Present Condition on Air Pollution and Contamination with Special Reference to World Health Organization

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Abstract - Air pollution has been emerging as a noteworthy worldwide challenge, because it has its disadvantageous effects on environment, people health and economy as well. To deal with this global issue, the authorities and policy makers are taking various measures to curb this. Multiple policies have been made and countless organizations are involved to raise awareness amongst citizens as well as authorities to implement policies in an efficient manner. World health organization is playing vital role for creating awareness among people about the ongoing and forthcoming conditions which will follow with Air contamination. But the critical part is not Law making, it is the evaluation of effective implementation of these Laws and policies. As per World Health organization, every year nearly 7 million people are dying due to Air pollution, 9 out of 10 people are breathing in highly contaminated air. WHO need to make some strict interpretation Laws for prevention and control of Air pollution, and for proper waste management schemes of nation states.

Key words: Laws, Air pollution, Environment, WHO (world health organization), Policies.

I. INTRODUCTION

Air pollution is one of the greatest great evils of our day, not only because of its impact on climate change, but also because of its impact on public and individual health due to increased sickness and death. Many contaminants are significant contributors to human disease. Particulate Matter (PM), a type of particle with a variable but extremely small diameter that enters the respiratory system through inhalation and causes respiratory and cardiovascular disorders, reproductive and central nervous system dysfunctions, and cancer, is one of them. Even though ozone in the stratosphere protects us from ultraviolet irradiation, it is toxic at ground level at high concentrations, damaging the respiratory and cardiovascular systems. Furthermore, air pollutants that are detrimental to people include nitrogen oxide, Sulphur dioxide, volatile organic compounds (VOCs), dioxins, and polycyclic aromatic hydrocarbons (PAHs). When inhaled at high volumes, carbon monoxide can cause immediate poisoning. When heavy metals like lead are taken into the human body, they can cause either immediate poisoning or chronic intoxication, depending on the level of exposure. Respiratory disorders such as Chronic Obstructive Pulmonary Disease (COPD), asthma, and bronchiolitis, as well as lung cancer, cardiovascular events, central nervous system dysfunctions, and skin diseases, are all caused by the compounds. Finally, natural disasters and climate change caused by pollution have an impact on the geographical distribution of many infectious diseases. Only public awareness combined with a multidisciplinary approach by scientific specialists will be able to handle this problem; national and international organizations must address the rise of this threat and suggest long-term remedies.[1]

[1] Environmental and health effects of Air pollution, Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7044178/ (Last visited on 13/08/2021).

Multiple human activities influence the environment, hence the interactions between humans and their physical surrounds have been intensively explored. The biotic (living beings and microbes) and abiotic (inanimate objects) worlds collide in the environment (hydrosphere, lithosphere, and atmosphere).

Environmental pollution

Pollution is defined as the introduction of substances that are hazardous to people and other living organisms into the environment. Pollutants are toxic solids, liquids, or gases that are created in higher-than-normal proportions and degrade our environment's quality.

Human activities pollute the water we drink, the air we breathe, and the soil in which plants grow, all of which have a negative impact on the environment. Although the industrial revolution was a big success in terms of technology, society, and the provision of a wide range of services, it also resulted in the release of massive amounts of pollutants into the air that are hazardous to human health. Without a doubt, global environmental degradation is seen as a multifaceted international public health issue. This big issue is linked to social, economic, and legislative concerns, as well as lifestyle behaviors. In our times, urbanization and industrialization have clearly reached unprecedented and unsettling levels over the world. Anthropogenic air pollution is one of the world's most serious public health threats, killing around 9 million people each year.[2]

Without a doubt, all of the aforementioned are linked to climate change, and the repercussions for humanity might be dire if the situation worsens.[4] Climate change and the consequences of global planetary warming have a significant impact on different ecosystems, resulting in difficulties such as food safety, ice and iceberg melting, animal extinction, and plant damage.[3]

Effects of Air pollution

Air pollution has a variety of negative health consequences. Even on days when air pollution is low, vulnerable and sensitive people's health can be harmed. COPD (Chronic Obstructive Pulmonary Disease), cough, shortness of breath, wheezing, asthma, respiratory

disease, and high hospitalization rates are all linked to short-term exposure to air pollution (a measurement of morbidity).

Chronic asthma, pulmonary insufficiency, cardiovascular illnesses, and cardiovascular mortality are all long-term impacts of air pollution. Diabetes appears to be induced following long-term air pollution exposure, according to a Swedish cohort study.[4]

Furthermore, air pollution has a number of negative health impacts in early human life, including respiratory, cardiovascular, behavioral, and perinatal abnormalities (3), which can lead to infant mortality or chronic disease later in life.[5]

The higher risk of morbidity and mortality has been recognized in national reports. These investigations, which were done in a variety of locations throughout the world, reveal a link between daily particulate matter (PM) concentration ranges and daily mortality. Climate change and global warming could exacerbate the problem. Furthermore, increased hospitalization (a measure of morbidity) has been observed among the aged and vulnerable

[2] Air Pollution. WHO Available at: http://www.who.int/airpollution/en/ (Last visited on 13/08/2021). [4] Moores FC. Climate change and air pollution: exploring the synergies and potential for mitigation in industrializing countries. Sustainability. (2009) 1:43–54. 10.3390/su1010043.

[3] Marlon JR, Bloodhart B, Ballew MT, Rolfe-Redding J, Roser-Renouf C, Leiserowitz A, et al. (2019). How hope and doubt affect climate change mobilization. *Front. Commun.* 4:20 10.3389/fcomm.2019.00020.

[4] Eze IC, Schaffner E, Fischer E, Schikowski T, Adam M, Imboden M, et al. Long- term air pollution exposure and diabetes in a population-based Swiss cohort. *Environ Int*. (2014) 70:95–105. 10.1016/j.envint.2014.05.014

[5] Kelishadi R, Poursafa P. Air pollution and non-respiratory health hazards for children. *Arch Med Sci*. (2010) 6:483–95. 10.5114/aoms.2010.14458

for a variety of causes. Because fine and ultrafine particulate matter can penetrate the deepest sections of the airways and more easily reach the circulation, they appear to be linked to more serious disorders.[6]

Air pollution mostly affects people who live in metropolitan cities, as traffic emissions contribute the most to air pollution degradation. There is also the risk of industrial accidents, in which the spread of poisonous fog can be devastating to the local populace. Many factors influence pollution dispersion, the most important of which are atmospheric stability and wind.[7] Because they are exposed to indoor air pollution for longer periods of time in developing nations, women of the household appear to be at the greatest risk of

illness development.[8] China is one of the Asian countries with major air pollution problems due to its rapid industrial expansion and overpopulation. Fine particles have been linked to an increase in lung cancer mortality in China. Long-term exposure, as previously noted, is linked to negative effects on the cardiovascular system.[9] It's worth noting, however, that cardiovascular diseases are more common in industrialized and high- income countries than in developing low-income countries with high levels of air pollution.[10] Extreme air pollution has been documented in India, where the air quality has deteriorated to dangerous levels. New Delhi is one of India's most polluted cities. Because of the limited visibility caused by air pollution, flights into and out of New Delhi International Airport are frequently cancelled.

Due to India's rapid industrialization, urbanization, and increased usage of motorbike transportation, pollution is occurring in both urban and rural areas. In India and Nepal, however, biomass burning is a major source of household air pollution due to heating and cooking demands and habits.[11] In India, there is spatial heterogeneity because places with varying climatological circumstances, population, and education levels produce different indoor air quality, with higher PM2.5 recorded in North Indian states (557–601 g/m3) compared to Southern States (183–214 g/m3).[12]

The bulk of environmental contaminants are known to be released by large-scale human activities such as the use of industrial machinery, power plants, combustion engines, and automobiles. Because these activities are carried out on such a vast scale, they are by far the most significant contributors to air pollution, with autos accounting for over 80% of

today's pollution. Other human activities, such as field cultivation techniques, petrol stations, fuel tank heaters, and cleaning procedures, as well as various natural sources, such as volcanic and soil eruptions, and forest fires, have a minor impact on our environment.

Health Consequences of Air Pollution

When air pollution reaches high enough proportions in the atmosphere, it can be harmful to us. Millions of people in the United States live in places where smog, particle pollution, and toxic chemicals are a severe health risk. Irritation of the eyes, nose, and throat wheezing, coughing, chest tightness, and breathing difficulties may occur in people

[6] *Ibid.*

[7] *Supra* note 6.

[8] Burden of Disease from Ambient and Household Air Pollution. Available online: http://who.int/phe/health_topics/outdoorair/databases/en/ (Last visited on 14/08/2021).

[9] Supra note 5.

[10] Burroughs Peña MS, Rollins A. Environmental exposures and cardiovascular disease: a challenge for health and development in low- and middle-income countries. *Cardiol Clin*. (2017) 35:71–86. 10.1016/j.ccl.2016.09.001

[11] Kankaria A, Nongkynrih B, Gupta S. Indoor air pollution in india: implications on health and its control. *Indian J Comm Med*. 39:203–7. 10.4103/0970-0218.143019

[12] Singh DP, Gadi R, Mandal TK, Saud T, Saxena M, Sharma SK. Emissions estimates of PAH from biomass fuels used in rural sector of Indo-Gangetic Plains of India. *Atmos Environ*. (2013) 68:120–6. 10.1016/j.atmosenv.2012.11.042

exposed to high enough amounts of air pollutants. Existing lung and heart diseases, such as asthma, will worsen; there will be a higher risk of heart attack. Long-term air pollution exposure can also lead to cancer and damage to the immunological, neurological, reproductive, and respiratory systems. It can potentially result in death in extreme circumstances.[13]

II. AIR POLLUTION IN INDIA

One of the most pressing worries that every Indian has today is air pollution. Major Indian cities are now classified as having HAZARDOUS air quality due to worrisome increases in air pollution levels. Many North Indian states failed to achieve even the most basic international air quality requirements.

According to the World Health Organization (WHO), air pollution kills approximately one million people each year. Every year, approximately seven million individuals around the world are affected. Furthermore, data shows that 9 out of 10 people breathe air that exceeds the WHO's air quality standard.[14]

The primary causes of air pollution emissions and poor air quality are increasing urbanization, growing industrialization, and associated human activities. By 2030, it is predicted that roughly half of the world's population will be living in cities. In metropolitan

areas, more than 80% of the population is exposed to emissions that exceed WHO criteria (WHO 2016). The Health Effects Institute has listed air pollution as one of the top five global risk factors for mortality.

In India, air pollution was estimated to have caused 1.1 million approx. premature deaths in 2017 (HEI 2019), with 56 percent of those deaths linked to exposure to outdoor PM2.5 concentrations and 44 percent to domestic air pollution. According to WHO (2016), air pollution was responsible for one out of every nine deaths in 2012, with roughly three million deaths entirely attributable to outdoor air pollution.

III. CONCLUSION AND SUGGESTIONS

In countries like India Industrial areas, transportation, Coal and other power generation plants and other ambient and household solid fuel uses are the foremost contributors of causing air pollution and air quality contamination. Rising at a frightening rate, air pollution is affecting people throughout the globe in almost every aspect of life and their quality of life. It inexplicably affecting infants, toddlers and women. Policies and investments advancing cleaner transport, energy-efficient housing, power generation, industry, and better municipal waste management can efficiently reduce major sources of air pollution. The World Health Organization has addressed the issue of urgent public health need to respond to outcomes of Air pollution. Basic intervention involves educating policy makers and the public on permissible exposure levels and the health effects of poor air quality. Following the endorsement of Global Action Plan and Monitoring Framework for Prevention and Control of NCDs in 2013, the Global Action Plan and Monitoring Framework was established. India became the first nation globally to develop specific targets and indicators, in line with the global framework, with targets and indicators contributing to reducing the amount of indoor air pollution. Furthermore, a National Multisectoral Action Plan has been developed to facilitate the national objectives and indicators.[15]

The Government of India has also formulated policies such as the National Clean Air

Program for air pollution to address the issue effectively. Additionally, it has implemented

programs such as the Pradhan Mantri Ujjwala Yojna to improve access for clean energy options such as LPG at the household level to the marginalized areas.

What measures can be taken to prevent further growth of air contamination?

World health organization is needed to take some global waste management measures and make it mandatory for countries having hazardous waste and poor air quality index. It is very important for government and policy makers

[13] Environmental and Health Impacts of Air Pollution: A Review, Available at: https://www.mass.gov/files/documents/2016/08/vl/health-and-env-effects-air-pollutions.pdf (Last visited on 14/08/2021).

[14] Air Pollution in India, Available at: https://homelyrequirements.in/air-pollution-causes-effectssolutions/ (Last visited on 14/08/2021).

[15] https://www.who.int/india/health-topics/air-pollution(Last visited on 21/09/2021).

to take necessary actions on waste management as well as contamination of air due to improper dumping, burning or disposing of waste, industrial air pollution, transportation, etc. All these fields need special attention and mandatory waste management policies. There are seven million approx. death rates caused by stroke, heart attacks, cardiac arrests, respiratory tract blockages, and cause for all this is the same Air pollution.

Looking at the current position, it is crucial to make mandatory policies to be followed by individuals and authorities and should be implemented strictly.