

Forum: SDG 13

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TOPIC 2: The Issue of Fishing Operations' Effect on Oceans

I. Introduction to the Topic

Fishing plays an essential role in the modern world. Currently, the global fishing industry employs around 250 million people to produce nearly 214 million tonnes of fish and seafood. Among those, 91 million tonnes came from capture fishery — capturing wild fish—with 78.79 million tonnes from oceans. Such a significant marine fishing industry exerts similarly substantial effects on our seas. If not addressed promptly, these problems will jeopardize the global fish supply and affect the well-being of the global economy and billions of people worldwide.

The biggest threat fishing poses to our oceans is overfishing. Overfishing occurs simply when the rate of fish catching is higher than the rate of fish reproduction. The phenomenon has been accelerating in recent decades largely due to a rapidly rising global population (and thus more demand for fish and seafood), advanced fishing technologies and methods, prevalent government incentives for the fishing industry, and illegal fishing operations. As a result, wild fish populations are rapidly decreasing, with only 66% of current fish stocks deemed to be at sustainable levels, compared to 90% in 1974. The consequences are devastating and comprehensive. On one hand, not only are fish populations spiraling towards collapse, but entire food webs and ecosystems are being disturbed and imbalanced, threatening other marine species. On the other hand, the world is facing an ever-growing shortage of wild fish while more and more fishermen risk losing their livelihoods due to declining fishing productivity. These repercussions will only intensify if overfishing is left unchecked and as unsustainable as what we are doing today, especially as the world population continues to grow and demand for seafood keeps increasing.

Another particularly large source of concern is fishing methods. Some popular fishing methods are purse seine, bottom trawling, gillnets, and longlines. Each of these methods, if conducted improperly, can cause habitat destruction and bycatch (caught fish that cannot be sold and thus are discarded, often after having sustained injuries or died).

Fishing has also been shown to reduce the genetic diversity of ocean fish stocks. Since only some species are profitable and thus captured, the genetic composition of marine populations may be less diverse. Reduced genetic diversity causes fish populations to be less resilient and more vulnerable to collapse and extinction, further affecting global fish stocks.

While debating on this topic, aside from addressing those aforementioned issues, delegates should also consider the geopolitical and socioeconomic complications of fishing operations and the fishing industry. In light of the fact that the oceans are shared and enjoyed by every country, the chairs strongly look forward to collaborative and inclusive discussions from all delegates.

- International and Regional

Since the oceans and marine resources are shared by multiple countries, a united, international, and multilateral response to address the environmental repercussions of fishing operations is both practically necessary and morally obligatory. If countries do not cooperate, they will all share the same negative consequences.

- National

Fishing operations should play a key role in national agendas, especially for countries that rely heavily on the fishing industry and/or consume substantial amounts of fish. Stringent oversight and regulation for fishing is lacking in many countries and should be implemented soon. In addition, countries should look into developing infrastructure to produce their own fish supplies.

- Local

Fishing-related businesses and fishermen are crucial stakeholders in this issue. They may face loss of livelihoods when fish supplies are exhausted in the future and/or solutions do not consider fishermen and businesses' roles.

II. Definition of Key Terms

Open-Ocean/Pelagic Ecosystem: This is the area far from the coastal boundaries and above the seabed which encompasses the whole water column. This ecosystem is important because it is not only marine life but also terrestrial ecosystems including humans. For example, oceans generate most of the oxygen and regulate the climate we are living in.

Bycatch: Bycatch is when unwanted fish or marine organisms are caught through the process of fishing operations. This leads to several negative repercussions such as population decline and disturbance in the food web or biodiversity in marine ecosystems.

Maximum Sustainable Yield (MSY): MSY is the highest level at which a fishery can be harvested over the long term without depleting the fish stock. It represents the balance between catching enough fish for human consumption and allowing the population to maintain its size and reproductive capacity, ensuring a continuous source of seafood.

Stock Assessment: Stock assessment involves scientific evaluations to determine the health and sustainability of fish populations. These assessments provide critical data for fisheries management decisions, helping to set catch limits and protect overexploited or endangered species.

Overfishing: Overfishing happens when the rate of catching fish exceeds the rate of fish reproduction. Overfishing results in a variety of significant repercussions, including (but not limited to) the degradation of fish populations and ecosystems, the reduction of fish supplies, and the potential loss of livelihoods for fishermen.

III. Key Stakeholders

Fishermen: Fishing operations lead to disadvantages for fishermen due to economic and social costs. As the problem gets more serious, fishermen find it difficult to live. For instance, these people might lose job opportunities when the population of fish declines significantly, making it challenging and struggling for them to earn monetary gain.

World Wildlife Fund (WWF): This civil society organization works on the sustainability of nature and wildlife. This organization is significant when it comes to the protection of local communities through the transformation of markets and policies which also might lead to the possibility of benefits on a global scale.

Seafood Industry: Besides commercial fishing, the seafood industry includes processors, distributors, and retailers. They are concerned with the availability and quality of seafood products and may support sustainability initiatives to secure their supply chains.

Food and Agriculture Organization of the United Nations (FAO): The FAO is dedicated to improving worldwide agricultural and fisheries practices, including promoting sustainable fisheries management. It provides guidelines and support to countries to develop policies and initiatives aimed at combating overfishing, conserving marine resources, and ensuring the long-term sustainability of global fisheries.

IV. Key Issues Including Background Information

Imbalance in Marine Ecosystem: Fishing operations destroy the balance or equilibrium in the ocean which is maintained by the presence of the marine creatures. This leads to damage to the food web or hierarchy which results in a decrease in interactions among species and dynamics of energy transfer.

Habitat Loss: Habitat loss is a great way to fragment ecosystems which is important to provide habitats to creatures or organisms. Furthermore, it might lead to species extinction, which excludes bio-rights and opportunities to emerge new species.

The tragedy of the commons: Open-access fisheries often suffer from the "tragedy of the commons," where individual fishermen have the incentive to catch as much as possible, depleting the resource. According to the concept, should a number of people enjoy unfettered access to a finite, valuable resource such as a pasture, they will tend to overuse it and may end up destroying its value altogether.

Illegal, unreported, and unregulated fishing (IUU): A broad term that captures a wide variety of fishing activity. IUU fishing is found in all types and dimensions of fisheries; it occurs both on the high seas and in areas within national jurisdiction.

Loss of Endangered Species: There have been concerns that endangered and threatened wild marine species are being captured, either unintentionally through bycatch or intentionally through illegal fishing operations. Organisms may also be affected due to changing migration routes and destroyed habitats. This issue will further compound the global loss of biodiversity.

Fishing Methods: As has been mentioned in the Introduction section, several fishing methods pose significant threats to the marine environment. For instance, bottom trawling destroys coral reefs, which often will not be able to recover at all.

V. Timeline of Resolutions, Treaties, and Events

Date	Description of event
1959	<p>The Northwest Atlantic Fisheries Organization (NAFO): NAFO was created to manage and conserve fishery resources in the Northwest Atlantic, including areas beyond national jurisdictions. It played a significant role in early international fisheries management, impacting stakeholders by promoting cooperation among nations to address overfishing and the conservation of fish stocks.</p>
1982	<p>United Nations Convention on the Law of the Sea (UNCLOS): UNCLOS set international guidelines for ocean resource management, including the establishment of EEZs. It affected the rights and responsibilities of coastal nations, providing a framework for global fisheries management.</p>

- 1995 **United Nations Fish Stocks Agreement:** This agreement aimed to address the overfishing of straddling and highly migratory fish stocks in international waters. It emphasized the need for cooperation between nations and had a positive impact on the conservation of shared fishery resources.
- 2006 **Global Partnership for Oceans (World Bank):** This initiative focused on sustainable fisheries and ocean health, facilitating collaboration among governments, organizations, and stakeholders. It promoted sustainable fishing practices and the preservation of marine ecosystems.
- 2014 **Port State Measures Agreement (PSMA):** The PSMA, established by the FAO, aimed to combat illegal, unreported, and unregulated (IUU) fishing. It impacts various stakeholders by enhancing port controls, thereby reducing the market for IUU-caught fish and safeguarding legal fisheries.
- 2021 **The Ocean Panel:** The High-Level Panel for a Sustainable Ocean Economy, a group of 14 world leaders, committed to sustainable ocean management. This event impacts international stakeholders by emphasizing the need for ambitious ocean protection and sustainable fisheries to achieve broader environmental and economic goals.

VI. Possible Challenges & Solution

Imbalance in Marine Ecosystem: As humans try to intervene in terms of this problem, more concerns will arise, especially ethical problems. Therefore, ideal marine ecosystems let organisms or species live by themselves. Then, what are some actions that countries can take without directly intervening in the marine environment or ecosystem?

Habitat Loss: Habitat is not something humans can make scientifically. This is created through natural processes in the environment. Therefore, it is significant for countries to maintain marine habitats right now without further destroying them. To maintain this habitat, what should be done by the countries?

Loss of Endangered Species: A comprehensive and actionable international framework for protecting endangered species from fishing operations should be developed to ensure this problem is resolved around the world. In addition, actions such as building conservatories and establishing no-take zones (where no fishing, drilling, mining, or any extraction of resources is allowed) should be considered.

Fishing Methods: Although alternative fishing techniques that reduce both overfishing and environmental harms have been developed, they are not being applied adequately. Countries should seek to create legal frameworks to lead to the implementation of sustainable fishing methods.

Sustainable Fisheries Management: This possible strategy involves setting science-based catch limits, size restrictions, and robust enforcement to prevent overfishing. It benefits both commercial and subsistence fishermen by ensuring a stable resource and supports the conservation of marine ecosystems.

Marine Protected Areas (MPAs): MPAs are designated zones where fishing is restricted or prohibited, allowing fish populations to recover. While they may limit fishing initially, they benefit both commercial and recreational fishermen in the long run and support biodiversity conservation.

VII. Recommendations for Resolution Writing Including Research

This is a well-known topic that every delegate is aware of. To dive deeper into the resolutions, delegates should be able to make connections between different key issues. Delegates should not approach the problems or issues in one-dimensional measurements. As the resolutions become one-dimensional, it will be hard for delegates to stand strong in their country's stances. To avoid this, delegates are highly encouraged to discover additional impacts of fishing operations' effect on oceans other than key issues we suggested to avoid any simple and direct approach to the problems to construct higher quality resolutions through deeper understanding and comprehension. This should result in a successful conclusion where deeper understanding and fruitful debates can take place.

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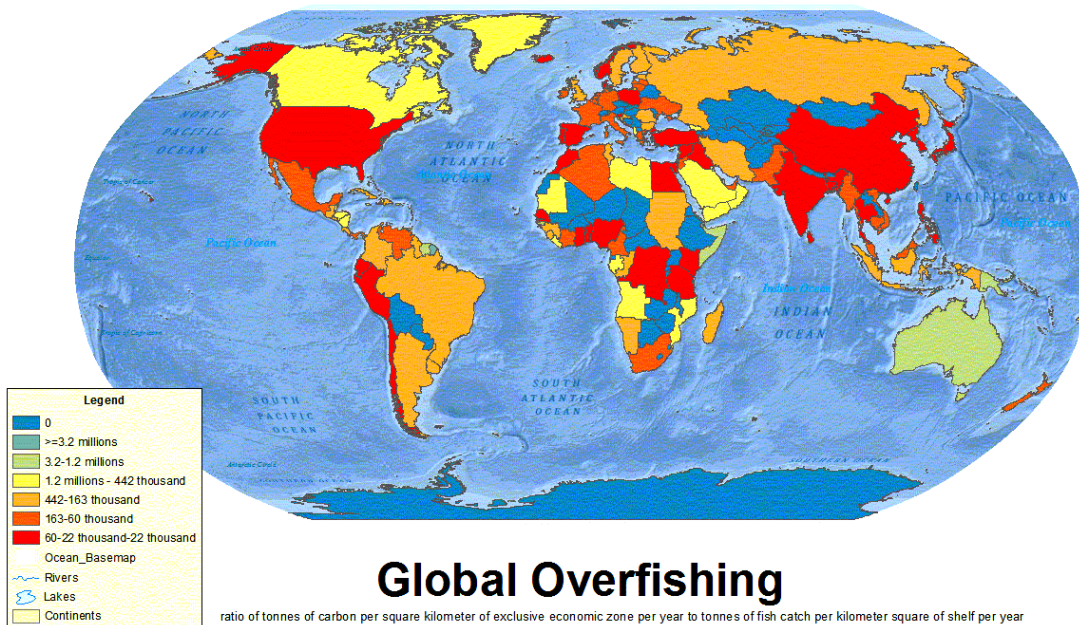
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IX. Additional Resources

Figure 1: Map of Global Fishing



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