
ONE OCEAN, ONE CLIMATE, ONE FUTURE

Ananta Chopra, University School of Law and Legal Studies, Guru Gobind Singh Indraprastha University

ABSTRACT

This article explores the profound impact of climate change on oceans, emphasizing the urgent need for global awareness and responsible resource usage. Through personal experiences, it highlights the consequences of environmental negligence, citing incidents of floods, plastic pollution, and alarming climate events. The author advocates for individual contributions, governmental initiatives, and adherence to sustainable development goals to address the impending climate crisis. The abstract underscores the call for immediate action and a collective commitment to preserving our shared home, Earth.

One Ocean, One Climate, One Future

Robert Swan had once said, "The greatest threat to the environment is the thought that someone else will save it."¹ All motivational people, including my very own parents are firm believers on having several backups when it comes to life. A plan A, B, C and even a plan D! However, in case of earth, it is our only survival plan. A few years ago, I had the pleasure of visiting Andaman and Nicobar Islands. Having heard about the surreal experience of scuba diving in the Indian ocean, I looked forward to experiencing it myself.

As I went into the crystal-clear waters, a vibrant and almost dream like world unfolded before me. Fishes swam in a mesmerizing display. I am also certain I spotted my favourite, nemo. Moreover, a sea turtle gracefully glided through the water and I was left in complete and utter awe as it felt like the turtle did a little dance as he was passing by.

¹ Ganesh Radha-Udayakumar, World Environment Day: 'Greatest threat to planet the belief that someone else will save it', (June 6, 2018), <https://www.indiatoday.in/india/story/world-environment-day-greatest-threat-to-planet-the-belief-that-someone-else-will-save-it-1250915-2018-06-05>.

While I was petrified to pose for the camera that my instructor had bought into the ocean with him, the ethereal experience was captured on video and is something I will cherish forever more. The world ocean day is celebrated annually on 8th June, all around the world. The idea for introducing such a day was jointly put forward by Canada's International Centre for Ocean Development (ICOD) and the Ocean Institute of Canada (OIC) at the Earth Summit of the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro, Brazil in 1992. It started being celebrated annually on 8th June since the year 2002. The objective of celebrating world ocean day is to raise global awareness about the integral part of oceans on human lives and serves a reminder to the society, as a whole, of our collective responsibility to use its resources judiciously and sustainably.

There are 5 major oceans in the world, namely the Arctic, Antarctic, Pacific, Indian and Atlantic which make up roughly 70% of the earth's surface. Phytoplankton's, which are floating plant like microorganisms present in the oceans produce half of the world's oxygen. Like other land-based plants, phytoplanktons also contain chlorophyll to capture sunlight which aids their process of photosynthesis while producing oxygen as a by-product. Moreover, it reduces carbon dioxide, a greenhouse gas from the atmosphere by transferring it into depths of the ocean. Oceans also absorb large amounts of heat². Ocean currents transport heat waves of the sun to north south and the poles. While heat is most intense at the equator, a balancing affect takes place owing to these currents. Climate change refers to long term and sustained changes in weather and temperature patterns.

As and when greenhouse gases, such as carbon dioxide, nitrous oxide, methane and so on are released into the atmosphere, they engulf the earth and trap the sun's heat.

This is detrimental as it leads to rise in earth's temperature or the phenomenon also known as global warming at a faster pace. While global warming impacts every being on the planet, oceans are also severely impacted by this. Warmer ocean water leads to gradual but unstoppable shift in precipitation and melting of glaciers. Thermal expansion is also a ramification of global warming which leads to rise in sea level. The World Economic Forum estimates the submergence of 11

² World Oceans Day; One Ocean, One Climate, One Future, https://www.linkedin.com/pulse/world-oceans-day-one-ocean-climate-future-freud-communications?utm_source=share&utm_medium=member_android&utm_campaign=share_via.

major cities across the world by 2100. Few of these include, Jakarta, Dhaka, Venice New Orleans, Houston. These projections should act as a clarion call for the entire human race.

Ever since I was a child I've loved rain, it is like the ocean travelling thousands of miles to give you us this beautiful phenomenon However it is us who have turned it into something so detrimental. Delhi, recorded the worst ever flood in 45 years, since the last occurred in 1978³. Our callous use of ocean as well as land resources has led to nature retaliating. Extreme rainfall displaced thousands in the capital city of India, roads were left in a dilapidated condition, some broken down and washed away can all inferred to be a consequence of climate change becoming a new normal. Even my college exams got postponed for another week due to flooding in various parts of Delhi. I sit and ponder upon how profoundly the impact of climate change is finally coming forth in our lives and it petrifies me to my core on how little we are doing to save our city. However, this is not an isolated incident.

Countries like Spain, China, Japan and United States have been grappling with disastrous floods that have hit their country in 2023 itself. It becomes pertinent to note that while these are incidents across the globe in different continents too, they bear a common cause, which is climate change. Tuesday, 4 July 2023, was the hottest day ever recorded globally, according to data from the US National Centres for Environmental Prediction.

As the atmosphere becomes warmer, intense and ferocious rains will follow. A horrifying incident occurred in Texas, United States on 14th July, 2023 in which thousands of fishes were found washed away on the sand along the gulf coast.

Experts of the region posited that this is possibly due to the depletion of oxygen in the ocean caused by higher temperatures. Impact of our nonchalant attitude towards the ocean and our home land has been costing the marine life for years, yet, we continue with our reckless living. Another horrifying incident making rounds in the news is the rounding up more than 50 whales on a Scottish beach in united kingdom. The news was reported on 17th July, 2023. The images that have been showcased in new channels and social media are heart wrenching. . It's high time efforts are made to address the issue of climate change. As a future advocate, it is my fervent desire to be a part of

³. New Delhi evacuates hundreds over risk of flooding after record rainfall, Reuters (July 12, 2023), <https://www.reuters.com/world/india/new-delhi-evacuates-hundreds-over-risk-flooding-after-record-rainfall-2023-07-12/>.

the environmental law and join litigation to raise a voice for the voiceless and vulnerable. . For years now, I have been of the opinion that since my sole contribution could not save the planet, I need not make even the simplest of efforts. These included turning off the AC after the room cools, saving electricity by switching off electric appliances when not in use or simply just using all resources that we are blessed with in a judicious manner. It is probably my parents berating that has bought me a little of track but the awareness that has dawned upon me this year is unparalleled. Witnessing torrential rain and in fact, even unseasonal rain has led me to think more deeply about this issue. School education has also been hampered by shutting down of educational institutions in states like Mumbai as well as Himachal, while the former is grappling with incessant rain, videos from the latter state have surfaced on the internet showing landslides sweeping away cars, bridges, roads. I can actually say that this year has felt like nature's fury is here and we are all at the receiving end. Public memory is short and I am certain the moment things go back to normal, the reckless ways of life will be back to instigate gradually approaching but impending doom of our planet. Another menace that plagues healthy ocean condition is presence of huge amounts of plastic in it. Over 400 million tons of plastic are produced each year for a wide variety of uses.

In the scorching heat of Delhi summers, me and my friends used to crave for cold water every afternoon and bought ourselves one each from our college canteen. These bottles too, are made up of, none other than plastic. While most of us take the empty bottles home to refill water and refrigerate, many such bottles are lying around the campus. It is a truly dismal scenario. However this is just one incident. Every day on main roads, I can spot similar plastic waste on roads. I feel awareness needs to be spread about the fact that even if one doesn't live near the coast and the mere fact that a river body is nowhere near your house doesn't mean that the plastic litter in your house bin doesn't reach the ocean. One of the many ways this can happen is that plastic being thrown in the trash is taken away to landfills. Since plastic is extremely lightweight, it may be simply blown away by air and enter drains or rivers or oceans.

Though this seems like a fluke, the facts may contend that as according to a BBC report of March, 2023 about 171 trillion plastic pieces⁴ were estimated to be floating around in the world's oceans.

⁴ Georgina Rannard, Oceans littered with 171 trillion plastic pieces, BBC News (Mar. 8, 2023), <https://www.bbc.com/news/science-environment-64889284>.

We, humans, are also adversely impacted by the strong dominance of plastics used in making containers, bags and other items of everyday usage.

While plastic can take up to 500 years to decompose, small portions of it that breakdown due to environmental processes tend to enter the human body. These are known as microplastics and are smaller than 5 millimetre therefore not visible to the naked eye even on careful inspection. Microplastics may cause DNA damage, immune system disruption and even interfere with normal hormonal functioning. Additionally, high amounts of plastic interferes with production of oxygen, lifeline of humans, which the ocean provides us with. It is no secret that plastic impacts aquatic animals as well, most of them mistake plastic bottles, polythene and such other waste to be prey and consume it. Soon, their stomachs become full of it and the consequence is death of millions of such animals due to starvation. Oil spills from tankers during on loading and off loading from ships or oil tankers, sadly, still occurs. This cause killings of fishes, whales, other sea mammals as well as marine plants in large numbers. Data from the ITOPF reports that, oil spills of more than seven tonnes were recorded in the year 2022 alone.

The sustainable development goals established by the United Nations in the year 2015 give a blueprint as to how prosperity can be achieved for planet and people, now as well as into the future. From ending poverty and hunger across the globe to achieving gender equality, quality education and good health and well being, these list of goals include a wide variety of some very noble objectives. The plan is to attain all these 17 goals by the year 2030. Sustainable Goal 14 particularly pertains to “Life Below Water”. This strives for conservation and sustainable usage of oceans, seas and marine resources for sustainable development. The pioneer of the word “sustainable development” is the paper called, “Our Common Future” released by the Brundtland commission. Sustainable Development, according to this report, refers to development that meets the needs of the present generation without compromising the needs of the future generations. The idea for Brundtland commission was posited by United Nations secretary general, Javier Pérez de Cuéllar who appointed commission under Gro Harlem Brundtland, the former Prime minister of Norway in the year 1983.⁵

⁵ Brundtland Commission Purpose & History | What was the Brundtland Report?, Study. com <https://study.com/academy/lesson/brundtland-commission-purpose-history.html>.

United Nations Framework Convention on Climate Change was signed in 1992 at the earth summit or what is famously called Rio Conference. UNFCCC was tasked to perform function of the organ of united nations that would support the responses of member nations to the climate change crisis. The Kyoto Protocol of 1997, associated with the UNFCCC, was a milestone as it officially recognised that the developing countries were the highest producers of green house gas emissions that are one of the primary causes of global warming. Conference of Parties 7(COP 7) gave detailed provisions for implementation of the protocol. It was carried out in two phases, the first phase spanning from 2005 to 2012. aiming to cut down emissions by 5% and the second one from 2013 to 2020 with the target of reducing emissions to at least 18% coming from industrialised countries. However, the Paris agreement of 2015 replaced the Kyoto protocol putting forth a more holistic way of approaching the climate change problems. Since developed countries were concluded to have been disproportionately contributing to GHG(green house gases)emissions, it included some landmark provisions. such as, raising money for developing countries to cope with challenges being faced due to climate change and to help them get better access to clean energy. It also addressed and acknowledged financial loss caused to such vulnerable countries due impacts of climate change, for example. extreme heat waves. The green house gas emissions lead to a diminishing ozone layer, which is critical for human existence of planet earth. The Ozone Layer primarily performs function of a shield which absorbs the ultraviolet(UVB) waves radiated by the sun. The major cause of depletion of this protective shield is the release of chemical compounds due to extensive usage of substances, such as, methyl chloroform, carbon tetrachloride and chlorofluorocarbons, which are used as a cooling agent in air conditioners and refrigerators. Now, sit back and think about the amount of hours and usages of these two electric appliances at your house. Its safe to say that we all are responsible for contributing to the large figures of emission of these substances that is reported. Among other detrimental ramifications of depleting ozone layer, damage to humans skin cells DNA has been reported to be one of the most severe as this ultimately leads to causing skin cancer. It must be borne in mind that overexposure and under exposure to the sun, both are in its own ways, adversely impacting human health. A balance should be strived for by all⁶. Human activities leading to increase in greenhouse gas emissions, include, industrial activities, such development projects or production of gases emitted from polluting factories to

⁶ Belinda Weber, How does the sun cause skin cancer? Risks and prevention tips, (Sept. 21, 2022), <https://www.medicalnewstoday.com/articles/cancer-sun>.

cutting down of forests and rapid extension of farming, by basically altering the natural demography. While all these activities are important for the economic development and sustenance, I find it appropriate to chime in a quote by American scientist, Guy McPherson, who said, "If you think the environment is any less important than the economy, try holding your breath while you count your money." The latest conference of parties (COP26) was held in Glasgow where it was emphasised that countries must consider strengthening their reductions of emissions gases by the next meet that is to be held in Egypt. Nevertheless the 2022 meet had an important development, which is the Glasgow breakthrough agenda. This is a collective agenda, endorsed by 42 countries, including India to accelerate development as well as deployment of cleaner technologies and sustainable solutions in various areas, including road transport, power, steel and hydrogen. Another provision of this agenda was phasing down of coal consumption. Coal is undoubtedly one of the most harmful fossil fuels to environment, causing both tremendous air pollution and contributing to global warming. An innovative plan termed as "phasing down" of coal usage was posited by India. This referred to a middle path to be adopted to limit the consumption of coal. Some European countries have reiterated on "push out" but developing countries have resisted such an idea. China, being the largest emitter is expected to keep them at a steady pace if not reduction by 2030 and is advised to keep 2050 as its target for net zero. It was decided Europe, as a whole, would follow German and Swedish plan of aiming net zero by 2045. United States is to make sharper reductions in emissions and advance their net zero target year to 2040. Meanwhile, India, though did not make any commitments regarding phasing down of coal based power, its target of achieving renewable energy goals by 2030 will itself lead to reduction from a swooping 72% to 50% by the year 2030. Apart from this, Government of India shall consider giving an order against establishment of any new coal based plants, except those already under construction. Overall, the CoP 26 did seem to be a promising start, there is a long road ahead to see sustained and long term progress.

The Intergovernmental Panel on climate change is the organ of the United Nations assigned to look into the science behind climate change. In its 2023 report, mentioned that while some future changes that will occur are irreversible and unavoidable, measures can be taken by nations by ensuring that there is rapid, deep and sustained effort to reduce greenhouse gas emissions⁷. The

⁷ AR6 Synthesis Report: Summary for Policymakers Headline Statements, <https://www.ipcc.ch/report/ar6/syr/resources/spm-headline-statements>.

alarming concern that was pointed out by the panel was that adapting measures available today will gradually become less feasible and implementable with increasing gradual warming. The report also advocates redirecting financial resources to the fight against climate change, however, it acknowledges that there is prevalence of barriers for the same. Enhancement of technology innovation systems is a key development to tackle this issue. At the national level, the national action plan on climate change was introduced by the Government of India in the year 2008. The plan was designed to adapt and alleviate impact of climate change 8 plans were subsumed under this initiative to provide a long term and sustained structure. These included, National Solar Mission, National Mission for Enhanced Energy Efficiency, National Mission on Sustainable Habitat, National Water Mission, National Mission for Sustaining the Himalayan Ecosystem, National Mission for A Green India, National Mission for Sustainable Agriculture and National Mission on Strategic Knowledge for Climate Change. The national action plan on climate change has as its objective to support the development plans of the nation while keeping climate change in its purview. As of 2023, notable progress has been observed under the mission. India reached solar power capacity of 61.62 GW as of October 2022. Another noteworthy milestone is that of achieving 40 per cent of installed electric capacity solely from non fossil fuels by 2030. This implies that this has been done 9 years ahead of time, which is commendable. In an effort to reverse or mitigate the damage of climate change, under the sub mission of green India, government has initiated afforestation process. Afforestation refers to planting of trees in a hope to revive forest cover. Investments worth 626 crore have been envisaged and funds for the same have been set aside. Additionally, the national scheme for welfare of fishermen provides financial aid to fishermen. They are permitted to use the funds provided to them for construction of houses for themselves, install tubes and even community halls. The total cost for the construction of houses, however, must not exceed Rs. 75,000. The construction of common facilities are to be made within Rs. 2 Lakh. The basic objective behind the scheme is to elevate the standard of living of the fishermen along with educate them about technical and advanced technologies so that they can inculcate scientific ways of fishing. The deep ocean mission was launched on 29th October, 2021 by the ministry of earth sciences to support government of India's blue economy initiatives⁸. Blue economy initiatives basically refers to proactive steps to be taken for promotion and prosperity of economy while sustainably using resources. Deep ocean mission had at its core objective to

⁸ Deep Ocean Mission, (Mar. 17, 2022), <https://www.drishtiias.com/daily-news-analysis/deep-ocean-mission-1>.

develop a manned submersible which would carry three persons to the depth of 6000 metres with scientific tools. Additionally, an in dept ocean survey and exploration would be conducted under the deep ocean mission. The mission also has as its objective to develop comprehensive models for development to understand and put forth future projections and impacts of critical climate variables on seasonal as well as decadal time scales. India, having a large coastline of 7517 km, comprising of 1382 islands, will benefit from such a scheme as it will aid the nations in getting leverage from oceanic resources. The United Nations has even declared the decade of 2021-2030 as the decade of ocean science for sustainable development. However, what is crucial now is that sustainable development is in reality applied and not just be existent on paper merely. Government of India's, " Ocean Services, Technology, Observations, Resources Modelling and Science (O-SMART)" scheme is another scheme for ocean development and preservations which has as its main objective regulating the use of marine resources and oceans for sustainable development.⁹ As an army brat, I've had the privilege of travelling the length and breadth of the country. I have lived in places ranging from a city like Mumbai to a small remote town in Tamil Nadu called wellington. Amidst the constant movement, one thing remained stagnant and that was the impact of climate change. With each new place, my concern for environment grew. I saw a variety of terrains and lived in various climates including inclement and stormy weather. Though this transit style of life came with its set of challenges, it gave me an opportunity to get firsthand experience of nation-wide climate change impacts and undoubtedly made me a more ardent proponent of judicious use of resources. There were winter days where I didn't need to put on a light jacket whereas some monsoon days where I wanted to wear one. Unseasonal weather changes could be noticed, even if changes were subtle and gradual. . I feel it is the moral obligation of each human being to recognise that earth is our only survival plan and is a shared homes for us all, hence, we need to come together to protect and preserve it and all the gifts it has bestowed upon us. The mindset that climate change is merely an "environmental issue "that needs to be addressed and improved upon by concerned authorities is highly flawed. It is time we start viewing this as an issue pertaining to the survival of our home.

We wish things were different. We hope that the damage done to our sacred planet could be undone, however, there is no point of brooding over what has been done. We must acknowledge

⁹ O-Smart, Ministry Of Earth Sciences (July 25, 2023), https://moes.gov.in/schemes/O-SMART?language_content_entity=en.

that the current situation of our oceans, our climate and our future is precarious and dismal. At an individual level, I strive to reduce carbon footprints by taking the metro to college and raising awareness among my family members as well as my peers to about the need and significance of our contributions and how it all adds up to saving our home planet. It is duty of each person to save water by being mindful and judicious about their usage. Taps should never be left running. Electronic appliances and power points, when not in use, must always be turned off. Usage of plastic should be deliberately avoided. Our oceans are already choking with plastic and it is imperative that we recognise that now is time to mitigate years of damage that has been already done. One must also volunteer in environmental organisations, as per feasibility so as to be an active and aware member of the global community. I think everyone must always remain up to date and take cognizance of news and events pertinent to global climate changes and all things affecting the same. It is only by being well read and well verse with the facts that one actually understands the gravity of the situation. Mere lip service, hue and cry and advocating sustainable development has been in place for over decades now, yet, we are where we are with regards to climate crisis. This simply teaches us what patterns we must strictly break and the areas we need to work upon.