

Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction: Preparing for the PrepCom

**Report of the BBNJ Workshop of the Centre for International Law,
National University of Singapore, February 2016**

I. EXECUTIVE SUMMARY

Introduction

For around a decade, discussions on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction (known as ‘BBNJ’) have been taking place at the United Nations (UN), primarily through the Ad Hoc Open-ended Informal Working Group to study issues relating to BBNJ (BBNJ Working Group), but also in the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea (ICP).

The discussions revealed differing views on the legal regime applicable to BBNJ generally and more specifically, to marine genetic resources (MGRs). On the regime applicable to BBNJ generally, some emphasise the need to elaborate and strengthen the implementation of the general provisions of Part XII of the 1982 UN Convention on the Law of the Sea (UNCLOS), with a special focus on area-based management tools, in particular marine protected areas (MPAs), and environmental impact assessments (EIAs). Others consider that the principle of the common heritage of mankind is the basis for a future specific legal regime, similar to the one governing the Area (i.e., Part XI, UNCLOS, together with its 1994 Implementing Agreement). Yet others believe that MGRs already fall under the legal regime governing the high seas (i.e., Part VII, UNCLOS), the existing instruments regarding the protection of the marine environment and marine biological diversity are sufficient, and therefore are opposed to negotiating a new benefit-sharing regime for the use of such MGRs.

On 19 June 2015, the UN General Assembly decided to develop ‘... an international legally-binding instrument under the Convention to deal with the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction ...’ and to that end, a preparatory committee (PrepCom) has been established and later, an intergovernmental conference may be convened. The PrepCom negotiations are to address the topics identified in the BBNJ Working Group’s ‘2011 package’, namely,

the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, in particular, together and as a whole, MGRs, including questions on sharing of benefits, measures such as area-based management tools, including MPAs, EIAs and capacity building and the transfer of marine technology.

What would be the scope of the new international instrument under UNCLOS, should the conference prove to be a success? To what extent will such an agreement be modelled on the two UNCLOS Implementing Agreements, namely the 1994 Agreement relating to the Implementation of Part XI and the 1995 Fish Stocks Agreement? What are the essential elements for the successful negotiation of such an instrument and how will the rules of procedure of the PrepCom impact on the negotiation process? Clearly, any such agreement will need to respect, and be consistent with, UNCLOS and its two implementing agreements and other relevant existing agreements.

On 3 and 4 February 2016, the Centre for International Law, National University of Singapore (CIL) hosted a workshop in Singapore to help governmental and non-governmental delegations prepare for the Preparatory Committee charged by the UN General Assembly Resolution A/RES/69/292, 19 June 2015, to develop elements of an agreement in implementation of the Law of the Sea Convention regarding marine biological diversity of areas beyond national jurisdiction (Resolution 69/292). The PrepCom's first meeting is scheduled to be held 28 March-8 April 2016 at UN Headquarters in New York City. The second session of the PrepCom is now scheduled for 26 August-9 September 2016.

Present during the Workshop was the PrepCom Chairman Ambassador Eden Charles. Although Ambassador Satya Nandan, who led the negotiations for the 1994 and 1995 Implementing Agreements, was unable to attend the Workshop for family reasons, he provided valuable insight to speakers of his experiences. Over 100 attendees, representing all interests, actively participated in the discussions during the seven sessions of the Workshop and in informal discussions.

The full programme, reading materials and this Report are available at <http://cil.nus.edu.sg/programmes-and-activities/past-events/conservation-and-sustainable-use-of-marine-biological-diversity-of-areas-beyond-national-jurisdiction-preparing-for-the-prepcom/>.

Annexed to this Report is a list of fundamental unanswered questions that will need to be answered during the PrepCom and any diplomatic conference (DipCon) and a glossary of defined terms.

Structure of Workshop

After Professor Tommy Koh's keynote address, and a session setting the background and context, the next five sessions of the Workshop addressed each of the topics tasked of the PrepCom in Resolution 69/292, including conservation and sustainable use of BBNJ, management tools and institutional arrangements, marine genetic resources (MGRs), asset and benefit sharing of MGRs, and capacity building and transfer of marine technology. Each session began with short presentations by subject matter experts followed by very constructive discussions among all the participants. The seventh session addressed the mandate and work programme of the PrepCom. The Workshop closed after considering next steps.

Keynote Address

The conflicting views on the various issues were summarised:

- On whether there is a legal lacuna on BBNJ: those supporting the lacuna focus on the lack of knowledge of life at the bottom of the sea, while those who are not in support rely on the existing legal regime applicable to fish in the water column.

- The applicable principles: those that believe the common heritage of mankind applicable to mineral resources should apply to the living resources of the Area versus those that believe the principle of high seas freedom should apply because the living resources of the Area are renewable, while the mineral resources are not.
- Matters that should be covered in the new agreement: protection of the unique and fragile marine environment of the Area should apply equally to exploitation of the mineral and living resources of the Area.

It was noted that respect and protection of the integrity of UNCLOS is reflected in the UNGA resolution's mandate to negotiate 'under the Convention'. It was emphasised that the resulting agreement must be consistent with and subordinate to the Convention.

There is a need to be faithful to UNCLOS's delicate balance between competing interests, for example between the protection of the marine environment and the freedom of navigation. Further, discovery of new knowledge should be encouraged as should incentives, and reward, for entrepreneurship. It is not in anyone's individual or collective interests to impede innovation or to fail to reward entrepreneurship.

How benefits should be shared in a fair manner in the interest of a fair and just world, a desire shared by all, needs to be answered. The compulsory dispute settlement system of UNCLOS is one of its strengths and need not be replicated in an implementing agreement.

Session One – Background and Context

The first session covered two topics: UNCLOS and its Implementing Agreements, and a summary of the BBNJ issues.

With regard to the first topic, the General Assembly tasked the PrepCom to develop the elements of an implementing agreement under UNCLOS (BBNJ Agreement). The 1994 Agreement implementing Part XI of UNCLOS was a means to amend Part XI before UNCLOS entered into force and thus is less suitable as a template for a new agreement. On the other hand, taking into account the structure and content of the 1995 Implementing Agreement (also commonly known as the 1995 Fish Stocks Agreement), it was suggested that it might form a more suitable model for the BBNJ Agreement. With only a few word changes, the Preamble and the first and third parts (i.e., Parts I and VIII-XIII) of the 1995 Fish Stocks Agreement could be copied into the BBNJ Agreement, leaving the PrepCom to focus on the substantive elements of the agreement.

There followed a comprehensive overview of the BBNJ process at the UN and the main issues of the process. The diverse views and priorities among States expressed during the working group sessions revealed that important questions regarding the scope of a new instrument remain unanswered. The separate views on the following topics were explained: (i) access and benefit sharing through the application of the common heritage of mankind principle, (ii) enhancing environmental protection through area-based management tools and environmental impact assessments (EIAs), and (iii) better implementation of existing provisions of UNCLOS.

Speakers and participants emphasised that existing relevant legal instruments and frameworks and global, regional and sectoral bodies should be respected and any duplication avoided. Further, every effort should be made to agree on the text of a new legally binding instrument by consensus, for having as broadly agreed an agreement as possible is vital if a new instrument is to be widely endorsed, ratified and effectively implemented.

Session Two – Conservation and Sustainable Use of BBNJ

The discussions highlighted a tension between the need to improve coordination between international, regional and sectoral bodies and governance frameworks and solve the gaps whilst not undermining these existing international, regional and sectoral bodies and governance frameworks. Representatives of the International Maritime Organization (IMO), the Food and Agriculture Organization (FAO) and the International Seabed Authority (ISA) reiterated that the role of their secretariats is to ensure the optimal functioning of the organisation and any actions taken by the international organisation can only be done at the request of member States. In the context of the BBNJ discussion, it is important to note that their mandate does not extend to ensuring overall consistency of the sectoral regimes.

The absence of a global systematic approach was highlighted in the context of the Sargasso Sea Initiative (developed by the Sargasso Sea Commission), which attempts to use the existing governance framework to protect and conserve living resources from that part of the Sargasso Sea that is beyond national jurisdiction. This required compliance with distinct and separate processes involving different international, sectoral and regional bodies. This led to the suggestion by several participants that having an overall body to help coordinate these actions and processes could promote more effective management of areas beyond national jurisdiction, such as the Sargasso Sea. Suggestions included the establishment of a high seas authority. This does not necessarily require the establishment of a new body; one alternative could be to extend the mandate of existing organisations such as the UN-Oceans or the ISA. Such an organisation could also have responsibility for ensuring that EIAs for all marine and maritime activities include an assessment of their cumulative impact.

Session Three – Management Tools and Institutional Arrangements

Presentations and discussions highlighted that the EIA processes developed for different activities that are regulated or managed by international or regional organisations (as the case may be) are specific to those activities undertaken within a particular geographic or environmental context. For example, EIAs for fishing activities managed by the FAO and North East Atlantic Fisheries Commission (NEAFC) are different from those developed by the IMO regulations and treaties and the ISA regulations. This results in a lack of common EIA standards applicable across marine and maritime activities to establish reference environmental baselines and assess and monitor the potential and actual impacts of such activities. Furthermore, this can also make the assessment of cumulative impacts from the different activities very challenging.

Similarly, the sectoral approach also results in different criteria having been developed for the designation of areas where protective measures (including restricting marine and maritime activities) would be appropriate. Examples include the description of Ecologically and Biologically Significant Areas (EBSAs) developed under the Convention of Biological

Diversity (CBD); Particularly Sensitive Sea Areas (PSSAs) developed by the IMO; Vulnerable Marine Ecosystems (VMEs) developed by the FAO; and Areas of Particular Environmental Interest (APEIs) developed by the ISA.

Discussions raised the desirability for greater consistency, be it through a unique reference set (that may be difficult to agree on) or at least a common system of classification. Having such consistency could also facilitate the conservation of living resources that move between the seabed and water column and correspondingly, from one legal regime to another.

Session Four – Marine Genetic Resources (MGRs)

Discussions acknowledged the difficulty in reconciling the ideological differences that currently exist between States that support the view that MGRs are the Common Heritage Mankind (CHM) and those that believe that their exploitation is a freedom of the high seas. As a compromise, what may be needed is a shift from this ideological paradigm to a pragmatic paradigm that focuses on the monetary and non-monetary values derived from MGRs and how such values may be shared. One solution could be to create a new *sui generis* regime for MGRs that would fit within UNCLOS and could either be managed by a new institution or be included within the mandate of an existing institution. In that respect, it was mentioned that the ISA's mandate already includes the distribution of revenues from the exploitation of mineral resources in the Area and on the extended continental shelf and is therefore functionally able to undertake the monetary aspects of access and benefit sharing for MGRs.

Participants and speakers also questioned the scope of the discussion on MGRs; some insisting that all MGRs, including genes derived from fish, should be included in the new regime under discussion. This discussion highlighted the relevance of distinguishing between accessibility and appropriation of MGRs. In the case of genetic compounds derived from fish, appropriation of MGRs through intellectual property would be the main concern rather than the issue of accessibility, unless such genetic compounds can only be derived from fish that are not easily accessible (e.g., those endemic to deep oceanic trenches).

Session Five – Access and Benefit Sharing (ABS)

Speakers and participants emphasised that the difference between bioprospecting and Marine Scientific Research (MSR) is one of intent – some research cruises might begin with the intention to develop commercial applications, but most will start as MSR and may later develop into bioprospecting, although the exact point when this occurs may not be clear. All MSR (whether pure research or bioprospecting) is treated as a freedom of the high seas and there is currently no mechanism to ensure that the data from MSR is made publicly available. For States that lack the financial resources to conduct MSR, this raises first and foremost the issue of accessibility; second, the question arises as to whether appropriation or the right to commercially exploit the MGR may be derived from this data.

With respect to appropriation, challenges resulting from the patenting of genetic resources from biological diversity and access and sharing of benefits of genetic resources are not specific to marine biological diversity. Such challenges have been discussed within the World Trade Organization (WTO), the World Intellectual Property Organization (WIPO), as well as the FAO.

In the context of MGRs, a critical debate centres around the test of inventiveness required for a discovery to be patentable under the Agreement on Trade-related Aspects of Intellectual Property rights (TRIPS Agreement); domestic regulations and States' views differ on whether the mere isolation of a genetic compound is sufficient to meet the inventiveness test. Scientists highlighted that as genetic science is progressing quickly, the simplification and decrease in cost of DNA sequencing processes may result in DNA sequences not meeting this test. They also emphasised that given the rapid advance of scientific progress, it may be preferable that international regulations be drafted in such a way so as to be able to adapt to new scientific developments.

States have been trying for over fifteen years to resolve the conflicting views on access and benefit sharing of genetic resources in the context of the implementation of the CBD and the Nagoya Protocol within the Intergovernmental Committee on Genetic Resources, Traditional Knowledge and Folklore (IGC) of WIPO. The current draft provisions developed in this context exclude marine biodiversity from areas beyond national jurisdiction (ABNJ) possibly on the argument that MGRs might be treated, in accordance with one view, as being a part of the high seas and, hence, benefitting from free access; in such a situation where access is not restricted, the issue of ABS would be irrelevant. However, in the event that a new MGR regime, for example, provides for new disclosure requirements in respect of the bioprospecting process, these WIPO draft provisions could become relevant.

Speakers also highlighted ongoing discussions seeking to amend the TRIPS Agreement and review its relationship with the CBD in order to introduce a disclosure mechanism to ensure that the patent system promotes the CBD objectives. Should it be applicable to MGRs in areas beyond national jurisdiction (ABNJ), such disclosure mechanism could provide the traceability of the source of MGRs requested by some States.

Speakers and participants also highlighted the relevance to the discussion of MGRs in ABNJ of the 2001 International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) administered by the FAO, including the mechanism of gene banks and gene banks standards, the purpose of which is to safeguard the free exchange of plant resources listed in the annex. Another relevant and possibly useful development in genetic science is that of open-source genetics and genome databases that may result in fundamental changes in the framing of appropriation of genes through intellectual property rights (as when genetic resources become ineligible for patenting).

This discussion highlighted the general lack of understanding of intellectual property (IP) issues relating to MGRs by national delegations that generally follow law of the sea matters (as IP issues tend to fall within the purview of other government agencies) and the need for greater coordination between the relevant international fora (FAO, WIPO, WTO, PrepCom), as well as between the relevant agencies within national governments.

Session Six – Capacity Building and Transfer of Marine Technology

The participants recognised that the scope of capacity building and transfer of marine technology is broader than the two main issues set out in Resolution 69/292. They also recognised that this is a trans-sectoral topic. The discussion focused on how to vitalise or revitalise Part XIV of UNCLOS, specifically on how to find ways to implement Part XIV of UNCLOS. The participants discussed the need to articulate between capacity building and new ways of transferring marine technology, which could possibly include a multi-stakeholder transfer of marine technology. There was recognition that an implementing agreement for BBNJ will need to include an article or provision on capacity building, together with a funding mechanism.

Session Seven – Mandate and Work Programme of the PrepCom and Next Steps

The discussion focused on the role of the PrepCom, which is to agree on elements – not to agree to an agreement – as the actual text will not be developed at the PrepCom. It was noted that there will be a formal decision on the diplomatic conference later, in 2018. The participants discussed that the only way forward is consensus, which is recognised in the resolution. There was also the practical acknowledgment that if there was no consensus on particular elements, then the different options will be included in the report from the PrepCom.

The full programme, reading materials, and this report are available at the CIL website: <http://cil.nus.edu.sg/programmes-and-activities/past-events/conservation-and-sustainable-use-of-marine-biological-diversity-of-areas-beyond-national-jurisdiction-preparing-for-the-prepcom/>

II. REPORT

Keynote Address

In his keynote address, **Ambassador Tommy Koh (President of the Third UN Conference on the Law of the Sea, 1981-1982)** suggested the 1982 Convention provisions on the Area¹ are limited to mineral resources of the seabed and subsoil because in the 1970s it was thought that, as there was no light at the bottom of the sea, no living things could exist there. However, it is now known that there is a wide diversity of living things at and near the seafloor of the Area. He reported that interest in these creatures is focused in finding new drugs as these creatures grow slowly and are long lasting.

Ambassador Koh summarised the conflicting views on whether there is a legal lacuna on BBNJ: those supporting the lacuna focus on the lack of knowledge of life at the bottom of the sea, while those who are not in support rely on the existing legal regime applicable to fish in the water column.

He then noted the conflicting views as to the applicable principle: those that believe the common heritage of mankind applicable to mineral resources should apply to the living resources of the Area versus those that believe the principle of high seas freedom should apply because the living resources of the Area are renewable, while the mineral resources are not.

Ambassador Koh urged that the need to protect the unique and fragile marine environment of the Area should apply equally to exploitation of the mineral and living resources of the Area.

Ambassador Koh emphasised the need to respect and protect the integrity of the UN Convention on the Law of the Sea as reflected in the UN mandate under Resolution 69/292 to negotiate ‘under the Convention’, which means that the implementing agreement must be consistent with and subordinate to the Convention.

He further emphasised the need to be faithful to the Convention’s delicate balance between competing interests, for example between the protection of the marine environment and the freedom of navigation. Further, he emphasised encouragement of the discovery of new knowledge and to incentivise and reward entrepreneurship. He cautioned that it is not in our individual or collective interests to impede innovation or to fail to reward entrepreneurship.

He asked how benefits should be shared in a fair manner in the interest of a fair and just world, a desire we all share. He stated that the compulsory dispute settlement system of the Convention is one of its strengths and need not be replicated in an implementing agreement.

Finally, he urged the PrepCom to emulate two aspects of the decision-making process of the conference: the ‘package deal’ principle and consensus² as the preferred mode of decision-making.

¹ “‘Area’ means the seabed and ocean floor and subsoil thereof, beyond the limits of national jurisdiction’. United Nations Convention on the Law of the Sea, adopted 10 December 1982, 1833 UNTS 3 (entered into force 16 November 1994) (UNCLOS), Article 1(1).

² The UN Secretariat has consistently stated that, while there is no agreed definition of ‘consensus’ in UN practice, consensus is ‘possible only when no delegation formally objects to consensus being recorded’.

Session One – Background and Context

The first session provided background and context for the workshop. An overview of UNCLOS and the 1994 and 1995 Implementing Agreements set the stage for an overview of the BBNJ process at the UN and its main issues.

Model for BBNJ Agreement

During the first session, **Captain J Ashley Roach (Senior Non-Resident Fellow, CIL)**, recalled that the General Assembly has tasked the PrepCom in essence to develop the elements of an implementing agreement under UNCLOS. He explained that the 1994 Agreement implementing Part XI of the Convention was a means to amend Part XI before the Convention entered into force and thus is less suitable as a template for a new agreement. On the other hand, after summarising the structure and contents of the 1995 Implementing Agreement, he suggested that it might form a more suitable model for the BBNJ Agreement. He said that with only a few word changes, the Preamble and the first and third parts (i.e., Parts I and VIII-XIII) can be copied into the BBNJ Agreement, leaving the PrepCom to focus on the substantive elements of the agreement.

* * * * *

Comprehensive Overview of BBNJ Process and Positions

Judge Tomas Heidar (Judge, International Tribunal for the Law of the Sea (ITLOS)) provided a comprehensive overview of the BBNJ process at the UN and the main issues of the process. After summarising the long history of the BBNJ discussions at the UN and the content of Resolution 69/292, Judge Heidar explained the diverse views and priorities among States expressed during the working group sessions and noted that important questions regarding the scope of a new instrument remain unanswered.

Two groups of States have been the main proponents of developing a legally binding instrument on BBNJ, although for very different reasons.

On the one hand, G77 and China want to ensure access to and sharing of benefits from the exploitation of biological resources, in particular MGRs in the Area, favouring the application of the common heritage of mankind principle.

On the other hand, the European Union (EU) and some States, supported by many non-governmental organisations (NGOs), want to elaborate and strengthen the implementation of conservation provisions of Part XII of UNCLOS, Protection and Preservation of the Marine Environment, with a special focus on area-based management tools, in particular MPAs and EIAs.

Information note on the draft provisional rules of procedure, Third United Nations World Conference on Disaster Risk Reduction, 15 July 2014, A/CONF.224/PC(I)/INF.5, para 9.

‘Consensus’ has also been defined as ‘the adoption of a decision without voting and without the expression of any stated objection’ in article I(5) of 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 (‘Antigua Convention’), online at:

https://www.iattc.org/PDFFiles2/Antigua_Convention_Jun_2003.pdf.

A third group includes countries such as the United States, Canada, Russia, Japan, South Korea, Norway and Iceland. These States have emphasised the need for better implementation of already existing instruments. They do not otherwise have one common position but have expressed different reservations with respect to a legally binding instrument, for example regarding the inclusion of MGR benefit sharing or high seas fisheries.

Summary Review of Substantive Topics of UN Mandate

Judge Heidar next summarised the three main topics of the UN mandate as set out in Resolution 69/292: (i) MGRs, (ii) the two main conservation and management tools, being (a) area-based management tools, including MPAs and (b) EIAs, and (iii) capacity building and transfer of marine technology.

Marine Genetic Resources (MGRs)

With regard to MGRs, Judge Heidar recalled that when the negotiations of the regime for the Area at the Third Law of the Sea Conference started, it was generally considered that the deep seabed was rich only in mineral resources. It was concluded that due to the absence of light at the deep seabed, photosynthesis was not possible and living organisms could not exist there. He commented that this may possibly explain why the definition of ‘resources’ of the Area, provided in Article 133(a) of UNCLOS, is limited to ‘mineral resources’.

However, discoveries that took place from the late 1970s have evidenced the existence of microbes and animals that live on the deep seabed and whose life is based on a different process, chemosynthesis.

The microfauna and bacteria of the deep seabed are called ‘extremophiles’ or ‘hyperthermophiles’, as they live in conditions of darkness, extremely high temperatures and pressure, which has made them resistant to heat and pressure. Therefore, there is increasing interest from the scientific community and business companies in searching for species that produce beneficial substances and genes that could potentially be used for pharmaceutical or industrial processes.

He noted that ‘genetic resources’, i.e., any material of plant, animal, microbial or other origin containing functional units of heredity of actual or potential value, are components of biodiversity as defined in Article 2 of the CBD. The access to such resources and their exclusive appropriation by means of intellectual property rights have global economic and social implications.

Bioprospecting in relation to hydrothermal vents is already taking place and several deep seabed organisms have already been patented and used for commercial applications. The genetic resources are now considered by many to be even more valuable than the mineral resources in the Area.

In the BBNJ discussions, the G77 and China have emphasised the need to ensure access to and sharing of benefits from the exploitation of MGRs in the Area, favouring the application of the common heritage of mankind principle. Their interpretation is that notwithstanding the limited definition of ‘resources’, both UN General Assembly (UNGA) resolution

A/RES/25/2749 of 1970 (Resolution 25/2749) and Article 136 of UNCLOS provide that the ‘Area and its resources are the common heritage of mankind’.

As in the structure of the Convention, the legal regime of each maritime zone is applicable to the resources thereof on the basis of geographical appurtenance. Therefore, it is not acceptable to the developing countries that the Area itself is the common heritage of mankind with some of its resources included under that legal regime, while others are not. In their view, however, there is a legal lacuna with respect to the conservation and sustainable use of the living resources in the Area that a new agreement must address.

Some industrialised countries take the opposite view and maintain that since living resources, including MGRs, are excluded in the definition of ‘resources’ of the Area, they are not the common heritage of mankind. In their view, MGRs fall, directly or by default, under the legal regime of the high seas, i.e., Part VII, Section 2, of UNCLOS, ‘Conservation and Management of the Living Resources of the High Seas’. These countries are opposed to negotiating a new benefit-sharing regime for the use of MGRs on the seabed beyond national jurisdiction. However, they are supportive of sharing data and research results, capacity building and scientific collaboration related to the exploration, protection and study of these resources.

Judge Heidar observed that the question of the applicable legal regime for the exploitation of MGRs on the seabed beyond national jurisdiction is highly controversial and there are great potential economic interests at stake. He commented that the experience from the BBNJ process to date suggests it may be unrealistic to expect that agreement will be reached in the negotiations on the applicability of either the common heritage principle or the high seas regime. Consequently, in his view, it may be more sensible to seek pragmatic solutions that avoid references to principles but include meaningful practical provisions for access to and sharing of benefits from MGRs. Such benefits could be monetary and/or non-monetary with there being an obvious link between this issue and capacity building and transfer of marine technology.

Conservation and Management Tools

Judge Heidar then addressed conservation and management tools. He recalled that UNCLOS emphasises the objective of protecting and preserving the marine environment, at both the global and regional levels and according to sources of pollution, as specified in Part XII. All States are under the obligation, arising from customary international law and, as restated in Article 192 of UNCLOS, ‘to protect and preserve the marine environment’.

In the BBNJ process, the EU and some States have emphasised the need to elaborate and strengthen the implementation of the general conservation provisions of Part XII of UNCLOS, with a special focus on area-based management tools, in particular MPAs and EIAs.

Judge Heidar noted that although conservation measures are part of ‘the package’ to be discussed and negotiated during the PrepCom, some fundamental questions regarding the scope and general approach of a legally binding agreement remain unanswered, for example:

- Whether and to what extent should fisheries be included in the scope of the agreement, taking into account that the 1995 Fish Stocks Agreement, in addition to Part VII, Section 2, of UNCLOS, already provides a legal framework for high seas fisheries?
- How would ideas by some States regarding a global and integrated approach to the conservation and sustainable use of BBNJ be compatible and reconciled with the currently applicable regional and sectoral approach based on coordination between the competent organisations?

Marine Protected Areas (MPAs)

He then turned to reviewing area-based management tools, including MPAs. He noted that an important means to comply with the general obligation to protect and preserve the marine environment is the use of area-based management tools, including MPAs. This is implied in Article 194(5) of UNCLOS, which provides that the measures taken to protect and preserve the marine environment ‘shall include 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’. This provision applies in all maritime zones, including the high seas and the seabed beyond national jurisdiction.

He noted further that a ‘marine protected area’ is generally understood as a geographically defined marine area that is subject to higher protection than the surrounding area due to more stringent regulation of one or more or all human activities. He emphasised that the establishment of an MPA does not necessarily imply a complete prohibition of one or more or all human activities *per se*. MPAs are a very flexible tool. Many different types exist and can be either indefinite or temporary.

The establishment of MPAs in areas beyond national jurisdiction has been decided upon by several global and regional treaties and organisations and encouraged by a number of policy instruments, including the CBD, the IMO, the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR) and several regional fisheries management organisations (RFMOs).

However, Judge Heidar noted that MPAs are only one tool in a toolbox for biodiversity conservation. He also noted that the use of numerical objectives with respect to MPAs has been criticised by many as being superficial and unscientific.

A number of MPAs that have been established are fisheries-related and fall into two categories:

- A tool in fisheries management, such as closed areas for the protection of spawning stocks and the establishment of catch or fishing limits for specific areas.
- A tool used to protect marine biodiversity from destructive fishing practices, such as VMEs from bottom fisheries (encouraged by the UNGA and assisted by the FAO). A number of RFMOs have closed high seas areas containing VMEs from bottom fisheries.

Within national jurisdiction, the coastal State clearly has the authority to establish fisheries-related MPAs. However, with regard to the high seas, the 1995 Fish Stocks Agreement authorises States, through RFMOs, to establish fisheries-related MPAs, either as a tool in fisheries management *stricto sensu* or for the protection of biodiversity from destructive fishing practices. He noted that such MPAs are not only binding for members of the relevant RFMO but for all States Parties to the Agreement. Any State Party that engages in fishing activities in contravention of an established MPA can be found to have conducted illegal fishing.

It has been noted, however, that regional environmental organisations (REOs), such as OSPAR, lack the authority to establish MPAs on the high seas. It has therefore been suggested that a new legally binding instrument could perhaps provide REOs with a comparable legal framework similar to that provided for in the 1995 Fish Stocks Agreement with respect to RFMOs.

Environmental Impact Assessments (EIAs)

Judge Heidar then addressed EIAs. He noted that EIAs have become generally accepted as an indispensable instrument to manage and control negative impacts of human activities on the environment. He recalled that the requirement of EIAs in respect of the marine environment is recognised in Article 206 of UNCLOS, which provides:

When States have reasonable grounds for believing that planned activities under their jurisdiction or control may cause substantial pollution of or significant and harmful changes to the marine environment, they shall, as far as practicable, assess the potential effects of such activities on the marine environment and shall communicate reports of the results of such assessments in the manner provided in article 205.

He noted that this provision is applicable to areas within and beyond national jurisdiction.

He observed that while many States have implemented this obligation for areas under national jurisdiction, this is much less the case for areas beyond national jurisdiction. As acknowledged by the ITLOS Seabed Disputes Chamber in its Advisory Opinion of 2011, ‘the obligation to conduct an environmental impact assessment is a direct obligation under the Convention and a general obligation under customary international law’ [Case No. 17, <https://www.itlos.org/cases/advisory-proceedings/>].

‘Environmental impact assessment’ has been defined as ‘an examination, analysis and assessment of planned activities with a view to ensuring environmentally sound and sustainable development’.³

In the view of the EU, the main proponent of EIAs in the BBNJ Working Group discussions, a new legally binding instrument should reiterate and strengthen the obligation under Article 206 of UNCLOS to assess the impact of activities, including their cumulative impact, with the potential to cause significant and harmful changes to the marine environment before carrying them out.

³ UNEP Goals and Principles of Environmental Impact Assessment, UN Doc UNEP/GC/DEC/14/25 (17 June 1987) Appendix, para 1.

Further, the EU believes a new instrument should elaborate further on Article 206 by allowing an activity under the jurisdiction or control of a State Party that is likely to cause significant harm to marine biodiversity to take place only after conducting EIAs, including cumulative impact assessments and strategic environmental assessments, as appropriate, and to take all suitable measures to prevent and mitigate any harmful effects.

Capacity Building and Transfer of Marine Technology

With regard to capacity building and transfer of technology, Judge Heidar observed that in the discussions in the BBNJ Working Group, there has been less focus on this topic than on other parts of ‘the package’, despite the clear relationship between this topic and the other topics under the UN mandate. For example, capacity building is required for general application of area-based management tools, including MPAs and EIAs. Further, the transfer of marine technology is closely related to benefit sharing from MGRs.

However, capacity building and transfer of marine technology in the BBNJ process are not limited to the areas mentioned above and may also relate to other aspects of the overall issue of conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction. Part XIV of UNCLOS, entitled ‘Development and transfer of marine technology’, forms the natural point of departure in negotiations on that topic.

Concluding Remarks on Background and Context

Judge Heidar concluded his summary by noting in light of the broad potential scope of the BBNJ topics under Resolution 69/292, and the diverse views among States on key issues, negotiating a legally binding instrument will be a challenge. However, he advised that it will be important to follow a targeted approach and focus on the key topics of ‘the package’. Negotiations on a legally binding instrument should focus naturally on identifying and filling *legal gaps*. He added that it is very important that participants in the negotiations fully appreciate the existing legal framework, in particular UNCLOS and its associated implementing agreements.

He emphasised that existing relevant legal instruments and frameworks and global, regional and sectoral bodies should be respected and any duplication avoided. From this perspective, an ‘implementing agreement’ might be the appropriate form of a new instrument. Irrespective of the substantive provisions, it would seem natural for a new instrument to provide, similarly to the 1995 Fish Stocks Agreement, that the provisions relating to the settlement of disputes set out in Part XV of UNCLOS apply *mutatis mutandis* to any disputes between States Parties to the new instrument concerning the interpretation or application of that instrument, whether or not they are also Parties to UNCLOS.

Finally, he emphasised that every effort should be made to agree on the text of a new legally binding instrument by consensus, for having as broadly agreed an agreement as possible is vital if a new instrument is to be widely endorsed, ratified and effectively implemented.

* * * * *

The following points were raised in Session One, with the points falling under five main themes (with care having been taken not to rank or otherwise prioritise the discussion points set out below):

- Model of BBNJ Agreement
 - Suggestion that close review be given to the 1994 Implementing Agreement because if the new implementing agreement has very few members, the BBNJ issues will not have been resolved.
 - Comment that it was not fair to compare the number of parties of the broad legal framework of UNCLOS and its 1994 Implementing Agreement with the narrowly-scoped 1995 Implementing Agreement.
 - Comment that the 1995 Implementing Agreement should be a model acceptable to a larger number of States, although some parts of 1994 Implementing Agreement should not be dismissed.
 - Comment that the 1995 Implementing Agreement does not include elaborated implementing mechanisms, but there is nothing to prevent such mechanisms from being included in the new instrument.
 - Following on that comment, it was noted that that there are global goals and objectives, but there are no elaborated implementing mechanisms to protect biodiversity.
 - Comment that the 1995 Implementing Agreement is limited in scope.
 - Comment that in terms of the purpose of developing an international legally binding instrument for BBNJ, the 1995 Implementing Agreement is more congruent; unlike 1994 Implementing Agreement, BBNJ is not expected to bring about radical changes to UNCLOS.
 - Comment that there is a contest in the maritime community with regard to the model to be used for the new agreement.
 - Comment was made that there are lessons to be learned from the success of the 1994 Implementing Agreement.
 - Comment that the rights of Coastal States to the continental shelf should be respected in the new instrument.
 - One possibility for the new instrument would be to provide REOs with a similar authority that RFMOs have under the 1995 Fish Stocks Agreement.

- BBNJ Process
 - Comment that it is important that new generation of lawyers go back to the principles that shaped the negotiation of UNCLOS.
 - Comment that it is important to have the engagement of all members and all different groups of interests.
 - Comment that transparency is very important to the BBNJ process.
 - Comment that if the objective is to have a BBNJ Agreement that is widely accepted, the BBNJ process will not be successful until everyone is happy.
 - Agreement with the speakers on the importance of consensus and the need to take more time to conclude BBNJ process.
 - Comment that there are differences over many issues, even on the ‘agreed upon’ issues in the package.

- Comment that it is not realistic to insist on the common heritage v. high seas principles; the delegations should forget the principles and try to find a pragmatic way forward.
- Substance of the BBNJ Process and BBNJ Agreement
 - Suggestion that there are potentials for the BBNJ process to address fisheries.
 - Suggestion that OSPAR experience and non-prejudice provisions with regard to MPAs could be relevant and informative to the BBNJ process.
 - Comment that an integrated approach for the BBNJ process be developed and should not include a fragmented mechanism.
 - Comment that the BBNJ process needs to include an institutional mechanism.
 - Comment that OSPAR suffers not only a lack of authority, but also a lack of legitimacy and substance; these are among the issues that the BBNJ process needs to address.
 - Comment that the BBNJ process should focus on principles like compatibility, ecosystem approach.
 - Question was raised as to whether it is possible to include global standards to apply across the sectors in the BBNJ process.
 - Comment that the new agreement should provide a framework for intensive cooperation and coordination that would rise above the purpose of activities of each sectoral organisation.
 - Question was raised as to what extent will a new instrument undermine or promote the work of the current organisations.
 - Question was raised as to how a new BBNJ Agreement may help to promote an integrated approach.
 - Comment that a new implementing agreement may help promote coordination.
 - Comment that a new agreement may or may not undermine the existing regimes, including the ISA, depending on the content of the agreement. If it, for example, allows for the creation of MPAs that can affect the mandateright of ISA, then it can undermine the ISA.
 - Suggestion that a new agreement could use the IMO machinery and mechanisms and instruments in place.
 - Comment that the new mechanism should not replace existing mechanisms.
 - Given that the oceans are in trouble, especially due to climate change, overfishing and plastic debris, the question was raised as to how a new agreement would deal with these challenges.
 - Question was raised as to how a new agreement would add value. Specifically, the participant asked what the process would be for identifying areas for comprehensive management and conservation.
 - Comment that the new process will require a significant MSR effort, sharing scientific data, capacity building, and transfer of technology.

- Lacuna
 - Question was raised as to how to address the lacuna when marine life comes off the seabed and can be plotted around the water column. Participant emphasised that biodiversity cannot be separated by imaginary lines that lawyers make; it is part of nature.
 - Suggestion that lacuna can be avoided by having a regime, for example on MGRs, that is applicable to both the high seas area and the seabed.

- Regional Approach
 - Comment was made that the challenge is how to reconcile regional approach and global approach.
 - With regard to the regional approach, suggestion was made to look closely at experience with the Barcelona Convention (and its protocols).

* * * * *

Session Two – Conservation and Sustainable Use of BBNJ

The second session on conservation and sustainable use of BBNJ addressed the mandates of existing instruments and mechanisms for the conservation and sustainable use of BBNJ, including limitation of sectoral approaches and soft law instruments, as well as gaps and overlaps in the existing legal regime.

Mr Edward Kleverlaan (Head, Office for the London Convention/Protocol and Ocean Affairs, International Maritime Organization (IMO)) spoke on (i) the mandate and authority of the IMO, (ii) the rules and recommendations on shipping, and (iii) the protection of the marine environment beyond national jurisdiction.

Mr Kleverlaan first described the IMO, together with its mandate and authority. The IMO was constituted in 1948 by treaty [<http://www.imo.org/en/About/HistoryOfIMO/Pages/Default.aspx>] (IMO Convention). It is the UN-specialised agency for promoting maritime safety, efficiency of navigation and control of marine pollution from ships. In UNCLOS, the IMO is recognised as the competent international organisation in international shipping laws and standards, maritime safety, efficiency of navigation, and prevention and control of marine pollution from ships and by dumping UNCLOS, Annex VIII, Article 2. Yet, the IMO Convention charged the IMO to provide the machinery for cooperation among all governments in the field of regulation and practices related to technical matters of all kinds affecting shipping, particularly those engaged in international trade.

Of particular note is Article 1(a) of the IMO Convention, which sets out the mandate of the IMO, which is to encourage and facilitate the general adoption of the highest practical standards in matters concerning maritime safety, efficiency in navigation, and prevention and control of marine pollution. In addition, Article 1(d) of the IMO Convention provides for the consideration by the IMO of any matters concerning shipping, and the effect of shipping on the marine environment, that may be referred to it by any organ or specialised agency of the United Nations.

Second, Mr Kleverlaan addressed the rules and regulations on shipping promulgated by the IMO. The majority, if not all activities in ocean space, are conducted in some form or another from ships or platforms that are either floating or actually are ships when they are moving away from those positions.

Collectively, the IMO has 171 member States, from all major shipping nations (flag nations), all major port and coastal States, recognised industry bodies, international governmental organisations, and NGOs. In the past 40-50 years, the IMO has generated a plethora of rules and regulations that address these issues. These global instruments are needed to regulate such a wide range of human activities.

Mr Kleverlaan explained that the IMO develops these regulations at the intergovernmental level. It adopts these treaties, but looks to the member governments to implement them. Enforcement also falls on the member governments, and not on the IMO. The IMO does, however, have the machinery that ensures that a comprehensive enforcement regime is in place through flag State enforcement, in combination with the port State mechanism. The

IMO also has a mandatory audit scheme, which entered into force this year and will be a global inventory of all member States.

When a member government comes to the IMO with an idea or an incident or some action that needs to be taken by the shipping industry, Mr Kleverlaan explained that it is dealt with through a committee or subcommittee. After the rule or regulation is adopted, it is implemented through the member governments. Some of the key rules and regulations have related to safety.

If an incident causes pollution from ships, the MARPOL Convention is the main IMO instrument. For a further discussion on the area-based management tools available under the MARPOL Convention, please see Mr Kleverlaan's presentation in Session Three below.

* * * * *

Mr Michael Lodge (Deputy to the Secretary-General and Legal Counsel, International Seabed Authority (ISA) [www.isa.org.jm]) spoke on the mandate and authority of the ISA, as well as its rules and recommendations on seabed mining and protection of the marine environment in the Area. Mr Lodge's remarks were presented in three parts: (i) legal status of the Area, (ii) the mandate of the authority, and (iii) gaps and overlaps.

On the legal status of the Area, Mr Lodge explained that the Area is one of the two areas beyond national jurisdiction, the other being the high seas. The Area and the high seas share one fundamental characteristic: neither is subject to claims to national sovereignty. But apart from that, they have a totally different legal character.

The first point that Mr Lodge made in terms of the legal status of the Area is that the resources of the Area are subject to an access and benefit sharing regime. Rights are vested in mankind as a whole. Exploitation of the resources is exclusively permitted under Part XI of UNCLOS and the 1994 Implementing Agreement. There is open access by all States, with a special emphasis on developing and geographically disadvantaged States. The principle of equitable sharing of financial and other economic benefits applies. The major limitation of this regime is that the term 'resources' in the context of Part XI is specifically limited to mineral resources of the seabed and appears to exclude living resources.

Mr Lodge's second point about the legal status is that the regime is supported by an institutional framework that notably includes the establishment of an organisation to manage activities in the Area and to act on behalf of mankind as a whole. All States Parties to UNCLOS are members of the ISA. The unique and controversial feature of the regime is an operational entity, 'the Enterprise', to carry out activities in the Area, both directly and indirectly through the transporting, processing and marketing of minerals recovered from the Area.

The third point that Mr Lodge made is that the regime and the use of the Area is confined to non-harmful purposes, which includes peaceful purposes as outlined in Article 141; obligations in Article 145 on both the ISA and member States to adopt appropriate rules, regulations and procedures for, *inter alia*, to the prevention, reduction and control of pollution and other hazards to the marine environment from the harmful effects of activities in the Area; and Article 209 contains the complementary obligation for States to adopt rules

no less effective than those adopted by the ISA for activities in the Area undertaken by ships, installations, structures and other devices operating under their flag.

The second part of Mr Lodge's presentation focused on the mandate of the Authority. He said that it follows from the foregoing that the core mandate of the Authority is to regulate deep seabed mining and to distribute financial and other economic benefits as described. It does this through law-making capacity, through subsidiary legislation in the form of rules, regulations and procedures adopted by the Authority. The ISA also has a strong role to play in the regulation and enforcement of activities in the Area.

A consequence of this responsibility, and one of the issues that distinguish the Authority from other international organisations, is the very careful balance that is struck between the powers and functions of its various organs, largely as a result of the composition and decision-making rules for the Council and Finance Committee introduced as part of the 1994 Implementing Agreement.

In addition to that core mandate, the Authority also has a number of ancillary functions that are relevant. These include promoting and encouraging marine scientific research concerning the Area and its resources, potentially even carrying out such research; promoting and encouraging the transfer to developing countries of technology and scientific knowledge; and promoting international cooperation regarding activities in the Area and the progressive development of international law relating thereto.

The Authority is also required under Article 82(4) to distribute certain revenues from the continental shelf beyond 200 nautical miles (nm).

The third point of Mr Lodge's presentation dealt with gaps and overlaps. First, the Part XI regime is a remarkable achievement, at least in terms of classical game theory. The Part XI regime provides possibly the best example yet of a management regime with no free riders, no need to accommodate new entrants, and no practical possibility to operate outside the regime.

Mr Lodge noted that Part XI does have certain limitations (or gaps). One, it is limited to mineral resources; and untested in the activities that it regulates has not commenced on a commercial scale. The second practical limitation is that the precise extent of the Area cannot be known until all coastal States have fixed the outer limits of their continental shelves in accordance with UNCLOS.

Mr Lodge noted that there are other areas that are also relevant to the discussion of BBNJ. In particular, Part XI regulates to some extent the conduct of MSR in the Area. He noted that Article 143 is not limited to MSR related to minerals or activities in the Area. MSR in the Area is for peaceful purposes and for the benefit of mankind as a whole. The role of ISA is to promote and encourage MSR through international cooperation. There is an equivalent obligation on States Parties to promote through the ISA and to benefit developing countries.

Article 149 of UNCLOS contains the basic principles relating to objects of an archaeological and historic nature found in the Area.

There is an overlap between the responsibilities of the ISA and the obligations on States in relation to their activities in the Area. These are notably more stringent compared to other parts of the Convention. Article 139, for example, obligates States to exercise effective control over natural or legal persons that possess their nationality, and includes provisions on the liability of States and international organisations for damage caused by their failure to carry out their responsibilities.

Mr Lodge's final point was to draw attention to one critical provision in the Convention, buried in Article 311, paragraph 6, which covers the relationship of UNCLOS with other conventions and international agreements. Under Article 311(6), States Parties agree that there shall be no amendments to the basic principle contained in relation to the common heritage of mankind that is set out in Article 146, and they shall not be party to any agreement in derogation thereof.

* * * * *

Mr Blaise Kuemlangan (Chief, Development Law Service, Legal Office, Food and Agricultural Organization of the United Nations (FAO)) spoke in his personal capacity from the fisheries perspective on this topic and the available measures being considered, including spatial tools (e.g., VMEs) and coordination mechanisms with other international or regional institutions.

Mr Kuemlangan began his presentation by showing a diagram of the organisational structure of the FAO, which illustrated that the Governing Bodies under the FAO are the Conference and the Council. He noted that there are four technical committees under the Council, with one of them being the Committee on Fisheries (COFI).

The FAO was established in 1945 with the following objectives: to eradicate hunger, alleviate poverty, and ensure that there is sound management and utilisation of natural resources, which includes fishing. Fisheries are considered a food sector, and therefore they are covered by the FAO. The COFI oversees the areas that the FAO deals with in terms of fisheries and biodiversity beyond national jurisdiction. The work programme of the COFI is implemented by the Fisheries Department.

Unlike the ISA, the FAO is not established under UNCLOS. Its mandate is determined by member States, not the FAO as a secretariat as such.

The COFI was tasked to consider an international agreement on consultation and cooperation on fisheries issues. It has never invoked, applied or implemented this mandate. Mr Kuemlangan commented that this may be because the members are satisfied that these issues are being addressed elsewhere.

The FAO, through the COFI, deals with all significant international issues relating to fisheries brought by its members to the COFI through the formulation of binding international instruments. With respect to the regulations of fisheries, Mr Kuemlangan noted that there are two binding international instruments, one of which is the 1993 FAO Compliance Agreement and the other is the 2009 FAO Port State Measures Agreement. There are currently 19 members to the 2009 FAO Port State Measures Agreement, with the

hope being that it will come into force before the end of this year with the addition of six more members to bring the total to 25.

In addition to the formulation of binding instruments, Mr Kuemlangan said that one of the primary functions of the FAO is to formulate non-binding instruments. This has been a mainstay for the FAO in recent years because it allows members the ability to agree on things that would otherwise be controversial if they were to negotiate a binding international instrument.

Perhaps the most important non-binding instrument that is the subject of BBNJ is the International Guidelines on Deep-sea Fisheries on the High Seas [www.fao.org/docrep/011/i0816i00.htm]. Although it is non-binding, it was achieved through a process where international organisations made up of member states and the international non-governmental organisation community participated in the development of this particular framework. Although many issues remain unanswered, it sets out basic elements on what needs to be done in terms of fisheries in the high seas.

Mr Kuemlangan said that it was important to note that most of the management is done by member States, not by the FAO. The mechanism for management is regional fisheries bodies, which consist of two types: (i) advisory and (ii) management, with the latter commonly referred to as RFMOs. He noted that there are about 40 RFMOs around the world. The two most important ones that apply the 1995 Fish Stocks Agreement are the Indian Ocean Tuna Commission and the General Fisheries Commission for the Mediterranean.

These regional fisheries bodies note their lack of attention to conservation and management. Many have reviewed their performances and in some cases improved their mandate so as to better manage the issues of the conservation and protection of the marine environment.

Mr Kuemlangan concluded by summarising the work that the FAO is doing right now, noting that the main issue is the lack of implementation of current regimes for the conservation and management of resources on the high seas. One FAO initiative under the Common Oceans Program, ABNJ Deep Seas Project, tries to facilitate greater implementation by enabling the FAO to work with partner organisations like the United Nations Environment Programme (UNEP) and the secretariats of conventions like the CBD to deal with policy and legal frameworks for sustainable fisheries and biodiversity conservation in the ABNJ, thereby reducing adverse impacts on deep sea VMEs and the enhanced conservation and management of EBSAs, improving planning and adaptive management for deep sea fisheries in the ABNJ, and developing and testing a methodology for area-based planning.

* * * * *

Professor David Freestone (Visiting Scholar, George Washington University Law School; Executive Secretary, Sargasso Sea Commission [<http://www.sargassoalliance.org/about-the-commission/>]) addressed the international regime for conservation of BBNJ, i.e., UNCLOS, the CBD, soft law on conservation, and highlighted the gaps.

Professor Freestone began his presentation by saying that the oceans are facing an existential crisis. He cited the Census of Marine Life [<http://www.coml.org/>], which was a major study conducted in 2010 that showed that at least 30 per cent of biological diversity is already being

destroyed by human activities – not biomass – but the actual diversity. He also noted that large numbers of the organisms are still being discovered.

He cited the recent release of the 2015 World Ocean Assessment [<http://www.worldoceanassessment.org/>], which not only talks about the threats of ocean acidification, but also the loss of the top predators in the ocean system as a result of over-fishing in those areas.

Professor Freestone emphasised that the ocean governance system is fragmented and is not comprehensive. He noted that there are still major gaps. Some of the world's RFMOs do not have management authority. There is nothing beyond 38° north and 38° south, particularly in the north Atlantic. There are gaps for some of the regional arrangements for general fishing.

He said that the existing conservation measures are not guided by any local systematic approach. He also underscored the point that precautionary principles are intended to deal with the risk of threat.

Professor Freestone cited the example of the Global Ocean Commission. He noted that the different bodies do not talk to each other in a systematic way.

With respect to the legal regime, he noted that there are certain overarching principles that have been derived from a number of instruments, including the conditional freedom of the high seas from provisions in UNCLOS. Given the general acceptance that UNCLOS represents customary international law, he notes that although a comprehensive universal regime exists, the rest of the regimes are dependent on the States Parties. He says that there are separate regimes, the RFMOs, the regional seas, for example, and non-binding guidelines.

The CBD has produced, through a series of regional workshops, an extensive list of areas that have been identified by scientists as ecologically or biologically significant areas. He notes that nearly 250 sites have been identified so far, which indicates that there are more important areas than are actually being protected.

Professor Freestone said that there are a large number of issues that have major financial significance and the existential significance for everyone. Geologists indicate that there is movement from the Holocene into a new age, the Anthropocene, where human impacts on the planet are so severe that they are actually beginning to show or will show in the geological record.

With reference to his work on the Sargasso Sea Commission, Professor Freestone said that he has been working with international organisations, with the support of the Government of Bermuda and the UK and a number of others, to see if measures could be implemented to protect the resources of the Sargasso Sea. He has spoken with 18 organisations, some of them with varying degrees of success.

Professor Freestone noted that each of the sectoral and regional organisations have their own systems, their own epistemic communities, their own languages and acronyms. The problem is there is very little dialogue between them.

He notes that very inconsistent approaches are being employed, particularly with regard to RFMOs and VMEs. He cites an example of the FAO map of the VMEs, which does not show any VMEs outside the Atlantic.

Professor Freestone emphasised that there is no holistic overview and that there is resistance to the ecosystem-based and precautionary approaches. He concluded by saying that there is no organisation pulling everything together and coordinating the separate regimes.

* * * * *

The following points were raised in Session Two, with the points falling under six main themes (with care having been taken not to rank or otherwise prioritise the discussion points set out below):

- General Points of Discussion
 - Comment that there cannot be one set of rules within national jurisdiction and another set of rules for areas beyond national jurisdiction; there needs to be recognition of protection of marine environment as a whole.
 - Comment that the purpose is not to undermine UNCLOS, but to show whether it is possible to do the things it purports to do.
 - With regard to the phrase used in Resolution 69/292 of ‘not undermine’, the question was raised as to whether the language of the resolution should have been more proactive, taking into account the fact that there are a wide range of bodies and layers of protection.
 - Comment that the more stakeholders there are – the better.
 - Comment that with regard to standardising terminology, it is difficult for scientists and lawyers to reach agreement on the same language and terminology.

- Member State-Driven Organisations
 - Given that the IMO, FAO and ISA are all member State-driven, if there are gaps, the question was raised as to how these gaps are addressed within these organisations.
 - Question was raised as to how much effort has been taken to integrate the CBD into the work of these organisations.
 - If regional and global organisations are member State-driven, question was raised as to whether that meant that the new agreement could not undermine their work.
 - Comment that the IMO is a member State-driven organisation; member States need to coordinate their views within all national organisations.
 - Comment that when the ISA has found instances of a lack of coordination, it has tried to address them, but it can do better.
 - Question was raised about whether certain organisations, including OSPAR and the Sargasso Sea Commission, have legitimacy in doing what they are doing.
 - Question was raised as to how much processes in international organisations are State-driven.
 - Comment that the Sargasso Sea Commission proves that it is very difficult to use existing regimes to protect biodiversity in areas beyond national jurisdiction.
 - Comment that secretariats should have some flexibility to take initiatives based on their mandates.

- Question was raised as to whether each of these institutions is prepared to surrender some of its functions to promote a more integrated approach.
 - Question was raised as to whether international organisations are willing to cede their mandates, given that their mandates are based on constituent documents. It is therefore dependent on member States to decide to adjust the mandates of their organisation. To that extent, there is limited flexibility that the organisation can do so.
- Gaps
 - Question was raised as to how specific harms are tied to specific legal gaps.
 - Comment that there are gaps in the existing regimes; whether they are legal gaps or implementation gaps is another question.
 - Comment that inconsistencies exist in how the legal principles are applied.
- Coordination and Cooperation
 - Question was raised as to whether any organisation suffers from a lack of coordination in its daily work.
 - Comment that there is a lot of coordination that is going on between different organisations.
 - Comment that there are important issues that go beyond coordination and need to be carefully addressed, including, for example, how to reconcile MSR and resources management in the Area.
 - Comment that because international organisations are member State-driven, there is a lack of coordination at the national level, which leads to lack of coordination within the organisations.
 - Comment that between the secretariats, there is coordination, especially on technical issues.
 - Comment that the problem with coordination is that no one likes to be coordinated.
 - Question was raised about what can be done to help member States to be more coordinated so as to alert them regarding different processes.
 - Question was raised as to how this process can provide incentives to States to better plan, coordinate and manage with a wider and long-term perspective in mind.
 - Comment that there are two types of coordination: secretariat/technical coordination and policy coordination.
 - Comment that technical cooperation is easier; the challenge lies in policy coordination.
 - Comment that it is easier to talk about coordination rather than surrendering of mandates (member States may not be ready to do so).
 - Comment that the way forward may be to identify areas that may be affected and promote coordination in these areas.
 - Comment that building trust and coordination among different organisations takes time.
 - Comment that there should be some way of holding organisations together.

- Question was raised as to the level and extent of coordination among scientific bodies.
 - Following that question, one participant responded that the main building blocks are in place, but the coordination is not as advanced as it should be.
 - Comment that the main issue is coordination and cooperation among existing mandates. From the discussion, the participant noted that there is broad will to expand cooperation and coordination.
 - Comment that efforts are being hampered by a lack of consistent application of common governance principles.
- Sectoral Approach
 - Comment that each player tends to have its own views based on its own sectoral interests.
 - Comment that fragmentation exists in sectoral approach.
 - Comment that fragmentation is worrying.
 - Comment that there is a trend to look for input and advice from other sectors.
- The International Maritime Organization (IMO)
 - Comment that the IMO has mechanisms to deal rapidly with some issues, but member States do not feel and share the priority.
 - Comment that it would be dangerous to shipping efficiency if the IMO's work is interfered with by another organisation.
 - Comment that the IMO coordinates with other secretariats on a daily basis and is finding new ways to strengthen coordination.

* * * * *

Session Three – Management Tools and Institutional Arrangements

The third session addressed management tools and institutional arrangements. The discussion centred on the various types of protected areas, the standards for EIAs, marine spatial planning, monitoring of impacts, and establishing the baseline situation. The session also addressed whether there is a need for a new coordinating institution or the expansion of the mandate of existing institutions.

The moderator, **Dr Gregory French (Department of Foreign Affairs and Trade, Australia)**, had an initial comment from the perspective of the South Pacific and Australia. He stated that there are 60 established MPAs within Australia's maritime jurisdiction, with about 36 per cent of Australia's exclusive economic zone (EEZ) and territorial waters located within MPAs. He noted that not one of those protected areas extends beyond 200 nm, even though just across those boundaries there is no system in place to consider, in a holistic manner, how to regulate those areas. He said that in his part of the world they are using a more ecosystem-based approach to manage biological diversity, which often does not respect, in the context of ecological systems, relatively arbitrary boundaries.

* * * * *

Mr Edward Kleverlaan (Head, Office for the London Convention/Protocol and Ocean Affairs, International Maritime Organization IMO) presented the spatial tools developed under the IMO's instruments, such as PSSAs, routing measures and other spatial measures (actual or prospective) in BBNJ.

Mr Kleverlaan spoke about some of the IMO area-based management tools and some of the guidelines that are in place to assist member governments to identify and designate them. He noted that the benefit of having guidelines is that they can be amended quickly if they are not working properly or effectively.

First, Mr Kleverlaan spoke about special areas under MARPOL, the International Convention of Prevention of Pollution from Ships. He said that it applies to all types of discharges generated from smokestacks, oil in machinery rooms, garbage, sewage, and air emissions. The relevant guidelines were recently revised by the IMO Assembly [resolution A.1087(28), 2013 Guidelines for the Designation of Special Areas under MARPOL].

Second, he addressed the Particularly Sensitive Sea Area concept. In contrast to MARPOL Special Areas, the Particularly Sensitive Sea Area concept is a soft law system where the legal effect of any measure put in place is derived from other legal instruments that the IMO has at its disposal, including, for instance, MARPOL, SOLAS, or the Safety of Life at Sea Convention.

Third, he spoke about a new annex in the London protocol that deals with an emerging issue called marine geoengineering. He said that it is something that will be of increasing importance in the coming years.

Mr Kleverlaan noted that special areas under MARPOL apply across four of the six annexes. The guidelines consider all interests and possible impacts. They apply to specific areas where there is congestion and where an additional layer of impact from shipping would impact the environment negatively. He stated that the purpose of special areas under MARPOL is to

provide an additional level of protection on top of the standard discharge requirements under MARPOL. The standard requirements apply to all vessels, floating or sailing over the oceans, even a bathtub or a rowing vessel, whereas the extra level of protection can only be achieved through the designation of special areas.

The following discharges are covered under these five annexes: oil, hazardous substances, sewage and garbage. Air pollution is addressed separately. Mr Kleverlaan noted that one of the key implementing mechanisms is that adequate reception facilities are required in or near a special area, to enable ships to offload their discharges. He underscored the point that MARPOL applies to all marine areas and jurisdictional areas, and special areas can be, in principle, identified and designated beyond areas of national jurisdiction, as evidenced in the Mediterranean and the wider Caribbean region.

Mr Kleverlaan described the information that is necessary to consider in order to designate these special areas, which includes: oceanographic conditions (those that can cause concentration of some of the pollutants that are released by shipping), ecological conditions, and vessel traffic characteristics.

There are two dozen MARPOL Special Areas [www.imo.org/en/urWork/Environment/SpecialAreasUnderMARPOL/Pages/Default.aspx]. Few are designated on the high seas. Mr Kleverlaan said that the IMO is waiting for countries to come together to come up with a possible designation.

The second part of Mr Kleverlaan's presentation focused on PSSAs. He noted that they are very similar to MARPOL Special Areas, with 15 PSSAs having been designated [www.pssa.imo.org]. These areas address very significant and crucial areas, either from an ecological or socio-economic perspective. He cited examples of fishing habitats and fishing areas that need to be protected for socioeconomic reasons (including tourism) from possible threats from international shipping.

These areas can be designated beyond the territorial sea, and Mr Kleverlaan believes that they can be designated in the high seas. Such a designation would, however, require IMO member governments to come together and submit a proposal.

Mr Kleverlaan noted that at the time of designation, the applicant must identify an IMO instrument that will reduce the threat to that particular area. For instance, if the intent is to avoid strikes on a migratory species, such as whales, the applicant can propose an area to be avoided or a traffic separation system or a routing system whereby the whales are avoided. He said that such measures are in place off the northeast coast of the US, near Boston.

The PSSA guidelines were adopted in 2005. Their effectiveness may be reviewed in order to encourage more countries to come forward with PSSA proposals.

Mr Kleverlaan indicated that PSSAs are located across the globe. There are PSSA proposals currently being reviewed in Southeast Asia, various other places off the coast of Africa and Mauritania.

The last group of area-based management tools that Mr Kleverlaan discussed falls under the Safety of Life at Sea Convention, which was designed in principle to improve safety vessel, but which also includes environmental protection provisions. These tools allow for a number

of routing systems and no-anchoring areas and the designation of areas to be avoided. Under these regulations, there are also vessel traffic services and reporting systems, which allow for emergency response equipment and processes to be in place. These tools are governed by a guidance document, which is well-established and used frequently in various IMO committees.

With regard to the criteria for the area-based management tools, Mr Kleverlaan suggested that some of the criteria that the CBD has developed could be integrated into the VME and ISA criteria, with the aim of trying to unify and extend these tools to apply to different activities. He concluded by saying that it would be a very wise move not to have to reinvent the wheel every time there is a need to protect an area in the high seas.

* * * * *

Mr Michael Lodge (Deputy to the Secretary-General and Legal Counsel, International Seabed Authority (ISA) [www.isa.org.jm]) shared his views from a deep seabed mining perspective on the various types of protected areas, EIA standards, marine spatial planning or area-based management, monitoring of impacts, baseline constitution; and whether there is a need for a new coordinating institution or expansion of mandate of existing institutions.

Mr Lodge began his presentation by noting that there are two ways that the ISA operates. The first is on a project-specific methodology. Environmental regulations are contained in the ISA's exploration code adopted pursuant to Part XI in the 1994 Implementing Agreement, supplemented by very detailed recommendations that are elaborated by the Legal and Technical Commission. These are binding on all State Parties, even those State Parties that do not attend ISA meetings as a result of their participation in UNCLOS. This provides another reason to attend the meetings of the ISA.

Environmental regulations are also reflected in and enforced under the contracts with ISA contractors. The obligations to enforce those contracts and those rules extend to sponsoring States as per the Advisory Opinion of the Seabed Disputes Chamber.

They take various different forms, but one thing to note about the environmental obligations in the regulations is that they are much more stringent than the high seas obligations under UNCLOS. They include such things as the requirement to undertake baseline studies; to undertake monitoring through contractor programmes and through ISA monitoring programmes; regular assessment, including through the Legal and Technical Commission and the Council; prior EIA for certain activities during the exploration phase, and for all activities during the exploitation phase; and potential designation of impact reference zones (IRZ) and preservation reference zones (PRZ).

Mr Lodge emphasised a number of points about these various measures.

Number one is that they are very specific. They are tailored specifically to deep seabed mining activities, to the activities regulated by the ISA.

They are, secondly, supported by the responsibility and liability regime on contractors, sponsoring States and the Authority itself.

Thirdly, that while the spatial ambit of the measures adopted by the Authority extends not only to the seabed but to the whole of the water column, albeit the jurisdiction of the ISA is limited to impacts that arise from activities in the Area which is restrictively defined in the Convention as activities of exploration and exploitation.

Mr Lodge explained that the second group of measures are more general measures, which are aimed at the protection of the marine environment in general from the harmful effects of activities in the Area. These are measures that are taken under a number of articles of the Convention, especially Article 145, but supplemented by Articles 192, 204 and 206.

The clearest elaboration of these, the most practical example, is the environmental management plan (EMP) for the Clarion-Clipperton Zone, which includes the designation of nine areas of particular environmental interest (APEI), each one 400 by 400 kilometres, a very large area of seabed, which as part of the plan are set aside and designated as areas where no mining shall take place. The EMP includes a specific recognition that in the Area responsibilities to protect and preserve the marine environment are shared between the Authority and all States Parties to the Convention as the Area and its resources are the common heritage of mankind [ISBA/17/LTC/7]. The plan makes specific and explicit linkages with other initiatives, including the Johannesburg Plan of Implementation, Aichi Target 11, and the precautionary approach. All of these are specifically referenced in the EMP. The criteria for the designation of those areas is consistent with, but not exactly the same as, the CBD criteria.

Following the adoption of the Clarion-Clipperton Zone plan, Mr Lodge noted that discussions are underway to adopt similar environmental management plans in other areas. The one that is most advanced at the moment is an EMP for the Atlantic Ocean.

Mr Lodge concluded by noting that the key point is that although the ISA's jurisdiction allows measures to be taken only in respect of activities in the Area with that restrictive definition, potential damage from those activities and therefore many of the protective measures that have to be taken are measures that protect the entire water column, including the high seas as well as the Area. To that extent, it is very difficult to separate those two areas of jurisdiction.

* * * * *

Mr Stefan Asmundsson (Executive Secretary, North East Atlantic Fisheries Commission (NEAFC) [http://neafc.org/]) presented the fisheries perspective on this topic area and the available measures being considered, including spatial tools (e.g., VMEs) and coordination mechanisms with other international or regional institutions in the implementation of these measures.

Mr Asmundsson emphasised that one of the most important points is that the freedom of the high seas is very clearly limited. It is not absolute. There is a duty to cooperate. There is a duty to conserve the resources of the sea and to protect the marine environment, the ecosystem and biodiversity. The legal framework as it is now, without any amendments, gives RFMOs a very important task in this context: to manage the resources within that framework and for these wide purposes.

Mr Asmundsson also said that it is important to note the changes that have taken place over the past couple of decades when it comes to RFMOs. Traditionally, RFMOs tended to focus on the species that were being targeted in the fishing operations and possibly on commercially important species. Recent developments have included the consideration and management of the effects of fisheries on the overall marine ecosystem and biodiversity. These developments have not been limited to one or two RFMOs; this is a general trend as increasing numbers of RFMOs consider fishery conservation measures.

Recent developments have also included wider coverage by RFMOs, with new RFMOs being formed in the last couple of decades. He also noted, very importantly, that existing RFMOs have been strengthened, for example, by amending the Conventions that established them.

Mr Asmundsson provided some background information on NEAFC, which was established in 2004. The NEAFC began its work on protecting VMEs before the UNGA and the FAO had provided guidelines on the practice. Initially, the NEAFC was not influenced by the work that was being done at the global level. Later, the NEAFC took steps to ensure that their guidelines and processes were consistent with what had been developed at the global level. Mr Asmundsson reported that the NEAFC had a comprehensive recommendation from 2014, which was a full decade after the first measures were adopted.

He explained that the actual measures that the NEAFC implements close the areas to bottom fishing where the best scientific advice indicates that VMEs occur or are likely to occur. There are generally no countermeasures that allow bottom fishing to continue. Areas are simply closed in those indicated areas.

Mr Asmundsson said that the NEAFC also has precautionary measures in place in areas where bottom fisheries are authorised. Importantly, there are significant limitations on bottom fishing in new areas. These include prior assessments and a positive decision from the NEAFC Commission before any activity can go ahead. All assessments are performed by a respected scientific organisation. He emphasised that prior assessment is very important in this context.

He indicated that there is a significant amount of regulation in place. He cited the example of closures. He emphasised that the areas that are specifically closed are those areas that otherwise would be subject to fishing. These are actual limitations on fishing activities.

Mr Asmundsson also indicated that the areas that the NEAFC is most concerned about are those areas that are shallower than 2,000 metres. He emphasised that the largest part of the high seas are areas where bottom fishing is not going to be taking place.

When it comes to the issue of linkages and cooperation, Mr Asmundsson stressed that the marine ecosystem is infinitely complex, and management of it can be seen as overly complicated and very difficult to do. He indicated that the high seas are simpler to manage because there are fewer human activities. Recreational activities, sand extraction, wind farms and a myriad of other human activities are examples of what takes place in coastal waters. Whereas, human activities in the high seas are limited to fisheries, shipping, mining, laying and maintaining of cables and pipelines. He advised that the task ahead should not be made to look overly complicated.

Mr Asmundsson concluded by saying that it is also important to note that those few human activities that take place in the high seas already have a legal regime in place. His main point was that for most of the human activities on the high seas, there is either a control already in place or at least a blueprint for such a control (but where the relevant organisation may not yet exist). This control is on a sectoral basis. Other controls are regional, such as RFMOs and regional seas programmes, and others are global, such as the IMO and ISA.

He indicated that there is already ongoing work to create linkages, cooperation and coordination among the existing organisations, citing as one example the NEAFC's continuing involvement with OSPAR. Mr Asmundsson closed by saying that the BBNJ process will influence how such coordination and cooperation develops in the future, rather than determining whether it will take place at all.

* * * * *

Ms Kristina Gjerde (Senior High Seas Advisor to the Global Marine and Polar Programme, International Union for Conservation of Nature (IUCN) [www.iucn.org]) identified gaps between global and regional regimes (RFMOs) and possible coordination mechanisms and/or additional regulations that may remedy the situation from the perspective of conservation and sustainable use.

Ms Gjerde began her presentation with a view of the earth from space to remind her and the participants that this one small blue planet is shared by all; that the ocean has been providing its inhabitants with many free ecosystem services such as the air everyone breathes. But that free service is not without a cost. The ocean is a rapidly changing ocean. Not only is the ocean absorbing almost 94 per cent of the excess heat now generated by greenhouse gases, but it is also rising in temperatures, decreasing in oxygen, shifting currents and changing productivity patterns. It is actually changing the fundamental chemical, biological and physical nature of the oceans. That is on top of what humans are already doing directly to change the biological nature of the oceans through the impacts of overfishing and ecosystem simplification, the impacts of chemical pollution and plastic waste, as well as the impact of warming up the oceans. And what scientists are warning is that these really operate together to create impacts far worse than any one of these causes by themselves.

She emphasised that many scientists and others are calling for, including from this regular process for global reporting and marine assessment, a much more joined up, coherent and precautionary approach to dealing with the manifold problems in the marine environment.

As a conclusion of the nearly a decade long global ocean assessment, scientists are saying that the greatest threat to the ocean comes from a failure to deal quickly with the manifold problems that have been described. Ms Gjerde noted that it has been quite a long time that there has been talk of the need for urgent protection, and hopefully there will be action within this decade.

She noted that what has been seen in the past 10 years with the Census of Marine Life, Scientific Initiative 2000-2010, was a better understanding of the patterns of diversity, abundance and distribution of species across the marine planet. These provide an amazing tool to better implement measures such as marine protected areas, environmental impact assessments and spatial planning, that much more is known about these thin yellow and

orange lines, that these are species that occupy entire ocean basins. Ms Gjerde noted that much more has been learned about the species across the bottom, on seamounts and hydrothermal vents, that sea mounts may live to be 1,000 years old. Manganese nodules themselves are growing at 1 mm every 1,000 years. The ocean is moving at glacial stages. Human impacts are not. Hence, all the available tools need to be used. MPAs are one of those key precautionary tools that scientists and managers have developed over the past few decades to try to provide comprehensive protection to all features of ecological interest inside a bounded area. They have to have a primary aim of long-term conservation of nature.

Ms Gjerde emphasised that although not all protected areas are the same size and shape, there are some strict nature reserves or wilderness areas that are supposed to be places of limited human footprint. These are areas that are set aside from human interactions in order to allow these ecosystems to evolve unhampered by the stresses of human activities.

At the same time, she said that there are protected areas where sustainable use of natural resources is permitted. This sustainable use is highly regulated to ensure that it is in fact sustainable. Thirty-three per cent of the Great Barrier Reef, a large-scale MPA, is in fact set aside for human activities. They are not just targeting protected areas for the beautiful corals, but also looking at muddy bottoms, representative areas that we may know nothing about but also may serve an important ecological function both now and into the future.

She shared that the other good news is in the past five years the CBD has been pulling together a treasure trove of information with respect to areas of higher ecological or biological significance than their surroundings. Some of these are large-scale features that span practically entire ocean bases. Others are specific sea mounts. All of these could be better managed using a variety of tools, including both MPAs, setting off some of these areas from the full array of human impacts, MPAs where multiple uses are allowed under more stringent regulation, EIAs, and they have a higher threshold beyond just significant environmental impacts but something that would be causing more than a minor or transitory impact, as they used in the Antarctic context. Marine spatial planning is another tool that could be created. There is an opportunity to say this is an area where shipping can occur, this is an area where fishing can occur, this is an area where ecosystems can thrive. These are choices that can be made.

With respect to whether a new coordinating institution is needed or the mandate of existing institutions needs to be expanded, Ms Gjerde suggested that both are necessary. She said that the mandate of existing institutions desperately needs to be expanded to include principles of protection of marine biodiversity and principles of ecosystem-based management. She emphasised that there is an inconsistent application of these fundamental principles and concepts that have been accepted at the global level. Heads of state have accepted these at Rio+20, Rio WSSD, but they have not yet actually managed to infiltrate into a level where they are actually being integrated into sectoral area-based management.

She suggested that on a larger scale, there is a need for something to act to coordinate better human activities, states, regional organisations, national organisations, international organisations. She cited the ISA and UNEP, which have no leverage to compel cooperation, or have a common conference of parties that actually serves to bring governments together on a regular basis, provide a framework for cooperation, for building trust and confidence, to

assess who is actually complying with the measures and to improve them as new science and threats emerge.

Ms Gjerde closed by saying that the IUCN has developed a potential tool for negotiators that lays out some suggestions for potential elements of a new international instrument. It is available on the CIL BBNJ website. She welcomed comments and suggestions.

* * * * *

The following points were raised in Session Three, with the points falling under twelve main themes (with care having been taken not to rank or otherwise prioritise the discussion points set out below):

- General Points of Discussion
 - Comment that there is high connectivity in the marine environment.
 - Comment that what needs to be done is to manage the environment and natural resources, then the sea would be in a sustainable state.
 - Comment that there is a need to identify greatest threats vs. other threats.
 - Comment that there is a need to better understand and appreciate an ecosystem-based approach.
 - Comment that there is a need to find a credible nexus between the effect of climate change and the oceans.
 - Suggestion that the CBD can be used (along with UNLCOS) as one of the underlying legal frameworks to regulate BBNJ.

- Precautionary Approach
 - Question was raised as to what extent the precautionary approach is applied in management tools.
 - Comment that the precautionary approach has been incorporated into PSSAs.
 - Comment that the precautionary approach is not specifically mentioned in MARPOL Special Areas, but is taken into account by the IMO.
 - Comment that the precautionary approach is already included in the ISA regulations.
 - Comment that the UNGA included the precautionary approach in its resolution on deep sea bottom fishing.

- Political Will
 - Question was raised as to whether a new agreement will garner sufficient political will.
 - Comment that there has been development in political will in the last decades.
 - With regard to how to promote political will for the new framework, there was a comment that it does not need to be seen as creating additional obligations that will be onerous upon States, but seen as creating structure to promote a more ecosystem-based approach.
 - Comment that the process is member State-driven; it comes down to political will of States.
 - Comment that if States are reluctant to cooperate on the existing framework, there may not be political will for a new framework.

- Comment that everyone says there is no political will, but every year momentum has been built; so there is political will.
- Land-Based Pollution
 - Comment that there is a need to address land-based sources of marine pollution.
 - Comment that land-based sources of marine pollution are addressed in the CBD.
- Baselines
 - Question was raised as to what is the baseline in the deep sea. The participant said that this is a big problem because it is not clear whether sufficient data exists from the deep sea to establish a reliable baseline.
 - Comment that a sectoral approach is needed because the baseline for laying cables may be different from baselines for deep sea mining.
- Marine Spatial Planning
 - Comment that marine spatial planning within national jurisdiction is a very time consuming and complex process. Question as to how it can work in areas beyond national jurisdiction.
 - Comment that marine spatial planning is complex and has not received a lot of consideration, except in the regional context.
 - Comment that marine spatial planning offers a good example of sectoral tools.
 - Comment that marine spatial planning offers a holistic overview.
 - Comment that there is a gap in terms of mandate and an inability for these institutions to employ marine spatial planning.
- Sectoral and Regional Bodies
 - Comment that there is no unified body on land; that is why there is still a need for sectoral bodies.
 - Comment that anything that will be decided at a global level will eventually have to be implemented at the regional level.
 - Comment that the CBD helps to bring different sectoral bodies together and can provide lessons learned for BBNJ.
 - Comment that the problem with the sectoral approach is that there is no one speaking comprehensively for the oceans.
 - Comment that some RFMOs have expanded their mandates; however, vast sea areas do not have regional sea organisations.
 - Comment that the ASEAN region is the weakest region in terms of regional cooperation.
 - Comment that OSPAR and other regional organisations can be the glue that brings everyone/sectoral bodies together.
 - Comment that because there are regions that do not have regional organisations, there is a need to have an international mechanism that can pull coordination together.

- Expansion of International Seabed Authority's (ISA) Mandate
 - Question was raised as to what needs to be done to expand ISA's mandate to cover BBNJ.
 - Comment that it is difficult to expand ISA's mandate to cover the whole package of BBNJ.
 - Comment that it would be much more straightforward to expand ISA's mandate to cover only the aspect of MGRs access and benefit-sharing.
 - Comment that Area-based measures should form a part of the package.

- Environmental Impact Assessment (EIA)
 - Comment that with regard to EIA on the high seas, there are no baselines and no international authority. Question was raised as to how such assessments are to be submitted and to whom.
 - Comment that the essence of an EIA is to presume that there is a baseline, which is often a complex process in areas beyond national jurisdiction.
 - Comment that from a review of the case law, it is quite clear that international law already establishes high standards for EIA. The question is whether a new agreement can be negotiated that recognises these principles as stated in case law.

- Marine Protected Areas (MPAs)
 - Comment that with regard to MPAs, OSPAR is a negative experience for the submarine cable industry because there was no consultation with the industry.

- Particularly Sensitive Sea Areas (PSSAs), Vulnerable Marine Ecosystems (VMEs) and Ecologically or Biologically Significant Marine Areas (EBSAs)
 - Comment that there is a mechanism for PSSAs in areas beyond national jurisdiction.
 - Comment that there may be convergence in terms of criteria used to establish VMEs and EBSAs.
 - Comment that there are references to EBSAs when determining PSSAs.

- Cumulative Impact
 - Question was raised as to how much attention has been paid to cumulative impact.
 - Question was raised as to whether the work of technical/scientific bodies can be shared among different organisations with a view to identifying the parameters to estimate cumulative impact.
 - Comment that there is no reason why a single sector organisation cannot conduct cumulative impact assessments.
 - Comment that the CBD has produced a comprehensive list of criteria to estimate impact.
 - Comment that there is very little recognition within ISA regulations on cumulative impact assessment.
 - Comment that impact assessment can be harmonised if criteria are revised.

* * * * *

Session Four – Marine Genetic Resources (MGRs)

The fourth session began the discussion of marine genetic resources (MGRs) by examining the definitions of biodiversity, MGRs and bioprospecting for MGRs as the common heritage of mankind.

Dr Sophie Arnaud-Haond (Researcher, L'Institut Français de Recherche pour l'Exploitation de la Mer (IFREMER)) focused on the definition of biodiversity and MGRs as well as the bio-prospecting process from marine scientific research to commercialisation.

Dr Arnaud-Haond spoke first about marine biodiversity. She said that biodiversity is a portmanteau term used to describe all aspects of biological diversity, especially including 'species richness', ecosystem complexity and genetic variation (Oxford Dictionary of Ecology).

She said that the oceans represent 70 per cent of the surface of the earth, with 1.3 billion cubic kilometres providing the habitat for marine biodiversity. In the marine realm, 34 of the 36 main phyla that comprise the skeleton of the tree of life can be found, whereas only 17 of those phyla can be found in the terrestrial realm. This likely relates to the history of the evolution of life on earth. It is almost universally recognised that life appeared in the oceans between 2.5 and 4 billion years, and it has been evolving in the oceans for the last 4 billion years. In contrast, life left the oceans only 250 million years ago. This time difference matters significantly in the evolution of these two environments. This explains in part the reason why the marine genomic reservoir seems to be wider; it is because it is older.

Dr Arnaud-Haond noted that there are 1.8 million described species on Earth, with only 250,000 of those being marine species. There are different reasons that could explain this difference. One is because the marine realm is highly connected. Therefore, it may be subject to less diversification in terms of species apparition, so that the main phyla would nearly all be represented but they would be represented by fewer species as compared with the terrestrial realm.

She said that a much more likely explanation is the issue of access to the marine environment. As there is limited access to the entire ocean, a large part of the puzzle is missing, in addition to there being a highly imbalanced research effort. The last large compilation made nearly ten years ago estimated that only 10 per cent of the research effort worldwide on biodiversity is dedicated to marine biodiversity. It is very likely that this imbalance between what is known of the marine species and what is known of the terrestrial species is owing to this imbalance, for a large part.

Dr Arnaud-Haond noted, particularly when it comes to biotechnology, that what is represented in the marine realm spans across the entire tree of life. She noted that it is interesting that there is a strong difference between the yields of marine biodiversity versus terrestrial biodiversity. If a marine species is isolated, there is a greater chance to derive a biotechnological application from it than it if was a terrestrial species.

In the second part of her presentation, Dr Arnaud-Haond discussed MGRs. She began with Article 2 of the CBD, which defines 'genetic resources' as 'genetic material of actual or potential value', and 'genetic material' as 'any material of plant, animal, microbial or other origin containing functional units of heredity'.

She noted that in one of the last compilations of genes it was shown that one to two per thousand pathogens reported in the worldwide database, GenBank, had a marine origin. This number is growing exponentially given the access to sequencing. There is also a steady increase of different marine lineages, and a steady increase in the use of natural products for the past three decades.

In terms of genetic resources, Dr Arnaud-Haond noted that there are four paths leading to marine biotechnologies that fit within the definition of genetic resources. They are *in situ*, that is very seldom used for biotechnologies; *ex situ*, such as the culture of a marine organism; *in vitro*, individual syntheses; or *in silico*, extraction of knowledge. In any case, use of the functional unit of heredity is used one way or the other.

Dr Arnaud-Haond asked when it comes to the collection of samples, what is bioprospecting and what it is not? Bioprospecting is defined in the Oxford Dictionary as ‘searching for plant or animal species for use as a source of commercially exploitable products, such as medicinal drugs’. This term does not encompass research for pure knowledge on biodiversity. She emphasised that bioprospecting is not synonymous with exploration.

She said that the Nagoya Protocol promotes the sharing of knowledge and capacity building for all research activities, and for asset and benefit sharing (ABS) related to biotechnologies. Targeting bioprospecting is its primary focus, not marine scientific research on biodiversity for pure knowledge purposes.

Dr Arnaud-Haond emphasised that there are increasing impacts associated with MGRs, despite increasing benefits. She said that there are two main objectives of the CBD: (i) the conservation of biological diversity and the sustainable use of its components, and (ii) the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources, even in the sea. These objectives should be reached through synergistic means rather than through conflicting rules and procedures. She suggested that the present lack of rigorous definitions and consensual understanding of the targets of the Nagoya Protocol might lead to a conflicted trade-off between the two objectives.

If a large administrative burden is imposed on all research on biodiversity, ABS goals may be reached, but the knowledge required for sustainable and efficient conservation measures will be impaired. She urged rigor and clarity in the definitions under the Nagoya Protocol in order to achieve its targets.

Dr Arnaud-Haond cited the example of Brazil, which has been facing a similar issue on a national basis. For fifteen years, Brazil had a very strict national law. They relaxed it in May last year in order to avoid deterring research as a whole. The significant change is that while the old law (MP 2186) required scientists to negotiate a share of any eventual benefits from their work before they even began their study, the new law (13.120/2015) allows them to simply register an interest so that royalties can be worked out later only if they have commercial potential.

* * * * *

Ms Fernanda Millicay (Legal Adviser, Permanent Mission of Argentina to the United Nations) presented the perspective of developing countries that MGRs are the common heritage of mankind (CHM).

Ms Millicay began her presentation with a discussion of the ‘package’ of consideration and negotiation agreed upon by the General Assembly. She said that the package had its origins in 2011. Since then, the different generations of negotiators in the framework of the General Assembly were careful to respect the terms of the package.

The package includes, broadly speaking, the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, where ‘marine biological diversity’ is essentially all marine life. In the words of Resolution 69/292, she said that ‘together and as a whole’ replaces the expression ‘package’, which includes MGRs and the sharing of benefits.

In 2011, there were separate approaches represented by two major groups of negotiators, with the EU favouring conservation and a regime for establishing area-based management tools, including MPAs; and the G77 and China favouring the proposition that the use of these resources cannot be ignored, specifically MGRs and the microorganisms in the hydrothermal vents.

Ms Millicay agreed with the suggestions of other speakers and participants that a pragmatic approach needs to be employed. Nevertheless, to craft a regime for the sharing of benefits, she said that there needs to be a point of departure. She noted that the CBD had been under consideration for a long time, and negotiators had later agreed that the regime should be based on UNCLOS.

In the next part of Ms Millicay’s presentation, she showed how the rules of UNCLOS could provide some point of departure.

In the reports of the BBNJ Working Group, before there was a decision by Rio+20, there was significant discussion regarding the application of Parts VII and XI of the Convention. Many consider the exploitation of the resources that fall under these provisions, in particular microorganisms at the thermal vents and MGRs, to be one of the freedoms of the high seas.

She addressed the relevant provisions of UNCLOS that purport to support this view, beginning with Article 87. First, she noted that Article 87 of UNCLOS is not exhaustive. Although it mentions activities that are included in the freedoms of the high seas, the text clearly states ‘*inter alia*’. Second, she noted that it is doubtful whether microorganisms at the hydrothermal vents and even MGRs could be part of fisheries, for example, or could be considered to be fisheries. Third, in the text of Article 87, there are references to MSR being subject to Part VI, which includes provisions that govern the continental shelf, a different maritime area, and Part XIII on MSR, but it also makes reference to MSR in the Area, and also the requirement to give due regard to activities in the Area. Given the text of Article 87, she concluded that it is not clear that these resources should be subject to the freedoms of the high seas.

Ms Millicay then proceeded to address the relevant provisions of UNCLOS under Part XI. She began with the common heritage of mankind, noting that the declaration that the Area and its resources are the common heritage of mankind was first made by the UNGA in 1970 in Resolution 25/2749. The whole structure of Part XI follows the principles crafted in that declaration.

She noted that a very strong argument is posed by some that the definition of ‘resources’ set out in Article 133 of UNCLOS, which limits ‘resources’ of the ‘Area’ to ‘mineral resources’. In addition, Resolution 25/2749 does not include a definition of ‘resources’. When the UNCLOS negotiations began, the definition limiting ‘resources’ to ‘mineral resources’ was included in the Single Negotiating Text. The United States proposed the definition in 1975, and it was later included in the negotiating text in 1981.

Although it is true that the definition is limited to mineral resources, she emphasised that a review of the history of the negotiations reveals that the fact that biological communities are not included in the definition does not mean that there was an intention by the negotiators to exclude some of the resources of the Area.

Article 136 of UNCLOS sets out a zonal approach, providing that the Area itself is the common heritage of mankind, not only the resources. Ms Millicay questioned if the Area is itself common heritage of mankind, can some of the resources, particularly the mineral resources, follow that legal regime while other resources do not.

Article 138 of UNCLOS continues with the zonal approach and sets the general rule of conduct of States regarding the Area.

Article 143 of UNCLOS is also important: that MSR in the Area shall be carried out exclusively for peaceful purposes and for the benefit of mankind as a whole. Given that MSR in the Area and the benefit of mankind is not limited to MSR regarding mineral resources, she questioned whether there can be a strict rule to share benefits with respect to MSR and not to share benefits for the exploitation of the same resources. Finally, Article 311 of UNCLOS was proposed by Chile to declare the common heritage of mankind to be *jus cogens* in the words of the Convention, which is a very particular rule that provides that any amendment to the Convention cannot alter or otherwise amend that basic principle. She questioned whether placing these resources outside the common heritage of mankind would constitute an unauthorised amendment to the Convention.

Ms Millicay concluded with the proposition that even if a pragmatic approach is employed, a legal point of departure needs to be defined. In the end, Part XI of UNCLOS is no more than a sharing of benefits scheme, something that should be taken into account in the future work of the PrepCom.

* * * * *

Ms Catherine Boucher (Oceans and Environmental Law, Global Affairs Canada) gave her personal views on whether MGRs in areas beyond national jurisdiction should be viewed as the common heritage of mankind.

Ms Boucher presented some of the arguments and challenges against applying the common heritage of mankind principle to MGRs. She explained that whether or not MGRs are or should be the common heritage of mankind is an important issue, and there are many different views on the subject.

She said that the concept of something being the common interest of mankind or humankind has been the subject of discussion in a variety of contexts, including with respect to human rights, labour, technology, cultural property and heritage, public health and protection of the

environment. However, the only areas in international law where the principle has been specifically agreed to as an obligation is in relation to outer space and the law of the sea.

Where States have reached consensus on the use of the principle it has so far been in situations where the treaty was either not widely agreed, such as the Moon Treaty, or the concept was narrowed considerably in the final text from what had been originally proposed, such as UNCLOS, where the concept is restricted to the non-living resources of the Area.

The 1994 Implementing Agreement effectively narrowed the application by bringing market-based principles to frame the benefit-sharing regime of the activities of the Area. It was the 1994 Implementing Agreement that contributed to the broad acceptance of UNCLOS, allowing for its entry into force.

The principle of common heritage of mankind and its application has been written about by many and there are many arguments for and against this application of the principle in the context of MGRs. Ms Boucher addressed the possible counter-arguments that many States will likely articulate against applying the common heritage of mankind.

First, she said that some States will likely argue that the concept of the common heritage of mankind was meant to preserve the legal status of the international commons as a space against appropriation by a specific State. This is not an issue at play during the BBNJ discussions. No one is trying to claim the area of the high seas. What is being discussed are the resources that can be found in this space that are available to all States and how should those resources be dealt with as such.

Second, she said that while UNCLOS applies the common heritage of mankind principle, some States may take the view that the initial application of the principle was very broad, which prevented universal acceptance and the entry into force of the Convention initially. It was not until States negotiated the 1994 Implementing Agreement, which significantly narrowed the application of the principles, duties and procedures, and softened the stance regarding financial terms, that broad consensus was achieved allowing for its entry into force. It could be anticipated that any efforts to establish a treaty with an overly broad adaptation of the principle would face similar challenges in achieving universal acceptance.

Third, Ms Boucher said that while some will argue there is an argument to consider the living resources of the seabed in the Area to be subject to the common heritage of mankind, although at present UNCLOS does not support this view, States have always approached all activities in the water column from the principle of freedom of the high seas.

Even where there has been agreement to restrict the principle of freedom of the high seas, and there are agreements and actions that have been supported and even lead by many States, including Canada in that direction, States have always started from an agreement on the basic principle of the high seas freedom and then acknowledged that some constraints would be appropriate and necessary.

The common heritage of mankind principle, if applied to all MGRs beyond 200 nm, would flip this principle around. There would not be open access to MGRs, and the access would be restricted. Then, presumably, States would start by discussing exceptions to this restriction. So it can be anticipated that many States may or will object to this approach, but clearly, the implications for other living resources of the high seas, and indeed other freedoms of the high

seas, are unknown. Some States are likely to express concern that a designation of common heritage of mankind may hinder research on MGRs when their importance and potential in terms of global lifesaving health benefits are little known, and other uses that may have global benefits beyond commercial possibilities are also not very well known at this time.

Both of these considerations may suggest to some States to support freedom of access. While there may be some MGRs that are rare and could benefit from some sort of access regime to ensure sustainability, some may question whether a designation of common heritage of mankind is the best way to protect these genetic resources, as opposed to specific conservation measures.

Ms Boucher noted that applying the principle to MGRs will naturally lead to complex legal analysis of the implications for existing highly valued principles and regimes already negotiated. Most notably, for example, how would such an approach affect the regime developed for marine scientific research? What barriers, if any, are States willing to place on marine scientific advancement and discovery? How would one differentiate between basic and applied research?

She said that lawyers like to say anything can be drafted and put into a treaty, and will make sense in legal terms. But she noted that application is going to be the issue, and whether it makes sense in everyday life, in concrete terms?

Ms Boucher concluded by saying that it can be anticipated that anything that restricts or interferes with the freedom of the high seas concept, in particular freedom of access, will be met with resistance by many States. This is not to say that they might not be open to some sort of *sui generis* regime that could be framed as a regime to deal with the particular situation of MGRs and would typically include issues such as dissemination of information, facilitating access and capacity building.

While there are a number of ways to look at this issue within the context of the current discussions on biodiversity in areas beyond national jurisdiction -- the question really comes down to, if the aim is to obtain a treaty which has as broad participation as possible, how is this best achieved?

* * * * *

The following points were raised in Session Four, with the points falling under eleven main themes (with care having been taken not to rank or otherwise prioritise the discussion points set out below):

- General Points of Discussion
 - Comment on how to bring about compromise: UNCLOS was negotiated in the context of the Cold War with the two groups insisting on their principles. Successful outcomes were achieved by negotiating on the basis of interests, rather than principles.
 - Comment that although it is important to have universal acceptance, the principle cannot be put aside just for the benefit of having a universally accepted instrument.

- Marine Genetic Resources (MGRs)
 - Given the broad definition of biodiversity, the question was raised as to whether there are MGRs that fall outside this definition.
 - Comment that it is very difficult to distinguish between the seafloor and water column because species on the seafloor migrate.
 - Suggestion that the CBD may provide a standardised definition of [MGRs].
 - Comment that there is a possibility that some MGRs that come from the Area can also be found on the continental shelf.
 - Comment that although it is difficult to distinguish between the high seas and seabed, the issue has to be dealt with because of the extended continental shelf.
 - With regard to MGRs from fish, there was a comment that it is necessary to distinguish between fish and the genetic resources derived from fish.
 - Comment that countries need to consider implication for other resources (e.g., fish).

- Common Heritage of Mankind (CHM) and Freedom of the High Seas
 - Question was raised as to what CHM provides.
 - Question was raised as to how the CHM principle applies to MGRs in the water column.
 - Comment that CHM cannot be put aside; CHM provides a starting point, but should not be applied strictly because some adaptations will need to be made.
 - Suggestion that it may be useful to apply a combination of CHM and high seas principles with regard to access and benefit-sharing.
 - Comment that a middle ground needs to be found between the two conflicting positions.
 - Suggestion that a practical approach may be to start with the freedom of high seas principle, but with regard to MGRs, there would be a limitation of the freedom of the high seas, namely the sharing of benefits.
 - Question was raised that if the point of departure is CHM, whether it means that discussions are limited to seabed resources. If that is the case, the question is why benefit-sharing should apply to MGRs.
 - Question was raised as to whether it is possible to think of a separate regime with two points of departure.
 - Comment that if engagement of all is needed, UNCLOS is the starting point; it is not a question of jurisdiction or principle.
 - Comment that the 1970 declaration of CHM is not possible anymore. The world has changed, but for any kind of agreement, focus needs to be given to the content of CHM, or the content of benefit sharing, even if it is not called CHM.
 - Comment that CHM is the position of developing countries. They will not let it go; it is their point of departure. For others, the point of departure is freedom of the high seas. There needs to be a middle ground by which something is crafted for benefit sharing.
 - Comment that starting with the freedom of the high seas approach would be very difficult for developing countries, because the resources are in the seabed area.
 - Comment that CHM is only for MGRs, because MGRs are not regulated.

- Comments on Judge Wolfrum's 7 Elements of the Common Heritage of Mankind
 - With regard to Judge Wolfrum's 7 elements of CHM, there was a comment that it while it is presented in terms of elements, it is easier to agree on the sub-components, where the issue is economic implication.
 - Comment that the problem with Judge Wolfrum's elements is that it is not clear how sub-components are defined.

- Convention on Biological Diversity (CBD)
 - Question was raised as to whether this issue can be subject to both UNCLOS and CBD and not only one convention.
 - Comment that the CBD is not a document drafted for the oceans, but UNCLOS is.
 - Comment that the point of departure is UNCLOS, but that does not mean that the CBD does not have a technical role. It is not a clear-cut option for UNCLOS and everything else is excluded.
 - Comment that it probably starts with UNCLOS, but the CBD needs to be included in the discussions.

- Due Regard
 - Question was raised as to what practical measures should be taken to ensure due regard.
 - Comment that due regard is the mitigation and conservation of the marine environment.

- 1994 Implementing Agreement and the International Seabed Authority (ISA)
 - Comment that the 1994 Implementing Agreement does not change the general principles of CHM; it only changes decision-making and the way ISA operates.
 - Comment that the 1994 Implementing Agreement changed the scope of what was understood to be CHM in the role of the Enterprise.

- Bioprospecting
 - Question was raised as to what bioprospecting entails and what is its environmental impact.
 - Comment that bioprospecting and pure MSR are different but interlinked.
 - Comment that exploration is for scientific purposes.

- Economic Value of Bioprospecting and Marine Genetic Resources (MGRs)
 - Comment that before deciding on a regime, there needs to be a determination of the value. There may not be enough value to justify the establishment of a complex regime.
 - Comment that the regulation of deep seabed mining in the Area shows that the application of the CHM principle is not incompatible with doing business.

- Accessibility and Appropriation
 - Comment that with regard to accessibility (MSR-data sharing) and appropriation, accessibility can be solved. If one has access to a resource, what kind of patent can be registered and what kind of benefits can be derived from it is a different question than accessibility.
 - Comment that accessibility (MSR-data sharing) has been going on for decades; a lot of effort has been made to make the data public.
 - Comment that it would be easier to focus on accessibility as a non-monetary benefit, but it leaves unresolved the sharing of monetary benefits that would flow from the patenting.
 - Comment that if appropriation of MGRs through patenting is made more difficult, companies may be discouraged to invest in research and development.

- Request for International Tribunal for the Law of the Sea (ITLOS) Advisory Opinion
 - Comment that, at least in theory, States can ask ITLOS for an advisory opinion on the conservation and sustainable use of BBNJ under the Convention. Question was raised as to whether this would be a good idea.
 - Comment that there would be a question of jurisdiction for the Tribunal to consider. Vast majority of States said that ITLOS did not have jurisdiction to render advisory opinions on illegal, unreported and unregulated (IUU) fishing.
 - Comment that it is clear that ITLOS has jurisdiction.
 - Comment that an advisory opinion is an interesting proposal, but even if there is an advisory opinion, it will not provide the required result. So there is still a need to work towards compromise.
 - Comment that there are more countries engaged in the process. If there is an advisory opinion, there will be winners and losers, which would not help the dynamics of the process.
 - Comment that there were discussions on advisory opinions from the ITLOS Seabed Disputes Chamber. Jurisdiction would not be an issue, but the question is a touch of realism.

* * * * *

Session Five –Access and Benefit Sharing (ABS)

Professor Carlos Correa (University of Buenos Aires/South Centre) covered the IP regime and patentability rules.

Professor Correa agreed with Ms Millicay that the development of the proposed instrument should be based on UNCLOS. However, he thought it would be important for the drafters of the instrument to take into account other instruments that specifically relate to genetic resources, as follows:

1. FAO Resolution 8/83, ‘International Undertaking on Plant Genetic Resources for Food and Agriculture’ (1983);
2. Convention on Biological Diversity (CBD) [www.cbd.int];
3. FAO Treaty on Plant Genetic Resources for Food and Agriculture [www.planttreaty.org/sites/default/files/ITPGRFA_Cullet.pdf];
4. Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity [www.cbd.int/abs/doc/protocol/Nagoya-protocol-en.pdf]; and
5. WHO Pandemic Influenza Preparedness Framework.

Professor Correa said that the FAO resolution was perhaps the first instrument adopted in relation to genetic resources. He thought that it was probably inspired by the Convention on the Law of the Sea, because it incorporated the concept of resources as the heritage of mankind. Essentially, the rationale behind this undertaking was that plant genetic resources for food and agriculture are essential for food security. All countries are interdependent in terms of access and use of these resources. Therefore, the aim of FAO was to ensure that this exchange of resources would take place, as has been the case in the past, without obstacles. The concept of common heritage was adopted with the idea of promoting access and use of plant genetic resources for food and agriculture.

He noted that when the CBD was adopted in 1992, there was a major, dramatic change in the paradigm. The CBD is based on the idea that genetic resources are subject to sovereign rights under national jurisdiction; therefore, the concept of the common heritage was rejected. The very basis of the Convention was that countries have the right to provide access to genetic resources subject to some conditions. The main objectives of this Convention include conservation, sustainable use, and fair and equitable sharing of the benefits deriving from the use of genetic resources. The important message of the CBD is that genetic resources are subject to national jurisdiction. Therefore, there is a right by countries to impose conditions for access.

Professor Correa explained that the system developed by the CBD is a bilateral model, meaning that if there is a company or a researcher that wants to get access to resources in another country, there must be a procedure for applying for consent. Consent may be granted on the basis of mutually agreed terms, which should lead to benefit sharing when there is commercial exploitation of those resources.

There were a number of problems identified in implementing the CBD. One problem is food security. The CBD applies to all kind of genetic resources, including plants, marine and bacteria. One of the concerns of people working in agriculture was that with regard to the

access to genetic resources under the CBD, food and agriculture would be subject to applying for consent and mutually agreed terms. This would destroy the system of free exchange that is so important for food security.

Professor Correa noted that the first problem that was addressed in the concept of the CBD was how to deal with access and benefit sharing for resources relating to food and agriculture.

He noted that the second problem that was identified was the issue of the appropriation of genetic resources. In particular, the TRIPS agreement allows any country to grant patents on plants, animals, bacteria, and genes. This is an exclusion, but it is not a mandatory exclusion for plants and animals. In many countries, patents are granted even for isolated genes, which is controversial because an isolated gene, in the end, is a natural gene. One of the problems is that in many countries the standards of patentability that are applied are very lax in terms of novelty and invention. That is why such a large number of patents are granted in connection with genes. Professor Correa cited the example of krill where there are more than 500 patents have been identified.

He noted that the third problem was benefit sharing under the CBD as it relates to genetic resources. In many cases, the commercial benefits are obtained from a chemical compound that is contained in the genetic resource, which is called a derivative. The CBD was limited in its scope. Therefore, there were no clear rules about benefit sharing arising not from the exploitation of the genetic resources as such, but from the exploitation of components, for instance, a component taken from a plant in order to develop cosmetics. This was derivative and another problem that particular developing countries wanted to address.

Professor Correa said that the last problem was compliance in foreign jurisdictions. He worked through a hypothetical example of where a genetic resource is accessed in Zambia and used in Germany. If the law of Zambia has not been complied with, he questioned whether a judge in Germany will apply the law of Zambia in order to take action against a company that is using those resources without complying with the Zambian law. He concluded that it probably would not.

He described the following solutions to the issues outlined above.

In relation to the first problem of plant genetic resources for food and agriculture, in order to ensure that the exchange of resources still takes place, the International Treaty on Plant Genetic Resources for Food and Agriculture was adopted in 2001 after seven years of negotiations. It established a multilateral system. There is an annex to the treaty that includes more than 60 crops for which there is a free exchange of resources. An additional important element is that benefits are provided for, but these benefits are multilateral, meaning that the benefits are pooled and not provided to a particular supplying country. All countries benefit through access and all countries benefit through the use of a multilateral fund that has been established. The benefits could be monetary or non-monetary, but monetary payments only arise when there is a restriction that is imposed on another use of a resource that has been accessed.

In regard to the second problem, the treaty also addressed the issue of appropriation. He noted that this may serve as a very important model for a future BBNJ instrument. This provision established that recipients shall not claim any intellectual property or other rights

that limit the facilitated access to plant genetic resources for food and agriculture, or their genetic parts or components. There is a provision in the treaty that says contracting parties shall not assert any rights to the resources as received. He noted that there are some issues with regard to the interpretation of this provision, which would not be addressed in the Workshop.

Professor Correa noted that the issue of appropriation was raised by developing countries in the context of WTO. At the Doha conference, developing countries requested an analysis of the compatibility between the CBD and the TRIPS agreement, because the TRIPS agreement allows for patenting of plant genes, while the CBD says that those resources are subject to sovereign rights of national jurisdiction. Developing countries contend that there might be a potential conflict, while developed countries say that they are mutually supportive. In the end, a mandate was given to study the relationship between the two agreements: the TRIPS agreement and the CBD. This task, however, has not yet been completed.

The main proposal made by developing countries in this context has been to amend the TRIPS agreement in order to include a disclosure provision in the auditing of patent applications.

With regard to the third problem of derivatives, he said that the solution was provided by the Nagoya Protocol, which not only provides the basis for genetic resources as such, but also on derivatives. Professor Correa cited a definition, which may be helpful to those preparing for the PrepCom: (e) “Derivative” means a naturally occurring biochemical compound resulting from the genetic expression or metabolism of biological or genetic resources, even if it does not contain functional units of heredity.

With regard to the fourth problem of compliance, he said that Article 15 of the Nagoya Protocol provides a solution for compliance where the recipient company of a genetic resource or derivative has the obligation to enforce the national law of the country where it has been obtained.

Professor Correa provided for the consideration of those participating in the PrepCom a voluntary system established under the World Health Organization, which sets out a framework for sharing information on pathogens and benefits. He noted that Indonesia has a major role in this process. Up to US\$80 million has been contributed in order to make the system operative. He believes that this system could provide some useful elements for the development of the proposed instrument.

* * * * *

Professor Marcel Jaspars (University of Aberdeen) addressed relevant mechanisms considered and/or developed in the context of the implementation of the Nagoya Protocol that may be helpful in the context of MGRs in ABNJ.

Professor Jaspars provided some background and context to the process, together with some ideas from the PharmaSea project, which is a European Union FP7 programme to encourage industry to adopt resources from the marine environment as a source for new chemical compounds for antibiotics and other types of disease treatments.

He explained that this is a fairly linear process. It begins with discovery, starting with sampling that leads to discovering MGRs, which can be bacteria, fungi and whole organisms, from which is derived chemical compounds, called derivatives, which could lead to some biological activity, and hopefully to a product in many years' time. The whole process can take between seven and twenty years, even longer in certain cases.

Professor Jaspars noted that what already happens in a lot of good science is that there are notification and reporting requirements. With regard to marine scientific research, under normal circumstances the process begins with a research application that includes a cruise plan.

The second part begins on award with checks to determine feasibility, whether the cruise will enter marine protected areas, and whether it is possible to do the work detailed in the research application with the vessel available, etc.

At the end of the cruise, a cruise report needs to be filed that contains information about all the samples collected, where they were collected and where the samples will be stored. This last element is critical. For instance, the UK National Oceanographic Centre in Southampton, and JAMSTEC in Japan, have very good online databases that allow the samples to be located.

Professor Jaspars emphasised that this process starts with marine scientific research, which in most cases does not have commercial intent. This is basic science. He then posed the following questions: where should the data be reported that results from such a cruise? Where should the cruise report be filed, and where should it be captured and when? Typically, it would be captured by the research council when it comes ashore.

He said that the information could be put it in the Nagoya Protocol clearinghouse, or in a new clearinghouse linked to the Nagoya Protocol, or a totally separate new organisation, remembering, of course, that the Nagoya Protocol already requires the showing of evidence that something did not come from an area under national jurisdiction if the aim of the new regime is] to be outside the Nagoya Protocol. Therefore, the two things need to be linked in order to ensure that there are no gaps between the Nagoya Protocol and the new implementing agreement.

In terms of benefit sharing, which is the most contentious issue, Professor Jaspars agrees that it must be multilateral rather than bilateral. The most important benefits are non-monetary. Considering the expense of mounting a research cruise, very few commercial enterprises can afford US\$40,000 to US\$100,000 per day to rent an oceanography vessel for pure commercial research. Therefore, most of the research that is done will be conducted on samples that come from national government-run cruises.

In terms of the valuation of benefits, Professor Jaspars noted that there are seven drugs from the marine environment in the clinic right now. The total benefits from that, if royalties were granted to the country of origin, would be between US\$10 and US\$50 million per annum. With a blockbuster drug grossing US\$1 billion per year, royalties would likely amount to no more than 3 per cent, which would total US\$30 million per year. If ten drugs were being developed, royalties may amount to hundreds of millions of dollars. He noted that he did not

think the amount of monetary benefits was a huge problem compared to some of the other issues.

One proposal is to have a common domain or an open-access type approach. He noted that this is already common in biology, where the Biobricks consortium is trying to put together genetic elements that can be recombined to make products. The open-source movement in computing is huge, and everybody benefits from contributions made by people to the whole. He also cited the example of India, which has a system of open-source drug discovery where common compounds, common resources and assays are used for the common benefit, to develop drugs for neglected diseases.

In the context of BBNJ, the proposal would be something like having a pool of materials, either *ex-situ* or *in-situ*, which would give access to materials or would provide direction to research cruises to detail where samples have come from, which could benefit multiple users. This open-source access could provide multiple benefits that would allow patent or use of the compounds or materials derived in a user's national market and the royalties to flow back into the user's country.

This is only fair and equitable if benefits accrue locally – so that everybody can benefit from it. Such a system would require a benefit sharing and capacity building scheme. If everybody has the ability to exploit equally, then a system based on an open access or common domain approach will lead to greater fairness and also development of those resources in countries that would not normally have access to them. This would create a common pool, where everyone gets access, training and development, and technology transfer would occur in those countries to allow everyone to benefit in their own markets from the research conducted. As with other open-source movements, they generally lead to greater innovation, transparency and openness.

Professor Jaspars posed the problem of at what stage does a research cruise become commercial. If a research cruise indicates that it is conducting commercial research, then it is a straightforward exercise. In many cases, however, the commercial aspect of a research cruise does not become apparent until later in the process. So would it be, for instance, when research is initiated? When the organism is found to be active against a disease-focus screen? When a pure active material has been derived from a sample? When a patent application is filed? When a new drug application in the US is filed, or an investigation into a new drug is initiated? When does the industry get involved? Perhaps beyond that stage? In many cases, industry does not patent at all. In the cosmetic and food industries in particular, there is no need to patent as it is done through commercial secrecy and know-how.

Professor Jaspars noted that a major point to consider is that the information derived needs to be captured. This is not a trivial issue, given the scale of the problem where every single sample from every single piece of research that is carried out in ABNJ needs to be tracked and traced.

Such databases exist. He noted that they are not perfect and still need work. Development is definitely necessary to ensure that everyone can track and trace these samples over a period of 20 years.

In detailing the process, Professor Jaspars indicated that there are cruise reports at the beginning point, which would indicate where the samples are located, and perhaps there would be a yearly reporting requirement that would indicate that the research is still basic science, or the report that goes back to the central agency, the clearinghouse, for instance, may indicate that the research is commercial and may detail what is happening with the sample. The sample is then tracked in terms of the commercial process.

Professor Jaspars' last point was that science is moving incredibly quickly. Gene information is everywhere. Everybody deposits genes online very quickly, and a marine genetic resource or its genetic information can be readily obtained and redesigned. The DNA can be redesigned so thoroughly that it would be very difficult to trace it back to its roots. Those genes could then be recombined from different sources into an organism, which could then be grown, resulting in a product in the end. It would be very hard to track that product to the MGR it came from.

He emphasised that any implementing agreement has to be developed in such a way that it takes into account any scientific developments taking place at the moment and over the next 20 years or so.

Finally, he noted that that in his personal capacity, a very restrictive regime, such as Nagoya, would prevent the development of materials. He cited a very good paper by Libby Evans-Illidge that indicates that a number of active leads from Australian biodiversity have not been developed because of restrictions in the CBD in the first stage. He emphasised that this kind of restrictive regime is not good and can be very difficult to work with.

On the other end of the scale, Professor Jaspars noted that there is a very open approach, a public domain model. His personal feeling is that the new agreement would have to be more toward the public domain model than a Nagoya-like regime.

* * * * *

Dr Claudio Chiarolla (World Intellectual Property Organization (WIPO)) highlighted the role and work of the WIPO and its Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (IGC), and the extent to which that work applies to BBNJ.

Dr Chiarolla began his presentation by explaining that WIPO's mission with respect to marine issues is actually broader than MGR-related issues. He said that WIPO's mission is to promote innovation and creativity for the economic, social and cultural development of all countries, through a balanced and effective international intellectual property system. This includes the use of intellectual property to incentivise the innovative development and transfer of marine technology more generally, and also to promote technology that is designed to solve ocean-related problems, such as coastal erosion and climate mitigation.

WIPO's Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (IGC) was established in 2000 and has been working on these issues for a number of years. Since 2009, it has undertaken text-based negotiations on three sets of draft articles, which may or may not become legally binding instruments, a point that has yet to be decided by WIPO's member States. The IGC's mandate was renewed in October 2015 by the General Assembly of WIPO, which includes, for the upcoming

biennium, undertaking text-based negotiations on the draft articles, with a view to reducing existing gaps and moving forward with the eventual adoption of the draft articles in one form or another [http://www.wipo.int/export/sites/www/tk/en/igc/pdf/igc_mandate_1617.pdf].

One of the three sets of draft articles under consideration concerns intellectual property and genetic resources.

Dr Chiarolla emphasised that genetic resources as such are not ‘intellectual property’. He said that it might seem obvious, but it is important to recall that for a genetic resource to be covered by, for instance, patent claims, it has to be modified by man and it has to meet patentability requirements of novelty, inventive step and industrial application. There also needs to be full disclosure of the invention to the public through the patent application. Therefore, genetic resources as such are not a form of intellectual property.

However, he noted that with recent developments, such as jurisprudential developments in the United States, e.g., the 2013 US Supreme Court case of *Association of Molecular Pathology v. Myriad Genetics*, that might be changing. For instance, because of the decision in the *Myriad* case, ‘derivatives’ as defined under the Nagoya Protocol are no longer patentable under US law, while a ‘modification’ can still be patentable.

Dr Chiarolla posed the following key questions for consideration. What are the intellectual property related issues that relate to genetic resources, broadly speaking? Which of these issues can be dealt with in an international legal instrument under WIPO (as opposed to other organisations or regimes)? How should such an instrument under WIPO relate to the access and benefit sharing regimes under the agreements that Professor Correa highlighted? Finally, which is probably most directly relevant to the BBNJ discussions, how would such an instrument relate to MGRs in areas beyond national jurisdiction in the draft articles?

As to the first question, Dr Chiarolla explained that it is important to recall that inventions that are based on or that are derived from genetic resources may be patentable, and this has raised two main issues in the context of the IGC discussions. One issue relates to the defensive protection of genetic resources, which is directly tied to the issue of the prevention of erroneous patents or bad patents. This is a question of the quality of the patent examination, which relates to the requirements that are material to patentability. For example, in a situation where a patent examiner had at his disposal all prior knowledge that is available, then he would have not granted the patent because it would have not met, for instance, the requirement of novelty.

He noted that the second issue relates to promoting and tracking compliance with access and benefit sharing systems that are already established under national laws in accordance with the Convention on Biological Diversity, the Nagoya Protocol, and the multilateral system of the FAO Treaty. He said that the transparency and interrelatedness among these legislative regimes belongs to a body of international law that is primarily related to the environment, sustainable development and intellectual property.

Third, Dr Chiarolla said that it is also important to note that the way in which patents and intellectual property rights in general are managed can determine the nature of the benefits and the way in which these benefits accrue to different stakeholders who might be involved in the process.

What are the proposed solutions in the context of the draft articles of the IGC? Primarily with respect to the first issue, the issue of the quality of the patent examination, he said that there is a proposal to use databases to improve information systems, patent examination guidelines and so on.

With respect to the second issue, the legality of access and compliance with ABS mechanism, he said that the proposal under consideration relates to compulsory patent disclosure requirements. He noted that countries have different opinions about this, different ideas of how concretely they could be implemented. This is the main normative issue that needs to be addressed.

Third, with respect to the management of IP rights through contract/IP clauses in mutually-agreed terms, he said that the WIPO website contains updated guidelines for IP clauses in ABS agreements, together with a database of these IP clauses. [<http://www.wipo.int/tk/en/databases/contracts/>]

With respect to the last question, MGRs in areas beyond national jurisdiction feature in the IGC's Consolidated Document Related to Intellectual Property and Genetic Resources [WIPO/GRTKF/IC/29/4] under Article 4 on exceptions and limitations. The draft text provides in Article 4.1 that 'A[n] [IP] [patent] disclosure requirement related to genetic resources [their derivatives] and [...] shall/should not apply to ... (e) [genetic resources from areas beyond national jurisdiction [and economic zones]]'. Dr Chiarolla concluded that this provision reflects that some parties feel that genetic resources from areas beyond national jurisdiction should not be included under the provisions that would possibly apply, because there is no agreement to provide for compulsory patent disclosure.

* * * * *

The following points were raised in Session Five, with the points falling under fourteen main themes (with care having been taken not to rank or otherwise prioritise the discussion points set out below):

- Access and Control
 - Question was raised as to how access and control works in the system.
 - Question was raised as to whether there is an international monitoring body to ensure access to genetic resources data.
 - Question was raised as to what are the links between access and control and MPAs.

- Origin: National Jurisdiction or Areas Beyond National Jurisdiction (ABNJ)
 - Question was raised as to whether it is possible to identify if something is from national jurisdiction or ABNJ.
 - Following that question, a participant said that there is no way to know whether an organism is from national jurisdiction or ABNJ. There are organisms that can be found anywhere.
 - Comment that it is not possible to identify whether any resource is from national jurisdiction or ABNJ.
 - Question was raised as to how to ensure that a regime that works under national jurisdiction can also work in ABNJ.

- Question was raised as to whether it is possible to disclose origin using geographical coordinates.
- If there is a legal regime, should we have assumption that unless it is proved otherwise, the resources are from ABNJ?
- Compliance
 - Question was raised with regard to compliance responsibility and whether it is the responsibility of States or vessels.
 - Comment that most cruises are multinational and multi-destinational, so it would be a challenge to determine where compliance should be.
- Compulsory Patent Requirement
 - Comment that if at some stage there would be a compulsory patent requirement, the question is whether this requirement should apply to ABNJ.
- Draft Article 4
 - Comment that Member States think that draft articles should not include (Draft Article 4) because there is no benefit-sharing mechanism in place. If there is no obligation to disclose sources, there will be a gap for disclosure within national jurisdiction because one may say that their sources are in ABNJ.
 - Comment that WIPO Draft Article 4 deliberately excludes ABNJ.
- Commercial Research
 - Comment that commercial research also helps to improve knowledge of marine biodiversity.
 - Comment that commercial research cruises are careful not to enter into an MPA.
- Food and Agriculture Organization (FAO)
 - Comment that the FAO Treaty on Plant Genetic Resources for Food and Agriculture may offer a useful multilateral model.
- World Intellectual Property Organization (WIPO)
 - Comment that WIPO is member State-driven; the Secretariat cannot make decisions.
 - Comment that the process at WIPO has been ongoing for 15 years and is not clear what can get done in the next 15 years.
 - Question was raised as to how WIPO's current work should be aligned with the BBNJ process.
- World Trade Organization (WTO)
 - Comment that the WTO is a more suitable forum for a disclosure obligation because if it is agreed, it will be obligatory.
 - Comment that, unlike WIPO, the WTO would not have an exception to any kinds of resources.

- Patentability
 - Comment that although MGRs are patented in some developed countries, it should not be that way.
 - Comment that discovery should not be subject to a patent claim; only modification should be subject to a patent claim.
 - Comment that a species existing in nature can be patented under EU legislation.
 - Question was raised with regard to those countries where MGRs are patentable, whether it is because of poor implementation or because of the lack of a legal framework.
 - Comment that it is possible to patent a gene in many countries.
 - Comment that there is legislation in France that a patent is only granted to the functions of the gene that are discovered.

- Benefit-Sharing
 - Question as to why benefit-sharing should be linked to the patent system.
 - Comment that the nature of the value of the resources determines whether benefit-sharing should be linked to the patent system. MGRs have such high non-monetary value, and potentially high monetary value, that information from it would affect benefit-sharing.
 - Comment that access and benefit-sharing should be connected to conservation and preservation.
 - Question was raised as to who should be the beneficiaries of benefit-sharing.

- Convention on Biological Diversity (CBD)
 - Question was raised as to what lessons are learned from the CBD.
 - Comment that the aim of the CBD is not to prevent access to resources; it is to promote access to resources under certain conditions.

- Trust Fund
 - Question was raised as to what is the process for distribution of benefits of the trust fund.
 - Comment that countries and research organisations can apply for these funds within the project-cycle.

- Disclosure
 - Comment that disclosure includes traceability of sample collection and subsequent use through notification and reporting requirements.
 - Comment that the Nagoya Protocol does not provide compulsory disclosure, but there is an obligation to establish check points at every stage (check-points may be, for example, funding institutions or institutions that approve the product).
 - Comment that disclosure is just information provided; it is the first step but not the whole solution.

* * * * *

Session Six – Capacity Building and Transfer of Marine Technology

The sixth session addressed capacity building and transfer of marine technology. The discussions centred on UNCLOS Part XIII on Marine Scientific Research, UNCLOS Part XIV on Development and Transfer of Marine Technology, and the resolution on the development of national marine science, technology and ocean service infrastructures contained in Annex VI to the Final Act of the Third Conference. The session also reviewed the pertinent provisions in Part XI and the 1994 Implementing Agreement.

Ms Alice Hicuburundi (Division for Ocean Affairs and the Law of the Sea, United Nations (DOALOS) [www.un.org/Depts/los]) spoke on the issues of capacity building and technology transfer as provided in Parts XI, XIII and XIV of UNCLOS, Annex VI to the Final Act of UNCLOS and the 1994 Implementing Agreement.

Ms Hicuburundi began with a short introduction on the importance of these topics, and then provided a selected overview of UNCLOS provisions that are relevant for areas beyond national jurisdiction. She touched upon the few statements in the working group reports about capacity building and transfer of marine technology, and some short conclusions for consideration.

At the outset, she noted that while MSR is not included as a topic of focus in the package of issues, there are obvious linkages between capacity building, transfer of marine technology, and marine scientific research. The Convention on the Law of the Sea recognises the crucial importance of marine science and technology for realising the benefits and carrying out the responsibilities set out in the legal regime for the oceans.

Ms Hicuburundi noted that the needs in relation to the development and strengthening of marine science and technology capabilities in States are well recorded. States and international organisations have provided information on a wide range of measures that address many of these needs. These can be found in particular in two of the Secretary-General's reports [A/45/712, paras. 41-48, and A/46/722].

Also, as was stated in Chapter 17 of Agenda 21, transfer of marine technology is a way to provide developing countries with a tool to improve their capacity to collect, analyse, assess, and use information for sustainable development. She said that States have recognised the important role of marine science and technology in promoting sustainable management and use of the oceans and seas as part of efforts to eradicate poverty, ensure food security, and to sustain economic prosperity, and the well-being of present and future generations.

Ms Hicuburundi highlighted that the consequent need is to ensure that decision makers have access to the advice and information on marine science and technology, and that the appropriate transfer of technology and support for the production and dissemination of factual information and knowledge to end users can occur.

She cited the Rio+20 Conference outcome document, *The Future We Want*, in which States 'recognize the importance of building the capacity of developing countries to be able to benefit from the conservation and sustainable use of the oceans and seas and their resources, and in this regard emphasize the need for cooperation in marine scientific research to implement the provisions of the Convention and the outcome of the major summits on sustainable development, as well as for the transfer of technology, taking into account the

Intergovernmental Oceanographic Commission criteria and guidelines on the transfer of marine technology’ [UNGA resolution A/RES/66/288, para 160].

Ms Hicuburundi then addressed UNCLOS and its provisions on capacity building, MSR and the transfer of marine technology. The framers of the Convention were keenly aware of the need for capacity building, especially in the absence of any funds or assistance programme embedded in the Convention itself. Although the Convention does not use the phrase ‘capacity building’, as it was noted by the co-chairs of the of the first meeting of the United Nations Open-ended Informal Consultative Process, already MSR was an issue of interest. She noted that UNCLOS contains over 25 references to the need to help developing States and take their concerns into account.

In UNCLOS, the need to promote the development of scientific and technological capacity of States is particularly highlighted not only in Part XII , Section 2, but also in Article 266 with regard to resource exploration and exploitation, conservation and management of marine resources, the protection and preservation of the marine environment and marine scientific research.

She noted that Part XIII, Article 249 in particular provides for the possibility of coastal States to participate or be represented on board research vessels. This is one item that came up often in the BBNJ Working Group meetings at the UN.

Part XIV, Article 266 provides for the active promotion of the development of the transfer of marine technology, through cooperation, with a view to accelerating the social and economic development of developing States. In doing so, Part XIV provides that ‘States shall have due regard for all legitimate interests, including the rights and duties of all the suppliers and recipients of marine technology’, a principle that was later integrated into the Intergovernmental Oceanographic Commission (IOC) Criteria and Guidelines on the Transfer of Marine Technology (UNESCO 2005) [<http://ioc.unesco.org>]. Ms Hicuburundi highlighted that the BBNJ Working Group also emphasised the principle of the transfer of marine science and marine technology to developing States at an early stage and on fair and reasonable terms and conditions, in accordance with the Convention.

Ms Hicuburundi concluded by saying that member States have repeatedly expressed the need for capacity building. The relevance of the legal regime adopted under UNCLOS was particularly highlighted under General Assembly resolution 55/7, in which it was stressed the need to consider as a matter of priority the issue of marine science and technology and to focus on the best way to implement the many obligations and rights of States and international organisations under Part XIII and Part XIV. She said that this call was reiterated in the most recent General Assembly resolution, which reiterated the essential need for cooperation, including through capacity building and transfer of marine technology to ensure that all States, especially developing countries, in particular the least developed countries and small island developing States, as well as coastal African States, are able to both implement the Convention and to benefit from its provisions for the sustainable development of the ocean and seas. [UNGA resolution A/RES/70/235, 12th preambular para]

She ended her presentation by repeating that a starting point for the discussions in the PrepCom, is a declaratory relief legal framework for carrying out activities of capacity building and transfer of marine technology, not only in UNCLOS and its implementing

agreements, but also as complemented in particular by the sustainable development outcome and summits and conferences. The provisions in those instruments such as in Chapter 17 of Agenda 21, including also the latest action agenda on financing for development, as well as the General Assembly resolution, can provide some indication of some of the measures that have already been identified by member States to implement effective capacity and transfer of marine technology.

Ms Hicuburundi said that the rapid advances in science and technology have continued to generate interest in ocean resources, such as MGRs today, and as well the growing trend to look towards the ocean for the development of the so-called blue economy, as well as continued concerns about the link to the need for developing countries in particular to ascertain the nature of marine scientific research. All of this still underlines why transfer of marine technology and capacity building is indeed part of the package of issues. She noted that some of the circumstances that existed during the negotiations for the UNCLOS Convention are still relevant today.

While the provisions of UNCLOS provide a solid and sound basis for capacity building and transfer of marine technologies activities, she noted that the new implementing agreement can provide an opportunity to take into account the new state of knowledge for more is known now than when UNCLOS was being negotiated. Such developments include the new principles for the management of resources such as the precautionary approach and ecosystems, which are considered the new modern management tools, and perhaps to elaborate further on the provision of capacity building and transfer of marine technology. Ms Hicuburundi suggested that in order to do that in an effective manner, the PrepCom should consider the reasons why Part XIV has been identified as the least implemented part of UNCLOS, despite the adoption of the IOC guidelines and criteria on transfer of marine technology. She suggested that the PrepCom should also consider lessons learnt from examples of capacity building and transfer of marine technology at the regional and the international level. All of this points to a starting point on the discussion of capacity building and transfer of marine technology.

* * * * *

Dr Elizabeth Brierley (Pacific Islands Forum Secretariat) in her personal capacity addressed capacity building and transfer of technology mechanisms developed for the Pacific Island States.

Dr Brierley began her presentation by describing the Pacific Ocean framework that is in place in her region. She noted that the policy framework is interesting in that the leaders have recognised the scope of it not only to include the EEZs, but also to encourage the ecosystems on which the region depends.

She recognised that the regional architecture is somewhat complex. There are nine regional organisations that form the Council of Regional Organisations in the Pacific (CROP), which is the CROP structure. It is chaired by the Secretary-General of the Forum secretariat. There are a number of groups under that structure, and we have an ocean-specific group, the marine sector that we work on. There are five CROP agencies that are involved in that group. The idea of that is really to promote coordination on ocean issues where it covers more than two of their mandates.

Despite the coordination, leaders identified through the ocean policy framework that real leadership and advocacy and coordination and integration of oceans was a missing part of the ocean governance framework in the region.

Therefore, in 2011 the Secretary-General of the Forum was also appointed as the Pacific Ocean Commissioner. Dr Brierley said she was brought in under an Australian aid project in 2014 to set up the office, support the Pacific Ocean Commissioner in that role, and facilitate integrated ocean management more broadly than just with the CROP agencies, but with the other Pacific Ocean Alliance partners as well.

Dr Brierley said that the Pacific Ocean Alliance is another mechanism that the leaders identified in the regional ocean policy, which is an open platform for inclusive open dialogue on issues of sustainable development, management and conservation of the ocean. The Pacific Ocean Alliance was launched at the Small Island Developing States (SIDS) conference in 2014, and the first meeting was held in May which was, coincidentally, on areas beyond national jurisdiction [<http://www.forumsec.org/pages.cfm/strategic-partnerships-coordination/pacific-oceanscape/pacific-ocean-alliance/pacific-ocean-alliance-meetin-1.html>].

She noted that it was the first time that the Pacific Island region collectively came together and started the conversation about identifying priorities and discussing how they want to engage with each other. She highlighted that there had been previous discussions in the region, but this meeting was different in that it was done collectively, getting everybody together, private sector, countries, UN agencies, NGOs, everyone.

Dr Brierley then addressed capacity building and the various initiatives in the Pacific Island region that are of most relevance to BBNJ at the moment.

She noted that there are guidelines, portals, training and partnerships that are working to varying degrees. With regard to capacity building, she noted that there is a distinction between individual capacity building and institutional capacity building. Institutional is the longer term, but it requires a lot more investment and a lot more than just project-by-project delivery. Although it is hard to do, it would be more meaningful for the region in terms of longevity.

Dr Brierley then addressed the question around capacity versus capability. She said that there is a lot of capability in the Pacific Island region, but human resource capacity to engage in new and emerging capacity building initiatives is lacking. For instance, with small administrations, there is perhaps one person dealing with five issues that in a larger administration would have five people working on them. When resources are stretched thin, although there is a need for capacity building, there may not be capacity to engage in the capacity building. She noted it is a constant struggle.

She highlighted that when thinking about BBNJ, there is a risk that it will potentially distract from the job at hand. The management of EEZs is difficult in the region. Broadening that mandate to start thinking about BBNJ is almost mind blowing. She thinks that there is capacity that can be built that will benefit both EEZs and beyond, and engagement in scientific research and other areas can be transboundary.

She noted that the need to target the right people is also an issue, and in small administrations, especially those engaged on a regional scale, there will be insufficient numbers of the right people. She said that is a fact that has to be accepted, but how the right capacity-building programmes and initiatives are built needs to be thought through.

Dr Brierley agreed with the notion that capacity building should be more than just a one-way relationship. She noted that there is a bit of an expectation that it gives back and that the load can be shared within a government. But again, she said that it is a human capacity issue. She said that going away on training programmes often excites people, but then they go back to their administration and they have a backlog and are overworked. She suggested that on-the-job training may address that issue in part.

With regard to technology, Dr Brierley recognised that the Pacific is not always well equipped for hi-tech technology. There is no service industry or hi-tech environment, nor is there sufficient bandwidth. These are issues that need to be addressed.

She thinks that supplemental capacity needs to be considered. The conversation is not just about building capacity, but supplementing capacity. She said that the Pacific Island regional organisations are actually organised around supplementing capacity. She posed the question of how to make the most of those partnerships to support the region on an ongoing basis.

She said that more innovative partnerships need to be considered, such as multi-donor capacity building exercises that can then build an institutional capacity building programme by linking different projects, but towards a bigger end.

Dr Brierley closed by saying that the central and open access to the results of ABNJ research is probably one of the greatest benefits for the Pacific Island region, because the region does not have the capacity to engage in others.

* * * * *

Mrs Rena Lee (Attorney-General's Chambers, Singapore) spoke in her personal capacity on lessons learnt in building capacity and transferring marine technology with regard to Singapore's experience with the ISA under the deep seabed regime.

The transfer of marine technology has been translated into practice in one of the regimes in UNCLOS, which is the deep seabed regime.

Mrs Lee explained that Singapore is the sponsoring State of Ocean Mineral Singapore Pte Ltd. (OMS) under contract with the ISA from 22 January 2015 for exploration of polymetallic nodules in the Clarion-Clipperton Zone. Singapore is very new in this process in the deep seabed regime.

In its application, she said OMS was required to submit a training programme in addition to its proposed plan of work. This requirement to submit a training programme when application is made for a licence to explore any mineral resources in the Area applies to all potential applicants and is derived from the obligations that are set out in the Convention as well as in the Mining Code. The training programme becomes part of the contract that the applicant, if successful, subsequently signs with the ISA.

The Legal and Technical Commission (LTC) makes recommendations in terms of plans of training programmes under plans of work, and in its recommendation for the OMS application, it recommended that contractors, when they are providing training opportunities, should offer training opportunities in as wide a range of skills as possible. Singapore is looking at a minimum of 10 trainees for every five-year programme of activities.

In the next part of her presentation, Ms Lee described the various programmes and resources made available by the ISA.

The ISA website [<https://www.isa.org.jm/ontractor/training-activities>] lists a wide range of training provided, both academic as well as practical hands-on at-sea training programmes to a wide number of trainees from a large number of countries. Mrs Lee noted that Singapore itself gained one spot in an at-sea training programme offered by BGR, the German contractor.

Beyond contractor-based training, the training that is provided by the contractors, which is an important component of capacity building, the ISA also has an endowment fund [<https://www.isa.org.jm/contractors/endowment-fund>]. Since its establishment in 2006, the endowment fund has provided for 82 trainees from 42 countries to participate in training programmes and in research programmes that enable them to build up their capacity.

Mrs Lee noted that it is not just about delivering training. There is also follow-up at the ISA, as in the trainees are required to file reports in order for there to be analysis on how useful these programmes are. There is also follow-up in terms of what kinds of training will be provided.

She emphasised that training is but one component of capacity building. The ISA also covers other areas, including the establishment and maintenance of several databases. The website databases include the central data repository [<https://www.isa.org.jm/central-data-repository>], which has links to the seabed patents database and bibliographic database. They also make technical papers freely available [<https://www.isa.org.jm/documents-resources/publications>].

All these efforts comprise knowledge sharing, which is a key component of capacity building and the transfer of marine technology. When referring to marine technology, Mrs Lee noted that it includes more than equipment. She noted that Part XIV on transfer of marine technology, when referring to knowledge, also includes know-how, manuals and methodologies, all of which are being provided in the training programme under the ISA.

Mrs Lee then discussed the relevance of the ISA experience to the work of the PrepCom.

In that regard, her first point was that the PrepCom is not starting from point 0. UNCLOS has a framework, and there are examples both in the regional experience as well as the international experience. There are sources that can be referenced, studied and considered how they can be applied to BBNJ.

Her second point was that when reviewing the work of the Pacific Island Forum and the ISA, this aspect of the package, being capacity building and the transfer of marine technology, requires a practical approach. In the end, it is about identifying the needs and matching the needs to where the resources are.

Mrs Lee concluded by saying that by looking at the example of the ISA, some way forward may be found in terms of how to deal with this issue within the PrepCom.

* * * * *

The following points were raised in Session Six, with the points falling under five main themes (with care having been taken not to rank or otherwise prioritise the discussion points set out below):

- General Points of Discussion
 - Comment that the difficulty is that different countries have different needs.
 - Comment that the BBNJ Agreement should be flexible and not too specific when it comes to institutional arrangements for capacity building and transfer of technology.
 - Comment that it even if institutional arrangements are not specific, there should be guidance.
 - Comment that if there is flexibility, there is a risk of leaving it too open-ended.
 - Comment that flexibility only relates to mechanisms on capacity building and transfer of technology.
 - Comment that bearing in mind that there are organisations that are doing capacity building and transfer of technology, there is a way to build a framework.
 - Comment that, with regard to where the needs should be articulated, it may be difficult to be included in the agreement; it may be easier to put in a conference resolution.

- Capacity Building
 - Comment that in the context of ABNJ, capacity building has to go in some degrees with transfer of technology.
 - Comment that States still have capacity problems within their EEZs. It is important to build capacity in developing States for the management of EEZs.
 - Comment that some aspects do not require a lot of resources, they only require training (e.g., bio-informatics).
 - Comment that there is a need for workshops that offer basic skills to engage in research on MGRs.
 - Comment that training should not only be focused solely on MGRs; it should be broader and include biodiversity.
 - Comment that there is a need to have training modules.

- Technology Transfer
 - Comment that there is a lack of clarity about the type of technology to be transferred in the context of ABNJ.
 - Comment that there is a mythology about transfer of technology that it is against IP.
 - Comment that technology transfer is included in the Paris Agreement on climate change.
 - Comment that in the context of BBNJ, the issue is how developing States can be enabled to have access to the technology.
 - Comment that it is important to establish regional marine technology centres.

- Role of the International Seabed Authority (ISA)
 - The ISA not only offers practical hand training, but also academic training.
 - Comment that there is no shortage of needs or potential projects at the ISA, only a shortage of money.

- Comments on Funding
 - Comment that there was reference to financial arrangements in the 1995 Implementing Agreement, but it is not the same as having a financial mechanism.
 - Suggestion that the BBNJ process could include similar financial provisions as the 1995 Implementing Agreement.
 - Comment that the funds from the 1995 Implementing Agreement are not sufficient.
 - Comment that it is better to incorporate financial arrangements in the agreement, rather than setting up an institution with no money to do capacity building.

* * * * *

Session Seven – Mandate and Work Programme of the PrepCom

The final session focused on the mandate and work programme of the PrepCom, by examining the terms of UNGA resolution A/RES/69/292 that convened the PrepCom, including the constraints set out in the resolution. The session discussed procedural issues that may not be addressed in the Resolution. The session also heard of the lessons learnt from the negotiating process of the Third Conference and of the 1994 and 1995 Implementing Agreements.

Ambassador Eden Charles (PrepCom Chair) spoke on UNGA resolution A/RES/69/292.

Ambassador Charles first addressed the PrepCom's mandate, which originates from Resolution 69/292. He said that the resolution is not a perfect document, because all States in one way or another did not agree to an implementing agreement. The question is what point of departure might constitute the basis of the agreement. He emphasised that because no State voted against the adoption of the resolution, the PrepCom starts off positively.

He said that he held a meeting on the margins of the omnibus oceans resolution negotiations in November 2015 to solicit the views of States as to what should constitute the programme of work and provisional agenda for the PrepCom. It was distributed by DOALOS via a letter on Ambassador Charles' behalf.

He said that he then convened a meeting of UN representatives on 21 January 2016 to take into consideration views expressed by States. He tried to ascertain whether the provisional agenda [A/AC.287/2016/PC.1/L.1] and work programme [A/AC.287/2016/PC.1/L.2] he had crafted was giving adequate effect to what States said they wanted the first session of the PrepCom to look like. He said that he emphasised the importance of the first session of the PrepCom because there is only one PrepCom. While subparagraph 1(c) speaks to the extent of the work of the PrepCom in terms of sessions in 2016, subparagraph 1(b) speaks of four sessions of 10 days each over the two-year period of the PrepCom. Substantive recommendations, however, will need to be made to the General Assembly to ensure a decision is taken on convening a diplomatic conference, which Ambassador Charles hopes will be taken in 2017.

Ambassador Charles noted that the resolution includes areas relating to decision-making. Although it is true that the resolution comes out of the ambit of the General Assembly and the General Assembly has its own rules of procedure that govern the plenary and the main committees, he said that international law is basically politics. He said that he likes to say that, if there is no political agreement, notwithstanding the existence of GA rules, decision-making should be by consensus. All efforts should be exhausted to ensure that consensus is arrived at after having discussed almost *ad nauseam* the different proposals presented by member States. He highlighted subparagraph 1(i) of the resolution, which speaks about exhausting every effort to reach consensus to ensure that everybody comes on board.

The language of that sub-paragraph goes on to say that when there is no consensus, matters may also be included in the section of the recommendations of the PrepCom. Ambassador Charles said that this is how they tried as much as possible to bring everyone on board. That is why he said that there is general agreement, as far as he saw as the coordinator of the

resolution agreement, on the way forward. As to what would get in the treaty, he said that it is something different.

To highlight the complexity of the resolution, he cited subparagraph 1(j) which provides, ‘decides that, except as provided for in subparagraph (i), the rules relating to the procedures and established practice of the committees of the General Assembly shall apply to the procedure’ of the PrepCom and that for the meeting of the PrepCom, ‘the participation rights of the international organisation that is a party to the Convention shall be as in the Meeting of States Parties to the Convention and that this provision shall constitute no precedent’ for future meetings. The only such party to the Convention is the EU, which succeeded the European Community.

Ambassador Charles said that the resolution goes on to speak about other things. In terms of paragraph 2, which contains the topics identified in the package agreed in 2011 to be addressed in the negotiations of the PrepCom, he said that this is the ‘package deal’ or the Holy Grail because the delegations fought very hard to ensure that it did not go below the minimum, depending on what happens in the PrepCom, and in the diplomatic conference.

He then addressed the inclusion of operative paragraph 3 of the Resolution 69/292. He said that certain delegations noted that the Convention is a framework agreement, and asked if their State is not a party to the Convention, would their participation in the PrepCom prejudice their rights as persistent objectors to UNCLOS? The third operative paragraph was therefore included to address the issue of respecting existing regimes.

He noted it was also felt that – to ensure universality – all efforts should be made to harness as much participation as possible. Therefore, delegations agreed in operative paragraph 5 to the establishment of a trust fund. Notwithstanding this agreement, as of 21 January 2016, no State had contributed to the trust fund.

So in terms of mandate, that is the mandate.

Ambassador Charles said that it was important to note, as chairperson of the PrepCom appointed by the 69th President of the General Assembly, that the Bureau has not been fully constituted as yet, because one regional group continues to negotiate, continues to consult as to whether there will be two members as provided for in the resolution, or whether or not there will be X or Y or V or W members or whether or not the terms will be shared. He said that he indicated to the regional group that closure is needed on this issue, because as soon as possible, the words of subparagraph 1(e) of the resolution must be interpreted not too liberally, because it could be next year and there would be no Bureau for him to consult with regarding procedural matters as provided for in the resolution. He emphasised that the negotiators were very clear that the Bureau’s role would be solely procedural, the plain and ordinary meaning of the words in the resolution.

When Ambassador Charles convened the meeting on 21 January 2016, the provisional agenda was also discussed. He said that the provisional agenda basically seeks to reflect the positions of member States, which includes: (i) opening of the session, at which the Secretary-General’s representative or himself will speak; (ii) adoption of the agenda; (iii) adoption of the rules of procedure; (iv) election of members of the Bureau (he noted that is why he indicated that his interpretation of the resolution means that the particular regional

group that has not yet agreed on who will represent them in the Bureau, including all of those who are seeking to become members, will subject themselves to an election, not by acclamation, but by ballot; this is an issue he hopes will be resolved.); (v) adoption of the programme of work; (vi) report of the credentials committee; and (vii) development of substantive recommendations on the elements of a draft text. He emphasised this importance of this agenda item, because the question of the elaboration of an implementation agreement, or an outcome document, pre-dates Resolution 69/292, the resolution that gave birth to the process of the PrepCom. In Rio+20, for instance, there was the outcome document, *The Future We Want*. Similarly, the General Assembly resolution emphasises the importance of an outcome document by making substantive recommendations on the elements of a draft text.

At the meeting on 21 January 2016, Ambassador Charles also indicated how he intended to proceed with regard to the PrepCom. The draft provisional agenda, as far as possible, seeks to mirror what States wanted in the negotiations on the resolution. He said that the main purpose of that draft programme of work is to begin elaboration of recommendations, not to finalise recommendations but, like in a boxing match, to begin to spar, to begin to look and see exactly what States would want in the whole process.

He noted that the issue of participation in the PrepCom is addressed in subparagraph 1(f) and paragraph 4 of the resolution, which includes: Member States, States Parties to the Convention, and those representatives of civil society who have consultative status in the practice of the General Assembly.

Ambassador Charles said that he was very pleased with the work programme that was discussed on 21 January 2016, as well as the quality of feedback. He said that there will be a plenary, where there will be political statements and discussions of the aspects of the 'package deal'. States will be able to say exactly what they would like to see in the PrepCom, even beyond what is contained in the resolution.

He said it was his intention, as agreed beforehand, that the PrepCom would move into informal working groups that will be chaired by facilitators. Members of the Bureau will not be permitted to be facilitators, because the Bureau has a specific procedural role.

The informal working groups will seek to identify different aspects of the 2011 'package deal' with a view to, as much as possible, narrowing differences. He said that he does not expect significant narrowing of differences during the first session.

After the informal working group process ends, Ambassador Charles said he will reconvene the plenary to hear the reports of the informal working groups. Following that, there will be discussion of the issues presented, together with those discussed during the first session of the PrepCom. He said that would give him an idea as to what should be included in the Chair's summary, which will be taken to the next session of the PrepCom, and used for the elaboration of a road map.

Ambassador Charles said that for those who have been involved in negotiations at the multilateral level, whether it is negotiation of a resolution or the negotiation of a treaty, discussions in a small intimate environment, where the focus is sharper, are likely to bring about better results than negotiating in a large hall. He said that he saw this in Paris in

December 2015. He saw it during the Arms Trade Treaty (ATT) negotiations. He sees it almost every year when he goes to Kingston, Jamaica, for the meetings of the ISA to negotiate regulations on nodules, sulfides or crusts.

Having the opportunity to address issues in a frank, more concise manner in an informal working group allows others the opportunity to see what synergies could work, what may not work, as opposed to general statements in the plenary where everything is guided by political considerations. Hence, that is his idea behind having the informal working groups. Bearing in mind as well that the facilitators who take charge of the informal working groups would be individuals who possess not only expert knowledge of the area, but are good at building bridges, have the confidence of the plenary, have the confidence of the Chair, and would assist the Bureau in discharging faithfully its mandate that emanates from Resolution 69/292.

Ambassador Charles emphasised that the working groups should not run simultaneously. It is not only a question of catering for small delegations, but the discussions are linked. When the discussions are held in parallel, sometimes there are missing links. When they occur sequentially, it affords for better time management and allows identical gathering groups of individuals involved in each negotiating session to see what can be brought to the current discussion from a previous discussion.

He noted that the involvement of WIPO and other intergovernmental organisations, as well as the involvement of the business community and the scientific community, and whether or not they would be included in the process, was also discussed at the 21 January 2016 meeting.

Ambassador Charles noted that except for the reports of the working groups, which will become a final report at the end of the PrepCom in 2017, and the agenda and work programme, all of the documents will be informal and will not be translated into the six official languages.

In addition, he said that a number of side events would be organised. Delegations have already undertaken to organise side events during the PrepCom [http://www.un.org/Depts/los/biodiversity/prepcom_files/Prep_Com_I_side_events_schedule.pdf].

Ambassador Charles concluded by saying that by the time of the convening of the second session of the PrepCom, if agreed during the first session, there will be some place in the second session, during the formal setting, so to speak, for presentations by the scientific community and NGOs and the business community and others, which will help to influence the discussions. With regard to the presentation of the FAO, he said he found it very, very useful. With regard to WIPO, he heard that the question of property rights is a matter that will be important to consider. For example, he heard from WIPO that MGRs cannot be patented and the matter needs careful consideration. He said that all these issues would have to guide every facet of the discussions, whether it would be on the scope, whether it would be on the principles, whether it would be on the transfer of technology and capacity building.

He closed by that saying that it is envisioned that these issues would also be a part of the PrepCom discussions.

* * * * *

Mr Michael Lodge (Deputy to the Secretary-General and Legal Counsel, International Seabed Authority (ISA) [www.isa.org.jm]), on behalf of Ambassador Satya Nandan, discussed lessons learnt from the negotiating process of UNCLOS III and the 1994 and 1995 Implementing Agreements.

Mr Lodge said that Ambassador Nandan's seven points are mostly for the Chair of Diplomatic Conferences. Most are not applicable to Preparatory Committees.

Ambassador Nandan's first point was in regard to decision-making. He advises to always aim for consensus, and that is embedded in the BBNJ resolution. But it is very important to ensure that if all efforts to reach consensus have been exhausted, there is a procedure whereby decisions can be taken by usually a two-thirds majority, but some way to force a decision to be made. He cautioned against the situation where a minority is allowed to block process. (This latter point does not apply to the BBNJ PrepCom because all proposed elements will be reported to the UNGA.)

Secondly, Ambassador Nandan suggests starting with a basic text, something to kick off the negotiation and to focus the discussion. In the case of both the Part XI negotiations and the 1995 Fish Stocks Agreement, he began with a document, called an issues paper, which contained an analysis of the mandate of the conference, and a list of the possible issues for discussion. In the case of the 1995 Fish Stocks Agreement negotiations, this took the form of a list of questions. For the Part XI negotiations, the list was based on the prior confidential discussions that had been held with those States who were objecting to Part XI of the Convention.

The Chair should invite delegations to comment on the list of issues and be free to add any other issues of concern or submit answers to the questions raised.

Thirdly, Ambassador Nandan advises to prepare a list of issues based on the responses received to the basic text. The list of issues should be prepared under the responsibility of the Chairman, but also others may be invited to submit ideas and proposals. The list of issues might suggest approaches to resolving some of the issues identified, or it might contain new suggestions. That list of issues should become the focus of suggestions at the next session of the conference.

Fourthly, Ambassador Nandan suggests the use of information notes. The Part XI negotiations, the 1995 Fish Stocks Agreement negotiations and the Western and Central Pacific Fisheries Commission (WCPFC) negotiations were each supported by very clear information notes setting out the current status of discussions, outlining the areas of agreement and disagreement, and the objectives for the session. In the case of Part XI negotiations, this took the form of a document, constituting an almost a complete record of the negotiations. (In fact, those collected information notes have been published since by the ISA in a book that has a blue and white cover with a picture of the Boat Paper on the front, and it is a very valuable record of all the negotiations that took place. [<https://www.isa.org.jm/sites/default/files/files/documents/sg-informconsultations-ae.pdf>])

In the case of the 1995 Fish Stocks Agreement, the information note took the form of an extensive summary presented by the Chair at the opening and at the end of each session. It set out what needed to be achieved, what needed to be done, and was even used as a basis for

reporting cables and briefs by many delegations, because everything anyone needed to know was set out in that note. The practice was continued throughout the WCPFC negotiations, and indeed it is still used to this day in the ISA. Every session of the ISA is supported by an information note that is now issued by the secretariat.

Fifthly, as soon as it is timely to do so in the diplomatic conference, Ambassador Nandan strongly advises to develop a single negotiating text. This should be when all issues have been aired, all questions have been raised, delegations have had a full opportunity to present their views, thoughts and suggestions and solutions. There reaches a point at which the Chair should judge when that point is, if necessary consult with key delegations and colleagues, but there needs at some point to be a single negotiating text. In the case of UNCLOS III, Ambassador Nandan is very emphatic that nothing was achieved until the informal single negotiating text was issued in 1975; this formed the basis for all subsequent negotiations.

Of course, to generate the single text, the Chair must understand the views of all delegations and must have a thorough and clear understanding of all the issues. He may need to discuss certain issues informally with key delegations. He does not need to take all proposals on board, but it is critical that the negotiating text must be impartial and must reflect as wide as possible range of views of all delegations.

Ambassador Nandan's sixth point is the important qualities of the Chair. The Chair needs to have patience, courtesy, a deep understanding of the issues, an ability to listen to all sides, an ability to reassess the position in the light of the debate. The Chair must be objective, and must, most of all, have the ability to assess what is likely to be a good compromise position.

The BBNJ process is very fortunate to already have a Chair who meets all those qualities abundantly.

Ambassador Nandan's final point relates to the final provisions in an agreement that is reached. By its very nature, as an implementing agreement, it is very difficult to consider this as a stand-alone agreement because it has to make reference back to the main instrument, which is the Law of the Sea Convention itself. It is essential to avoid the situation where there is a duality of regimes, especially where there is a substantial overlap of subject matter between the Convention and the implementing agreement. In particular, it is desirable to have rapid entry into force provisions, and a system that ensures rapid uptake by States Parties.

The Part XI Agreement had a simplified procedure for ratification, so that States who were already States Parties to the Convention were considered to have given their consent to be bound by the Part XI Agreement 12 months after its adoption, unless they gave notice to the contrary. After that, there was a further period of provisional application.

The 1995 Fish Stocks Agreement, which has more traditional procedures for ratification and accession, has been somewhat less successful in attracting a wide range of parties. It still has only 82.

Mr Lodge concluded by saying that those are Ambassador Nandan's seven points. That is his recipe, apparently, for a successful negotiation.

But as stated at the beginning, not all of these seven will apply to every single negotiation. Not all of those would apply to the PrepCom, given its limited form of mandate and the circumscription that is placed on the process in the PrepCom by the resolution. But Mr Lodge invited those involved in the PrepCom to take those seven ingredients of success into consideration.

* * * * *

The following points were raised in Session Seven, with the points falling under seven main themes (with care having been taken not to rank or otherwise prioritise the discussion points set out below):

- Comments on Decision-making and Consensus
 - Comment that it is very important to reach consensus. Consensus is already decided in the resolution. Those items for which there is no consensus will also be in the report.
 - Comment that with regard to consensus, resolution only says exhaustion of efforts; it is not an obligation. Consensus is a principle of cooperation, not a means of coercion. Consensus is subject to interpretation. This is the language reached in negotiation of resolution.
 - Comment that participation by all key players is essential. The process needs to have the support or at least acquiescence of key players. There may not be consensus, but there needs to be acquiescence of key players.
 - Comment that PrepCom is not a diplomatic conference. PrepCom will not draft the text; it will only recommend elements. PrepCom is conceived to be confidence building.

- Comments on Diplomatic Conference
 - Comment that UNGA has not made a decision on this and will have to make a decision in two years' time. When to convene a diplomatic conference depends on the work of the PrepCom.

- Comments on Working Groups
 - Suggestion that, with regard to the experience from UNCLOS and the Earth Summit, working groups should be established not too soon and not too late. In the beginning, the Chair should convene the plenary and make all members understand the issues, and then establish the working groups.
 - Comment that the choice of the facilitator of the working group is critical. The Chair must select people who have competence, who are trusted by all regional groups and who have high skills. If they do not deliver, they need to be replaced. Comment that transparency is important and the Chair should try to keep working groups in open session and not get into informal working groups.
 - Comment that composition of the working groups will reflect major negotiation blocs. Working groups will not be established immediately. The first session is plenary where the major issues and guiding principles will be discussed in the first week. The working groups will start Thursday afternoon. The optimal time [for starting the working groups] is after four days, because two weeks of States' money cannot be wasted.

- Comment that participation by NGOs is important and working groups will be open to accredited NGOs.
- Comments on Organisation of Side Events and Workshops
 - Comment that it is important to try to level the playing field in terms of the knowledge of the technical expertise in the developed and developing countries. During UNCLOS III, the Neptune Group and a number of universities held workshops during the weekends targeted at developing countries.
 - Comment that the Secretariat will follow the usual format and will organise side events. It is not costly. With regard to weekend workshops, this is not something the Secretariat can do, but that may be changed in discussion with the President, especially if some States are interested.
 - Comment that the BBNJ process cannot proceed without side events because issues of MGRs and IP are so complex.
 - Comment that intersessional meetings may help.
- Comments on Technical Papers
 - Comment that with regard to the role of technical papers, during the 1995 Fish Stocks Agreement negotiations, a number of technical papers were prepared, especially by the FAO and they were very useful.
 - Comment that technical papers are important. The submission of papers will be requested on particular areas, which will not prejudice the positions of delegations.
 - Comment that the purpose of technical papers is to share information, not to influence or to ensure impartiality.
- Comments on the Outcome of the PrepCom
 - Comment that the output of the BBNJ process will include elements to be part of a treaty.
 - Comment that final provisions will come at a later stage.
- Comments on Entry into Force Provisions
 - Comment that whether there are rapid entry into force provisions is not important (the 1994 Implementing Agreement cannot be used in the new agreement); what prompts ratification is the substance.
 - Comment that with regard to entry into force, the default would be traditional entry into force.

* * * * *

Next Steps and Closing

The workshop closed with a discussion of next steps. The main points identified in the closing session were:

Session One – Background and Context

- The PrepCom is a PrepCom and nothing more than a PrepCom.
- The role of the PrepCom is to agree on elements, not the actual text.
- The only way forward is consensus.
- Two years for the PrepCom provides sufficient time to reach as much consensus as possible.

Session Two – Conservation and Sustainable Use of BBNJ

- There are many excellent regional and sectoral tools, but there needs to be coordination, and not only technical coordination by secretariats but also policy coordination driven by member States.
- Care needs to be taken not to undermine the existing regional and sectoral bodies.
- Sectoral regional bodies and cumulative impacts: this is particularly difficult.

Session Three – Management Tools and Institutional Arrangements

- A lot of work has been done by sectoral and regional bodies. Precautionary approach is important. One of the challenges is that not all regions are covered by the current bodies.
- Under the new agreement, different sectoral and regional bodies should be brought together to better protect and preserve the marine environment.
- There is a need for better coordination and cooperation and a new agreement could be useful in this regard.
- A new institutional arrangement should not be overly burdensome, and should utilise the potential synergies with respect to existing institutions.

Session Four – Marine Genetic Resources (MGRs)

- Either the common heritage of mankind or freedom of the high seas is not realistic as an applicable principle; there should be a search for a middle ground.
- The outcome of the BBNJ process must reflect new knowledge.
- The outcome of the BBNJ process must include a mechanism for ABS.

Session Five – Access and Benefit Sharing (ABS)

- Because there is such a wide variety of knowledge with regard to WIPO and WTO, each delegation is encouraged to reach out to its counterparts to ensure that they understand what is going on and be at the same level.

Session Six – Capacity Building and Transfer of Marine Technology

- BBNJ is a trans-sectoral topic.
- The scope of capacity and transfer of technology is broader than in the resolution.
- The BBNJ process needs to consider how to vitalise or revitalise Part XIV of UNCLOS.

- There is a need to make a clear articulation between capacity building and new ways of transfer of marine technology.
- The BBNJ process needs to include an element about capacity building and financial arrangements.

Session Seven – Mandate and Work Programme of the PrepCom

- The PrepCom is a PrepCom and nothing more than PrepCom.
- The role of the PrepCom is to agree on elements, not the actual text.
- The only way forward is consensus.
- Two years for the PrepCom provides sufficient time to reach as much consensus as possible.

* * * * *

Annex 1

Fundamental Unanswered Questions

The Workshop revealed a number of fundamental issues that need to be decided:

1. What is meant by ‘consensus’? Former UN Legal Counsel Hans Correll gave an opinion decades ago that not all delegations agreed with. IATTC Antigua Convention defines ‘consensus’ as ‘the adoption of a decision without voting and without the expression of any stated objection’. Correll ruled that more had to be done than merely state an objection to break consensus.
 - a. No voting at the PrepCom?
 - b. If there is voting, what rules should apply to the voting process?
2. Where should elements not achieving consensus go in the report of the PrepCom?
 - a. In a section of the recommendations of the Preparatory Committee to the General Assembly?
 - b. In an annex to the report?
3. What would constitute an ‘element’ of a ‘draft text of an internationally legally binding instrument’ as that word is used in para. 1(a) of Resolution 69/292?
 - a. Draft wording of texts?
 - b. Answers to some of the following questions regarding marine biological diversity?
4. What is ‘marine biological diversity’, including its subject matter and geographic scope?
 - a. Should the definition in the Convention on Biological Diversity be relied on?
 - b. All living organisms in the whole of the high seas and on the Area?
 - c. Only those living organisms on the seabed of the Area?
 - d. Only the living organisms in the water column near specific seabed formations that support endemic and unique communities such as hydrothermal vents and cold seeps?
 - e. Should both of the latter two proposed definitions exclude other living organisms higher in the water column?
 - f. What are ‘marine genetic resources’? Are they included or excluded from marine biological diversity?
 - g. Marine genetic resources of what living organisms?
 - h. How are marine genetic resources from the Area distinguished from that of the high seas or how could the distinction be avoided?

5. What, if anything beyond the mineral resources of the Area, should be included as common heritage of mankind?
 - a. Living organisms on and in the seabed of the Area, or just their MGR?
 - b. Living organisms in the water column that remain in contact with the seabed (such as communities surrounding hydrothermal vents), or just their MGR?
 - i. 'Area' is defined in UNCLOS, Article 1(1)(1) as 'the seabed and ocean floor and subsoil thereof, beyond the limits of national jurisdiction'.
 - ii. UNCLOS, Article 146: 'The Area and its resources as the common heritage of mankind'.
 - iii. UNCLOS, Article 133(a) defines 'resources' as 'all solid, liquid or gaseous mineral resources *in situ* in the Area at or beneath the seabed, including polymetallic nodules'.
 - iv. Resources, when recovered from the Area, are referred to as 'minerals' UNCLOS, Article 133(b)).
 - v. Sedentary species of the continental shelf are 'organisms which, at the harvestable stage, either are immobile on or under the seabed or are unable to move except in constant contact with the seabed or the subsoil' (UNCLOS, Article 77(4)).

6. Is a new institutional mechanism needed to improve the fragmentation of the existing ocean governance regime? If yes, which and how?

7. Should bioprospecting be defined and distinguished from basic marine scientific research?
 - a. If yes, what would be the criteria?
 - b. Is the key component the characterisation of possible commercial intent or is it the realisation of financial gain?

8. What assets and benefits should be shared?
 - a. Monetary? Of royalties, revenues, etc.?
 - b. Non-monetary? What kinds?
 - c. How should the monetary and non-monetary benefits be shared? In the same or different ways?

9. Could publication of the results of marine scientific research constitute non-monetary benefits?

10. Could lists/public repository of open-access genes be developed as non-monetary benefits? What would be the process to establish the list and ensure traceability? What authority would be in charge/repository holder(s)?

11. How should intellectual property rights on MGRs be regulated?
 - a. In the BBNJ agreement?
 - b. By the WIPO IGC work?
 - c. By incorporation by reference of the WIPO IGC work in the BBNJ agreement?
 - d. Through an amendment to the TRIPS Agreement?
 - e. Can the patentability of naturally occurring MGRs be effectively limited?

12. Should there be separate area-based management tools for the seabed of the Area and for the water column (high seas), or should they be homogenised?

13. What should be the threshold for requiring EIAs?
 - a. UNCLOS, Article 206?
 - b. Some other threshold?

14. What should be the applicable standards for baseline constitution and scoping of impact assessment, including cumulative impact?

15. Capacity building and transfer of marine technology of what subjects?
 - a. What financial means?
 - b. How can Part XIV of UNCLOS be better operationalised?

16. What form should a BBNJ agreement take?
 - a. How to ensure that the new legally binding instrument is ‘under the Convention’ as required by para. 1(a) of Resolution 69/292?
 - b. Treaty linked to UNCLOS, or something else?
 - c. Modelled on 1995 Implementing Agreement (Preamble, Parts I and Parts VIII-XIII)?
 - d. What to adapt from the 1994 Implementing Agreement?

17. Will there be a DipCon? Resolution 69/292 is ambiguous. Para. 1(k) states UNGA ‘*will decide* on the convening and starting date of an intergovernmental conference’. Whereas, the first operative paragraph of the Resolution states that the UNGA ‘*decides* to develop an international legally binding instrument’ and para. 1(a) states that UNGA ‘*decides* to establish, prior to holding an intergovernmental conference, a preparatory committee’ [emphasis added].

Annex 2

Glossary of Defined Terms

1982 UNCLOS	United Nations Convention on the Law of the Sea of 10 December 1982 (Law of the Sea Convention) (<i>see also: LOSC, UNCLOS</i>)
1994 Implementing Agreement	1994 Agreement Relating to the Implementation of Part XI of the UNCLOS 10 December 1982 (<i>see also: Part XI Agreement</i>)
1995 Fish Stocks Agreement	1995 Agreement for the Implementation of the Provisions of the UNCLOS of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (<i>see also: Fish Stocks Agreement</i>)
ABNJ	Areas Beyond National Jurisdiction
ABS	Access to genetic resources and related Benefit Sharing
APEI	Areas of Particular Environmental Interest
BBNJ	Biodiversity Beyond Areas of National Jurisdiction
CBD	1992 Convention on Biological Diversity
CCAMLR	1980 Convention on the Conservation of Antarctic Marine Living Resources
CHM	The Common Heritage of Mankind
COBSEA	Coordinating Body on the Seas of East Asia
COP	Conference of the Parties
DipCon	Diplomatic Conference
DOALOS	United Nations Division for Ocean Affairs and the Law of the Sea
EBSA	Ecologically or Biologically Significant Marine Areas
ECS	Extended Continental Shelf
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
FAO	Food and Agriculture Organization
Fish Stocks Agreement	1995 Agreement for the Implementation of the Provisions of the UNCLOS of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (<i>see also: 1995 Fish Stocks Agreement</i>)
GEF	Global Environmental Facility
IA	Implementing Agreement
ICJ	International Court of Justice
ICM	Integrated Coastal Management
ICPC	International Cable Protection Committee

IGC	Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore
IMO	International Maritime Organization
IMO MEPC	International Maritime Organization Marine Environment Protection Committee
IP	Intellectual Property
IPRs	Intellectual Property Rights
ISA	International Seabed Authority
ITLOS	International Tribunal for the Law of the Sea
ITPGRFA	2001 International Treaty on Plant Genetic Resources for Food and Agriculture
IUCN	International Union for Conservation of Nature
IUU	Illegal, Unreported, and Unregulated Fishing
LOSC	United Nations Convention on the Law of the Sea of 10 December 1982 (<i>see also: 1982 UNCLOS, UNCLOS</i>)
MARPOL	1973/1978 International Convention for the Prevention of Pollution from Ships
MEPC	International Maritime Organization Maritime Environment Protection Committee
MGR	Marine Genetic Resources
MPA	Marine Protected Area
MSC	International Maritime Organization Marine Safety Committee
Nagoya Protocol	2010 Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity
NEAFC	North East Atlantic Fisheries Commission
OSPAR	1992 Convention for the Protection of the Marine Environment of the North-East Atlantic
Part XI	Part XI of the UNCLOS: The Area
Part XI Agreement	1994 Agreement Relating to the Implementation of Part XI of the UNCLOS 10 December 1982 (<i>see also: 1994 Implementing Agreement</i>)
Part XIII	Part XIII of the UNCLOS: Marine Scientific Research
Part XIV	Part XIV of the UNCLOS: Development and Transfer of Marine Technology
PEMSEA	Partnerships in Environmental Management for the Seas of East Asia
PIC	Prior Informed Consent
PrepCom	BBNJ Preparatory Committee established by UN General Assembly Resolution A/RES/69/292 on 19 June 2015
PSSA	Particularly Sensitive Sea Area
REO	Regional Environment Organization
RFMO	Regional Fisheries Management Organization

ROP	Rules of Procedure
SEA	Strategic Environmental Assessment
SMTA	Standard Material Transfer Agreement
TRIPS	Agreement on Trade-Related Aspects of Intellectual Property Rights
UNCLOS	United Nations Convention on the Law of the Sea of 10 December 1982 (Law of the Sea Convention) (<i>see also: 1982 UNCLOS, LOSC</i>)
UNCLOS III	Third United Nations Conference on the Law of the Sea, 1973-1982
UNEP	United Nations Environment Programme
UNGA	United Nations General Assembly
UNSG	United Nations Secretary-General
VME	Vulnerable Marine Ecosystem
WIPO	World Intellectual Property Organization