需求为导向的,而全球金属市场受诸多因素影响,开采预期需要进一步评估。与此同时,我国对“区域”生态系统和海洋环境保护的研究还不够,环境损害风险较大。鉴于此,笔者认为我国在参与“区域”活动的过程中不可操之过急。

75 “木桶定律”也被称作水桶原理,指的是由多块木板构成的水桶,盛水量象征着整体的实力和竞争力,而决定水桶盛水量多少的关键因素不是最长的板块,而是最短的板块。该定律旨在说明任何一个组织,可能面临的一个共同问题,即构成组织的各个部分往往是优劣不齐的,而劣势部分往往决定整个组织的水平,只有各部分协同发展,才能提升整体的实力和竞争力。

76 何宗玉、林景高、杨保华、刘少军:《国际海底区域采矿规章制定的进程与主张》,载于《太平洋学报》2016年第10期,第9-17页。

How Should China Select Its Strategy to Participate in the Activities in the Area: A SWOT-AHP Analysis

CHENG Shihui*

Abstract: The international seabed area (the Area) constitutes an important part of the “global commons”, and also a critical element that China should pay attention to when implementing its “maritime power” strategy. The paper uses the SWOT-AHP model to examine the internal strengths and weaknesses, external opportunities and threats of China should it plan to participate in the activities in the Area, and draws a strategic quadrilateral based on the foregoing analysis. The SWOT-AHP analysis shows that: China’s greatest strength comes from the steady rise of its comprehensive national strength, and its obvious edge over others in terms of the social and political system; its biggest internal weakness is its inferior deep sea mining technology; its biggest external opportunity is the peaceful and stable international environment; and the largest external threat comes from the difficulty to assess the risk of environmental damage, along with the increasingly stringent requirements on marine environmental protection. Based on the analyses, the paper concludes that China should adopt the SO (aggressive) strategy to participate in the activities in the Area.

Key Words: International Seabed Area; SWOT model; AHP; Maritime power strategy

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With the decline of terrestrial resources and the rapid development of science and technology, human beings have gradually turned their attention to the bottom of the ocean – the international seabed area (the Area).¹ The Area, being an important part of “global commons”, has had its status increasingly coming under the lens. Both developed and developing States, whether traditional Western powers or newly independent Pacific island States, are seeking to develop policies or strategies with respect to the Area in line with their national conditions and relevant international situations. Given the growing expectation to conduct large-scale commercial mining, China’s choice of strategy to participate in the activities in the Area concerns its national development space, resource security, economic interests, scientific and technological level, and maritime rights and interests. It is thus undoubtedly of great significance to study this issue.

Many academic achievements have been made with respect to the Area and other relevant issues. Chinese scholars focus their researches on four aspects in this field. The first looks at the regime of the Area, which mainly includes the mechanism of the International Seabed Authority (ISA), resource development regime, environmental protection regime and the pertinent laws and regulations. In response to the problems associated with the current regime of the Area and China’s marine legal system, such as contractor obligations, liabilities of sponsoring States and risk of environmental damage, some scholars have offered suggestions for China, which include, among others, improving China’s marine legal system, accelerating the research of deep-sea mining technology, paying attention to the study of legal and scientific issues related to marine environmental protection, and focusing on the building of its “soft power” to participate in the activities in the Area.²

1 According to Article 1(1)(1), international seabed area means “the seabed and ocean floor and subsoil thereof, beyond the limits of national jurisdiction”.

2 JIN Yongming, *The Legal Status of the International Seabed Area and Its Resource Development Regime* (Doctoral Dissertation), Shanghai: East China University of Political Science and Law, 2005 (in Chinese); ZHANG Hui, Some Pending Issues in the Development of International Seabed Area Regime, *Legal Forum*, Vol. 26, No. 5, 2011, pp. 91~96 (in Chinese); JIANG Bingguo and HAN Limin, Theoretical Analysis of the Exploitation of Deep-Sea Strategic Mineral Resources, *Journal of Ocean University of China (Social Sciences Edition)*, No. 2, 2011, pp. 114~119 (in Chinese); ZHANG Dan, A Brief Analysis of the Mechanism for Environmental Protection in the International Seabed Area, *Ocean Development and Management*, No. 9, 2014, pp. 98~103 (in Chinese); FU Yu and ZOU Leilei, An Analysis of the Development Tendency of the Regime for Protection of the International Marine Environment, *Pacific Journal*, Vol. 20, No. 7, 2012, pp. 72~80 (in Chinese); ZHU Yongling, Mining in the International Seabed Areas of China, *Ocean Development and Management*, No. 8, 2017, pp. 109~112 (in Chinese).

The second research focus is the study of overseas research trends and the drawing of lessons from foreign experiences. Some scholars who have studied foreign theories and practices concerning the Area, have provided some references for China to aid its participation in the activities in the Area. Perfect examples in this case include the researches by SHEN Peng and LIU Shuguang. Mr. SHEN analyzed the United States' policy on the development of the resources of "global commons" and its importance to ensuring its national security, preventing international conflicts, safeguarding its resource interests and protecting the ecological environment. Based on the analysis, he thoroughly discussed the policies to exploit the resources of the "global commons" and the practical significances of the development of such policies. Mr. LIU, by first sorting out overseas research trends on deep-sea development, examined some issues under the spotlight like deep-sea mining, from the angles of ecology and applied economics. He went on to further propose that China should accelerate the research on the core technology necessary for deep-sea exploitation, pay attention to biodiversity protection, and strengthen international exchange and cooperation on marine science and technology.³

The third focus is on the study of the strategies to develop the Area. The research in this regard began in the 1990s and has received more attention in recent years. As early as the 1990s, scholars such as ZHANG Haiqi and XIAO Hanqiang have called for a strategic understanding of the importance of deep-sea mineral exploitation. It is also important to note that LI Bo et al. proposed that a comprehensive strategy for the development of the Area should be established with the least delay possible, and such a strategy should focus on the protection of China's rights and interests, with the purpose of exploiting the resources by updating technology and cultivating qualified talents, so that the management and operation mechanism in this area could be improved. In recent years, HU Bo and other scholars have also explored the relationship between China's deep-sea

3 SHEN Peng, An Analysis of U.S. Policy on Natural Resources Development, *The Chinese Journal of American Studies*, No. 3, 2016, pp. 52~68 (in Chinese); LIU Shuguang, International Research Trends of Deep-sea Development and the Insight, *Frontiers*, No. 18, 2017, pp. 29~36 (in Chinese).

strategy and the building of a maritime power.⁴

The fourth is the study on some new emerging issues, such as the living and genetic resources of the Area; countermeasures to these issues are provided from the perspectives of the foundations of a legal system, selection of resource exploitation mode, and ecological safety.⁵

Foreign scholars have done relatively little research on China's participation in the activities in the Area. Current academic trends and research on this topic instructively show that, overall, there is only a little research concerning China's strategic choice to participate in such activities, and the approach and methodology adopted in such research still needs improving, although the study in this respect has received increasing attention.

SWOT (strengths, weaknesses, opportunities, and threats) and AHP (analytic hierarchy process) models, as classic models in management science, are believed to be most commonly used by organizations to conduct strategic analysis and selection. SWOT model focuses on analyzing the internal and external factors affecting strategic selection for organizations; while AHP model is applied to evaluate a given set of strategic alternatives for an organization, mainly through structuring the elements influencing strategic choice in a hierarchy of different levels and using the model to calculate the weight of each factor. A combination of SWOT and AHP models may evaluate strategic alternatives for organizations in a more accurate and objective manner, so as to maximize their strategic interests. In fact, the SWOT-AHP model has been widely applied in many fields of research in recent years. Consequently, applying SWOT-AHP model to the topic under discussion may help to understand, objectively, the strengths and weaknesses of China to participate in the activities in the Area, and furthermore, scientifically evaluate the possible strategic alternatives that could be employed by China in its participation in such activities.

4 ZHANG Haiqi and XIAO Hanqiang, Prospect for the Exploitation of Deep Seabed Mineral Resources and the Countermeasures, *Chinese Geology*, No. 2, 1994, pp. 15~17 (in Chinese); LI Bo, To Develop a More Comprehensive Strategy for the Development of International Seabed Resources with the Least Delay Possible, *China Soft Science*, No. 9, 1996, pp. 24~26 (in Chinese); HU Bo, China's Deep-sea Strategy and Marine Power Road, *Frontiers*, No. 18, 2017, pp. 12~21 (in Chinese).

5 ZHANG Shanbao, An Analysis on the Establishment of the International Seabed Biological Resources Exploitation System, *Pacific Journal*, No. 3, 2013, pp. 1~9 (in Chinese); REN Qiujuan and MA Fengcheng, On Ecological Security during the Bio-prospection of Marine Genetic Resources in the International Seabed Area, *Pacific Journal*, No. 9, 2014, pp. 90~97 (in Chinese).

I. The Significances for China to Participate in the Activities in the Area

The growing value of the Area gradually came to light, when human beings began to cast their eyes over it. Considering China's strategy to build itself into a nation renowned for its maritime power, the significances of the Area become even more prominent.

First and foremost, the Area has tremendous value in terms of "space". Humans began to pay attention to the space of the ocean floor after the Second World War when its unique military strategic value came to light.⁶ Since the beginning of the new century, the Area has been regarded as a new arena for States to conduct scientific and technological competition, scramble for resources, and engage in military confrontation and rule disputes in the future.⁷ "The Area covers about 49% of the Earth's surface area",⁸ but the part of ocean that has been explored or come to our knowledge only accounts for 5% approximately.⁹ That is to say, the Area is "the largest strategic space that can be potentially utilized by humans," it is thus of great significance for humans to expand their activity space and for China to enlarge its strategic maritime space.¹⁰

Second, the Area contains extremely rich living and non-living resources, which is of great significance for China to ensure its national resource safety and economic benefits. The Area is home to many diverse marine organisms, microbial and genetic resources.¹¹ "Deep sea sediments contain hundreds of millions of tons of DNA, which constitute the largest gene pool on Earth."¹² "Deep-sea sediments

6 Arvid Pardo, Who Will Control the Seabed?, *Foreign Affairs*, Vol. 47, No. 1, 1968, pp. 123~137.

7 HU Bo, China's Deep-sea Strategy and Marine Power Road, *Frontiers*, No. 18, 2017, pp. 12~21 (in Chinese).

8 JIN Jiancai, Planning and Managing Activities in the Oceans to Expand the Activity Space of China in International Waters, *Ocean Development and Management*, No. 4, 2011, pp. 35~37. (in Chinese)

9 SUN Song and SUN Xiaoxia, Future Ocean and Our Research Strategy, *Bulletin of Chinese Academy of Sciences*, No. 12, 2016, pp. 1285~1292. (in Chinese)

10 HU Bo, China's Deep-sea Strategy and Marine Power Road, *Frontiers*, No. 18, 2017, pp. 12~21 (in Chinese).

11 Robin Warner, *Protecting the Oceans Beyond National Jurisdiction: Strengthening the International Law Framework*, Leiden: Martinus Nijhoff Publishers, 2009, pp. 7~13.

12 JIN Jiancai, Moving Towards the Deep Ocean: A Necessary Choice for China to Build Itself into a Maritime Power, *Ocean Development and Management*, No. 12, 2012, pp. 24~27. (in Chinese)

host the largest fractions of Bacteria, Archaea and viruses on Earth”.¹³ According to statistics, around two-thirds of microbes on Earth may be living in the deep sea sediments and crust.¹⁴ Also, in terms of mineral resources, the total amount of polymetallic nodules lying on the ocean floor was estimated at about 3 trillion tons. Particularly, “the tonnage of manganese nodules at the surface of the sediments of the Pacific Ocean is indicated to be 1.66×10^{12} metric tons”.¹⁵ In line with the survey statistics of the six contracted areas in Clarion–Clipperton Fracture Zone in the central north Pacific, the reserves of nodule resource in this zone were estimated to be 34 billion tons approximately, including 7.5 billion tons of manganese, 340 million tons of nickel, 265 million tons of copper and 78 million tons of cobalt. Based on 20% recovery rate and 30% water content, it is estimated that 2.1 billion tons of dry nodule ore could be recovered.¹⁶ Furthermore, the total reserves of metal resources, such as nickel, cobalt, copper and manganese, contained in the Area are much higher than those on land, leaving such resources to be regarded as important alternative sources of strategic metal resources on land in the coming decades.¹⁷ Added to this, some experts have gone further to suggest that “the Area will become a new frontier of energy distribution.”¹⁸

Third, China’s active participation in activities in the Area will herald a great improvement in its scientific and technological advancement as well as its strength in that field. The Area undoubtedly, has a great research value in biology, ecology, medicine, energy, minerals, and other fields. Efforts to engage in the activities of the Area is of great importance, since such engagements possess the potential to help China raise its scientific and technological level and also enhance its research strength. Research on the ocean floor is associated with knowledge in all domains, including the origin of the universe and the Earth, formation and evolution of the

13 Corinaldesi C., New Perspectives in Benthic Deep-sea Microbial Ecology, *Frontiers in Marine Science*, Vol. 2, 2015, pp. 1~12.

14 ZHANG Liang and QIN Yunshan, The Characteristic of Deep Sea Hydrothermal Ecosystem and Their Impact on the Extreme Microorganism, *Advances in Earth Science*, No. 7, 2017, pp. 696~706. (in Chinese)

15 John L. Mero ed., *The Mineral Resources of the Sea*, Amsterdam: Elsevier Publishing Company, 1965, p. 175.

16 ZHANG Tao and JIANG Chengzhu, Analysis of the Potential of Deep-sea Mineral Resources and Global Governance, *China Mining Magazine*, No. 11, 2017, pp. 14~18. (in Chinese)

17 Rahul Sharma, *Deep-Sea Mining: Resource Potential, Technical and Environmental Considerations*, New York: Springer International Publishing, 2017, p. vii.

18 YANG Zewei, Transformation of International Energy Order: the Function of International Law and China’s Role Orientation, *Oriental Law*, No. 4, 2013, pp. 86~94. (in Chinese)

ocean, origin of life, submarine energy, deep sea mineral resources, and even the deep-sea genetic resources. Such encompassing research has far-reaching, strategic significances for advancing scientific progress.¹⁹ The study on deep seabed genetic resources is a good example in this case. In recent years, application for intellectual property rights of marine genetic resources has grown rapidly at a rate of about 12% per year. More than 18,000 natural products and over 4,900 patents are related to marine organism genes.²⁰ In addition, at deep sea hydrothermal vents, inorganic autotrophic microbial communities constitute a system similar to the primitive living system, which can be used to explore life forms outside the Earth.²¹ These facts clearly demonstrate that to be fully engaged in the activities in the Area is of critical importance to the rise of China's scientific and technological level.

Last but not least, the Area is an important frontier that should be addressed, when China puts every effort to implement its strategy to build itself into a maritime power. Planning the moves directed towards to the Area may help safeguard China's maritime rights and interests. In the past five years, the international seabed mining area for China has increased by 86,000 square kilometers. With the expanded area, China has become one of the States with the most categories of seabed minerals and the largest number of mining blocks in the world.²² The report of the 18th National Congress of the Communist Party of China proposed that “[w]e should enhance our capacity for exploiting marine resources, develop the marine economy ... resolutely safeguard China's maritime rights and interests, and build China into a maritime power.”²³ However, “in order to build China into a maritime power, we must set foot in the deep ocean, as no maritime power has its eyes solely

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- 19 JIN Xianglong, Undersea Science and Its Development Strategy, in ZHENG Yulong ed., *Proceedings of the Symposium on Undersea Science and Strategy*, Beijing: China Ocean Press, 2005, pp. 1-5. (in Chinese)
 - 20 Peter G. Pan, Bioprospecting: Issues and Policy Considerations, at <http://lrhawaii.org/reports/legreports/lrb/rpts06/biocon.pdf>, 15 November 2018.
 - 21 ZHANG Liang and Qin Yunshan, The Characteristic of Deep Sea Hydrothermal Ecosystem and Their Impact on the Extreme Microorganism, *Advances in Earth Science*, No. 7, 2017, pp. 696-706. (in Chinese)
 - 22 QIAO Siwei, The International Seabed Mining Area for China Has Increased by 86,000 Square Kilometers in the Last Five Years, *China Land and Resources News*, 23 January 2018, p. 1. (in Chinese)
 - 23 HU Jintao's Report Delivered at the 18th National Congress of the Communist Party of China, at http://news.xinhuanet.com/18cpcnc/2012-11/17/c_113711665.htm, 23 December 2017. (in Chinese)

on the sea areas under its jurisdiction.”²⁴

II. SWOT Analysis for China’s Participation in the Activities in the Area

A. SWOT in Strategic Analysis

SWOT model²⁵ is one of the most commonly used methods in strategic analysis. The aim of a SWOT analysis is to identify the extent to which the current strategy of an organization and its specific strengths and weaknesses are relevant, and then to enhance the organization’s capability to deal with the changes taking place in the environment, as well as to help the organization identify new strategic alternatives.²⁶ The first step of SWOT analysis is to identify the strengths and weaknesses internal to an organization; the second step is to specify potential opportunities and threats presented by the environment external to the organization; the third step is to list the factors affecting the organization, which could be divided into four categories: strengths, weaknesses, opportunities and threats, and create ranking of these factors based on their importance and relevance to the organization; the fourth step is to create a SWOT strategy matrix by matching the internal factors with the external environmental factors, and then to select a strategy on the basis of a two-dimensional quadrantal diagram of SWOT analysis. The

24 JIN Jiancai, Moving Towards the Deep Ocean: A Necessary Choice for China to Build Itself into a Maritime Power, *Ocean Development and Management*, No. 12, 2012, pp. 24–27. (in Chinese)

25 SWOT model was first proposed by Prof. Kenneth R. Andrews of Harvard University in his book titled *The Concept of Corporate Strategy* in 1971. “S” and “W” respectively refer to, the strengths and weaknesses of an organization identified by analyzing its internal factors; “O” and “T” refer to the external opportunities that an organization may exploit and the possible threats that the organization may face in its external environment.

26 TAN Liwen and LI Yanping, *Management*, 3rd edition, Wuhan: Wuhan University Press, 2009, p. 145. (in Chinese)

SWOT model, through matching factors, generates four strategies (See Fig. 1).²⁷



Fig. 1 Two-Dimensional Quadrantal Diagram of SWOT Analysis

B. Applying SWOT Model to Analyze China’s Strategic Alternatives to Participate in the Activities in the Area

Against the backdrop of the “global commons” garnering increasing attention, and the technology to explore and exploit the deep ocean floor developing rapidly, the internal and external factors affecting China’s participation in the activities in the Area have invariably become a lot more complicated. It is important to identify the key factors that influence strategic selection, in order to achieve the strategic objective.²⁸ How to select the key factors and scientifically categorize them into

27 The SO strategy requires an organization to give full play to its internal strengths and actively exploit its external development opportunities; the WO strategy requires an organization to use its external opportunities to minimize or terminate their internal weaknesses; the WT strategy however, is a passively defensive and contractive strategy, which requires an organization to promptly take measures to compensate for their internal weaknesses and thus avoid external threats; the ST strategy is just the opposite of the WO strategy, demanding an organization to use their own strengths to avoid the adversity of the external environment. See LI Zhiping, LIU Cheng and CHEN E, *Introduction to Management*, Beijing: Beijing University of Posts and Telecommunications Press, 2005, pp. 88-90. (in Chinese)

28 LIU Xinhua, The Strategic Option for China’s Development of Sea Power from the Perspective of SWOT Analysis of Strategic Management, *World Economics and Politics*, No. 10, 2013, pp. 96-117. (in Chinese)

groups is a question that requires careful consideration.

1. Analysis of Internal Strengths

To begin with, the types and number of China's mining blocks give it an obvious advantage over others. Since the beginning of this century, China's national power has increased, along with the rise of its international status and the rapid development of its marine technology. In this period, China has also achieved tremendously with respect to the activities in the Area. China is one of the States with the most categories of seabed minerals and the largest number of mining blocks in the world.²⁹ All these factors are favorable in conducting deep-sea surveys and scientific research as well as collection of marine data, and exploration of the ocean floor. International practice shows that in-depth scientific research strongly underpins a State's ability to get its voice heard in decision-making related to the activities in the Area. In addition, as a pioneer investor registered with the ISA, China has the priority to develop the mining blocks it obtained upon application. More mineral species and more mining blocks mean more alternatives for China to further exploit such resources as present in the Area.

Second, China's deep-sea science and technology is developing rapidly. China "began, in the early 1990s, the research on the key technology involved in the building of deep-sea space stations and the proving of relevant theories."³⁰ In 2002, China initiated a project to design and develop the *Jiaolong*, a manned deep-sea submersible. In 2012, the submersible successfully completed a trial run by diving to a depth of over 7,000 meters below sea level.³¹ This success notably made China "the fifth State in the world with advanced deep-sea technology in this area, after the US, Japan, France and Russia."³² The *Dayang No. 1*, after modification and updating in 2013, stands at par with most advanced scientific research vessels in

29 China has obtained the exclusive right from the ISA to explore four mining blocks. In 2001, the China Ocean Mineral Resources Research and Development Association (COMRA) and the ISA signed the first exploration contract for polymetallic nodules in the Eastern Pacific. In 2011, COMRA and the ISA signed an exploration contract for polymetallic sulphide in the Southwest Indian Ocean. In 2013, COMRA and the ISA signed an exploration contract for cobalt-rich ferromanganese in the Western Pacific. China Minmetals Corporation and the ISA signed in 2017, the second exploration contract for polymetallic nodules in the Eastern Pacific, thereby making it the fourth exploration contract signed between China and the ISA.

30 LI Chunfeng, The Potential and Challenge of China's Marine Science and Technology Development, *Frontiers*, No. 18, 2017, pp. 37-43. (in Chinese)

31 PANG Bo, On the Evolution of China's Deep Sea Submersibles, *China Maritime Safety*, No. 4, 2016, p. 77. (in Chinese)

32 YANG Shu, *Jiaolong* Submersible Explores the Sea: A New Chapter, *Guangming Daily*, 9 June 2017, p. 2. (in Chinese)

the world, thus becoming China's first comprehensive scientific research vessel that meets the conditions required in research and exploration activities in the Area. What is more, this research vessel is open to both domestic and foreign researchers.³³ Additionally, China has put its oil-drilling platform *Hai Yang Shi You 981* and other unmanned, remote-controlled deep-sea submersibles into operation; and its construction of a manned deep-sea space station, a seabed observation network and other projects are advancing efficiently. China's consistent and rapid development of its deep-sea science and technology provides itself with some advantages and leverage over others when it engages in the activities in the Area.

Third, China has strong comprehensive national strength, and an obvious edge over others in terms of the social and political system. First of all, the progressive development and rise of China's comprehensive national strength has laid a solid foundation for its participation in the activities in the Area. Since the reform and opening-up in 1978, China's economy has maintained such rapid growth which has transformed and developed the country into the world's second largest economy. China's "scientific and technological level has also seen a significant rise, with a relatively complete national scientific and technological system put in place in the country."³⁴ "Over the past decade, China has witnessed a fast development of its modern naval fleets; it currently possesses the resources sufficient enough to build a naval force with strategic influence."³⁵ "The country has undergone new historic changes ... its overall national strength and international competitiveness and influence have been enhanced substantially".³⁶ All these factors help provide a politically stable environment for Chinese people to live and work in peace and contentment. Second, Chinese leaders attach great importance to oceanic affairs, which provides good internal conditions favorable to China in its participation in the activities in the Area. President XI Jinping, during the 8th collective study held by the Political Bureau of the Communist Party of China Central

33 *Dayang No. 1* Ranks Among the Most Advanced Research Vessels in the World, at http://www.comra.org/2013-09/23/content_6322812.htm, 5 December 2017. (in Chinese)

34 YANG Xiaodan and YANG Zhirong, Transforming China from a Large Maritime Country into a Maritime Power Remains a Daunting Task, at <http://world.people.com.cn/n1/2017/0920/c1002-29547939.html>, 11 December 2017. (in Chinese)

35 Robert Ross, ZHAO Xuedan trans., The Rise of China's Navy: From Regional to Global Naval Forces?, *Journal of International Security Studies*, No. 1, 2016, pp. 13~32. (in Chinese)

36 HU Jintao's Report Delivered at the 18th National Congress of the Communist Party of China, at http://news.xinhuanet.com/18cpnc/2012-11/17/c_113711665_2.htm, 11 December 2017. (in Chinese)

Committee, stressed the need to pay more attention to the oceans, to acquire more knowledge about them and better plan the management of them, so as to attain new achievements in the building of China into a maritime power.³⁷ The report of the 19th National Congress of the Communist Party of China states that, “We will pursue coordinated land and marine development, and step up efforts to build China into a strong maritime country.”³⁸ The steady improvement of China’s comprehensive national strength, the stability of its domestic political environment and the implementation of the strategy to build China into a maritime power have laid a solid foundation for China’s participation in the activities in the Area.

2. Analysis of Internal Weaknesses

To begin with, there are some problems with the mining blocks obtained by China upon application. China has obtained four mining blocks with three major categories of minerals, however, the existing or potential problems inherent in these blocks have the potential to restrict the engagement of further activities in the Area by China. First, neither the substantive assessment of the environmental impact of these approved mining blocks, nor the evaluation of the resources in these blocks has been completed. In 2017, China Ocean Mineral Resources Research and Development Association (COMRA) and the ISA signed an agreement on the extension of the exploration contract for polymetallic nodules. The agreement requires the COMRA to supplement environmental baseline data and an environmental management plan, optimize mining technology, track and analyze the international market for metal resources in the Area, and carefully determine the opportunities to commercially exploit these resources.³⁹ Second, China’s current research focus fails to follow trends of international research in this regard. For example, developed countries have gradually turned their eyes to cobalt-rich

37 XI Jinping: Further Care for the Ocean, Understand and Manage the Ocean, and Make Continuous Achievements in the Efforts to Build China into a Maritime Power, at http://news.xinhuanet.com/politics/2013-07/31/c_116762285.htm, 11 December 2017. (in Chinese)

38 Secure a Decisive Victory in Building a Moderately Prosperous Society in All Respects and Strive for the Great Success of Socialism with Chinese Characteristics for a New Era Delivered at the 19th National Congress of the Communist Party of China, at http://news.cnr.cn/native/gd/20171027/t20171027_524003098.shtml, 18 December 2017. (in Chinese)

39 FANG Zhengfei, COMRA and the ISA Signed an Agreement on the Extension of the Exploration Contract for Polymetallic Nodules, at http://www.mlr.gov.cn/xwdt/hyxw/201705/t20170515_1507699.htm, 18 December 2017. (in Chinese)

crusts, while China still sticks to polymetallic sulphides.⁴⁰ Another case in point is, most maritime powers have started research into, and development of natural gas hydrate, biologic resources and genetic resources, all of which, however, have not received enough attention from Chinese stakeholders in those fields. Third, the minerals in the mining blocks that China obtained are low in quality. China's mining blocks for polymetallic nodule are with low grades of resources and low densities of value metal contents. Additionally, the seabed topography of these blocks is of a complex nature. Comparatively, the initial investment per unit area required for reaching the same exploration level with the blocks of western countries is much higher.⁴¹

Second, China lags in deep-sea mining technology thereby creating a wide gap between China and developed countries in this field. Such a gap restricts the advance of its activities in the Area. Currently, "the development of deep-sea resources is at a critical point, where exploitation work is going to take over exploration work."⁴² The possession of advanced deep-sea mining technology will be key to assessing a State's capability to carry out activities in the Area. The world's major maritime powers have invested huge sums of money and intellectual capital in developing deep-sea science and technology. China has made considerable progress with respect to deep sea exploration technology, nevertheless, "it lacks the technical capacity to conduct deep-sea mining, which needs to be improved urgently."⁴³ "The percentage of China's home-made deep-sea equipment is relatively low, with nearly 95% of its marine instruments being imported from abroad. China is, technically, 15~20 years behind those with advanced technology."⁴⁴ "With respect to the core technology of marine resources

40 HE Qinghua, LI Aiqiang and ZOU Xiangfu, Investigation Progress and Exploitation Technology of Ocean Cobalt-rich Crusts, *Metal Mine*, No. 5, 2005, pp. 4~7 (in Chinese); WEI Zhenquan, HE Gaowen, DENG Xiguang, YAO Huiqiang, LIU Yonggang, YANG Yong and REN Jiangbo, The Progress in the Study and Survey of Oceanic Cobalt-rich Crust Resources, *Geology in China*, No. 3, 2017, pp. 461~472 (in Chinese).

41 LUAN Weixin and CAO Ying, The Exploitation Strategy of Chinese International Regional Resources and the Choice of the Critical Technology, *Areal Research and Development*, Vol. 24, No. 4, 2005, pp. 5~11. (in Chinese)

42 PENG Jianming and JU Chengwei, Global Governance of the Exploitation of Deep Sea Resources: the Governance Form, Regime and the Future, *Foreign Theoretical Trends*, No. 11, 2016, pp. 115~123. (in Chinese)

43 ZHU Yongling, Some Thoughts on China's Mining Operations in the International Seabed Area, *Ocean Development and Management*, No. 8, 2017, pp. 109~112. (in Chinese)

44 LI Yinghong and REN Xiaobo, Call from Deep Sea – Reflection on Development Status and Countermeasures of Deep Sea Technology, *Bulletin of Chinese Academy of Sciences*, No. 5, 2011, pp. 561~569. (in Chinese)

development, China has lagged far behind the advanced countries, with key technology being controlled by the latter.”⁴⁵

Third, China’s marine management system and marine legal system are not complete, resulting in its incompetence to protect its rights and interests in the distant waters or deep-sea. China has not yet established a system to manage the efforts to protect its marine rights. The lack of this established system, directly affects the progress of such efforts.⁴⁶ At present, China’s fragmented marine management system, together with the relatively low administrative ranking of its marine administrative authorities, has led to a chaotic management of oceanic affairs. All these factors directly resulted in a delicate situation where macro control is weak, but blind development and overlapping construction of projects are found everywhere in the micro field.⁴⁷ In China, many departments have functions for dealing with oceanic affairs, however, their functions, rights and responsibilities, due to the absence of a unified and coordinated management system, are considerably intertwined or overlapped. Furthermore, China does not have well-established regulations governing and protecting its activities in the Area. China in 2016, promulgated and implemented the Law of the People’s Republic of China on the Exploration and Exploitation of Resources in Deep Seabed Area, but has not yet established a complete legal system for the oceans.

3. Analysis of External Opportunities

First, the call for peace, development, cooperation and mutual benefit has become the order of the day, providing a good external environment for China to explore and exploit the Area. Since the 18th National Congress of the Communist Party of China, President XI Jinping has always proposed that China should hold high the banner of peace, development, cooperation and mutual benefit, follow the path of peaceful development, and make more positive efforts to build a new type of international relations featuring win-win cooperation.⁴⁸ On the whole, the international situation continues to develop in the direction of peace and stability. The international community is seeking development in peace and win-win

45 CHENG Zhijie, *China’s Ocean Strategy: Concept and Strategy*, *Asia-Pacific Security and Maritime Affairs*, No. 6, 2017, pp. 26–41. (in Chinese)

46 YU Zhirong, *The Imperative to Improve the Management System for Marine Rights Protection in China*, *China Ocean News*, 22 August 2014, p. 3. (in Chinese)

47 YU Sihao, *Research on Government Institutions of Marine Administration of China under Sea Power Strategy* (doctoral dissertation), Jilin: Jilin University, 2013, p. 88. (in Chinese)

48 *Pushing the Tide of Times – Peace, Development, Cooperation and Mutual Benefit*, at http://news.xinhuanet.com/politics/2016-06/02/c_129035861.htm, 16 January 2018. (in Chinese)

outcomes in cooperation. As a result of the rapid globalization of politics, economy and culture in today's world, countries are becoming more closely interconnected and interdependent. Against this backdrop, "peace, development, cooperation and mutual benefit" are, inevitably, needed in the progress of the times, and are the optimal choice of the international community. The international environment featured by peace and development, and the international consensus on win-win cooperation are favorable to China's exploration and utilization of the Area.

Second, the current international marine system has established a basically stable and effective institutional framework for the governance of oceans. The 1982 United Nations Convention on the Law of the Sea (UNCLOS), known as the contemporary "constitution of the oceans", "is the basic document that the international community relies on to address matters relating to maritime rights and interests, and to keep the oceans and the seas in order. It has established the basic framework for the use and management of the oceans by mankind."⁴⁹ The UNCLOS and the 1994 Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982 (hereinafter referred to as the "Implementation Agreement") defined the legal status of the Area. Subsequently, the ISA was set up in accordance with the two documents, with its organization structure, scope of authority and responsibility and operation mode clearly defined. The two documents also laid down comprehensive provisions regulating the activities of human beings in the Area from many angles, including law, technology, finance, exploitation system and marine environmental protection. After entering the 21st century, the ISA issued three exploration regulations,⁵⁰ which proffered a more detailed elaboration on the rules for the exploration of mineral resources in the Area. The ISA Secretary General proposed, in 2012, a Work Plan for the Formulation of Regulations for the Exploitation of Polymetallic Nodules in the Area at the 18th session of the Council of the ISA.⁵¹ In 2017, the ISA secretariat issued a Discussion Paper on the Development and Drafting of Regulations on Exploitation of Mineral Resources in

49 YANG Zewei, *International Law*, 2nd edition, Beijing: Higher Education Press, 2012, p. 174. (in Chinese)

50 The ISA has so far formulated three exploration regulations: Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area (adopted in 2000, revised in 2013), Regulations on Prospecting and Exploration for Polymetallic Sulphides in the Area (adopted in 2010), and Regulations on Prospecting and Exploration for Cobalt-rich Ferromanganese Crusts in the Area (adopted in 2012).

51 See International Seabed Authority, Work Plan for the Formulation of Regulations for the Exploitation of Polymetallic Nodules in the Area, ISBA/18/C/4, 2012, pp. 1-10.

the Area (Environmental Matters).⁵² It is important to note that, the ISA is actually quickening its step in the development of such exploitation regulations. These exploitation regulations would, without any doubt, provide institutional guarantee for the development of the Area by States. In sum, the current international marine system, led by the UNCLOS, provides conditions favorable to the exploitation of resources on the deep ocean floor.⁵³

Third, human's demand for resources and technological advances provide the impetus for large-scale commercial mining. Human's demand for the resources of the Area would evolve with the growing and insatiable nature of society. On the one hand, the reserves and categories of land-based resources would be reducing, while the grading of the resources and the density of value metal content would see a decline. All these factors would add to mining difficulty and cost. On the other hand, the rapid development of deep sea science and technology keeps reducing the exploitation cost and mining difficulty of the resources in the Area, and the mineral quality and deposits in the Area are much higher than those on the land, therefore, it is only a matter of time when the exploitation of the resources of the Area will take place.⁵⁴ Notably, the unique biological and genetic resources of the Area play an irreplaceable role in the development of human medicine and biological life science. In this context, the exploitation of seabed resources has attracted great attention from the international community, with various maritime powers developing their plans for the commercial exploitation of seabed resources.⁵⁵ All of these factors have provided momentum for the large-scale exploitation of the resources in the Area, and also a golden opportunity for China to develop such

52 See International Seabed Authority, Implementation of the Decision of the Council in 2016 Relating to the Summary Report of the Chair of the Legal and Technical Commission, ISBA/23/C/8, 2017, p. 2.

53 XIAO Hanqiang, Legal Disputes over the Development of Deep Seabed Resources and the Prospect of Their Commercial Exploitation, *High-Technology & Industrialization*, No. 2, 2009, pp. 116~119. (in Chinese)

54 James R. Hein, Kira Mizell and Andrea Koschinsky, Deep-ocean Mineral Deposits as a Source of Critical Metals for High- and Green-Technology Applications: Comparison with Land-based Resources, *Ore Geology Reviews*, Vol. 51, 2013, pp. 1~14.

55 For example, marine mining companies of countries like the UK and Canada have announced that commercial mining will begin somewhere around 2020; countries like Japan and South Korea have finalized plans to begin exploitation within ten years; in addition, the EU has begun to invest in the research and development of deep-sea mining equipment; while the US has also made an arrangement on deep-sea mining in its document *An Ocean Blueprint for the 21st Century*. See PENG Jianming and JU Chengwei, Global Governance of the Exploitation of Deep Sea Resources: the Governance Form, Regime and the Future, *Foreign Theoretical Trends*, No. 11, 2016, pp. 115~123. (in Chinese)

resources.

4. Analysis of External Threats

The first external threat comes from the increasingly fierce competition among countries caused by their high interest in the “scramble” for mining blocks.⁵⁶ The Area, in recent years, has witnessed a new round of “blue enclosure movement”. First, the applications for mining blocks have surged in number. Such applications submitted to the ISA in recent years show that countries have hastened their steps to have their share of the Area.⁵⁷ Second, the scope of the mining blocks under application extends from the Pacific Ocean to other oceans.⁵⁸ Third, the objects that the countries are scrambling for tend to be diversified. The species of mineral resources involved in these scrambles have changed from polymetallic nodules to cobalt-rich crusts and polymetallic sulphides, and from simply non-living resources to new biological and genetic resources. With the rise of the “blue enclosure movement”, on the one hand, developed countries with strong capital and technical strength would speed up their pace to explore the Area; but on the other hand, countries without exploration and mining capacity would be dissatisfied and disadvantaged. In that case, hostilities or conflicts between different groups of countries are likely to intensify. Nevertheless, the UNCLOS and other international rules or regulations cannot effectively curb the scramble by the world powers for the commons.⁵⁹ In a word, the situation above constitutes an external factor unfavorable to China.

The second external threat arises from the uncertain future of large-scale commercial exploitation of the mineral resources in the Area caused by the uncertain economic benefits of such exploitation and the unreliable market demand for such resources. Economic benefits and market demand are two key elements that should be considered when deciding whether to exploit deep seabed resources

56 CHEN Mingyi, To Actively Participate in the Exploration and Exploitation of International Seabed Mineral Resources, *Fujian Tribune*, No. 7, 2015, pp. 24~28. (in Chinese)

57 During the period between 1996 and 2010, the ISA approved a total of eight applications to explore the resources in the Area; while from 2011 to the present, it has approved 21 applications. These facts, undoubtedly, show an obvious trend. The data is sourced from the official website of the ISA, at <https://www.isa.org.jm/deep-seabed-minerals-contractors>, 27 July 2018.

58 Prior to 2011, all the mining blocks that were applied for by States were located in the Pacific Ocean. However, after 2011, such mining blocks gradually extended to the Indian and Atlantic Oceans. This conclusion is drawn from the official website of the ISA, at <https://www.isa.org.jm/deep-seabed-minerals-contractors>, 13 December 2017.

59 HAN Xueqing, Freedom, Justice and Order: Ethical Reflections of Global Commons Governance, *World Economics and Politics*, No. 1, 2017, pp. 46~73. (in Chinese)

or not.⁶⁰ That is to say, the expectation for full-scale commercial exploitation of seabed resources largely depends on the relationship between supply and demand of global resources. Scholars have different views toward this assertion. For example, some scholars believe that large-scale commercial exploitation of deep-sea polymetallic resources is likely to take place between 2020 and 2030.⁶¹ Some others argue that “[a] key driver of deep seabed mining is the underlying assumption that the demand for metals will continue to increase while the supply will peak and decline”.⁶² In fact, many factors may influence the global supply and demand of metals, resulting in the high uncertainty of supply and demand in the market. In practice, as the first batch of six contracts on exploration for polymetallic nodules expired in succession in 2015, all contractors have submitted applications for an extension. This fact seems to indicate, to some extent, that the conditions for large-scale commercial mining of seabed resources are not yet available at the moment.

The third threat comes from the difficulty to assess the risk of environmental damage, along with the increasingly stringent requirements on marine environmental protection. The call for marine environmental protection grows louder, with the emergence of global environmental problems and the deterioration of marine environment. First, the ISA has tightened its legislative requirements on marine environmental protection. According to the ISA regulations on prospecting and exploration for mineral resources in the Area and the draft regulations on exploitation of mineral resources in the Area, observing the precautionary principle, assessing environmental impacts and following best environmental practices have become prevalent and direct obligations for contractors and sponsoring States, thus placing higher requirements on them. Second, the advisory opinions rendered by the International Tribunal for the Law of the Sea (ITLOS) indicate that contractors and sponsoring States would assume stricter environmental responsibilities. In 2011, the Seabed Disputes Chamber of ITLOS issued an Advisory Opinion on

60 Rahul Sharma, *Deep-Sea Mining: Resource Potential, Technical and Environmental Considerations*, New York: Springer International Publishing, 2017, pp. 17~19.

61 ZHANG Haiqi and XIAO Hanqiang, Prospect for the Exploitation of Deep Seabed Mineral Resources and the Countermeasures, *Chinese Geology*, No. 2, 1994, pp. 15~17 (in Chinese); LIU Shaojun, YANG Baohua, LIU Chang and DAI Yu, Discuss the Right Time for Commercial Exploitation of Deep-seabed Mineral Resources from International Waters in Terms of Market, Technique and Institution, *Mining and Metallurgical Engineering*, Vol. 35, No. 4, 2015, pp. 126~129. (in Chinese)

62 Rakhyn E. Kim, Should Deep Seabed Mining Be Allowed?, *Marine Policy*, Vol. 82, 2017, pp. 134~137.

“Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area”. The Chamber chose not to adopt “common but differentiated responsibilities principle”, but held that the general provisions concerning the responsibilities and liability of the sponsoring State should apply equally to all sponsoring States, whether developing or developed. This opinion, actually, has raised the “threshold” for environmental compliance.⁶³ Thirdly, “The deep sea is the largest and least understood ecosystem on Earth”,⁶⁴ and “Activities in the Area face great difficulties and risks, *inter alia*, they may bring unpredictable impact to the deep sea environment”.⁶⁵ This therefore makes it difficult to assess the consequences of marine environmental damage. Consequently, this trend has placed larger and higher demands on China if it so engages in the activities in the area as it is likely to face greater challenges.

The fourth potential threat to China has to do with the unfavorable factors the ongoing development and reform of the Area regime may bring. The regime of the Area was rather controversial even before its inception. Confronted with the rise of the “blue enclosure movement”, the future development of the Area regime is uncertain. Since the exploitation regulations are still in the process of development, it is rather early to conclude whether their high-profile financial and taxation mechanism, environmental protection system, and sponsoring State regime will or will not be favorable to China. Additionally, the emergence of “new domains” in the Area, such as biological resources, showcases some limitations of the current international legal system of the sea.⁶⁶ A new round of legal battle on rules will, inevitably, be restaged. Another unstable factor is that the parallel system is being disturbed. “The substantive provisions on the regime for seabed resources

63 Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to activities in the Area (Request for Advisory Opinion Submitted to the Seabed Disputes Chamber), Case No. 17, Advisory Opinion, ITLOS, 2011, pp. 53~54, para. 158, at https://www.itlos.org/fileadmin/itlos/documents/cases/case_no_17/adv_op_010211.pdf, 4 June 2018.

64 Sabine Christiansen et al., Towards Transparent Governance of Deep Seabed Mining, at https://www.iass-potsdam.de/sites/default/files/files/policy_brief_transparency.pdf, 15 November 2018.

65 JIA Yu, Exploitation of Resources in the Area and the Sponsoring State Responsibility: New Developments in China’s Legislative Work concerning the Deep Sea, *China Oceans Law Review*, Vol. 2016, No. 1, pp. 11~25.

66 Sunil Kr. Agarwal, Legal Issues in the Protection of Marine Biological Diversity Beyond National Jurisdiction, *Maritime Affairs: Journal of the National Maritime Foundation of India*, Vol. 11, No. 1, 2015, pp. 84~98.

exploitation are prepared on the basis of the parallel system.”⁶⁷ However, the ISA exploration regulations tell that the parallel system has been “disturbed”, further resulting in the “erosion” of associated regime for reserved areas. Developed countries apply the joint venture system, successfully avoiding the regime for reserved areas.⁶⁸ “As technology advances and international relations evolve, the system for the exploitation of the international seabed ... would, necessarily, see further development.”⁶⁹ The path leading to a new regime for the Area will not be even; instead, age-old disagreements or differences may be laid on the table again.⁷⁰

To sum up, China has its own unique strengths and also inherent weaknesses regarding its engagement in the activities in the Area. Nevertheless, there still lies for China unprecedented opportunities, albeit encounters of fierce competition and unpredictable risks. An analysis of China’s internal strengths and weaknesses as well as its external opportunities and threats helps to bring up a reasonable, visualized, objective, and full picture of China’s strategic choices with respect to the activities in the Area. (See Table 1)

III. Using the AHP in the SWOT Analysis of China’s Participation in the Activities in the Area

The factors affecting decision making may be evaluated and matched by using the SWOT model. On this basis, AHP could be applied to establish a multi-level hierarchical structure of these factors and judge the relative weight of each factor. This method may help an organization assess its strategic alternatives in a more objective and scientific way.

67 ZHANG Yen-Chiang, *Law of the Sea*, Beijing: Tsinghua University Press, 2015, p. 266. (in Chinese)

68 ZHANG Dan, Study on Legal Regime of the International Seabed Area – Centered [on] Reserved Area and Parallel System, *Pacific Journal*, No. 3, 2014, pp. 12~18. (in Chinese)

69 YANG Zewei, Major Deficiencies of the UNCLOS and Their Improvement, *Law Review*, No. 5, 2012, pp. 57~64. (in Chinese)

70 Aline Jaeckel, Jeff A. Ardron and Kristina M. Gjerde, Sharing Benefits of the Common Heritage of Mankind – Is the Deep Seabed Mining Regime Ready?, *Marine Policy*, Vol. 70, 2016, pp. 198~204.

Table 1 Strategy Matrix for China's Participation in the Activities in the Area

<p>Opportunities (O) O1: The call for peace and development remains the order of the day; O2: The current international marine system has established a stable and effective institutional framework; O3: Human's demand for resources gives impetus to large-scale commercial exploitation of the mineral resources in the Area.</p>	<p>Strengths (S) S1: China's advantage in terms of the types and number of its approved mining blocks; S2: Rapid development of deep-sea science and technology; S3: Strong comprehensive national strength, and an obvious edge over others in terms of the social and political system.</p> <p>SO (aggressive strategy) 1. To actively engage in the activities in the Area by taking advantage of the stable international and domestic environment (S3, O1, O2); 2. To continue the rapid development momentum of deep-sea science and technology, and pave the ground for commercial exploitation of such resources (S1, S2, O3).</p>	<p>Weaknesses (W) W1: There are some problems with the mining blocks that China has obtained; W2: China's deep-sea mining technology is inferior to others; W3: China's marine management system and marine legal system are not complete.</p>
<p>Threats (T) T1: Fierce scramble for mining blocks in the Area; T2: Uncertain future for large-scale commercial exploitation of such resources; T3: Tougher requirements on marine environmental protection; T4: Unfavorable factors that the ongoing development of the Area regime may bring to China.</p>	<p>ST (diversification strategy) 1. To further enhance China's overall national strength as well as its ability to plan and manage its activities in the Area (S3, T1, T4); 2. To carefully survey, study and assess the resources and environment of the Area (S1, S2, T2, T3).</p>	<p>WO (turnaround strategy) 1. To improve China's marine legal system and establish a unified and coordinated maritime management agency with a higher administrative ranking (O2, W3); 2. To expedite the completion of the survey and evaluation of the "mining blocks" applied, and to quicken technology importation and innovation by fostering international exchanges (O3, W1, W2).</p>
	<p>WT (defensive strategy) 1. To solve the problems existing in the approved mining blocks or give up these blocks (W1, W2, W3, T2); 2. To slow down its activities in the Area (W2, W3, T1, T3, T4); 3. To learn cutting-edge technology and managerial expertise from developed countries (W2, W3).</p>	

AHP⁷¹ is a decision analytical method that combines quantitative with qualitative analysis. It is employed typically in the study of complex, multi-objective, multi-criteria, and multi-level decision-making problems, especially strategic ones.⁷² When using the AHP method to analyze strategic decision-making, it generally involves four principal steps. The first step is to establish a hierarchical structure. The first hierarchy of the structure is the overall goal, followed by factors and sub-factors. The second step is comprised of three sub-steps. The first sub-step involves the establishment of the pairwise comparison matrix for each element based on an element of the upper hierarchy. The second sub-step computes the eigenvalue and eigenvector of each sub-factor based on the pairwise comparison matrix. The third sub-step performs the consistency test. The third step is to compute the final weight of each factor with respect to its importance to the goal by using weighting method. Finally, the fourth step of the AHP method is to build a strategic quadrilateral model through the results of step 3, calculate the gravity center of the quadrilateral and select the optimal strategy.⁷³

A. Hierarchical Structure Analysis for China's Participation in the Activities in the Area

Table 2 shows the multi-indicator hierarchical structure built on the basis of the SWOT analysis for selecting the optimal strategy for China to participate in the activities in the Area.

71 Analytic Hierarchy Process (AHP) was developed in the early 1970s by Thomas L. Saaty, a Professor of Operations Research at the University of Pittsburgh. AHP is considered to be a model for combining both quantitative and qualitative analysis. Typically, users of AHP first identify the main factors affecting a problem, and then structure a hierarchical model based on the correlation or affiliation between the factors. The third step is to determine the relative importance of each factor by comparing them to each other two at a time. The fourth step is to make a comprehensive judgment to determine the ranking of the relative importance of these factors. See HAN Xiaojing, Applying the AHP method in SWOT Analysis, *Information Research*, No. 5, 2006, pp. 119~122. (in Chinese)

72 TAO Changqi and SHENG Jiliang eds., *Decision Theory and Method*, Beijing: Higher Education Press, 2016, p. 127. (in Chinese)

73 Gregory P. Prastacos, LI Hui trans., *Managerial Decision Making: Theory and Practice*, Beijing: Tsinghua University Press, 2011, pp. 104~108. (in Chinese)

Table 2 Hierarchical Structure of Factors Affecting China's Selection of Strategy to Participate in the Activities in the Area

Overall goal	Systematic hierarchies	Variable hierarchies
To identify the strategic alternatives for China to take part in the activities in the Area	Strengths (S)	<p>S1: China's advantage in terms of the types and number of its approved mining blocks; S2: Rapid development of deep-sea science and technology; S3: Strong comprehensive national strength, and an obvious edge over others in terms of the social and political system.</p>
	Weaknesses (W)	<p>W1: There are some problems with the mining blocks that China has obtained; W2: China lags in deep-sea mining technology thereby creating a wide gap between China and developed countries in this field; W3: China's marine management system and legal system for the deep sea are not complete.</p>
	Opportunities (O)	<p>O1: The call for peace and development remains the order of the day; O2: The current international marine system has established a basically stable and effective institutional framework; O3: Global demand for resources gives impetus to large-scale commercial exploitation of the mineral resources in the Area.</p>
	Threats (T)	<p>T1: Competition is increasingly fierce among countries because of their high interest in the "scramble" for seabed resources; T2: The time when the mineral resources in the Area will be exploited commercially in large scale is unpredictable, due to the uncertain economic benefits of such exploitation and the unreliable market demand for these resources; T3: Tougher requirements on marine environmental protection may possibly constrain the deployment of the activities in the Area; T4: The ongoing reform of the Area regime may bring factors unfavorable to China.</p>

B. Determination of the Relative Importance of Each Factor and Calculation of the Eigenvector of the Comparison Matrix

AHP scale of importance, being an essential method used in the AHP model, is also an important approach to quantifying judgment. Professor T. L. Saaty compared this method with other scale methods, and conducted a lot of simulation experiments, proving that this method is more effective in quantifying thinking judgment.⁷⁴ Therefore, a pairwise comparison judgment matrix A for a group of elements (see Table 4) can be constructed by comparing the four groups of SWOT elements in pairs and quantifying the relative importance of every two elements according to Table 3. The strength group would be taken as an example in this paper.

Table 3 AHP Scale of Importance for Comparison Pairs

Scale	Definition (Factors i & j)
1	Equal importance
3	Weak importance of factor i over factor j
5	Moderate importance of factor i over factor j
7	Very strong importance of factor i over factor j
9	Absolute importance of factor i over factor j
2, 4, 6, 8	Intermediate values between the two adjacent judgments
Reciprocals	If factor i has a assigned to it when compared to factor j , then j has the reciprocal value ($1/a$) when compared to i .

Table 4 Pairwise Comparison Judgment Matrix A for the Factors of the Strength Group

S	S1	S2	S3
S1	1	1/3	1/5
S2	3	1	1/2
S3	5	2	1

(Remark: the relative importance of each sub-factor of each group in pairwise comparisons was determined by processing the data collected from a group of experts)

Judgment matrix A' was obtained by normalizing the columns of the strength group matrix:

⁷⁴ TAO Changqi ed., *Decision Theory and Method*, Beijing: China Renmin University Press, 2010, pp. 114~115. (in Chinese)

$$A' = \begin{pmatrix} 1 & \frac{1}{3} & \frac{1}{5} \\ \frac{1}{1+\frac{1}{3}+\frac{1}{5}} & \frac{1}{1+\frac{1}{3}+\frac{1}{5}} & \frac{1}{1+\frac{1}{3}+\frac{1}{5}} \\ 3 & 1 & \frac{1}{2} \\ \frac{3}{3+1+\frac{1}{2}} & \frac{1}{3+1+\frac{1}{2}} & \frac{1}{3+1+\frac{1}{2}} \\ 5 & 2 & 1 \\ \frac{5}{5+2+1} & \frac{2}{5+2+1} & \frac{1}{5+2+1} \end{pmatrix} = \begin{pmatrix} 0.110 & 0.100 & 0.118 \\ 0.333 & 0.300 & 0.294 \\ 0.556 & 0.600 & 0.588 \end{pmatrix}$$

Table 5 Judgment Matrix A' Obtained after Normalizing the Columns of the Strength Group Matrix

S	S1	S2	S3
S1	0.111	0.100	0.118
S2	0.333	0.300	0.294
S3	0.556	0.600	0.588

The eigenvector of the comparison matrix of the strength group can be obtained by adding the judgment values in each row after column normalization. And the eigenvector provides the priority ordering (weight) of each indicator: $G = [0.110, 0.309, 0.581]^T$. The eigenvalue of the comparison matrix of the strength group is calculated as follows:

$$AG = \begin{bmatrix} 1 & 1/3 & 1/5 \\ 3 & 1 & 1/2 \\ 5 & 2 & 1 \end{bmatrix} [0.110, 0.309, 0.581]^T$$

$$AG_1 = 1 \times 0.110 + \frac{1}{3} \times 0.309 + \frac{1}{5} \times 0.581 = 0.329;$$

$$AG_2 = 3 \times 0.110 + 1 \times 0.309 + \frac{1}{2} \times 0.581 = 0.930;$$

$$AG_3 = 5 \times 0.110 + 2 \times 0.309 + 1 \times 0.581 = 1.749;$$

We then calculate the maximum eigenvalue for the matrix,

$$\lambda_{\max} = \sum_{i=1}^3 \frac{(AG)_i}{nGi} = \frac{(AG)1}{3G1} + \frac{(AG)2}{3G2} + \frac{(AG)3}{3G3} = 3.00365$$

C. Consistency Test for Each Group of Factors

The consistency index (CI) is calculated as follows: $CI = \frac{(\lambda_{\max} - n)}{(n-1)} = \frac{3.00365 - 3}{3 - 1} = 0.0018$. According to the average random consistency index at the same level shown in Table 6, the random index (RI) for level 3 is 0.58. The consistency ratio (CR) = $\frac{CI}{RI} = \frac{0.0018}{0.58} = 0.003 < 0.1$. This result indicates that the judgment matrix has an acceptable consistency.

Table 6 Average Random Consistency Index

n	3	4	5	6	7	8	9
RI	0.58	0.89	1.12	1.26	1.36	1.41	1.46

The pairwise comparison matrices for the weakness group, the opportunity group and the threat group could be drawn in the same way. The mean vector, maximum eigenvalue, and the results of consistency check for each group are shown, upon calculation, in the following tables:

Table 7 Comparison Judgment Matrix for the Weakness Group

W	W1	W2	W3	G	Consistency check
W1	1	1/3	2/3	0.185	$\lambda_{\max}=3.0045,$ $CR=0.0039 < 0.1$
W2	3	1	5/3	0.520	
W3	3/2	3/5	1	0.295	

Table 8 Comparison Judgment Matrix for the Opportunity Group

O	O1	O2	O3	G	Consistency check
O1	1	3	4	0.608	$\lambda_{\max}=3.0742$ $CR=0.064 < 0.1$
O2	1/3	1	3	0.272	
O3	1/4	1/3	1	0.120	

Table 9 Comparison Judgment Matrix for the Threat Group

T	T1	T2	T3	T4	G	Consistency check
T1	1	1/2	2/5	2	0.173	$\lambda_{\max}=4.0011,$ $CR=0.004<0.1$
T2	2	1	2/3	3	0.305	
T3	5/2	3/2	1	4	0.424	
T4	1/2	1/3	1/4	1	0.098	

D. Building of a Strategic Quadrilateral Model for China’s Participation in the Activities in the Area through Calculating the Total Strength of Each Factor

The total strength of each factor is the sum of the strength of each sub-factor, and the strength of each sub-factor is determined by its weight and intensity.

Table 10 Strength Calculation of Each Factor

Factor	Total strength (Σ)	Sub-factor	Weight (G)	Intensity	Strength
S	$\Sigma S=8.052$	S1	0.110	6	0.660
		S2	0.309	7	2.163
		S3	0.581	9	5.229
W	$\Sigma W=-7.855$	W1	0.185	-6	-1.110
		W2	0.520	-9	-4.680
		W3	0.295	-7	-2.065
O	$\Sigma O=7.608$	O1	0.608	8	4.864
		O2	0.272	7	1.904
		O3	0.120	7	0.840
T	$\Sigma T=-6.923$	T1	0.173	-7	-1.211
		T2	0.305	-6	-1.830
		T3	0.424	-8	-3.392
		T4	0.098	-5	-0.490

(Remark: the intensity of each sub-factor in Table 10 is obtained by averaging the scores given by experts. Among them, the intensities for weakness and threat are represented by negative values, and those for strength and opportunity are represented by positive values. The greater the absolute value is, the greater the intensity is.)

E. China’s Choice of Strategy to Participate in the Activities in the Area

The coordinates of total strengths of the factor strength (ΣS), weakness (ΣW),

opportunity (ΣO), and threat (ΣT) are drawn in the two-dimensional quadrantal coordinate system of SWOT model. Based on that, a strategic quadrilateral is created to facilitate China to select a optimal strategy to participate in the activities in the Area. (See Fig. 2)

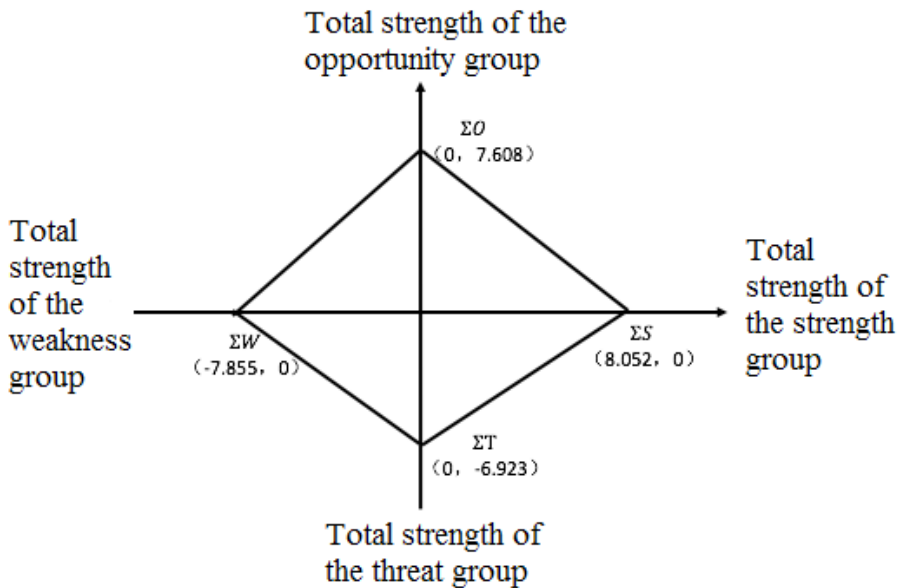


Fig. 2 Strategic Quadrilateral Facilitating China to Choose Its Strategy to Participate in the Activities in the Area

The strategic quadrilateral built on the basis of SWOT analysis reflects, comprehensively, the four major factors affecting China's ability to participate in the activities in the Area, which can provide reference for China when it tries to choose a strategy to participate in such activities. The quadrant of the gravity center of the strategic quadrilateral corresponds to the strategy China should select to engage in the activities in the Area. It is not difficult to figure out that the coordinates of the gravity center $P(0.025, 0.086)$ are located at the first quadrant. In that case, China should adopt an SO strategy (aggressive strategy) to participate in the activities in the Area.

IV. Conclusions and Recommendations

A. Conclusions

After applying the SWOT-AHP model to analyze the internal strengths and weaknesses, and external opportunities and threats of China when it participates in the activities in the Area, the paper builds a strategic quadrilateral for China. Based on the analysis above, the paper then comes to the following conclusions.

First, China may, on the whole, adopt an SO strategy (aggressive strategy) to participate in the activities in the Area at the current stage. The overall environment is relatively favorable to China. The SWOT-AHP analysis shows that the gravity center P (0.025, 0.086) of the strategic quadrilateral, with regard to China's participation in the activities in the Area, is located at the first quadrant. It means that China's strengths and opportunities outweigh its weaknesses and threats, and therefore the overall environment is suitable for China to participate in the activities in the Area. The numerical values of the coordinates of the gravity center P (0.025, 0.086), however, indicate that China's strengths and opportunities only slightly outweigh its weaknesses and threats. Hence, China should not ignore its weaknesses and threats when it plans and manages its activities in the Area.

Second, prominent factors can be identified as strengths, weaknesses, opportunities and threats of China affecting its ability to participate in the activities in the Area. In this respect, China's greatest strength comes from S3 (i.e., the steady rise of its comprehensive national strength, and its obvious edge over others in terms of social and political system). This indicates that strong comprehensive national strength effectively ensures China's speeding up of its pace to manage its activities in the Area. China's biggest internal weakness is W2 (i.e., the inferiority of its deep-sea mining technology), which means that China's inferior deep-sea technology is its "shortest staff" affecting its ability to participate in the activities in the Area. China's biggest external opportunity is O3 (the call for peace, development, cooperation and mutual benefit has become the order of the day), meaning that a peaceful and stable international environment provides the external guarantee for China to participate in such activities. Among all the external threats, two sub-factors, namely T3 (the difficulty to assess the risk of marine environmental damage, along with the increasingly stringent requirements on marine environmental protection), and T2 (uncertain future of large-scale commercial exploitation of the mineral resources in the Area caused by the uncertain economic benefits of such exploitation and the unreliable market demand for such resources), have more weightiness than others. This fact indicates that the pressure of marine environmental protection and the uncertain future of large-scale commercial exploitation pose a challenge to China and its engagement in the

activities in the Area.

Third, a country's ability to plan and manage its activities in the Area is, in essence, ultimately determined by its overall national strength. The Area is a new frontier of the commons that has not been fully explored by human beings. To participate in the activities in the Area, a country is required to have a high scientific and technological level, strong financial strength and obvious institutional advantages. Currently, the call for peace, development, cooperation and mutual benefit has become the order of the day, with basically stable and effective international marine system put in place. The two factors provide an environment favorable to each country to explore and exploit the Area. Nevertheless, without strong comprehensive national strength, advanced deep-sea technology and marine scientific research, sufficient funds and risk bearing capacity, or stable political system, the plan to explore and exploit the Area could only be "a mare's nest".

B. Recommendations

First, China should pay more attention to designing an overall plan for its activities in the Area. Human exploration of the Area is still in its infancy. Predictably, with the continuous discovery of the value of the Area, the Area would inevitably witness more and more activities conducted by countries around the world. Against this backdrop, China should plan ahead and speed up its pace to make the overall arrangement for its activities in the Area. Specifically, China should do a good job in three aspects:

(a) China should promote the development of its deep-sea exploration and exploitation technology, marine research and environmental protection in a harmonious way. The conduct of the activities in the Area is preconditioned on the improvement of exploration technology; exploitation technology is crucial to the deployment of such activities; marine scientific research paves the way for such activities; and while carrying out these activities, the bottom line is that the environment should be well protected. Since "cannikin law" is applicable in this

case,⁷⁵ only the coordinated development of the four elements above can maximize the overall benefits that the activities in the Area may bring to China;

(b) China should boost the coordinated development of its marine legal system and marine management system. The legal system provides the legal basis and institutional guarantee for China to participate in the activities in the Area, while the management system is responsible for supervising and managing China's implementation of such activities. The two complement each other and neither is dispensable.

(c) China should enhance coordinated development of research and exploitation of various resources within the Area. The Area has attracted wide attention due to its impressive containment of mineral resources; however, in recent years, the value of its biological resources, microbial resources and genetic resources has also been gradually recognized. Therefore, all categories of resources should be studied and explored in line with an overall plan and in a coordinated manner.

Second, in the process of planning and managing its activities in the Area, China should develop and leverage its internal strengths, reduce its weaknesses, actively exploit external development opportunities, predict and counteract its external threats in advance, and speed up its pace to participate in the activities in the Area. On the one hand, China should maintain the steady growth of its comprehensive national strength, adhere to the principle of peaceful use and development of the Area, and actively join in global governance efforts directed toward ocean issues. On the other hand, China should lengthen its "shortest stave" in time, increase investment in deep-sea research and technology, and narrow its technological gap with developed States with the least delay possible. In addition, China should enhance, both from the legal and technical perspectives, its study on marine environmental protection, and scientifically and objectively evaluate and predict the economic benefits of and the market demands for the resources in the Area. It should also strive for a greater voice in the global arena, so as to facilitate its engagement in the activities in the Area.

75 The "cannikin law" is also known as the barrel theory. This theory instructively demonstrates that in a barrel, with staves of unequal length, the capacity of the barrel, representing the overall strength and competitiveness of an organization, is determined by the shortest stave, and not the longest. This is also true for the growth of any organization. In an organization with strengths and weaknesses, the overall performance of the organization is often decided by its weaknesses. Only when all parts of an organization develop together in constant equilibrium, can its overall strength and competitiveness be improved.

Last but not least, when planning and conducting activities in the Area, China should watch its pace, but not rush for quick profits. Given their limited scientific and technological capacity, human beings do not have sufficient knowledge about the Area. In this regard, there is still a long way to go in appreciating and appraising the Area and its activities. As mentioned above, Exploitation Regulations, a precondition for large-scale commercial exploitation of the mineral resources in the Area, are still being formulated. At present, countries and stakeholders are fighting fiercely for their own interests on the formulation of regulations. Since the fight is not over,⁷⁶ it is uncertain when the Exploitation Regulations will be issued. China should join further in the efforts to formulate the Exploitation Regulations, if it seeks to make its voice heard in the arena of deep-sea mining. Additionally, large-scale commercial exploitation of resources in the Area is, necessarily, decided by economic benefits and market demand; as the global metal market is affected by many factors, the prospect of such exploitation requires further evaluation. Meanwhile, with China's rather insufficient research on the ecosystem and marine environmental protection in the Area, there still lies high risk of causing environmental damages. Keeping these facts in mind, the author asserts that China should not be too hasty while participating in the activities in the Area.

Translator: XIE Hongyue

Editor (English): Godfred Sowah Khartey

76 HE Zongyu, LIN Jinggao, YANG Baohua and LIU Shaojun, The Progress and Viewpoints on the Development of the Regulations for Mineral Exploitation in the Area, *Pacific Journal*, No. 10, 2016, pp. 9~17. (in Chinese)

论 BBNJ 协定与《南极条约》体系的协调

李敬昌*

内容摘要:《南极条约》体系适用于南纬 60 度以南的陆地与海洋,《联合国海洋法公约》(以下简称“《公约》”)适用于全球的海洋,以其为基础的一系列条约组成的《公约》体系同样如此。因此,南纬 60 度以南的海域将受到 2 个条约体系的同时约束。在《南极条约》体系内,《南极海洋生物资源养护公约》及根据该公约所建立的南极海洋生物资源养护委员会已针对公海保护区及 IUU 捕捞等问题采取相应措施;此外,南极条约协商会议已经在 2002 年注意到南极陆地与海洋生物遗传资源的利用,相关的立法工作也已在该协商会议框架下启动。这些问题也是《公约》体系内国家管辖范围以外区域海洋生物多样性养护和可持续利用协定(以下简称“BBNJ 协定”)的核心内容。有关 BBNJ 协定的国际立法工作目前正如火如荼地进行,各国代表们应注意到上述现象,并应对该协定与《南极条约》体系的协调进行探讨,以为将来 BBNJ 协定在南极海域的适用打下基础。

关键词: BBNJ 协定 《南极条约》体系 协调

一、问题的产生

2003 年 5 月 22 日,荷兰代表团在联合国关于海洋和海洋法开放性非正式磋商程序第四次会议上提交了名为《保护和保育国家管辖范围以外脆弱海洋生态系统的需要》的报告,该报告主要关注国家管辖范围以外深海海床的海洋遗传资源,¹引起国际社会广泛关注。2004 年 11 月 17 日,依据联合国大会第 59/24 号决议第 73 段,²国家管辖范围以外海洋生物多样性的养护和可持续利用的临时开放性非正式工作组(以下简称“临时工作小组”)正式建立。依据联合国大会 2005 年 11

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1 The need to protect and conserve vulnerable marine ecosystems in areas beyond national jurisdiction, United Nations General Assembly, A/AC.259/8, 22 May 2003, paras. 16~18.

2 Resolution adopted by the General Assembly on 17 November 2004 [without reference to a Main Committee (A/59/L.22 and Add.1)]: Oceans and the law of the sea, United Nations General Assembly, A/RES/59/24, para.73.

月29日第60/30号决议第79~80段及2006年12月20日第61/222号决议第91段,³第一次临时工作小组会议于2008年4月28日至5月2日在纽约召开,并于2008年5月15日向第63届联合国大会提交会议成果。⁴2011年6月30日,临时工作小组向联合国大会提出建议,指出“联合国大会应当创建一个程序,通过找出差距和努力方向,包括落实现有文件,以及依据《联合国海洋法公约》制定多边协议,确保规制国家管辖范围以外海洋生物多样性的养护和可持续利用的法律框架能够有效解决这些问题”。⁵依据联合国大会2015年6月19日决议,“将针对国家管辖范围外区域海洋生物多样性的养护和可持续利用,依据《联合国海洋法公约》制定一项具有法律拘束力的国际文件”,⁶并成立“文件草案筹备委员会”(以下简称“筹备委员会”),筹备委员会将“于2016年开始工作,2017年底向联合国大会报告工作进展”。⁷2016年3月28日至4月8日、2016年8月26日至9月9日、2017年3月27日至4月7日、2017年7月10日至21日,筹备委员会分别召开会议,并在第四次工作会议发布《具有法律约束力的国际文书草案要素的精简非正式文件》。⁸BBNJ领域的国际立法工作正如火如荼地进行,并将最终产生以《联合国海洋法公约》(以下简称“《公约》”)为基础的BBNJ协定。

《公约》是一个“全球性公约,适用于所有的海域,没有任何海域可以被排除

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- 3 Resolution adopted by the General Assembly on 29 November 2005 [without reference to a Main Committee (A/60/L.22 and Add.1)]: Oceans and the law of the sea, United Nations General Assembly, paras. 79~80; Resolution adopted by the General Assembly on 20 December 2006 [without reference to a Main Committee (A/61/L.30 and Add.1)]: Oceans and the law of the sea, United Nations General Assembly, para. 91.
 - 4 Letter dated 15 May 2008 from the Co-Chairpersons of the Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction addressed to the President of the General Assembly, United Nations General Assembly, A/63/79.
 - 5 Letter dated 30 June 2011 from the Co-Chairs of the Ad Hoc Open-ended Informal Working Group to the President of the General Assembly: Recommendations of the Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction and Co-Chairs' summary of discussions, United Nations General Assembly, A/66/119, para. I(1)(a).
 - 6 Resolution adopted by the General Assembly on 19 June 2015 [without reference to a Main Committee (A/69/L.65 and Add.1)]: Development of an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, United Nations General Assembly, A/RES/69/292, p. 1.
 - 7 Resolution adopted by the General Assembly on 19 June 2015 [without reference to a Main Committee (A/69/L.65 and Add.1)]: Development of an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, United Nations General Assembly, A/RES/69/292.
 - 8 At <http://www.un.org/depts/los/biodiversity/prepcom.htm>, 1 July 2018.

在《公约》的适用范围之外。因此,《公约》同样适用于南大洋”。⁹《执行 1982 年 12 月 10 日〈联合国海洋法公约〉有关养护和管理跨界鱼类种群和高度洄游鱼类种群的规定协定》《关于执行 1982 年 12 月 10 日〈联合国海洋法公约〉第十一部分的协定》,以及即将产生的 BBNJ 协定都是以《公约》为基础,是《公约》的执行协定,在其地理适用范围没有特殊规定的情况下,我们有理由认为,这些以《公约》为基础的一系列条约所组成的《公约》体系与《公约》一样,¹⁰ 同样适用于南极海域。

依据《南极条约》第 6 条,其适用于南纬 60° 以南的海域,尽管该条同时规定了其不影响南纬 60° 以南公海的国际法律地位,但依据《南极条约》第 4 条,南极大陆的领土主权争议被搁置,基于《公约》陆地统领海洋的基本原则,陆地领土主权在南极大陆是否存在尚有争议,南纬 60° 以南公海的确切范围也就变得无法明确。虽然南极海域中公海的范围并不明确,但这并不影响南极海域中公海及“区域”的存在。《南极条约》第 6 条的规定表明《南极条约》承认南极海域中公海的存在,否则便没有规定与公海关系的必要。以《公约》为基础的 BBNJ 协定旨在养护公海及“区域”的生物资源并保护其赖以生存的海洋环境,南极同样存在公海及“区域”,因此即将产生的 BBNJ 协定同样适用于南极。但以《南极条约》为基础,在南极条约协商会议框架下通过的一系列条约,如《南极海豹保护公约》《南极海洋生物资源养护公约》(以下简称“《养护公约》”)《关于环境保护的〈南极条约〉议定书》(以下简称“《议定书》”)等,已对南极的海洋生物资源及其赖以生存的海洋环境的养护和保护进行规范,其适用于南极所有的海域,包括南极的公海及“区域”。因此, BBNJ 协定在南极所要规范的海洋区域及海洋事务,《南极条约》体系已经正在规范,南极公海及“区域”将受到 BBNJ 协定及《南极条约》体系的同

9 Report of the Secretary-General: Question of Antarctica, United Nations General Assembly, Doc. A/41/722, 17 November 1986, para. 115.

10 许多中外学者的文章都出现了“《公约》体系”这一表述,例如,潘晓琳:《〈联合国海洋法公约〉体系下的国际海洋争端解决机制》,载于《兰州大学学报(社会科学版)》2014 年第 6 期;冯旭:《海平面上升对〈联合国海洋法公约〉体系下海洋军事活动的影响》,载于《国际法研究》2017 年第 5 期;陈力:《论南极海域的法律地位》,载于《复旦学报(社会科学版)》2014 年第 5 期; Mary Lynn Canmann, A Review of the Application of the Antarctic Treaty and the New Law of the Sea to the Antarctic, *Colorado Journal of International Environmental Law and Policy*, Vol. 1, 1990, p. 211; Allan Young, Antarctic Resource Jurisdiction and the Law of the Sea: A Question of Compromise, *Brooklyn Journal of International Law*, 1985, pp. 45~78; Patrizia Vigni, The Interaction between the Antarctic Treaty System and the Other Relevant Conventions Applicable to the Antarctic Area, *Max Plank Yearbook of United Nations Law*, Vol. 4, 2000, pp. 481~542; Christopher C. Joyner, The Antarctic Treaty System and the Law of the Sea—Competing Regime in the Southern Ocean?, *International Journal of Marine and Coastal Law*, Vol. 10, Issue 2, 1995, pp. 301~332. 在这些学者的讨论中,《公约》体系是指以《公约》为基础的一系列条约所形成的框架体系,包括《执行 1982 年 12 月 10 日〈联合国海洋法公约〉有关养护和管理跨界鱼类种群和高度洄游鱼类种群的规定协定》《关于执行 1982 年 12 月 10 日〈联合国海洋法公约〉第十一部分的协定》,笔者对此表示赞同。

时约束。不仅如此,鉴于南极极其脆弱的自然环境及要求对其进行严格保护的
国际政治环境,《南极条约》体系对南极海域中生物资源养护和海洋环境保护所采取
的标准,极有可能将与 BBNJ 协定所采取的标准产生差异。

因此,各国代表们应当注意到南极范围内公海及“区域”的存在,并应认识到
在 BBNJ 所规范的核心议题上,《南极条约》体系已经通过各项条约及采取相关
措施的事实,在 BBNJ 协定的立法工作中,对 BBNJ 协定与《南极条约》体系的协
调进行讨论。

二、协调的必要性

上文已提及,以《公约》为基础的 BBNJ 协定适用于全球所有海洋,南极海域
也不例外。但一方面, BBNJ 协定在南极海域的适用将会导致南极领土主权争议
这一传统问题的出现,威胁《南极条约》体系的基础;另一方面,《南极条约》体系
已经发展成为治理南极陆地与海洋事务的正当权威,并已经对 BBNJ 的核心议题
进行了规范, BBNJ 协定在南极的适用将受到挑战。因此,在 BBNJ 协定的订立
过程中,有必要对其与《南极条约》体系的协调进行讨论。

(一) BBNJ 协定在南极的适用将引发对领土主权争议的关切

19 世纪末 20 世纪初,资本主义进入垄断阶段后,掀起了瓜分世界的狂潮,南
极的陆地也成为瓜分对象,先后有英国、新西兰、澳大利亚、法国、挪威、智利、阿
根廷等 7 国对南极 83% 的陆地提出了领土主权要求,¹¹当时的超级大国苏联和
美国尽管没有明确对南极提出领土主权主张,但宣布保留对南极主张领土主权的权
利及其在南极的重大利益,“这些国家的主权要求或保留态度彼此之间不能平衡,
甚至还互相冲突,各国在南极洲的关系变得越来越紧张”。¹²1947 年美国杜鲁门
主义的出台标志“冷战时期”的到来,以美苏为首的两大阵营在全世界范围内展开

11 胡德坤、唐静瑶:《南极领土争端与〈南极条约〉的缔结》,载于《武汉大学学报(人文
社科版)》2010 年第 1 期。

12 胡德坤、唐静瑶:《南极领土争端与〈南极条约〉的缔结》,载于《武汉大学学报(人文
社科版)》2010 年第 1 期。

了对抗, 南极也不例外,¹³ 导致南极的国际关系局势更加紧绷。但 1957—1958 年国际地球物理年间, 各国纷纷以和平姿态在南极开展科学研究并进行合作, “许多国家从这一由国际地球物理年所产生的国际合作中获益, 并强烈地渴望看到这种合作得以继续”。¹⁴ 在此背景下, 为了南极的和平, 也为使科学研究在南极得以继续, 各国同意搁置领土主权争议, 在“同意争议存在”的基础上, 冻结各国在南极的领土主权主张, 达成《南极条约》。因此, 领土主权争议是《南极条约》及以其为基础的《南极条约》体系的核心内容。

这一解决方式堪称创举, 然而该创举也并非完美, 因为它并未从根本上解决问题, 且这一留给后世解决的办法, 致使许多议题在涉及南极时, 总需要对其进行谨慎细致地解读、处理, 谨防危害南极的和平、稳定。海域的划分便是其中之一。

从 1958 年日内瓦四公约(《领海与毗连区公约》《公海公约》《大陆架公约》《捕鱼与养护公海生物资源公约》)到 1982 年《公约》, 国际海洋法不断发展, 全球海域的划分不断变化, 国家管辖内海域不断扩张, 公海不断缩小, 但不变的是“陆地统领海洋”始终是国际海洋法的基石。依据《南极条约》第 4 条, 各相关国家在南极的领土主权争议被搁置,¹⁵ 从而形成所谓“双焦点主义”这一南极领土主权争议处理方法, 以避免领土主权争议恶化, 促进南极科学研究的开展。但值得注意的是, 这一方法使得南极领土主张国(以下简称“主张国”)和非主张国(以下简称“非主张国”)都认为《南极条约》支持了他们的领土主权主张。而南极海域中蕴藏的丰富渔业、油气及矿物资源, 以及这些资源所蕴含的重要战略意义, 也促使主张国和非主张国以各自利益为基础对南极的海域划分进行解读。依据“陆地统领海洋”

13 胡德坤、唐静瑶:《南极领土争端与〈南极条约〉的缔结》, 载于《武汉大学学报(人文社科版)》2010 年第 1 期。1955 年 7 月, 在国际地球物理年的第一次准备会议上, 苏联宣布将在南极建立 3 个科学考察站。随后, 美国国防部紧急要求海军部门派出特遣队对苏联将要建立考察站的地方首先考察, 以便预测苏联的走向。1957 年 8 月 21 日, 苏联试射成功世界上第一枚洲际导弹——SS-6 洲际弹道导弹, 同年 10 月 4 日, 又成功地发射了第一颗人造地球卫星, 这引起了南半球各国的担心。美国政府制定了 1956-1957 年间的第二号南极计划——“深冻行动”, 目标是保证南极洲控制在美国和盟国的手中。苏联又借 1957-1958 年国际地球物理年的机会, 参与了大量的科学考察工作, 并决定将其在国际地球物理年中的基地和考察站转变成长期考察站, 还宣布了全方位的长期南极计划, 拟在南极使用原子能、发射人造卫星等。

14 Marcus Haward, *The Law of the Sea Convention and the Antarctic Treaty System: Constraints or Complementarities?*, in Seoung-Yong Hong and Jon M. Van Dyke eds., *Maritime Boundary Disputes, Settlement Processes, and the Law of the Sea*, Boston: Martinus Nijhoff Publishers, 2009, p. 237.

15 《南极条约》第 4 条: 1. 本条约的任何规定不得解释为:(a) 缔约任何一方放弃在南极原来所主张的领土主权权利或领土的要求;(b) 缔约任何一方全部或部分放弃由于它在南极的活动或由于它的国民在南极的活动或其它原因而构成的对南极领土主权的任何根据;(c) 损害缔约任何一方关于它承认或否认任何其它国家在南极的领土主权的要求或要求的根据和立场。2. 在本条约有效期间所发生的一切行为或活动, 不得构成主张、支持或否定对南极的领土主权要求的基础, 也不得创立在南极的任何主权权利。在本条约有效期间, 对在南极的领土主权不得提出新的要求或扩大现有的要求。

这一基本原则,所有海域都以领海基线为基础,领海基线又以存在陆地领土主权为基础。因此,对于南极海域,非主张国认为南纬 60° 以南所有海域都是公海,而主张国则认为“《南极条约》不会影响已经预先存在的领土主权主张,亦不影响已经预先存在的领土主权主张的结果”,¹⁶即主张国认为南纬 60° 以南海域除去领海、毗连区、专属经济区后才是公海。

据不完全统计,目前已经提出“领海”声明的有澳大利亚、新西兰、法国、英国、阿根廷以及智利等国家;挪威保留做出声明的权利;提出“毗连区”声明的国家包括澳大利亚、新西兰、法国、阿根廷以及智利;向大陆架划界委员会提出 200 海里外大陆架划界案的国家包括澳大利亚、英国与挪威,新西兰提出保留南极领土外大陆架划界权利。¹⁷

根据上文可知,因“冻结原则”搁置了 50 余年的南极主权之争,开始从南极大陆转向更具战略与资源意义的南大洋。¹⁸

BBNJ 协定关注国家管辖范围以外区域(即公海和“区域”)海洋生物资源及其赖以生存的海洋环境,其背后原因是基于“公地悲剧”的理论,为了全人类的共同利益,希望对没有任何国家管辖的“公地”中的海洋生物资源及其赖以生存的海洋环境进行养护和保护。因此,BBNJ 协定的重要特征为:它适用的地理范围是国家管辖外的公海和“区域”。当 BBNJ 协定适用于南极海域时,其适用的地理范围应为南极海域中的公海及“区域”,但关于南极海域中的公海及“区域”,如上文所述,主张国和非主张国存在争议。一国主张拥有主权及主权权利的海域的基础是陆地领土主权,倘若确定了领海、专属经济区等主权及主权权利海域的存在,则意味着已事先确定了陆地领土主权的存在。如果 BBNJ 协定适用于南极所有海域,则意味着 BBNJ 协定认为南极不存在一国拥有主权及主权权利的海域,亦即其认为南极不存在陆地领土主权,支持了非主张国的主张;如果适用于南极部分海域(即国家管辖外海域),则意味着 BBNJ 协定认为南极存在一国拥有主权及主权权利的海域,亦即其认为南极存在陆地领土主权,支持了主张国的主张。如此,无论 BBNJ 协定怎样适用于南极海域,基于其适用于国家管辖外的公海及“区域”的重要特征,都将引发《南极条约》及《南极条约》体系的核心问题:领土主权争议。因此,为避免引发领土主权争议,应对 BBNJ 协定在南极海域适用时与《南极条约》及《南极条约》体系中其他各相关条约的协调进行讨论,以确保 BBNJ 协定的完整性及维护南极的和平、稳定。

16 Ralph L. Harry, *The Antarctic Regime and the Law of the Sea: An Australian's View*, *Virginia Journal of International Law*, Vol. 21, Issue 4, 1981, p. 734.

17 陈力:《论南极海域的法律地位》,载于《复旦学报(社会科学版)》2014 年第 5 期。

18 陈力:《论南极海域的法律地位》,载于《复旦学报(社会科学版)》2014 年第 5 期。

(二)《南极条约》体系在南极已对 BBNJ 核心议题进行规范

BBNJ 协定关注公海和“区域”中海洋生物资源及其赖以生存的海洋环境的养护和保护,依据联合国大会第 A/RES/69/292 号决议,¹⁹ BBNJ 协定将包括以下内容:“基因资源(包括惠益分享问题)、以区域为基础的管理工具措施(包括海洋保护区)、环境影响评估、能力建设和海洋技术的转移”。²⁰同时,非法的、未经报告的、未受管制的渔业捕捞(以下简称“IUU 捕捞”)问题也得到了与会代表的热烈讨论。南极同样存在公海和“区域”,且在《南极条约》体系内早已注意到了这些问题。

《养护公约》于 1980 年 5 月 20 日通过,并于 1982 年 4 月 7 日生效。依据其序言第 1 段及第 1 条第 1 款,在“承认保护南极周围海域环境和生态系统完整性重要意义”的前提下,其“适用于南纬 60° 以南区域及该纬度与构成部分南极海洋生态系统的南极辐合带之间区域的南极海洋生物资源”。因此,《养护公约》旨在保护南极海域的生物资源及其生态系统,并适用于南纬 60° 以南区域及该纬度与南极辐合带之间的区域,在南极海域这一地理范围内, BBNJ 协定的宗旨与其相同。值得注意的是,依据《养护公约》成立的南极海洋生物资源养护委员会(以下简称“南极委员会”)已对 IUU 捕捞、公海保护区等问题进行了规范。

“南奥克尼群岛南大陆架海洋保护区”在南极委员会第 28 届年会上由英国提出并获得支持,后于 2010 年 5 月正式建立,成为世界上第一个完全位于公海(国家管辖范围以外)的海洋保护区。因此,在国家管辖范围以外海洋保护区方面,《南极条约》体系是先进并具有经验的。“作为南极海洋生物资源养护的措施或手段之一,保护区制度虽然形成较晚,但已成为当前《养护公约》机制内的焦点与前沿问题”。²¹2011 年,南极委员会通过了《关于建立南极委员会海洋保护区的总体框架》,在其序言第 1 段规定南极海洋保护区的设立目标是“养护公约海域的海洋生物多样性”。

IUU 一词最早出现在南极委员会的会议议程上,主要是针对南极犬牙鱼的非法捕捞。²²针对南极海域的 IUU 捕捞,南极委员会制定了许多措施,例如,南极委

19 Resolution adopted by the General Assembly on 19 June 2015 [without reference to a Main Committee (A/69/L.65 and Add.1)]: Development of an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, United Nations General Assembly, A/RES/69/292.

20 筹备委员会目前的讨论,仍然是关注上述几个方面, at <http://www.un.org/depts/los/biodiversity/prepcom.htm>, 1 July 2018.

21 陈力:《论南极海域的法律地位》,载于《复旦学报(社会科学版)》2014 年第 5 期。

22 David J. Douman, *Illegal, Unreported and Unregulated Fishing: Mandate for an International Plan of Action*, para. 38, at <http://www.fao.org/docrep/005/Y3274E/y3274e06.htm>, 1 July 2018.

员会于 1999 年制定并于 2000 年 5 月实施了“捕获文件计划”。在捕获文件计划制度下,《养护公约》成员国需要采取措施以确定进口到本国或从本国出口的南极犬牙鱼的来源,以明确这些南极犬牙鱼是否捕获于《养护公约》适用区域。如果船舶所载的南极犬牙鱼确实捕获于《养护公约》适用区域,则要判断这种捕捞行为是否违反了《养护公约》制定的养护措施。²³ 为保证捕获文件计划制度下渔船记录南极犬牙鱼捕捞信息的真实性和准确性,南极委员会于 2003 年提出建立统一的船舶监测系统,就是由南极委员会统一负责在各成员国的渔船上安装船舶监测系统,船舶监测系统所记录的信息也将真实地传送给南极委员会秘书处,从而可以保证船舶监测系统记录信息的真实性。²⁴ 2001 年,南极委员会根据下属的观察与检查常务委员会的提议,决定建立一个方便船旗名单,以记录在南极海域从事 IUU 捕捞的渔船所悬挂的方便旗。²⁵ 随后,南极委员会建立了 2 个 IUU 渔船名单,分别记录在南极海域从事 IUU 捕捞的成员国和非成员国的渔船信息,每年进行更新,对 IUU 渔船名单上的渔船信息进行添加或删除。²⁶

南极条约协商会议框架内早已注意到了海洋生物遗传资源的利用。从 2002 年英国首次提出关于生物勘探的工作报告开始,²⁷ 已有法国、新西兰、挪威、瑞典、阿根廷等多个国家以及南极环境保护委员会在南极条约协商会议上提交关于生物勘探的文件。具体而言,2005 年第 28 届南极条约协商会议正式承认该议题;2007 年第 30 届南极条约协商会议在其最终报告中决定建立“非正式开放式闭会期间联络组”(以下简称“联络组”),并由瑞士作为该联络组的召集国;²⁸ 2008 年第 31 届南极条约协商会议,联络组发布报告强调南极生物勘探应当注意的 7 个关键方面;²⁹ 在 2009 年第 32 届南极条约协商会议上,法国提出应当构建南极生物勘探的法律规制体制。由此可见,《南极条约》体系下生物遗传资源利用的立法工作已在逐步开展。同矿物资源立法一样,当《公约》体系内开始讨论国家管辖外海洋生物遗传资源利用时,为了维护自己的管辖利益,《南极条约》体系也紧追其后开

23 陈丹红:《南极海洋生物资源养护委员会反南大洋 IUU 捕捞活动策略分析》,载于《海洋开发与管理》2009 年第 11 期;陈思行:《IUU 捕捞的问题与对策》,载于《中国渔业经济》2002 年第 1 期。

24 CCAMLR, Report of the Twenty-Second Meeting of the Committee, p. 77, at <http://www.ccamlr.org/en/system/files/e-cc-xxii.pdf>, 1 July 2018.

25 CCAMLR, Report of the Twenty-Second Meeting of the Committee, p. 19, at <http://www.ccamlr.org/en/system/files/e-cc-xxii.pdf>, 1 July 2018.

26 CCAMLR, Schedule of Conservation Measures in Force 2004/2005 Season, at <https://www.ccamlr.org/en/measure-32-09-2004>, 1 July 2018.

27 “生物勘探”暂无统一定义,在此,笔者将其与“生物遗传资源利用”不做区分,因为无论如何两者都应包括将生物遗传资源进行商业利用的部分,否则就将与科学研究等同而无讨论的必要。

28 Final Report of the Thirtieth Antarctic Treaty Consultative Meeting, New Delhi, India, 30 April-11 May 2007, Buenos Aires: Secretariat of the Antarctic Treaty, paras. 262~263.

29 Report of the ATCM Intersessional Contact Group to Examine the Issue of Biological Prospecting in the Antarctic Treaty Area, ATCM XXXI, WP4.

始讨论自己管辖范围内的有关生物遗传资源利用的法律规制。

综上,在《南极条约》体系下, BBNJ 协定所关注的公海保护区、IUU 捕捞等已有相关的条约及措施进行规范,有关海洋生物遗传资源利用的立法工作也已开始在南极条约协商会议的框架内讨论。既然《南极条约》体系已经对这些议题进行了规范或讨论,为避免重复,也为了避免潜在的冲突,进行 BBNJ 协定立法的各国代表们应在这些议题上探讨与《南极条约》体系的协调与兼容。

(三)《南极条约》体系已成为治理南极陆地与海洋事务的权威

南极拥有独特的自然环境。南极大陆位于地球的最南端,有地理上的南极点,尽管常年被冰雪覆盖,却是世界上最干燥的地区,同时还是世界上平均温度最低、风最多、风速最大的地区,围绕南极大陆的海洋则常年冰冷、气候恶劣、天气变化无常。³⁰ 这些独特的自然环境,使人类难以在南极生存,也恰因此,南极大陆成为未被人类“染指”的处女地,具有重要的科研价值。同时,“南极大陆蕴藏着煤、铁、铜、铅、锌、铝、金、银、石墨、金刚石等 200 多种矿产资源以及丰富的石油和天然气资源”,³¹ 加之其具有的重要战略意义,使得自然条件恶劣、无法居住的南极,也成为了人类纷争的对象,在南极形成了独特的国际政治环境。一方面,在南极大陆,主张国和非主张国就领土主权主张存在争议,非主张国不仅否定主张国的领土主权主张,还认为南极大陆不存在任何领土主权主张;另一方面,南极巨大的科研价值对各国极具吸引力,各国也从国际地理物理年中的南极科考合作中获益颇丰,希望能够继续无障碍地在南极进行科学研究。这种需求推动各国表达出强烈的政治意愿,即搁置现有领土主权争议,为南极无障碍科学研究铺路。

在上述独特的自然环境、政治环境下,《南极条约》应运而生,并以其为基础发展出《南极条约》体系。该体系根据南极的特色治理南极,逐渐发展成治理南极的权威。

《公约》规定“区域”中的矿物资源活动将由《公约》第 11 部分所创建的国际海底管理局(以下简称“管理局”)管理。尽管南极公海和“区域”的范围不确定,但公海和“区域”的存在是确定的。南极条约协商国们为了维护自己的管辖利益,致力于在《公约》通过前以《南极条约》为基础发展《南极条约》体系下的矿物资源公约。为此,一些南极条约协商国主张南极条约协商会议在南极所进行的一切活动都是在尽力维护南极的和平和科研自由,因此,它“已经基于全人类共同继承

30 任飞:《南极地区建筑设计生态策略研究——中国南极中山科考站改扩建规划设计实践》(博士学位论文),北京:清华大学 2005 年版,第 7 页。

31 潘敏:《论南极矿物资源制度面临的挑战》,载于《现代国际关系》2011 年第 6 期。

遗产的原则在运作”。³² 南极条约协商会议还于1984年同意,所有《公约》缔约国均可出席《南极矿物资源活动管理公约》(以下简称“《南极矿物公约》”)的谈判,而一些第三世界国家,如中国和印度,还被赋予了南极条约协商国的法律地位。³³ 南极由于其极端的自然环境成为未被人类“染指”的处女地,但也因此,南极的生态环境极为脆弱。为保护南极脆弱的生态环境,《议定书》取代了《南极矿物公约》,禁止在南极开展除科学研究需要外的一切矿物资源活动,³⁴ 同时也使“环境保护”这一南极治理中的重要特色走向巅峰。从南极矿物资源活动的开始讨论到最终被禁止,《南极条约》体系始终是规范南极矿物资源活动的唯一主体,形成了禁止南极矿物资源活动的独特机制,与《公约》建立的管理局“对抗”,但该独特机制符合南极独特的自然环境和政治环境需要,因而能被国际社会普遍接受,成为规范南极矿物资源活动的权威。

20世纪60年代,渔业捕捞技术的发展导致近海渔业资源的逐渐枯竭,各国一方面开始寻找新的渔场,另一方面也逐渐接受沿海国对领海基线起200海里海域具有重要利益的观点。因此,尽管《公约》尚处谈判期间,“专属经济区”的概念一经提出,便为各国普遍接受。“1975年,仅有13个国家主张专属经济区,但到1978年初,已经有54个国家主张了专属经济区”,³⁵ 这意味着沿海国将对世界上99%的可食用渔业资源生存和繁衍的海域拥有管辖权。³⁶ 这一法律状况的改变,促使各国开始寻找新的合适渔场,南极海域便是其中之一。³⁷ 但南极的渔业资源利用状况也不容乐观,从20世纪60年代初日本和苏联对南极海域进行“实验性”捕捞磷虾开始,到20世纪70年代中后期,各国对南极的磷虾和带鳍鱼类等渔业资源的利用量触目惊心。据统计,磷虾捕捞量从1973—1974年的约7500吨左右增长到1967—1977年的约4.1万吨。尽管考虑到早期数据统计的不足,但这一增长仍然是惊人的。另一方面,带鳍鱼类的捕捞量则存在波动,从1974—1975年的2.5万吨增长到1977—1978年的25.8万吨,1979—1980年又降为11.5万吨。³⁸ 南极条约协商会议逐渐开始意识到,必须对南极磷虾和带鳍鱼类的捕捞进

32 Statement by Mr Austad (Norway) in United Nations General Assembly Records, 39th Session, 52nd meeting of First Committee, A/C.1/39/PV.52, 30 November 1984, p. 12.

33 Shirley V. Scott, *The Law of the Sea and the Polar Regions: Interactions between Global and Regional Regimes*, Boston: Martinus Nijhoff Publishers, 2013, p. 29.

34 《议定书》第7条规定,任何有关矿产资源的活动都应予以禁止,但与科学研究有关的活动不在此限。

35 U.S. Department of State, *Limits in the Seas*, No. 36, rev. 3 (December 1975), pp. 13~15 and rev. 4 (December 1981), pp. 2~7.

36 M. J. Peterson, Antarctic Implications of the New Law of the Sea, *Ocean Development and International Law*, Vol. 16, Issue 2, 1986, pp. 137~182.

37 M. J. Peterson, Antarctic Implications of the New Law of the Sea, *Ocean Development and International Law*, Vol. 16, Issue 2, 1986, pp. 137~182.

38 M. J. Peterson, Antarctic Implications of the New Law of the Sea, *Ocean Development and International Law*, Vol. 16, Issue 2, 1986, pp. 137~182.

行规制,否则“它们将同鲸类一样因为大范围的过度捕捞而面临灭绝危险”。³⁹因此,

在 1977 年第 9 届南极条约协商会议上,各协商国同意建立某种机制以规制南极的渔业捕捞,尽管它们对该机制应采取的形式意见不一,但却一致同意南极条约协商国应对此有所行动,以避免第三次海洋法会议或其他联合国机构接手此议题。⁴⁰

最终,各协商国于 1980 年召开会议并邀请南极磷虾和带鳍鱼类捕捞大国参加,通过了《养护公约》,以养护南极幅合带以南海洋生物资源并保护其赖以生存的海洋环境。上文已提及,南极委员会采取了捕获文件计划、IUU 渔船名单等措施打击南极 IUU 捕捞,此外还与联合国粮农组织、《濒临灭绝野生动植物国际贸易公约》缔约国大会、IUU 捕捞渔获流入港口国进行合作,全面打击南极海域的 IUU 捕捞活动。对南极海域中海洋生物资源及其赖以生存的海洋环境的保护,在《养护公约》及其委员会的治理下正有声有色地进行。

此外,如上文所述,为保护南极的海洋环境,南极委员会提出海洋保护区制度。南极条约协商会议框架内也早已开始探讨南极海洋与陆地生物遗传资源的利用。因此,《南极条约》及其为基础的体系,从成立以来就一直以南极的自然与政治环境为基础,以南极陆地与海洋为地理适用范围,高举和平与科学研究两面旗帜,在实力雄厚的各协商国的坚持下,抵抗住来自联合国的干预,并依据南极的重要特征,管理南极的陆地与海洋事务。《南极条约》“和平与科学研究自由的基本精神仍未过时,冻结主权利的核心原则仍具现实意义,以这些基本精神和核心原则为框架而逐渐衍生和形成的《南极条约》体系,仍是保护南极环境、鼓励科学考察、促进国际南极合作和规范各国在南极相关活动的唯一有效和现实的法律制度和政策框架”。⁴¹《南极条约》体系是治理南极陆地与海洋事务的权威,同样适用于南极海域的 BBNJ 协定,必须与其进行协调。

三、协调的可行性分析

39 M. J. Peterson, Antarctic Implications of the New Law of the Sea, *Ocean Development and International Law*, Vol. 16, Issue 2, 1986, pp. 137~182.

40 M. J. Peterson, Antarctic Implications of the New Law of the Sea, *Ocean Development and International Law*, Vol. 16, Issue 2, 1986, pp. 137~182.

41 郭培清、石华伟:《〈南极条约〉50周年:挑战与未来走向》,载于《中国海洋大学学报(社会科学版)》,2010年第1期。

上文已提及,依据《公约》的 BBNJ 协定的立法工作正在进行,⁴²内容将包括海洋生物遗传资源的利用、公海保护区、IUU 捕捞,此外临时工作小组还认为增加海洋科学知识仍是我们面临的主要挑战,⁴³因此,科学研究也将是 BBNJ 协定的重要内容。笔者将分别针对上述议题探讨 BBNJ 协定与《南极条约》体系协调的可行性。

(一) 科学研究

《南极条约》是《南极条约》体系的基石,从该条约开始磋商到最终文本的通过,始终贯穿 2 个关键词——科研自由和领土主权。“二战期间科技迅速发展(尤其是在航空航天、无线电探测及无线电通信领域),人们认识到极地对了解地球磁场的重要性,这激起了人们在南极进行大规模科学实验的兴趣”。⁴⁴因此,从 1957 年 6 月 1 日到 1958 年 12 月 31 日,“来自 67 个国家的 12000 名科学家形成了总量达 48 卷、史无前例的南极科学研究资料”。⁴⁵在以和平方式对南极进行了科学研究之后,“许多国家从国际地球物理年所产生的这一国际合作中获益,并强烈渴望看到这种合作得以继续”。⁴⁶因此,经过 18 个月(1958 年 6 月到 1959 年 12 月)的磋商,《南极条约》在华盛顿通过,并最终以“同意争议存在”的方法处理南极领土主张的问题。领土主权是一个国家的根本内容,为了能够尽快无障碍地在南极自由开展科学研究,各《南极条约》缔约国甚至搁置了领土主权争议,如此重大的牺牲,足以看出科研自由在整个《南极条约》体系中的重要地位。这一点在《南

42 Resolution adopted by the General Assembly on 19 June 2015 [without reference to a Main Committee (A/69/L.65 and Add.1)]: Development of an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, United Nations General Assembly, A/RES/69/292.

43 Co-Chairs' summary of discussions at the Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction, United Nations General Assembly, A/69/82, para. 11, at <http://undocs.org/A/69/82>, 1 July 2018.

44 Marcus Haward, *The Law of the Sea Convention and the Antarctic Treaty System: Constraints or Complementarities?*, in Seoung-Yong Hong and Jon M. Van Dyke eds., *Maritime Boundary Disputes, Settlement Processes, and the Law of the Sea*, Boston: Martinus Nijhoff Publishers, 2009, p. 236.

45 Marcus Haward, *The Law of the Sea Convention and the Antarctic Treaty System: Constraints or Complementarities?*, in Seoung-Yong Hong and Jon M. Van Dyke eds., *Maritime Boundary Disputes, Settlement Processes, and the Law of the Sea*, Boston: Martinus Nijhoff Publishers, 2009, pp. 236-237.

46 Marcus Haward, *The Law of the Sea Convention and the Antarctic Treaty System: Constraints or Complementarities?*, in Seoung-Yong Hong and Jon M. Van Dyke eds., *Maritime Boundary Disputes, Settlement Processes, and the Law of the Sea*, Boston: Martinus Nijhoff Publishers, 2009, p. 237.

极条约》体系的其他条约中也有体现。例如,依据《南极矿物公约》第 1 条第 7 款,⁴⁷ 在南极进行的矿物资源活动并不包括因在南极进行科学研究所实施的矿物资源活动,以避免在对南极矿物资源活动施以严厉措施的同时,影响到南极科学研究的自由开展;依据《议定书》第 7 条,尽管其全面禁止在南极进行所有矿物资源活动,但仍将依科学研究所进行的矿物资源活动排除在外。因此,我们有理由认为,科研自由是整个《南极条约》体系的基石,在南极讨论任何议题时始终被放于优先地位。

临时工作小组同样也注意到了科学研究的重要性,其“已注意到,增长海洋科学知识仍是一个巨大挑战。在此方面,应当优先注重研究、监控和评估人类活动对国家管辖外海洋生物多样性的影响”。⁴⁸ 这表明人类对国家管辖外海域的了解仍旧不足,对人类活动对国家管辖外海域的影响尚未认知清晰。BBNJ 协定立法已经展开,为制定适当的法律、政策,极有必要深刻、清楚地认识海洋及人类活动对海洋的影响,为此,进行科学研究是应有之意。在制定相应的法律和政策后,需采取具体措施予以落实,但这些措施的采取也须建立在科学研究的基础上,以所获科学数据为基础,采取科学的措施与技术方法,切实促进对国家管辖外海洋生物多样性的养护和可持续利用。综上,为 BBNJ 制定适当的法律政策,以及采取切实可行的具体措施,均离不开对国家管辖外海域的科学研究,这是立法及执法的基础,并对目标、宗旨的实现具有重要作用。因此,对于科学研究重要性的认知,并不存在影响《南极条约》体系和 BBNJ 协定协调的重大障碍。

在对待科学研究的态度上,依据《南极条约》第 2 条,⁴⁹ 在南极陆地与海洋进行科学研究是自由的。BBNJ 协定的适用范围是公海及“区域”,并以《公约》为基础,因此,《公约》内关于科学研究的内容应为 BBNJ 协定中科学研究相关内容的基础。依据《公约》第 87 条第 1 款,在公海进行科学研究是自由的。而“区域”内的科学研究,依据《公约》第 256 条,“所有国家,不论其地理位置如何,和各主管国际组织均有权依第 11 部分的规定在‘区域’内进行海洋科学研究”。《公约》第 11 部分与海洋科学研究最为相关的是第 143 条,⁵⁰ 依据该条规定,无论是管理

47 《南极矿物公约》第 1 条第 7 款规定,“南极矿物资源活动”是指探矿、勘探或开发,但不包括《南极条约》第 3 条所指的科学研究活动。

48 Letter dated 5 May 2014 from the Co-Chairs of the Ad Hoc Open-ended Informal Working Group to the President of the General Assembly: Co-Chairs' summary of discussions at the Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction, United Nations General Assembly, A/69/82, at <http://undocs.org/A/69/82>, 1 July 2018.

49 《南极条约》第 2 条:在国际地球物理年内所实行的南极科学调查自由和为此目的而进行的合作,应依照本条约的规定予以继续。

50 《公约》第 143 条:“区域”内的海洋科学研究,应依照第十三部分专为和平目的并为谋求全人类的利益进行;管理局可进行有关“区域”及其资源的海洋科学研究;各缔约国可在“区域”内进行海洋科学研究。

局或《公约》缔约国，均有权在“区域”内进行海洋科学研究，而管理局则应促进和鼓励在“区域”内进行科学研究。笔者认为，该条事实上是对第 256 条的细化，因为其主要内容实与第 256 条无异。科学研究自由包含在公海自由这一古老的国际海洋法原则中，但在人类能够利用公海下底土资源之前，公海自由应被认为不加区分地适用于“区域”及公海。科技发展使人类能够利用底土中资源后，《公约》不仅对国家管辖范围内底土的资源进行管辖，还将国家管辖外底土中的资源从公海中剥离，适用“全人类共同继承财产”原则，形成对公海自由原则的突破。但这种突破仅限于国家管辖外底土中资源的利用，包括科学研究自由在内的其他公海自由内容仍应适用于公海水体下的底土。BBNJ 协定以《公约》为基础，其中包括关于公海、“区域”中科学研究自由的内容，加之科学研究具有的“无害性”和对全人类的重大贡献，应当认为，BBNJ 协定对待海洋科学研究的態度与《公约》是一致的，即科学研究自由，因而也与《南极条约》体系一致，两者之间不存在影响协调的重大障碍。

（二）海洋生物遗传资源的利用

上文已提及，BBNJ 协定的一个重要议题为海洋生物遗传资源的利用。《南极条约》早在 2002 年就开始探讨陆地与海洋生物遗传资源的利用。环境保护是《南极条约》体系的重要特征，生物遗传资源的利用是否会对环境造成影响，是《南极条约》体系尤为关心的。生物遗传资源的利用，无论其具体定义或名称为何，都应包括科学研究成果的商业化，而该商业化所带来的巨大利益及其分配将有可能成为两者协调的障碍。

虽都是对资源的利用，但生物遗传资源的利用与矿物资源的利用并不相同。矿物资源的利用对象是矿石这一实在的物体，而生物遗传资源的利用对象主要是生物基因的多样性，尽管基因的实体是脱氧核糖核酸，但作为资源而对人类有利用价值的却是其携带的基因信息，是虚拟的。矿物的开采是对矿石进行大量采集，但生物基因的获取是对生物体进行样本采集，仅需少量即可，对生物种群数量造成的影响微乎其微，对生态环境造成的影响也几乎可以忽略不计。⁵¹ 矿物资源的利用必然会造成矿物资源的减少，但基于信息的可复制性，生物遗传资源的利用并不会造成生物遗传资源的减少。同时，BBNJ 协定是通过保护公海及“区域”中的生态环境，以达到养护公海及“区域”中海洋生物资源的目的，环境保护也必将在海洋生物遗传资源的利用中贯彻。总之，无论是在公海及“区域”中，还是在

51 有观点认为在生物科技所获成果进入生产阶段后，可能需要大量采集样本，从而有可能会对生物种群数量造成严重影响，但此观点并没有科学数据支撑，目前而言，作者持否定态度。

南极海洋中,基于生物遗传资源利用的特性,其都不会对生态环境造成影响,加之 BBNJ 协定与《南极条约》体系都将在海洋生物遗传资源的利用中贯彻环境保护,在此方面并不会对两者的协调造成障碍。

生物遗传资源利用带来了新的巨大利益,但须注意该种利益的分配并不涉及对生物遗传资源本身的分配。生物遗传资源的利用大致可以分为获取遗传材料、对遗传材料进行实验室分析并获取有价值基因、利用有价值基因获得产品并使其商业化三个步骤。在此三个步骤中,后两者实为生物科技的运用,并以第一步骤中所获取的生物遗传材料为基础。而生物遗传材料的获取,可以分为原生境获取、非原生境获取和生物信息数据获取三种类型。原生境获取是指从国家管辖外区域的自然环境中获取或采集海洋遗传资源;非原生境获取和生物信息数据获取,是对由原生境获取的海洋遗传资源进行实验室分离、鉴定、筛选、培养和计算机模拟分析后所得的资源、信息、材料和数据等的获取。⁵²从该定义可知,只有原生境获取才涉及对海洋遗传资源的所有,而非原生境和生物信息数据方式获取的遗传材料是通过生物科技手段对原生境方式所获取的遗传材料进行加工后的获取,本质上是科学研究所得成果的获取,并不涉及对海洋中遗传资源的所有。原生境获取活动,按照《公约》第 13 部分的规定,本质上属于海洋科学研究,⁵³仅需对生物个体进行少量采集即可,几乎不会造成生物体数量的减少,且由于每一生物个体都含有整套的遗传材料,一个国家生物遗传材料的采集并不影响其他国家生物遗传材料的采集,生物遗传资源这块蛋糕不会因一个国家的利用而有任何减少。因此,生物遗传资源利用的利益分配方式并非对生物遗传资源本身进行分配。

利用生物遗传资源获取利益,主要是通过生物科技的手段对生物遗传材料加工后获得产品并使其商业化,该种利用的基础为生物遗传资源。BBNJ 协定所规范生物遗传资源位于国家管辖外的公地,不为任何人所有,是全人类的共同财富,应由全人类共同分享利益。但生物遗传资源的利用并不分配生物资源本身,无法通过分配资源的方式来使所有国际社会成员共同获取利益,且生物科技的发展需要投入巨大的资金,造成对公海及“区域”中生物遗传资源的利用仅被少数国家所垄断,其他国家尤其是发展中及最不发达国家的利益无法得到满足。

因此,尽管海洋生物遗传资源并不归利用者所有,利用者却仍需从其所获利益中抽出一部分分享给不能利用这类资源的国家,这被称为惠益分享。惠益分享的基本原则应为“全人类共同利益原则”。在临时工作小组及预备委员会的讨论中,

52 《中华人民共和国政府关于国家管辖范围以外区域海洋生物多样性和可持续利用问题国际文书草案要素的书面意见(2017年4月20日修订版)》,下载于 http://www.un.org/depts/los/biodiversity/prepcom_files/streamlined/China.pdf, 2018年7月1日。

53 《中华人民共和国政府关于国家管辖范围以外区域海洋生物多样性和可持续利用问题国际文书草案要素的书面意见(2017年4月20日修订版)》,下载于 http://www.un.org/depts/los/biodiversity/prepcom_files/streamlined/China.pdf, 2018年7月1日。

对于公海及“区域”中海洋生物遗传资源的法律地位以及惠益分享方案,各个利益团体间产生了争议。生物科技发达的国家倾向于将生物遗传资源视为是自由开放的,不属于任何人所有,而生物科技不发达的国家则希望通过“全人类共同继承财产”原则的引入获取一份利益,有些不发达国家甚至不关注生物遗传资源有何法律地位,也无意关心自己国家生物科技的发展,只要能从生物科技发达国家直接获取货币利益即可。

然而,依据《公约》序言第 6 段,“达成这些目标将有助于实现公正公平的国际经济秩序,这种秩序将照顾到全人类的利益和需要,特别是发展中国家的特殊利益和需要,不论其为沿海国或内陆国”,因此,《公约》中能够产生经济利益的活动都应当“有助于实现公平公正的国际经济秩序”并“照顾全人类的利益和需要”,这在“区域”矿物资源的利用中已有体现。⁵⁴对公海及“区域”中海洋生物遗传资源的利用,具有巨大的商业价值,其对国际经济秩序的影响将极有可能比“区域”中矿物资源的利用更大,对其的利用及利益分配方式自然应遵循《公约》序言中所规定的全人类共同利益原则。

在《南极条约》体系内,生物遗传资源利用的利益分配指导原则,亦应为全人类共同利益原则。全人类共同利益原则贯穿在《南极条约》体系中。作为《南极条约》体系基石的《南极条约》,在其序言第 2 段中规定,“为了全人类的利益,南极应永远专为和平目的而使用,不应成为国际纷争的场所和对象”。涉及在南极利用资源的《南极矿物公约》在其序言第 14 段中规定,“对南极矿物资源活动进行有效规制是国际社会的共同利益”,并在第 2 条第 3 款 g 项中规定,“如果发生矿物资源活动,缔约国承认南极条约协商会议成员国保护南极环境的特殊责任及……考虑国际社会共同利益的需要”。《养护公约》序言第 9 段规定,“保护南极大陆周围水域仅用于和平目的,避免使其成为国际纷争的场所和目标,符合全人类的利益”。《议定书》序言第 8 段规定,“制订一个保护南极环境及依附于它的和与其相关的生态系统的综合制度是符合全人类共同利益的”。因此,我们有理由认为,全人类共同利益原则是《南极条约》体系的价值导向及指导原则,规范在南极进行的所有活动,海洋生物遗传资源的利用亦不应例外。在生物遗传资源利用的利益分配上,BBNJ 协定和《南极条约》体系都应遵循全人类共同利益原则,并以此为价值导向,对两者的协调并未造成难以逾越的障碍。

(三) IUU 捕捞

54 例如,《公约》第 140 条规定,“区域内活动应依本部分的明确规定为全人类的利益而进行,不论各国的地理位置如何,也不论是沿海国或内陆国,并特别考虑到发展中国家和尚未取得完全独立或联合国按照其大会第 1514(XV)号决议和其他有关大会决议所承认的其他自治地位的人民的利益和需要”。

IUU 捕捞由南极委员会首先提出,以阻止 IUU 捕捞活动对南极海洋生物资源造成的威胁。以《公约》规定的公海捕鱼自由为法律基础的 IUU 捕捞造成的“公地悲剧”,在国家管辖外海域体现的尤为明显。临时工作小组讨论认为,“不可持续的渔业活动,尤其是过度捕捞、IUU 捕捞以及一些破坏性的渔业实践,是对国家管辖范围以外海洋生物多样性的最大威胁”。⁵⁵因此,BBNJ 协定将采取措施对公海中的 IUU 捕捞活动进行规制。如上文所述,在应对 IUU 捕捞方面,南极委员会拥有很长的历史并积累了许多经验,如捕获文件计划制度、IUU 渔船名单制度等,BBNJ 协定在采取措施规制公海中的 IUU 捕捞活动时,应对南极委员会的措施与经验进行借鉴。

此外,对于南极海域的 IUU 捕捞,我们所面临的主要问题是南极委员会对 IUU 捕捞活动进行规制的管辖权。当《养护公约》缔约国的船舶在该公约规定的范围内从事 IUU 捕捞活动时,南极委员会对这些船舶当然具有管辖权并可采取相应措施。但当非《养护公约》缔约国的船舶在该公约规定的范围内从事 IUU 捕捞活动时,依据条约仅对缔约国生效的条约法基本原则,南极委员会便没有对这些船舶行使管辖权的法律基础,在《养护公约》的规定并非习惯国际法的情况下尤其是如此。此种情况下,对 IUU 捕捞活动的规制便主要依靠船旗国依其国内法进行,即只有船旗国才有管辖权以对从事 IUU 捕捞活动的船舶采取相应的措施,但出于自身利益的考虑,加之许多方便旗船舶的存在,船旗国对自己的船舶往往不愿意或没有精力去管理,从而造成即便从事 IUU 捕捞的船舶出现在《养护公约》适用海域,也因南极委员会对其没有管辖权而陷入无法规制的困境。但如果同样适用于南极海洋的 BBNJ 协定与《养护公约》能够在南极海域进行规制 IUU 捕捞活动的合作与协调,将极大地缓解南极海域内的 IUU 捕捞现状,更好地保护南极的海洋生物资源。因此,在规制 IUU 捕捞方面,《南极条约》体系需要 BBNJ 协定的合作与帮助。

综上,在 IUU 捕捞方面,BBNJ 协定需要向《南极条约》体系借鉴,《南极条约》体系也需要 BBNJ 协定的合作与帮助,两者互相融合、互助互利,相互间的协调应无障碍。

(四) 海洋保护区

“海洋保护区”一词于“1962 年在美国西雅图举行的‘国家公园世界大会’

55 Co-Chairs' summary of discussions at the Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction, United Nations General Assembly, A/69/82, para. 10, at <http://undocs.org/A/69/82>, 1 July 2018.

上被首次提出”,⁵⁶目前并无确切定义,但1988年世界自然保护联盟第17届会议“明确了海洋保护区的目标在于:‘通过创建有代表性的全球海洋保护区制度,并根据《世界保护战略》的原则,对利用和影响海洋环境的人类活动进行管理,来保护、恢复、明智地利用、理解和享受世界海洋遗产’”。⁵⁷简而言之,海洋保护区是一种手段工具,用以减少人类活动对海洋生态系统造成的影响,保护海洋生物多样性,促进海洋生物资源的可持续利用,⁵⁸而此正是其被纳入BBNJ协定作为重要议题的原因。

随着国际环境法与国际海洋法的不断发展及保护海洋生物多样性理念的日益深入,近年来海洋保护区的数量大幅增加。1970年,全球只有27个国家设立了118个海洋保护区,而截至2010年,各类海洋保护区总数已接近5900个,但其中绝大部分为国家管辖海域内的海洋保护区,真正意义上的公海保护区仅有南极的南奥克尼群岛南大陆架海洋保护区。⁵⁹

作为南极海洋生物资源养护的措施或手段之一,保护区制度已成为当前《养护公约》机制内的焦点与前沿问题。⁶⁰因此,在海洋保护区方面,《南极条约》体系是先进并具有经验的,BBNJ协定需要有所借鉴。

此外,2011年南极委员会通过了《关于建立南极委员会海洋保护区的总体框架》,其序言第1段规定南极海洋保护区的设立目标是“养护公约海域的海洋生物多样性”,正文第1条规定“本养护措施以及南极委员会出台的与委员会海洋保护区有关的其他养护措施的制定与实施,应符合包括《公约》在内的国际法规定”。这意味着南极海域内海洋保护区的设立及管理应符合《公约》的规定。BBNJ协定以《公约》为基础,《南极条约》体系内海洋保护区的设立和规制也应符合《公约》的规定,尽管据此难以直接得出在海洋保护区方面《南极条约》体系已经与BBNJ协定进行了协调,但至少我们可以认为在海洋保护区的设立及规制方面,BBNJ

56 陈力:《南极海洋保护区的国际法依据辨析》,载于《复旦学报(社会科学版)》2016年第2期,第152页。

57 陈力:《南极海洋保护区的国际法依据辨析》,载于《复旦学报(社会科学版)》2016年第2期,第153页。

58 桂静:《不同维度下公海保护区现状及其趋势研究——以南极海洋保护区为视角》,载于《太平洋学报》2015年第5期,第5页。“但是从长远考虑,保护区的建立对其内的生物往往有增进资源效益的成效。根据国际粮农组织的研究表明,本来一些鱼类可能会游到海洋保护区界线以外,特别是由于采取保护措施后区内的生物密度一旦上升,游出海洋保护区的鱼类就会增加,也就可能会被捕获。这种所谓的溢出效果是海洋保护区产生的一种潜在的利益。”

59 陈力:《南极海洋保护区的国际法依据辨析》,载于《复旦学报(社会科学版)》2016年第2期,第153页。

60 陈力:《南极海洋保护区的国际法依据辨析》,载于《复旦学报(社会科学版)》2016年第2期,第153页。

协定与《南极条约》体系并无大的协调障碍。

四、协调的路径选择

BBNJ 协定的立法工作正如火如荼,但纵观所有讨论,对该协定与《南极条约》体系之间的协调并无任何明确提及。而事实上,《南极条约》体系是一系列以《南极条约》为基础的不同条约组成的条约集合, BBNJ 协定尽管以《公约》为基础,但同《南极条约》体系中的条约及《公约》一样,都属于一般意义上的条约。因此,探讨 BBNJ 协定与《南极条约》体系的协调,本质上是探讨一个条约与多个条约集合体之间的协调,亦即在 BBNJ 的不同议题上,探讨 BBNJ 协定与《南极条约》体系内各个相关条约间的协调。而条约间的协调,传统的方式包括运用后法优于前法、特别法优于一般法等古老的国际法原则,同时条约存在的兼容性条款及其解释也是重要的协调方式。笔者认为,适合于 BBNJ 协定与《南极条约》体系的有效协调方式应为:在 BBNJ 协定中设置兼容性条款,并建立与《南极条约》体系相关机构的合作或信息交换机制。

(一) 传统协调方式

一些国际法律原则,如后法优于前法原则,也被用于解释国际条约间的关系,⁶¹但这些原则的适用须有 2 个前提:不同条约有相同的缔约国,并规范相同的事项。BBNJ 协定尚在讨论当中,有多少缔约国尚未可知,而《南极条约》体系中的条约,如《南极条约》《养护公约》《议定书》等,尽管都以《南极条约》为基础,但却是不同的条约,拥有不同的缔约国。BBNJ 协定的不同议题在《南极条约》体系下分散于不同的条约,因此,当采用这些原则来处理两者间的协调问题时,我们不仅要考虑 BBNJ 协定不同议题在《南极条约》体系内相对应的条约,还要考虑 BBNJ 协定与该条约是否具有相同的缔约国。显然,这并不是一个可有效适用的协调方式,而这一方式也“要求这些原则的自动适用,并未考虑条约缔结者缔约时的真实意图”。⁶²

同时,尽管 BBNJ 协定的有关议题,如生物遗传资源的利用,在《南极条约》体系中已得到规范,但前者关注的是公海及“区域”中的海洋生物遗传资源的利用,

61 Patrizia Vigni, *The Interaction between the Antarctic Treaty System and the Other Relevant Conventions Applicable to the Antarctic Area*, *Max Plank Yearbook of United Nations Law*, Vol. 4, Issue 1, 2000, pp. 481~542.

62 Patrizia Vigni, *The Interaction between the Antarctic Treaty System and the Other Relevant Conventions Applicable to the Antarctic Area*, *Max Plank Yearbook of United Nations Law*, Vol. 4, Issue 1, 2000, pp. 481~542.

后者关注的是南极的生物遗传资源利用,包括陆地与海洋,也包括南极海洋中的公海和“区域”。我们很难认为《南极条约》体系内规范生物遗传资源利用的规则是特别法,BBNJ协定中规范公海及“区域”中海洋生物遗传资源利用的规则是一般法(亦或谁是前法谁是后法),因为它们规范的对象并不完全相同,适用的地理范围也不完全相同,是两个不同体系内逐渐发展出来的不同规则。

(二) 兼容性条款及其解释

许多条约都会在其文本中设置处理其与相关条约关系的条款,如《公约》第301条、《南极条约》第6条等,这些条款被称为“兼容性条款”,而“国际条约间的关系主要是参照条约本身所载之兼容性条款来处理”。⁶³《南极条约》体系的许多条约都载有处理与国际海洋法及《公约》关系的兼容性条款,对这些兼容性条款的运用及解释可为协调BBNJ协定与《南极条约》体系提供重要参考。

《南极条约》第6条规定,“本条约的规定不应损害或在任何方面影响任何一个国家在该地区内根据国际法所享有的对公海的权利或行使这些权利”,该条“体现出《南极条约》适应国际法发展的高度灵活性,该条特别强调不损害和不影响成员国在这一区域‘根据国际法’所享有的公海权利,即这一区域的‘公海范围’和‘公海权利’会随着国际法的发展而变化”。⁶⁴《南极条约》缔结后,国际海洋法不断发展,如今已发展成一个以《公约》为基础的体系,在此过程中,公海和“区域”不断缩小,各国在公海的权利不断得到规范,BBNJ协定的发展便是各国公海权利受到规范的代表。通过上述解释似乎可以认为,既然《南极条约》规定了其不影响各国在公海的权利,BBNJ协定就是规范各国在公海和“区域”内权利的协定,那么《南极条约》不影响BBNJ协定在南极海洋中的适用。此外,《关于建立南极委员会海洋保护区的总体框架》第1条规定,“本养护措施以及南极委员会出台的与委员会海洋保护区有关的其他养护措施的制定与实施,应符合包括《公约》在内的国际法规定”。BBNJ协定以《公约》为基础,并以公海保护区为其重要内容,因此,我们也可以认为,在海洋保护区方面,《养护公约》应与BBNJ协定保持一致。

但我们须注意到,对上述兼容性条款的解释并不一定符合缔约时缔约者的真实意图,有时甚至是荒谬的,⁶⁵不同的国家和学者依据不同的利益需求也会有不同的解释。即便对上述兼容性条款的解释符合缔约者的真实意图,被认为是最为

63 Patrizia Vigni, *The Interaction between the Antarctic Treaty System and the Other Relevant Conventions Applicable to the Antarctic Area*, *Max Plank Yearbook of United Nations Law*, Vol. 4, Issue 1, 2000, pp. 481~542.

64 陈力:《论南极海域的法律地位》,载于《复旦学报(社会科学版)》2014年第5期。

65 例如,《养护公约》及上述总体框架已经出台,但BBNJ协定尚未出台,已经出台的法律规范应与尚未出台的法律规范保持一致的上述解释,是不符合逻辑的。

有效的解释,我们也必须认识到“兼容性条款在内容上通常具有一般性”,⁶⁶《南极条约》不影响 BBNJ 协定在南极海洋中的适用,《养护公约》也应与 BBNJ 协定保持一致,但 BBNJ 协定到底如何在南极海域适用,在 BBNJ 协定时间上晚于《养护公约》的情况下,《养护公约》到底应该如何与 BBNJ 协定保持一致,兼容性条款及其解释并没有说明,协调的问题也并没有实际解决。

(三) 兼容性条款基础上建立合作机制

尽管兼容性条款有上述缺陷,单靠兼容性条款不能解决 BBNJ 协定与《南极条约》体系的协调,但如上文所述,兼容性条款是解决条约间协调问题最直接、最有效的重要方式。笔者认为,解决 BBNJ 协定与《南极条约》体系的协调问题,应以兼容性条款为基础,建立合作及信息交换机制。

虽然《南极条约》体系中的许多条约已经设置了兼容性条款,但笔者认为一方面这些兼容性条款处理的是与《公约》的关系,尽管通过解释可以勉强认为处理了与以《公约》为基础的 BBNJ 协定的关系,但这种解释的有效性和普遍接受性令人怀疑;另一方面 BBNJ 协定的议题中有些《南极条约》体系有规范,有些没有,在已经规范的议题上,有些条约有兼容性条款,有些条约没有,但这些条约都已生效,没有兼容性条款的条约将无法依据兼容性条款处理与 BBNJ 协定的协调。BBNJ 协定的立法工作正在进行,条约文本尚未确定,只要各国代表们注意到 BBNJ 协定与《南极条约》体系的协调问题,添加兼容性条款将是应有之意。此外,《南极条约》体系是一个条约集合,在添加兼容性条款时,可在该条款中直接使用“《南极条约》体系”的字样,如“本协定不影响《南极条约》体系在南极海域的适用”,更为简单、方便、有效。

但如上文所述,兼容性条款并不能实际上解决 BBNJ 协定与《南极条约》体系的协调,笔者认为,在兼容性条款基础上建立合作及信息交换机制,是解决问题的完整方式。

国际合作原则在国际社会上得到确立的标志是《联合国宪章》的生效和联合国的诞生,⁶⁷从其确立至今,国际合作原则已发展成为国际法的一项基本原则,尤其在环境法领域。由于气候变化等原因,国际社会越来越意识到在全球环境保护方面,国际社会具有共同利益,每个国际社会成员都有责任与义务,单靠某一个国家的努力无法实现,它需要国际社会建立合作、共同努力。BBNJ 协定期望达到的对公海和“区域”内海洋生物资源的养护及海洋环境的保护便是如此。在

66 Patrizia Vigni, *The Interaction between the Antarctic Treaty System and the Other Relevant Conventions Applicable to the Antarctic Area*, *Max Plank Yearbook of United Nations Law*, Vol. 4, Issue 1, 2000, pp. 481-542.

67 梁西:《国际法》,武汉:武汉大学出版社 1993 年版,第 61 页。

公海和“区域”这一公地中, BBNJ 协定所要达到的目标将使全人类受益, 但该目标仅靠某一国家无法实现, 需要所有国家的共同努力。因此, BBNJ 协定包含国际合作原则是应有之意, 并首先应指国际社会中的所有国家的合作。BBNJ 协定在南极海域同样适用, 同样期望在南极海域实现自己预设的目标, 但如上文所述, 《南极条约》体系早已意识到养护和保护海洋生物资源及其赖以生存海洋环境的重要性, 并已制定相关条约及措施, 两者在南极海域期待达到的目标是一致的, 具有共同利益。基于《南极条约》体系中相关条约仅对其缔约国有效的缺陷, 在 IUU 捕捞等议题上, 仅依靠《南极条约》体系自身及其缔约国的努力, 无法有效实现规制, 也需要寻求与《南极条约》体系外的条约及机构的合作。同时, BBNJ 协定面对南极海域已由《南极条约》体系规范的现实, 为在南极海域实现自己的目标, 也为避免两者重复或发生潜在的冲突, 也需要同《南极条约》体系的合作。因此, BBNJ 协定在南极海域中的国际合作, 还应包括与《南极条约》体系内相关条约及其所建立机构的合作。在南极海域, BBNJ 协定的许多议题已由南极委员会规范, 但有些议题, 如海洋生物遗传资源的利用, 还没有被该委员会规范, 故 BBNJ 协定中所指之合作, 表现在具体条文上应为“本协定所建立之相关机构应与《南极条约》体系中相关条约所建立之机构进行合作, 构建合作机制, 以在南极海域实现本协定的目标”。而在 BBNJ 协定及《南极条约》体系都适用于南极公海及“区域”时, 该合作机制应包括信息交换机制, 既可以避免资源的浪费, 又可以增加两者的兼容性, 同时还是促进两者间协调的有效方法。

五、结 语

公地悲剧的原理促使国际社会开始重视对公海及“区域”中人类活动的规制, 以养护和保护其中的海洋生物资源及其赖以生存的海洋环境。因此, BBNJ 协定本质是关注公海及“区域”中海洋环境的保护。南极脆弱的生态环境促使南极条约协商会议早已关注并在处理南极事务时非常注重南极的生态环境保护, 这一南极治理政策不仅适用于南极的陆地, 也适用于南极的海洋。因此, 当《公约》体系探讨公海及“区域”的海洋环境保护时, 《南极条约》体系内已经产生出许多公约及措施以保护包括南极海域在内的南极生态环境。但 BBNJ 协定以《公约》为基础, 产生之后也将适用于南极的海洋, 在 BBNJ 领域的许多议题在《南极条约》体系内已经进行了规制的前提下, BBNJ 协定在南极的适用需要与《南极条约》体系这一南极治理的权威进行协调, 以避免重复及潜在的冲突, 而在各种协调方式中, 在 BBNJ 协定中设置兼容性条款, 并以该条款为基础构建相关机构间的合作机制, 是解决上述重复及潜在冲突的最好方式。

Harmonization Between the BBNJ Agreement and the Antarctic Treaty System

LI Jingchang*

Abstract: The Antarctic Treaty system applies to the land and ocean south of 60° south latitude; the United Nations Convention on the Law of the Sea (UNCLOS) applies to all the oceans of the world, so does the system consisting of a series of treaties under the UNCLOS. It implies that the sea area south of that latitude is regulated simultaneously by the UNCLOS system and Antarctic Treaty system. Within the framework of the Antarctic Treaty system, the Convention on Conservation of Antarctic Marine Living Resources (CAMLR Convention) and the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) established under the CAMLR Convention, have taken measures with respect to issues like illegal, unreported and unregulated fishing (IUU Fishing) and marine protected areas on the high seas. Additionally, the Antarctic Treaty Consultative Meeting (ATCM) had taken note of the utilization of Antarctic land and marine genetic resources in 2002, within whose framework the relevant legislation work has been initiated. These issues are also the core matters that the agreement under the UNCLOS on the conservation and sustainable use of marine biodiversity of areas beyond national jurisdiction (hereinafter referred to as “BBNJ Agreement”) seeks to address. The legislation work concerning the drafting of such an agreement is aggressively underway. The delegates participating in such work should be aware of the situation above and discuss the harmonization between the agreement and the Antarctic Treaty system, so as to pave way for its application in the Antarctic waters.

Key Words: BBNJ Agreement; Antarctic Treaty system; Harmonization

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I. Formulation of the Research Question

On 22 May 2003, the delegation of the Netherlands submitted a report titled “The Need to Protect and Conserve Vulnerable Marine Ecosystems in Areas Beyond National Jurisdiction”, at the Fourth Meeting of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea. The report which focused on the conservation and sustainable use of genetic resources of the deep seabed beyond national jurisdiction,¹ attracted wide attention from the international community. On 17 November 2004, the Ad Hoc Open-ended Informal Working Group to Study Issues Relating to the Conservation and Sustainable Use of Marine Biological Diversity Beyond Areas of National Jurisdiction (hereinafter “Ad Hoc Working Group”) was formally established in line with paragraph 73 of Resolution 59/24 adopted by the United Nations General Assembly (UNGA).² According to paragraphs 79 and 80 of Resolution 60/30 adopted by UNGA on 29 November 2005, and paragraph 91 of Resolution 61/222 adopted by UNGA on 20 December 2006,³ the first meeting of the Ad Hoc Working Group was held in New York from 28 April to 2 May 2008, and the working group presented the outcome of the meeting to the Sixty-Third UNGA on 15 May 2008.⁴ On 30 June 2011, the Ad Hoc Working Group sent its recommendations to the UNGA, stating that:

A process be initiated, by the General Assembly, with a view to ensuring that the legal framework for the conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction effectively addresses those issues by identifying gaps and ways forward, including through the implementation of existing instruments and the possible development of a

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- 1 The need to protect and conserve vulnerable marine ecosystems in areas beyond national jurisdiction, United Nations General Assembly, A/AC.259/8, 22 May 2003, paras. 16–18.
 - 2 Resolution adopted by the General Assembly on 17 November 2004 [without reference to a Main Committee (A/59/L.22 and Add.1)]: Oceans and the law of the sea, United Nations General Assembly, A/RES/59/24, para.73.
 - 3 Resolution adopted by the General Assembly on 29 November 2005 [without reference to a Main Committee (A/60/L.22 and Add.1)]: Oceans and the law of the sea, United Nation General Assembly, paras. 79–80; Resolution adopted by the General Assembly on 20 December 2006 [without reference to a Main Committee (A/61/L.30 and Add.1)]: Oceans and the law of the sea, United Nation General Assembly, para. 91.
 - 4 Letter dated 15 May 2008 from the Co-Chairpersons of the Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction addressed to the President of the General Assembly, United Nations General Assembly, A/63/79.

*multilateral agreement under the United Nations Convention on the Law of the Sea.*⁵

According to the resolution adopted by UNGA on 19 June 2015, the General Assembly “decided to develop an international legally binding instrument under the United Nations Convention on the Law of the Sea (UNCLOS) on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction”.⁶ To that end, a “Preparatory Committee” was established to make recommendations to the General Assembly on the elements of a draft text of such an instrument, and that committee “will start its work in 2016 and, by the end of 2017, report to the Assembly on its progress”.⁷ The Preparatory Committee held four sessions in the following periods: 28 March – 8 April 2016, 26 August – 9 September 2016, 27 March – 7 April 2017, and 10 – 21 July 2017. At its fourth session, the committee released the “Chair’s streamlined non-paper on elements of a draft text of an international legally-binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction”.⁸ The legislation work concerning the conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction (BBNJ) is proceeding at a rapid pace at the international level, which would eventually lead to the conclusion of a BBNJ Agreement under the UNCLOS.

UNCLOS is “a global convention applicable to all ocean space. No area of ocean is excluded. It follows that the convention must be of significance to

5 Letter dated 30 June 2011 from the Co-Chairs of the Ad Hoc Open-ended Informal Working Group to the President of the General Assembly: Recommendations of the Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction and Co-Chairs’ summary of discussions, United Nations General Assembly, A/66/119, para. I(1)(a).

6 Resolution adopted by the General Assembly on 19 June 2015 [without reference to a Main Committee (A/69/L.65 and Add.1)]: Development of an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, United Nations General Assembly, A/RES/69/292, p. 1.

7 Resolution adopted by the General Assembly on 19 June 2015 [without reference to a Main Committee (A/69/L.65 and Add.1)]: Development of an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, United Nations General Assembly, A/RES/69/292.

8 At <http://www.un.org/depts/los/biodiversity/prepcom.htm>, 1 July 2018.

the Southern Ocean in the sense that its provisions also apply to that ocean”.⁹ The Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, the Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982 and the forthcoming BBNJ Agreement are all implementation agreements of UNCLOS. Therefore, in the absence of special provisions on their application scopes, it is reasonable to conclude that the UNCLOS system consisting of a series of treaties based on the convention¹⁰ would, like the UNCLOS, be applicable to the Antarctic Ocean.

According to Article 6 of the Antarctic Treaty, the treaty applies to the sea area south of 60° south latitude. Although it stipulates that nothing in the Antarctic Treaty shall prejudice or in any way affect the legal status of the high seas south of 60° south latitude, in line with Article 4 of the treaty, territorial sovereignty disputes in the Antarctic continent are suspended. Since there still exists some controversy over the existence or absence of land territorial sovereignty in the Antarctic continent, the accurate scope of the high seas south of 60° south latitude, pursuant to the rule that “land dominates the sea”, a fundamental principle of the law of the

9 Report of the Secretary-General: Question of Antarctica, United Nations General Assembly, Doc. A/41/722, 17 November 1986, para. 115.

10 The expression “UNCLOS system” has appeared in many articles, including: PAN Xiaolin, Resolution of International Maritime Dispute with Reference to the United Nations Convention on the Law of the Sea, *Journal of Lanzhou University (Social Sciences)*, Vol. 42, No. 6, 2014 (in Chinese); FENG Xu, The Impact of Sea-Level Rise on Maritime Military Activities under the UNCLOS, *Chinese Review of International Law*, No. 5, 2017 (in Chinese); CHEN Li, Study on the Legal Status of Antarctic Ocean, *Fudan Journal (Social Sciences)*, No. 5, 2014 (in Chinese); Mary Lynn Canmann, A Review of the Application of the Antarctic Treaty and the New Law of the Sea to the Antarctic, *Colorado Journal of International Environmental Law and Policy*, Vol. 1, 1990, p. 211; Allan Young, Antarctic Resource Jurisdiction and the Law of the Sea: A Question of Compromise, *Brooklyn Journal of International Law*, 1985, pp. 45~78; Patrizia Vigni, The Interaction between the Antarctic Treaty System and the Other Relevant Conventions Applicable to the Antarctic Area, *Max Plank Yearbook of United Nations Law*, Vol. 4, 2000, pp. 481~542; Christopher C. Joyner, The Antarctic Treaty System and the Law of the Sea-Competing Regime in the Southern Ocean?, *International Journal of Marine and Coastal Law*, Vol. 10, Issue 2, 1995, pp. 301~332. In the papers above, the UNCLOS system is considered to be a system consisting of a series of treaties based on the UNCLOS, including the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, and the Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982. This view is adopted in this paper.

sea, cannot be determined at the moment. Despite that the scope of the high seas and the Area in the Antarctic are uncertain, their existence is without any doubt. The provision of Article 6 recognizes the existence of high seas in the Antarctic waters; otherwise, it would be unnecessary to provide for the relationship between the high seas and the Antarctic waters. The BBNJ Agreement under the UNCLOS aims to conserve the marine living resources in the high seas and the Area, and to protect their marine habitats. The high seas and the Area also exist in the Antarctic Ocean. In this connection, the forthcoming BBNJ Agreement equally applies to the Antarctic Ocean.

However, a series of treaties based on the Antarctic Treaty have been adopted within the framework of Antarctic Treaty Consultative Meeting (ATCM), including the Convention for the Conservation of Antarctic Seals (CCAS), CAMLR Convention, and the Protocol on Environmental Protection to the Antarctic Treaty, also known as the Madrid Protocol. Being applicable to all the Antarctic waters, including the high seas and the Area, these treaties have already regulated the conservation and protection of the marine living resources and their habitats in the Antarctic. That is to say, the marine areas and affairs that the BBNJ Agreement intends to regulate in the Antarctic Ocean have already been under the application scope of the Antarctic Treaty system. Consequently, the high seas and the Area in the Antarctic would be regulated both by the BBNJ Agreement and the Antarctic Treaty system. Additionally, given the fragile natural environment of the Antarctic and international political calls for strict protection for it, the standards for living resources conservation and marine environmental protection in the Antarctic waters under the Antarctic Treaty system would possibly vary from those under the BBNJ Agreement.

Delegates from all over the world, therefore, should pay attention to the existence of the high seas and the Area within the Antarctic, and realize that the core issues to be regulated by the BBNJ Agreement have already been addressed by the Antarctic Treaty system through treaties and relevant measures. In the legislative work concerning the BBNJ Agreement, the harmonization of the agreement and the Antarctic Treaty system should be discussed.

II. Necessity of Harmonization

As mentioned above, the BBNJ Agreement under the UNCLOS applies to all oceans in the world, including those in Antarctica. However, the application of

the BBNJ Agreement to the Antarctic waters, on the one hand, would give rise to conventional disputes over territorial sovereignty in Antarctica, jeopardizing the foundation of the Antarctic Treaty system; on the other hand, the Antarctic Treaty system, as a legitimate authority in the governance of Antarctic land and marine affairs, has regulated the core issues relating to BBNJ, posing challenges to the application of the BBNJ Agreement to the Antarctic waters. In view of this, it is necessary to discuss the harmonization between the BBNJ Agreement and the Antarctic Treaty system during the drafting of the agreement.

A. The Application of the BBNJ Agreement to Antarctica Leads to Concerns over Territorial Sovereignty Disputes

When capitalism entered into monopoly stage in the late 19th century and the early 20th century, it kicked off a frenzy to carve up the world, including the Antarctic land. Seven countries including the UK, New Zealand, Australia, France, Norway, Chile and Argentina, laid territorial claims to 83% of the land at Antarctica.¹¹ The Soviet Union and the United States, two superpowers at that time, did not explicitly make territorial claims to Antarctica, but declared that they reserved the rights of making such claims to Antarctica and maintained their vital interests there. “The claims or reservations of these countries are not balanced or even conflicting with each other, and relations of these countries in Antarctica are becoming increasingly tense.”¹² The announcement of the Truman Doctrine in 1947 marked the arrival of the “cold war period”. Two different camps, led by the United States and the Soviet Union respectively, fought against each other around the

11 HU Dekun and TANG Jingyao, *The Antarctic Territorial Dispute and the Conclusion of the Antarctic Treaty*, *Wuhan University Journal (Humanity Sciences)*, Vol. 63, No. 1, 2010. (in Chinese)

12 HU Dekun and TANG Jingyao, *The Antarctic Territorial Dispute and the Conclusion of the Antarctic Treaty*, *Wuhan University Journal (Humanity Sciences)*, Vol. 63, No. 1, 2010. (in Chinese)

world, with Antarctica being no exception,¹³ leading to even tenser relations among States in Antarctica. However, during the International Geophysical Year 1957-1958, various States carried out scientific research and cooperation in the Antarctic in a peaceful manner. “Many nations benefited from the international cooperation engendered by the International Geophysical Years (IGY), and were keen to see the cooperation to continue”.¹⁴ Against this backdrop, for the purpose of keeping peace in Antarctica, and continuing scientific research in the region, the relevant States agreed to put aside territorial sovereignty disputes, and freeze territorial claims in the Antarctic provided the parties are allowed to “agree to disagree” over sovereignty claims. Therefore, territorial sovereignty disputes are among the core issues addressed by the Antarctic Treaty and the system based on it.

The solution above, that is, to freeze territorial claims in the Antarctic, is innovative, but not perfect, because it did not fundamentally solve the issue, but left it to later generations. As a result, when it comes to issues involving the Antarctic, one always needs to interpret and deal with them cautiously and carefully, preventing against the risk of undermining the peace and stability of the region. The delimitation of sea areas is one of such issues.

From the four Geneva Conventions of 1958 (Convention on the Territorial Sea and the Contiguous Zone, Convention on the High Seas, Convention on the Continental Shelf, and Convention on Fishing and Conservation of the Living

13 HU Dekun and TANG Jingyao, The Antarctic Territorial Dispute and the Conclusion of the Antarctic Treaty, *Wuhan University Journal (Humanity Sciences)*, Vol. 63, No. 1, 2010 (in Chinese). At the first conference held in July 1955 in preparation for the International Geophysical Year, the Soviet Union announced the establishment of three scientific research stations in Antarctica. Soon afterwards, the U.S. Department of Defense urgently demanded the navy to send a task force to visit the location where the Soviet Union planned to build their stations, with the purpose of predicting the direction of the Soviet Union. On 21 August 1957, the Soviet Union successfully test-fired SS-6 Sapwood, which was the world’s first intercontinental missile. On October 4 of the same year, it successfully launched the first man-made earth satellite. All these stirred up concerns in the southern hemisphere. The U.S. government formulated the second Antarctic program— the Operation Deep Freeze II (1956-1957), with the aim to keep Antarctica under the control of the U.S. and its allies. Taking advantage of the International Geophysical Year (1957-1958), the Soviet Union participated in a large number of scientific investigations, and decided to transform its bases and research stations in the International Geophysical Year into permanent research stations. It also announced a comprehensive long-term Antarctic plan, including the use of atomic energy and the launching of satellites in Antarctica.

14 Marcus Haward, The Law of the Sea Convention and the Antarctic Treaty System: Constraints or Complementarities?, in Seoung-Yong Hong and Jon M. Van Dyke eds., *Maritime Boundary Disputes, Settlement Processes, and the Law of the Sea*, Boston: Martinus Nijhoff Publishers, 2009, p. 237.

Resources of the High Seas), to the UNCLOS of 1982, the law of the sea has gradually developed, and the delimitation of marine areas has constantly changed at the global level, resulting in the expansion of areas under national jurisdiction and the shrinking of area of the high seas. However, the rule that “land dominates the sea” has always been the bedrock of the law of the sea. In accordance with Article 4 of the Antarctic Treaty, territorial sovereignty disputes between the relevant States in Antarctica have been suspended.¹⁵ In that case, the so-called “bi-focal approach”, a method used to settle territorial sovereignty disputes in the Antarctic, was formed to avoid the escalation of territorial sovereignty disputes and promote scientific research in Antarctica. It is noteworthy, however, that this approach has led both claimants and non-claimants to believe that the Antarctic Treaty supports their territorial claims. Since the Antarctic waters contain rich fisheries, oil, gas and mineral resources and such resources have important strategic significance, both claimants and non-claimants tend to treat the delimitation of the Antarctic waters based on their own interests. According to the principle of the domination of the land over the sea, all sea areas are measured from the territorial sea baselines, and the drawing of such baselines is preconditioned on the existence of land territorial sovereignty. Therefore, for the Antarctic Ocean, all the non-claimants would assert that all the sea area south of 60° south latitude in the Antarctic should be the high seas. In contrast, the claimants would argue that “the Treaty does not affect preexisting territorial claims nor the consequences of preexisting sovereignty”,¹⁶ in other words, they assert that the area south of that latitude, excluding the territorial sea, contiguous zone and exclusive economic zone, should be the high seas.

According to incomplete statistics, Australia, New Zealand, France, the UK,

15 Article 4 of the Antarctic Treaty: 1. Nothing contained in the present Treaty shall be interpreted as: a) a renunciation by any Contracting Party of previously asserted rights of or claims to territorial sovereignty in Antarctica; b) a renunciation or diminution by any Contracting Party of any basis of claim to territorial sovereignty in Antarctica which it may have whether as a result of its activities or those of its nationals in Antarctica, or otherwise; c) prejudicing the position of any Contracting Party as regards its recognition or non-recognition of any other State's right of or claim or basis of claim to territorial sovereignty in Antarctica. 2. No acts or activities taking place while the present Treaty is in force shall constitute a basis for asserting, supporting or denying a claim to territorial sovereignty in Antarctica or create any rights of sovereignty in Antarctica. No new claim, or enlargement of an existing claim, to territorial sovereignty in Antarctica shall be asserted while the present Treaty is in force.

16 Ralph L. Harry, *The Antarctic Regime and the Law of the Sea: An Australian's View*, *Virginia Journal of International Law*, Vol. 21, Issue 4, 1981, p. 734.

*Argentina and Chile have made statements on the territorial sea; Norway reserves the right to make a statement; Australia, New Zealand, France, Argentina and Chile have made statements on the contiguous zone; Australia, the UK and Norway have filed their submissions on the proposed outer limits of its continental shelf beyond 200 nautical miles to the Commission on the Limits of the Continental Shelf; and New Zealand has declared that it reserves the rights to claim outer continental shelf in the Antarctic.*¹⁷

The passage above suggests that the Antarctic territorial disputes, which have been suspended for more than half a century due to the “freezing rule”, have moved their arena from the Antarctic continent to the Southern Ocean that has greater strategic and resource implications.¹⁸

The BBNJ Agreement centers on the marine living resources in the areas beyond national jurisdiction (i.e., the high seas and the Area) and their marine habitats. The rationale behind this, is that many States intend to, based on the theory related to the “tragedy of the commons”, conserve and protect the marine living resources in the “commons” beyond national jurisdiction and their marine habitats, for the common interests of mankind. Therefore, one important characteristic of the BBNJ Agreement is that it applies to the high seas and the Area. When it comes to the Antarctic waters, the BBNJ Agreement applies to the high seas and the Area within the Antarctic. However, the claimants and non-claimants, as mentioned above, did not come into an agreement concerning the precise scope of the high seas and the Area in Antarctic waters. A State may claim sovereignty or sovereign rights over certain sea areas only when it has territorial sovereignty over a piece of land. If the existence of the territorial sea and exclusive economic zone over which a State has sovereignty or sovereign rights is confirmed, it implies that the existence of land territorial sovereignty has been confirmed already. With regards to the application scope of the BBNJ Agreement, if the agreement is applicable to all Antarctic waters, it may suggest that the agreement does not assert that the Antarctic includes sea areas where a State has sovereignty or sovereign rights; in other words, the agreement considers Antarctica as a place without land territorial sovereignty, supporting the contentions of the non-claimants. In contrast, if the

17 CHEN Li, Study on the Legal Status of Antarctic Ocean, *Fudan Journal (Social Sciences)*, No. 5, 2014. (in Chinese)

18 CHEN Li, Study on the Legal Status of Antarctic Ocean, *Fudan Journal (Social Sciences)*, No. 5, 2014. (in Chinese)

agreement merely applies to some parts of the Antarctic waters (i.e., areas beyond national jurisdiction), it may imply that the agreement believes that the Antarctic has sea areas where a State has sovereignty or sovereign rights; in other words, the agreement considers Antarctica as a place with land territorial sovereignty, thus supporting the contentions of the claimants. In that case, no matter how the BBNJ Agreement applies to the Antarctic waters, it will give rise to the core issue of the Antarctic Treaty and the Antarctic Treaty system: territorial sovereignty disputes, as long as it is applicable to the high seas and the Area which are beyond national jurisdiction. Therefore, when applying the BBNJ Agreement to the Antarctic waters, in order to avoid territorial disputes, the harmonization between the agreement, the Antarctic Treaty and other pertinent treaties under the Antarctic Treaty system should be examined, so as to ensure the integrity of the agreement and the peace and stability of Antarctica.

B. The Antarctic Treaty System Has Already Addressed the Core Issues of BBNJ in Antarctica

The BBNJ Agreement focuses on the conservation and protection of marine living resources and their habitats in the high seas and the Area. According to Resolution A/RES/69/292 adopted by UNGA,¹⁹ the BBNJ Agreement will address: “marine genetic resources, including questions on the sharing of benefits, measures such as area-based management tools, including marine protected areas, environmental impact assessments, capacity-building and the transfer of marine technology”.²⁰ Currently, there is also a heated discussion on illegal, unreported and unregulated fishing (IUU Fishing) among the delegations. The Antarctic also includes high seas and the Area, and the issues mentioned-above have long been noted by the Antarctic Treaty system.

The CAMLR Convention was adopted on 20 May 1980 and came into force on 7 April 1982. According to paragraph 1 of the preface and Article 1.1, “recognizing the importance of safeguarding the environment and protecting the integrity of the

19 Resolution adopted by the General Assembly on 19 June 2015 [without reference to a Main Committee (A/69/L.65 and Add.1)]: Development of an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, United Nations General Assembly, A/RES/69/292.

20 The current discussions of the Preparatory Committee still focus on the above-mentioned aspects. At <http://www.un.org/depts/los/biodiversity/prepcom.htm>, 1 July 2018.

ecosystem of the seas surrounding Antarctica”, CAMLR Convention “applies to the Antarctic marine living resources of the area south of 60° South latitude and to the Antarctic marine living resources of the area between that latitude and the Antarctic Convergence which form part of the Antarctic marine ecosystem”. That is to say, the CAMLR Convention is aimed to conserve the marine living resources and the ecosystem in the Antarctic, including the area south of 60° south latitude and the area between that latitude and the Antarctic Convergence. In respect to the waters surrounding Antarctica, the purposes of the CAMLR Convention and the BBNJ Agreement are identical. Notably, the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), which was established based on the CAMLR Convention, has already addressed issues like IUU fishing and marine protected areas (MPAs) on the high seas.

A proposal for the establishment of the South Orkney Islands Southern Shelf (SOISS) MPA was raised by the UK at the Twenty-eighth Meeting of the CCAMLR, which won the support of many delegates. The SOISS MPA was officially established in May 2010, becoming the world’s first MPA completely located on the high seas (beyond national jurisdiction). The Antarctic Treaty system is therefore advanced and experienced in respect to MPAs beyond national jurisdiction. “As one of the measures or means used to conserve Antarctic marine living resources, the MPA regime, although created late, has become a focus and leading issue in the current CAMLR Convention mechanism”.²¹ In 2011, the CCAMLR adopted the General Framework for the Establishment of CCAMLR Marine Protected Areas. Paragraph 1 of the preamble of the General Framework provides that the Antarctic MPAs are established “with the aim of conserving marine biodiversity in the Convention Area.”

Initially mentioned on a CCAMLR meeting agenda in 1997, the term “IUU fishing” was coined mainly to deal with the illegal fishing of Antarctic toothfish (*Dissostichus Mawsoni*).²² Subsequently, the CCAMLR developed many measures against IUU fishing in Antarctic waters. For example, the Commission established the Catch Documentation Scheme (CDS) in 1999 and implemented it in May 2000. Under the CDS system, a CAMLR Convention member needs to take

21 CHEN Li, Study on the Legal Status of Antarctic Ocean, *Fudan Journal (Social Sciences)*, No. 5, 2014. (in Chinese)

22 David J. Doullman, Illegal, Unreported and Unregulated Fishing: Mandate for an International Plan of Action, para. 38, at <http://www.fao.org/docrep/005/Y3274E/y3274e06.htm>, 1 July 2018.

measures to confirm the origin of the Antarctic toothfish imported to or exported from its territory, to ascertain whether the toothfish was caught from the CAMLR Convention Area; if the toothfish on board was indeed captured from the CAMLR Convention Area, then it should determine whether such fishing activities have violated the conservation measures under the CAMLR Convention.²³ In order to ensure the authenticity and accuracy of the fishing information of the toothfish recorded by fishing vessels under the CDS system, the CCAMLR proposed to establish a centralized vessel monitoring system in 2003. That is, the Commission would have the vessel monitoring system installed on the fishing vessels of each member in a centralized way, and the information recorded by the system would be truly sent to the secretariat, guaranteeing the authenticity of the information recorded.²⁴ In 2001, the CCAMLR, based on the recommendations of the Standing Committee on Inspection and Compliance, decided to establish a list of flags of convenience, seeking to record the vessels flying flags of convenience that have engaged in IUU fishing in Antarctic waters.²⁵ The Commission went ahead to set up two IUU vessel lists, respectively recording the information of the contracting party and that of non-contracting party vessels carrying out IUU fishing activities in Antarctic waters. It is critically germane that such information be updated annually, with some items being added or deleted.²⁶

The use of marine genetic resources has long been noted within the ATCM framework. Since the UK presented the first working report on biological prospecting in 2002,²⁷ France, New Zealand, Norway, Sweden, Argentina, and many other countries as well as the Committee for Environmental Protection have submitted documents concerning biological prospecting at the ATCM. Specifically, the 28th ATCM officially acknowledged this issue in 2005. In its final report in

23 CHEN Danhong, Analysis on the Strategies of CCAMLR's Activities against IUU Fishery in South Ocean, *Ocean Development and Management*, No. 11, 2009 (in Chinese); CHEN Sixing, Issue of IUU Fishing and Its Countermeasures, *Chinese Fisheries Economics*, No. 1, 2002. (in Chinese)

24 CCAMLR, Report of the Twenty-Second Meeting of the Committee, p. 77, at <http://www.ccamlr.org/en/system/files/e-cc-xxii.pdf>, 1 July 2018.

25 CCAMLR, Report of the Twenty-Second Meeting of the Committee, p. 19, at <http://www.ccamlr.org/en/system/files/e-cc-xxii.pdf>, 1 July 2018.

26 CCAMLR, Schedule of Conversation Measures in Force 2004/2005 Season, at <https://www.ccamlr.org/en/measure-32-09-2004>, 1 July 2018.

27 The term "biological prospecting" presently has no uniform definition. In this paper, "biological prospecting" is used interchangeable with the "use of genetic resources", because both, in any case, should include the commercial use of biogenetic resources; otherwise it would be equivalent to scientific research, which needs no special discussion.

2007, the 30th ATCM decided to establish an informal open-ended web-based Intersessional Contact Group (ICG), with Switzerland as the convener of the Contact Group.²⁸ At the 31st ATCM in 2008, the ICG released a report highlighting seven key areas for attention in Antarctic biological prospecting.²⁹ At the 32nd ATCM of 2009, France proposed that a legal system regulating Antarctic biological prospecting should be established. It can be seen that under the Antarctic Treaty system, the legislative work concerning the utilization of genetic resources has been carried out step by step. Resembling the case of legislation on mineral resources, when the use of marine genetic resources beyond national jurisdiction started to be discussed under the UNCLOS system, the Antarctic Treaty system, in order to maintain its jurisdictional interests, also began to discuss the regulation on the use of genetic resources under its jurisdiction.

To sum up, MPAs in high seas, IUU fishing and other issues to be addressed by the BBNJ Agreement have already been regulated by the relevant treaties and measures within the Antarctic Treaty system, and the legislation work on the use of marine genetic resources has also been started within the framework of ATCM. Since the Antarctic Treaty system has dealt with these issues, delegates participating in the legislation work concerning BBNJ Agreement should discuss the harmonization and compatibility of the agreement and the system in this respect, so as to avoid overlapping problems and potential conflicts.

C. The Antarctic Treaty System Has Become a Model in the Governance of Antarctic Land and Marine Affairs

Antarctica has a unique natural environment. Being located in the southernmost part of the earth, the Antarctic continent contains the geographic South Pole. Although covered by ice and snow all the year round, the continent is the world's driest area. It is also the windiest region with the lowest average temperature and the highest wind speed in the world. The seas around the Antarctic continent are often cold with harsh and unpredictable weather throughout the year.³⁰

28 Final Report of the Thirtieth Antarctic Treaty Consultative Meeting, New Delhi, India, 30 April-11 May 2007, Buenos Aires: Secretariat of the Antarctic Treaty, paras. 262~263.

29 Report of the ATCM Intersessional Contact Group to Examine the Issue of Biological Prospecting in the Antarctic Treaty Area, ATCM XXXI, WP4.

30 REN Fei, *Research on Ecological Strategy of Architecture Design for Buildings in Antarctica – Extension and Rebuilding Design for Zhongshan Station of China in Antarctica* (Doctoral Dissertation), Beijing: Tsinghua University, 2005, p. 7. (in Chinese)

This unique natural environment makes it difficult for human beings to survive in Antarctica. And also because of that, the Antarctic continent has become a virgin land that has not been “touched” by human beings and is of great scientific value. Notwithstanding the earlier statements, “the Antarctic continent contains more than 200 kinds of mineral resources including coal, iron, copper, lead, zinc, aluminum, gold, silver, graphite and adamas, as well as rich petroleum and natural gas”.³¹ All these factors, together with its strategic significance, make the uninhabitable Antarctica of harsh natural conditions an object of contention for humans, with a unique international political environment formed in the South Pole. On the one hand, claimants and non-claimants have disagreements on territorial claims to the Antarctic continent; the non-claimants not only deny the territorial sovereignty claims of the claimants, but also assert that no territorial sovereignty claims should be made to the Antarctic continent. Antarctica, on the other hand, is of great research value, attracting to it all countries of the world with vested interest of gaining first-hand research information. Countries have benefited greatly from the Antarctic scientific research cooperation conducted in the International Geophysical Year and hope to continue such research without obstacles. This aspiration has prompted countries to express their strong political will to shelve existing territorial sovereignty disputes and pave the way for obstacle-free scientific research in Antarctica.

The Antarctic Treaty was created in the unique natural and political environment described above. The Antarctic Treaty system, which was developed on the basis of the said treaty, governs the Antarctic in line with its characteristics. This very important treaty system has evolved into a model of governance for the Antarctic region.

After the adoption of the UNCLOS, it was agreed that mineral resource activities in the Area would be managed by the International Seabed Authority (ISA), duly established under UNCLOS, Part XI. Despite that the scope of the high seas and the Area in the Antarctic are uncertain, their existence is without any doubt. The Antarctic Treaty Consultative Parties, for the purpose of protecting their jurisdictional interests, were committed to developing a convention on mineral resources under the Antarctic Treaty system on the basis of the Antarctic Treaty, before the adoption of the UNCLOS. To that end, some Consultative

31 PAN Min, On the Challenges Facing the Mineral Resources System in Antarctica, *Contemporary International Relations*, No. 6, 2011. (in Chinese)

Parties contend that the dedication of ATCM's activities on the Antarctic continent is a fight for the peace and science of the Antarctic, thus the ATCM "is already functioning on the basis of the interests of all the mankind as a whole".³² It was further agreed at the ATCM in 1984 that all contracting parties could attend the negotiations on the Convention on the Regulation of Antarctic Mineral Resources Activities (CRAMRA) and several Third World States, including India and China, were granted Consultative Party status.³³ Antarctica's extreme natural environment has left it a virgin land "untouched" by humans and its ecological environment fragile. In order to protect the fragile ecological environment of Antarctica, the Madrid Protocol replaced the CRAMRA, prohibiting all mineral resource activities in Antarctica other than those required for scientific research.³⁴ With the conclusion of the protocol, "environmental protection", an important feature of Antarctic governance, has reached its peak. From the discussion on the Antarctic mineral resource activities to the eventual banning of such activities, the Antarctic Treaty system has always been the sole subject regulating these activities. This system has become a unique mechanism prohibiting these activities, posing "challenges" to the ISA under the UNCLOS. Notably, this mechanism meets the needs of the unique natural and political environment of Antarctica, and is therefore widely accepted by the international community as an authority in the governance of Antarctic mineral resource activities.

In the 1960s, the development of fishing technology led to the gradual depletion of offshore fishery resources. On the one hand, States began to search for new fishing grounds and on the other, gradually accepted the view that coastal States had important interests in the waters extending up to 200 nautical miles from the baselines of their territorial seas. Therefore, while the UNCLOS was still under negotiation, the concept of "exclusive economic zone", once introduced, was generally accepted by all States. "In 1975, only thirteen States were claiming 200-mile zones. But by the beginning of 1978, fifty-four States had claimed them".³⁵ It meant that coastal States were going to have jurisdiction over the area of ocean

32 Statement by Mr Austad (Norway) in United Nations General Assembly Records, 39th Session, 52nd meeting of First Committee, A/C.1/39/PV.52, 30 November 1984, p. 12.

33 Shirley V. Scott, *The Law of the Sea and the Polar Regions: Interactions between Global and Regional Regimes*, Boston: Martinus Nijhoff Publishers, 2013, p. 29.

34 Article 7 of the Madrid Protocol states that "Any activity relating to mineral resources, other than scientific research, shall be prohibited."

35 U.S. Department of State, *Limits in the Seas*, No. 36, rev. 3 (December 1975), pp. 13~15 and rev. 4 (December 1981), pp. 2~7.

where 99 percent of the world's edible fish lived and bred.³⁶ This legal change intensified the search for suitable fishing grounds, including the waters around Antarctica.³⁷ Nevertheless, the exploitation of Antarctic fishery resources did not come with great optimism. Starting in the early 1960s with "experimental" krill fishing in Antarctic waters by Japan and the Soviet Union, to the mid and late 1970s, the numbers of krill, finned fish and other fishery resources caught by States in Antarctic are alarming. Reported krill catches increased from some 7,500 metric tons in 1973-1974 to about 41,000 in 1976-1977. Even allowing for the likelihood of underreporting in the earlier data, this was a formidable increase in effort. Meanwhile, reported catches of finned species continued to fluctuate, moving from 25,000 metric tons in 1974-1975 to 258,000 in 1977-1978 and 115,000 in 1979-1980.³⁸ This phenomenon triggered fears of ATCM that unless something was done quickly to regulate such fishing operations, the krill and finned fish "would go the way of the whales to near-extinction through wild overfishing".³⁹

*By the ninth consultative meeting in 1977, all Consultative Parties had agreed that they had to establish some form of regulation for Southern Ocean fishing. They were far from united on the form this regulation should take, but they did agree that unless the Consultative Parties acted, UNCLOS III or some other UN body was likely to take up the issue.*⁴⁰

Eventually, the Consultative Parties held a meeting in 1980, inviting all the major Antarctic krill and finned fish fishing States. The CAMLR Convention was adopted at the meeting, to conserve and protect the marine living resources and their habitats in the area south of the Antarctic convergence. As mentioned above, the CCAMLR has taken measures, such as CDS and lists of IUU vessels to combat IUU fishing in Antarctic waters. In addition, it has cooperated with the Food and Agriculture Organization of the United Nations (FAO), the Conference of Parties

36 M. J. Peterson, Antarctic Implications of the New Law of the Sea, *Ocean Development and International Law*, Vol. 16, Issue 2, 1986, pp. 137~182.

37 M. J. Peterson, Antarctic Implications of the New Law of the Sea, *Ocean Development and International Law*, Vol. 16, Issue 2, 1986, pp. 137~182.

38 M. J. Peterson, Antarctic Implications of the New Law of the Sea, *Ocean Development and International Law*, Vol. 16, Issue 2, 1986, pp. 137~182.

39 M. J. Peterson, Antarctic Implications of the New Law of the Sea, *Ocean Development and International Law*, Vol. 16, Issue 2, 1986, pp. 137~182.

40 M. J. Peterson, Antarctic Implications of the New Law of the Sea, *Ocean Development and International Law*, Vol. 16, Issue 2, 1986, pp. 137~182.

to the Convention on International Trade in Endangered Species of Wild Fauna and Flora, and the port States where the catches resulting from IUU fishing are landed to comprehensively curb IUU fishing in Antarctic waters. The protection of Antarctic marine living resources and their habitats is underway aggressively under the guidance of CAMLR Convention and CCAMLR.

In addition, as mentioned above, in order to protect Antarctic marine environment, the MPA regime was established by the CCAMLR. Within the framework of ATCM, the utilization of Antarctic marine and terrestrial genetic resources has already been explored. Therefore, taking into account the natural and political environment of the Antarctic, the Antarctic Treaty and the system based on it, have ever since their inception, confined their application scope to the Antarctic lands and seas. Holding aloft the banner of peace and scientific research, and with the persistent efforts of the powerful Consultative Parties, they have succeeded in resisting the interference from the United Nations. Moreover, they have governed the Antarctic land and marine affairs according to its essential features. "The basic spirit of peace and scientific research freedom" under the Antarctic Treaty,

*is still not out of date, and the core principle of freezing territorial claims still has practical significance. The Antarctic Treaty system, formed gradually under the framework of the basic spirit and the core principle, remains the only effective and practical legal system and policy framework to protect Antarctic environment, encourage scientific research, and promote international cooperation at the South Pole and regulate the pertinent activities carried out by States in the Antarctic.*⁴¹

The Antarctic Treaty system is a model in the governance of Antarctic land and marine affairs. The BBNJ Agreement, which will also apply to Antarctic waters, must harmonize with this system.

III. The Feasibility of Harmonization

As stated above, legislative work concerning the BBNJ Agreement under

41 GUO Peiqing and SHI Huawei, The Antarctic Treaty at 50: Challenges and Future Trend, *Journal of Ocean University of China (Social Sciences)*, No. 1, 2010. (in Chinese)

the UNCLOS is underway.⁴² The agreement would cover issues like utilization of marine genetic resources, high seas MPAs and IUU fishing. Additionally, since the Ad Hoc Working Group believes that increasing scientific knowledge of the oceans remains a major challenge,⁴³ scientific research would also be an important part of the BBNJ Agreement. In that case, the author will examine the feasibility of the harmonization between the BBNJ Agreement and the Antarctic Treaty system from these aspects.

A. Scientific Research

The Antarctic Treaty is the bedrock of the Antarctic Treaty system, and freedom of scientific research and territorial sovereignty are two key concepts that have been highly advocated from the beginning of negotiations on the treaty to the adoption of the final text. “Scientific developments during the second World War (particularly in the areas of rocketry, radar and radio) together with the awareness of the importance of the Polar areas for understanding the earth’s magnetic field drove interest in large-scale scientific experiments”.⁴⁴ Instructively, from 1 June 1957 to 31 December 1958, “12,000 scientists from 67 nations generated a total of 48 volumes and an unprecedented number of Antarctic scientific papers”.⁴⁵ After studying the Antarctic in peace, many States were eager to continue the

42 Resolution adopted by the General Assembly on 19 June 2015 [without reference to a Main Committee (A/69/L.65 and Add.1)]: Development of an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, United Nations General Assembly, A/RES/69/292.

43 Co-Chairs’ summary of discussions at the Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction, United Nations General Assembly, A/69/82, para. 11, at <http://undocs.org/A/69/82>, 1 July 2018.

44 Marcus Haward, *The Law of the Sea Convention and the Antarctic Treaty System: Constraints or Complementarities?*, in Seoung-Yong Hong and Jon M. Van Dyke eds., *Maritime Boundary Disputes, Settlement Processes, and the Law of the Sea*, Boston: Martinus Nijhoff Publishers, 2009, p. 236.

45 Marcus Haward, *The Law of the Sea Convention and the Antarctic Treaty System: Constraints or Complementarities?*, in Seoung-Yong Hong and Jon M. Van Dyke eds., *Maritime Boundary Disputes, Settlement Processes, and the Law of the Sea*, Boston: Martinus Nijhoff Publishers, 2009, pp. 236~237.

international cooperation engendered by the International Geophysical Years.⁴⁶ Therefore, upon negotiations lasting 18 months from June 1958 to December 1959, the Antarctic Treaty was adopted in Washington, after allowing parties to “agree to disagree” over sovereignty claims in Antarctic. Territorial sovereignty is fundamental to a State. However, in order to conduct scientific research as soon as possible in the Antarctic without obstacles, the contracting parties to the Antarctic Treaty shelved sovereignty disputes aside. Such a big sacrifice is sufficient to show that the freedom of scientific research occupies an important position in the Antarctic Treaty system. This point can also be detected in other treaties of that system. For example, according to Article 1(7) of the CRAMRA,⁴⁷ “mineral resource activities” in the Antarctic should not include those conducted for the purpose of scientific research, so that the rigid measures imposed on Antarctic mineral resource activities would not affect the freedom of scientific research. In line with Article 7 of the Madrid Protocol, and in spite of its total ban on all mineral resource activities in Antarctica, those conducted for the purpose of scientific research are exempted from this ban. It is therefore reasonable to believe that freedom of scientific research is the cornerstone of the entire Antarctic Treaty system and has always been given priority in discussions on any issue relating to the Antarctic.

The Ad Hoc Working Group is also aware of the significance of scientific research, since it “noted that increasing scientific knowledge of the oceans was a major challenge. In that regard, a call was made to prioritize research, monitoring and assessment of the impacts of human activities on marine biodiversity beyond areas of national jurisdiction”.⁴⁸ This indicates that our understanding of the areas outside national jurisdiction remains insufficient, and the impacts of human activities on these sea areas remain unclear. The legislation work concerning the

46 Marcus Haward, *The Law of the Sea Convention and the Antarctic Treaty System: Constraints or Complementarities?*, in Seoung-Yong Hong and Jon M. Van Dyke eds., *Maritime Boundary Disputes, Settlement Processes, and the Law of the Sea*, Boston: Martinus Nijhoff Publishers, 2009, p. 237.

47 Article 1(7) of CRAMRA: “Antarctic mineral resource activities” means prospecting, exploration or development, but does not include scientific research activities within the meaning of Article III of the Antarctic Treaty.

48 Letter dated 5 May 2014 from the Co-Chairs of the Ad Hoc Open-ended Informal Working Group to the President of the General Assembly: Co-Chairs’ summary of discussions at the Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction, United Nations General Assembly, A/69/82, at <http://undocs.org/A/69/82>, 1 July 2018.

BBNJ Agreement is progressing steadily. In order to develop appropriate laws and policies, it is essential to have a deep and clear understanding of the oceans as well as the impact of human activities on the oceans. To this end, scientific research should be carried out, and such laws and policies, after being formulated, need to be implemented by taking concrete measures. Nevertheless, the measures taken should also be based on scientific research. On the basis of scientific data obtained, scientific measures and technical methods should be adopted to effectively promote the conservation and sustainable use of marine biodiversity beyond national jurisdiction. Invariably, the formulation of appropriate laws and policies for BBNJ, as well as the adoption of feasible, practical and concrete measures, cannot be done without scientific research on the sea areas beyond national jurisdiction. Scientific research lays the foundation for legislation and law enforcement work in this field, and thus plays an important role in realizing the established goals and objectives. Therefore, with regards to the awareness of the importance of scientific research, no significant obstacles can be found affecting the harmonization between the Antarctic Treaty system and the BBNJ Agreement.

This paragraph will discuss the attitude towards scientific research. In accordance with Article 2 of Antarctic Treaty,⁴⁹ it is free to conduct scientific research in the Antarctic waters and land. The BBNJ Agreement should be made under the UNCLOS and applied to the high seas and the Area. In this connection, the provisions on scientific research under the agreement should comply with the relevant provisions under the UNCLOS. As per UNCLOS, Article 87(1), all States have the freedom to conduct scientific research on the high seas. And according to UNCLOS, Article 256, “all States, irrespective of their geographical location, and competent international organizations have the right, in conformity with the provisions of Part XI, to conduct marine scientific research in the Area”. Among all the articles under Part XI, Article 143 has the greatest relevance to scientific research.⁵⁰ It stipulates that both the ISA and States Parties may carry out marine scientific research in the Area and the ISA shall promote and encourage the conduct of marine scientific research in the Area. In the view of the author, Article

49 Article 2 of Antarctic Treaty: Freedom of scientific investigation in Antarctica and cooperation toward that end, as applied during the International Geophysical Year, shall continue, subject to the provisions of the present treaty.

50 Article 143 of UNCLOS states that marine scientific research in the Area shall be carried out exclusively for peaceful purposes and for the benefit of mankind as a whole, in accordance with Part XIII; the Authority may carry out marine scientific research concerning the Area and its resources; States Parties may carry out marine scientific research in the Area.

143 can be understood as an elaboration of Article 256, since its main content is actually the same as Article 256. Freedom of scientific research is included in the freedom of high seas, an ancient principle of the law of the sea. However, before humans were capable of exploiting resources of the subsoil beneath the high seas, freedom of the high seas was applied indiscriminately to the Area and the high seas. With the development of science and technology, humans are now able to exploit the resources of the subsoil. This phenomenon has led to the imposition of jurisdiction on the resources of the subsoil within national jurisdiction; and resources of the subsoil beyond national jurisdiction, are now separated from the high seas, where the principle of common heritage of mankind is applicable. This marks a breakthrough in the principle of freedom of the high seas. However, such a breakthrough is limited to the use of the resources of subsoil beyond national jurisdiction, while other components of the freedom of the high seas, including freedom of scientific research, should still be applied to the subsoil beneath the high seas. The BBNJ Agreement under the UNCLOS covers provisions concerning the freedom of scientific research in the high seas and the Area. Given the “harmlessness” of scientific research and its significant contribution to mankind, it should be argued that the BBNJ Agreement will treat marine scientific research in a way consistent with the UNCLOS, namely respecting the freedom of scientific research. It means that the BBNJ Agreement would be also compliant with the Antarctic Treaty system in this aspect. To put it another way, with respect to the attitude towards scientific research, no significant obstacles can be found affecting the harmonization between the BBNJ Agreement and the Antarctic Treaty system.

B. Utilization of Marine Genetic Resources

One of the important subject matters addressed by the BBNJ Agreement is the utilization of marine genetic resources. As early as 2002, the Antarctic Treaty began to discuss the exploitation of land and marine genetic resources. Environmental protection has always been an essential feature of the Antarctic Treaty system, paying particular concern to whether the use of genetic resources will affect the environment or otherwise. The utilization of genetic resources, regardless of its definition or designation, should include the commercialization of the achievements of scientific research. However, the huge benefits brought by commercialization and the sharing of such benefits would likely become an obstacle to the harmonization of the BBNJ Agreement and the Antarctic Treaty system.

The exploitation of genetic resources is not the same as that of mineral resources, although both are some kind of resources exploitation activities. Specifically, the latter is directed towards the physical object of ore, while the former is directed towards biogenetic diversity. A gene is a sequence of deoxyribonucleic acid (DNA), but the thing that makes it a valuable resource for humans is the genetic information it carries, which is virtual. Mineral extraction requires the collection of plenty ore; however, the acquisition of biological genes only needs a small amount of sample organisms, whose impact on both the biotic population size and the ecological environment is little or almost negligible.⁵¹ The exploitation of mineral resources would, inevitably, lead to the reduction of such resources. In contrast, due to the reproducibility of information, the utilization of genetic resources may not result in the reduction of these resources. Additionally, the BBNJ Agreement aims to conserve marine living resources in the high seas and the Area by protecting their ecological environment. Environmental protection will also be an important part of the BBNJ Agreement, which would be paid close attention throughout the exploitation of marine genetic resources. In short, due to the special nature of the exploitation of genetic resources, such activities would not affect the ecological environment, whether conducted in the high seas, the Area or the Antarctic waters. Furthermore, both the BBNJ Agreement and the Antarctic Treaty system would adhere to the principle of environmental protection during the exploitation of marine genetic resources. With this in mind, such exploitation activities would therefore not pose any obstacles to the harmonization between the two.

Even though the utilization of genetic resources has brought great new benefits, it should be noted that the distribution of such benefits does not involve the allocation of these resources *per se*. Genetic resource exploitation can be roughly divided into three steps: (a) to collect genetic materials; (b) to obtain valuable genes through analyzing the genetic materials in laboratory; (c) to make products by using the valuable genes and commercialize them. In these three steps, the last two are application of biotechnology based on the genetic materials obtained in the first step. Genetic materials could be acquired from their original habitats, places other than their habitats, or biological data. Acquisition from

51 Some argue that when the achievements of biotechnology are put into production, there would be the need to collect a large number of samples, which could have serious impact on biotic population size. However, this view is not supported by scientific data. Therefore, the author currently does not share in this viewpoint.

original habitats refers to the acquisition or collection of marine genetic resources from the natural environment of the areas beyond national jurisdiction; while acquisition from the last two means the acquisition of resources, information, materials and data by processing the marine genetic resources obtained from their original habitats, using methods such as separation, identification, screening and cultivating in laboratories and computer simulation analysis.⁵² According to these definitions, only the acquisition from original habitats may involve the ownership of marine genetic resources; the genetic materials obtained from the last two ways are, however, acquired by processing the materials obtained from their original habitats via biotechnology means, which are essentially the results of scientific research and do not involve the ownership of such resources. The acquisition of genetic materials from original habitats is, in line with UNCLOS Part XIII, a kind of marine scientific research in nature.⁵³ It merely needs to collect a small number of individual organisms, with little reduction in the number of organisms. Since each individual organism contains a whole set of genetic materials, the collection of genetic materials by one State does not affect such collections by other States. The piece of pie made of genetic resources would not be reduced by the exploitation of a State. Therefore, the share of benefits arising from the utilization of genetic resources does not mean to allocate the genetic resources *per se*.

The benefits arising out of genetic resource exploitation are, primarily, obtained by making products after processing the genetic materials through biotechnology and commercializing them. Such exploitation is made on the basis of genetic resources. The genetic resources to be regulated by the BBNJ Agreement are located in the commons outside national jurisdiction and are not owned by anyone. They are the common heritage of mankind, and the benefits arising therefrom should be shared by all human beings. However, the use of genetic resources does not involve the allocation of these resources *per se*, and it is impossible for all members of the international community to share the

52 Written Submission of the Government of the People's Republic of China on Elements of a Draft Text of an International Legally Binding Instrument under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction (as revised on 20 April 2017), at http://www.un.org/depts/los/biodiversity/prepcom_files/streamlined/China.pdf, 1 July 2018.

53 Written Submission of the Government of the People's Republic of China on Elements of a Draft Text of an International Legally Binding Instrument under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction (as revised on 20 April 2017), at http://www.un.org/depts/los/biodiversity/prepcom_files/streamlined/China.pdf, 1 July 2018.

relevant benefits by allocating the resources. Additionally, the development of biotechnology needs huge capital investment, which leads to the fact that the use of genetic resources in the high seas and the Area is actually monopolized by only a small number of States, leaving the interests of other States, especially the developing and least-developed States unsatisfied and unattended to.

Therefore, although the marine genetic resources are not owned by the users, the users still need to share some of their benefits with States that do not have access to such resources. This practice is called “benefit-sharing”, which is based on the principle of the benefit of mankind as a whole. In the discussions of the Ad Hoc Working Group and the Preparatory Committee, controversies arose among various interest groups with respect to the legal status of marine genetic resources in the high seas and the Area, and the benefit sharing scheme. States with advanced biotechnology tend to consider genetic resources to be free and open for access, and not owned by anyone. States with underdeveloped biotechnology hope to share the relevant benefits under the principle of “common heritage of mankind”. Some underdeveloped States do not even care about the legal status of genetic resources or the development of biotechnology in their own States, as long as they can get monetary benefits directly from States with advanced biotechnology.

However, according to UNCLOS, Preamble, paragraph 6, “the achievement of these goals will contribute to the realization of a just and equitable international economic order which takes into account the interests and needs of mankind as a whole and, in particular, the special interests and needs of developing countries, whether coastal or land-locked”, hence all economic activities within the framework of UNCLOS shall “contribute to the realization of a just and equitable international economic order” and take into account “the interests and needs of mankind as a whole”. This point has already been embodied in the utilization of mineral resources in the Area.⁵⁴ Possessing great commercial values, the exploitation of marine genetic resources in the high seas and the Area is likely to have greater impact on the international economic order than the use of mineral resources in the Area. The use of these genetic resources and the distribution of

54 For example, Article 140 of UNCLOS stipulates that “Activities in the Area shall, as specifically provided for in this Part, be carried out for the benefit of mankind as a whole, irrespective of the geographical location of States, whether coastal or land-locked, and taking into particular consideration the interests and needs of developing States and of peoples who have not attained full independence or other self-governing status recognized by the United Nations in accordance with General Assembly resolution 1514(XV) and other relevant General Assembly resolutions”.

benefits arising therefrom should certainly follow the principle of the “benefit of mankind as a whole” as set out in the Preamble to UNCLOS.

Within the Antarctic Treaty system, the benefits arising from the utilization of genetic resources should also be shared in line with the principle of the “benefit of mankind as a whole”. This principle can be seen throughout the Antarctic Treaty system. Antarctic Treaty, the bedrock of the Antarctic Treaty system, states in paragraph 2 of its preamble that “it is in the interests of all mankind that Antarctica shall continue forever to be used exclusively for peaceful purpose and shall not become the scene or object of international discord”. CRAMRA, a convention dealing with Antarctic resource utilization, reaffirms in paragraph 14 of its preamble that “the effective regulation of Antarctic mineral resource activities is in the interest of the international community as a whole”. And CRAMRA, Article 2(3) (g) provides that “In relation to Antarctic mineral resource activities, should they occur, the Parties acknowledge the special responsibility of the Antarctic Treaty Consultative Parties for the protection of the environment and the need to: ... (g) take into account the interests of the international community as a whole”. CAMLR Convention, Preamble, paragraph 9 states that “it is in the interest of all mankind to preserve the waters surrounding the Antarctic continent for peaceful purposes only and to prevent their becoming the scene or object of international discord”. And the Madrid Protocol, Preamble, paragraph 8 states that “the development of a comprehensive regime for the protection of the Antarctic environment and dependent and associated ecosystems is in the interest of mankind as a whole”.

Hence, it is reasonable to believe that the principle of the “benefit of mankind as a whole” stands for the value orientation and the guiding principle of the Antarctic Treaty system, which regulates all activities in the Antarctic, with the use of marine genetic resources being no exception. With respect to the distribution of the benefits arising from the exploitation of genetic resources, both the BBNJ Agreement and the Antarctic Treaty system should abide by the principle of the “benefit of mankind as a whole” and use it as their value orientation. In this sense, genetic resource exploitation may not greatly hinder the harmonization between the agreement and the system.

C. IUU Fishing

“IUU fishing” was first proposed by the CCAMLR to curb the threat of IUU fishing activities to the Antarctic marine living resources. IUU fishing, invoking

the freedom of fishing on the high seas as provided for in UNCLOS, has caused the “tragedy of the commons”, which is particularly evident in waters outside national jurisdiction. The Ad Hoc Working Group also noted that “unsustainable fishing, in particular overfishing, illegal, unreported and unregulated fishing and certain destructive fishing practices, was the greatest threat to marine biodiversity in those areas”.⁵⁵ Therefore, the BBNJ Agreement will take measures to regulate IUU fishing on the high seas. The CCAMLR, as mentioned above, has a long history and has accumulated a lot of experience in dealing with IUU fishing, through initiatives such as the CDS system and the IUU vessel list. When adopting measures to regulate IUU fishing activities on the high seas, the BBNJ Agreement should draw lessons from the measures and experiences of the CCAMLR.

In addition, one of the main problems that needs discussion with regards to IUU fishing in Antarctic waters, is the jurisdiction of the CCAMLR to regulate such activities. When vessels of contracting parties to CAMLR Convention engage in IUU fishing activities in convention area, the CCAMLR shall, of course, have jurisdiction over such vessels and may take appropriate measures. However, in the case of non-contracting parties, according to the basic principle of treaty law that a treaty shall enter into force only for the contracting States, the CCAMLR may have no legal basis for exercising jurisdiction over these IUU vessels. This is especially true in cases where the regulations set out by the CAMLR Convention do not constitute customary international law. Under this circumstance, IUU fishing activities are mainly regulated by flag States in accordance with their domestic law. That is to say, only flag States have jurisdiction and thus have the right to take corresponding measures against ships engaged in IUU fishing activities. However, due to their own interests and the existence of many ships flying flags of convenience, flag States are often unwilling or unable to manage their own vessels. Thus, even if an IUU fishing ship appears in the area of CAMLR Convention, the CCAMLR is incompetent to regulate it due to the lack of jurisdiction. Nevertheless, if the BBNJ Agreement and CAMLR Convention, both being applicable to the Antarctic waters, can cooperate and coordinate in the regulation of IUU fishing activities in these waters, the current situation of IUU fishing in Antarctic waters would be ameliorated and the Antarctic marine living resources would receive

55 Co-Chairs’ summary of discussions at the Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction, United Nations General Assembly, A/69/82, para. 10, at <http://undocs.org/A/69/82>, 1 July 2018.

better protection. Therefore, regarding the regulation of IUU fishing, the Antarctic Treaty system needs the cooperation and help of the BBNJ Agreement.

In conclusion, with regards to IUU fishing, the BBNJ Agreement needs to learn from the Antarctic Treaty system, while the latter needs the cooperation and assistance of the former. The two are mutually compatible and beneficial; therefore, there is little hindrance to their harmonization in this aspect.

D. Marine Protected Areas

The term MPA was first raised at the World Conference of National Parks in Seattle in 1962,⁵⁶ and has no precise definition at present. However, the 17th Session of the General Assembly of the International Union for Conservation of Nature (IUCN) held in 1988,

*made it clear that the MPA was established to “provide for the protection, restoration, wise use, understanding and enjoyment of the marine heritage of the world through the creation of a global, representative system of marine protected areas and through management in accordance with the principles of the World Conservation Strategy of human activities that use or affect the marine environment.”*⁵⁷

MPA, in short, is a tool used to reduce the impacts of human activities on the marine ecosystem, to protect marine biodiversity, and to promote the sustainable use of marine living resources.⁵⁸ And this is why it is included as an important subject matter under the BBNJ Agreement.

56 CHEN Li, Study on the International Legal Bases of Antarctic Marine Protected Area, *Fudan Journal (Social Sciences)*, No. 2, 2016, p. 152. (in Chinese)

57 CHEN Li, Study on the International Legal Bases of Antarctic Marine Protected Area, *Fudan Journal (Social Sciences)*, No. 2, 2016, p. 153. (in Chinese)

58 GUI Jing, A Study of the Status and Trends of Protected Areas in the High Seas in Different Dimensions, *Pacific Journal*, No. 5, 2015 (in Chinese). “However, in the long run, the establishment of protected areas, in most cases, will improve the resource efficiency with respect to the living creatures located within these areas. According to the research by the Food and Agriculture Organization, some fish may swim beyond the boundaries of marine protected areas. In particular, when the density of living creatures in the marine protected areas rises as a result of the conservation measures taken, the number of fish swimming out of these areas will increase and may also get caught. This so-called ‘spillover effect’ is a potential benefit arising from marine protected areas.”

With the continuous development of international environmental law and law of the sea and the deepening of the concept of marine biodiversity protection, the number of MPAs has increased dramatically in recent years. In 1970, only 118 MPAs were established by 27 countries; however, by 2010, this figure has risen to about 5,900. The majority of these MPAs are located within national jurisdiction. The sole MPA located entirely in the high seas is the South Orkney Islands Southern Shelf MPA in Antarctica.⁵⁹

Being one of the measures or means used to conserve Antarctic marine living resources, the MPA regime, as mentioned above, has become a focus and leading issue in the current CAMLR Convention mechanism.⁶⁰ The Antarctic Treaty system is therefore advanced and experienced in respect to MPAs, which could offer some lessons to the BBNJ Agreement.

In 2011, the CCAMLR adopted the General Framework for the Establishment of CCAMLR Marine Protected Areas. Paragraph 1 of the preamble of the General Framework provides that the Antarctic MPAs are established “with the aim of conserving marine biodiversity in the Convention Area.” Article 1 of the General Framework states that, “This conservation measure and any other CCAMLR conservation measures relevant to CCAMLR MPAs shall be adopted and implemented consistent with international law, including as reflected in the United Nations Convention on the Law of the Sea.” That is to say, the MPAs in Antarctic waters should be established and managed in compliance with the provisions of the UNCLOS. The BBNJ Agreement should be concluded on the basis of the UNCLOS; and the MPAs under the Antarctic Treaty system should also be established and regulated consistent with the provisions of the UNCLOS. It is difficult to directly conclude that the Antarctic Treaty system has been harmonized with the BBNJ Agreement on MPAs, however, at least we can assume that no major barriers stand in way of the harmonization between the two with respect to the establishment and regulation of MPAs.

IV. Selection of the Ways of Harmonization

59 CHEN Li, Study on the International Legal Bases of Antarctic Marine Protected Area, *Fudan Journal (Social Sciences)*, No. 2, 2016, p. 153. (in Chinese)

60 CHEN Li, Study on the International Legal Bases of Antarctic Marine Protected Area, *Fudan Journal (Social Sciences)*, No. 2, 2016, p. 153. (in Chinese)

The legislative work concerning the BBNJ Agreement is well underway and proceeding steadily. However, in all the discussions, no explicit reference was made to the harmonization between the agreement and the Antarctic Treaty system. The Antarctic Treaty system is actually, a collection of treaties under the Antarctic Treaty. The BBNJ Agreement, although based on the UNCLOS, is a general treaty, as are the treaties within the Antarctic Treaty system and the UNCLOS. Therefore, to explore the harmonization between the BBNJ Agreement and the Antarctic Treaty system is, in essence, an attempt to discuss the harmonization between one treaty and a collection of treaties, or to examine the harmonization between the BBNJ Agreement and all the relevant treaties within the Antarctic Treaty system on each issue covered by BBNJ. The conventional ways to harmonize treaties include the application of the age-old principles of international law, such as the principles that *lex posterior derogat legi priori* (later law supersedes earlier law) and *lex specialis derogat legi generali* (special law prevails over general law). Additionally, compatibility clauses contained in treaties and their interpretation are also important ways of harmonization. In the author's view, an effective way to harmonize the BBNJ Agreement and the Antarctic Treaty system is to incorporate a compatibility clause into the BBNJ Agreement and establish mechanisms of cooperation or information exchange with bodies established under the Antarctic Treaty system.

A. Conventional Ways of Harmonization

Certain general principles of international law, such as the *lex prior* and the *lex posterior* principles, have also been used in order to clarify the relationship between international treaties.⁶¹ However, these principles must be applied on the precondition that all the parties to a treaty are also parties to an earlier treaty on the same subject. The BBNJ Agreement is still under discussion, therefore it is unknown the number of States likely to sign it. While the treaties under the Antarctic Treaty system, such as the Antarctic Treaty, CAMLR Convention, and the Madrid Protocol, were all concluded on the basis of the Antarctic Treaty, they are still different from each other with different contracting parties. The discussions on

61 Patrizia Vigni, The Interaction between the Antarctic Treaty System and the Other Relevant Conventions Applicable to the Antarctic Area, *Max Plank Yearbook of United Nations Law*, Vol. 4, Issue 1, 2000, pp. 481-542.

the subject matters of the BBNJ Agreement are scattered in various treaties within the Antarctic Treaty system. Therefore, when using these principles to deal with the harmonization between the two, we should consider and address the following issues: which treaty within the Antarctic Treaty system does each subject matter of the BBNJ Agreement correspond to? Are all the parties to the BBNJ Agreement also parties to that particular treaty? The conventional way of harmonization is, apparently, not effective and applicable in this case, which also requires the automatic application of these principles, without due regard to the true intentions of the parties to a treaty at the time of conclusion.⁶²

At the same time, although some subject matters of the BBNJ Agreement, such as the exploitation of genetic resources, have been regulated by the Antarctic Treaty system; the former focuses on the use of marine genetic resources in the high seas and the Area, while the latter on the use of these resources in Antarctica, including the Antarctic land and seas, and also the high seas and the Area within the scope of the Southern Ocean. It is difficult to argue that the rules governing the use of genetic resources within the Antarctic Treaty system constitute a special or earlier law, and those governing the use of genetic resources in the high seas and the Area under the BBNJ Agreement constitute a general or later law, since neither the matters under their regulation, nor the geographical scopes of their application are exactly the same. The two are actually different sets of rules evolved from two different systems.

B. Compatibility Clause and Its Interpretation

Many treaties contain provisions addressing their relations with other relevant treaties, such as Article 301 of the UNCLOS and Article 6 of the Antarctic Treaty. Such provisions are called “compatibility clauses”. Relations between international treaties are dealt with mainly in the light of the compatibility clause contained in the treaties *per se*.⁶³ Many treaties under the Antarctic Treaty system contain compatibility provisions dealing with their relations with the law of the sea and the

62 Patrizia Vigni, The Interaction between the Antarctic Treaty System and the Other Relevant Conventions Applicable to the Antarctic Area, *Max Plank Yearbook of United Nations Law*, Vol. 4, Issue 1, 2000, pp. 481~542.

63 Patrizia Vigni, The Interaction between the Antarctic Treaty System and the Other Relevant Conventions Applicable to the Antarctic Area, *Max Plank Yearbook of United Nations Law*, Vol. 4, Issue 1, 2000, pp. 481~542.

UNCLOS. The application and interpretation of these compatibility clauses can provide an important reference to the harmonization of the BBNJ Agreement and the Antarctic Treaty system.

Article 6 of the Antarctic Treaty stipulates that “nothing in the present treaty shall prejudice or in any way affect the rights, or the exercise of the rights, of any State under international law with regard to the high seas within that area.” This article reflects that “the Antarctic Treaty is highly flexible when trying to keep pace with the development of international law. This article particularly stresses that the treaty shall not prejudice or affect the rights of any State under international law with regard to the high seas within that area. It means that the scope of the high seas and the rights with respect to the high seas within that area may change with the development of international law.”⁶⁴ After the conclusion of the Antarctic Treaty, the international law of the sea has been developing continuously and developed into a system under the UNCLOS. In this process, the high seas and the Area have been shrinking, and the rights of States over the high seas are being regulated. The development of the BBNJ Agreement represents an effort to regulate the rights of States to the high seas. The explanation above seems to tell that, since the Antarctic Treaty provides that it does not affect the rights of States with regards to the high seas, the BBNJ Agreement would act as an agreement to regulate the rights of States with respect to the high seas and the Area. Therefore, the Antarctic Treaty will not affect the application of the BBNJ Agreement in the Antarctic seas.

Furthermore, Article 1 of the General Framework for the Establishment of CCAMLR Marine Protected Areas states that, “This conservation measure and any other CCAMLR conservation measures relevant to CCAMLR MPAs shall be adopted and implemented consistent with international law, including as reflected in the United Nations Convention on the Law of the Sea.” Based on the UNCLOS, the BBNJ Agreement includes MPAs on the high seas as one of its important subject matters. In this connection, it can be argued that the CAMLR Convention should be consistent with the BBNJ Agreement in respect to MPAs.

We should note, however, that the interpretations of the compatibility clause above do not necessarily align with the true intentions of the contracting parties

64 CHEN Li, Study on the Legal Status of Antarctic Ocean, *Fudan Journal (Social Sciences)*, No. 5, 2014. (in Chinese)

at the time of signing, and sometimes even seem absurd.⁶⁵ Different countries and scholars may have their interpretations catered to their own interests. However, even if such interpretations are consistent with the true intentions of the parties and considered as most effective, we should recognize that “compatibility clauses are usually general in content”.⁶⁶ As we know, the Antarctic Treaty does not affect the application of the BBNJ Agreement in the Antarctic waters and the CAMLR Convention shall be consistent with the BBNJ Agreement. The question now is, how should the BBNJ Agreement be applied in Antarctic waters? In the case that the BBNJ Agreement is concluded later than CAMLR Convention, how exactly should CAMLR Convention keep consistency with the BBNJ Agreement? Compatibility clauses and their interpretations have not offered an answer to these questions, meaning that the harmonization problem has not been actually resolved.

C. Establishing a Cooperation Mechanism on the Basis of Compatibility Clauses

Due to the above defects of compatibility clauses, it is evident that such clauses alone are not effective and efficient enough to harmonize the BBNJ Agreement and the Antarctic Treaty system. Since invoking compatibility clauses is the most direct and effective way to solve the problem of harmonization between treaties, the author asserts that the harmonization problem between the BBNJ Agreement and the Antarctic Treaty system could be solved by establishing cooperation and information exchange mechanisms based on compatibility clauses.

Many treaties within the Antarctic Treaty system contain compatibility clauses, nevertheless, the author holds the following views: on the one hand, these clauses merely provide for the relationship between the relevant treaty and the UNCLOS; although they can be grudgingly construed as dealing with the relationship with the BBNJ Agreement under the UNCLOS, the validity and general acceptability of such an interpretation is questionable. On the other hand, some of the subject matters of the BBNJ Agreement have been regulated by the Antarctic Treaty system, while

65 For example, the CAMLR Convention and the general framework above have been created, but the BBNJ Agreement is yet to be concluded. It is illogical to require that the legal norms that have been promulgated be consistent with those having not.

66 Patrizia Vigni, *The Interaction between the Antarctic Treaty System and the Other Relevant Conventions Applicable to the Antarctic Area*, *Max Plank Yearbook of United Nations Law*, Vol. 4, Issue 1, 2000, pp. 481~542.

some have not. With regards to the matters that have been regulated, some treaties contain compatibility clauses, some do not. However, these treaties have come into force, and the treaties without compatibility clauses will not be able to handle their harmonization with the BBNJ Agreement in accordance with compatibility clauses. The legislation work regarding the BBNJ Agreement is underway and the text of the agreement has not yet been finalized, hence the compatibility clause should be naturally added into the agreement as long as the delegates are aware of the harmonization issues between the agreement and the Antarctic Treaty system. In addition, the Antarctic Treaty system consists of a collection of treaties, therefore when adding a compatibility clause to the BBNJ Agreement, the term “Antarctic Treaty system” could be used directly. For example, the agreement could include provisions like “nothing in this Agreement affects the application of the Antarctic Treaty system in Antarctic waters”. Such wordings are simpler, more convenient and effective.

However, as stated above, compatibility clauses cannot effectively solve the harmonization problem between BBNJ Agreement and Antarctic Treaty system. The author contends that the establishment of cooperation and information exchange mechanisms based on compatibility clauses is a relatively perfect way to solve the problem.

The establishment of the principle of international cooperation in the international community is marked by the entry into force of the Charter of the United Nations and the birth of the United Nations.⁶⁷ Since its establishment, this principle has developed into a basic principle of international law, especially in the field of international environmental law. Due to climate change and other reasons, the international community is increasingly aware that it has common interest in the protection of the global environment, with every member of the international community having the responsibility and obligation to this cause, which cannot be left to the efforts of one single country. Instead, it requires the international community to cooperate and work together. This is also the case for the BBNJ Agreement, which aims to conserve the marine living resources and protect the marine environment in the high seas and the Area. The objective that the BBNJ Agreement pursues to achieve in the high seas and the Area would benefit mankind as a whole, but it cannot be achieved by a single country; rather, it requires the joint efforts of all countries. Therefore, the BBNJ Agreement would naturally contain the

67 LIANG Xi, *International Law*, Wuhan: Wuhan University Press, 1993, p. 61. (in Chinese)

principle of international cooperation, which should first refer to the cooperation of all countries in the international community. To be applicable to the Antarctic waters, the BBNJ Agreement also expects to achieve its objective in these waters. However, as described above, the Antarctic Treaty system has long recognized the importance of the conservation and protection of the marine living resources and their marine habitats, and developed relevant treaties and measures. The agreement and the system under discussion are expected to achieve the same objective in the Antarctic waters and share common interests. Given that the relevant treaties within the Antarctic Treaty system are solely effective for their contracting parties, the regulation on matters, such as IUU fishing, cannot be effective with the mere efforts of the Antarctic Treaty system and its contracting parties; rather, for proper effectiveness it also requires the cooperation with treaties and institutions beyond the Antarctic Treaty system. Meanwhile, the BBNJ Agreement, faced with the reality that the Antarctic waters have been regulated by the Antarctic Treaty system, also needs to cooperate with this system to achieve its objectives in this sea area and to avoid overlapping or potential conflicts between the two. Therefore, international cooperation in the BBNJ Agreement should also include cooperation with the relevant treaties and the institutions established within the Antarctic Treaty system in Antarctic waters. In Antarctic waters, many issues to be covered by the BBNJ Agreement have already been regulated by the CCAMLR, but others, such as the use of marine genetic resources, have not. In this connection, “cooperation” under the BBNJ Agreement could be expressed in the provision that “the relevant institutions set up under this Agreement shall cooperate with those under the relevant treaties within the Antarctic Treaty system, with the aim to establish a cooperation mechanism to achieve the objectives of this Agreement in the Antarctic waters”. When both the BBNJ Agreement and the Antarctic Treaty system apply to the high seas and the Area within the Antarctic, the cooperation mechanism should include an information exchange mechanism, since the establishment of such a mechanism may avoid the waste of resources and increase the compatibility of the agreement and system, thereby bringing to the fore an effective way to promote the harmonization between the two.

V. Conclusions

The international community, inspired by the theory of the “Tragedy of the Commons”, has started to pay attention to the regulation of human activities on

the high seas and in the Area, seeking to conserve and protect the marine living resources and their habitats. The BBNJ Agreement essentially deals with the protection of the marine environment of the high seas and the Area. The ATCM, being aware of the fragile ecological environment of Antarctica, pays great attention to ecological environmental protection in the Antarctic when dealing with affairs related to Antarctica. This practice applies not only to the Antarctic land, but also to the Antarctic waters. However, when the protection of marine environment of the high seas and the Area is being discussed within the framework of the UNCLOS system, many conventions and measures under the Antarctic Treaty system have already been in place to protect the Antarctic ecological environment, including the Antarctic seas. The BBNJ Agreement under the UNCLOS will also apply to the Antarctic seas upon conclusion. Given that many issues pertinent to BBNJ have been regulated within the Antarctic Treaty system, the application of the BBNJ Agreement in Antarctica needs to be harmonized with the Antarctic Treaty system, the present model of Antarctic governance, to avoid overlapping problems and potential conflicts. Among the various means of harmonization, the best one to resolve these problems and conflicts is to incorporate a compatibility clause into the BBNJ Agreement and build a cooperation mechanism between relevant institutions based on such a clause.

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Oceans and the Law of the Sea

Report of the Secretary-General

(Seventy-third session, Item 78 (a) of the provisional agenda, Oceans and the law of the sea, 5 September 2018)

Summary

The present report, which covers the period from 1 September 2017 to 31 August 2018, is submitted pursuant to paragraph 366 of General Assembly resolution 72/73, in which the Assembly requested the Secretary-General to prepare a report on developments and issues relating to ocean affairs and the law of the sea, including the implementation of that resolution, for consideration at its seventy-third session. It is also being submitted to States parties to the United Nations Convention on the Law of the Sea, pursuant to article 319 of the Convention. The present report provides information on major recent developments relating to ocean affairs and the law of the sea, in particular at the United Nations and its specialized agencies, funds and programmes, as well as within the bodies established by the Convention.

I. Introduction

1. The oceans play a crucial role in everyday life, as the lungs of the planet and the greatest producers of oxygen. They help to regulate the global climate and are the ultimate source of the water that sustains all life on Earth, from coral reefs to snow-covered mountains, from tropical rainforests to mighty rivers, and even deserts. The oceans act as a major sink of carbon dioxide, significantly reducing greenhouse gas levels in the atmosphere and thereby benefiting all humankind.

2. As emphasized in the 2030 Agenda for Sustainable Development, in particular in Sustainable Development Goal 14, the conservation and sustainable use of the oceans and seas and their resources is critical to sustainable development, including in regard to poverty eradication, sustained

economic growth, food security and the creation of sustainable livelihoods and decent work.

3. Yet, the state of the oceans has never been more perilous. Despite the efforts of the international community to protect and preserve the marine environment and its living marine resources, the health of the oceans continues to be adversely affected by major pressures simultaneously, such as pollution, including marine debris, especially plastics, physical degradation, increased overfishing (see paras. 58–61), alien invasive species and underwater noise and the impacts of climate change and ocean acidification. According to recently released data, the estimated amount of fixed nitrogen emitted into the atmosphere from fossil fuel burning and agriculture is now at almost four times the level of emissions in 1850. The global ocean heat content is at record levels, sea-ice extent in the Arctic and the Antarctic remains well below average and the year 2017 was in the top three hottest years on record, with record-breaking extreme temperatures. Coastal communities and small island developing States remain highly vulnerable to those cumulative impacts, in particular, sea level rise, coastal erosion and storms, which threaten their very existence, let alone their economic and social welfare.

4. The world now faces a global emergency over the oceans. The threats to the global environment must be taken seriously, given that the collective future and security of humanity is at stake.

5. Without concrete and urgent action, Member States will face major challenges in their efforts to achieve the targets of Sustainable Development Goal 14, in particular those agreed to be met by 2020, namely, to sustainably manage and protect marine and coastal ecosystems (target 14.2), to end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices (target 14.4), to conserve at least 10 per cent of coastal and marine areas (target 14.5) and to prohibit and eliminate certain forms of fisheries subsidies (target 14.6).

6. However, in a recent study conducted among the world's leaders, Goal 14 was ranked last in significance among all the Sustainable Development Goals set out in the 2030 Agenda. If the Goals and targets set out in the 2030 Agenda are to be achieved, the significance of the oceans to the collective future of humanity must be appreciated and understood by everyone.

7. Concerted action to meet the targets of Goal 14 will have wide-ranging positive effects on meeting the other Goals, just as the achievement of the other

Goals and targets will have a positive effect on the achievement of Goal 14. As the Goals are integrated and indivisible in character, so too must be the efforts of the international community to implement the 2030 Agenda, acknowledging the interlinkages and synergies between the Goals.

8. Now more than ever the international community must give priority to addressing ocean issues in an integrated, interdisciplinary and intersectoral way within the context of the United Nations Convention on the Law of the Sea of 1982 — the world’s “constitution for the oceans” — as complemented by other instruments.

9. The present report summarizes activities and developments relating to ocean affairs and the law of the sea, including those undertaken by the United Nations system and other intergovernmental organizations in relation to General Assembly resolution 72/73. The purpose of the report is to assist the General Assembly in its annual consideration and review of activities and developments relating to oceans and the law of the sea. It should be read in conjunction with other reports relevant to oceans and the law of the sea issued by the United Nations during the period under review (see, for example, A/73/68, A/73/74, A/73/124 and SPLOS/324). It should also be read in combination with the more detailed contributions provided by the United Nations specialized agencies, programmes and bodies, as well as other intergovernmental organizations.¹

II. Legal and policy framework

10. During the period under review, the existing legal framework for oceans, which includes a large number of binding instruments, adopted and implemented at the global, regional and national levels, within the context of the Convention, continued to be developed and expanded. The conditions for entry into force for a number of global instruments were met.² Binding instruments, complemented by important nonbinding instruments, such as the 2030 Agenda, as well as the annual resolutions of the General Assembly on oceans and the law of the sea and on sustainable fisheries (see, for example, resolutions 72/72 and 72/73), continued to provide a comprehensive

1 Available from www.un.org/Depts/los/general_assembly/contributions73.htm.

2 These included the 2004 International Convention for the Control and Management of Ships’ Ballast Water and Sediments on 8 September 2017 and the 2007 Work in Fishing Convention, 2007 (No. 188) on 16 November 2017.

international law regime applicable to the oceans, as well as internationally agreed policy guidance, commitments, goals and targets. Important steps were taken to strengthen the implementation of existing instruments on oceans at the global and regional levels, as described in sections III to VII below.

11. The implementation of the Convention is crucial for the peaceful and sustainable development of the oceans and their resources and achieving the Sustainable Development Goals set out in the 2030 Agenda, in particular Goal 14. As at 31 August 2018, there were 168 parties to the Convention and 150 parties to the Agreement relating to the Implementation of Part XI of the Convention, adopted in 1994. The number of parties to the United Nations Fish Stocks Agreement of 1995 increased from 86 to 89 during the reporting period.

12. As a framework instrument, the Convention provides for the further development of specific areas of the law of the sea. Most notable in this regard is the decision of the General Assembly in resolution 72/249, following the completion of the work of the Preparatory Committee established by resolution 69/292 (see A/AC.287/2017/PC.4/2), to convene an intergovernmental conference, under the auspices of the United Nations, to consider the recommendations of the Preparatory Committee on the elements and to elaborate the text of an international legally binding instrument under the Convention on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, with a view to developing the instrument as soon as possible. The Conference held a meeting in New York, from 16 to 18 April 2018, to discuss organizational matters, including the process for the preparation of the zero draft of the instrument (see A/CONF.232/2018/2).³ The first substantive session of the Conference will take place from 4 to 17 September 2018.

13. In other contexts, as reviewed below, the important role of the Convention in setting out a comprehensive legal regime for the oceans and seas has been reaffirmed, thereby promoting peace and security and sustainable development (see, for example, SPLOS/324).

III. Maritime spaces

14. The enhancement of legal certainty with respect to maritime zones and

3 See also <https://www.un.org/bbnj/>.

boundaries through the Convention is important in strengthening international peace and security and the effective use and management of the oceans. The bodies provided for in the Convention, namely the Commission on the Limits of the Continental Shelf, the International Seabed Authority and the International Tribunal for the Law of the Sea, continued to play fundamental roles in that respect.

15. The Commission on the Limits of the Continental Shelf continued its important work (see CLCS/100, CLCS/101, CLCS/103, CLCS/103/Corr.1 and CLCS/105). Among other things, it established new subcommissions and reviewed and modified its internal working methods to address concerns expressed by some submitting States (see SPLOS/319).

16. I continued to perform my functions as depositary under the Convention concerning charts or lists of geographical coordinates of points concerning the limits of maritime zones, and pursued further my efforts to improve the corresponding geographic information system. I received one additional deposit pursuant to article 76, paragraph 9, of the Convention, permanently describing the outer limits of the continental shelf beyond 200 nautical miles, following the recommendations of the Commission on the Limits of the Continental Shelf, as well as a number of other deposits.

17. The Convention requires States parties to settle any dispute between them concerning the interpretation or application of the Convention by peaceful means. During the period under review, a number of developments took place in relation to disputes submitted to the dispute settlement mechanisms provided for in the Convention.

18. In particular, a Special Chamber of the International Tribunal for the Law of the Sea delivered a judgment in the *Dispute concerning delimitation of the maritime boundary between Ghana and Côte d'Ivoire in the Atlantic Ocean (Ghana/Côte d'Ivoire)* (case No. 23) (see SPLOS/317 and SPLOS/324).

19. In May 2018, the Conciliation Commission in the conciliation between Timor-Leste and Australia recorded the agreement between the two countries regarding their maritime boundary in the Timor Sea. On 6 March 2018, the maritime boundaries treaty between Timor-Leste and Australia was signed in New York in the presence of myself and the Conciliation Commission.

20. In addition, on 29 March 2018 Guyana filed an application against the Bolivarian Republic of Venezuela with the International Court of Justice, requesting the Court to confirm the legal validity and binding effect of an

arbitral award concerning the boundary between Guyana and the Bolivarian Republic of Venezuela.

IV. Maritime security

21. The ability of States to maximize benefits from the oceans and seas and develop a sustainable ocean-based economy depends on maintaining and enhancing the security of maritime spaces.

22. International cooperation, both at the global and regional levels, remained key in efforts to address threats to maritime security, including piracy, as well as armed robbery against ships, during the period under review. Under article 100 of the Convention, all States are required to cooperate to the fullest possible extent in the repression of piracy.

23. The number of reported incidents of piracy and armed robbery against ships at the global level increased slightly, after a long period of decline. The Gulf of Guinea region and South-East Asia continued to have high numbers of attacks, while the number of attacks off the coast of Somalia remained low, with two attacks reported in the first six months of 2018.

24. In terms of regional developments, in July 2018, the Contact Group on Piracy off the Coast of Somalia welcomed the continued efforts by the international community to combat and deter piracy off the coast of Somalia, acknowledged the ongoing threat in the region and considered a proposal to broaden the mandate of the Contact Group to crimes and threats directly related to piracy. It also highlighted the need to regulate privately contracted armed security personnel and floating armouries to prevent the proliferation of arms.

25. In the Gulf of Guinea region, the use of violence during attacks and tactics such as kidnapping for ransom and the capture of fishing vessels remained a serious concern. International cooperation to prevent such attacks continued through the Group of Seven Friends of the Gulf of Guinea Group, the Economic Community of West African States, the Economic Community of Central African States and the intervention of naval forces.

26. In Asia, international cooperation, including through the Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia, contributed to a 15 per cent decrease in incidents during the first six months of 2018, compared with the same period in 2017, with no reported successful cases of crew abduction or theft of oil cargo. Of 40 incidents, 3

constituted piracy, rather than armed robbery against ships.

27. Illicit trafficking in narcotic drugs and psychotropic substances by sea continued to be prevalent. Such activities are being thwarted, including through the Container Control Programme, implemented jointly by the United Nations Office on Drugs and Crime (UNODC) and the World Customs Organization, which pools the strengths of customs and other law enforcement bodies. The Programme has focused on enhancing cooperation in detecting high-risk consignments at the regional level.

28. With regard to maritime security, UNODC reported on a wide range of capacity-building activities, including the development of maritime administration and appropriate legal frameworks under its Global Maritime Crime Programme, provision of technical and material support to maritime law enforcement, courts and prosecutors and detention facilities in West Africa, East Africa, the Horn of Africa and South Asia. UNODC also piloted the use of satellite-based technology to monitor, prevent and respond to maritime crime threats. The International Maritime Organization (IMO) also undertook capacity-building activities, including to strengthen port security, and updated its model courses related to maritime security.

V. Importance of the human dimension

29. People all over the world depend on the oceans for food security, livelihoods, recreation, tourism, transportation, cultural values and heritage and for the regulation of the climate. Coastal communities, in particular in the least developed countries and in small island developing States, are highly reliant on the oceans in order to eradicate poverty, promote sustainable ocean-based economies and support community development. The conservation and sustainable use of the oceans and seas and their resources is essential to ensure the continued availability of these benefits for future generations.

30. As reflected in the 2030 Agenda, addressing vulnerabilities and achieving gender equality and the empowerment of all women and girls (Goal 5) will make a crucial contribution to progress across all the Sustainable Development Goals. However, while the importance of gender equality and the crucial role of women and youth in the conservation and sustainable use of oceans, seas and marine resources are increasingly being recognized by the international community (see, for example, General Assembly resolution

71/312, annex, para. 9), concerted action towards gender equality and the empowerment of women is still needed in all ocean-related sectors.

31. During the reporting period, the Food and Agriculture Organization of the United Nations (FAO) promoted the empowerment of women through better access to markets and reduced food losses, in the context of the implementation of the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication. It also published a handbook and a video on gender-equitable small-scale fisheries development and governance.

32. A focus on gender in the context of World Oceans Day 2019 and on the theme “Empowering women in the maritime community” for the IMO World Maritime Day 2019 will provide further awareness-raising opportunities.

1. Labour at sea

33. Seafarers and fishers at sea often work in difficult conditions and face a wide range of occupational hazards, while tending to lack access to financial resources, social protection, institutional support and education. These workers are often vulnerable to exploitation and may suffer human rights violations and labour abuses. Women, migrant labourers and youth are particularly vulnerable. Instances of seafarer abandonment have continued to increase. The Convention requires every State to take such measures for ships flying its flag as are necessary to ensure safety at sea with regard, *inter alia*, to the manning of ships, labour conditions and the training of crews, taking into account the applicable international instruments.

34. The Work in Fishing Convention, 2007 (No. 188) of the International Labour Organization (ILO) entered into force in November 2017, setting out binding requirements to address key issues concerning work on board fishing vessels, including the prevention of labour abuses through the enforcement of minimum requirements, regularized recruitment processes and the investigation of complaints by fishers. For the first time under Convention No. 188, a fishing vessel was detained in June 2018 following a complaint by the crew to inspectors about the working conditions.

35. In January 2018, amendments to the Convention on Facilitation of International Maritime Traffic of 1965 entered into force to strengthen the rights of seafarers to shore leave. In June 2018, the International Labour Conference approved amendments to the Code of the Maritime Labour Convention of 2006 to protect the labour rights of seafarers captured as a result of piracy or armed

robbery at sea.

36. In other developments, a tripartite meeting on migrant fishers was convened by ILO in September 2017 to follow up on a resolution on the promotion of welfare for fishers, adopted by the International Labour Conference in 2007. ILO also initiated work on decent working conditions in global supply chains, including seafood commodities. FAO supported stakeholders to establish sustainable fisheries policies, including decent working conditions, based on the Code of Conduct for Responsible Fisheries.

2. Migration by sea

37. Tens of thousands of people continue to migrate by sea, often in perilous conditions, resulting in large numbers of deaths that are often unreported. There is an urgent need to improve search and rescue operations, including the provision of a place of safety, as well as to increase international cooperation.

38. The total number of persons migrating across the Mediterranean route in 2017, at more than 171,330 persons, was approximately 50 per cent lower than the number in 2016. However, across the western Mediterranean, the number of persons arriving in Europe in 2017, at approximately 28,350 persons, was more than double that of 2016. The International Organization for Migration reported that in the first seven months of 2018, 58,158 persons had entered Europe by sea and that 1,514 had died during their journey. Approximately 3,140 people died or went missing en route by sea to Europe in 2017.

39. The Gulf of Aden continued to be the second most prevalently used maritime route. A functioning maritime rescue coordination centre to coordinate search and rescue at sea is still lacking and the capacity of coastal States to engage in rescue is very limited. The ongoing conflict in Yemen contributed to the diminished capacity of States to protect lives along this maritime route.

40. In South-East Asia, many of the nearly 700,000 Rohingya who fled to Bangladesh from Myanmar since August 2017 did so by boat, with capsizes resulting in 200 deaths. The Caribbean route was also used by a growing number of persons: 100 maritime incidents involving over 2,800 persons were recorded in 2017.

41. The Convention and IMO instruments set out the obligations of States regarding the rescue of persons in distress at sea, and search and rescue services. Various efforts were made to promote the safety of life at sea during

the reporting period. For example, the Office of the United Nations High Commissioner for Refugees (UNHCR) carried out capacity-building activities, including training sessions on human rights and international protection in rescue operations at sea. In October 2017, IMO hosted a high-level inter-agency meeting involving international organizations and the main stakeholders of the maritime industry concerning unsafe mixed migration by sea.

42. On 13 July 2018, 192 Member States finalized the text of the Global Compact for Safe, Orderly and Regular Migration, now expected to be the first intergovernmental agreement, prepared under the auspices of the United Nations, covering all dimensions of international migration in a holistic and comprehensive manner. It includes the commitment to cooperate internationally to save lives and prevent migrant deaths and injuries through individual or joint search and rescue operations, standardized collection and exchange of relevant information, assuming collective responsibility to preserve the lives of all migrants, in accordance with international law. The Global Compact will be formally adopted at an intergovernmental conference in Marrakech, Morocco, to be held in December 2018.

VI. Balancing economic growth with environmental protection

43. The oceans, seas and their resources are of critical relevance to each of the three pillars of sustainable development: economic, social and environmental. Realizing fully the economic benefits derived from the oceans and their resources depends upon conducting ocean-based activities sustainably and with due regard for other activities, particularly in the light of increased competition for marine space and the need to protect and preserve the marine environment. There is a need to strengthen cooperation and coordination and to adopt an integrated approach to management in order to balance the social, economic and environmental dimensions.

44. At the core of the Convention is the integration of these three dimensions, along with the need to balance the enjoyment of rights and benefits with the concomitant undertaking of duties and obligations, thus making ever more urgent its effective implementation.

45. Following on from the consideration of the human dimension in the

previous section, developments concerning the pillars of economic growth and environmental protection are reviewed below, including in relation to fisheries and shipping, the two main traditional ocean-based economic activities that are also being carried out in areas beyond national jurisdiction.

46. As reviewed below, marine science and technology have an important enabling role, not only with respect to the traditional ocean-based economic activities, but also with respect to the development of new activities. For example, in Europe, where offshore wind energy is seen as competitive with onshore energy, technology continued to move forward with larger turbines and larger wind projects. Progress is also being made towards floating wind farms.

47. In terms of other emerging ocean activities, in 2017 the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection identified deep-sea mining and its impacts on the marine environment as a new issue for the attention of its sponsoring organizations.

48. In this regard, during the reporting period, the International Seabed Authority made progress on its work in the development of a mining code as a priority matter. Following global stakeholder consultations on the draft regulations on the exploitation of mineral resources in the Area, the Council of the Authority undertook its first substantive consideration of the draft text in July 2018 and issued a revised text. The Council also discussed the development of an economic model for mineral exploitation in the Area and financial terms for future exploitation contracts. With respect to the environmental impact of seabed activities, the Authority continued to develop regional environmental management plans for the Area, envisaged as the primary means for delivery of the Authority's environmental objectives at the regional level.

49. Subsequent to the first periodic review of the international regime of the Area pursuant to article 154 of the Convention, the Secretary-General of the International Seabed Authority prepared a draft strategic plan, taking into account the views of stakeholders (see ISBA/24/A/4). The first ever strategic plan was adopted by the Assembly of the Authority at its twenty-fourth session, as amended, to guide the direction and aims of the Authority for a five-year period (see ISBA/24/A/10).

50. In other developments, issues related to genetic resources, including digital sequence information on genetic resources, a global multilateral benefit-sharing mechanism under the Nagoya Protocol, and genetic resources and intellectual property continued to be considered within the framework of

the Convention on Biological Diversity and the World Intellectual Property Organization.

A. Increasing knowledge and understanding and promoting marine science and technology

51. Marine science is a critical resource in efforts to eradicate poverty and contribute to food security and the sustainable development of the oceans and seas. Science and technology play a key role in improving knowledge about the oceans, as well as about the interface between the oceans and the atmosphere, ultimately supporting our understanding and better management of human interactions with marine ecosystems, including in helping to predict and respond to natural events. Part XIII of the Convention on marine scientific research and part XIV on the development and transfer of marine technology reflect the importance of the need for capacity-building in marine science, related knowledge and expertise, as well as marine infrastructure. The General Assembly has continued to recognize that promoting the voluntary transfer of technology is an essential aspect of building capacity in marine science (resolution 72/73, para. 34).

52. During the period under review, a number of activities and initiatives were undertaken to promote marine scientific research, increase the research capacity of States and support the science-policy interface, including by the International Atomic Energy Agency (IAEA), the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the World Meteorological Organization. Among these, the Global Climate Observing System and the Global Ocean Observing System supported preparations for the third decadal ocean observing conference, OceanObs'19, in September 2019.⁴ IAEA continued to assist States in improving the assessment of the level of protection against exposure to ionizing radiation.

53. The Executive Council of the Intergovernmental Oceanographic Commission approved the measurement of six new biogeochemical parameters by Argo floats and agreed to the continued use of the guidelines for the implementation of resolution XX-6 of the Intergovernmental Oceanographic

4 See <http://www.oceanobs19.net/>.

Commission Assembly regarding the deployment of profiling floats in the high seas within the Framework of the Argo Programme to notify coastal member States of all Argo profiling floats likely to enter their exclusive economic zone, including those measuring these new variables.

54. Following the proclamation by the General Assembly of the United Nations Decade of Ocean Science for Sustainable Development for the 10-year period beginning on 1 January 2021, the Intergovernmental Oceanographic Commission developed a draft road map with a strategy, governance arrangements and an outline of key milestones and consultation plans. After a key stakeholder review, the road map was presented to the Executive Council of the Commission in July 2018, which approved the terms of reference for the Decade Executive Planning Group to be convened in the second half of 2018. Communication activities were initiated to inform member States, potential partners and other stakeholders of the preparatory phase and communicate the purpose and expected results of the Decade.

55. As stated in the road map, the framework activities should be seen as complementary and supportive of the Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including Socioeconomic Aspects.

56. A number of key milestones were met during the reporting period with regard to the second cycle (2016–2020) of the Regular Process: an outline for the second world ocean assessment is in place, as well as a mechanism for the establishment of the pool of experts for the second cycle, guidance for contributors, terms of reference for national focal points, a preliminary timetable and implementation plan for the preparation of the second world ocean assessment and guidelines for the two rounds of regional workshops of the second cycle (see A/72/89, A/72/494 and A/73/74). The first round of regional workshops, which was held in 2017, aimed to inform the scoping of the second world ocean assessment, raise awareness and provide information and receive feedback on the First Global Integrated Marine Assessment (World Ocean Assessment I), while the second round is being held in the second half of 2018 so as to inform the collection of regional-level information and data for the preparation of the second world ocean assessment.

B. Conservation and sustainable use of living marine resources

57. Ensuring the effectiveness of the science-policy interface in fisheries management is key to implementing the provisions of the Convention and the Agreement. The thirteenth round of informal consultations of States parties to the Agreement was focused on the topic “Science-policy interface” and key points were raised relating to the strengthening of that interface in fisheries management.

58. Given the importance of the world’s fisheries as key contributors to food security and nutrition, livelihoods and economic development, the sustainability of the world’s fish stocks remains a significant concern. The Convention and the Agreement provide a comprehensive regime for the conservation and sustainable management of living marine resources and are complemented by other legal and policy instruments, including the 2030 Agenda. In target 14.4 of the Sustainable Development Goals, the international community committed to effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, by 2020, in order to restore fish stocks.

59. FAO estimated that the percentage of stocks fished at biologically unsustainable levels (overfished, depleted and recovering stocks) has grown from 31.4 per cent in 2013 to 33.1 per cent in 2015, thereby continuing the long-standing trend of deterioration in the status of stocks. Urgent action is needed to improve the management of global fish stocks, eliminate overcapacity, combat illegal, unreported and unregulated fishing and address environmental stressors that affect the long-term sustainability of fish stocks, such as climate change (see A/72/70), overfishing, ocean acidification, marine pollution and anthropogenic underwater noise (see A/73/124).

60. In July 2018, the Committee on Fisheries of FAO expressed the need for greater cooperation and information-sharing in fish stocks management between member States, including through mechanisms established by regional fisheries management organizations and arrangements, to support the fight against illegal, unreported and unregulated fishing. The Committee expressed support for the continuing work of FAO to develop technical guidelines for the estimation of the magnitude and geographical extent of illegal, unreported and unregulated fishing. It also endorsed the voluntary guidelines on the marking

of fishing gear and took note of a technical paper provided by FAO containing an overview of the implications of climate change for fisheries and aquaculture with a view to mapping out solutions for climate change adaptation and mitigation.

61. Discussions continued at the World Trade Organization (WTO) to address fisheries subsidies that can contribute, directly or indirectly, to overcapacity and illegal, unreported and unregulated fishing, in line with target 14.6 of the Sustainable Development Goals. The Ministerial Conference of WTO, held in December 2017, called on members to engage constructively in ongoing negotiations on fisheries subsidies, with a view to adopting by 2019 an agreement on comprehensive and effective disciplines that prohibit certain forms of fisheries subsidies that contribute to overcapacity and overfishing, and eliminate subsidies that contribute to illegal, unreported and unregulated fishing, recognizing the need for appropriate and effective special and differential treatment for developing country members and least developed country members in the negotiations.

62. In other developments, the Northwest Atlantic Fisheries Organization will complete its second performance review in September 2018 and continue to address conservation and management of fisheries resources; compliance and enforcement; governance; science; international cooperation; and financial and administrative issues. A number of regional fisheries management organizations and arrangements took steps to address the impacts of bottom fishing, including expanding an area closure to sustain biological connectivity and the function of seamount communities. In September 2018, the Advisory Committee of the Agreement on the Conservation of Small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas will focus on by-catch, resource depletion, marine debris, surveys and research and use of by-catches and strandings and will discuss a draft conservation plan for the common dolphin.

63. Efforts continued to increase cooperation among organizations involved in fisheries management and between them and those with related mandates. For example, the secretariat of the Convention on International Trade in Endangered Species of Wild Fauna and Flora worked with partners, in particular FAO and regional fisheries management organizations and arrangements, to deliver needs-driven capacity-building activities to assist developing countries in implementing provisions of the Convention for marine species. The secretariat of the Convention on Biological Diversity, FAO and

the International Union for Conservation of Nature and Natural Resources compiled experiences in mainstreaming biodiversity in fisheries to identify opportunities for reporting and assessing progress towards Aichi Biodiversity Target 6 (see also para. 83).

C. Shipping

64. With over 80 per cent of global trade by volume and more than 70 per cent of its value being carried on board ships and handled by seaports worldwide, shipping represents a crucial sector for economic growth and sustainable development. Flag States are responsible for ensuring that ships flying their flag comply with the relevant provisions of the Convention and other relevant conventions.

65. However, the shipping sector has been negatively affected by increasing numbers of incidents of fraudulent registration and fraudulent registries of ships. In response to reports by its member States, IMO will consider measures to prevent such unlawful practices.

66. Regarding rapid innovations in shipping technology, the IMO Maritime Safety Committee explored how maritime autonomous surface ship operations can be addressed in IMO instruments, including in the form of a scoping exercise to identify IMO regulations that preclude, do not preclude or would not apply to such operations, and endorsed a framework for a regulatory scoping exercise. The IMO Legal Committee also agreed to include a new work programme item on maritime autonomous surface ships on its agenda, with a target completion year of 2022, which will complement the scoping exercise being carried out by the Maritime Safety Committee.

67. According to a new vision statement, IMO will focus, among other things, on the review, development and implementation of and compliance with IMO instruments in support of the implementation of the 2030 Agenda.

68. In another significant development, IMO adopted an initial strategy that envisages reducing total annual greenhouse gas emissions from international shipping by at least 50 per cent by 2050 compared with 2008 levels and phasing them out as soon as possible in this century. Work also continued within IMO on energy efficiency requirements for ships.

D. Marine environment and marine biodiversity, ecosystem functions, goods and services

69. As indicated in paragraph 3, the health of the oceans and marine biodiversity continue to be negatively affected by various major pressures simultaneously.

70. Consistent with the obligations of States under the Convention to take measures to prevent, reduce and control pollution of the marine environment, various measures are being taken at global and regional levels to address marine pollution, including to strengthen the implementation of existing instruments and cross-sectoral cooperation.

71. Globally, land-based sources of pollution continued to be the greatest contributor to marine pollution. The fourth session of the Intergovernmental Review Meeting on the Implementation of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities reviewed the implementation of that important non-binding instrument and considered options for its possible future direction (see UNEP/GPA/IGR.4/3).

72. Reducing the incidence and impacts of marine plastic litter and microplastics remains a particular focus of the international community. The ad hoc open-ended expert group on marine litter and microplastics, established by the United Nations Environment Assembly, examined barriers to and options for combating marine plastic litter and microplastics from all sources, especially land-based sources. Measures to address marine litter were also discussed in meetings under the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter and its 1996 Protocol, the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, the Stockholm Convention on Persistent Organic Pollutants and within FAO and IMO. At the regional level, a number of regional conventions and action plans, as well as the Baltic Marine Environment Protection Commission and the Convention for the Protection of the Marine Environment of the North-East Atlantic, continued to undertake activities to address marine litter, including through the implementation of marine litter action plans.

73. Cooperation continued, including at the regional level, in efforts to address pressures on the marine environment from shipping (see para. 68), including regarding the dumping and management of waste.

74. IAEA provided support to its member States to develop and improve relevant nuclear and isotope-based tools and techniques to monitor and protect the coastal and marine environment. It prepared safety guides on regulatory control of radioactive discharges to the environment and prospective radiological environmental impact assessment for activities and facilities.

75. In other developments, work to address specific threats to marine biodiversity continued, such as trade, alien invasive species, underwater noise (see also paras. 59 and 81), offshore renewable energy, seabed mining (see also para. 48), ship strikes and by-catch. Attention to coral reefs also continued. Cooperation regarding marine migratory species was strengthened. Efforts were also increased to mainstream marine biodiversity considerations in various sectors, in particular fisheries (see also paras. 63 and 83).

VII. Strengthening implementation through integrated and crosssectoral approaches

76. The increase in linkages being drawn to the ocean dimension in major intergovernmental forums or processes that are not focused on ocean-related issues was a very positive development during the reporting period. Notably, in 2017, the Ocean Pathway was launched during the Conference of the Parties to the United Nations Framework Convention on Climate Change and will provide a two-track strategy for 2020, supporting the goals of the Paris Agreement, including by increasing the role of oceans considerations in the Framework Convention process, and increasing action in priority areas that have an impact on or are affected by oceans and climate change.⁵

77. The meeting of the high-level political forum on sustainable development, held from 9 to 18 July, provided an opportunity to draw attention to the interlinkages between Sustainable Development Goal 14 and the implementation of the other Goals that were reviewed. Ocean issues were touched upon during the review of the implementation of Goals 6, 11, and 12, among others, in particular with regard to the impacts of waste and wastewater management on the marine environment and interlinkages between sustainable consumption and production and marine resource conservation, including

5 See <https://cop23.com.fj/the-ocean-pathway/>.

actions to combat plastics pollution.⁶

78. The Small Island Developing States Action Platform, developed to support the follow-up to the third International Conference on Small Island Developing States, has a focus on the conservation and sustainable use of the oceans, seas and marine resources for sustainable development, with approximately one third of the 315 registered partnerships relating to Sustainable Development Goal 14. The high-level midterm review of the SIDS Accelerated Modalities of Action (SAMOA) Pathway in September 2019 will reflect on progress made in addressing the priorities of small island developing States through the implementation of the SAMOA Pathway.

A. Strengthening international cooperation and coordination

79. The increasing number of forums dealing with sustainable development mainly from a sectoral perspective has challenged the ability of the international community to consider issues in a comprehensive and coherent manner and to identify important interlinkages, leading to more frequent calls to strengthen international cooperation and coordination and adopt comprehensive and integrated approaches in the broader sustainable development context and also regarding the oceans.

80. With regard to the former, the need to continue efforts to address, in a comprehensive and coherent manner, the challenges posed by environmental degradation in the context of sustainable development was emphasized by the General Assembly in the development of a new global pact for the environment. In its resolution 72/277, it decided to establish an ad hoc open-ended working group to consider a report to be submitted by the Secretary-General that will identify and assess possible gaps in international environmental law and environment-related instruments with a view to strengthening their implementation. The working group will discuss possible options to address such possible gaps and, if necessary, the scope, parameters and feasibility of an international instrument and make recommendations, which may include the convening of an intergovernmental conference, to the General Assembly during the first half of 2019.

81. International cooperation and coordination remains critical to achieving

6 See <https://sustainabledevelopment.un.org/hlpf/2018>.

the objectives of the Convention and the integrated management and sustainable development of the oceans and seas. It is well recognized that the problems of ocean space, including the challenges to the conservation and sustainable use of the oceans, seas and their resources, are closely interrelated and need to be considered as a whole through an integrated, interdisciplinary and cross-sectoral approach. The General Assembly annually reaffirms the unified character of the Convention and the vital importance of preserving its integrity. It has, since the entry into force of the Convention, annually considered and reviewed developments at the global level under one consolidated agenda item on oceans and the law of the sea, as the global institution having the competence to undertake such a review. It also established the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea to assist in its functions. The nineteenth meeting of the Informal Consultative Process, held in June 2018, provided a unique forum for comprehensive discussions on anthropogenic underwater noise, facilitating the exchange of views among multiple stakeholders and improving coordination and cooperation between States and competent agencies. The effectiveness and utility of the Process will be reviewed by the General Assembly at its seventy-third session. The General Assembly will also review the terms of reference of UN-Oceans, the inter-agency coordination mechanism on ocean and coastal issues within the United Nations system, which it had deferred in 2017 until its seventy-third session. These reviews provide an opportunity to consider whether international cooperation and coordination need to be further strengthened.

82. During the reporting period, UN-Oceans, for which the United Nations Legal Counsel acts as focal point, strengthened and promoted the coordination and coherence of United Nations system activities related to ocean and coastal issues, focusing on the implementation of the 2030 Agenda, in particular Sustainable Development Goal 14. Progress was made in developing a proposed methodology for indicator 14.c.1, which, if supported by Member States and following a pilot test phase, could be submitted for approval to the Inter-agency and Expert Group on Sustainable Development Goal Indicators for reclassification from tier III to tier II status. Tier II status signifies that an indicator is conceptually clear, has an internationally established methodology and standards are available, but data are not regularly produced by countries. During the period under review, three indicators for the targets of Goal 14 were reclassified from tier III to tier II status. The other main activities of UN-

Oceans related to the United Nations Decade of Ocean Science for Sustainable Development (see also paras. 54 and 55) and follow-up to the United Nations Conference to Support the Implementation of Sustainable Development Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development (Ocean Conference). Membership in UN-Oceans also expanded during the reporting period to include the secretariats of the Convention on International Trade in Endangered Species of Wild Fauna and Flora, the Convention on the Conservation of Migratory Species of Wild Animals and the United Nations Framework Convention on Climate Change.

83. At the regional level, a range of issues related to fisheries, protection and preservation of the marine environment and biodiversity conservation and sustainable use continued to be addressed through increased cooperation (see also section VI). Cross-sectoral cooperation was particularly promoted at the second meeting of the Sustainable Ocean Initiative Global Dialogue with Regional Seas Organizations and Regional Fisheries Bodies on Accelerating Progress towards the Aichi Biodiversity Targets and the Sustainable Development Goals, held in April 2018.

84. There are a number of management tools available that can foster cross-sectoral and integrated approaches to the management of human activities in the oceans and seas, such as integrated coastal zone management, marine spatial planning, including through the application of area-based management tools, and ecosystem approaches.

85. Among these tools, area-based management received increased attention, including through guidance on the identification and use of such tools. Currently, 16.77 per cent of marine areas under national jurisdiction are protected, indicating the achievement of the quantitative element of Aichi Biodiversity Target 11 in these areas. Work continued to facilitate the description of ecologically or biologically significant marine areas in support of the adoption of appropriate conservation and management measures. With respect to marine spatial planning, the secretariat of the Convention on Biological Diversity produced an information document that compiled national, subregional and regional experiences.

86. Ecosystem approaches continued to provide a useful framework for developing ocean management strategies. FAO assisted countries with implementing ecosystem approaches to fisheries and aquaculture and activities were carried out under a number of regional seas conventions and action plans

to further the implementation of ecosystem approaches.

B. Building the capacity of States to implement the legal and policy framework for the oceans and seas, including through voluntary commitments

87. During the reporting period, the generation of voluntary commitments continued to be promoted through intergovernmental conferences, while priority attention was also given to their follow-up (see also para. 78).

1. Implementation of the voluntary commitments under Sustainable Development Goal 14: the Special Envoy for the Ocean

88. Peter Thomson of Fiji was appointed as the Special Envoy for the Ocean to ensure that the many positive outcomes of the Ocean Conference, in particular the voluntary commitments made in support of Sustainable Development Goal 14, were fully implemented and to lead advocacy and public outreach efforts. Nine Communities of Ocean Action were launched to implement the voluntary commitments, generate new voluntary commitments and facilitate collaboration and networking in support of Goal 14.⁷

2. Capacity-building activities

89. Many intergovernmental organizations also undertook capacity-building initiatives with the overall objective of assisting developing States in sustainably managing ocean-based activities and resources, including through the implementation of the Convention and related instruments. For example, FAO expanded its efforts to support States in building capacity to effectively implement the Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, the Convention and international fisheries treaties and guidelines. The International Seabed Authority continued to build the capacity of developing States in deep-sea research and technology through its contractor training programmes and the endowment fund for marine scientific research in the Area. The International Tribunal for the Law of the Sea also continued to provide capacity-building, training programmes and workshops on dispute settlement under the Convention.

90. Pursuant to its General Assembly mandates, the Division for Ocean

7 See <https://oceanconference.un.org/coa>.

Affairs and the Law of the Sea of the Office of Legal Affairs provided information, advice and assistance to States and intergovernmental organizations and other stakeholders on the uniform and consistent application of the provisions of the Convention and related instruments, including through fellowship programmes, other capacity-building activities, participation in various conferences, meetings, workshops and training events and the management of trust funds.⁸

a. Fellowships

91. In January 2018, Vanessa Arellano of Ecuador, was awarded the thirty-third Hamilton Shirley Amerasinghe Memorial Fellowship on the Law of the Sea, which provides participants with training in ocean affairs and the law of the sea in order to foster a wider appreciation and application of the Convention. The financial state of the Fellowship remained critical and contributions are needed to ensure that at least one fellowship can be awarded annually.

92. Since 2004, the United Nations-Nippon Foundation of Japan Special Strategic Fellowship Award in Ocean Affairs and the Law of the Sea has been awarded to 142 nationals of 76 Member States, including 12 in 2018 to nationals of Cameroon, Costa Rica (two), the Dominican Republic, Egypt, Ghana, Indonesia, Jordan, Nigeria, Sri Lanka, Solomon Islands and Timor-Leste.

93. A new capacity-building initiative related to ocean governance under the United Nations-Nippon Foundation Sustainable Ocean Programme was launched in 2018. Thereunder, the Division awarded four Critical Needs Fellowships, from April to June 2018, to applicants from Cambodia, Guyana, Papua New Guinea and Senegal. It delivered two training sessions related to the intergovernmental conference to elaborate the text of an international legally binding instrument under the Convention on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction to 45 representatives from 42 States in April and May 2018. In July 2018, 11 Thematic Fellowships focusing on implementation of the 2030 Agenda through the Convention and ocean governance frameworks were awarded to nationals of Fiji, Gambia, Lesotho, Myanmar, Samoa, Sri Lanka, Saint Lucia, Sweden, Timor-Leste, Togo and Tonga. The fellowship will consist of four months

8 More information is available on the website of the Division at www.un.org/depts/los/.

(from August to December 2018) of in-person training at United Nations Headquarters, including briefings and activities to provide first-hand knowledge and insight into the implementation of ocean affairs frameworks.

b. Technical assistance to States

94. Jointly with United Nations Conference on Trade and Development, the Division began to implement a project funded through the United Nations Development Account to assist Barbados, Belize and Costa Rica in developing evidence-based and policy-coherent oceans economy and trade strategies to support beneficiary countries in realizing economic benefits from the sustainable use of marine resources. Relevant legal and institutional frameworks under the Convention will be addressed to support the development of comprehensive national ocean governance frameworks, which can also support the implementation of the Sustainable Development Goals, including Goal 14 directly.

95. Under a project funded by the Trust Fund to Support Initiatives of States Countering Piracy off the Coast of Somalia, the Division completed a gap analysis of the Somali legislative and policy framework for oceans and provided a second briefing for Somali parliamentarians to raise awareness of the legal framework under the Convention. Thus, together with the initial briefing for Somali parliamentarians in 2014, followed by an in-depth training programme for government officials and representatives from the regions of Somalia in 2015, all activities foreseen by the project have been completed. The Division will continue to provide customized technical and/or other capacity-building assistance to further reinforce the capacity of Somalia to address legislative barriers to developing maritime sectors and sustainably developing the oceans and the country's resources.

VIII. Conclusions

96. A wide range of activities were undertaken by the international community during the reporting period, including in relation to the implementation of General Assembly resolution 72/73, and progress was made in addressing ocean-related issues in a number of areas, such as maritime security, marine science and technology, international shipping, strengthening international cooperation and coordination and capacity-building.

97. At the same time, the health of the oceans continued to be negatively

affected by ever growing and cumulative pressures. The impacts of climate change on the oceans, in particular, from sea level rise and more frequent and severe storms, were felt the world over, threatening the vulnerability of coastal communities, small island developing States and the least developed countries.

98. These impacts threaten safety of life, food security and livelihoods and underscore the urgent need for more focus on the human dimension of the oceans. This is visibly illustrated in the context of the ongoing and large-scale migration at sea.

99. Clearly, more needs to be done to raise awareness of the importance of the oceans for humanity on the one hand and of the impacts of anthropogenic activities on the oceans on the other. In order for further progress to be made, States must continue to increase their understanding of and resolve to use the tools that are currently available to achieve sustainable development, beginning with effective implementation of the Convention, which sets out the legal framework within which all activities in the oceans and seas must be carried out, as complemented by a wide range of other legal instruments.

100. Moreover, with an ever-increasing number of competing activities in the oceans and with bodies addressing ocean issues predominantly from a sectoral perspective at the global, regional and national levels, the need for a coordinated and integrated approach to all ocean-related issues is imperative.

101. The clear conclusion from the reporting period is that much greater efforts are needed by Member States to achieve the targets of Sustainable Development Goal 14, including through enhanced international cooperation and coordination and increased capacity-building and transfer of technology to developing States and that, in order to be cohesive, effective and long lasting, such efforts must be undertaken within the context of the legal framework set out by the Convention and the mandate and policy guidance provided by the General Assembly.

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