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Practical policy solutions for the final stage of BBNJ treaty negotiations

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Abstract

2020 The Authors The oceans are facing a catastrophic decline in biodiversity. States are now in the final stage of negotiations for an implementing agreement under the United Nations Convention on the Law of the Sea to fill governance gaps for the conservation and sustainable use of marine biodiversity beyond national jurisdiction. This paper outlines the apparent areas of convergence and divergence between States on the 2019 draft treaty text. It outlines the contributions of the articles in this Special Issue "Biodiversity Beyond National Jurisdiction (BBNJ) Treaty: the Final Stage of Negotiations", which offer suggestions for breaking negotiation deadlocks and practical ideas for transformative governance change. As States prepare for the postponed fourth and final (planned) negotiating session, we hope that this Special Issue will offer a useful tool for decision-makers and other stakeholders by offering creative ideas for BBNJ governance and for reaching timely agreement on the BBNJ treaty text.

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Practical policy solutions for the final stage of BBNJ treaty negotiations

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ABSTRACT

The oceans are facing a catastrophic decline in biodiversity. States are now in the final stage of negotiations for an implementing agreement under the United Nations Convention on the Law of the Sea to fill governance gaps for the conservation and sustainable use of marine biodiversity beyond national jurisdiction. This paper outlines the apparent areas of convergence and divergence between States on the 2019 draft treaty text. It outlines the contributions of the articles in this Special Issue "Biodiversity Beyond National Jurisdiction (BBNJ) Treaty: the Final Stage of Negotiations", which offer suggestions for breaking negotiation deadlocks and practical ideas for transformative governance change. As States prepare for the postponed fourth and final (planned) negotiating session, we hope that this Special Issue will offer a useful tool for decision-makers and other stakeholders by offering creative ideas for BBNJ governance and for reaching timely agreement on the BBNJ treaty text.

1. Introduction

In the face of a catastrophic decline in ocean biodiversity and a lack of effective governance arrangements to halt the decline [1], countries are negotiating a new United Nations treaty for biodiversity of ocean areas beyond national jurisdiction (ABNJ). ABNJ consists of the high seas and the deep seabed below the water column accounting for nearly two-thirds of the world's oceans and 90% of the global ocean's biomass [2] and hosts the highest biodiversity on the planet [3]. Forty percent of the ocean area has been severely altered by human activities in the past 50 years, the main drivers being direct exploitation of organisms, followed by land/sea based pollution, with only 3% of the ocean free from human pressure in 2014 [1]. Scientists and other stakeholders have called for urgent transformative change to tackle the root causes of biodiversity loss including interconnected economic, political, socio-cultural, demographical, institutional and technological drivers [4]. The contributions to this Special Issue "Biodiversity Beyond National Jurisdiction (BBNJ) Treaty: the Final Stage of Negotiations" (BBNJ Special Issue) offer practical ideas for transformative governance change in the context of the proposed Internationally Legally Binding Agreement (ILBI) for the Conservation and Sustainable Use of Marine Biological Diversity in Areas Beyond National Jurisdiction (BBNJ) under the United Nations Convention on the Law of the Sea (UNCLOS).

Developments in science and technology make ocean ABNJ more accessible to human activities that affect biodiversity in a way not envisaged when the 1982 UNCLOS was under development. UNCLOS set up a framework recognising sovereign rights to exercise jurisdiction (subject to limitations) over marine scientific research, environmental protection, natural resources and certain activities out to 200 NM (Exclusive Economic Zones) and the limit of continental shelves. It also set up a framework for the high seas and 'The Area' in ABNJ. Subsequent agreements dealt with various activities that affect ABNJ such as fishing (e.g. 1995 UNCLOS *Implementing Agreement relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks*) and seabed mining (e.g. 1994 *Agreement Relating to the Implementation of Part XI of UNCLOS*). However, the UNCLOS framework still has significant gaps for the conservation and sustainable use of marine biodiversity in ABNJ, including the lack of modern conservation principles (such as the ecosystem approach and precautionary principle), conservation tools (such as strategic environmental assessments and marine spatial planning) and rules for unregulated activities affecting biodiversity (such as bioprospecting, and high seas aquaculture) [5].

To address these and other gaps, the United Nations General Assembly decided that negotiations for a new implementing agreement for marine biodiversity in ABNJ should address the elements (together and as a whole) identified in the package agreed in 2011 [6]. The four core elements are: (1) marine genetic resources, including questions on the sharing of benefits; (2) measures such as area-based management tools, including marine protected areas; (3) environmental impact assessments; and (4) capacity-building and the transfer of marine technology.

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After years of preparations including four sessions of preparatory committee 2016–2017 [7], the United Nations has held three negotiating sessions of the intergovernmental conference [8]. The fourth, and final, session was scheduled for March 2020 but has been postponed due to covid-19 to the earliest possible available date to be decided by the General Assembly [9].

The President of the intergovernmental conference released a draft text of the BBNJ agreement in November 2019 [10]. Included among the 70 draft articles and two draft Annexes are draft provisions relating to the four elements, institutional arrangements, financial resources, implementation and compliance, and settlement of disputes, among others. There continues to be lack of agreement between States on many of the draft provisions. This highlights the need for urgent work to promote a common understanding of issues and to co-design new solutions that can overcome negotiation impasses. Much has been written about the crucial need for the ILBI (e.g. Ref. [11,12]) and the challenges associated with concluding an agreement developed in a geopolitical context where no country can assert sovereign rights over the marine biodiversity it seeks to protect [13].

The aim of this BBNJ Special Issue of *Marine Policy* is not to continue to dwell on the challenges but to offer practical solutions for moving the negotiations forward on key areas of divergence at this critical point of the development of the ILBI. In Section 2 we briefly outline apparent areas of convergence (in principal agreement) and divergence (in principal disagreement) between States on the November 2019 draft text for each ILBI element,[1] as expressed by the President and Facilitators at the end of the third negotiating session in 2019 [14]. Despite no official plans for a fifth negotiating session, it is clear that there are widespread areas of divergence in the final stage of negotiations as evidenced by large areas of the draft text remaining in square brackets and the number of textual proposals submitted by delegations by February 20, 2020.[2] We then outline the contributions of the articles in this BBNJ Special Issue and the marine policy challenges they address. In Section 3 we offer some concluding remarks about how these contributions could lead to transformative change in ocean governance. We hope that this Special Issue will offer a useful tool for decision-makers, civil society, scholars and other stakeholders in debating new ideas and promoting the development and conclusion of the BBNJ agreement.

2. This special issue

The twelve articles in this BBNJ Special Issue present perspectives drawn from a range of disciplines including law, policy, natural science, Indigenous and local knowledge systems, economics and political science. While they follow the ILBI's compartmentalising of key elements or cross cutting issues, they explore practical solutions to challenges in a way that recognises these elements and governance arrangements are interrelated and must be considered as a whole.

Some articles in the BBNJ Special Issue concern the four specific elements of the BBNJ agreement 'package': marine genetic resources (Humphries et al. Lawson and Rourke); area-based management tools (Crespo et al. Visalli et al.); and capacity building and technology transfer (Vierros and Harden-Davies). Other articles concern cross-cutting issues, such as institutional arrangements (Clark), dispute settlement (Shi) and monitoring, control and surveillance (Cremers et al.). Still others examine knowledge, ideas and concepts that could promote transformational change in the design or implementation of the BBNJ agreement. These explore the integration of traditional knowledge in BBNJ governance (Mulalap et al.); addressing concerns of states adjacent to marine ABNJ (Mossop and Schofield); mechanisms for promoting ocean resilience (Shekhar Yadav and Gjerde); and the potential role of 'rights of nature' in inspiring ocean stewardship (Harden-Davies et al.).

This section refers to the areas of convergence and divergence expressed by the President to the Negotiations and Facilitators for the Working Groups in their summing up statement after the third negotiating session [14]. Where there are brackets referring to their numbering system in the document, roman numerals refer to parts I (MGR), II (ABMT), III (EIA), IV (CBTT) or V (cross-cutting issues) as laid out in the statement, while the digits refer to the paragraphs in the statement (not the 2019 draft text).

2.1. Marine genetic resources (MGRs)

Governing marine genetic resources is one of the key elements of the ILBI package, and arguably the most polarising for country interests and positions in the negotiations. Genetic resources contain the building blocks of life, including any material of plant, animal, microbial or other origin containing functional units of heredity (instructions that make up an organisms blueprint). They provide the variation essential for healthy ecosystems that are resilient to stress and changes to ocean conditions. The 1992 *Convention on Biological Diversity* (CBD) provides an international framework for governing genetic resources (defined as 'genetic material of actual or potential value' (CBD, article 2)) within national jurisdiction. Over 40 countries have implemented national laws specifically regulating access to genetic resources (e.g through a permit or registration process) and the fair and equitable sharing of benefits from their use (e.g. through contracts).[3] The ILBI proposes to address governance of marine genetic resources in, of and/or from ABNJ, and the question of sharing benefits from their use.

Countries at the third negotiating session agreed that the ILBI should have benefit sharing modalities (but no consensus on what they are) and made some progress towards possible ways of addressing traditional knowledge of IPLCs [14]. However, remaining key areas of divergence include whether the ILBI should:

- apply only to MGRs collected *in situ* (from the high seas) or also to those accessed *ex situ* (e.g. gene banks and laboratories) and *in silico* (information about MGRs), digital sequence data and/or information and derivatives [I.8];
- apply to MGRs collected before the entry into force of the ILBI but accessed *ex situ* or *in silico* after its entry into force [I.9];
- regulate access to MGRS of ABNJ and if so, how [I.11];
- address intellectual property rights and if so, how [I.15]; and
- have a track and trace mechanism for monitoring or a less complex monitoring mechanism [I.16].

There has been slow progress towards addressing the fundamental differences of country interests and positions that range from no regulation to elaborate infrastructure for access and benefit sharing of all MGRs. Humphries et al. (this issue) offer a practical approach to finding a middle ground between these deadlocked positions on MGR governance. The proposed middle ground is called the 'tiered approach', which is a set of building blocks (tiers) and tools that negotiators can adapt to suit the unique geo-political context of ABNJ. The authors first explore the challenges with the current 'one-size-fits-all' approach to MGR governance that is based on the access and benefit sharing (ABS) concept originally adopted to govern genetic resources collected and/or used within national jurisdiction, with its focus on economic and equity, rather than conservation objectives. They then propose a range of governance tools and approaches the complement but are more diverse and flexible than the ABS concept alone under five tiers that address key

[1] Where we refer to the proposed ILBI articles, we are referring to the draft text released in November 2019 after the third negotiating session (A/CONF.232/2019/6).

[2] https://www.un.org/bbnj/sites/www.un.org.bbnj/files/textual_proposals_compilation_-_15_april_2020.pdf.

[3] https://absch.cbd.int/.

activities of MGR use:

1) collection and storage of ABNJ MGRs, including an ABNJ Activity Notification and Monitoring System (ANeMONe), a Capacity Building Database and a Facilitated Information and Sample Sharing Hub (FISSH);
2) activities concerning physical materials of ABNJ including contextual information, with options for a benefit sharing system 'tied' to access (similar to the World Health Organizations Pandemic Influenza Preparedness Framework) or a benefit sharing system not dependent on access or use of MGRs such as an 'End-user Due Diligence approach';
3) activities using digital sequence information separately from the physical sample, including options for interoperability with existing open access databases;
4) access to and use of Traditional and Local Knowledge, including options for expanding the knowledge base in the ILBI's proposed Scientific and Technical Body; and
5) conservation of MGRs in ABNJ, including filling the biosafety governance gap (release of living modified organisms) in ABNJ.

Humphries et al. conclude that ideally countries would design an MGR policy from scratch that takes into account the ABNJ's unique characteristics instead of transplanting the ABS concept from within national jurisdiction, with its many challenges for implementation. At the very least, they conclude that policy makers have an opportunity to create a more flexible and nuanced approach to regulation and incentives that promote equitable sharing of benefits from the use of biological resources and associated information for *conservation* as well as human purposes.

Lawson and Rourke (this issue) dive deeper into the highly contentious and unresolved issue for MGR governance in ABNJ of how to deal with information associated with genetic resources such as digital sequence information (DSI) when it comes to sharing the benefits from its use. They explore the experiences of other international forums with ABS frameworks for genetic resources within national jurisdiction that are also struggling to resolve this issue – the CBD, Nagoya Protocol, International Treaty for Plant Genetic Resources for Food and Agriculture and the Pandemic Influenza Preparedness Framework. The authors point out that the texts of these agreements draw a distinction between biological materials within the ABS obligations (where users of genetic resources are required to share benefits with the provider) and general obligations that promote the disclosure and exchange of information about those biological materials. They identify the problem that with advances in technologies which only require the use of DSI (e.g. from a public database) without the involvement of the physical materials, there is a major ABS loophole that undermines benefit sharing objectives. As at the third negotiating session of the ILBI, there was no agreement on whether or not to include DSI in governance arrangements, let alone how to manage it. The authors explore four approaches for tackling the issue:

1) where the other ABS forums agree that DSI is already included within their current definition of genetic resources that mirrored in the ILBI;
2) to expressly include DSI within the definition of MGRs under the ILBI;
3) include DSI as a derivative of MGRs and ensure that the trigger for benefit sharing is when the resource (or derivative) is utilized and not necessarily when it is accessed; or
4) seek alternative ways to compensate for DSI not being a 'resource' subject to ABS, such as through a charge, levy, tax, voluntary contributions or subscription payments as forms of benefits from the information's use.

They conclude that including information like DSI in the ABS transaction risks undermining the progress of open science and urge policy makers to re-consider alternative ways to deliver benefits from the use of DSI.

2.2. Area-based management tools (ABMTs)

Area-based management tools (ABMTs) are key tools for biodiversity conservation. They exist in a number of forms, including marine protected areas, sessional or annual fisheries closures, Areas of Particular Environmental Interest, Particularly Sensitive Sea Areas, and Emission Control Areas/Special Areas [15]. States at the third negotiating session agreed on the importance of ABMTs as part of the ILBI framework [14]. They agreed the draft text should state that the ILBI would not undermine existing relevant legal instruments, frameworks and global, regional and sectoral bodies [II.15]. There was general convergence that the "best available science, traditional knowledge of indigenous peoples and local communities, the application of the precautionary approach or principle and an ecosystem approach should be the basis upon which areas are identified and proposals are formulated" [II.17]. However, countries continue to diverge on key issues for example, the roles and decision-making functions of bodies established under the ILBI and/or of relevant global, regional and sectoral bodies in the process for identifying, establishing (including consultation and assessment), implementing, monitoring and reviewing ABMTs [II.5, II.18–27]; and whether there should be different processes for different tools [II.6].

Crespo et al. (this issue) argue it is critical that marine conservation and management mechanisms evolve to abate cumulative impacts across ecological, spatial and temporal scales but that this is particularly challenging for management authorities in ABNJ with the areas' complex dynamics, limited understanding of ecological impacts from human activities and deficient monitoring and enforcement mechanisms. They point out there is ample evidence of the benefits of matching the scales of ABMTs to the species or ecological features that they seek to protect. However, they argue that advances in eco-informatics and tracking, remote sensing and monitoring technologies are opening the door to new forms of dynamic and predictive spatial management capable of responding to climate change and the changing ocean environment. To help decision-makers account for the dynamism of different ecological and oceanographic processes in designing and implementing spatial management measures, they identify four key temporal scales and describe existing and potential ABMTs that most efficiently match processes within these scales:

1) contemporary - dynamic or ephemeral oceanographic features that vary in temporal scale from hour-long tidally driven hotspots to persistent or permanent features;
2) monthly or seasonal processes, including predictable cyclical processes that influence the life histories of marine biota;
3) multi-annual processes, including climatic oscillations that change the physical properties of the ocean and restructure biological communities; and
4) multi-decadal events, such as climate change with its effects on species (including distribution and thermal stress) and other background impacts such as ocean acidification.

Crespo et al. (this issue) conclude that it is important for the ILBI to provide a legal platform that specifically enables, rather than ignores, the implementation and monitoring of dynamic ABMTs in ABNJ. This includes expanding the current proposed definition of ABMT as a tool for a 'geographically defined area' to defining them in both space and time, as well as suggested obligations, principles and institutional frameworks that promote cooperation between existing global, regional and sectorial bodies to implement good practice in area-based management.

The design of MPAs under the BBNJ agreement would need to be guided by science and other knowledge systems. Visalli et al. (this issue) present an approach for highlighting priority areas for protection in marine ABNJ, using a conservation planning algorithm parameterized to

meet 30% conservation targets set by the IUCN. The algorithm combines several sources data and information, including in relation to fisheries and climate change, making use of growing datasets that offer insights into patterns of human activities and biodiversity in ABNJ. Using the algorithm, several potential candidates for MPAs in ABNJ are identified, including shallow water locations, such as the Mascarene Plateau in the Indian Ocean, and deep water locations such as the Salas y Gómez and Nazca Ridges in the Pacific as well as other biodiversity hotspots such as the Costa Rica Dome. Tradeoffs, including in relation to fishing and future climate proofing of instruments, are also discussed. Noting that this algorithm focuses specifically on biodiversity-associated criteria, this tool is offered as an adaptable method to complement existing frameworks, such as those in relation to identifying ecologically or biologically significant marine areas, in guiding the designation of MPAs in ABNJ and informing other ABMTs.

2.3. Capacity building and technology transfer (CBTT)

Ensuring that all States have the capacity to participate in the conservation and sustainable use of BBNJ will be an important factor for implementation of the ILBI. Since not all States have the required scientific, legal, technical and technological capacities - capacity building and technology transfer (CBTT) is a focus of the BBNJ negotiations. At the third negotiating session there was general convergence for including provisions on cooperating in CBTT that would take place at all levels [14], including through global, regional, subregional and sectoral bodies [IV.8] and that CBTT would "respond to needs" [IV.9]. There was divergence on several issues including whether capacity building is to be provided only on a voluntary basis or on a mandatory and voluntary basis, and the mechanisms for identifying and meeting CBTT "needs" [IV.10].

Vierros and Harden-Davies (this issue) explore how CBTT could be enhanced under the BBNJ agreement by harnessing synergies with other relevant frameworks. They analyse synergies between the CBTT requirements for the ILBI and existing international CBTT obligations and frameworks, including in relation to biodiversity conservation, climate change and oceans governance. They discuss potential capacity requirements for implementing the BBNJ agreement, ranging from science to regulation, including the role of technology, and identify gaps in the current framework in relation to specific ocean ABNJ-related requirements for CBTT. Vierros and Harden-Davies argue that CBTT is more meaningful and cost-effective if it allows for linkages between ABNJ initiatives with those within national jurisdiction – reflecting the dynamic and interconnected nature of the ocean and enabling countries to implement the ILBI not in isolation, but in conjunction with other international commitments and national priorities. They identify areas for enhanced cooperation and collaboration.

2.4. Environmental impact assessments (EIA)

There is a large body of literature analysing legal, policy, social and environmental issues for Environmental Impact Assessments (EIAs) in ABNJ (e.g. Refs. [16,17]. There are a myriad of international legal and policy agreements that deal directly and indirectly with EIAs in ABNJ (see e.g. Refs. [18]). UNCLOS EIA provisions are in articles 204–206. Article 206 contains an obligation on States to assess the potential effects of activities under their jurisdiction or control that may cause "substantial pollution" or "significant and harmful changes to the marine environment" and communicate reports of the assessments to the competent international organizations that makes them available to all States. Significant gaps in implementing UNCLOS article 206 remain including a lack of detail for the obligation to be adequately enforced in ABNJ, a lack of detailed global and legally-binding requirements on EIAs, compliance/enforcement mechanisms and the lack of consideration of cumulative impacts in the conduct of most EIAs [19].

At the third negotiating session [14], there was broad support for a provision on the obligation to conduct EIAs [III.11]. Countries diverged about assigning roles to the proposed scientific and technical body or the conference of the parties and some key operational provisions such as thresholds and criteria for EIAs [III.6]. There was a lack of agreement on various options including: (a) adopting the threshold contained in article 206 UNCLOS; or (b) a stricter standard requiring EIA for any planned activity with more than a minor or transitory effect; or (c) a "tiered approach that would require a less extensive environmental impact assessment process for activities that surpassed a lower threshold and a full/comprehensive environmental impact assessment for activities that meet the threshold under article 206" [III.12]. Country positions also diverged about the relationship between the ILBI and with EIA processes under relevant legal instruments, frameworks and relevant global, regional and sectoral bodies [III.6, III.13].

There is a difference of opinion whether the ILBI should have an "activity-oriented" or an "impact-oriented" approach to determining which activities would be covered by the EIA provisions [14] [III.11]). De Lucia points out the approach chosen will have important implications for an ecosystem approach because in one case the legal framework would cut across maritime zones and in the other it would remain constrained by jurisdictional lines [20]. There was broad support for draft text references to cumulative impacts and transboundary impacts but questions remain about how the impacts would be taken into account [III.14]. There was also growing support from countries for the inclusion of a provision on strategic environmental assessments but differences of opinion about how they would be implemented in practice [III.15].

2.5. Institutional arrangements

A key question of the negotiations is how any proposed institutional arrangements of the ILBI (including institutional structures, policies, systems and processes for decision making, funding mechanisms and information exchange) will interact with existing sectoral and regional institutional arrangements that are already governing many activities in ABNJ [21]. At the third negotiating session [14], there was general support for the establishment of a conference of the parties, a scientific and technical body and a secretariat and for setting out their main functions in the ILBI but there is no agreement yet on their functions [V.13–15]. There was also general convergence on the desirability of establishing a clearing house mechanism whose modalities will be determined by a conference of the parties [V.17]. Key areas of divergence include how the relevant legal instruments, frameworks and global, regional or sectoral bodies should cooperate and coordinate [II.14].

Clark (this issue) addresses a key challenge faced by ILBI negotiators – how to structure an agreement that achieves meaningful change but does not upset the existing constellation of ocean governance regimes. She argues that at the heart of the question lies the institutional arrangements for the ILBI. Institutional arrangements refer to the bodies, structures and organs that make up the ILBI as well as their relative authorities and relationships to other international agreements and ocean governance organizations. After examining the institutional architecture of existing UNCLOS implementing agreements, Clark reviews the architecture proposed under the draft text, including a decision-making body, scientific advisory body and a secretariat. However, there is still much divergence of opinion about the components of the institutional architecture and their relationship with other ocean governance bodies and instruments. To clarify this divergence, Clark discusses the different models for institutional arrangements proposed during the preparatory phase of BBNJ discussions:

1) global model with new global-level institutions with powers to implement and enforce arrangements in its own right (similar to the International Seabed Authority);

2) regional model that uses the existing framework of regional and sectoral governance organizations rather than creating new entities (similar to the UN Fish Stocks Agreement model); and
3) hybrid models that fall anywhere along the spectrum of the extreme Global and Regional models.

Clark points out that the precise meaning of these different models is not universally understood, causing confusion for negotiations. She argues that shifting the focus away from nomenclature and onto function would help negotiators to communicate their vision for institutional arrangements and she proposes a framework for analysis that translate the Global, Regional and Hybrid models. Clark concludes that clearly communicating the critical nuances relating to type, function, power and role of relevant institutional arrangements would pave the way for faster or clearer ILBI negotiations.

2.6. Dispute settlement

At the third negotiating session [14] there was general support for an obligation to settle disputes about interpretation or application of the agreement by peaceful means and for including procedures for dispute settlement [V.20]. However, there was no agreement about whether to use the procedure set out in UNCLOS part XV and whether non-parties must be accommodated to encourage universal participation in the ILBI [V.20].

The settlement of disputes under the ILBI is an issue that is receiving growing attention. Shi (this issue) considers what kinds of procedures would be needed for the settlement of disputes and examines options for the ILBI. As Shi explains, a dispute is a specific disagreement concerning a matter of fact, law or policy – and can arise due to differing interpretations or applications. Shi explains the current proposals regarding dispute resolutions under the ILBI. He proposes four criteria for assessing dispute settlement mechanisms: incorporating the principle of consent in international law; ensuring cost-effectiveness; not undermining relevant frameworks, instruments and bodies; and maintaining the balance of interests between States. Shi then identifies six types of proposals for addressing the issue of dispute settlement, and analyses these proposals against the criteria. Shi notes that few States have expressed a view on the issue, but argues that the analysis presented provides a useful framework for discussion.

2.7. Monitoring control and surveillance

At the third negotiating session [14], there was general support for enhancing transparency in the decision making process for ABMTs [II.16] and EIAs [III.25]. There were varying degrees of convergence on monitoring issues, depending on the element negotiated. For example, for EIAs there appeared to be convergence on the need to include a monitoring provision and that the responsibility for monitoring should rest with a State party and not the proponent of an activity [III.26]. In contrast for MGRs, there was no convergence on monitoring issues with support ranging from a robust track-and-trace mechanism for monitoring MGR collection, use and transfers (including options for an obligatory notification system) to positions that questioned the feasibility or desirability of a monitoring mechanism and its associated infrastructure [I.16]. There was no convergence on issues of implementation and compliance, with views expressed that this would need to be considered after the substantive obligations have been agreed upon [V.19].

Monitoring and enforcement will be a key issue for the implementation of the ILBI. Cremers et al. (this issue) explore how monitoring, control and surveillance (MCS) tools, technologies and policies could support implementation and enforcement of the ILBI. They also discuss how the ILBI could complement and strengthen existing MCS frameworks. Cremers et al. discuss how MCS tools, ranging from satellite technologies and vessel monitoring systems to electronic monitoring systems, are increasingly cost-effective and widespread in use and note several relevant international legal obligations and policy frameworks. They identify a series of challenges currently facing MCS in marine ABNJ, such as reliance on flag State responsibility for compliance; gaps in the governance framework for ABNJ; and a lack of capacity and resources for use of MCS technology. Cremers et al. argue that the ILBI could support and harness the utilization of MCS tools, technologies and policies through provisions that reinforce MCS obligations and principles, relating to cooperation and coordination, transparency and reporting. They identify how MCS could play a role in all elements of the ILBI – ABMTs, EIA, MGRs and CBTT. They further discuss institutional arrangements, including the clearinghouse mechanism. Finally, they recommend the incorporation of a MCS strategy to be submitted along with proposals for new management measures or protected areas.

2.8. Traditional knowledge

The protection, use and respect for traditional knowledge systems is relevant to each of the ILBI elements. However, the closing statement of the third negotiating session summing up areas for convergence and divergence only touched on it three times [14]. In relation to the MGR negotiation, the President and Facilitators noted the progress concerning possible ways of addressing traditional knowledge in relation to access and benefit sharing and welcomed a joint proposal for a new article specifically addressing the issue [I.13]. Regarding ABMTs, there was general convergence that traditional knowledge should be one of the bases upon which areas are identified and proposed [II.17]. Generally, however, there was lack of agreement about how to incorporate references to traditional knowledge in the ILBI [III.8].

Mulalap et al. (this issue) offer deep insights into how traditional knowledge of the ocean and its resources and the Indigenous Peoples and local communities (IPLCs) holding such knowledge can be recognised by the international community in the development and implementation of the ILBI. Drawing from definitions and usages of traditional knowledge in existing international instruments and processes such as the *Convention on Biological Diversity*, the Central Arctic Ocean Fisheries Agreement, and the World Intellectual Property Organization's Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore, they propose a working definition for the purpose of the ILBI. The authors highlight the connection between ABNJ and IPLCs that have historical and/or current ties to ABNJ from use and/or sacral value, including long-standing open ocean voyaging routes across the high seas where IPLCs continue to rely on traditional knowledge of weather, environment and marine biological diversity. They discuss three categories of traditional knowledge that have particular relevance to the BBNJ instrument:

1. Traditional knowledge based on the connectivity of species and marine processes (active and passive) between ABNJ and coastal waters, for example understanding the life histories, migratory patterns, feeding and habitat preferences of species that cross jurisdictional boundaries established under UNCLOS;
2. Traditional knowledge emerging from environmental management best practices in coastal waters, such as customary tenure systems and locally managed marine areas, which can be models for similar measures in ABNJ; and
3. Traditional knowledge derived from instrument-free traditional navigation between coastal communities and across ABNJ, including knowledge of ocean currents, wave patterns, spawning and aggregation sites and behavioural differences based on temporal changes.

Mulalap et al. point out that the 2019 draft text has nearly 30 references to traditional knowledge and its holders spanning all four key elements and cross-cutting issues, although a number of issues remain to be addressed for incorporating and operationalising traditional knowledge. They suggest how these issues may be resolved and conclude that

the ILBI must provide for robust institutional arrangements allowing for meaningful, representative and rights-based participation of traditional knowledge holders in the design, decision-making, implementation and monitoring of ILBI measures.

2.9. Adjacency

There was general convergence at the third negotiating session [14] for a provision setting out the need to respect coast States' rights and jurisdiction [V.8]. In relation to MGRs, countries generally agreed that prior consent of coastal States would not be required for activities that may result in the utilization of MGRs found in areas both within and beyond national jurisdiction. However, there was divergence about "whether coastal States – whether concerned or adjacent – should be notified and consulted nevertheless" [I.11]. They agreed that the ILBI should not prejudice the rights of coastal states over areas under national jurisdiction and/or the effectiveness of any ABMT measures adopted by coastal states [II.15].

Mossop and Schofield (this issue) tackle a fundamental question that negotiators face about the relationship between the regime for ABNJ and areas within coastal State jurisdiction and explore the concepts of 'adjacency' and 'due regard' for assisting to bridge these areas. They examine the concept of 'adjacency' in the context of the ILBI and other law of the sea instruments, exploring the use of the term in a geographical sense (denoting proximity) and in the sense of a special role and/or greater rights for coastal States by virtue of their ecological and other links. They argue that adjacency-related concerns should be addressed through the inclusion and implementation of the 'due regard' provisions in the ILBI as the most appropriate principle for balancing the rights of States, but that the principle would need to be operationalised through criteria, priorities and mechanisms. They suggest approaches for:

1) identifying adjacent states, including those immediately adjacent to ABNJ and those interconnected with ocean ecosystems;
2) conceptualising adjacency/due regard, including a set of principles and provisions clarifying the respective roles of States and how the rights of coastal states are protected from potential impacts of activities within ABNJ (and vice versa); and
3) recognising adjacency/connectivity in the MGR, ABMT and EIA elements of the ILBI package.

The authors conclude that there can be no support in the law of the sea for giving coastal States greater rights in relation to ABNJ connected to their coastlines. However, the interconnectivity of biodiversity in the oceans requires greater coordination and cooperation across ecosystems. They conclude that the 'due regard' principle seems to be the most suitable general principle to support a balancing of rights/obligations under UNCLOS and a problem-solving approach to particular issues relating to adjacent states under the ILBI.

2.10. Resilience

The 2019 Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services report found that ocean biodiversity is experiencing unprecedented pressure and change from a range of drivers including biomass extraction and climate change [4]. Popova et al., 2019 argue that the effects of climate change may undermine conservation efforts in ABNJ because of changes to ocean circulation and the redistribution of species among other things [22]. They argue ABNJ that conservation regimes require 'climate proofing' and approaches that go beyond adaptive management.

Yadav and Gjerde (this issue) argue that the ILBI provides an opportunity to enhance the resilience of marine biodiversity and ecosystems in ABNJ. They highlight the primary climate change consequences for the ocean in ABNJ (warming, deoxygenation and acidification) and impacts associated with them. Yadav and Gjerde discuss the concept of resilience as the ability to absorb and recover from shocks, and explore how an approach focused on building and restoring resilience of ecosystems and institutions could help in addressing rising threats to the ocean. They analyse the ILBI through the lens of seven principles for building resilience, and show that a BBNJ treaty based on these principles could help marine ecosystems cope with environmental threats, and improve the effectiveness of governance systems. They argue for strong protections for biodiversity, informed by science, under the ILBI in order to promote resilience of ocean ABNJ.

2.11. Rights of nature

Rights of Nature laws are emerging worldwide as approaches to protect and preserve the environment. The draft text Preamble of the BBNJ agreement conveys a desire of States to "*to act as stewards of the ocean in areas beyond national jurisdiction on behalf of present and future generations*" [10]. Harden-Davies et al. (this issue) explore how perspectives from 'Rights of Nature' laws could inform and inspire ways to achieve this aim of stewardship in ocean ABNJ. An overview of existing Rights of Nature approaches provides examples of laws that recognising rights of nature across jurisdictions, such as in Ecuador, and laws that grant legal rights to specific ecosystems or natural entities, such as the Whanganui River in New Zealand. Four characteristics are identified relating to: i) rights; ii) connectivity; iii) reciprocity; and iv) representation and implementation. These characteristics are used to analyse how Rights of Nature approaches could be applied in ABNJ to achieve the conservation and sustainable use of biodiversity. Harden-Davies et al. argue that a Rights of Nature perspective can reinforce existing ocean governance norms, such as precaution, and inspire new measures (such as a Council of Ocean Custodians) to enhance the effectiveness and equitability of the BBNJ agreement and enable global ocean stewardship in ABNJ.

3. Final remarks

At the end of the third negotiating session, the President of the intergovernmental conference encouraged countries to continue to reach agreement with a sense of urgency and dedication in light of the growing biodiversity crisis in the oceans [14]. The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services predicts that over 1 million species including a third of marine mammals and reef-forming corals will disappear entirely over our lifetimes unless there is transformative change [1]. This BBNJ Special Issue seeks to help to identify ways to overcome some of the challenges facing the final round of negotiations, to explore the opportunity presented by the ILBI from fresh perspectives, and to identify areas for future discussion and continued exploration. There are however matters that this Special Issue does not discuss in detail, such as the question of the financial mechanism, traceability approaches or the issue of environmental impact assessments; it will be necessary to continue exchanges on all areas of the agreement in the coming months.

It has been 16 years since the BBNJ process officially began [23], and many commentators are now looking towards what happens after agreement is reached on the draft text. While ocean areas are carved up with geopolitical and legal boundaries, the need for a BBNJ instrument focusing on ecological connectivity is becoming increasingly apparent [22]. Many are now focusing on what BBNJ will mean for governance in other ocean areas with complex jurisdictional issues, such as the Arctic [24] and Antarctic Treaty Systems [25]. The ILBI implementation may also raise broader questions about setting precedents for the only other area beyond national jurisdiction - outer space. While the similarities of governance challenges facing outer space and ABNJ have been recognised by commentators, for example in relation to genetic resources regulation [26] and in relation to science diplomacy [27], there has been little analysis of the broader policy and legal precedents the ILBI may set

for the growing field of international space law and policy.

The progress towards developing the ILBI represents a tremendous achievement by the international community to move towards a "(…) comprehensive global regime to better address the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction" (draft Preamble [10]). The additional time now available to prepare for the fourth, and expected to be final, round of negotiations for the ILBI is an opportunity for intersessional work to advance common understanding and co-designing solutions in order to overcome the remaining areas of divergence in the negotiations. For example, since the revised draft text was released in November 2019, States have made an enormous effort to propose creative solutions through draft provisions.[4] However, the President of the intergovernmental conference reminded countries at the end of the third negotiating session that "we have much to do to advance our work" [14]. The future of the planet's largest refuge for biodiversity may depend on it.

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