

ACID RAIN

CHANGING ENVIRONMENT

When we leave for office in the morning and return in the evening, we can see the dullness on the face showcasing like never before. It is the direct effects of pollution. When we travel in buses or cars, the emissions from automobiles get collected in the atmosphere as pollutants and engage in a chain reaction. We can see thick, black fumes coming out of exhaust of vehicles that create dirt around the place where the vehicle is stationed and one finds it difficult to even breathe in such a hazardous environment.

We cut down trees to make way for new building constructions and take away the greenery in our place. Pollution is everywhere, especially in big cities. Pollution levels in cities are so high that people carry the risk of respiratory infections, skin ailments, eye disorders and other common allergies. Deadly diseases like bronchitis and asthma occur due to the damaging effects of pollutants in the sky. The water that we drink is polluted, the food that we eat consists of chemicals, and the air that we breathe is highly polluted. So there is no place where we can breathe fresh air and be relieved. Early morning walks are known to be the best since the pollution levels at that time are relatively less compared to that as and when the day passes.

Children are taught about acid rain, pollution and the need for conservation of Mother Nature at a very young nature. That indicates the alarming rise of pollution over the years and there is definitely a need to curb practices of spreading pollution in our area. Uncontrolled use of fossil fuels, wasting natural resources, and not making proper channels for safe ejection of industrial fumes – all these lead to a situation where the contaminants get accumulated in the sky and gradually form a thick layer of pollutants alone. The world that we live in is fast changing, but men selfish needs have shown a very bad impact on the environment. The country is sure developing rapidly, but development comes at a very heavy price. Industrialization and urbanization have created bad effects on the environment and the changes are totally irreversible. Fossil fuels are non renewable resources; hence they should be utilized with care. Precautions must be taken to reduce pollution so that hazards like acid rain don't occur in nature. We should save our trees and reduce pollution for a greener tomorrow.

WHAT IS ACID RAIN

As the name suggests, when rainfall becomes acidic in nature, it is called acid rain. It is harmful to nature and the environment and can have disastrous effects on the atmosphere. Let us first look into the importance of rainfall. Rainfall is essential to nature as water is essential to man. Without rains, rivers and lakes would cease to exist. When there are no rivers around us or having very poor water storage in them, we will face shortage of electricity. When rivers dry up on account of little or no rainfall, there will be no irrigation systems or agricultural mechanisms. When there is no irrigation for the fields, the crops dry up and lands turn barren without water. Drinking water would become a scarcity if we don't have rains. Pumping of electricity would become a major issue at hydro electric power stations due to shortage of water.

As indicated, every action in nature is interlinked with another reaction. Rainfall is definitely a required treasury for nature, as without rainfall, life itself doesn't seem to exist on earth. Rainfall is the main source of water for rivers, lakes and oceans. Marine life would get hampered without water in rivers and lake beds would dry up killing aquatic creatures. Rainfall reduces drastically when forests are burnt or cut down. Rainfall is essential for all forms of life to thrive on earth. The planet receives rainfall in different variations in different parts of the world.

Thus, we know the importance of rainfall. But even when a scenario exists where rainfall is very vital for the earth, there are issues with this rainfall as well. When the atmospheric contamination or pollutants mix with rain water, it becomes acidic. That is, the presence of sulphurous and nitrous compounds increases in rain water, turning it into a highly acidic form and reducing the PH of rain water. The normal rain water itself is said to be quite acidic, due to the presence of carbonic acid. The carbon dioxide and water present in atmospheric air combine together to form carbonic acid, thus the normal rain water itself is considered slightly acidic with low PH levels. If there is further deterioration of Ph levels below a certain low level, making it super acidic, the rain water simply comes to be called as acid rain.

HOW IT IS CAUSED

Burning of fossil fuels, namely coal, oil and natural gas leads to the release of several compounds of nitrogenous and sulphurous compounds that create acid rain. There is no curb on the use of petroleum products such as petrol and diesel and the unplanned use and wastage of these resources has led to a situation where all the emissions are getting piled up in the sky. The pollutants released from the various vehicle emissions, industrial effluents, industrial emissions etc create enough pollution and all these pollutants get accumulated in the atmosphere. Chain reactions between various pollutants happen and these create a harmful mixture of chemicals in the sky. They react with rain water and the resulting downpour results in an acid rain.

THE DAMAGING EFFECTS

Acid rain has very damaging effects on the environment. It is known to cause skin diseases and respiratory infections. One cannot be aware of the bad effects of the rain as the downpour seems perfectly normal at sight, but in reality consist of a combination of deadly mixtures. Many habitats are dwindling because of these ill effects of nature. Acid rain creates destruction to crops as the rain water which falls on this cultivation is known to kill them and affects the balance in the ecosystem. Many aquatic creatures that thrive in fresh, natural water find it difficult to breathe in conditions where sea water or fresh water gets mixed with acidic water.

Farm lands turn into waste lands and not fit for cultivation when a continuous downpour of acid rain happens and the soil composition changes thereby. Seasons are affected because the atmospheric composition changes and the resulting effects can be seen on the changes in the ecosystem. Man suffers from plenty of health disorders already. These factors create further problems in the environment and it becomes even more difficult to protect ourselves from various infections.

HOW IT CAN BE CONTROLLED

We can control the side effects of acid rain by taking measures to stop acid rain. We can take initiatives to burn less fossil fuels and thereby control emissions to the atmosphere. Industrial emissions can be handled to reduce air pollution and thereby control harmful radiations and emissions from reaching the layers of the sky. Smog which is a combination of smoke and fog is known to create lung diseases in man and is a direct side effect of acid rain.

When we travel very early in the mornings, we can see that the visibility is very poor. That happens because of a thick layer of fog creation at open areas. When this fog mixes with smoke from industries and vehicles, it turns into thick smog that irritates the eyes and causes eye infections. Eyes turn red and watery due to smog. They are harmful in nature. They are known to cause skin diseases when directly exposed.

The concerned ministries at the centre are working on reducing the effects of acid rain and taking appropriate measures to curb acid rain. It is every person's duty to curb the use of fossil fuels, especially petroleum to save a greener future for the next generation. What used to be green has now turned into a big concrete jungle. Forests are cut down to make way for cities that is bringing down the balance in the ecosystem. Each person should try and contribute in his own ways to help save the environment and achieve a clean and green earth for tomorrow. Our future generation should follow our footsteps to save Mother Nature from the hazardous effects of pollution and its many side effects, especially acid rain.

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