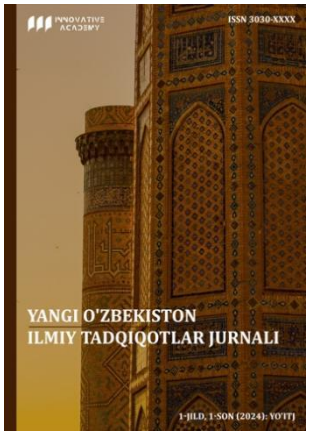

MECHANISMS FOR COMBATING MARINE PLASTIC POLLUTION IN INTERNATIONAL MARINE LAW

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ABSTRACT

This article analyzes the mechanisms for combating marine plastic pollution within the framework of international maritime law. The study was conducted based on the UNCLOS - United Nations Convention on the Law of the Sea, and other international legal documents. The article presents the strengths and weaknesses of the existing international legal framework, practical implementation mechanisms, and recommendations aimed at solving the problem. In conclusion, it was noted that international legal mechanisms are insufficient and there is a need for a new, binding international treaty.

Every day, an amount of plastic waste equivalent to 2,000 garbage trucks is dumped into the world's oceans. This figure is not merely a statistic it is evidence that humanity is poisoning its own home. The seas are the lungs of our planet, the source of our existence. Yet we continue to treat them as dumping grounds.Plastic pollution has become one of the most pressing environmental challenges of the 21st century. According to research, approximately 150 million tons of plastic have already accumulated on the ocean floor, and an additional 8 million tons enter the oceans every year. Plastic pollution not only causes the death of marine species but also directly threatens human health: it has been proven that microplastic particles can enter human blood vessels, the liver, and the lungs. This global issue cannot be solved by the efforts of a single state alone. The oceans are the common heritage of humankind. Therefore, responsibility toward them must also be based on universal cooperation and shared accountability. At this point, international law should serve as a crucial instrument. However, an important question arises: are the current mechanisms of international law sufficiently strong and effective to protect the oceans from plastic pollution? The purpose of this article is to analyze the existing mechanisms within international maritime law aimed at combating plastic pollution, evaluate their effectiveness, and identify existing gaps. The article relies on international conventions as primary sources, while analytical works of international law scholars and environmental organizations are used as secondary sources.

Adopted in 1982 and entering into force in 1994, the United Nations Convention on the Law of the Sea serves as the foundation of international maritime law. The Convention has been ratified by 168 states and regulates nearly all aspects of maritime activities. With regard to

marine pollution, Part XII of UNCLOS, particularly Articles 192–237, is of special importance.Article 192 of UNCLOS establishes the general obligation of states to protect and preserve the marine environment. Article 194 requires states to take all necessary measures to prevent, reduce, and control pollution of the marine environment. Article 207 addresses pollution originating from land-based sources, while Article 211 is devoted to pollution caused by vessels.[1]However, one of the major shortcomings of UNCLOS is that it does not specifically identify plastic waste as a separate category of pollution. When the Convention was adopted in 1982, plastic pollution had not yet emerged as a global crisis on the scale it represents today. As a result, UNCLOS relies only on broad and general provisions in relation to plastic pollution. Furthermore, the enforcement mechanisms of the Convention remain relatively weak, and the application of effective sanctions against states that fail to fulfill their obligations is highly limited. International Courts and Dispute Settlement Mechanisms.Part XV of the United Nations Convention on the Law of the Sea provides for compulsory dispute settlement procedures. The International Tribunal for the Law of the Sea, the International Court of Justice, and special arbitral tribunals are empowered to hear disputes related to maritime law. An important example is the advisory opinion issued by ITLOS in 2021, in which the tribunal clarified states' obligations concerning climate change and marine pollution. However, in order for states to hold one another internationally responsible before a court or tribunal, the evidentiary requirements are extremely strict. It is technically difficult to determine the exact state of origin of plastic waste found in the marine environment, which makes legal claims more complicated.[2] As a result, there has not yet been a full-scale international judicial proceeding specifically focused on plastic pollution. The main challenges of international maritime law in combating plastic pollution can be identified in the following areas.

The first problem is fragmentation. There is no single, comprehensive international treaty specifically dedicated to plastic pollution. Instead, the issue is divided among various legal instruments, including the United Nations Convention on the Law of the Sea, the International Convention for the Prevention of Pollution from Ships, the Basel Convention, and different regional conventions. This situation creates legal gaps and inconsistencies. One instrument may fail to take into account the requirements of another, while states often apply them in parallel and sometimes in contradictory ways.

The second problem is weak enforcement. Due to the nature of international law, there is no sufficiently strong mechanism capable of compelling states to fully comply with their obligations. States may ratify international conventions but fail to implement them effectively in practice, while the consequences remain limited. In the field of marine pollution in particular, sanctions are rarely imposed.

The third problem concerns microplastics and emerging forms of pollution. MARPOL and other international instruments mainly focus on visible waste and materials exceeding a certain size. However, microplastic particles smaller than 5 millimeters and nanoplastics have become some of the most dangerous forms of marine pollution today. Legal instruments specifically regulating the release and control of these particles in the marine environment are still insufficiently developed.

International Legal Solutions. In March 2022, the United Nations Environment Assembly adopted a historic resolution to begin negotiations on a single global treaty aimed at combating plastic pollution. The decision was supported by 175 states. The negotiations were

[1] United Nations Convention on the Law of the Sea (UNCLOS), 1982. — United Nations Treaty Series, Vol. 1833.
[2] UNEP (2016). Marine Litter Legislation: A Toolkit for Policymakers. — Nairobi: United Nations Environment Programme.

initially planned to be concluded by 2024. Many experts described this process as the most significant step in environmental diplomacy in the last thirty years.The proposed treaty is expected to regulate plastic waste through a "cradle-to-grave" approach, meaning that it would cover the entire lifecycle of plastic products from production to waste management and disposal. This would represent a fundamentally different approach from the International Convention for the Prevention of Pollution from Ships, which mainly regulates pollution during the transportation and shipping stages. However, the negotiations have proven difficult, as oil-producing and plastic-manufacturing states oppose the introduction of strict limitations and binding obligations. Modern technologies are creating new opportunities to strengthen the enforcement of international law. Satellite monitoring, artificial intelligence, and big data analysis are increasingly being used to monitor plastic pollution in marine environments. For example, satellites operated by the European Space Agency and the National Aeronautics and Space Administration are now capable of identifying accumulations of plastic waste on the ocean surface.The integration of ship-tracking systems with AIS data can become an important tool for detecting violations at sea. The International Maritime Organization is currently working on incorporating these opportunities into the international monitoring framework. Digital technologies may therefore help address, at least partially, the long-standing "problem of proof" in cases involving marine plastic pollution.

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