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OCEANS GOVERNANCE AND THE PROTECTION OF MARINE RESOURCES

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Abstract

Ocean governance is increasingly recognized as an essential approach for the sustainable management and protection of marine resources. This research paper delves into the complex aspect of the ocean governance, highlighting the need to integrate the scattered viewpoints to create comprehensive strategies for marine resource conservation. This paper starts by the importance of ocean and what it consists of, then we proceed by looking at the existing international framework, like United Nations Convention on the Law of the Sea (UNCLOS), which lay the groundwork for governing oceanic areas. Also the paper emphasize on the role of regional fisheries management organizations (RFMOs). Moreover, we discuss the significance of involving various stakeholders, including indigenous groups and local fishers. In addition, the paper explores the effects of emerging threats such as marine pollution and climate change on ocean governance systems. By showcasing case studies from different regions, we highlight effective practices and insights gained from managing marine resources. In a nutshell, this research emphasizes the need for adaptable and integrated ocean governance frameworks that protect marine resources and the cooperative initiatives so that we can work towards a resilient ocean governance system that ensures the sustainable use and protection of marine resources for future generations.

Key Words

Ocean, ocean governance, Marine resources, UNLOS, Overfishing.

Introduction

The Ocean sustains all life on this planet, approximately covers 71% of the Earth's surface and 80% of life on Earth is in the ocean, 50% of the oxygen is from the ocean, absorbs about one-quarter of the Carbon dioxide and captures 90% of additional heat caused by greenhouse gas emission. The use of the ocean is rapidly expanding and by the above statistics it is unquestionably clear that the ocean is very much essential for survival on earth as it provides all the vitals for sustaining life here. Food and raw materials are extracted from the ocean also it has become a way of transportation as well.

However, human activities have significantly impacted the health of the ocean and the biological hotspot is facing threat by overfishing, pollution, climate change, habitat destruction, ocean mining and unsustainable coastal development. Therefore, ocean governance has become a matter of worry for not only the policymakers and environmentalists but also to a common man. Ocean Governance is an integrated framework of policies, international agreements, national laws and practices that regulate use and protection of marine resources and environment. Sustainable development and to have a healthy marine ecosystem it is very important to establish a comprehensive legal framework for ocean governance by addressing issues that deteriorate the ocean life.

As threat to our ocean continue to escalate, the need to have a collaborative approach of both ocean governance and marine resource protection also have become urgent. This paper will analyse various dimensions of ocean governance from the basics to the more complex issues and by examining them the opportunities for enhancing marine resources in the era of global change. This paper intend to contribute a deeper understanding of the topic and the perseverance for strict laws to support sustainable ocean and conserve marine resources from being violated.

The Concept of Ocean Governance

Ocean governance incorporates the legal and policy framework that standardize the human activities in marine environment. The United Nations Convention on the Law of the sea (UNCLOS) is a pivot, which emphasizes the rights and duties of the coastal and marine states, creating zones like territorial sea and exclusive economic zones (EEZs)

Ocean is a biological hotspot containing approximately 500,000 to 10 million marine species,

though many of which is still unknown. Effective ocean governance aims to protect marine ecosystem from degradation due to overfishing, pollution, and climate change.

Ocean governance must include different strategies to address the issues that have come up like climate change, ocean acidification, overfishing and other illegal activities that have led to the extinction of some rare species. Adaptive strategies will help in maintaining a proper balance between the economic growth and environmental conservation and also fostering resilient marine ecosystem for the upcoming generations. This approach will lead to preservation of the ocean and its invaluable resources.

The ocean can be divided into two major categories and they have distinct rights, legal framework and responsibilities. They are as follows:

1. Territorial Sea

The territorial sea extends up to 12 nautical miles from the coastal baseline of the state. The state has full access over its territorial sea and can enforce any law and punish any crime within the extent also they can extract any resource present. Legal status is also governed by the UNCLOS that sets rights and responsibilities of the coastal states regarding their territorial waters. Rights to passage is also provided by the states to foreign vessels as long as they do not feel threatened by them. State has total monopoly over its territorial sea.

2. High Sea

The high sea covers 64% of the world's ocean and 50% of the earth's surface. According to the Geneva Convention 1958 on the High seas¹, stated that sea that are not included in the territorial waters or the internal water of a country are known as high seas. It is the area beyond the Exclusive Economic Zone (that is 200 nautical miles from the coastal line).

The high sea are governed by UNCLOS and other international agreements that address specific issues. High sea is open to all the states for oceanic activities but they are subject as to the international treaties.

¹ Convention on the High Seas, opened for signature 29 April 1958, 450 UNTS 82 (entered into force 30 September 1962).

Definition

Here are definitions of ocean governance from various authors and sources:

1. Elinor Ostrom: Ostrom highlights that ocean governance involves "the set of rules and practices that govern the use of ocean resources, focusing on collective management and sustainability of common-pool resources."²
2. Berkes, F. (2009): Berkes emphasizes that ocean governance is "the process of managing human interactions with marine ecosystems, integrating ecological knowledge with societal needs."³
3. United Nations Environment Programme (UNEP): UNEP states that ocean governance is "the comprehensive framework for managing human activities and ensuring the health of marine ecosystems for current and future generations."⁴
4. FAO: The Food and Agriculture Organization defines ocean governance as "the legal, institutional, and policy frameworks that regulate ocean resources, promoting sustainability and protecting marine biodiversity."⁵

Legal Frameworks Governing Oceans

A. International Law and law of the sea

- 1) The United Nations Convention on the Law of the Sea(UNCLOS)

The United Nations Convention on the Law of the Sea lays down a comprehensive regime of law and order in the world's oceans and seas establishing rules governing all uses of the oceans and their resources. It enshrines the notion that all problems of ocean space are closely interrelated and need to be addressed as a whole.⁶

This treaty was adopted in Montego Bay, Jamaica, on 10th December 1982 and entered into force on accordance with article 308 on 16th November 1994. It comprises of 320 articles and nine annexes that governs all aspects and is globally recognize.

The three main organs of the UNCLOS are

- International Seabed Authority

² Elinor Ostrom, 'Governing the Commons: The Evolution of Institutions for Collective Action'(Cambridge University Press 1990).

³ F Berkes, 'Adaptive Co-Management: Beyond Fencing and Local Community' (University of Alberta Press 2009).

⁴ United Nations Environment Programme, The Role of Ocean Governance in Sustainable Development (UNEP 2012) <https://www.unep.org/resources/report/role-ocean-governance-sustainable-development> accessed 15 October 2024.

⁵ Food and Agriculture Organization, *The State of World Fisheries and Aquaculture 2020* (FAO 2020) <http://www.fao.org/3/ca9229en/CA9229EN.pdf> accessed 12 October 2024.

⁶ United Nations Convention on the Law of the Sea, opened for signature 10 December 1982, 1833 UNTS 3 (entered into force 16 November 1994)

The International Seabed Authority is an international organisation established under UNCLOS in 1994. The main purpose for making of this authority is to regulate mineral related activities in the international seabed area which extend beyond the national jurisdiction . The key functions include resource management, licensing and oversight, scientific research etc. ISA balance the economic interest of the countries while keeping in mind the protection of the marine environment which contributes a large part in the ocean governance.

- International Tribunal for the Law of the Sea

The International Tribunal for the Law of the Seas is an independent judicial body established by UNCLOS in 1994. It is based in Hamburg, Germany and composed of 21 Judges elected for nine-year term by states parties to the UNCLOS . The main role of this is to adjudicate dispute related to interpretation and application of the convention, maintain stability and cooperation among states ,advisory opinion on matters, enforcement of judgments etc.

- Commission on the limits of the Continental Shelf

The third organ is the commission on the Limits of the Continental Shelf , it was establish to encourage equitable use of the continental shelf beyond 200 nautical miles from a country's baseline and to assist costal states in determining outer limits of their continental shelf. The CLCS consist of 21 members who are experts in geology, hydrography and marine science. Members are elected by the State Parties to UNCLOS for the term of five years and they can be re-elected. To promote responsible use of seabed resources and to help prevent any conflict over maritime boundaries this commission is very much important .

2) Regional Agreements and Treaties

Regional agreements and treaties are legal instruments adopted by the countries within a. specific geographical territory to address maritime challenges and manage ocean's resources. They promise corporation among the states by promoting sustainable practice and protecting marine biodiversity.

Some Regional Treaties are Convention for the Conservation of Antarctic Marine Living Resources, Caribbean Community Fisheries Agreement, Nairobi Convention etc.

3) National Legal System and their Role

The National Legal System plays a very important role on the implementation of international and regional agreements at the domestic level. Countries have to ratify the

international treaties before adopting them in their domestic legislations. Many countries have now made laws specifically for the protection of marine life and sustainable use of the ocean's resources. But the challenges faced by the systems are in many states who are still developing there is a lack of resources for the enforcement of marine laws and sometimes these national laws may come under conflict with the traditional practices of the local community, often leading to tension.

4) Customary International Law

The practices and customs that have been prevailing over a time and now have been accepted as legal binding by the states and not codified anywhere in the written treaties are the customary International law. Key aspect include freedom of high sea, conservation and sustainable use of marine recourses ,and the rights and duties of coastal states.

5) The main motive of these is to ensure the sustainable management of our oceans.

Customary international law in ocean governance establishes norms and practices regulating the use and conservation of ocean resources. Key aspects include freedom of the high seas, conservation and sustainable use of marine resources, protection of the marine environment, and the rights and duties of coastal states. These principles and practices are fundamental in shaping ocean governance and ensuring the sustainable management of our oceans.

Obstacles and Recommendation in Ocean Governance

- Threats to Marine Biodiversity

The reduction of marine biodiversity creates a significant barrier to effective ocean governance for several reasons such as the **economic implications** , marine biodiversity is crucial for various economic activities, including fisheries , tourism, and costal protection. The decline in biodiversity can have serious economic repercussions for coastal communities and nations. Second is **food security** for billions of people worldwide. The decrease in biodiversity can jeopardise food security, especially in developing countries heavily reliant on marine resources. Third is climate regulation , ocean plays a crucial role in regulating the Earth's climate. Marine biodiversity is essential for ecosystem. The decline in biodiversity can degrade these services, resulting in negative consequences for human well-being.

To tackle the threat to marine biodiversity and enhance ocean governance, it is crucial

to implement a comprehensive approach that includes sustainable fisheries management, habitat protection and restoration, pollution reduction and by addressing climate change also by strengthening international cooperation. If we take the example of some issues such as

The Gulf of Mexico Oil Spill

In 2010, a deepwater oil rig exploded in the Gulf of Mexico, resulting in the largest spill that the world has never seen before. This caused extensive damage to marine ecosystem, fisheries, and coastal communities. Cleaning up such a massive oil spill was difficult and its impact can be still felt. This incident highlighted the need for more stronger regulation and led to number of legal and regulatory changes including Oil Pollution Act of 2010 and the creation of the National Spill Response Organization. These measure aims to prevent future oil spills and improve response to such incidents.

- **Climate Change:** A significant barrier to ocean management.

Climate change presents one of the most important hurdles to ocean management today. Due to human activities, the earth's atmosphere is warming, resulting in various impacts on the ocean. These impacts are causing significant repercussions for marine ecosystem, fisheries, coastal communities, and the overall climate.

The impacts of climate change on the ocean is an alarming topic and us leading to rising sea levels, ocean acidification, changes in ocean currents, extreme weather events and also the marine heatwaves which leads to mass coral bleaching, fish die-offs and other ecological disruptions

The challenges posed by climate change to ocean governance are intricate and interconnected. Addressing these challenges requires a comprehensive and coordinated approach involving international cooperation, scientific research, and investment in adaptation and mitigation measures.

Ocean Acidification and Shellfish Aquaculture:

West Coast of the United States

Ocean acidification, resulting from the absorption of atmospheric carbon dioxide, has been affecting shellfish aquaculture along the west coast of the United States. The increasingly acidity in the waters is making it challenging for shellfish to form their shells. Finding a balance

between the demands of the shellfish industry and the conservation of marine ecosystem has proven to be a complex challenge.

Researchers and industry representatives have collaborated to devise strategies to lessen the effects of ocean acidification on shellfish aquaculture. This includes investigating new shellfish species that exhibit greater tolerance to acidic waters and developing methods to mitigate the acidity of seawater.

Fisheries management and climate change: North Atlantic Cod

The decline of the North Atlantic cod fishery during the 1990s was primarily due to overfishing. Nonetheless, climate change is also thought to have contributed, impacting cod's habitat and food accessibility. Rebuilding the cod population while addressing the effects of climate change poses a considerable challenge.

Management plans in fisheries have been implemented to restore the cod population, including catch limits quotas, and marine protected zones. However, climate change continues to threaten the recovery efforts of the fishery.

- **Illegal, Unreported, and Unregulated (IUU) Fishing**
Illegal, unreported, and unregulated (IUU) fishing poses a substantial risk to marine ecosystem and presented a significant challenge to effective ocean governance. This encompasses fishing activities that contravene national or international laws, regulations, or agreements. These activities may involve fishing without license, surpassing catch limits, fishing in restricted areas, and failing to report catches. This may lead to depilation of fish stocks, loss of livelihoods, economic losses, human rights abuses such as forced labour and child labour, and environmental damage. To address this problem there must be use of multifaceted approach such as strengthen enforcement by government, improving port state control, promoting transparency, strengthening regional cooperation IUU is a complex issue that demands coordinated global efforts to tackle. By making efforts and addressing the root causes of IUU fishing we can safeguard marine ecosystems and ensure a sustainable future for the fishing industry.

Overfishing and fisheries management: The case of Atlantic Bluefin Tuna

The Atlantic bluefin tuna, a highly migratory species, has faced intense overfishing for many years. Its population has significantly decreased, raising concerns regarding its long-term viability. IUU fishing, ineffective enforcement, and insufficient international collaboration have obstructed sustainable management efforts for the Atlantic bluefin tuna.

The International Commission for the Conservation of Atlantic Tunas (ICCAT) oversees the management of the Atlantic Bluefin tuna fishery. ICCAT has enacted various protective measures such as catch limits, quotas, and monitoring programs. However, these initiatives have been hard to enforce, and IUU fishing continues to pose a major issues.

The case of Galápagos Islands

The Galápagos Islands host a unique marine ecosystem that supports numerous endangered species. IUU fishing has merged as a significant threat in the area, jeopardizing the survival of these species. Detecting and prosecuting IUU fishing is challenging, with potentially devastating impacts on marine ecosystem.

The Ecuadorian government has initiated measures to combat IUU fishing around the Galápagos Islands, which includes enhancing surveillance, reinforcing enforcement, and establishing marine protected areas. Nevertheless, IUU fishing remains a considerable challenge.

Recommendations for improving ocean governance

Enhancing ocean governance is not just important - it's essential for safeguarding our marine resources and ensuring a sustainable future. Following are some suggestions:

- By bolstering international collaborations and improving cooperation among countries through treaties and agreements, such as the United Nations Convention on the Law of the Sea (UNCLOS), to tackle transboundary challenges like overfishing and pollution. Strengthening international cooperation through treaties and agreements we effectively tackle pressing challenges. Integrating marine spatial planning enables us to account for a balance between conservation and responsible human activities.
- By adopting ecosystem based management and promoting sustainable fisheries through scientifically informed quotas and protecting vital habitats if paramount to preventing

overfishing. Additionally, reinforcing marine protected areas (MPAs) is instrumental in preserving biodiversity and boosting resilience against climate change. An ecosystem-based management approach, which recognized the intricate connections among marine species and their habitats, is far more effective than a narrow focus on single species.

- By blue economy initiatives, including sustainable tourism and renewable energy, can enhance livelihoods while protecting our precious marine environments. Utilizing advanced technology for monitoring and enforcement- such as satellite tracking and drones-can significantly strengthen compliance efforts.
- By raising awareness and promoting education fosters a deeper public understanding for ocean issues, creating a powerful sense of stewardship within communities.
- Finally, by securing financial resources for ocean governance initiatives is essential to empower both developing countries and community-led projects. Only by working together can we pave the way for healthier, more sustainable oceans that benefit everyone. By integrating these strategies, we can effectively improve ocean governance and ensure the sustainable use of marine resources.

Conclusion

In conclusion, effective ocean governance is vital for the sustainable management and protection of marine resources. The escalating pressures from climate change, overfishing, pollution necessitate a coordinated and comprehensive response that prioritizes international collaboration, robust regulatory frameworks, and active community engagement. Enhancing governance mechanism such as integrated ocean management, marine spatial planning, and the establishment of marine protected areas-can significantly improve the resilience of marine ecosystem and ensure the equitable utilization of resources. Ultimately, cultivating a shared commitment to ocean stewardship among government, stake holders, and the public is essential for safeguarding the health of our oceans for future generations. As we advance, it is imperative to emphasize research and education to create more sustainable and resilient marine environment, acknowledging that well-being of the ocean is intrinsically linked to our own.