Essay No. 01

# Pollution

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The word pollution has been derived from the Latin word pollution, which means to make dirty. Pollution is the process of making the environment land water and air dirty by adding harmful substances to it. Pollution causes imbalance in the environment. This imbalance has threatened the very survival of all forms of life. It is a threat to the whole world. India ranks a low 125 out of 132 countries in the Environmental performance Index 2012. This report is produced by the researchers of Yale and Columbia University in association with the World Economic Forum.

Environmental pollution is a serious problem of the industrialized societies. The industrial development and the Green Revolution have adversely affected the environment. People have converted the life supporting system of the entire living world into their own resources and have vastly disturbed the natural ecological balance. Serious degradation and depletion have been caused due to the overuse, misuse and mismanagement of resources to meet the human greed.

Environment pollution is defined as the unfavorable alteration of our surroundings. It is a by product of man's activities which directly or indirectly are responsible for the changes in environment. These changes could be in the physical chemical or biological characteristics of land air or water that harm human life and other living things. Population explosion, rapid industrialization deforestation unplanned urbanization scientific and tech logical advancement etc. The major causes of environmental pollution. Nearly 35 percent of India total land area is subjected to serious environmental pollution. Three fourths of the earth consists of water yet there is scarcity of potable water. In India allay the sources of water lie rivers lakes ponds and wells have been polluted and are unfit for drinking. As a result of the increased use of fertilizers, the rivers seas and oceans have become contaminated with harmful pollutants.

Industrialization has led to urbanization. The migration of rural population to the cities in search of work has created an unhealthy environment. It has led to overcrowding and establishment of slum areas. Towns and cities are full of smoke ,fumes dirt dust rubbish gases foul smell and noise.

Nuclear explosions and nuclear tests also pollute the air. The spread of radioactive materials into the air has increased. This radioactive pollution may cause cancers, abnormal births and mutations in men.

The Taj Mahal in Agra is affected by the fumes emitted by the Mathura refinery. Reports estimate that the monument would get defaced within a span of twenty years because of the harmful effluents of the emission from the refinery.

Water pollution adversely changes the quality of water. It disturbs the balance of the ecosystem and causes health hazards. Water becomes polluted by the presence or addition of inorganic and organic or biological substances. Industrial effluents which are dumped into the rivers further add to the water pollution levels.

Soil pollution usually results from the disposal of solid and semi solid wastes from agricultural practices and from insanitary habits. The soil gets heavily polluted by hazardous materials and micro organisms, which enter the food chain or water and create numerous health problems.

The emission of greenhouse gases has led to climatic changes. The increase in pollution has resulted in global warming. Global warming is an average increase in the Earth temperature due to greenhouse effect as a result of both natural and human activity. The term climate is often used interchangeably the term global warming. The ice caps in the polar regions have begun to melt fast. This has resulted in the rise of the water level of the seas and oceans. Grass sprouting in Antarctica and snowfall in the desert of the United Arab Emirates are all the warning signals of global warning.

Pollution causes different types of diseases. Air pollution causes allergies asthma lung cancer and bronchitis. Radioactive pollutants cause respiratory problems paralysis cancer and other disease. Excessive noise pollution can lead to deafness anxiety stress increase in the rate of heartbeat and other health problems.

In order to fight this menace of pollution vigorous efforts should be made the anti pollution law should be strictly implemented. In order to check water pollution sewage and the factory waste should be planted everywhere and vehicles should be made eco friendly.

Public education and awareness of the relationship between climate change and human health is a key to deal with these problems more effectively.

General awareness is a must to save our planet from destruction. A ll the nations of the world should work united to control environmental pollution.

Essay No. 2

# Pollution

Concern for environment has increased and spread over recent years.

Pollution-a major environmental concern.

What is pollution?

Types and sources and effects of pollution.

Causes and associated problems.

Remedial measures-existent and suggested.

Conclusion.

Plato lamented the destruction of soils and forests in ancient Greece. Dickens and Engels wrote eloquently of the wretched conditions spawned by the Industrial Revolution. But the surge in concern about environmental quality over the last three decades has been uniquely widespread and impassioned. Appreciation of the material and spiritual importance of a healthy natural environment has spread. Perhaps the most dramatic intellectual shifts are occurring in the Third World, where understanding of the ecological under spinning of human life-largely lost in the post-war dreams of industrialisation is on the rise. The new interest in environmental quality complements recent shifts in thought among development theorists, many of whom now stress the need to address the basic needs of the poor directly rather than hope that the benefits of growth will trickle down to them. Improving the lot of the under-class and protecting environmental quality can be mutually-supportive goals.

Both internationally and within nations, the new appreciation of our bonds with nature has spawned new institutions and policies-new UN and governmental agencies, new laws, altered aid programmes, new international treaties. Yet for the most part, responses remain inadequate to the needs. For the most urgent need today is to protect and preserve what remains of the environment. To do that one has to understand the meaning of pollution and consider ways of tackling it.

Whenever we encounter the term ‘pollution’ now, we mean environmental pollution. though the dictionary describes ‘pollution’ as ‘the act of making something foul, unclean, dirty. impure, contaminated, defiled, tainted. desecrated….’ Environmental pollution may be described as the unfavorable

alteration of our surroundings. It takes place through changes in energy patterns, radiation levels, chemical and physical constitutions, and abundance of organisms. It includes release of materials into atmosphere which make the air unsuitable for breathing, harm the quality of water and soil, and damage the health of human beings, plants and animals.

Air pollution in one form or another has accompanied human society from the beginning. Cooking over a wood/ dung cake fire often creates a smoky, unhealthy living environment. Today, many Third World cities and even entire rural valleys are blanketed by smoky haze, the poor man's smog. In the nineteenth and early twentieth centuries, many cities of Europe and the US were covered with black shrouds of smoke. Despite the successes registered against smoke, the pollution of city air by other products of coal combustion (above all, Sulphur dioxide) and by nitrous oxides, hydrocarbons, petroleum wastes, and carbon mon

oxide continues to worsen in most of the countries. Strong evidence indicates that prevailing levels of air pollution contribute to the development of chronic respiratory diseases (emphysema, asthma, and chronic bronchitis) besides short-term respiratory afflictions as well. And those living near smelters and refineries often face increased cancer risks because of the toxic substances spewing from smoke-stacks.

Rising concern about the physical discomfort and reduced visibility caused by pollution, and rising evidence of the damage being wreaked on crops and materials, joined health considerations to spur enactment of new anti~ pollution laws. Over the last 25 years, many countries have begun trying to regulate the flow of pollutants in the air, Air pollution can no longer be addressed as simply a local urban problem.

The presence in water of 'micro-pollutants'-toxic chemicals and metals—and of disease-causing micro-organisms has increased over the years. Thermal pollution of water. ways is also causing increased concern. In general, pollution from so-called point sources like sewage pipes and factories is under progressively better control. But the contamination of waterways from diffuse sources-run-off from farmlands which tends to carry fertilizers, pesticides, and organic matter, and from urban areas, which often carries oil, metals, and other pollutants-remains largely uncontrolled and is on the increase in most countries. Acids and heavy metals falling with the rain constitute additional sources of water degradation. The problem of water pollution is growing day-by-day; today a great many people are deprived of disease-free potable water, as almost all the

sources of water-from seas to wells-are increasingly being infested with different kinds of pollutants.

Soil pollution usually results from the disposal of solid and semi-solid wastes from agricultural practices and from insanitary habits. Fallouts from atmospheric pollution also contribute to soil pollution. Direct pollution of the land by pathogenic organisms is also important. Thus the soil is heavily polluted day-by-day by hazardous materials and micro-organisms, which enter the food chain or water and are consequently ingested by man. As a result, there are numerous health problems. Those bacteria which are transmitted from air to soil infect man causing bacillary dysentery, cholera, typhoid and paratyphoid fever. Flies which breed or get in contact with the contaminated soil become carriers of disease organisms. The eggs of some of the parasitic worms get incubated in the soil and both the eggs and larvae are infective.

Radioactive pollution of the environment is due to the increase in natural background radiation, emerging from the activities of man involving the use of naturally occurring or artificially produced radio-active materials. The chances of radioactive materials Spreading into the air have increased extensively as a result of the discovery of artificial radio-activity, and particularly due to the development of atomic bomb and of techniques of harnessing nuclear energy. Biological organisms including human beings are subjected to radioactive contamination either by consumption or inhalation. This radioactive pollution may cause cancers, abnormal births and mutations in men. Chronic exposure to radiation leads to leukemia in an individual and affects even an unborn child.

Thermal pollution denotes the impairment of the quality of environment air or water by a rise in its temperature. The discharge of hot effluents from industries, factories and mills and large volumes of warm ‘cooling water’ from electricity generating stations may cause a temperature rise of several degrees in a river or canal. The processes of life involve many chemical reactions, and the rate of these chemical reactions vary according to the changes in temperature. Apart from biochemical reactions, temperature is considered vitally important to physiology and in controlling reproductive cycles, digestion rates and respiration rates. The effects of thermal pollution are mainly seen on aquatic animals, particularly fish, on whom the human society so much depends.

The modern world has a new pollution to face-that of noise. The scientific approach for considering noise as a pollutant is by decibel. Apart from industrial noises the sources generally are loudspeakers, motor vehicles, trains, aircrafts, processions and rallies. Noise need not just lead to deafness. Research has

shown that noise pollution is capable of causing ulcers, abortions, cardiovascular diseases, congenital defects and hypertension.

The first and most important cause of pollution is the growing population. The earth is now crowded with people, and all of them consume resources and create wastes. If the per capita amounts of pollutants and wastes were to remain constant, the residue loading of the environment would rise precisely in relation to the growth of population. This is acceptable within certain limits, given the capacity of air, water and land to absorb, dilute, carry away and otherwise render pollutants harmless. But, unfortunately, in many places these limits have either been reached or have been exceeded.

Another important factor is the rapid industrialisation and haphazard urbanisation all over the world. The natural processes which keep the planet habitable in the short-term are primarily cyclic. Materials moving through these cycles utilise solar energy and return to their original state before other processes start. In contrast, modern technology causes materials to be removed from the limited geological deposits or from living systems to be eventually discharged as wastes. Not only do these wastes act as pollutants of the natural cycle but they also alter the composition of the atmosphere and disturb the balance of solar radiation. Thus, man's industrial activities add more stresses to the biosphere. The ability of the biosphere to withstand these stresses is further decreased by such conversion of complex natural ecosystems to simple ones. Haphazard urbanisation makes it quite difficult to provide and maintain the required civic amenities. Some cities have become so large and so crowded that the municipalities fail to properly maintain the sewage, provide clean drinking water or adequate garbage removal facilities.

The deterioration of natural systems in poor and marginal areas is at once a symptom and a cause of the extreme misery in which hundreds of millions live. The pollution problems cannot be isolated from questions of economic progress, political stability, social awareness, migration and international aid. Indeed, many types of localised environmental degradation have global implications. To some degree their causes are also international.

Through their way of life and the behaviour of their multinational corporations, citizens of the North can affect environmental conditions in the South. More important, the extent of the extreme poverty that gives rise to so much ecological damage and human suffering is influenced by international monetary, trade, technological and aid policies. The struggle to preserve global environmental quality is unavoidably intertwined with the struggle to improve the lot of the global under-class.

The problems are rooted in the society and the economy-and in the end in the political structure, both national and international. Foresters know how to plant trees, but not how to devise methods whereby villagers in India, the Andes, or the Sahel can manage a plantation for themselves. Biologists know where to draw boundaries for nature reserves, but cannot keep landless peasants from invading them to grow food or cut fuelwood. The solutions to such problems are increasingly seen to involve reforms in land tenure and economic strategy, and the involvement of communities in shaping their own lives.

Applying sensible pollution control faces inherent political and analytical difficulties. The direct expense of clean-up measures, falls upon particular industries or groups, while the resulting benefits, even if much large, are less visible and are spread widely in society. The costs of required controls are tangible and easily figured, but no ready means exist for totalling the benefits of pollution reduction. The temptation is to engage in extremely narrow accounting, ignoring the immeasurable, subtle benefits of a cleaner environment. The affected industries have a strong vested interest in opposing the required investments, while no single group has an immediate material interest of comparable magnitude in imposing controls. ‘Cigarette smoking, is injurious to health’, the ‘No Smoking Day and various others slogans, speeches and write-ups against smoking hardly have any adverse impact on Indian cigarette industries. Thus the political process is distorted, resulting in anti-pollution policies weaker than what is demanded by social interest.

No objective means exist for ascribing value to all the costs of uncontrolled pollution, or to the benefits of reducing it. What is the price of a shortened human life? How does one evaluate the spiritual loss of the residents of Tokyo whose sight of Mount Fuji is obscured by smog? How can we measure the value of a restored and productive ecosystem? The dual judgement about the desirability of anti-pollution measures, then, is inescapably a political one reheating value choices. No economist alone can supply answers to the great environmental policy issues of the day.

No doubt, the problems are many and complex even as pollution is growing unbridled. But a failure to control pollution carries and enormous price in the form of bad health and premature deaths of human beings, other animals and plants; losses of productive ecosystems such as fisheries; losses of recreational opportunities; and degradation of the aesthetic quality of life. People are gradually losing even the freedom to breathe safely. The all-round depletion is making this planet inhospitable and uninhabitable.

Because of the growing pernicious effects of pollution. the global consciousness on the issue of environment has been on the rise, especially since the United Nations Conference on Human Environment held at Stockholm in 1972. The 1992 Rio Summit on environment is a great landmark in this direction, though, of course, we have to wait for some time more for any tangible results.

The importance of clean environment and the detrimental effect of pollution have been realised in India as well. Several legislations exist to control pollution and conserve the environment, with the Environment Protection Act of 1988 being the landmark law. But unless the legislations are enforced with sufficient political will, they are rendered useless. Greater participation of the voluntary organisations and an effort to educate the masses on environment and pollution can help to make the Acts effective. Public policy can also be used to equalise the burden imposed by anti-pollution laws, and to make those who profit from pollution activities compensate those who suffer the ill consequences (the 'polluter pays' principle). If the costs were distributed fairly through society, the antipollution struggle would place no serious burden on anyone.

Environmental choices must be guided by a vision of a desirable human society and of the quality of the natural environment needed to support that vision.

Essay No. 3

## Pollution

It is an established fact that our metro cities are not good enough to live in. they offer neither pure, safe drinking water, nor a healthy , fresh air to breathe. The noise of ever –increasing number of vehicles does not allow us to sleep even at night.

All our important cities have been found to be the worst polluted cities in the world. It is, therefore, not surprising that major health problems have become recurring occurrences. In order to overcome the problem, it is important to identify the sources of pollution.

The major source of pollution in the cities is the heavy traffic on the roads. Buses, cars, motor-cycles and other such vehicles emit carbon mono-oxide, which badly affects our lungs,

In fact, sometimes, it becomes difficult even to breathe because one can feel the heavy air that one is inhaling. Another source of pollution is the smoke from the factories, running in residential area. They emit highly toxic fumes into the atmosphere making life miserable for those who life around.

Another reason of too much pollution is the absence of plants and trees. Cutting down of trees indiscriminately everywhere for the sake of buildings has created the problem of survival itself. We forget that trees breathe in carbon-dioxide and release oxygen into the atmosphere so that the atmosphere is , automatically, purified.

However, the blind race for industrialization and development everywhere has resulted in every few patches of greenery in our cities. It has resulted in our suffering the ill effects of atmospheric pollution.

Water is another essential necessity which, again, we get in a highly polluted form. It is easy to isolate the sources of pollution here also. One reason is our age- old superstitious belief in ancient customs which leads us to make the water filthy. For example, hair after a ‘Mundan’ ceremony is collected and thrown into the river Ganges or the Yamuna.

Ashes and left-over bones, after the cremation of the dead body of a friend or relative, are also thrown into these and other big rivers. It never comes to our mind that the cities through which these rivers are flowing, receive their water supply from them. Yet people can be seen washing their dirty clothes with impunity on the banks of these rivers which further contaminates the water.

As if all this is not enough, effluents from industries are also released into the rivers and these further aggravate the problem. Yet again, the pipes through which the water is supplied to us are often old and rusted. There is apparently no way of cleaning them with the result that worms, cysts, dust, and other impurities are a normal part of the ‘fresh’ water, supplied to us in the cities.

The aftermath of all this pollution of air and water is really deadly for all those living in cities. Air pollution leaves no pure air to breathe in and these results in a host of diseases life suffocation, breathlessness, asthma and migraine.

The body remains deprived of its required supply of oxygen and thus we feel too weak to work efficiently. This is why our cities are filled with pale, anemic – looking adults and children, for the blood deprived of the life-giving oxygen, absorbs the toxic gases present in the atmosphere.

Water pollution is also highly harmful. In addition to the toxic effects of the industrial poisons, which the water contains, cysts and worms have become a chronic problem with many a city dweller. Even heavy chlorination shows no beneficial effects and the level of pollution remains above the acceptable norms.

No wonder, epidemics life cholera, typhoid, hepatitis and other such water – borne diseases regularly attach the masses. Further, the dust, which can easily

be seen, if the water is collected in a vessel and left standing for some time, results in the bladder and kidney problems.

The most urgent need of the hour, therefore, is to have an effective check on the pollution problem, if we are to escape being a nation of sick and unhealthy citizens. This is possible only when individuals and the government are serious enough about remedying the situation and make quick, joint efforts.

A number of steps are to be initiated to get rid of the air pollution in cities. All of us should maintain our vehicles well so that only the minimum amount of fumes is emitted. The government can take a strong view of it and penalize the offenders heavily. If there are frequent checks, they are sure to yield positive results.

Again, there should be continuous check on the industries, spewing smoke and toxic fumes without any consideration for others into the atmosphere., the chimneys should be at a high from where the smoke does not come down to the earth. Wherever possible, trees and plants should be planted this will convert the carbon –di- oxide in the atmosphere in to life-giving oxygen.

Likewise, stern and deterring steps must be taken to check water pollution. Dumping of rubbish at any point in any river has to be prohibited. To respect the religious sentiments of the people , certain areas could be cordoned – off for the ceremonial disposal of ashes etc. a regular cleaning operation of the river should be undertaken.

The results are sure to be highly rewarding, if mass involvement is encouraged. Sometime back there was a major Ganges- cleaning Operation, and it yielded tones of rubbish. However, unless this is done on a regular basis, the problem is not going to e eliminated forever.

Again, the industries throwing their waster into the river-waters should be ordered to incinerate it at the source. Further the municipal authority's in –charge of the water supply should clean up their tanks regularly and filter and treat the water properly to free it from dust, cysts and other dangerous matter in it. Epidemics of water –borne diseases would, then , be prevented from increasing at the source.

Essay No. 04

## The Problem of Pollution

Pollution is defined as the contamination of environment's pure elements by the harmful agents or increase in their percentage above a certain permissible limit.

For example, the pollution of air is the contamination of pure air by the harmful agents like soot, noxious fumes by vehicles and industries. Pollution of water by the harmful chemicals is another example of the pollution. Since the start of the industrial revolution, there has been a constant change in the composition of the air chiefly due to the burning of fossil fuels used for energy and transportation purposes.

Air pollution is a chief environmental health problem. The effects of air pollution on health are very complicated. The chief sources of the air pollution are Suspended Particulate Matter (SPM), carbon monoxide, volatile organic compounds, Sulphur dioxide, oxides of nitrogen, volatile organic compounds produced by industries etc. Besides that indoor air pollution can prove to be severely fatal to health as it is released in close proximity to the inhabitants. The fact that should be noted is that a pollutant released indoors is many times more likely to reach the lung than that released outdoors. In the developing countries a fairly large portion of the population is dependent on biomass for their energy requirements. These include wood, charcoal, agricultural residue, and animal waste. These sources are used for cooking and heating and are commonly found in the household both in the rural and the urban areas. The stove is generally situated at the floor level, enhancing the risk of incidents. In addition, they are often not fitted with a chimney for the exhaustion of pollutant gases. In such households the children and women are most likely to be affected, as they are the inhabitants that spends more time indoors.

Common atmospheric pollution sources and their pollutants are listed below:

– Burning of agriculture residues; suspended particulate matter, carbon monoxide, volatile organic compounds

– Mining, crude oil and gas production; suspended particulate matter, sulphur dioxide, oxides of nitrogen, volatile organic compounds.

– Generation of power; suspended particulate matter, sulphur dioxide, oxides of nitrogen, carbon monoxide, volatile organic compounds, Sulphur trioxide, lead.

– Combustion engines of vehicles; suspended particulate matter, Sulphur dioxide, oxides of nitrogen, carbon monoxide, volatile organic compounds, lead.

– Incinerators; suspended particulate matter, Sulphur dioxide, oxides of nitrogen, carbon monoxide, volatile organic com-pounds, lead.

Air contains gaseous pollutants, odours, and SPM, (Suspended Particulate Matter). Fires are also among major source of air pollution and can lead to severe problems. These fires can either be forest fires, oil well fires, burning of

leaves in the backyard or as in the case of rural areas, large-scale burning of agricultural waste. Another main pollutant in this environment is the SPM. In fact, death due to indoor air pollution, mainly particulate matters, in the rural areas of India are one of the highest in the world. Tobacco smoke generates a wide range of harmful. It is not new that smoking affects the passive smoker ranging from burning sensation in the eyes or nose, and throat irritation, to cancer, bronchitis, severe asthma, and a decrease in lung activity. Biological pollutants mostly include allergens that can cause asthma, hay fever, and other allergic diseases. Volatile compounds can cause irritation of the eye, nose and throat. They may also cause headaches, nausea, and loss of coordination. Long time exposures to lead can lead damage to the nervous system, digestive problems, and in some cases cancer. Exposure to ozone gas cause itching and burning sensation of eyes. It has also been associated with Increase in respiratory disorders such as asthma.

It lowers the resistance to colds and pneumonia. Carbon monoxide combines with hemoglobin to reduce the amount of oxygen that enters our blood through our lungs. It affects our concentration, slow our reflexes, and make us confused and sleepy. Suspended matter consists of dust, fumes, mist and smoke. The chief chemical component of SPM that is of major concern is lead, others being nickel, arsenic, and those present in diesel exhaust. These particles when breathed in, lodge in our lung tissues and cause lung damage and respiratory problems. Tobacco smoke generates, a wide range of harmful chemicals and is a major cause of ill health, as it is known to cause cancer, not only to the smoker but affecting passive smokers too. It is well known that smoking affects the passive smoker (the person who is in the vicinity of a smoker and is not himself/herself a smoker) ranging from burning sensation in the eyes or nose, and throat irritation, to cancer, bronchitis, severe asthma, and a decrease in lung function. These gases can severely affect the health of the population and should be dealt now as it is still in its primitive stage. A pure and clean environment is good for everyone.

Essay No. 05

## Pollution will Kill Humanity

Pollution is probably the most important problem in the world_ today. Unlike most of the other problems in the world, such as AIDS, pollution is a human creation. Since the beginning of time, whenever human beings changed their environment, they were greatly affected. Areas where pollution is extremely high encounter death rates and disease rates that are sometimes 15 or 20 times more than areas without pollution. Greedy corporations are pushing these problems to

areas not ready to encounter this high level of pollution and if something isn't done soon to curtail these problems, we will all surely feel the long-standing effects they bring.

Nowadays, children are leading the environmental revolution. More educated and smarter on the issues that the world is facing, children are changing the planet. Still, all the education in the world cannot counter the pressure that big business is putting on the globe. Chemicals, human wastes, toxic wastes, and other kinds of pollution are beyond repair in some cases. Corporations do not care about the planet; they are willing to trade off small environmental risks for jobs and success in individual communities.

Another problem dealing with waste disposal is the fact that human waste is still dumped into rivers, lakes, and oceans without the proper treatment. Although the oceans aren't greatly affected by a small amount of waste, over time it could definitely begin to hurt human interests in them, such as the fishing industry. In rivers and lakes though, there is usually no way for the waste to find its way out of the water. A further result of air pollution is acid rain. Acid rain basically appears when factories release high levels of Sulphur into the air. The Sulphur then combines with rainwater to form a weak sulphuric acid. Acid rain itself cannot harm humans, but it can harm our environment and our quality of life. And since studies have yet to be completely conclusive, nobody knows how it affects us physically in the long run. One of the reasons it is such a threat is because it travels in the air and may fall on areas that did not produce it. Since acid rain can be prevented by government regulation, stopping the release of sulphur into the air is a definite first step to curbing acid rain. In early 1974, scientists warned governments across the globe that the release of certain industrial chemicals, such as CFCs and Halogens, could result in a thinning of our ozone layer. The ozone layer is a part of our atmosphere that prevents most ultraviolet rays from entering the earth's surface layer. It allows only enough high-energy radiation to enter so that Vitamin D in humans can become active. High radiation, and certain human mutations begin to occur. In 1985, a hole in the ozone layer was discovered over Antarctica. Over the past 10 Year more and more holes were discovered over different n world. parts the Another type of pollution that is definitely a threat to human safety is toxic waste pollution. This type of contamination is caused when the bye products of chemical reactions are basically just dumped anywhere the company that produced them so pleases Although there are supposedly safe ways of disposing of these wastes, there is no natural way of ridding the planet of them. Therefore, most toxic waste is just left out to seep into water sources and into areas of human development. Further areas of environmental contamination are nuclear waste, nuclear disaster, and

nuclear war. All three of these are directly related to each other in that all can result in immediate death and death well after contamination. Nuclear wastes are the bye products of nuclear reactions in power plants. There is a very safe way to dispose of nuclear waste, but it has been proven in the past that many of these techniques can be harmful to human beings if they are not properly completed. Nuclear waste contains high levels of radiation. Radiation, in levels of that height, can kill a person within hours. At lower levels, such as levels of radiation that someone would encounter over long periods of time, radiation can cause cancer.

Essay No. 06

## Pollution

Science and technology have enriched man's life, but they have polluted man's environment to the point of posing a threat to man's very survival. Today, the very things which had been designed to make man's life comfortable are having a disastrous effect on his physical and mental well-being due to pollution.

Twentieth century has witnessed a gigantic revolution in the field of science and technology. It has enabled man to harness the forces of nature, conquer distances and bring about a revolution in the methods of industrial and agricultural production. Scientific knowledge and technical innovation have vastly helped in improving the life of man, removing diseases and ignorance. But they have not helped in creating an environment which could be favorable to life's full growth. Man has sadly created an imbalance between himself and nature. The very Instruments which were supposed to help man have created many problems. Today, man stands on the brink of annihilation as a result of environmental pollution.

One of the greatest problems confronting the modern civilized world is pollution, which literally means fouling the natural habitat and environment Air pollution, water pollution, land pollution, noise pollution are some of the many types of pollution. The problem is assuming monstrous proportions. The root cause of the problem is man himself who has not been foresighted enough to plan the use of science and technology. He has allowed himself to get carried away with his knowledge and disturbed the ecological balance, so essential for living on the planet.

Industrialization has greatly benefited mankind. It has led to urbanization But the haphazard growth of modern cities, industrial centres, migration of rural population to the cities in search of work has created an unhealthy environment. It has given rise to overcrowding, slums, juvenile delinquency, inadequate civic amenities, addiction to drugs and alcohol and crime. People living in big cities no

longer breath fresh air and see any green open spaces. They live amidst noise and pollution which leads to disease. It is almost impossible to completely get rid of this noise pollution, yet proper legislation and public cooperation can greatly he in reducing it. There should be a regular check on use of loud Speaker indiscriminate use of horns by the motorists. Medical experts have warned that excessive noise can lead to deafness and create other health problems which can do irreversible damage to the well-being of man. Today, we have come a long way from the days when our forefathers were woke up at the crack of dawn by the chirping of the birds and the cooks early morning call. It is indeed an irony that today man, especially in urban areas spends many sleepless nights because of careless use of the very devices which were designed to make man's life comfortable.

Air pollution is another example of how the growth of modem industry and means transport have played havoc with man's environment. One of the worst agents of air pollution is the smoke being belched out by the chimneys of the factories and the motorcars, buses, etc. In fact, industries which create air pollution should not be in the heart of the cities. While, it cannot be totally eliminated because of the industrial expansion and the ever-increasing number of motor vehicles, some measures can be devised to reduce the menace. Already enough damage has been done to human environment both rural and urban. The government has set up a Department of Environment in 1980 and enacted a new law the environment Protection Act (1986) to serve as a focal point tor planning, promotion and coordination of environment protection programmes. Also, as per the Policy Statement for Abatement of Pollution announced in February, 1992, the key elements for pollution prevention are adoption of the best available clean and practical technologies rather than end of the pipe treatment. The focus is on source reduction and substitution chemicals with sale alternatives. However, more concrete measures need to be taken to check the growing menace.

Water, one of the most essential needs for the survival of life on the earth is being polluted to such an extent by industrial waste that it is posing a serious threat to plant and animal life. Water pollution industrial waste has become a serious menace. Most industries dumb their waste products in the rivers which are the sources of drinking water. This poisonous waste being poured into the rivers contaminates the fish an important source of food for millions of people and it makes it unfit to human consumption. The same water is used for irrigation and thus pollutes food. It is unsafe for drinking but is consumed by ignorant people thereby leading to disease and death. The extent of water pollution ultimately alarmed the environmentalists who brought it to the notice if the government. Then the government took some interest in this neglected area by

taking measures to check water pollution. In 1986, the government launched the Clean Ganga Programme and several sewage treatment plants started operating at Varanasi, Patna, Allahabad and near the source of river at Hardwar to purify the Ganga water.

India is tropical country. It had at one time dense forests and was very rich in flora and fauna. But the rate at which the denudation of the country's rich forest cover has been continuing, we may not be left with any forest cover by the end of this century. Reckless and unplanned urbanisation, increasing pressure of the exploding population, commercial felling of the trees overgrazing and over cultivation by land starved peasants. All these are factors that have been responsible for the shrinkage of the forest cover consequently leading to climatic changes. Destruction of forests has led to extinction of many rare species of wild life turned land into fallow wasteland.

Recent studies have confirmed that the earth's surface is getting warmer. The main reason for this rise in temperature has been industrialization. Industries release a large quantity of carbon dioxide and other gases into the atmosphere. It has been found that the earth is surrounded by sulphate clouds which has led to irreversible atmospheric changes all over the world. The pattern of rain fall has changed over the years due to the greenhouse effect, which is a general warming of the world due to the formation of carbon dioxide and other gases in the atmosphere.

Soviet geophysicists have unravelled the dense sulphate cloud which shrouds the planet Venus and they have said that it is a warning to the mankind against uncontrolled pollution of the atmosphere. Venusian clouds are a result of natural processes but sulphate clouds on earth are caused by industrial activity. The accumulation to these compounds in our atmosphere leads to irreversible consequences excess heating of the air and climatic changes all over the world.

Recent studies by British scientists, based on detailed measurements stretching back over l20 years, have continued that surface of the earth is warming up. It is predicted that the temperature of the earth might increase most by 1.5 to 4.5 degree Celsius by the year 2050. Consequently, the ice caps and glaciers would begin to melt into the sea and raise the sea level, lapping further over the land margins and perhaps encroaching open low-lying cities such as Bangkok and Venice.

Altering the proportion of sea to land on the surface of the earth would further upset the balance of climate with the consequent adverse effect on agriculture

and food production around the world. The main reason for the rise in temperature has been industrialization.

Nobody can argue against the need for maintaining an ecological balance. It is a crime against humanity to clear new projects which require deforestation for construction of large dams, to build up thermo nuclear weapons of mass destruction. Unless everyone becomes aware of the need to save our planet from destruction, there can be no hope for mankind. Statesmen, scientists, engineers, and men and women in the ordinary walks of life must realise their obligation to humanity and join hands to stop potentially dangerous and disruptive activities which are spoiling our atmosphere and surroundings. Otherwise the earth will soon become a graveyard. We cannot afford to be complacent in protecting and conserving our environment for ourselves and for the generations to come.

Essay No. 07

## Environmental Pollution

To pollute, literally, means to defile or make dirty. The addition of undesirable or unclean elements to the environment causes an imbalance and leads to pollution. This imbalance has not only led to deterioration in the quality of our lives but has also threatened the very survival of all life. If this imbalance grows beyond a certain limit, it may prove fatal. The ever and rapidly increasing pollution is a matter of global concern, because it is not confined to a particular country, region or land. It is a threat to the whole world and must be fought unitedly.

The problem of pollution is all the more acute in our overcrowded towns and cities. The ever-growing consumerism has further worsened the problem. The biosphere and ecosystem of cities and towns is fast losing its self-sustaining power. The rapid industrialisation of the cities has made them almost unfit for living. They are full of smoke, noxious fumes, dirt, dust, rubbish: corrosive gases noise. The burning of various fuels in foul smell and deafeningnoise. The burning of various fuels in the factories and mills, release of a great amount of sulphur-dioxide in the air cause serious pollution. For example, in Delhi, a large part of the population suffers from respiratory and related disorders. In other metropolitan cities like Mumbai Kolkata and Chennai, the situation is no better. The thousands of vehicles spewing smoke and producing unbearable noise in Delhi have aggravated the situation manifold. Delhi is symptomatic of the have growing urban pollution and chaos in the country. The same fate awaits other cities of the country.

Since most of our cities are on the banks of the murky and livers or the coast, our rivers and seas too have turned polluted and fishes and other creatures living in them are found rotting on the shores. The atmosphere in the cities is saturated with such pollutants as carbon-monoxide, oxides of sulphur and nitrogen, hydrocarbons pesticides, fly-ash, soot and sometimes, radioactive substances. The air is also choked with foul smells and toxic fumes. These have found their way into our foodstuffs. The toxic chemicals, industrial wastes and effluents discharged into rivers and seas from the mills and factories have proved fatal to marine life. Heaps of garbage, rising in ugly mounds in the cities, tell a story of our blind, foolish and lopsided urban growth and development. Our villages, too, are not free from this ecological degradation. They have lost much of their forests and pastures. This depletion of natural resources and imbalance in ecology will make our cities collapse under their own weight of contradictions.

Obviously, pollution has crossed all the tolerable limits and if no effective remedial measures are taken soon, the results may prove catastrophic. Vehicles belching smoke should not be allowed to run on the roads of the city. Eco-unfriendly vehicles should be strictly banned and there should be frequent pollution checks, and those found guilty of violating the rules should be adequately fined and punished. They must be forced to follow some absolute minimum standard of emission.

Noise is one of the great pollutants. The general noise level in the cities is rising alarmingly, causing many mental and physical diseases. Noise emanating from factories, vehicles, trains, public address systems, T.V. sets, aircrafts, and sirens, etc. is really too much. It has been proved that noise beyond a safe limit causes various kinds of disorders, both mental and nervous. Concentration is difficult in a noisy place, if not impossible. To perform anything creative and fruitful, concentration is a pre-condition. Noise also adversely affects our rest and sleep and thereby gives rise to many problems related to psychosocial behaviour. Frequent loud noise may cause decreased flow of blood in the small vessels, dilation of pupils, tension of muscles, digestive upsets, nervousness, anxiety and irritation.It lowers the working efficiency. The most glaring effect of noise is in the form of gradual loss of sense of hearing. There are noise-controllers but they are not of much help because of the lack of public awareness. We can reduce the menace to some extent by planting more and more trees.

The presence of pollutants in the sources of water, like rivers, lakes, ponds, and seas, is another great health hazard. Water reservoirs are full of pollutants, which include toxic chemicals, industrial effluents, suspended solids, organic and inorganic substances, and bacteria, etc. The sewerage has seriously damaged

the health of our water resources. The discharges contain a variety of poisonous effluents, which cause the outbreak and spread of water-borne diseases and epidemics. The detergents, fertilizers, pesticides, oil spills are other major pollutants of water. Waste from slaughter houses, dairy and poultry farms, breweries, tanneries, paper and sugar mills have caused havoc.

In order to check water pollution, the sewerage and factory effluents and waste should be properly treated and cleaned before being discharged into streams, rivers and seas. Chemical industries should not be allowed to be located on the banks of the rivers and the coasts. There should be strict rules in regard to the observation of pollution rules and regulations, and the guilty should be severely punished. Gradually people becoming more and more aware of the growing problem of pollution. It is reflected in the first Act passed by the Indian Government in 1974, to have control over water pollution Then in 1980 another Act was passed to prevent air pollute ion. And, finally, the Department of Environment was created as an independent agency in November 1980, to look after the k environmental needs. But the measures, so far, to check environmental pollution have been more or less symbolic and half-hearted.

More than 70% of all the water available in our country polluted. Like water and air, our soil is also getting polluted. It is estimated that over 35% of our total land area suffers from environmental degradation. Deforestation and excessive use of artificial fertilizers and pesticides are the main factors of this degradation of our land. Overgrazing has further worsened the problem. A number of solid wastes, such as garbage, trash, ash, sludge, plastic material, useless bottles, and cans, etc., dumped here and there make the atmosphere dirty and polluted.

In order to fight this menace, vigorous efforts should be made and anti-pollution laws should be strictly practiced. More needs to be done through mass media in order to seek people’s participation in the movement. Pollution holds out come threat and danger to us and to the generations to therefore, it should be fought tooth and nail. The use of solar and wind energy should be encouraged because it is clean and pollution-free. The awareness against the scourge seems to be growing but it needs to be matched with’ nationwide pollution control measures.