

# LEGAL PROTECTION OF THE OCEANIC ENVIRONMENT AND LIVING MARINE RESOURCES THROUGH INTERNATIONAL COOPERATION

*Piyush K. Sharma\**

## I. INTRODUCTION

The oceans cover more than 70% of the planet's surface, and much of the world's storehouse of biodiversity<sup>1</sup> is found in marine and coastal habitats. Marine and coastal ecosystems also perform critical services for humanity. These ecological functions include storing and cycling nutrients, regulating water balances, buffering land and protecting it against erosion from storms and waves, and filtering pollutants. On a larger scale, the

---

\* Lecturer, Campus Law Centre, Faculty of Law, University of Delhi, Delhi-110007. Contact author at <sharma\_p04@yahoo.com>

<sup>1</sup> Biodiversity, or biological diversity, refers to the variety of life on earth. Three levels of biological organizations - genetic, species and ecosystem, are reflected in a widely used hierarchical three-tiered description of biological diversity. Art. 2 of U.N. Convention on Biodiversity defines biodiversity as "the variability among living organisms from all sources, including, *inter alia*, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems." Diversity indices are measures of evenness (variances of species' abundance distributions) and, in some cases, richness (the number of species in a system); they are therefore indifferent to species substitutions which may, however, reflect ecosystem stresses (such as may be due to high fishing intensity). The relative values of various diversity indices is still a matter of current ecological debate, since some perhaps give too much weight to dominant species, and others, likewise, to the presence of possibly occasional species in an ecosystem. indices based on the number of species in a given ecosystem may satisfactorily measure biodiversity (usually meaning the number of species in a given ecosystem), whereas those based on species' abundances may measure genetic diversity better. As our capacity to sample, to manage, and to develop sustainably, marine (and other) resources increases, the required effective measures of ecological, biological and genetic diversity will emerge as sharper management tools than they are at present. See G. Tyler Miller, *LIVING IN THE ENVIRONMENT : PRINCIPLES, CONNECTION AND SOLUTION* (2002) at 81-82; see also M. Gatto and G.A. De Leo, *Pricing Biodiversity and Ecosystem Services: The Never Ending Story*, 50(4) *BIOSCIENCE*, 2000 at 347-56.

oceans are essential in regulating planetary balances in hydrology and climate through biological processes such as the ocean's photosynthetic pump, which removes the primary greenhouse gas, carbon dioxide, from the atmosphere and produces one-third to one-half of the global oxygen supply.<sup>2</sup> The oceans and their resources have long been taken for granted and have consequently suffered the effects of mismanagement at the national, regional, and global levels. Marine and coastal biodiversity forms the foundation of natural ecosystems that produce and maintain fisheries and other biological resources on which humanity depends.

Human activities around the world are depleting marine and coastal living resources and degrading marine and coastal ecosystems in ways that are harmful and sometimes irreversible. In the oceans, as on land, the scope of this depletion and degradation has no precedent in human history. Loss of biodiversity and the attendant decimation of stocks of living resources, widespread appearance of ecosystem imbalances, and impairment of ecological processes may well undermine the adaptive potential of species and ecosystems and their ability to meet future human needs. Some of the most valuable resources under threat in the high-seas include: hydrothermal vents; seamounts; deep-sea trenches; deep water-reef forming corals; submarine canyons; seabirds; cetaceans; and high-seas fish stocks.<sup>3</sup> In addition, high-seas biodiversity is at threat from the potential exploitation of the following: polymetallic nodules, cold seeps and pockmarks, and gas hydrates.<sup>4</sup> To-date, the track record of the fishing industry in managing marine living resources is dismal. According to the UN Food and Agriculture Organization, 69 percent of the fish stocks worldwide are fully exploited, depleted, or slowly recovering. Fish stocks are becoming depleted, some species disappear before we can even identify them, marine pollution is on the rise, and changing global climate poses significant risks.<sup>5</sup> There seems to be no limit to the extent of human impact on our

---

<sup>2</sup> A. Charlotte de Fontaubert, David R. Downes, and Tundi S. Agardy, *BIODIVERSITY IN THE SEAS: IMPLEMENTING THE CONVENTION ON BIOLOGICAL DIVERSITY IN MARINE AND COASTAL HABITATS* (Gland, Switzerland: IUCN-The World Conservation Union, 1996); see also <<http://www.econet.apc.org/ciel/>>.

<sup>3</sup> A.C. de Fontaubert, *Legal and Political Considerations*, in WWF/ IUCN (eds.), *THE STATUS OF NATURAL RESOURCES ON THE HIGH SEAS* (Gland, Switzerland, 2001).

<sup>4</sup> *Ibid.*

oceans environment. In most cases, we discover these impacts after the fact.

The major direct threats to marine and coastal biodiversity can be divided into five related categories: pollution (primarily land based, but also from other sources); over-exploitation of marine living resources; introduction of alien species; development and its side effects; and global change, in particular climate change, but also including ozone depletion.<sup>6</sup> The impacts of land-based marine pollution continue to worsen, constituting the most alarming single threat to the marine environment.<sup>7</sup> The 1982 UN Convention on the Law of the Sea, establishes a sound legal framework for the oceans that can be used as the basis for further adapting and developing the international law of the sea. Global conventions regulating ship-generated pollution and ocean dumping have been adopted through the work of the International Maritime Organization (IMO), but these sophisticated and technical regulatory mechanisms create their own difficulties for many developing countries, meanwhile, efforts continue to establish an international regulatory regime to govern land-based activities that cause serious pollution of the marine environment.<sup>8</sup> Questions also arise as to how to implement the Convention on Biological Diversity, 1992 in marine and coastal areas, and how to safeguard particularly sensitive sea areas from pollution by vessels and land-based activities.

The sea's vastness and its enduring mysteries make it difficult for humanity to appreciate its vulnerability and the limits of its resources and resilience. Oceans are relatively inaccessible to human investigation. The marine environment is far less well understood than is its terrestrial counterpart. Many societies still operate on the assumption that the oceans offer a wealth of limitless resources and possess an infinite capacity for resilience<sup>9</sup> in the face of environmental pressure and change. The mounting

---

<sup>5</sup> See <<http://www.fao.org/fi/struct/mission/english.asp>> visited on 29th March, 2004.

<sup>6</sup> *Ibid.*

<sup>7</sup> Donna G. Craig Nicholas A. Robinson Koh Kheng-Lian, CAPACITY BUILDING FOR ENVIRONMENT LAW IN THE ASIA AND PACIFIC REGION, Vol.-II, (Asia Development Bank, 2002) at 423.

<sup>8</sup> *Ibid.*

evidence that human activities are inflicting serious damage demonstrates the fallacy of this assumption. All regions on the planet including polar, temperate, and tropical latitudes in both developing and developed countries face increasing threats to their rich natural heritage of marine and coastal biodiversity. An attempt has been made in this paper to highlight pollution of the marine and coastal environment and need for the protection, conservation and sustainable use of marine living resources and also the efforts made by the international community to prevent, reduce and control pollution of the marine environment.

## II. INTERNATIONAL LEGAL REGIME

The management of ocean space and the rule of law on the oceans have been addressed by the international community of nations with increasing sophistication and complexity for hundreds of years.<sup>10</sup> The current international legal regime can best be described as a mosaic of different instruments e.g. treaties, conventions, programmes of action, etc, including global and regional instruments, whether “legally-binding” documents or

---

<sup>9</sup> Pollution and fishing lead to qualitative and quantitative changes, particularly in semi-enclosed aquatic systems that are an inevitable consequence of human interference. To meet the requirements for sustainable development, it is essential to ask whether the system would be able to return to some predefined ‘original state’ if this stress were removed; if, for example, future generations decided to use aquatic systems in some completely different fashion. The question of whether a return to some ‘original state’ is realistic is a controversial one. Natural systems are subject to evolutionary pressures, including extinctions, although these are usually considered to occur on an evolutionary time scale. One might note that overfishing has resulted in relatively few species extinctions in the open marine environment, although, particularly in combination with environmental change, it has been implicated in major changes in species dominance and has particularly serious effects on long-lived species and those with limited areas of critical habitat. Environmental impacts of man, if pronounced, particularly on limited areas of critical or semi-enclosed seas, may provoke more serious long-term effects than ‘commercial extinction’: the fate of species fished to a level where commercial returns are too low to justify an aimed fishery. For example, high seas overfishing of Salmon can reduce populations to a low level, but obstruction of the home Estuary would render the population extinct, see <http://www.fao.org/DOCREP/003/V5321E/V5321E00.htm>, visited on 21 February, 2004

<sup>10</sup> Verlaan P., *Lecture on the International Legal Context for the Management of the Marine Environment*, in UNEP/UNITAR/UNCHS (Habitat) Training Program on ENVIRONMENTAL LAW AND POLICY, Nairobi, 1995.

“soft law”. From this disparate ensemble, a legal regime emerges that regulates who can and should do what, and where. The existing international legal regime that regulates use of the high seas strongly encourages cooperation among States, does not prohibit the establishment of marine protected areas (MPAs).<sup>11</sup>

A. *The UN Convention on the Law of the Sea (UNCLOS)*

The United Nations Convention on the Law of the Sea (Montego Bay, 1982)<sup>12</sup> is one of the most significant achievements of the international community since the founding of the United Nation<sup>13</sup>. The 1982 Convention was the culmination of eight years of negotiations at the Third UN Conference on the Law of the Sea. More than 150 countries, representing all regions of the world, all political systems, and all degrees of socioeconomic development, participated in these negotiations.<sup>14</sup> Never before had the international community taken on so monumental a challenge in international negotiation and international lawmaking. UNCLOS aimed to establish a ‘constitution for the oceans’, that is, a comprehensive regime dealing with all matters relating to the law of the sea which would remain viable into the next century.<sup>15</sup> Its text comprises 320 articles and nine annexes which were intended to establish principles and rules governing all uses of ocean space. The Convention entered into force on 16 November 1994, one year after the sixtieth State deposited an instrument of ratification or accession with the United Nations.<sup>16</sup>

UNCLOS, clarifies that pollution of the marine environment means the introduction by man, directly or indirectly, of substances or energy into the marine environment, including estuaries, which results or is likely to

---

<sup>11</sup> *Supra* note 3.

<sup>12</sup> 21 I.L.M 1261.

<sup>13</sup> “The United Nations Convention on the Law of the Sea was the most ambitious attempt ever to provide an internationally agreed regime for the management of the oceans. The resulting Convention represents a major step towards an integrated management regime for the oceans. Indeed, the most significant initial action that nations can take in the interest of the oceans’ threatened life support system is to ratify the Law of the Sea Convention”, see *Infra* note 19.

<sup>14</sup> Beckman R., *The Significance of Universal Acceptance of 1982 UNCLOS*, Asia-Pacific Centre for Environmental Law, National University of Singapore, December 2000.

<sup>15</sup> *Ibid.*

<sup>16</sup> *Supra* note 2.

result in such deleterious effects as harm to living resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of sea water and education of amenities.<sup>17</sup> Most importantly, the Convention sets forth the rights and obligations of all States in the following offshore zones:<sup>18</sup>

- internal waters,
- a territorial sea of up to 12 nautical miles (n.m.),
- a contiguous zone of up to 24 n.m.,
- an exclusive economic zone (EEZ) of up to 200 n.m., and
- the continental shelf, which may extend beyond 200 n.m. but not beyond 350, depending on the configuration of the seabed.

The Convention grants coastal states substantial control over activities in these zones, but the degree of control they exercise over use by other states varies with the zone and the activity in question. Most fundamentally, the Convention balances the rights and obligations of coastal states to use and protect offshore zones with worldwide freedoms of navigation and telecommunications essential for international security and commerce. As the zones move further offshore, coastal state authority over foreign activities diminishes. A fundamental distinction exists between the sovereignty of the coastal state out to the 12-mile limit of the territorial sea, and the less absolute authorities the coastal state may exercise in the other offshore zones. Beyond the limits of national jurisdiction, all states have the same rights and obligations on the high seas and a unique regime is established for the international seabed and its mineral resources.<sup>19</sup>

The establishment of different ocean zones has been criticized for drawing artificial boundaries that truncate marine ecosystems, ignore the movements of marine species, and turn a blind eye to the winds and currents transporting pollutants.<sup>20</sup> On the other hand, it would be impossible to encompass within a single geographic unit or a single management

---

<sup>17</sup> Article 1(4) of the U.N. Convention on the Law of the Sea, 1982.

<sup>18</sup> Gurdip Singh, *INTERNATIONAL LAW* (2003) at 236-309.

<sup>19</sup> IUCN, *THE LAW OF THE SEA : PRIORITIES AND RESPONSIBILITIES IN IMPLEMENTING THE CONVENTION*, IUCN, Gland, Switzerland (1995).

<sup>20</sup> *Marine Environment*, from web site of the Division for Ocean Affairs and the Law of the Sea (DOALOS), at <http://www.un.org/Depts/los/losmel.htm>.

authority all the complex and interactive factors that affect marine environments and species.

As the Convention stands, the most important and relevant provisions of UNCLOS for our purposes, are divided as follows:

(i) Regulation of Marine Living Resources in EEZ

Article 61 deals with the conservation of the living resources of EEZ. It provides that the coastal State shall determine the allowable catch of the living resources in its EEZ<sup>21</sup>. Further the coastal State shall ensure through proper conservation and management measures that the maintenance of these resources is not endangered by over-exploitation.<sup>22</sup> Such measures shall also be designed to maintain or restore populations of the harvested species at levels which can produce the maximum sustainable yield. As qualified by relevant environmental and economic factors, including the economic needs of coastal fishing communities and the special requirements of developing States, and taking in to account fishing patterns, the interdependence of stocks and any generally recommended international minimum standards, whether sub-regional or regional and global.<sup>23</sup> These conservation prescriptions formed part of Article 61 of the Convention on at the insistence of the developed fishing States.<sup>24</sup>

Article 62 concerns utilization of the living resources. Article 62(1) requires the coastal State to promote the objective of optimum utilization of the living resources in the EEZ without prejudice to Article 61. Thus, the concepts of the allowable catch in Article 61 and the optimum utilization in Article 62 (1) are designed to promote full utilization of the living resources.<sup>25</sup>

Article 62(2) requires the coastal State to determine its capacity to harvest the living resources within the EEZ. If the coastal State has the capacity to harvest the entire allowable catch, then, subject to the provisions of Articles 69 and 70 (dealing with rights of landlocked and geographically disadvantaged States respectively), the coastal State is under no obligation

---

<sup>21</sup> U.N. Convention on the law of the Sea, Article 60(1).

<sup>22</sup> *Id.*, Article 60(2).

<sup>23</sup> *Id.*, Article 60(3).

<sup>24</sup> See Gurdip Singh, *INTERNATIONAL LAW* (2003) at 299.

<sup>25</sup> *Ibid.*

to allow other States access to the living resources of the EEZ. Where the coastal State does not have the capacity to harvest the entire allowable catch, it shall give other States access to the surplus of the allowable catch, subject to the terms and conditions established in its regulations mentioned in Article 62(4).

Para 2 and 4 of Article 62, specify certain factors which the coastal State should take into account in giving access to other States. Article 2(2) requires that the coastal State should have particular regard to the provisions of Articles 69 and 70, especially in relation to the developing States mentioned therein. This provision gives special consideration to landlocked and geographically disadvantaged States in the context of access to the surplus of the allowable catch. In respect of giving access to other States, Article 62(3) states that the coastal State shall take into account all relevant factors, including *inter alia*, the significance of the living resources of the area to the economy of the coastal State whose nationals have habitually fished in the zone or which except in cases of landlocked and geographically disadvantaged States, U.N. Convention on the Law of the Sea gives coastal State wide discretion in determining who shall have access to surplus; living resources of the zone. Article 62, paragraph 4 requires the nationals of other States fishing in the EEZ to comply with the conservation measures and with the other terms and conditions established in the laws and regulations of the coastal state. Finally, Article 65<sup>26</sup> also applies to the conservation and management of marine mammals in the high seas.

#### (ii) Regulation of the Fisheries on the High Seas

Part VII - Section 2 of the Convention devotes a whole section to the conservation and management of the living resources of the high-seas. Under Articles 116 and 117, the States' freedom to fish on the high-seas is limited both by the right of other States to do so and by their duty to

---

<sup>26</sup> Article 65 of the U.N. Convention On The Law Of The Sea reads: Marine mammals: Nothing in this Part restricts the right of a coastal State or the competence of an international organization, as appropriate, to prohibit, limit or regulate the exploitation of marine mammals more strictly than provided for in this Part. States shall co-operate with a view to the conservation of marine mammals and in the case of cetaceans shall in particular work through the appropriate international organizations for their conservation, management and study.

cooperate “as may be necessary for the conservation of the living resources of the high-seas.” The right to fish is therefore a limited one, and definitely does not stretch to a right to overfish on the high-seas. With the right to fish comes a responsibility to respect the rights of other States and to ensure that the stocks do not become depleted.

To that end, Articles 117 and 118 provide details as to how States should cooperate and the kind of measures they should take to ensure conservation of living resources. The States shall cooperate to establish subregional or regional fisheries management organizations (or RFMO)<sup>27</sup> as appropriate, and take measures “which are designed, on the best scientific evidence available..., to maintain or restore populations of harvested species at levels which can produce the maximum sustainable yield.”<sup>28</sup> In other words, States have a clear mandate to conserve and cooperate, but the manner in which they achieve that goal is left for them to decide. The reference to the best scientific evidence available is a clear indication that the measures called for will depend on knowledge of the state of the stocks, and must therefore take into account past uses.

One could argue that in cases where the stocks have been severely impacted, strong measures, such as the designation of an MPA (e.g., no take area, closed area) would be completely justified under UNCLOS, as long as this measure is adopted as a result of the cooperation among the States involved. In fact, certain regional fisheries management organizations (RFMOs) have already adopted such measures on the high-seas. Whilst UNCLOS does not refer specifically to MPAs on the high-seas, it does not prohibit them either, rather the States may adopt any measures they have negotiated and deemed necessary for the conservation of the stocks. In addition, Article 119 of UNCLOS calls on States to take measures on the high-seas that take into account the interdependence of stocks and associated species, which can be achieved through the protection of a whole area rather than a mere target stock.

### (iii) Regulation and Protection of the Marine Environment

Part XII of UNCLOS is devoted entirely to the protection and preservation of the marine environment. Article 192 provides a very clear indication that “States have the obligation to protect and preserve the

---

<sup>27</sup> Article 118, *id.*

<sup>28</sup> Article 119(1) (a), *id.*

marine environment.” Article 193 enunciates that States have the right to exploit their natural resources pursuant to their environmental policies and in accordance with their duty to protect and preserve the marine environment. These two articles attempt to strike a balance between resources exploitation and environmental considerations. The duty to protect and preserve is further developed in Article 194, which provides:

- (i) States shall act individually, or jointly as appropriate to take all measures necessary, using the best practicable means at their disposal (including the adoption of MPAs, which are not prohibited here);
- (ii) States shall take measures to ensure that activities under their jurisdiction or control are so conducted as not to cause damage by pollution “beyond the areas where they exercise sovereign rights.” In other words, the State is responsible for the activities of vessels flying its flag, even when those are on the high-seas and no longer in its EEZ;
- (iii) States shall take measures to deal with all sources of pollution of the marine environment;
- (iv) States also have a duty to take measures 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.”

Underlying all these measures that States must take is the obligation to cooperate with other States since, “States shall refrain from unjustifiable interference with activities carried out by other States in the exercise of their rights and in pursuance of their duties in conformity with this Convention.”<sup>29</sup> By combining the fisheries regime and the protection of the marine environment component, States are therefore in a position to take strong conservation measures on the high-seas, as long as they cooperate with other States, show that the measures they want to take would enhance the conservation of resources and that they are based on the best scientific evidence available. Under these circumstances nothing in the Convention precludes the adoption of some form of marine protected areas on the high-seas.

---

<sup>29</sup> Article 194 (4), *id.*

*B. The Convention on Biological Diversity and  
Its Jakarta Mandate*

The U.N. Convention on Biodiversity (CBD) was negotiated under the auspices of the United Nations Environment Programme. The discussion for Biodiversity Convention were initiated by the UNEP's Governing Council in 1988 and concluded on 22 May 1992 in Nairobi and opened for signature at UNCED, held at Rio de Janeiro, Brazil.<sup>30</sup> It entered into force on 29 December 1993.<sup>31</sup>

The main objectives of the CBD are the conservation of biological diversity, the sustainable use<sup>32</sup> of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources.<sup>33</sup> The Convention reaffirmed that states have sovereign rights over their biological resources and that the states are responsible for conserving these resources and using the same in a sustainable manner. The contracting parties to the CBD are, therefore, required to integrate considerations of conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans, programmes and policies. Under the Convention biodiversity conservation can be achieved through a combination of both

<sup>30</sup> Gurdip Singh, *Legal Aspects of Biodiversity Convention*, XVII DELHI LAW REVIEW, 1992 at 121.

<sup>31</sup> Armin Rosencranz, ENVIRONMENTAL LAW AND POLICY IN INDIA (Oxford, 2002) at 582.

<sup>32</sup> Art. 2 of CBD provides: "*Sustainable Use*" means the use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations.

<sup>33</sup> Art. 1 of CBD provides: *Objectives* - "the objectives of this Convention, to be pursued in accordance with its relevant provisions, are the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, and by appropriate funding". In this respect the Convention reflect the Objectives of World Conservation Strategy, 1980, which emphasized the inter-dependence of conservation and development :

- essential ecological processes and life-support system must be maintained;
- genetic diversity must be preserved; and
- any use of species or ecosystem must be sustainable.

*in-situ* and *ex-situ* conservation. Article 2 of the Convention defines *in-situ* and *ex-situ* conservation as: “*in-situ* conservation” means the conservation of ecosystem and natural habitats and the maintenance and recovery of viable populations of species in their natural surroundings and, in the case of domesticated or cultivated species, in the surroundings where they have developed their distinctive properties and “*ex-situ* Conservation” means the conservation of components of biological diversity outside their natural habitats.

The CBD does not refer specifically to marine or terrestrial ecosystems in its discussion of *in-situ* conservation, but during the 1995 Conference of the Parties, the so-called Jakarta Mandate was issued, which outlined a program of action for implementing the Convention with respect to marine and coastal biodiversity.<sup>34</sup> Decisions pursuant to the Jakarta Mandate identify five areas in which the State Parties can take practical steps to apply the Convention to marine habitats.<sup>35</sup> They include: (a) implementing integrated coastal area management; ensuring the sustainable use of coastal and marine living resources; (b) implementing environmentally sustainable mariculture practices; (c) preventing the introduction of alien species; and establishing marine and coastal protected areas. MPAs are therefore one of the five pillars of the Jakarta Mandate. With regards to implementation of the Convention on the high-seas, Article 4 of CBD clearly states that the scope of the Convention extends: (d) in areas within the limits of national jurisdiction in the case of components of biological diversity, and (e) within national jurisdiction or beyond the limits of national jurisdiction for processes and activities carried out by a member State, regardless of where their effects occur (i.e., including on the high seas).

Furthermore, Article 5 of CBD calls on States to cooperate with other Contracting Parties, as far as possible and as appropriate, in respect of areas beyond national jurisdiction. Article 8 also calls on States to, “establish a system of protected areas or areas where special measures need to be taken to conserve biological diversity.” Under the CBD, Parties are responsible for actions of their nationals that may impact biodiversity on the high seas, are invited to establish protected areas to conserve biological diversity and are required to cooperate for the conservation and

---

<sup>34</sup> *Supra* note 3.

<sup>35</sup> *Ibid.*

sustainable use of biodiversity on the high-seas. Combined, these requirements present a strong mandate for the establishment of MPAs on the high-seas, constrained only by the need to negotiate with other Parties in areas beyond national jurisdiction.

### *C. The UN Fish Stocks Agreement*

The UN Agreement of Straddling and Highly Migratory Fish Stocks was adopted in 1995 and aimed to fill some of the gaps that had been left in the framework of UNCLOS<sup>36</sup>. The UN Conference on Straddling and Highly Migratory Fish Stocks was specifically called for in Chapter 17 of Agenda 21. After more than three years of negotiations, the Agreement was adopted and embodies a compromise reached between the interests of coastal States and those of distant water fishing nations. This instrument acknowledges the biological reality that while some stocks straddle EEZs and the high-seas, they nevertheless need to be managed throughout their range (according to the so-called biological unity of the stocks).<sup>37</sup> Efforts to elaborate measures for the conservation of these stocks were unsuccessful during the UNCLOS negotiations, due to the conflict of interest between coastal and distant water fishing States.<sup>38</sup>

The 1995 Agreement takes things further by requiring that Parties settle their differences by adopting compatible measures, but the Agreement does not indicate which measures shall prevail in case of conflict. The precautionary approach<sup>39</sup> is also given considerable emphasis in the Agreement and the whole of Article 6 is devoted to it. This Article is

---

<sup>36</sup> *Ibid.*

<sup>37</sup> R.V. Salin, E. Saiirila, and J.R. Clarke (eds.), *MARINE AND COASTAL PROTECTED AREAS : A GUIDE FOR PLANNING AND MANAGEMENT*, IUCN (2000).

<sup>38</sup> *Ibid.*

<sup>39</sup> In cases of high uncertainty about critical areas or species, in particular, and to avoid potentially irreversible changes, the precautionary principle has been advocated in recent years to make development conditional upon scientific proof of its harmlessness. The uncontrolled widespread application of such an approach may, however, conflict with food security considerations. The precautionary approach to regulating the impact of man's activities on natural systems has been adopted in situations where toxic materials are introduced into the marine environment, and is clearly appropriate under circumstances in which the impact of a particular action is clear-cut, or at least is unlikely to

particularly interesting because it aims to articulate what, in concrete terms, can be undertaken to apply that approach. The adoption of this article represents a major shift in fisheries management, as it reverses the burden of proof between conservation and exploitation objectives. Throughout the history of fishing, remedial measures had been taken following the collapse or severe depletion of stocks and thus were, in essence, reactive.<sup>40</sup> Likewise, conservation measures were only agreed to after managers had shown that (a) the stocks were being unduly impacted, and (b) the management measures would likely remedy this situation. The precautionary approach, as prescribed under Article 6, requires that the conservation and management measures be based on the best scientific evidence available, that States be more cautious when information is uncertain, unreliable or inadequate and that the absence of adequate scientific information not be used for postponing or failing to take conservation and management measures. Inasmuch as the designation of high-seas MPAs may give effect to the application of the precautionary approach, such designation by the relevant regional fisheries management organizations would be both appropriate and called for.

The Fish Stocks Agreement has not yet entered into force but it is already being implemented by the Parties that have ratified it. Those Parties could conceivably enter into a scheme where they could designate an MPA in an area of the high-seas, under the auspices of the relevant RFMO. Once an MPA is adopted by an RFMO, all Parties to the Fish Stocks Agreement would be bound by this measure since under the Agreement other States should respect the conservation measures taken by the competent RFMOs.<sup>41</sup>

---

have any positive aspects. However, this approach has also been suggested as providing criteria for deciding whether or not, before starting a new fishery, the fishery or type of fishing method used is likely to have damaging effects on ecosystems or on particular species of catch or by-catch, notably, in the latter case, marine mammals and turtles. The validity of applying the principle needs to be considered carefully on a case-by-case basis, and compared with the main alternative strategy: pilot-scale fishing trials at a low level of removal, with scientific observers aboard the fishing vessel. See <http://www.fao.org/DOCREP/003/V5321E/V5321E11.htm>, visited on 29 February, 2004.

<sup>40</sup> *Supra* note 3.

<sup>41</sup> *Supra* note 37.

*D. The International Convention for the Regulation of Whaling, 1946*

The ICRW was adopted in 1946 to provide for “the proper conservation of whale stocks” and to ensure “the orderly development of the whaling industry.”<sup>42</sup> In its more than 50 years of existence, the Convention has evolved dramatically from an instrument that was meant to regulate whaling, to one that currently prohibits it.<sup>43</sup> This evolution reflected the changing political objectives of the majority of its Parties, which have now taken consistent measures to ban most whaling and to restrict it to very few exceptions, notably scientific and traditional whaling. Most noteworthy here is the fact that the Convention provides for the adoption of regulations designed to open and close waters, including the designation of sanctuaries in which no whaling is allowed. These sanctuaries can be declared in all waters in which whaling takes place, and therefore are clearly applicable in areas of the high-seas, beyond national jurisdiction. In this regard, the Convention provides for a very specific type of MPA, where the conservation measure aims to restrict just one use: whaling.<sup>44</sup> Nevertheless, it provides an interesting precedent and is particularly noteworthy in that it was adopted in 1946, long before MPA became a common tool for management and conservation of marine resources.<sup>45</sup>

*E. Agenda 21*

Agenda 21 may well be the most important soft-law instrument that recognizes the possibility of enacting MPAs on the high-sea. Agenda 21 is the monumental centerpiece agreement adopted by all participating Nations at the Earth Summit in Rio de Janeiro, Brazil.<sup>46</sup> Agenda 21 is a detailed blue-print for action to be taken upto the year 2000 and beyond by the Governments, development agencies and various UN organizations and other Non-Governmental Organizations (NGOs). It is not a static document but a plan of action to guide the development of the earth. Agenda 21 is based upon the premise that conservation and sustainable

---

<sup>41</sup> *Supra* note 3.

<sup>43</sup> *Ibid.*

<sup>44</sup> See <http://www.greenpeace.org/~ocean/>, visited on 4<sup>th</sup> April, 2004.

<sup>45</sup> *Ibid.*

<sup>46</sup> Gurdip Singh, ENVIRONMENTAL LAW : INTERNATIONAL AND NATIONAL PERSPECTIVES, (1995) at 320.

use of natural resources of the earth is not simply an action; it is a requirement - a requirement increasingly imposed by the limits of nature to absorb the punishment which the humanity has inflicted on it.<sup>47</sup> Agenda 21 is divided into 40 chapters and one of them, Chapter 17, deals with "Protection of the Oceans, all kinds of seas, including enclosed and semi enclosed seas, and coastal areas and the protection, rational use and development of their living resources." One of the main sections of Chapter 17 deals with integrated management and sustainable development of coastal and marine areas and calls on coastal States to undertake "measures to maintain biological diversity and productivity of marine species under national jurisdiction, . . . including . . . establishment and management of protected areas."<sup>48</sup>

Agenda 21 also calls for cooperation in areas of the high seas, beyond national jurisdiction. Paragraph 17.46 calls for States to conserve marine living resources of the high seas, including through the protection and restoration of endangered marine species and the preservation of habitats and other ecologically sensitive areas. Agenda 21 is widely recognized as a useful guide for States aiming to achieve sustainable development. Its level of detail also ensures that States can refer to it for practical recommendations of concrete steps to take to that end. In that context, MPAs are clearly marked as a necessary tool for the protection of coastal marine environment and nothing precludes their adoption on the high-seas, as long as this approach is negotiated among all States involved.<sup>49</sup>

### III. CONCLUSIONS

It is often said that we know more about the surface of the moon than we do about the bottom of our oceans. Certainly, more funds have been devoted to various space programs than to the exploration of our oceans and sea-floors. As a result, we know very little about the resources of the deep. Scientists and the general public have long believed that no life could be sustained on the abyssal plains, only to discover later on that a wealth of species live there. An example that has recently come to light is that of hydrothermal vents, which are veritable oases, teeming with life,

---

<sup>47</sup> *Ibid.*

<sup>48</sup> See <http://www.igc.org/habitat/agenda21/ch-17.html>, visited on 24<sup>th</sup> April, 2004.

<sup>49</sup> *Ibid.*

rich in biodiversity and often host to endemic species.<sup>50</sup> We have yet to examine or understand fully the extent to which our uses so far (from trawling to dumping of waste) have impacted such biodiversity, and the situation is about to get worse.<sup>51</sup>

Every nation has its particular marine environments, resources, and administrative opportunities and constraints, and these special conditions dictate the development of appropriate MPA management planning. A model that is applicable in one country would probably not be appropriate elsewhere— but the overall planning process does have universal elements. A review of the many international programmes that provide support for capacity building related to use and protection of marine and coastal areas and marine living resources would be voluminous. Virtually all of the marine agreements contain language promoting international cooperation, directly and through competent international organizations. Numerous international agencies are involved, as well as bilateral donors.

Many of the conventions are highly technical in nature, and it is important, however, that government policy-makers have a broad overview of the various instruments that exist before they undertake a detailed examination of any one instrument. There is no lack of global conventions and other instruments to control marine pollution. The international community is not in dire need of new conventions. What is needed is effective implementation at the regional level of the existing conventions and instruments. The number of ratifications of the major global conventions by states in Southeast Asia and South Asia is sorely inadequate.<sup>52</sup> Also, there are no regional conventions to supplement the major global conventions and adapt them to meet the particular needs and circumstances of the regions. As all the scientific evidence points out, urgent action is required to conserve marine living resources. Whether or not such action takes the form of highseas MPA, action is required now. This action should take place both immediately and over the longer term. In the context of the conserving marine living resources, both within the EEZ and on the high seas, the regular exchange of scientific information and catch and effort statistics is required through competent international organizations.

---

<sup>50</sup> See <http://www.panda.org/ endangeredseas/> visited on 18<sup>th</sup> May, 2004.

<sup>51</sup> *Ibid.*

<sup>52</sup> *Supra* note 44.