

**ENVIRONMENTAL POLLUTION – AN AYURVEDIC PERSPECTIVE****Dr. Rashmi Tiwari<sup>1</sup> Dr. Nitesh Gupta<sup>2</sup>**<sup>1</sup> Assistant Professor, Department of Agadtantra , GAC Vadodara, Gujarat, India<sup>2</sup> Associate Professor, Department of Kriya Sharir , SGAM Gujarat Ayurveda, University Jamnagat, Gujarat, India**ABSTRACT**

Environmental pollution is a major treat for human population in current and coming times. The situation is becoming worst day to day. It has to be taken seriously, as it has a negative effect on natural elements that are an absolute need for life to exist on earth, such as water and air. Environmental pollution consists of five basic types of pollution, namely, air, water, soil, noise and light. Today not a single component of ecosystem remains free from pollution. It exerts harmful effects not only on human health but also destroys the environment which is the ultimately results in the destruction of life on planet earth. Ayurveda being the science of life has solution for every problem of life whether it physical, psychological, social or environmental. Today world is looking towards Ayurveda for its holistic approach. This article is a preliminary approach to check out whether we can found any solution for emerging environmental problems through our ancient knowledge provided our great ancestors.

**Keywords:** environment, pollution, Ayurveda**INTRODUCTION**

One of the greatest problems that the world is facing today is that of environmental pollution, increasing with every passing year and causing grave and irreparable damage to the earth. Environmental pollution has existed for centuries but only started to be significant following the industrial revolution in the 19<sup>th</sup> century. Pollution occurs when the natural environment cannot destroy an element without creating harm or damage to itself. The elements involved are not produced by nature, and the destroying process can vary from a few days to thousands of years (that is, for instance, the case for radioactive pollutants). In other words, pollution takes place when nature does not

know how to decompose an element that has been brought to it in an unnatural way. Pollution must be taken seriously, as it has a negative effect on natural elements that are an absolute need for life to exist on earth, such as water and air. Indeed, without it, or if they were present on different quantities, animals – including humans – and plants could not survive. Environmental pollution consists of five basic types of pollution, namely, air, water, soil, noise and light. The harmful chemical & synthetic elements became an integral part of our life. These substances cause damages to our body as well as our environment and prove dangerous in one way or other. There are several studies which show the

direct relationship between pollution & sever diseases including cancer and genetic disorders.

### **Current scenario**

Toxic pollution affects more than 200 million people worldwide, according to Pure Earth, a non-profit environmental organization. In some of the world's worst polluted places, babies are born with birth defects, children have lost 30 to 40 IQ points, and life expectancy may be as low as 45 years because of cancers and other diseases<sup>1</sup>. Air pollution kills more than 2 million people each year, according to a study published in the journal Environmental Research Letters<sup>1</sup>. More than 1 billion people worldwide don't have access to safe drinking water. 5000 people die every day as a result of drinking unclean water<sup>2</sup>. The garbage dumped in the ocean every year is roughly around 14 billion pounds. Plastic is the major constituent<sup>2</sup>. Pollution kills more than 1 million seabirds and 100 million mammals every year. People who live in high-density air pollution area, have 20% higher risk of dying from lung cancer, than people living in less polluted area<sup>2</sup>. Approximately 46% of the lakes in America are extremely polluted and hence risky for swimming, fishing and aquatic life<sup>2</sup>. India, the Ganges water is gradually becoming septic, especially due to dumping of half burnt dead bodies and enshrouded babies<sup>2</sup>. Most of the hazardous pollutants that are discharged in the atmosphere each year are released to surface water, ground water, and land, combined<sup>2</sup>. According to the latest urban air quality database of WHO, 98% of cities in low- and middle income countries with more than 100 000 inhabitants do not meet WHO air quality guidelines<sup>3</sup>

### **Types & Causes of Pollution<sup>2</sup>**

**Air Pollution** is the most prominent and dangerous form of pollution. It occurs due

to many reasons. Excessive burning of fuel which is a necessity of our daily lives for cooking, driving and other industrial activities; releases a huge amount of chemical substances in the air every day; these pollute the air.

Smoke from chimneys, factories, vehicles or burning of wood basically occurs due to coal burning; this releases sulphur dioxide into the air making it toxic. The effects of air pollution are evident too. Release of sulphur dioxide and hazardous gases into the air causes global warming and acid rain; which in turn have increased temperatures, erratic rains and droughts worldwide; making it tough to survive.

**Water Pollution** has taken toll of all the surviving species of the earth. Almost 60% of the species live in water bodies. It occurs due to several factors; the industrial wastes dumped into the rivers and other water bodies cause an imbalance in the water leading to its severe contamination and death of aquatic species.

Also spraying insecticides, pesticides like DDT on plants pollutes the ground water system and oil spills in the oceans have caused irreparable damage to the water bodies. Eutrophication is another big source; it occurs due to daily activities like washing clothes, utensils near lakes, ponds or rivers; this forces detergents to go into water which blocks sunlight from penetrating, thus reducing oxygen and making it inhabitable.

Water pollution not only harms the aquatic beings but it also contaminates the entire food chain by severely affecting humans dependent on these. Water-borne diseases like cholera, diarrhoea have also increased in all places.

**Soil pollution** occurs due to incorporation of unwanted chemicals in the soil due to human activities. Use of insecticides and pesticides absorbs the nitrogen compounds

from the soil making it unfit for plants to derive nutrition from. Release of industrial waste, mining and deforestation also exploits the soil. Since plants can't grow properly, they can't hold the soil and this leads to soil erosion.

**Noise pollution** is caused when noise which is an unpleasant sound affects our ears and leads to psychological problems like stress, hypertension, hearing impairment, etc. It is caused by machines in industries, loud music, etc.

**Radioactive pollution** is highly dangerous when it occurs. It can occur due to nuclear plant malfunctions, improper nuclear waste disposal, accidents, etc. It causes cancer, infertility, blindness defects at the time of birth; can sterilise soil and affect air and water.

## Effects of Pollution<sup>2</sup>

**1. Environment Degradation:** Environment is the first casualty for increase in pollution weather in air or water. The increase in the amount of CO<sub>2</sub> in the atmosphere leads to smog which can restrict sunlight from reaching the earth. Thus, hampers the process of photosynthesis occurring in the plants. Gases like Sulphur dioxide and nitrogen oxide can cause acid rain. Water pollution in terms of Oil spill may lead to death of several wildlife species.

**2. Human Health:** The decrease in quality of air leads to several respiratory problems including asthma or lung cancer. Chest pain, congestion, throat inflammation, cardiovascular disease, respiratory diseases are some of diseases that can be caused by air pollution. Water pollution occurs due to contamination of water and may pose skin related problems including skin irritations and rashes. Similarly, Noise pollution leads to hearing loss, stress and sleep disturbance.

**3. Global Warming:** The emission of greenhouse gases particularly CO<sub>2</sub> is leading to global warming. Every other day new industries are being set up, new vehicles come on roads and trees are cut to make way for new homes. All of them, in direct or indirect way lead to increase in CO<sub>2</sub> in the environment. The increase in CO<sub>2</sub> leads to melting of polar ice caps which increases the sea level and pose danger for the people living near coastal areas.

**4. Ozone Layer Depletion:** Ozone layer is the thin shield high up in the sky that stops ultra violet rays from reaching the earth. As a result of human activities, chemicals, such as chlorofluorocarbons (CFCs), were released into the atmosphere which contributed to the depletion of ozone layer.

**5. Infertile Land:** Due to constant use of insecticides and pesticides, the soil may become infertile. Plants may not be able to grow properly. Various forms of chemicals produced from industrial waste are released into the flowing water which also affects the quality of soil.

## AYURVEDIC PERSPECTIVE

*Ayurveda* meaning 'the science of life', in itself explains that it is not only a science of medicine and medical cure of disease symptoms only but it balances the total ecosystem of human existence in the best way. With the explosion of modern drugs in the therapy of human disease, the understanding of this holistic medical viewpoint is at the verge of literal collapse. The amazing complexity of the psychological, behavioural, cultural and environmental problems associated with human health has forced the practitioners to look towards traditional systems of medicine. Medical science has now started thinking in terms of holistic medical science like Ayurveda. It is preventive, curative and restorative.

While describing about the cause of pollution our ancient seers emphasize on human activities which produces impurities in environment. In *Charak Samhita*<sup>3</sup> under the title “*Janpadodwamsa*”, the great seer mentioned the cause of unhealthy environment is the *adharma* of rulers and residents of that particular area which leads to the impairment of the ecosystem and its components. Further in *Shushrut Samhita*<sup>4</sup>, *acharya* mentioned that in efforts to protect ones army and land the weaker king introduces various types of poisons in land water and air in the way of a strong king and thus causes deliberate harm to the environment and other living beings including human. During those days it was the duty of royal physician to identify such toxic environment and purify it and also treat the persons affected by such environment.

#### **The toxic environment can be identified as<sup>4</sup>**

The **toxic water** is having properties like sliminess, intense smell, frothy & having lines in it. Aquatic animals of such water bodies’ dies and other birds & animals who consume this water became mad. If any person comes in contact with such water he will suffer from vomiting, fainting fever etc. To purify such noxious water bodies *Dhava vakarnadi Yoga* is mentioned which is prepared by burning the drugs like *Dhava A vakarna Asana*, *Páribhadra*, and *Pátalá* etc. and mixed with water in the quantity of 1 *anjali* (handful) in 1 *gata*.

The **toxic land** can be identified as if any animal or human comes in contact with it he will suffer from swelling of the affected part, burning sensation & fall of nails & hairs. To eradicate the toxic effects of land *Sariba* is to be churned with *Eladi Gana* and alcohol and mixed with milk and black

soil should be spread over the affected area.

The features of **toxic air** are given as the birds of that area suffers from fainting, & it causes cough, breathing trouble, headache & eye diseases in human. For purification of toxic air *Lakshaharidradi Yoga* is mentioned. Drugs like *Laksha*, *Haridra*, *Ativisha*, *Abhaya* etc should be burned and its smoke should be spread all over to purify the toxified air & smoke.

If someone get affected with such type of polluted environment then *shobhanjan mooladi agad* should be used for treatment<sup>5</sup>.

#### **CONCLUSION**

The emerging conditions of environmental pollution are adding various types of unwanted agents in ecosystem which exerts hazardous effects on environment as well as its residents. From the beginning of civilization, human activities disturb the ecosystem more or less but during early period it was not very significant. Urbanization and industrialization can be considered as two main causes for pollution. Environment is deteriorating day by day due to industrial pollution, toxic chemicals, automobile emission and natural resource depletion.

In the early periods, the sources of impurities in atmosphere were much different as per today. At that time pollutants were mainly organic and biodegradable. But the changing conditions introduce several new synthetic agents to the ecosystem which can not be eliminated easily. Today a lot of work is going on to control the emerging conditions of pollution and to save the nature in its original form. Various action plans have been prepared on national and international levels for waste management still the measures are mainly preventive and not curative. Once any component of ecosystem became polluted

it has to be purified and detoxified. In Ayurveda we have so many remedies and measures given by our great ancestors to detoxify the poisoned environment. Those remedies if checked for their efficacy for existing conditions and on today's parameters can be proved very helpful in eradication of pollution.

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