

An institutional framework for addressing marine genetic resources under the proposed treaty for marine biodiversity in areas beyond national jurisdiction

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Abstract

In December 2017, the United Nations General Assembly decided to convene an intergovernmental conference to elaborate an international legally binding instrument on marine biodiversity in areas beyond national jurisdiction. This legally binding instrument would address four elements, namely marine protected areas, marine genetic resources, environmental impact assessments and capacity building and technology transfer. One of the indicators for the success of the legally binding instrument will be an institutional mechanism that is both effective and that can co-exist with existing mechanisms. There is already a proposal for an institutional mechanism under the implementing agreement. However, the proposed institutional mechanism was developed largely with marine protected areas in mind. The purpose of this article is to determine whether this proposed mechanism could work also for the marine genetic resources element of the proposed treaty. This is necessitated by the fact that the marine genetic resources element of the proposed treaty is far more complex and raises issues that are more intractable.

1. Introduction

On 24 December 2017, the United Nations General Assembly decided to convene an intergovernmental conference to “elaborate the text of an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservations and sustainable use of marine biological diversity of areas beyond national jurisdiction” (hereinafter the “proposed treaty”)¹ (UNGA 2017). The decision to initiate negotiations was a result of a fifteen-year process that began with the ad hoc open-ended informal working group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction (UNGA 2004). In 2016, unable to agree on the convening of an intergovernmental conference, the General Assembly decided to convene a preparatory committee (hereinafter the “PrepCom”) as an intermediate step “to make substantive recommendations to the General Assembly on the elements of a draft text” of the proposed treaty (UNGA 2016).

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¹ Although the official name of the instrument is an international legally binding instrument, an international legally binding instrument is, by definition, a treaty, and for that reason, the “proposed treaty” is used in this article.

The proposed treaty would, according to the resolution initiating the negotiations, address a package of four issues (UNGA 2017).² It would address, first, area-based management tools, including marine protected areas, second, environmental impact assessment, third, marine genetic resources, including the sharing of benefits from their exploitation and finally, capacity building and technology transfer. Many, including the present author, had long called for the elaboration of a treaty (Tladi 2007, Harden-Davies 2017, Wright, Rochette and Druel 2015, Warner 2015).³ Yet the elaboration of the proposed treaty raises a number of challenges of a legal, political and scientific nature. From a legal perspective, one of the primary issue concerns coherence with existing legal frameworks governing areas beyond national jurisdiction. In this respect, the resolution convening an intergovernmental conference provides that the proposed treaty “should be consistent with the” UN Convention on the Law of the Sea and that it “should not undermine existing relevant legal instruments and frameworks and relevant global, regional and sectoral bodies.” (UNGA 2017, paras 6 and 7). The key to elaborating a treaty that is both effective and consistent with the caveats imposed by the mandating resolution is the establishment of an institutional mechanism that both works with existing mechanisms and institutions and, at the same time, exercises sufficient authority to make independent decisions. An institutional framework designed to address the first issue in the package of issues, namely marine protected areas, has been proposed in an academic article (Tladi 2015c). The main elements of this proposed institutional arrangement, designed with marine protected areas in mind, is featured as an option in the recommendations of the PrepCom contained in the final report of the PrepCom to the General Assembly (PrepCom 2017). It is also reflected in the President’s Aid to Negotiations of December 2018 (UNGA 2018: 4.3.2). While this proposed institutional mechanism might work for marine protected areas, the marine genetic resources element of the package presents unique challenges, different from those posed by the marine protected areas debate. This more complex and intractable challenges raise the question whether the proposed institutional framework could work for the marine genetic resources element of the package. It seems clear that whatever institutional mechanism is established to address marine protected areas must also be able to address the other elements in the package, including marine genetic resources. Having separate institutional arrangements for the different elements of the package hardly seems realistic or efficient. It bears noting that while the UN has identified four elements, the area-based management tools and marine genetic resources elements of the package have always been accepted as the main issues for deliberation.

The purpose of this article is to determine whether the institutional mechanism developed for marine protected areas could work for the marine genetic resources element of the package. In the next section, the article will describe the institutional

² The package of issues was identified in an earlier resolution in which the General Assembly decides to establish “a process” to consider the possibility of an Implementing Agreement (UNGA 2011, Annex).

³ The author’s views on this implementing agreement are reflected in a number of articles: Tladi (2007), Tladi (2015c), Tladi (2015b).

mechanism and explain how it is meant to operate for marine protected areas. Thereafter, the article will describe the features that make the marine genetic resources element of the package deal more complicated than the marine protected areas element. The article will then, taking into account the complexities of the marine genetic resources element, attempt to apply the proposed institutional mechanism to marine genetic resources. Some concluding remarks will then be offered.

2. The Proposed Institutional Mechanism

The proposed institutional mechanism was designed with the marine protected areas element of the package in mind. It is thus useful to briefly describe the objectives of the marine protected areas element of the package. Marine protected areas provide an option for improving the conservation of marine biological diversity in areas beyond national jurisdiction (Wright, Rochette and Druel 2015, p. 272). While the UN Convention provides an array of provisions for enhancing conservation of the marine environment, there are no obligations sufficiently specific to enable the effective implementation of these provisions (Gjerde 2006, p. 281, Gjerde and Rulska-Domino 2015, p. 352, Barnes 2006, p. 233). In areas within national jurisdiction, coastal States have the right (and perhaps duty) to adopt measures binding on other States and vessels of other States. However, no such authority exists for areas beyond national jurisdiction. States can, individually or collectively, adopt measures, but such measures can only apply to those States and actors under their jurisdiction. A marine protected area established by a group of five States, for example, is likely to be ineffective since other States will have no obligation to respect the measures imposed under such a marine protected area – essentially re-creating Hardin’s tragedy of the commons or tragedy of the ocean (Tladi 2015a, p. 264). In 2010 in Bergen, for example, the Oslo Paris Convention (OSPAR) Ministerial meeting established several marine protected areas beyond national jurisdiction in the North-East Atlantic Ocean (OSPAR 2010, paras 27 and 28). Yet, a proposal by Norway to include language in the annual General Assembly resolution that would seek to have the marine protected areas recognised by other States was rejected by several States on the grounds that the measures adopted by OSPAR could only bind States that were party to OSPAR (Tladi 2014, p. 114). The purpose of the marine protected areas element of the package is thus to create a process, or processes, through which States could establish effective marine protected areas beyond national jurisdiction with wide scope of application, beyond only the State or States that identified the need for such a marine protected area (Wright, Rochette and Druel 2015).

The proposed institutional mechanism foresees the establishment of several entities (PrepCom 2017, pp. 15-16, UNGA 2018, 4.3.2). First, a conference of the parties would be established as the highest decision-making body. Second, there would be a scientific and technical body to support the decision-making process of the conference of the parties. Third, the proposed treaty would provide for a secretariat to serve the entities under the proposed treaty. Finally, in its recommendations, the report of the PrepCom also proposes a clearing-house mechanism for the purposes

of collection and dissemination of information (PrepCom 2017, at 16). The proposed treaty would establish the basic parameters for the establishment of marine protected areas. Under the basic structure of the institutional mechanism the conference of the parties would make decisions for the establishment of marine protected areas based on the parameters contained in the proposed treaty. The merits of proposals for marine protected areas would, prior to a decision of the conference of the parties, be considered by the scientific and technical committee which would make recommendations to the conference of the parties. The important thing, from a legal perspective, is that a decision by the conference of the parties would apply to all States parties to the proposed treaty. States that ratify the proposed treaty would have to accept each marine protected area (and the associated measures) established under the process and apply the measures established thereunder to entities under its jurisdiction.

The proposed treaty, and the institutional mechanism, is not a panacea and legal gaps would remain (Tladi 2015c, pp. 671-672). For example, the institutional framework described would not achieve the much-sought after effectiveness if the proposed treaty does not attract a significant number of ratifications. More to the point, any State that does not ratify the proposed treaty would remain free to ignore the measures adopted by the conference of the parties under the proposed treaty. Thus, this institutional framework does not solve the tragedy of ocean. It does, however, go some way towards mitigating it by putting in place a system for coherent and consistent cooperation between States that are interested in advancing conservation measures for the marine protected areas.

While the proposed institutional mechanism provides a good template for addressing the marine protected areas element of the package, and probably the environmental impact assessment package, it is less clear whether and how it would work in the context of the marine genetic resources element of the package. The nature of the debate on marine genetic resources provides a unique set of challenges that make it far more difficult to construct, at this stage, an institutional mechanism. It is to these challenges that the article now turns.

3. Marine Genetic Resources: Legal and Scientific Challenges

While the objectives, scope and possible regulation of area-based management tools under the proposed treaty can be predicted with a certain degree of certainty, the possible regulatory and governance models for marine genetic resources are infinitely more difficult to predict. Once a decision is made to regulate marine protected areas, the outstanding issues become few and are, mainly, the decision-making process and the criteria for establishment of a marine protected area. Marine genetic resources, however, create more difficulty for regulation. First, the science and technology in the area of marine genetic resources is developing so rapidly that it is difficult for policy to keep pace (Wynberg and Laird 2017, p.3). This in turn makes the development of

regulatory and governance framework difficult. Furthermore, the marine genetic resources issue, in contrast to the area-based management tools issue, has many more variables that remain unresolved. These are both legal and scientific. The President's Aid to Negotiations reflect this well. While the options for area based managed tools are fairly focused and limited, the options for marine genetic resources appear almost limitless. For example, the substantive options concerning area-based management tools, including marine protected areas, are to be found in section 4.1 of the President's Aid to Negotiations and are titled objectives. In this section there are only two main options which are not necessarily inconsistent with each other, at least in terms of substance. Option I is the inclusion of a non-exhaustive list of objectives in the text of the agreement while Option II is a statement that the institutional mechanism to be developed will establish such a non-exhaustive list. This level of convergence can be contrasted with the degree of divergence of views in relation to the first substantive point concerning marine genetic resources, namely the geographical scope (UNGA 2018, 3.1). The President's Aid to Negotiations sets forth two polar opposite options. Under Option I, there would be a provision detailing the geographical scope of the proposed treaty in relation to marine genetic resources. Under Option II there would be no text – an option that indicates that there are some that still believe that the proposed treaty should not address marine genetic resources. Option I itself contains sub-options, that are substantively mutually exclusive. Under Option A the proposed treaty would apply to marine genetic resources accessed in the high seas (the water column beyond national jurisdiction), under Option C the proposed treaty would apply to marine genetic resources in the Area (the seabed beyond national jurisdiction), while under Option B the proposed treaty would apply to marine genetic resources in areas beyond national jurisdiction (both the Area and the high seas). This general lack of convergence is reflected throughout the section on marine genetic resources.

It is useful to begin by describing, briefly, the main contention when it comes to marine genetic resources. The contestation concerns the legal regime applicable to marine genetic resources in the deep seabed (Germani and Salpin 2011, Millicay 2007, Tladi 2007). For some states, marine genetic resources are governed by Part XI of the UN Convention on the Law of the Sea and are therefore subject to the common heritage of mankind, including its benefit sharing provisions. For other States, however, the regime applicable to marine genetic resources is to be found in Part VII of the Convention and is based on the freedom of the high seas. Both sides of the divide rely on ambiguity and inconsistency in the Law of the Sea Convention to support their arguments. It is unnecessary to rehash the arguments that have been advanced to support either side. For the purposes of this article, it is sufficient to point out that the purpose of the proposed treaty would be to establish treaty-based rules with a view to addressing the impasse. It is also necessary to point out that, over the years, the negotiating parties have, it seems, been addressing the issue through the lens of benefit-sharing, without the need to address the broader common heritage of mankind or freedom of the high seas debate (Tladi 2015a). Yet, even with this broad agreement

to address the issue through the lens of benefit-sharing,⁴ as can be seen from the examples in the President's Aid to Negotiations, the divergence of positions between States remain too wide to allow a reasonable prediction of what the outcome of the negotiations might be. These issues over which there is uncertainty include legal, policy and scientific issues.

Scientific issues emanate principally from the nature of marine genetic resources. To begin with, the very definition of marine genetic resources remains unclear (Broggiato, Arnaud-Haond, Chiarolla, Greiber 2014, p. 197, Greiber, 2011, p. 4). The UN Convention on the Law of the Sea, for example, does not contain a definition of marine genetic resources. To illustrate, it is unclear whether the term refers only to "nucleic acids" or, "more broadly any molecule of interest for biotechnology" (Broggiato, Arnaud-Haond, Chiarolla, Greiber 2014, p. 197). As Harden-Davies points out, there are different definitions of marine genetic resources encompassing "a range of biological material including whole organisms, genes, proteins and naturally produced chemicals" (Harden-Davies, 2017, p. 505). The President's Aid to Negotiations makes clear that there remains a divergence between States on the appropriate definition with all options remaining on the table, including the option of not including a definition (President's Aid to Negotiations 2018, 1 (9)). The latter option of not having a text is consistent with a view held by some States that marine genetic resources ought not to be addressed at all in the proposed treaty.

Second, it will be recalled that marine genetic resources became an issue of consideration for the proposed treaty because of a difference of views concerning the legal regime applicable to marine genetic resources *on the deep seabed*, not the water column above it. Yet, because of the scientific nature of marine genetic resources, it will be virtually impossible to distinguish between marine genetic materials from the seabed and those from the water column above it. Thus, the scientific nature of marine genetic resources raises a legal issue because the legal regime applicable to marine genetic resources in the water column has never been disputed. Does this mean that the proposed treaty would regulate marine genetic resources in the water column in the same way as marine genetic resources on the deep seabed? Would this be consistent with resolution 72/249's call that the proposed treaty "be fully consistent with the United Convention on the Law of the Sea"? As illustrated above by reference to the President Aid to Negotiations, four possible options remain on the table, namely no text, the proposed treaty to be applicable to marine genetic resources on the high seas, the proposed treaty to be applicable to marine genetic resources on the seabed or the proposed treaty to apply to marine genetic resources on both the high seas and the seabed (President's Aid to Negotiations 2018, 3.1). A related problem which would affect implementation of the proposed treaty concerns the question how to prove that genetic material was sourced in areas beyond national jurisdiction and not within national jurisdiction (Blasiak, Jouffray, Wabnitz and Österblom, 2019). Although this

⁴ It should be noted that while there is "broad agreement", there remain some States that oppose the idea of benefit sharing.

is not a legal, but an empirical question, it is certainly one that will affect that negotiation of the institutional mechanism.

These scientific difficulties (and the legal issues they raise), are of course not insurmountable. For example, if marine genetic resources are to be addressed at all in the treaty, it seems almost inevitable that there would have to be *some* departure from the UN Convention on the Law of the Sea. If we accept the consensus amongst the scientists, it would not be possible to treat marine genetic resources on the seabed differently from those in the water column, yet the Convention adopts a strict zonal approach to regulation of marine resources. But then again, this is, from a legal perspective, not as problematic as it might appear since whatever rules are established that depart from the Convention – which is, after all, *jus dispositivum* and can be derogated from (UN Law of the Sea Convention, art 311(4)), would only be applicable to States that ratify the proposed international instrument. Similarly, the issue of definition of marine genetic resources, while a complex scientific issue, is not one which cannot be overcome. Different scientific scholars have, for example, already offered possible scientific definitions that could be applied in the proposed treaty (Harden-Davies 2017, pp 505-506; Broggiato, Arnaud-Haond, Chiarolla, Greiber 2014, p. 197).

Beyond the scientific issues, there are also large divergence of views on the types of benefits to be shared. Are the benefits to be shared monetary benefits and non-monetary benefits, monetary benefits only or non-monetary benefits only. Authors have provided models for the sharing of non-monetary benefits. Broggiato, Arnaud-Haond, Chiarolla and Greiber, for example, suggest that sharing of non-monetary benefits is possible because the UN Convention on the Law of the Sea “provides for some obligations to share in the non-monetary benefits arising out of scientific research” (Broggiato, Arnaud-Haond, Chiarolla, Greiber, 2014, p. 180). Yet, limiting benefit-sharing to non-monetary benefits raises the question whether, beyond capacity building, which is an independent element of the package, there would be any tangible benefits from the exploitation of marine genetic resources in the proposed treaty. Moreover, as Arnaud-Haond, Arrieta and Duarte argue, the purpose of the marine genetic resources element of the package is to address the inequity in the exploitation of marine genetic resources (Arnaud-Haond, Arrieta and Duarte, 2011, 1522).⁵ These authors suggest that marine genetic resources should be regulated by a regime “that includes payment into a fund” (Arnaud-Haond, Arrieta and Duarte, 2011, 1522). Harden-Davies identifies a number of possible forms of monetary benefits,

⁵ In their research, Arnaud-Haond, Arrieta and Duarte, show, *inter alia*, that “claims associated with marine genetic resources originated from only 31 out of 194 countries of the world” and that “[t]en countries own 90 per cent of the patents deposited with marine genes, with 70% belonging to the top three ...”. Similar statistics can be gleaned from Leary, Vierros, Hamon, Arico and Monagle (2009), p. 189. A more recent study by Blasiak, Jouffray, Wabnitz, Sundström, and Österblom, (2018, p. 2), suggests that equity issues have worsened. According to the study, “[e]ntities located or headquartered in three countries registered more than 74% of all patents associated with MGR sequencing: Germany (49%), United States (13%) and Japan (12%). This figure rises to more than 98% when one considers the top ten countries..”).

including “payments (up-front, milestone or royalties), fees (access, license or special), research funding [and] joint intellectual property rights ownership and patents” (Harden-Davies, 2017, p.306). If a system of monetary benefit sharing is to be established, however, that system will need to take into account the complexities of working out benefits and, in the interest of fairness, the fact that financial or economic profit from the exploration for and exploitation of marine genetic resources is not always guaranteed (Harden-Davies 2017, p. 507). All of these divergent possibilities remain on the table in the negotiations as can be seen from the President’s Aid to Negotiations (3.2.2). Again, while all of these questions are not insurmountable, the fact that they (all) remain outstanding makes it difficult to predict with any degree of reasonableness how marine genetic resources *could* be regulated under the proposed treaty and therefore how an institutional mechanism might respond to that regulation.

Another question yet to be answered, is whether the proposed treaty would seek to regulate access. In the President’s Aid to Negotiations, all the options remain available, suggesting a lack of movement and convergence (President’s Aid to Negotiations 2018, 3.2.1). In one option, access to marine genetic resources is to be regulated by the provisions of the UN Convention on the Law of the Sea and thus not the proposed treaty. In another option, the proposed treaty would regulate access. However, even under the latter option, there remain divergent sub-options, including, first, that access would be based on prior notification to an institution, second, that notification would be required *after* the collection of marine genetic resources or that access would be based on licensing or some sort of a permit system. It seems hard to conceive of a benefit sharing regime where access is not regulated in some way by the proposed treaty. Yet, according to the UN Convention on the Law of the Sea, “[a]ll States ...have the right ...to conduct marine scientific research” in areas beyond national jurisdiction (UN Convention on the Law of the Sea, Arts. 256 and 257). Leaving aside that, at least with the respect to the Area, this right is subject to Part XI of the Convention, there is nothing to prevent parties to the proposed treaty from limiting their rights under the Convention (UN Convention on the Law of the Sea, art 311(4)). However, while this remains a legal possibility, the fact that all these options remain on the table, presents further challenges in attempting to predict the regulation of marine genetic resources under the proposed treaty and thus makes difficult an attempting to apply an institutional mechanism to govern marine genetic resources.

While the issues identified above are challenging, they can be all overcome if negotiators committed time and energy to them. The main point of the discussion above is that, in contrast with the issue of marine protected areas, there remain much uncertainty about how marine genetic resources are going to be regulated in the proposed treaty. The discrepancy in the levels of development between the deliberations on marine genetic resources and the deliberations on marine protected areas is reflected in the recommendations of the PrepCom to the General Assembly (PrepCom 2017) as well as in the President’s Aid to Negotiations. While the text of recommendations is more detailed in relation to the marine protected areas, containing

even description of the institutional mechanism, the recommendations are broader in respect of marine genetic resources and contain more divergent options, evincing less agreement on substance. Given the outstanding issues, imagining an institutional mechanism is difficult, but not impossible. In the next section, I consider the potential of the institutional mechanism to be applied to marine genetic resources, taking into account the difficulties identified in this section.

4. Application of the Proposed Institutional Mechanism to Marine Genetic Resources

Section 3 illustrated that, contrary to the case of marine protected areas, there are many outstanding issues with respect to how the proposed treaty might address marine genetic resources in areas beyond national jurisdiction. Yet, these outstanding issues do not, in my view, prevent the application of the proposed institutional mechanism to marine genetic resources. The proposed institutional mechanism is not dependent on the substance of the regulation. As long as the regulation of the relevant issues, including the marine genetic resources issue, requires a decision-making process, then the proposed institutional mechanism remains appropriate.

Under the proposed institutional mechanism, a conference of the parties has to make decisions based on recommendations from the technical and scientific committee on issues under the scope of the proposed treaty. Applied to the marine genetic resources question, the conference of the parties, on the recommendation of the technical and scientific committee, would be charged on making decisions on the benefits (and sharing thereof) arising from the exploration for and/or exploitation of marine genetic resources. A caveat is necessary. The technical and scientific committee in the proposed institutional mechanism designed with marine protected areas in mind, might not be composed of persons with necessary expertise to address marine genetic resources and the sharing of benefits therefrom. Thus, for example, to the extent that the proposed treaty determines that it is best to address benefit sharing through rule on intellectual property rights, it would be expected that the technical committee would have, as part of its composition, persons with expertise in intellectual property law. Although it would be preferable to have one scientific and technical committee, it may even be that the proposed treaty establishes separate scientific and technical committees to deal with marine protected areas and marine genetic resources, respectively. These are nuances and variations that will evolve as the negotiations progress. But the basic principle, of a scientific and technical committee making a recommendation to a conference of the parties and the conference of the parties making a decision on the respective issues remains constant and is the central element behind the proposed mechanism.

In the context of marine genetic resources, the first variable will concern whether access is regulated by the proposed treaty. If the proposed treaty does regulate the access of States parties to the proposed treaty, then it would be expected that a vessel

or entity under the jurisdiction of such a State, seeking to explore and exploit marine genetic resources in areas beyond national jurisdiction would apply to do so to the decision-making structure through the secretariat. Again, there are a number of variations that negotiators might opt for. For example, the proposed treaty might seek to follow the example of the regime established in Part XI of the Convention on the Law of the Sea by requiring such an entity to be sponsored by a State Party, or it is conceivable that the proposed treaty might provide for some type of direct access to the conference of the parties. The scientific and technical committee might then consider the request in the light of substantive requirements that may be laid down under the proposed treaty and might make a recommendation to the conference of the parties. The recommendations to the conference of the parties would include conditions for the granting of access, which might cover contractual arrangements for benefit sharing as well as conservation measures to be adopted. It would then be for the conference of the parties to give approval for the access, subject to the conditions laid down by the scientific and technical committee or as amended. If, on the other hand, the negotiators decided to opt for access based only notification, then the entity (or the entity through its State), would notify the organs of the institutions established. Even if the proposed treaty only provides for *ex post facto* notification, the institutional mechanism proposed would be a relevant forum for such notification.

It is useful to emphasise here that the possible variations flowing from the unresolved issues identified in section 3 do not have to radically affect this basic institutional mechanism. To take the issue of the definition of marine genetic resources as another example, whether a broad or narrow definition, whether marine genetic resources are taken to mean “nucleic acids” or, “more broadly any molecule of interest for biotechnology”, will not affect the decision-making process or the operations of the proposed institutional mechanism. Similarly, whether the proposed treaty decides to cover marine genetic resources – in particular, the benefit sharing regime being contemplated – only on the seabed or also on the high seas – would also not affect the decision-making process. All that would be affected would be the scope of the potential decision that could be made by the institutional mechanism. If, for example, the proposed treaty addressed benefit sharing only in connection with marine genetic resources on the deep seabed, then the scientific and technical committee would make recommendations for benefit sharing only in respect of such marine genetic resources and, as a result, the conference of the parties would only make decisions on such marine genetic resources.

The variations that could be at the heart of the proposed treaty concern whether it would seek to regulate access and how it would regulate benefit sharing. If, for example, it is decided to regulate access, decisions would need to be made about whether and under what conditions access would be granted to a given actor. In the event that the proposed treaty does not address access but only benefit sharing – a choice that would create difficult conditions for implementation – the institutional mechanism would still need to make recommendations, leading to decisions, on how

the benefits arising from the exploration and exploitation of marine genetic resources are to be shared. The latter applies regardless of the type of benefits. It may be suggested that the International Treaty on Plant Genetic Resources for Food and Agriculture has a multilateral access and benefit sharing system without an institutional mechanism such as the one proposed for decision-making about benefits and access, (Plant Genetic Resources Treaty, Art 13). However, it should be recalled that, in the main, the Plant Genetic Resources Treaty facilitates a bilateral access and benefit sharing subject to a standard bilateral agreement (Plant Genetic Resources Treaty, Article 12).

For resources of the commons, a decision-making process, in an institutional mechanism such as the one proposed would be necessary. Of course, a different mechanism could be adopted. The purpose of this article was not to determine what the best institutional model is. Rather, the modest purpose of this paper was to show that the model currently under serious consideration in respect of the marine protected areas issue could work also for the marine genetic resources issue. As a matter of treaty economy, it would make little sense to adopt different institutional mechanism for the different elements of the proposed treaty. Finally, it is possible, though unlikely, that the proposed treaty does not regulate access or benefit-sharing and that under this proposed treaty, no decision-making is required. Under those conditions, the institutional mechanism proposed would still be relevant for the overall treaty but would simply not be central for the marine genetic resources element of the package.

5. Conclusion

The proposed treaty on the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction is supposed to address a number of elements, in particular area-based management tools, including marine protected areas, and marine genetic resources. A model of an institutional mechanism for decision-making has been developed, largely with marine protected areas in mind. This institutional mechanism is designed to promote scientifically sound decision-making. It would consist of a conference of the parties, a committee (perhaps more than one) which would make recommendations to the conference of the parties based on, *inter alia*, scientific considerations, and secretariat to facilitate the work of the institutional mechanism.

The marine genetic resources issue, however, presents a unique set of challenges which make the application of the proposed institutional mechanism difficult. For example, it remains unclear how marine genetic resources will be defined in the proposed treaty. It is also unclear whether the proposed treaty will seek, at least for the purposes of benefit sharing, to address marine genetic resources on the seabed only or also those in the water column above the seabed. All of these issues, and the

legal complexities they raise, make the marine genetic resources issue much more difficult to address in a new proposed treaty. As a result, applying the institutional mechanism designed for the marine protected areas to marine genetic resources will prove challenging. Yet, this article sought to show that the real challenges confronting the application of the institutional mechanism to marine genetic resources in areas beyond national jurisdiction can be overcome. This is because the institutional mechanism is, in the main, designed to facilitate decision-making in complex areas. Thus, to the extent that the regulation of marine genetic resources under the proposed treaty would involve decision-making, the institutional mechanism can facilitate such decision-making. In whatever way the particular challenges relating to marine genetic resources are resolved, it is likely that a mechanism to enable decision-making will be required. The institutional mechanism currently under consideration in the negotiations could therefore be relevant also for the marine genetic resources element of the package deal.

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