Air Pollution: Will it permit our loved ones to live long?

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Abstract

When development is the main aim of every economy and every step of the people as well as government is to achieve higher level of development; how can we forget the real meaning of development? How can we forget the required end for which all these developmental activities are performed? Human welfare is the main concern of all developmental activities and health is the primary requirement to increase the welfare of the people and also to enjoy the benefits of the development. When development is achieved at the cost of toll on our health and life, it becomes totally undesirable. In India, as all over the world, Air pollution has come as a threat for people to live their life to the fullest and to their maximum. Government has taken many efforts but its dismal situation tells about the need to be handled it on priority basis and with much more extensive and intensive efforts, if we want to increase our welfare in real terms.

Introduction

Our dear ones, which are very important in our lives, get always blessed by our hearts - May you live long; May God bless you. God has blessed us with many good things to fulfil the wishes; like - good air to breathe, clean water to drink, plantations to eat and many other things. Now the question arises that are we getting the benefits of these blessings or something is hindering to achieve the achievable in this way? Yes, something is there. News, researches and our daily life experiences are supporting the fact. Recall the disasters of Meuse Valley, Belgium, 1930; Poza Rica, Mexico, 1950; London, England, 1952; Cincinnati, Ohio, 1968 and New York, 1953, 1962-1963, 1966. Out of all these tragedies London disaster was the deadliest in all, which took the lives of approximately 12,000 people and many more probably died early due to the exposure of the poisonous gas during those four days that they had to live through.

All this is said due to government carelessness towards environmental protests of the 1920’s and support toward industries that put up smoke stacks which discharged sulphur dioxide. People lost their family, friends and loved ones. All these disasters were due to air pollution. Latest case is of Ireland. “Belfast Telegraph” presents that according to a new study air pollution killed 550 people in Northern Ireland, in 2011.

Sources and Reasons of Air Pollution

There are many activities, which are performed mainly because of increased requirement of facilities, are responsible for the problem. Both, cities and villages are originators as well as victims of air pollution, with different reasons. Inefficient energy sources are the main reason in overall. Industrial smoke, vehicular emissions are the main concerns, because of use of fossil fuel as a source of energy, for cities pollution while inefficient fuel practices within homes and field leftover burnings are the main reasons within villages. Bio-mass, which can be used for energy making, is being burnt at homes and fields because of poverty, lack of services and ignorance.

In village households, a large part of animal dung is burnt and it creates a lot of smoke. These activities create pollution. Thermal power plants are also one of the main sources of pollution. Coal is India’s dirtiest and biggest energy source for power generation. 66% of India’s power is get from coal, 19% from hydro and remaining 15 % is get from other sources like nuclear energy and natural gas. Coal’s bad impact on health and economic burden are clear in ‘Coal Kills’. When all these pollution creating activities are supported by lack of facilities in urban and rural planning and facilities, situation becomes aggravate as it provides support to pollution creating activities.
Impact of Air Pollution

Although all types of pollutions are dangerous to our lives but air pollution is the most dangerous as its effects are beyond boundaries and no-one can live without air even just for a few minutes. It is harmful to all -either rich or poor. Rich can use air purifiers in their houses but they will also get affected beyond their houses as either they have to carry oxygen cylinders with them or keep themselves restricted of free roaming. Effects on poor will be much more because of their various limitations. Every government is working to provide their residents a lively and vigorous life. This cannot be done only by providing them more and more income and amenities at the cost of their health which is imponderable. Health should be the main concern but not money; so environment protection should also be the principal concern.

Direct Exposure Impact

By different studies and on the basis of our experiences, it has become clear that air pollution affects our health and economy in a harmful way. Sources may be different but all result in bad health conditions and this has been proved by different studies.

The World Health Organization released its latest study which estimated a total of 7 million deaths worldwide in 2012 caused by exposure to air pollution- one in eight of all global deaths. Indoor air pollution was linked to 4.3 million of the deaths that occurred in homes which depend on biomass or coal for cooking [1].

It’s bad impact on health are also clear in a study done on Connecticut’s air quality by Environment & Human Health, Inc., which is made up of, ‘doctors, public health professionals and policy experts dedicated to the purpose of protecting public health from environmental harms through research, education and the promotion of sound public policy’, to find out the effect of vehicular exhaust on health. It was found that Air Pollution Increases Mortality Among Susceptible Groups and causes for different diseases like Asthma, chronic obstructive pulmonary disease (COPD), Cardiovascular Disease, Cancer, Diabetes,. Children and elderly are at special risk. Greenhouse gases from vehicles are contributing for climate change also (‘The Harmful Effects of Vehicle Exhaust’). Coal’s bad impact on health and economic burden are also clear in ‘Coal Kills’.

Many studies support that it decreases the longevity of the people many years, depending upon their time duration and intensity of exposure to the pollution. Greenstone et al, [2] concludes, with the help of different studies that “Lower pollution leads to longer lives”. It has also been found that air pollution effects brain development also.

Effects of all these things cost us a lot as it comprises direct cost of medical expenditure along with indirect costs of decrease in production contribution and drop off in human efficiency (both physical and mental). In all we should start taking action according to our potential. Quoting The Organisation for Economic Co-operation and Development (OECD) estimates, a new released study, in end June, published in The Lancet says, “The cost of ambient air pollution in terms of the value of lives lost and ill health in OECD countries, plus India and China, to be more than USD 3.5 trillion annually (about 5 per cent gross world product [GWP]), with India and China combined accounting for 54 per cent of this total [3].

Threat for Next Generations

Remind ‘Bhopal Gas Tragedy’, which was an acute and unusual form of air pollution; its results can still be seen in next generations. Here results are viable due to acuteness of the tragedy so air pollution creates a strong possibility to affect our children also by changing DNA.

Studies have found that exposure to methyl isocyanate leads to toxicity of the immune system and alter the DNA of a person, leading to chromosomal instability. Babies born to pregnant woman exposed to MIC in the first trimester of pregnancy, showed symptoms of persistent immune system hyper-responsiveness [4].

Higher incidence of chromosomal aberrations in the exposed population validates chromosomal instability. The incidence of chromosomal aberrations like dicentrics and rings even after such a long period indicates persistence of clastogenic effects due to the exposure. These chromosomal aberrations may act as the intermediate processes in the pathway of the progression of any genetic disorder like cancer. The study conducted by Malla et al [5] suggests that the 1984 Bhopal gas exposure has produced long-term genotoxic effect that persists even after two and a half decades. They concluded that the exposed population is more vulnerable to genetic diseases and must be counselled for dietary and life style changes to minimize the risk of developing any kind of genetic disorder.
India and Air Pollution

Today every country is affected from environment degradation and India is not beyond it. A World Health Organisation (WHO) report has recently revealed that Delhi is now the world’s most polluted city, beating Beijing out of 1600 cities in 90 countries and out of 20 most polluted cities in the world 13 are in India Ruchita Bansal at the Centre of Science and Environment (CSE), who has been working on the Right to Clean Air campaign, said that the lack of monitoring is alarming. "In Delhi, the PM 2.5 (fine repairable particles floating in air that get lodged in lungs i.e. a pollutant) level is usually alarmingly high. It should remain at 60 micrograms per cubic meter, ideally. On Diwali, our monitors showed that PM 2.5 levels shot up to 800-900 micrograms, while the government meters only showed 200-300 micrograms," says Bansal. According to WHO standard it’s (PM2.5) level should be up to 25, US Environment Protection Agency (USEPA) standard has taken it 15 while Indian safe standard are up to 60. She says that CSE studies have revealed that between 2007 and 2012, air pollution levels in Delhi jumped 75%, and that motorisation in the same period increased 95%. "Vehicular pollution is the biggest problem we have," said Bansal. Air pollution in the country has lead to a six-fold jump, from 1,00,000 to 6,20,000, in premature deaths in the last decade; revealed a standing committee report by the environment ministry. The study found a "massive rise in mortality and morbidity associated with high pollutant levels in Delhi". The committee is thumping the government for its inactivity. It said that we must no longer be in denial. "The Committee finds it strange and ironical that the Ministry is neither ready to rely on or accept epidemiological studies linking mortality with air pollution," said the report [Daily News and Analysis (DNA)].

According to a study by the United Nations Environment Program, Bangalore’s air on any given day is as poisonous as the smoke from six cigarettes a day while inhaling Delhi air is equivalent to gasping 20 in a day [7]. What to say more? If you look in to the matter, then there are many other researches and studies which are alarming us about the gravity of the problem and the grim scenario of pollution especially in Indian cities

A survey which was conducted in four cities, released on the eve of World Asthma Day by ‘Breathe Blue’ and Heal Foundation, Around 35 per cent of school children in Indian cities are suffering from poor lung [8].

How to Win the Situation?

Overall scenario presents that Cities are found to be much polluted but villages are also not beyond its affects. Yes, more attention should be given to more polluted and problematic areas but others should also not be ignored because Problem solving at its starting saves us from converting it in to a disaster. This Air pollution tragedy is nothing else but is a fruit of our negligence towards its starting point. We have recognised the problems which cannot be afforded to ignore and we have to win the battle in this field, to obtain the aim of green sustainable development.

We can battle against the problem by either of the two ways,

- To stop the activities, which create air pollution, if possible?
- If first step is not possible, due to any reason, then use of efficient ways to stop air pollution.

Adoption of First method, by stopping the use of fossil fuel, in case of industries, vehicles and for energy purpose, does not seem possible because of development concern, at least for short run as because of shortage of green energy but in some areas it can be stopped by stopping unnecessary activities by environmental laws.

Second method can be adopted until we shift totally toward green energy sources in the long run, which are possible with serious efforts in these areas. We should keep our target to shift totally on green energy sources which is not unattainable. If different companies are providing air purifier to purify the polluted air then why emissions from industries, vehicles and other activities can’t be treated at its starting until we get its permanent solution from harmful emissions to no emissions because of green energy? Is it impossible? Perhaps not and time taken for its applicability depends upon seriousness of efforts in this direction.

Why can’t we lead the world in this direction despite of being a follower? We know that there can be financial and other limitations but its costs will not be more than welfare of the people as well as its economic toll on the economy because of air pollution.
Government Interventions and Recent Steps Taken in the Direction

Poor air quality in India became a main talking point among different media sources during Barack Obama’s recent visit to the Capital and on the release of the study by ‘Breathe Blue’ and Heal Foundation’. Thanks to the media that now every rational and attentive person, along with government and policy makers seems to be aware about the problem. But despite of this awareness what are we doing? Govt has taken positive steps through the Motor Vehicles Act, factory act and different environmental acts like The Air (Prevention and Control of Pollution) Act, 1981 and Environment (Protection) Act 1986.

Greenstone et al, [9] tells that efforts have been done through policy initiatives as well as by strong judicial interventions from time to time and it is showing encouraging trends in this direction but air Pollution is still there.

Addressing a press conference in New Delhi, in April, Union Environment Minister Prakash Javadekar said a three-month deadline has been set to adopt a slew of measures-from banning polluting vehicles from entering the Capital to adopting a waste-to-energy conversion system - before July 2, when all Ministries concerned will get together again to assess and chalk out a mid-term strategy. “A first in Asia, we will be establishing a Singapore-based plasma gasification system in the NDMC area which can convert waste, including green waste, into gas, and if implemented, can power the whole city. Delhi will not have to buy power from elsewhere if this scheme becomes successful,” Mr. Javadekar said. Burning of stubble and grass will also be made illegal. “Turning coal fired plants in the NCR into gas plants is a key goal of the action plan,” the Minister said. In Badarpur, four to five National Thermal Power Corporation coal plants will be retrofitted with the coal-to-gas conversion facility, which will reduce pollution drastically. The Motor Vehicles Act will be appropriately amended in the forthcoming parliamentary session to rein in on polluting vehicles. “Only BS4 (Bharat Stage emission standards) vehicles will now be registered in the NCR to check pollution,” the Minister declared that as part of their effort to educate municipal staff to comply with environmental rules and regulations, safai karmacharis will also be trained [10].

Pollution meters, which is important for awareness and law enforcement in this direction, to know the levels, have also been installed. Prime Minister Narendra Modi on 6 April 2015, launched the National Air Quality Index(AQI) for monitoring the quality of air in major urban centres across the country on a real-time basis and enhancing public awareness for taking mitigative action. The AQI has been at present launched for 10 cities -- Delhi, Agra, Kanpur, Lucknow, Varanasi, Faridabad, Ahmedabad, Chennai, Bangalore and Hyderabad. As part of the endeavour, the Union Environment Ministry proposes to extend the measurement of air quality to 22 state capitals and 44 other cities with a population exceeding one million [11].

National Green Tribunal (NGT) has ordered for removing diesel vehicles that are ten years or above and petrol vehicles which are above fifteen years, off the streets of Delhi but on the basis of a study by IIT Delhi, which says that that only 7% of the vehicles are over 10 years old, The Union transport ministry had filed an application in NGT on April 27 against a ban on old diesel vehicles claiming that any "stringent measure of ad hoc nature to ban vehicles on the basis of age will not provide any holistic solution to the pollution problem." NGT had slammed the study as it failed to explain what was causing high air pollution levels on holidays. On 13 July 2015, Reacting to the Centre’s previous affidavits, (NGT) directed the Union transport ministry to submit its views on what is contributing to air pollution in Delhi [12].

Conclusion

Whatever the readings be; rampant increase in air pollution has become a gigantic problem today and needs to be addressed immediately. Level of pollution can tell us about the gravity of the problem but the main concern should be to stop the environment to degrade, irrespective of its level. As it is a very serious and immense matter, where positive change is not imagined without government interference; it will be inexpedient to ignore this matter of primary concern.

Government has done many efforts but are these steps enough? What are the loopholes in the law and policy making which have aggravated the problem? If its toll on our health and longevity and to experience it vicariously is not more than enough? Are we waiting for any real experience for disaster like of London or the other? There is no use to have knowledge about the situation and without any relevant action it proves just only ballyhoo. We have to fight against its root causes which are the main reasons behind the problem. In all we should start taking serious action according to our potential otherwise it is not going to permit anyone to live the whole life with full force.[13-16].
References


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