

ENVIRONMENTAL POLLUTION IN INDIA

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Abstract: Environmental pollution is defined as any undesirable change in physical, chemical and biological characteristics of air, land and water. Pollution can be natural as man-made. The agents or substances that cause pollution are known as pollutants. Environmental problem is known to exist in developed as well as developing countries, and the problem is gradually growing day by day since the onset of industrial revolution. Population explosion and urbanization have made excess use of natural resources and natural wealth and have resulted in nature's dreadful conditions

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Introduction: Pollution is the effect of undesirable changes in our surroundings that have harmful effects on plants, animals and human beings. This occurs when only short-term economic gains are made at the cost of long-term ecological benefits for humanity. No phenomenon has led to greater ecological changes than has been made by mankind. During the last few decades we have contaminated our air, water and land on which life itself depends with a variety of waste products.

Pollutants include solid, liquid or gaseous substances present in greater than natural abundance, produced due to human activity, have a detrimental effect on our environment. The nature and concentration of a pollutant determine the severity of its detrimental effect on human health. An average human requires about 12 kg of air each day, which is nearly 12-15 times greater than the amount of food we eat. So, even a small concentration of pollutants in the air becomes more significant in comparison to similar levels present in food. Pollutants that enter water have ability to spread to distant places, especially the marine ecosystem. From an ecological perspective, pollutants can be classified as follow.

Due to advancement in man's knowledge, man started cutting down forests for construction of buildings for making paper and for growing food like food grains and oilseeds. Since then all the waste accumulated

during the course of construction of these buildings has caused serious damages in pollution and in depletion of natural resources. Combustion of fuels has been far and wide recognized as the major cause of air pollution. There are other forms of natural resources too which are a cause of grave concern in terms of hazardous pollution environmentally. Fossil fuels are undoubtedly a major cause of environmental pollution and their effects that can occur on the environmental pollution have been quite often underestimated.

The environmental problems in India are growing rapidly. The increasing economic development and a rapidly growing population that has taken the country from 300 million people in 1947 to more than one billion people today is putting a strain on the environment, infrastructure and the country's natural resources. Industrial pollution, soil erosion, deforestation, rapid industrialization, urbanization and land degradation are all worsening problems. Overexploitation of the country's resources, be it land or water, and the industrialization process has resulted into the environmental degradation of resources. Environmental pollution is one of the most serious problems facing humanity and other life forms on our planet today. India has been ranked as seventh most environmentally hazardous country in the world by a ranking released recently.

Pollution is causing a lot of harm to human and animal health, plants and as well as the wider environment and has harshly affected the entire ecosystems and has disrupted the marine life in lakes and streams and has in major effect, caused depletion of the natural flora and fauna.

Air pollution : Contamination of air is called air pollution. When poisonous gases or smoke is added in the air, it becomes polluted. The air gets polluted also by the presence of dust particles. There are several other reasons which lead to air pollution. Many vehicles ply on the roads each day. All vehicles need some fuels to run like diesel or petrol. When this fuel burns in the engine, large amount cause asthma or irritation in eyes. The world health organization estimates that about two

million people die prematurely every year as a result of air pollution, while many more suffer from breathing ailments, heart diseases, lung infections and even cancer. Fine particles or microscopic dust from coal or wood fires and unfiltered diesel engines are rated as one of the most lethal forms of air pollution caused by industry, transport, household heating, cooking and ageing coal forms of air power station. The main reasons of air pollution are emissions from vehicles, thermal power plant, industries and refineries. The problem of indoor air pollution in rural areas and urban urban slums has increased.

The effects of air pollution are obvious rice crop yields in Southern India are falling, as brown clouds block out more and more sunlight. The brilliant white of the famous Tajmahal is slowly fading to a sickly yellow. In the 'Tajmahal case' a very strong step was taken by the Supreme Court to save the Tajmahal from being polluted by fumes and more than 200 factories were closed down. Birds and species were affected. Studies conducted by the high altitude zoology field station of the Zoological Survey of India [ZSI] based in Solan town of Himachal Pradesh have recoded a drastic fall in butterfly number in the Western Himalayas, famous for their biodiversity. Indoor air pollution is the most important cause of Chronic Obstructive Pulmonary Disease [COPD] in India, says a prevalent study conducted by Pune-based Chest Research Foundation [CRF] and the Imperial College, London in November 2010. Over 700 million people in India suffer from high levels of indoor air pollution affecting women and young children 75 per cent homes use biomass fuel like wood, crop residue and dung cakes.

Human health effects associated with indoor air pollution are headaches, tiredness, dizziness, nausea and throat irritation. More serious effects include cancer and exacerbation of chronic respiratory diseases such as asthma. Radon is estimated to be the second and exacerbation of lung cancer in many countries. Environmental tobacco smoke causes eye, nose and throat irritation and is a carcinogen. Asthma, particularly in children, is associated with poor indoor air quality.

Water pollution : Water is the basis of all life on the earth. It is available in seas, rivers, lakes and ground water. The ground is the major source of drinking water. It is found beneath the surface of the earth and is also required by farmers to irrigate fields. Water is polluted by many activities of man. Sewage is the major factor of water pollution. The waste material released from the toilets flows through the sewage. Sometimes this sewage

is released into the river. The water thus gets polluted. The industries or factories also release their sewage. It is called industrial sewage and contains many poisonous things. When this sewage is released into the rivers or lakes, it kills all the marine life, and sometimes poisonous sewage is released in pits it percolates down and joins the ground water which we drink.

River water pollution contaminated and polluted water now kills more people than all the forms of violence including wars according to a united nations report released on 22 March, 2010, on World Water Day that calls for turning unsanitary wastewater into an environmentally safe economic resource. According to the report titled 'Sick Water, 90 per cent of wastewater discharged daily in developing countries is untreated, contributing to the deaths of some 2.2 million people a year from diarrheal diseases caused by unsafe drinking water and poor hygiene. At least 1.8 million children younger than five, die every year from water-related diseases. Fully 80 per cent of urban waste in India ends up in the country's rivers, and unchecked urban growth across the country combined with poor government oversight means the problem is only getting worse. A growing number of bodies of water in India are unfit for human use, and in the River Ganga, holy to the county's 82 per cent Hindu majority, is dying slowly due to unchecked pollution. Much of the river pollution problem in India comes from untreated sewage. Samples taken recently from the Ganges River near Varanasi show that levels of fecal coli form, a dangerous bacterium that comes from untreated sewage, were some 3,000 per cent higher than what is considered safe for bathing.

Groundwater exploitation is a serious matter of concern today, and legislations and policy measures taken till date, by the state governments, have not had the desired effect on the situation. Groundwater quality and pollution are the most a alarming pollution hazards in India.

Nosie pollution : Nosie pollution is a category of energy pollution in which off-putting, infuriating, or harmful sounds are without restraint. As with other forms of energy pollution such as heat and light pollution, noise pollution contaminants are not substantial particles, but to a certain extent, waves that get in the way with naturally occurring waves of similar type in the same surroundings. Thus, the explanation of noise pollution is open to dispute, and there is no clear boundary as to which sounds may add up to noise pollution. In the narrowest common sense, sounds are well thought-out

noise pollution if they unfavorably have an effect on natural world, human activity, or are competent of destructive physical structures on a customary, repeating starting point. In the broadest sense of the expression, a sound may be painstaking noise pollution if it disturbs any ordinary course of action or causes human harm, even if the sound does not take place on a habitual basis. Prolonged introduction to noise levels higher than eighty-five decibels can damage inner ear cells and show the way to hearing loss.

Soil pollution : Soil pollution, soil is the loose material found on the surface of the earth. It is formed when rocks are broken into pieces. The soil provides many nutrients to plants and farmers grow crops in soil. When farmers spray insecticides like DDT to kill insects, these poisonous insecticides mix with the soil and pollute it. Soil erosion is a serious problem nowadays. It means the removal of soil. It is caused by the cutting of tree and when trees are cut, the soil particles become loose and are further carried away by wind or running water. On the whole, soil pollution on this earth is a harmful agricultural practice and in turn aggravates pollution.

Degradation of Environment : Man's environment by now is sufficiently saturated by the complex chemical emissions, aerosols, toxic effluents, sewage, pesticides, solid wastes, polluted rains, dust and radiation. Polluted rains, dust and radiation. Global 2000 Report, 1980 reveals that the globe will become more crowded, more polluted, ecologically less stable and more vulnerable to disruption than the world we live in today. Degradation of environment has now become one of the most challenging problems not only of developing countries but also of the developed world. A large number of international and global organizations with the collective wisdom of scientists, planners and geographers have come up to settle the environmental issue confronting the nations and the physical world. The environmental crisis has convinced the world to use technology and resources to repair the damage already done to our environment and also to use substitutes for certain harmful chemicals in order to protect and preserve nature and natural resources.

Prevention of Environmental Pollution: Air pollution, responsible for triggering many health problems, is mostly caused due to burning of fossil fuels. The most effective ways to prevent air pollution are minimizing the use of fuels, serving vehicle regularly, saving energy, using alternative energy, and recycling materials amongst other.

Preventing air pollution – the fact is that human activities contribute the most to any type of pollution. Hence, it is our responsibility to find solutions. And considering the harmful effects of air pollution, it is high time that everyone contributes a bit to prevent release of pollutants. There are certain ways that one can follow for reducing emission of air pollutants in the atmosphere. For clear understanding, we can refer to the following tips for preventing air pollution. Car pool – forming and implementing a car pool will reduce the number of cars, thereby, preventing air pollution by cutting down the use of fossil fuels. This way, it will help in the sustainable use of fossil fuel and its conservation for the future generations.

Vehicle care – Timely servicing of the car helps to keep it in good condition, and also minimizes fuel exhaust. Driving the car at an average speed and turning off in traffic are thumb rules to save fuel. We must make sure to use unleaded petrol and opt for regular pollution checking of the car.

Public transport – whenever possible, we must try to travel by public transport. This helps in two ways; prevents air pollution and increases public income. If we are going to a nearby place, we must go by walking or use a bicycle, instead of using your vehicle. The objective is to minimize the use of fuels as far as possible.

Alternative energy source – another effective way to prevent air pollution is to use alternative energy sources such as wind turbine, solar water heaters are introduced to generate electricity and other energy forms for household uses.

Saving energy – saving energy will, of course, help to prevent air pollution. Switch off the lights, fans, air conditioners, and other appliances, when not in use. We can also share a room with other when the air conditioner or fan is on, instead of switching them on in every room.

Minimize air pollution – always try to minimize smoke emission, as it contributes a lot to air pollution. One way is to compost dried leaves and kitchen waste, instead of burning them. Composting will also give us organic fertilizer for our garden. Other tips include replacing old wood stoves or gas furnaces, avoiding solvents, and most importantly, not smoking in the home.

Recyclable materials – recycling is a simple approach to reduce pollution in two ways; save energy which is required for disposing and minimize the pollutants released during manufacturing. The list of recyclable materials include plastic bottles, aluminum cans and

utensils, paper, craft papers, cardboard, corrugated boxes and glass bottles.

Smart purchasing – remember to carry paper bags and minimize using plastic bags. While buying the products, always choose air-friendly and recyclable products that will minimize the emission of pollutants. Also, shop for only energy-efficient appliances that use less packaging. Lastly, buy rechargeable batteries for frequently used devices. Social awareness about air pollution is the most essential step to be taken for the prevention of air pollution. Awareness programmes and/or advertisements should be encouraged, so that people understand the potential health hazards of pollution. Improvement of transport facilities and proper use of land for the sake of social benefits are equally important for controlling air pollution.

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