

International Protection of Marine Living Resources in Exclusive Economic Zone

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Abstract: From the perspective of the Exclusive Economic Zone in the United Nations Convention on the Law of the Sea, this paper analyzes the protection of marine living resources in this area and puts forward corresponding measures and suggestions. This paper argues that it is necessary to perfect the relevant system of the Exclusive Economic Zone to improve the protection status of marine living resources under the background that marine living resources have been greatly damaged and are in rapid exhaustion. In order to fulfill the ultimate goal of international protection of marine living resources, this paper points out the necessity to perfect the legal concepts and international law regulations. Special attention shall be paid to the role of customary international law, improvement of the compliance punishment system, and optimization of the global cooperation mechanism so as to continuously strengthen the management and international cooperation to achieve global and systematic protections of marine living resources.

Keywords: UNCLOS, Exclusive Economic Zone, Marine living resources, International protection

1. Introduction

The boundless ocean contains abundant natural resources. Marine organisms are an important part of the marine ecosystem, which have immeasurable economic and scientific value. However, due to the progress of the technological level of human society and the over-exploitation of the ocean, marine resources are rapidly depleting, and their protection status is not optimistic. There are many provisions for the protection of marine living resources in the field of the law of the sea, but Exclusive Economic Zones are not often discussed in conjunction with marine living resources protection. This paper focuses on the shortcomings of marine living resources protection in the Exclusive Economic Zone, and tries to put forward suggestions for improving this part of the problem. The major content of this paper contains four sections, in addition to the introduction and conclusion. Section 2 introduces the concepts of protecting marine living resources. Section 3 contains the relevant system for the protection of marine living resources in the Exclusive Economic Zone. Section 4 analyzes the deficiencies in the protection of marine living resources in the Exclusive Economic Zone. Section 5 provides suggestions and opinions on the perfection of the mechanism of international protection of marine living resources.

2. Marine Living Resources Protection

2.1. Concept and Characteristics of Marine Living Resources

Marine living resources refer to the sum of all living organisms in the ocean, are a kind of living, self-multiplying, renewable resources and an important part of marine resources and marine ecosystem. According to biological characteristics, marine living resources can be further categorized into marine animal resources, marine plant resources and marine microbial resources. Marine living resources have the characteristic of both mobility and sharing:

Different from other resources, mobility is one of the most significant characteristics of marine living resources. In order to obtain favorable living conditions and ensure population reproduction, marine organisms will carry out active selection behaviors. Many populations live in different marine areas at different stages of growth. For example, the moving range of shellfish is smaller, while the moving range of fish and mammals is larger, especially the anadromous salmon, sturgeon, and most pelagic fish [1].

The mobility of marine living resources contributes to the extensive distribution of such resources, which also determines that they are a kind of resources with the attribute of public goods shared by all mankind. All countries around the world have the right to exploit and utilize marine living resources, and undertake the due obligations to manage and protect marine living resources.

The definition of the concept and characteristics of marine living resources here is intended to clarify the scope of the objects of international protection. "Countries have different rights and different responsibilities for different marine living resources in various sea areas" is a basic understanding of marine living resources protection [2].

2.2. Conservation Value of Marine Living Resources

The immense ocean, which covers about 71% of the Earth's total surface area, is both a cradle of life and a great treasure. The ocean is rich in protein, mineral, medicine and energy resources. Ocean-related industries, also known as the "blue economy", have become a major area of international competition.

In addition, marine living resources have other non-economic values. The magnificent ocean world provides mankind with great landscape, aesthetic and ecological value. To protect ecosystems, it is crucial to maintain viable populations of biological resources [3]. Article 2 of the United Nations Convention on Biological Diversity, adopted in Nairobi in 1992, defines "biological diversity" as "a 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" [4]. In the preamble, emphasis has been put on the significance of biodiversity, the protection of which is a "common concern of all mankind".

However, the current situation of marine living resources protection is not optimistic. Faced with multiple threats such as overfishing, unreasonable exploitation and harmful pollution, marine habitats have been destroyed and marine organisms have been plummeted, greatly exceeding the carrying capacity of marine living resources and causing tremendous damage to marine biodiversity. Hence, it is urgent to strengthen the protection of marine living resources. Not only the management of marine living resources that have been damaged, but also the implementation of measures to reduce or avoid damage to marine living resources, and to maintain unexploited marine living resources in their proper state and in harmony with their dependable habitats should be taken [2]. All these put forward more stringent requirements for the legal norms in the field of marine protection.

3. Protection of Marine Living Resources in the Exclusive Economic Zone

3.1. Provisions in the Convention

In 1982, the Third United Nations Conference on the Law of the Sea adopted the United Nations Convention on the Law of the Sea (UNCLOS), which established the Exclusive Economic Zone (EEZ) regime.

The rights and obligations of coastal States with respect to the marine living resources in the EEZ are concentrated in Articles 61 to 62 of UNCLOS: (a) determine the maximum amount of living resources that can be caught in its EEZ [5] and allow other States to obtain the excess; (b) Adopt conservation and management measures for marine living resources to maintain or restore maximum sustainable yields and prevent overfishing in the EEZ; (c) the fisheries law of the EEZ of the coastal State and compliance by other States with the laws, regulations and conservation measures [6]. Among them, it can be seen from Article 61 that the criteria and objectives of UNCLOS for the protection and management of marine species is to share living resources reasonably, effectively and peacefully, and to improve the maximum economic benefits for mankind, taking into account the interests of environmentally, ecologically and economically disadvantaged countries [7].

3.2. Protection by Species

Based on the diversity and mobility of marine life, it is unreasonable to adopt a “one-size-fits-all” approach to protect species with different habits and different scarcity values. It is also unpractical to adopt inflexible protection for species with a large range of migration. Negotiators of UNCLOS, therefore agreed to adopt a species approach, whereby special regimes are developed for certain species that migrate in different ways. Articles 64 to 67 of UNCLOS provide four special species terms: highly migratory species, marine mammals, anadromous stocks and catadromous species. The stocks specified in article 63 can be summarized as straddling migratory fish stocks based on their activity characteristics. It should be noted that this is not a biological definition of stocks, but an economic and political classification. Therefore, the efficiency and feasibility of marine living resources protection can be improved by defining special species and differentiating management of populations with different biological characteristics.

3.3. Protection by Regions

Another important feature of UNCLOS is the maritime zoning system, that is, States have different jurisdiction over different maritime areas and assume different levels of obligations.

In the EEZ, as the closest to the EEZ, coastal States have a variety of sovereign rights based on Article 56 of UNCLOS. According to Articles 69 and 70 of UNCLOS, land-locked States and geographically disadvantaged States also are entitled to participate in the utilization of an appropriate portion of the surplus of living resources in an equitable manner [5]. Through different management by sea area and subject, the jurisdiction area is reasonably divided, the rights and responsibilities of different countries are clarified.

EEZ has clarified the sovereign rights of marine living resources in regions, and the management and protection responsibilities of coastal States have been continuously strengthened. The trend of regionalization of marine living resources protection is becoming increasingly apparent.

4. Deficiencies of EEZ Marine Living Resources Protection

This section intends to analyze the deficiencies in the field of EEZ marine living resources protection. These problems cannot be simply classified and separated, which are influenced by each other.

4.1. Lack of Science

4.1.1. Hard to Amend

The unique geographical location of EEZ determines that it has great economic value, and the competition of economic interests inevitably leads to the struggle for political rights. UNCLOS is established after complex game involving maritime interests of various countries. All articles and annexes constitute a comprehensive normative system for balancing the maritime rights and interests of the contracting Parties [8]. A high degree of integrity guarantees the stability of UNCLOS, while it also causes the problem of difficult revision and unable to update at any time.

For example, Article 64 of UNCLOS provides special protection for highly migratory species, including 17 species of fishes and mammals as shown in Annex I. It should be pointed out that the classification of such species is based on political interests rather than biological science. States such as the United States and Japan, which have developed tuna fisheries, have special interests to highlight tuna. Meanwhile, the species listed in Annex I are not abundant enough. Species that are more critical or have a wider migratory range than these species are not listed, such as squid and krill. However, it is extremely difficult to revise the provisions, which is almost impossible to consider biological conservation issues independent from economics and politics. Consequently, it cannot be updated timely adapting to the development of fisheries and biological conservation, resulting in a gap between the dynamic international community and the static treaty.

4.1.2. Ignoring Biological Characteristics

Relatively speaking, UNCLOS is a comprehensive convention in the law of the sea, but it still does not pay much attention to the protection of marine living resources. There are only two general articles in UNCLOS that directly relate to the protection of ecosystems, marine environment and marine species that are rare and fragile [6]. Many regulations are formulated merely on the basis of law rather than biology.

The maritime zoning system is a landmark set by UNCLOS to manage marine living resources. Nevertheless, this system mainly serves the political demands of the international community for maritime jurisdiction, but completely ignores the biological characteristics of marine organisms. As Robin Churchill and Vaughan Lowe said, “The Convention's impression of fish is that the shoal of fish can remain in the EEZ of a coastal State.” [9]. Instead, migration is a natural instinct of marine organisms. It is normal for them to move freely between EEZs or in waters where national jurisdiction is unexpected. Because of this, it is absurd to expect marine organisms to “understand and comply” with artificial zoning regulations. In addition, as discussed in Section 2 of this paper, marine living resources are shared, marine ecosystems are integrated, the task of protection is closely related to all mankind. Artificial division of marine living resources protection areas is neither in line with biological characteristics nor objective reality.

4.2. Vague Regulations Causing Difficulties in Application

Due to the need to consider the interests of all Parties in the formulation of UNCLOS, many provisions are vague and even contradictory. It seems that UNCLOS is complete and accepted by all Parties, but many legislative loopholes exist in it actually. Some are not feasible in practice, some will even cause disputes between States.

4.2.1. EEZ Overlap

According to Articles 55 and 57 of UNCLOS, the EEZ is a region that extends beyond and adjacent to the territorial sea [5]; the EEZ is limited to 200 nautical miles from the baselines used to measure the breadth of the territorial sea [5]. However, in practice, the EEZ of many States has overlapping parts. If negotiations and clear specific boundaries can't work out timely, it will inevitably lead to fierce conflicts and buck-passing for the protection of marine living resources between States, which is not conducive to the implementation of protection measures.

4.2.2. Lack of Practical Operability

Many of the regulations of UNCLOS on the rights and duties of EEZ States are considered unreliable and impractical by experts on the law of the sea. Usually, it is developed countries that master advanced science and technology, while developing countries, due to technical and financial constraints, are always unable to perform their conservation and management obligations well, and incomplete or even non-performance of obligations sometimes occurs. It is stipulated that proper conservation and management measures must be taken to ensure the maintenance of living resources in the EEZ is not threatened by over-exploitation [5]. Taking China for instance, it is difficult for China's current fishery information system to provide accurate and reliable statistics on fishing. The problem of resource assessment is far from being solved. Unfortunately, UNCLOS only stipulates that developing countries can obtain assistance and preferential treatment from international organizations, but does not really stipulate certain and strict constraints on developed countries to urge them to assist developing countries. It not only weakens the power of developing countries in marine living resources protection, but also further reduces the degree of implementation of protective measures.

4.2.3. Legal Standard Subject to Adjustment

In general, UNCLOS takes rights rather than obligations as the legal standard, focusing more on the interests of States, while the obligation to protect marine living resources is only stipulated in principle, lacking mandatory binding force. The highly generalized definition of obligations leaves the door wide open for States to interpret the provisions of UNCLOS discretionarily. Coastal States have considerable autonomy in the exploitation and utilization of marine living resources in their EEZ, such as the determination of allowable catch and discretion lacking scientific basis; such flexibility leaves the coastal State with no specific standard for meeting obligations under UNCLOS [6]. As a result, in practice, the protection of marine living resources in the EEZ can only rely on relevant States to formulate measures on their own, which cannot be guaranteed to a large extent. The lack of specific obligations will certainly lead to more intense competitions for resources, resulting in the "tragedy of the Commons".

4.3. Lack of Effective Enforcement Mechanism

The vague provisions on obligations of UNCLOS empower States to legislate, resulting in a large number of scattered and confusing legal documents in the international community, which greatly reduces the efficiency of cooperative protection and dispute settlement. To be clear, the fragmentation of international law is an inevitable natural defect. The essential problem is that UNCLOS has not established a set of effective enforcement, punishment and supervision mechanisms. It is still difficult to apply the law and settle disputes, let alone establish a unified law enforcement agency to supervise the implementation of obligations by States.

4.3.1. Difficulties in Legal Application

There exist a variety of international legal documents in the field of marine living resources protection, such as UNCLOS, the International Convention for the Regulation of Whaling, the CBD, together with other legal documents formulated by States in the waters under their own jurisdiction. That makes it extremely difficult for the judiciary to apply the law with numerous intricate legal norms involved. Though, the academic circle, including the International Law Commission, has not yet given a clear answer to the question of hierarchy and fragmentation of the application of legal norms in these intersecting fields [10]. Modern international law does not contain strict rules governing the different treaty relationships for the management and protection of species with commercial properties; if a conflict clause arises, case analysis should be combined with all relevant circumstances to reach a solution that is most likely acceptable to the concerned States Parties [11].

4.3.2. Defects of Dispute Settlement Mechanism

According to UNCLOS, concerned Parties should settle the dispute by peaceful means priorly, compulsory means can only be applied if the dispute still cannot be resolved. Disappointingly, compulsory dispute settlement procedure also lacks the binding force and enforcement power. Most disputes cannot be submitted to the compulsory jurisdiction. Compulsory conciliation procedures entirely rely on the voluntary performance of the Parties, the role of the International Court of Justice (ICJ) is very limited, and the International Arbitration Tribunal for the Law of the Sea is only a legal body with advisory and advisory functions. Absence of coercive dispute settlement mechanism is not conducive to urging the Parties to fulfill their obligations in time, delaying the time for dispute settlement and reducing the efficiency of dispute settlement.

Even if a dispute is successfully referred to the mandatory dispute settlement procedure, no specific settlement and liability terms can be referred. In most cases, concerned Parties are free to interpret the provisions based on their own interests, causing a tough situation where both answers are justifiable. Taking the case of the Whaling in the Antarctic between Australia and Japan as an example, although the ICJ ruled against Japan and required it to immediately stop such commercial whaling activities, there was no clear judgment on what liability should be taken. The authority of the ICJ was damaged, and the judgement became a dead letter [12].

5. Improvement of EEZ Marine Living Resources Protection

5.1. Perfection of Legal Idea

Before perfecting the legal system, it is necessary to realize the important role of legal idea and international customary law. Legal idea is a rational cognition of legal relations and a basis of legislation. Meanwhile, under the Statute of the ICJ, customary international law is considered a source of international law. The International Law Commission has aptly summarized the relationship between UNCLOS and customary international law: "A principle or provision of customary international law may be enshrined in a bilateral or multilateral agreement, subject to certain limitations. In this case, as long as the treaty is valid, the States Parties are obligated to strictly adhere to the provisions; other States, for their part, remain bound by the relevant principles and rules of customary international law." [13].

5.1.1. Global Integrated Protection

The sharing and integrity of marine living resources determine that the protection for them is inseparable and must integrate the efforts of the world community. Vigorous measures should be

taken to mobilize multiple entities, expand cooperation mechanisms, and combine domestic legislation with international cooperation, to achieve comprehensive and integrated protection of marine living resources.

5.1.2. Sustainable Development Principle

In 1987, the World Commission on Environment and Development defined this principle in *Our Common Future*: “The principle of sustainable development is to meet the needs of present generations without compromising the ability of future generations to meet their own needs.” [14]. The 1992 Rio Declaration established the principle of sustainability as the fundamental principle for coordinating environmental protection and economic development.

Sustainable development is one of the cornerstone principles of ecosystem protection. It is also a guiding direction for the improvement and renewal of UNCLOS. In fact, the principle of sustainable development has been incorporated into conventions or agreements in various conventions like the CBD and the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter. It has also been reflected in a wide range of national practices. The principle of sustainable development has been and should be observed and implemented by the international community as a customary international law.

5.1.3. Precautionary Principle

Precaution means action taken in advance to avoid a hazard or risk, or action taken to avoid possible danger or discomfort. This principle is typically expressed in Article 15 of the Rio Declaration as: “States should apply the precautionary approach widely to protect the environment, taking into account their capabilities. In the event of a threat of serious or irreversible harm, the absence of full scientific certainty should not be relied upon to delay cost-effective measures to prevent environmental degradation.” [15]. Although whether the precautionary principle has become a customary international law remains controversial in academic circle, quite a number of scholars believe that this principle, as a general principle of international environmental law, has been proved by national practice.

5.1.4. Obligation Standard

Many treaties and agreements, including UNCLOS, mainly focus on the rights related to marine living resources, while the provisions of obligations are general and vague. Therefore, it is necessary to strengthen the idea of legal obligation standard, specify the attribution, performance and punishment mechanism of obligations.

5.2. Optimization of the System

Main reasons why States Parties do not comply with regulations are as follows: the obligations are not specific and clear enough; inadequate capacity and lack of adequate support; lack of mandatory provisions to monitor the effective implementation. These problems can be solved by optimizing the legal system.

5.2.1. Improve the Punishment Mechanism for Compliance

Through the elaboration of the obligations for marine living resources protection, it will further provide guidance for States Parties to fulfill their obligations. It will also provide more clear judgment references for arbitration institutions to resolve disputes, which in turn better promote the implementation of regulations by States Parties.

Laws without disciplinary provisions are not operational and binding, which cannot play roles in effectively implementing the protection of marine living resources. Therefore, it is essential to add disciplinary regulations to the present provisions. Disciplinary measures can be divided into civil and criminal penalties according to the severity of the breach. Many States have raised the destruction of marine living resources to the level of criminal law in their domestic laws, such as the crime of illegal fishing of aquatic products as stipulated in Article 340 of the Criminal Law of China. Moreover, some scholars have demonstrated the feasibility of using international criminal law to protect marine living resources that the existing international agreements and the establishment of the International Criminal Court have provided the institutional basis for pursuing criminal responsibility of relevant subjects [16].

5.2.2. Optimize the Global Cooperation Mechanism

The current UNCLOS only provides for assistance and preferential treatment for developing countries in Articles 202 and 203, which cannot meet practical needs. In this regard, the support and assistance from developed countries to developing countries should be strengthened. And this obligation of developed countries should be combined with the rights they can enjoy in turn, so as to incentivize them to help other countries. Meanwhile, the role of international organizations should be brought into full play on the basis of existing provisions to promote exchanges and cooperation between developing and developed countries, coastal and landlocked countries, reach mutual beneficial agreements, and form a joint force for marine living resources protection.

5.2.3. Absorb Relevant Legal Documents

The bilateral, regional and multilateral sea-related treaties concluded between states, as well as the political and diplomatic practice of resolving maritime disputes between states, to a certain extent, make up for the shortcomings of the EEZ articles of UNCLOS, and may lay the foundation for the further supplement and improvement of UNCLOS [8]. The 1992 CBD has more scientific and specific provisions on the protection of biological resources, which offers great reference and guidance on improving the conservation of marine living resources in EEZ. Other conventions helpful to the marine living resources protection, such as the Fish Stocks Agreement and the International Plan of Action for the Management of Fishing Capacity, have also had an important impact on the existing UNCLOS system. Furthermore, important judgements, advisory opinions and decisions of international dispute settlement agencies can constitute reference objects and define the principles of international law [6]. Typical judgments can also clarify some disputed provisions of EEZ, and produce reference for other similar disputes so that the efficiency of disputes settlement could be promoted.

6. Conclusion

This paper intends to analyze the existing problems of EEZ marine living resources protection from both angles of system deficiency and implementation difficulties, then put forward suggestions on the improvement of EEZ marine living resources protection based on the two perspectives of ideas perfection and system improvement. The protection of marine living resources is a continuous cause, which cannot be achieved overnight. It is a cause that requires the cooperation of all mankind from generation to generation. It is gratifying to see that EEZ provisions are moving towards a “green” law of the sea. Introduction of more emerging environmental protection concepts, the hierarchy of legal application, and further improvement of enforcement mechanisms can be taken as research directions in the future. We should insist on working together to protect marine living resources—the treasure of all mankind.

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