

Ozone depletion is only a part of the problem: Protection of environment requires hard steps



Dr. Javed Jamil

Chair Islamic Studies and Research
Yenepoya (Deemed to be University)
doctorforu123@yahoo.com

On 16th September, the world observed Ozone Day in a festive, yet cautious mood owing to the good news that the ozone hole above the south pole region of Antarctic has got filled. Only last year in October, the ozone hole had reached its peak extent of 6.3 million square miles. While there is controversy as to what is the reason behind this sudden positive development, many believe it to be the effect of the extensive Lockdown at the world level owing to COVID-19 Pandemic. But most believe that this euphoria may turn out to be short-lived, and there are many more steps required to combat ozone depletion. Further, depletion of ozone is only a part of the whole range of environmental issues including global warming. While, thanks to Montreal Protocol, there have been positive developments on the ozone front, the larger issue of global warming still remains dangerously poised. It is to be stressed here that ozone (O₃) depletion does not cause global warming, but both of these environmental problems have a common cause: human activities that release pollutants into the atmosphere altering it.

Natural Disasters Manmade

While the laws of physics control the universe as

a whole, the planet earth has biological laws too in place. In addition, mankind has social laws to follow. While the Laws of nature and biological laws are beyond human control, social laws are largely within the powers of human beings and they have a bearing on the atmosphere too. The earth has a unique system in which mankind plays an extremely important role in the events that take place here.

Following points need to be noted:

1. There is an established universal system, which runs without any disturbance due to highly precise nature of the laws of physics that govern them, and there is also certain equilibrium in the atmosphere of the Planet Earth.
2. Most of this equilibrium has been established in a way that human beings cannot annihilate it. Nature has an inherent tendency to correct any disturbances that might destroy the equilibrium.
3. Though human beings cannot annihilate this equilibrium altogether, they can certainly harm it within their reach.

4. The natural disasters are often, if not always, of man's own making; Nature only judges and takes corrective action resulting in what we know as natural disasters. These disasters may very well be a way to correct the equilibrium and save the mankind from bigger disasters.

Whether natural disasters are manmade or not has been a topic of debate among environmentalists for decades. Only in recent times the Intergovernmental Panel on Climate Change formed by the UN has issued its fourth assessment since 1990 declaring that the global warming is human made. It has come to the conclusion that there is now at least a 90-percent certainty that mankind is to blame for the warming already being observed. This report has the following salient features:

1. As to the future, the projections were stark. Among them following are most important: (a) In this century, the Earth is expected to warm up as much as by 3 to 8 degrees F; (b) The weather will continue to be hotter throughout the world. Some areas will be becoming drier, while others will be seeing more of rains; and (c) Sea levels will continue to rise.
2. In addition to the global mean temperatures there are several variables suggestive of warming. These include snow cover and sea ice, rising sea levels, melting glaciers, drought around the world, changes in hurricanes and so on...
3. As a result of warming, extreme drought and floods will happen.
4. The rate of warming has increased. The planet has warmed by 1.5 degrees F since the beginning of the 20th century and about 1 degree F since about 1970.
5. Due to the melting or disintegration of Greenland ice sheet and perhaps the Antarctic ice sheet into the ocean, there can be a sea level rise of 15 feet higher than today.

Now, the preliminary findings of the 5th Assessment Report have also been released. This further confirms the human hand in environmental changes. Its findings are worth quoting here:

- "Warming of the atmosphere and ocean system is unequivocal. Many of the associated impacts such as sea level change (among other metrics) have occurred since 1950 at rates unprecedented in the historical record;
- There is a clear human influence on the climate;
- It is extremely likely that human influence has been the dominant cause of observed warming since 1950, with the level of confidence having increased since the fourth report;
- IPCC pointed out that the longer we wait to reduce our emissions, the more expensive it will become;
- It is likely (with medium confidence) that 1983-2013 was the warmest 30-year period for 1400 years;
- It is virtually certain that the upper ocean warmed from 1971 to 2010. This ocean warming accounts for about 90% of the energy accumulation between 1971 and 2010;
- Greenland and Antarctic ice sheets have been losing mass in the last two decades and that Arctic sea ice and Northern Hemisphere spring snow cover have continued to decrease in extent;
- There is high confidence that the sea level rise since the middle of the 19th century has been larger than the mean sea level rise of the prior two millennia;
- Concentration of greenhouse gases in the atmosphere has increased to levels unprecedented on earth in 800,000 years;

- Total radiative forcing of the earth system, relative to 1750, is positive and the most significant driver is the increase in CO₂ atmospheric concentration.

Now there may be many reasons for the natural disorders caused by man. Emissions of gases from the industries and vehicles, the reason being well known. There is one factor which has not been studied in details it demands. It is irregular distribution of population. The economic growth has not been uniform on the earth, and the type of the model of the economic growth the economic fundamentalists adopted necessitated population control. But the population control resulted in a great gulf between the population densities of the different parts of the world. The Northern Block saw the thinning of not only the human population but also the animal population in general. The Southern block witnessed the rise in human population. This has also resulted in a huge gulf between average weights in different populations. The world now has high weight, normal weight and low weight people in significant percentages. In fact the majority of human population is either overweight or underweight. These differences in the density of population of human beings and animals and the differences in weight may, in the opinion of this writer, possibly cause natural disturbances. If this threat is to be avoided, the North Block must start efforts to restore the animal weight it must share according to an equitable distribution. If it fails to do that, the death will keep visiting the South Block in one form or the other. Ultimately, death or destruction will not spare North Black either.

Vulnerability Factor

It has been argued by many that even the disasters categorized as natural affect humans only where they are vulnerable. The loss depends on the density of populations, the type of buildings and several other factors. Lack of knowledge and failure to predict and take preventive measures even at the time of impending threats are again big factors in determining the amount of damage..

Medical Impact due to Ozone Depletion and Climate Changes

Despite positive developments on the Ozone Front in the wake of Montreal Protocol, still the world is facing many problems due to Ozone depletion. These include skin cancers, cataracts, damage to plants, and reduction of plankton populations in the ocean's photic zone.

Basal and Squamous Cell Carcinomas

They are rarely fatal, although the treatment sometimes requires extensive reconstructive surgery. It has been estimated that every one percent decrease in long-term stratospheric ozone would increase the incidence of these cancers by 2%.

Malignant Melanoma

It is much less common but far more dangerous, being lethal in about 15–20 percent of the cases diagnosed. In America alone, more than one lakh people suffer from Malignant Melanoma every year and more than 8000 die. One study showed that a 10 percent increase in UVB radiation was associated with a 19 percent increase in melanomas for men and 16 percent for women.

Cortical Cataract

Ozone depletion is predicted to cause hundreds of thousands of additional cataracts by 2050.

Apart from ozone depletion, climate changes in general cause even more serious diseases. In 2016 the United Nations Environment Programme published a report called: "UNEP FRONTIERS 2016 REPORT" showing that the risk of Zoonotic diseases, e.g., diseases that pass from animals to humans spread is high mainly due to deforestation, climate change, and livestock agriculture, but mosquito-borne diseases still remain probably the greatest threat to humans. These include malaria, elephantiasis, Rift Valley fever, yellow fever, and dengue fever.

Ticks are also thriving in the warmer temperatures allowing them to feed and grow at a faster rate resulting in an increase in Lyme disease, both in existing areas and in areas where

it has not been seen before.

Other diseases on the rise due to extreme weather include hantavirus, schistosomiasis, onchocerciasis (river blindness), and tuberculosis. It also causes the rise in hay fever, as when the weather gets warmer there is a rise in pollen levels in the air. The cases of dengue fever have increased dramatically since the 1970s, which is believed to be due to a combination of urbanization, population growth, increased international travel, and global warming.

The main diseases of concern due to pollution are asthma, rhinosinusitis, chronic obstructive pulmonary disease (COPD) and respiratory tract infections. Groups at higher risk of climate change effects include individuals with pre-existing cardiopulmonary diseases or disadvantaged individuals. Diseases like Anthrax, Zika and Zombie diseases are also causing concern

Pollution Problem in Indian Cities

Indian cities, especially the Metropolitan cities are also becoming hugely polluted. In recent times, capital Delhi's Pollution has become a hot taking point. But again, the political and corporate interests are not allowing the correct analysis as well as effective remedial solutions. The problem is posing a direct threat to the survival of the inhabitants of the sixth-most populated metropolis in the world (second largest if the entire NCR is included). It is one of the most heavily polluted cities in India having one of the country's highest volumes of particulate matter pollution. In fact, in May 2014 the World Health Organization announced New Delhi as the most polluted city in the world. The other big cities are also fast catching Delhi.

The causes include overpopulation and the ensuing overuse of scarce resources such as water, air pollution caused by road dust, and industry, unclean engines in transportation, especially diesel-powered city buses and trucks, and 2-wheelers and 3-wheelers with two-stroke engines. Noise pollution comes mainly from

motorcycle and automobile traffic. Water pollution and a lack of solid waste treatment facilities have caused serious damage to the river Yamuna on whose banks Delhi grew. Recently, the crop burning in neighbouring states and the firecrackers on the occasion of Deepawali also drew huge attention. The measures being taken so far include Odd-Even formula of car driving on alternate days for a few days in the riskier months, restrictions on diesel cars and trucks and ban on the sales of firecrackers on the occasion of Deepawali festival. Sprinkling of water and measures to stop agricultural burning are also being discussed.

Hard Measures Required

Despite the serious threats to the healthy survival of humankind, the real hard measures are not being discussed at all. Odd-Even formula helps the corporate as it will increase the sales of the cars with people trying to have two cars instead of one, one having an odd number and the other an even number. The real problem is the overcrowding of big cities caused by faulty developmental programmes resulting into migration of population from villages to cities and from smaller cities to bigger cities. 80 pc of the population of the country resides in 10 percent area. With high-rise buildings, people are living one above other. Unless programmes for stopping flooding of the major cities from migrants are run at the war scale along with rural development, the pollution problem of the cities will continue to grow at astronomical rates. There have to be found ways where people, especially the retired ones, get incentives for building houses in the rural areas or the outskirts of the city. More and more cities will have to be developed. One solution which is difficult but can be very effective is to shift the capital of the country to an entirely newly built city followed by the shifting of the state capitals.

The other major issue is the overpopulation of the vehicles. Cars being the status symbol for the people, every person tries to buy a car as soon as possible even if his finances do not allow him.

They tend to take loans for the car. An overwhelming majority of cars are purchased through financing from banks and other financial companies. If the purchase of cars through financing is curbed through severe restrictive measures, it will drastically reduce the number of cars on the roads. This will of course have to be supplemented by the effective public transportation system. But neither of the measures suggested above will be acceptable to the market for obvious reasons. Let the people live in gas chambers but the health of the market cannot be allowed to suffer.

Dynamic Paradigm of Health

This writer in his book, "Economics First or Health First?" has presented a Dynamic Paradigm of Health and has given several suggestions regarding the need to keep Health above everything else as a national policy. A summary of the suggestions is being given below.

Dynamic Role of Medical Fraternity Required

All the disciplines of science are invaluable as they discover the know-how to produce the materials of all hues and colours required by the human beings. But medical sciences are the most important because the onus of keeping a close vigil on the emerging threats to human existence and inventing remedial measures falls on their shoulders. With the control by the market fundamentalists on all the offshoots of social life, the capability of medical experts to influence policy decisions at the national and international level has undergone substantial erosion. In fact, the healthcare itself has become highly commercialised. If the world is to be rescued from the imminent doom, the medical fraternity must immediately assume a leading role in society. It must become the true 'Doctor of the World'. It must tell the world what is right or wrong in different fields. It must not feel shy of holding the reins of administration along with the experts in other scientific fields. Medical scientists must at least put themselves in a

position where they do not have to follow the directions of politicians, bureaucrats and economists; instead they must be able to mould the policies in a way consistent with healthy life. To achieve this grand objective, certain constitutional and administrative measures will have to be taken. The constitution of the countries and the international institutions will have to be suitably amended to ensure the supremacy of health. We need a system in place in the world, which decreases mortality and morbidity, reduces the global burden of diseases, increases true life expectancy (with conception being the starting point of life) and decreases the burden of the cost of maintaining health. The current world systems based on modern economic ideologies including capitalism and socialism do just the opposite by exposing people to the dangerous social practices, and try to minimise the damage through artificial means of treatment and vaccinations. Speaking in medical terms, this policy of massive industrialisation of aetiologies followed by industrialisation of management has become the greatest burden on mankind. In the rivalry between the economics and the health, the economics is the clear winner.

WHO needs to be aggressive in its approach

It is to be accepted that the World Health Organization has not succeeded in attaining the highest standards of health it vows to work for, and has failed to play a role in preserving the environment. The WHO has completely failed to influence the direction of social development, which is moving in the direction opposite to what health likes to pursue. It has also failed to force the international community in preventing the damages to the environment and has done too little and too late to reverse the damage. The result of the defective, deficient and lacklustre approach adopted by the WHO and other organizations has been that (a) The avoidable infections continue to kill people in large numbers, (b) New infections continue to emerge and become devastating killers and (c) The diseases due to lifestyle, commercialization of

certain practices and disintegration of the family system continue to increase; and (d) Environment is becoming more and more polluted with threats of natural disasters looming large.

Right to Health

The need of the time is to run an international campaign in favour of implementing “Right to Health” as the most fundamental right of the people, which should guarantee that the Governments will make sure that the policy decisions are taken with the life and healthiness of life as the supreme consideration, above everything else. Right to Health must be defined as the fundamental right of each human being including foetus, children and adult males and females to have security against all such developments, practices and things that can endanger the health of the individuals, families or society and easy access to health care system. All social, political and economic policies must be directed at developing an environment conducive to health.

This will go a big way in guaranteeing that no activity related to any field whatsoever, which can directly or indirectly cause serious harm to health will be permissible; and all the governmental policies must take into consideration their impact on health before becoming operational. The production, trading and use of all such items and activities as can cause fatal or paralysing diseases will then become forbidden. The items and activities, which are harmful but do not cause fatal or paralysing illnesses, may be discouraged, if not forbidden. To keep a watch on the developments, an autonomous National Health Commission must be constituted in every country. This commission should conduct health impact studies of all the developments taking place in the country; it must be bestowed upon constitutional powers to determine whether to allow or not different activities and its decisions must be binding. And of course, it must ensure that

preventive measures are taken to control the pollution. Fight against global warming and pollution must remain at the top of the agenda.

Notes

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