

Environmental issues and Movements in India

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Abstract

In common uses climate change describe global warming. The current rise in global average temperature is primarily caused by humans burning fossil fuel, deforestation and some Agriculture, industrial practices add to Green House gases. The impact of Climate Change include desert are expending while heat waves and wildfires are becoming more common ,more intense storm, draught and weather extreme, Rapid environmental change in mountain, coral reefs and the Arctic forcing many species to relocate or become extinct. effect of human activities on the environment broader sense also include previous long term changes to Earth's Climat of the environment, some warrant more attention than others. Here are some of the biggest environmental problems of our lifetime, from deforestation and biodiversity loss to food waste and fast fashion.

Keywords:- Plastic Pollution,Air Pollution, Global warming from Fossils, Biodiversity Loss, Ocean Acidification, etc

Introduction

Climate change threatens people with increased flooding, extreme heat, increased food and water scarcity, scarcity , more disease and economic loss. The WHO calls climate change one of the biggest threats to global Health in the 21st century. Environmental issues are the harmful effects of human activities on the environment. These include climate change, global warming, the greenhouse effect, deforestation effect etc. The climate change brings many environmental issues that required urgent attention are these given below-

Plastic Pollution- In 1950, the world produced more than 2 million tons of plastic per year. By 2015, this annual production swelled to 419 million tons and exacerbated plastic waste in the environment. A report by science journal, Nature, determined that currently, roughly 14 million tons of plastic make their way into the oceans every year, harming wildlife habitats and the animals that live in them. The research found that if no action is taken, the plastic crisis will grow to 29 million metric tons per year by 2040. If we include microplastics into this, the cumulative amount of plastic in the ocean could reach 600 million tons by 2040. Shockingly, National Geographic found that 91% of all plastic that has ever been made is not recycled, representing not only one of the biggest environmental problems of our lifetime, but another massive market failure. Considering that plastic takes 400 years to decompose, it will be many generations until it ceases to exist. There's no telling what the irreversible effects of plastic pollution will have on the environment in the long run. Food Waste A third of the food intended for human consumption – around 1.3 billion tons – is wasted or lost. This is enough to feed 3 billion people. Food waste and loss account for approximately one-quarter of greenhouse gas emissions annually; if it was a country, food waste would be the third-largest emitter of greenhouse gases, behind China and the US. Food production accounts for around one-quarter – 26% – of global greenhouse gas emissions. Our World in Data, Food waste and loss occurs at different stages in developing and developed countries; in developing countries, 40% of food waste occurs at the post-harvest and processing levels, while in developed countries, 40% of food waste occurs at the retail and consumer levels. At the retail level, a shocking amount of food is wasted because of aesthetic reasons; in fact, in the US, more than 50% of all produce thrown away in the US is done so because it is deemed to be “too ugly” to be

sold to consumers- this amounts to about 60 million tons of fruits and vegetables. This leads to food insecurity, another one of the biggest environmental problems on the list.

Air Pollution- One of the biggest environmental problems today is outdoor air pollution. Data from the World Health Organization (WHO) shows that an estimated 4.2 to 7 million people die from air pollution worldwide every year and that nine out of 10 people breathe air that contains high levels of pollutants. In Africa, 258,000 people died as a result of outdoor air pollution in 2017, up from 164,000 in 1990, according to UNICEF. Causes of air pollution mostly comes from industrial sources and motor vehicles, as well as emissions from burning biomass and poor air quality due to dust storms. According to a 2023 study, air pollution in South Asia – one of the most polluted areas in the world – cuts life expectancy by about 5 years. The study blames a series of factors, including a lack of adequate infrastructure and funding for the high levels of pollution in some countries. Most countries in Asia and Africa, which together contribute about 92.7% of life years lost globally due to air pollution, lack key air quality standards needed to develop adequate policies. Moreover, just 6.8% and 3.7% of governments in the two continents, respectively, provide their citizens with fully open-air quality data. In Europe, a recent report by the European Environment Agency (EEA) showed that more than half a million people living in the European Union died from health issues directly linked to toxic pollutants exposure in 2021.

Melting Ice Caps and Sea Level Rise- The climate crisis is warming the Arctic more than twice as fast as anywhere else on the planet. Today, sea levels are rising more than twice as quickly as they did for most of the 20th century as a result of increasing temperatures on Earth. Seas are now rising an average of 3.2 mm per year globally and they will continue to grow up to about 0.7 metres by the end of this century. In the Arctic, the Greenland Ice Sheet poses the greatest risk for sea levels because melting land ice is the main cause of rising sea levels. Representing arguably the biggest of the environmental problems, this is made all the more concerning considering that last year's summer triggered the loss of 60 billion tons of ice from Greenland, enough to raise global sea levels by 2.2mm in just two months. According to satellite data, the Greenland ice sheet lost a record amount of ice in 2019: an average of a million tons per minute throughout the year, one of the biggest environmental problems that has cascading effects. If the entire Greenland ice sheet melts, sea level would rise by six metres. Meanwhile, the Antarctic continent contributes about 1 millimetre per year to sea level rise, which is one-third of the annual global increase. According to 2023 data, the continent has lost approximately 7.5 trillion tons of ice since 1997. Additionally, the last fully intact ice shelf in Canada in the Arctic recently collapsed, having lost about 80 square kilometres – or 40% – of its area over a two-day period in late July, according to the Canadian Ice Service. 1997 Sea level rise will have a devastating impact on those living in coastal regions: according to research and advocacy group Climate Central, sea level rise this century could flood coastal areas that are now home to 340 million to 480 million people, forcing them to migrate to safer areas and contributing to overpopulation and strain of resources in the areas they migrate to. Bangkok (Thailand), Ho Chi Minh City (Vietnam), Manila (Philippines), and Dubai (United Arab Emirates) are among the cities most at risk of sea level rise and flooding.

Global Warming From Fossil Fuels - 2023 was the hottest year on record, with global average temperatures at 1.46C above pre-industrial levels and 0.13C higher than the eleven-month average for 2016, currently the warmest calendar year on record. The year was marked by six record-breaking months and two record-breaking seasons. What's more, carbon dioxide (CO₂) levels have never been so high. After being consistently around 280 parts per million (ppm) for almost 6,000 years of human civilisation, CO₂ levels in the atmosphere are now well above 420 ppm, more than double what they were before the onset of the Industrial Revolution in the 19th century. According to National Oceanic and Atmospheric Administration (NOAA) Administrator Rick Spinrad, the steady annual increase is a "direct result of human activity," mainly from the burning of

fossil fuels for transportation and electricity generation but also from cement manufacturing, deforestation, and agriculture. Monthly mean carbon dioxide (CO₂) measured at Mauna Loa Observatory, Hawaii. Image: Global Monitoring Laboratory. Monthly mean carbon dioxide (CO₂) Increased emissions of greenhouse gases have led to a rapid and steady increase in global temperatures, which in turn is causing catastrophic events all over the world – from Australia and the US experiencing some of the most devastating bushfire seasons ever recorded, locusts swarming across parts of Africa, the Middle East and Asia, decimating crops, and a heatwave in Antarctica that saw temperatures rise above 20C for the first time. Scientists are constantly warning that the planet has crossed a series of tipping points that could have catastrophic consequences, such as advancing permafrost melt in Arctic regions, the Greenland ice sheet melting at an unprecedented rate, accelerating sixth mass extinction, and increasing deforestation in the Amazon rainforest, just to name a few.

The climate crisis is causing tropical storms and other weather events such as hurricanes, heatwaves and flooding to be more intense and frequent than seen before. However, even if all greenhouse gas emissions were halted immediately, global temperatures would continue to rise in the coming years. That is why it is absolutely imperative that we start now to drastically reduce greenhouse gas emissions, invest in renewable energy sources, and phase our fossil.

Poor Governance - According to economists like Nicholas Stern, the climate crisis is a result of multiple market failures. Economists and environmentalists have urged policymakers for years to increase the price of activities that emit greenhouse gases (one of our biggest environmental problems), the lack of which constitutes the largest market failure, for example through carbon taxes, which will stimulate innovations in low-carbon technologies. To cut emissions quickly and effectively enough, governments must not only massively increase funding for green innovation to bring down the costs of low-carbon energy sources, but they also need to adopt a range of other policies that address each of the other market failures. A national carbon tax is currently implemented in 27 countries around the world, including various countries in the EU, Canada, Singapore, Japan, Ukraine and Argentina. However, according to the 2019 OECD Tax Energy Use report, current tax structures are not adequately aligned with the pollution profile of energy sources. For example, the OECD suggests that carbon taxes are not harsh enough on coal production, although it has proved to be effective for the electricity industry. A carbon tax has been effectively implemented in Sweden; the carbon tax is U\$127 per tonne and has reduced emissions by 25% since 1995, while its economy has expanded 75% in the same time period. Further, organisations such as the United Nations are not fit to deal with the climate crisis: it was assembled to prevent another world war and is not fit for purpose. Anyway, members of the UN are not mandated to comply with any suggestions or recommendations made by the organisation. For example, the Paris Agreement, a historic deal within the United Nations Framework Convention on Climate Change (UNFCCC), says that countries need to reduce greenhouse gas emissions significantly so that global temperature rise is below 2C by 2100, and ideally under 1.5C. But signing on to it is voluntary, and there are no real repercussions for non-compliance. Further, the issue of equity remains a contentious issue whereby developing countries are allowed to emit more in order to develop to the point where they can develop technologies to emit less, and it allows some countries, such as China, to exploit this.

Food Waste - A third of the food intended for human consumption – around 1.3 billion tons – is wasted or lost. This is enough to feed 3 billion people. Food waste and loss account for approximately one-quarter of greenhouse gas emissions annually; if it was a country, food waste would be the third-largest emitter of greenhouse gases, behind China and the US. Food production accounts for around one-quarter – 26% – of global greenhouse gas emissions. Our World in Data Food waste and loss occurs at different stages in developing and developed countries; in developing countries, 40% of food waste occurs at the post-harvest and processing levels, while in developed countries, 40% of food waste occurs at the retail and consumer

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Biodiversity Loss - The past 50 years have seen a rapid growth of human consumption, population, global trade and urbanisation, resulting in humanity using more of the Earth’s resources than it can replenish naturally. A 2020 WWF report found that the population sizes of mammals, fish, birds, reptiles and amphibians have experienced a decline of an average of 68% between 1970 and 2016. The report attributes this biodiversity loss to a variety of factors, but mainly land-use change, particularly the conversion of habitats, like forests, grasslands and mangroves, into agricultural systems. Animals such as pangolins, sharks and seahorses are significantly affected by the illegal wildlife trade, and pangolins are critically endangered because of it. More broadly, a recent analysis has found that the sixth mass extinction of wildlife on Earth is accelerating. More than 500 species of land animals are on the brink of extinction and are likely to be lost within 20 years; the same number were lost over the whole of the last century. The scientists say that without the human destruction of nature, this rate of loss would have taken thousands of years. In Antarctica, climate change-triggered melting of sea ice is taking a heavy toll on emperor penguins and could wipe out entire populations by as early as 2100, according to 2023 research.

Deforestation- Every hour, forests 77the size of 300 football fields are cut down. By the year 2030, the planet might have only 10% of its forests; if deforestation isn’t stopped, they could all be gone in less than 100 years. The three countries experiencing the highest levels of deforestation are Brazil, the Democratic Republic of Congo and Indonesia. The Amazon, the world’s largest rainforest – spanning 6.9 million square kilometres (2.72 million square miles) and covering around 40% of the South American continent – is also one of the most biologically diverse ecosystems and is home to about three million species of plants and animals. Despite efforts to protect forest land, legal deforestation is still rampant, and about one-third of global tropical deforestation occurs in Brazil’s Amazon forest, amounting to 1.5 million hectares each year. The world has been chopping down 10 million hectares of trees every year to make space to grow crops and livestock, and to produce materials such as paper. Agriculture is the leading cause of deforestation, another one of the biggest environmental problems appearing on this list. Land is cleared to raise livestock or to plant other crops that are sold, such as sugar cane and palm oil. Besides for carbon sequestration, forests help to prevent soil erosion, because the tree roots bind the soil and prevent it from washing away, which also prevents landslides.

Ocean Acidification- Global temperature rise has not only affected the surface, but it is the main cause of ocean acidification. Our oceans absorb about 30% of carbon dioxide that is released into the Earth’s atmosphere. As higher concentrations of carbon emissions are released thanks to human activities such as burning fossil fuels as well as effects of global climate change such as increased rates of wildfires, so do the amount of carbon dioxide that is absorbed back into the sea. The smallest change in the pH scale can have a significant impact on the acidity of the ocean. Ocean acidification has devastating impacts on marine ecosystems and species, its food webs, and provokes irreversible changes in habitat quality. Once pH levels reach too low, marine organisms such as oysters, their shells and skeleton could even start to dissolve. However, one of the biggest environmental problems from ocean acidification is coral bleaching and subsequent coral reef loss. This is a phenomenon that occurs when rising ocean temperatures disrupt the symbiotic relationship between the reefs and algae that lives within it, driving away the algae and causing coral reefs to lose their natural vibrant colours. Some scientists have estimated coral reefs are at risk of being completely wiped by 2050. Higher acidity in the ocean would obstruct coral reef systems’ ability to rebuild their exoskeletons and recover from these coral bleaching events. Some studies have also found that ocean

acidification can be linked as one of the effects of plastic pollution in the ocean. The accumulating bacteria and microorganisms derived from plastic garbage dumped in the ocean to damage marine ecosystems and contribute towards coral bleaching. Agriculture Studies have shown that the global food system is responsible for up to one-third of all -caused greenhouse gas emissions, of which 30% comes from livestock and fisheries. Crop production releases greenhouse gases such as nitrous oxide through the use of fertilisers. 60% of the world's agricultural area is dedicated to cattle ranching, although it only makes up 24% of global meat consumption.

Food and Water Insecurity- Rising temperatures and unsustainable farming practices have resulted in increasing water and food insecurity. Globally, more than 68 billion tonnes of top-soil is eroded every year at a rate 100 times faster than it can naturally be replenished. Laden with biocides and fertiliser, the soil ends up in waterways where it contaminates drinking water and protected areas downstream. Furthermore, exposed and lifeless soil is more vulnerable to wind and water erosion due to lack of root and mycelium systems that hold it together. A key contributor to soil erosion is over-tilling: although it increases productivity in the short-term by mixing in surface nutrients (e.g. fertiliser), tilling is physically destructive to the soil's structure and in the long-term leads to soil compaction, loss of fertility and surface crust formation that worsens topsoil erosion. With the global population expected to reach 9 billion people by mid-century, the Food and Agriculture Organization of the United Nations (FAO) projects that global food demand may increase by 70% by 2050. Around the world, more than 820 million people do not get enough to eat. The UN secretary-general António Guterres says, "Unless immediate action is taken, it is increasingly clear that there is an impending global food security emergency that could have long term impacts on hundreds of millions of adults and children." He urged for countries to rethink their food systems and encouraged more sustainable farming practices. In terms of water security, only 3% of the world's water is freshwater, and two-thirds of that is tucked away in frozen glaciers or otherwise unavailable for our use. As a result, some 1.1 billion people worldwide lack access to water, and a total of 2.7 billion find water scarce for at least one month of the year. By 2025, two-thirds of the world's population may face water shortages.

Agriculture - Studies have shown that the global food system is responsible for up to one-third of all human-caused greenhouse gas emissions, of which 30% comes from livestock and fisheries. Crop production releases greenhouse gases such as nitrous oxide through the use of fertilisers. 60% of the world's agricultural area is dedicated to cattle ranching, although it only makes up 24% of global meat consumption. Agriculture not only covers a vast amount of land, but it also consumes a vast amount of freshwater, another one of the biggest environmental problems on this list. While arable lands and grazing pastures cover one-third of Earth's land surfaces, they consume three-quarters of the world's limited freshwater resources. Scientists and environmentalists have continuously warned that we need to rethink our current food system; switching to a more plant-based diet would dramatically reduce the carbon footprint of the conventional agriculture industry.

Fast Fashion and Textile Waste- The global demand for fashion and clothing has risen at an unprecedented rate that the fashion industry now accounts for 10% of global carbon emissions, becoming one of the biggest environmental problems of our time. Fashion alone produces more greenhouse gas emissions than both the aviation and shipping sectors combined, and nearly 20% of global wastewater, or around 93 billion cubic metres from textile dyeing, according to the UN Environment Programme. What's more, the world at least generated an estimated 92 million tonnes of textiles waste every year and that number is expected to soar up to 134 million tonnes a year by 2030. Discarded clothing and textile waste, most of which is non-biodegradable, ends up in landfills, while microplastics from clothing materials such as polyester, nylon, polyamide, acrylic and other synthetic materials, is leached into soil and nearby water sources. Monumental amounts of clothing textile are also dumped in less developed countries as seen with Chile's Atacama, the driest desert in the world, where at least 39,000 tonnes of textile waste from other nations are left there to

rot. Of the 100 billion garments produced each year, 92 million tonnes end up in landfills. These are some of the biggest environmental problems plaguing our planet, there are many more that have not been mentioned, including overfishing, urban sprawl, toxic superfund sites and land use changes. While there are many facets that need to be considered in formulating a response to the crisis, they must be coordinated, practical and far-reaching enough to make enough of a difference.

Environmental Movement In India- An environmental movement is a type of social movement that involves an array of individuals, groups and coalitions that perceive a common interest in environmental protection and act to bring about changes in environmental policies and practices. Environmental and ecological movements are among the important examples of the collective actions of several social Major Environmental Movements in India Many environmental movements have emerged in India, especially after the 1970s. These movements have grown out of a series of independent responses to local issues in different places at different times. Some of the best known environmental movements in India have been briefly described below:

1- Chipko Movement ('hugging movement') is a forest conservation movement in India. Opposed to commercial logging and the government's policies on deforestation, protesters in the 1970s engaged in tree hugging, wrapping their arms around trees so that they could not be felled. Chipko Movement started on April 24, 1973, at Mandal of Chamoli district of Gharwal division of Uttarakhand. The Chipko is one of the world-known environmental movements in India. The movement was raised out of ecological destabilisation in the hills. The fall in the productivity of the forest produce forced the hill dwellers to depend on the market, which became a central concern for the inhabitants. Forest resource exploitation was considered the reason behind natural calamities like floods, and landslides. On March 27 the decision was taken to 'Chipko' that is 'to hug' the trees that were threatened by the axe and thus the chipko Andolan (movement) was born. This form of protest was instrumental in driving away the private companies from felling the ash trees.

2- Appiko Movement- the Appiko Movement, initiated in 1983 in Karnataka's Uttara Kannada district, was a significant environmental campaign that aimed to protect the region's forests from commercial logging and monoculture plantations. Inspired by the Chipko Movement, it was characterized by local communities—especially women and children—physically hugging trees to prevent them being felled.

3- Narmada Bachao Andolan - Narmada is one of the major rivers of the Indian Peninsula. The scope of the Sardar Sarovar project, a terminal reservoir on Narmada in Gujarat in fact is the main issue in the Narmada Water dispute. Narmada Bachao Andolan is a social movement consisting of adivasis, farmers, environmentalists and human rights activists against a number of large dams being built across the Narmada River, which flows through the states of Gujarat, Madhya Pradesh and Maharashtra, all in India. Sardar Sarovar Dam in Gujarat is one of the biggest dams on the river and was one of the first focal points of the movement. Their mode of campaign includes hunger strikes and garnering support from film and art personalities (notably Bollywood actor Aamir Khan). Narmada Bachao Andolan, with its leading spokespersons Medha Patkar and Baba Amte, received the Right Livelihood Award in 1991.

4- Jungle Bachao Andolan- Jungle Bachao Andolan began in the 1980s in the Singhbhum district of Bihar (presently in Jharkhand). It was a movement against the government's decision to grow commercial teak by replacing the natural Sal forests. The tribal community is the most affected by this decision as it disturbs the rights and livelihood of Adivasis of that region. This movement was widely spread in states like Bihar, Jharkhand and Odisha in various other forms. The Jungle Bachao Andolan (JBA) was a significant environmental movement that emerged in the early 1980s. The Jungle Bachao Andolan movement is believed to have originated in Bihar (now Jharkhand). It then gradually expanded to other states, such as Odisha. It is popularly known as Jharkhand Jungle Bachao Andolan. The movement aimed to protect the environment and

the rights of indigenous people from the impacts of the commercial projects being proposed in the region. Through its four pillars, viz., the Gram Sabha, Forest Protection Committees, Women's Cooperatives, and Youth Forums, the JJBA aimed to empower local communities. It encouraged them to engage in activities related to forest management and conservation.

5- Bishnoi Movement - The Bishnoi movement is one of the first organized movements of ecological conservation, wildlife protection, green living, and nature. This movement was amongst the first in the history of environmental movements which embraced the strategy of hugging and embracing trees to protect them. The Bishnoi Movement arose due to the royal order to cut down trees considered sacred by the community. People hugged these trees one by one to save them from being cut down, even with the possibility of losing their lives. Around 363 people lost their lives due to violence from the soldiers. The Bishnoi tree martyrs were influenced by the teachings of Guru Maharaj Jambaji, who founded the Bishnoi faith around 1485 and set forth principles prohibiting any harm to trees and animals. The Bishnoi Movement originated in the 15th century in the Marwar region of Rajasthan, India. It was founded by Guru Jambheshwar, also known as Jambhoji, who preached environmental conservation principles and sustainable living. The movement derived its name from the word "Bishnoi". It means "twenty-nine" in the Marwari language. It refers to the twenty-nine principles or commandments prescribed by Guru Jambheshwar. These principles emphasized protecting nature and wildlife and the importance of non-violence.

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