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The Tragedy of the Black Sea

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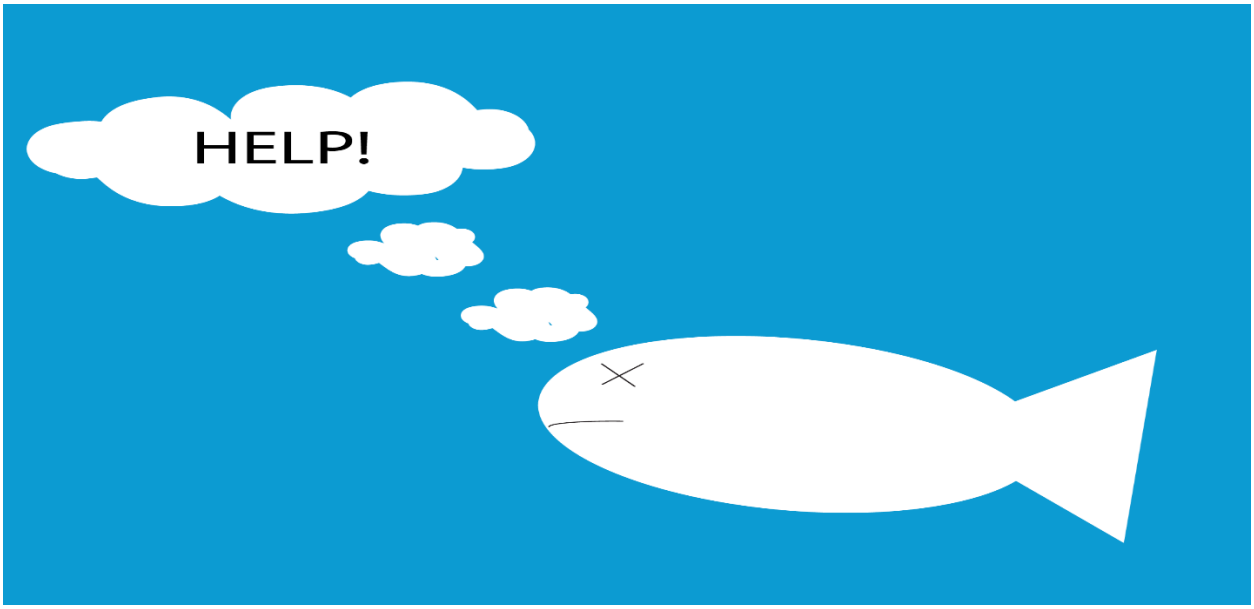

"There are plenty of fish in the sea!"- a statement we wouldn't expect to ever lose its meaning. Yet, as the global demand for seafood grows rapidly with an increasing population, many commercial fish stocks are already in serious decline, threatening food security. Scientists warn that, if global fishing trends continue at the current pace, we are facing the collapse of all fish species in less than 50 years due to overfishing. This will significantly reduce fisheries' productivity and threaten overall fish stock health.

The fishing industry and aquaculture ensure livelihoods for approximately 820 million people worldwide, the vast majority of them in developing countries. It also significantly contributes to the development of global trade and employment areas – although, estimating global employment in fisheries and aquaculture is difficult due to the lack of accurate data. In 2018, 67 million tonnes, or 38 percent of total fisheries and aquaculture production, were traded internationally.[1]

[1] http://www.fao.org/3/ca9229en/ca9229en.pdf

Employment in fishing and aquaculture has grown rapidly over the past few decades. However, it is also an industry that has repeatedly come under scrutiny for poor labor practices. Fish is often the cheapest form of animal protein and constitutes an important source of nutrients for the poor, especially during times of financial hardship. As stated by the Food and Agriculture Organization of the United Nations (FAO), nearly one billion people worldwide, about 20% of the global population, rely on fish as their primary source of animal protein.

Worldwide, fishery production reached a record 96.4 million tons in 2018, an increase of 5.4 percent from the average of the previous three years. As demand and consumption for fish continues to increase in most of the world, at an average annual rate of 3.1 percent from 1961 to 2017,[2] fishermen are more frequently returning home with empty nets. Global production of fish and seafood has multiplied four-fold over the past 50 years,[3] increasing pressure on fish stocks. Overfishing occurs when fishermen catch more animals than the oceans can sustain, and it is happening worldwide. Simply put, wild fish cannot reproduce as fast as seven billion people can eat them. According to the World Wildlife Foundation (WWF), 29% of the world's fish stocks are overfished, while 61% are fully fished.[4] That is the highest proportion recorded since they began tracking.

Overfishing is aggravated by widespread illegal, unreported or unregulated (IUU) fishing. IUU fishing has adverse impact on fisheries, food security and marine ecosystem, and is closely linked to human trafficking and forced labor. It also impacts the accuracy of official fish capture and stock forecasts as catches are not officially registered. Since regulatory bodies use recorded catches and stock estimates to set catch limits and manage fish stocks, this negatively affects the quality of fisheries regulation.

Overfishing adversely affects biodiversity, including through the process of 'bycatching' – when fishermen unintentionally catch and discard overboard sea animals they do not want or cannot sell, including dolphins, sea turtles and seabirds that become entangled in fishing gear, leading to ecological and economic issues. Since these unintentionally caught non-target creatures often suffer injuries or die, they cannot reproduce, contributing to food waste and population declines and adversely impacting ecosystems. Bycatch is hard to measure, but it is estimated to kill as many as 720,000 seabirds, 300,000 whales and dolphins, 345,000 seals and sealions, over 250,000 turtles, and more than 1.1 million tonnes of sharks and rays – many of these species are endangered or on the brink of extinction.[5]

Fishing has a long history in Georgia. It was the main occupation of the tribes living along the eastern Black Sea coast according to ancient Greek historian Herodotus and geographer Strabo. A formal fishery industry did not start to develop in the country until the 1930s. While the sector has a relatively low contribution to Georgia's GDP, it nevertheless is highly importance in terms of nutrition, income, food security and employment. Currently, there is a lack of comprehensive understanding about the level of employment generated by fisheries in Georgia. According to National Statistics Office of Georgia, there are 6979 registered entities by 2021 in agriculture,

[2] http://www.fao.org/3/ca9229en/ca9229en.pdf
[3] https://ourworldindata.org/grapher/seafood-and-fish-production-thousand-tonnes?country=~OWID_WRL
[4] https://www.fishforward.eu/en/topics/facts-figures/
[55] https://www.wwf.org.uk/whats-in-the-net

forestry and fishing sector, with only 2205 entities being active.[6] The vast majority of those are likely in the animal husbandry sector. The majority of small-scale fishing is unrecorded. Still, the importance of fisheries in the areas of consumption, trade and employment in Georgia is highly relevant. Uncertainty and a lack of clear data is one reason fisheries and aquaculture are rarely prioritized by government authorities, and are seldom included in national development policy, despite their significant potential.

The Black Sea and numerous rivers, reservoirs and lakes make Georgia suitable for marine and inland capture fisheries and aquaculture activities. Georgia is first among the former Soviet Republics in abundance of water resources, and across European is exceeded only by Norway, Switzerland and Austria. Georgia is also rich in biodiversity. Unfortunately, however, many species and ecosystems are in decline. One of the main reasons for biodiversity degradation is overfishing and IUU fishing, which impacts the Black Sea by using destructive practices, threatening the sustainability of fish stocks. IUU fishing in Georgia often causes great environmental damage, especially when fishermen use prohibited gear and methods such as toxic substances and explosives. According to the National Report on the State of the Environment of Georgia (2014-2017), biological resource use is strictly regulated in Georgia through defined rules for fishing and hunting. Violation of these rules can incur administrative, civil and criminal charges.[7] Despite the regulations, cases of Illegal fishing are frequent in Georgia.

Overfishing remains an acute problem in Georgia and undermines efforts to sustainably manage fisheries. According to FAO, in 2015, the Mediterranean and the Black Sea had the highest percentage (62.2%) of unsustainable fish stocks. Bottom-trawling, which is a fishing method that involves dragging heavy weighted nets across the sea floor and has a large wasteful bycatch impact, is another reason for the decline in fish biodiversity in Georgia's Black Sea waters. Furthermore, as reported in The State of Mediterranean and Black Sea Fisheries 2018, annual discards in the Black Sea are estimated at around 45,000 tones.[8] Discards are difficult to track, collecting more data and providing an up-to date, comprehensive evaluation should be a key objective for the Ministry of Environmental Protection and Agriculture of Georgia. To prevent the further reduction of biodiversity and damage to Georgia's ecosystems, fishing and aquaculture must be regulated to ensure sustainable development of the sector. According to the Ministry of Energy and Natural Resources of Georgia: "Excessive fishing during 1970-1980 significantly reduced the number of fish. The incursion of strange varieties affected the ecosystem of the water. In 1996-2005, 48 species of fish invaded the Black Sea. Polluted substances were another reason for the degradation of the vital environment for fish. No one has been creating growing stations for larva and fish. Accordingly, larva manufacturing is not systemized. No one is conducting any competent, qualified scientific research. This has created an informational vacuum and is delaying the process of planning and decision making."[9]

Despite the potential of the fishery sector and aquaculture in Georgia, they are developing slowly. Overfishing and bottom-trawling remain an issue in Georgia, and on the local market, demand for

[6] https://www.geostat.ge/en/modules/categories/65/by-kind-of-economic-activity

[7] http://eiec.gov.ge/NavMenu/Documents/Action-Plan/საქართველოს-გარემოს-დაცვის-მოქმედებათა-მესამე-ეროვ.aspx

[8] http://www.fao.org/3/CB2427EN/CB2427EN.pdf

[9] https://www.finchannel.com/business/32264-

products from the Black Sea usually exceeds supply. The disfunction of the fishing licensing system is particularly problematic. According to Georgian fishermen, obtaining a license requires meeting complicated requirements, owning a fishing vessel, and costs thousands of GEL, all of which most small fishermen are unable to fulfill. Only licensed companies, mainly Turkish and Ukrainian vessels, intensively fish in the Black sea, while Georgian small-scale fishermen have a limited fishing area, putting them in a comparatively unfavorable situation. Knowledge deficits among workers in this sector and limited access to modern technologies remains an issue. Effective use of marine resources in Georgia is becoming increasingly important. Fisheries must be equipped with proper instruments and scientific knowledge to be able to practice aquaculture properly, both of which Georgian fisheries lack. If Georgia wants to prevent more species from going extinct or becoming endangered, decisive actions to prevent destructive results need to be taken. In 2005, FAO presented detailed recommendations to develop Georgian fisheries, however, due to the government's lack of capacity and budget, very little impact can be found.

The FAO estimates that only 7% of all fish populations are *underfished*. Urgent action to end overfishing is needed. Having a better understanding of the main causes of food loss and waste in fisheries and aquaculture is a critical element for decision-making on its reduction. We know that commitment to sustainable fishing is crucial as overfishing poses an ever-growing threat to food security and humanity overall. But why is it so hard to stop overfishing? The lack of resources and tracking makes it difficult to regulate fishing areas, especially in international waters. A number of international organizations around the world are focusing on making the fishing industry more sustainable in the long run by working with governments to help them prepare effective management tools.

Another helpful solution to overfishing is banning the destructive practice of bottom-trawling and modification of gear. Catching fish with gear that does not disturb the bottom of the seas can mitigate the adverse effect on seafloor habitats. In addition, setting up more protected marine areas, in which fishing is prohibited, is necessary to protect a range of representative habitats. Efforts toward rebuilding stocks to allow them to produce their maximum capacity is also essential.

For ocean ecosystems to survive, it is crucial to improve the efficiency and sustainability of the fishing sector through regulatory frameworks and appropriate policies. Marine life is essential for life on earth and we must act today to protect it. This dynamic and complex issue requires the united efforts of the entire international community, including regional organizations and governments. Over 60% of the world's global marine habitats have been destroyed or are being exploited in an unsustainable manner. When it comes to balancing ecology, every single marine habitat has a role to play. Thus, acting fast to increase monitoring and regulate sustainable fishing are of global importance.