

B#053

30112 - Maria Gondal

## Environmental Science

(20 Marks)

Q. What is environmental pollution? How pollution contributes to global warming? What are the impacts of global warming on health sector of Pakistan?

### Exordium:

Environmental pollution means pollution which makes environment unhealthy. It is increasing day by day. It contributes to global warming, which is related to rise of temperature of the atmosphere. Global warming affects on health like, diarrhea, kidney diseases, and respiratory effects. So, due to environmental pollution, global warming has affected on health sector in Pakistan as well.

### 1. Environmental Pollution:

'Environment' refers to our immediate surroundings in which all living and non-living components co-exist. 'Pollution' means harmful or unhealthy materials into the environment. These harmful materials called pollutants. Now Environmental Pollution means the contamination of the environ-

ment through the addition of pollutants which makes environment unhealthy.

These pollutants can be dangerous gases i.e.  $\text{CO}_2$ , chemicals, dust particles, radiations, heat and hazardous substances.

According to WHO,

"The situation in which the outdoor atmosphere contains pollutants in such concentration that remains harmful to the human health, plants, animals, aquatic life, micro-organisms and to the environment is environmental pollution."

It is caused by human activities such as combustion of fossil fuels, deforestation, industrial pollution and urbanization. All these human activities have caused global warming.

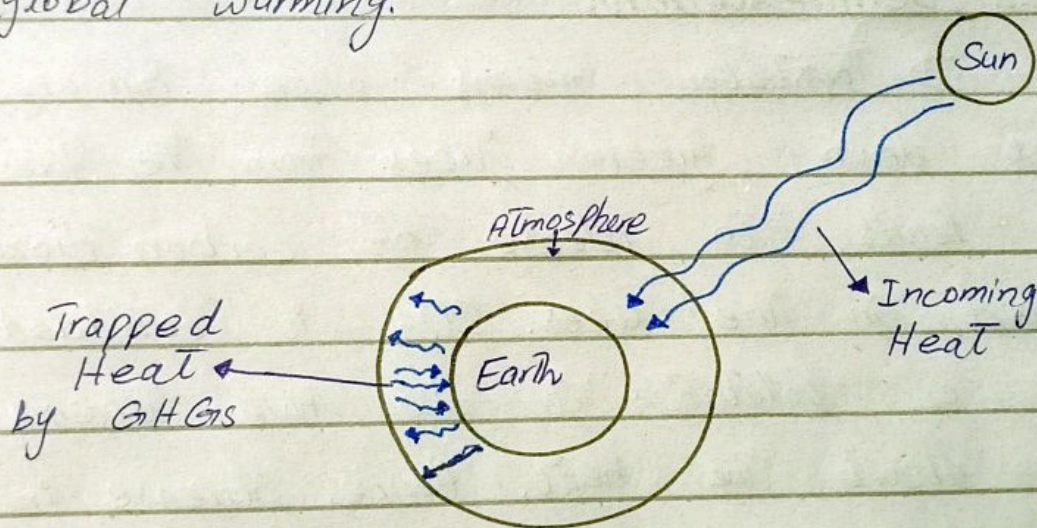
## Global Warming:

Global warming indicates warm or rise in temperature at global level.

As per IPCC,

"Global warming is an average and gradual increase in the temperature of earth's atmosphere."

Global warming is mainly the result of greenhouse effect. The greenhouse effect is the process by which greenhouse gases are trapped, absorb, trap and scatter heat, then GHGs are reradiated back to all directions. When these greenhouse gases come back; it gets heat trapped into the atmosphere, which leads toward global warming.



Sun is main source of energy to the earth and required to maintain the earth's climate system. Due to greenhouse effect the earth's temperature rise. The rise in temperature are being felt all over the globe, which can rise from 1.4°C to 5.8°C within a period of next 100 years.

# How Pollution contributes To The Global Warming:

As pollutants addition in the environment makes it unhealthy, and ~~these~~ this pollution by pollutants addition contributes to global warming. It can be deforestation, urbanization, mining, population explosion, and industrialization, which are given belows:

## 2.1 - Deforestation:

Deforestation means when human cut down green trees from the forest. It leads to release of carbon dioxide stored in the trees.  $\text{CO}_2$  is considered as a pollutant; it also have tendency to absorb the heat. Hence, increase in the amount of heat by increased  $\text{CO}_2$ , increases temperature of earth.

## 2.2 - Urbanization:

Urbanization refers to the movement of the population from rural areas to urban areas. Urban expansion also contributes to the emissions of gases and other harmful chemicals, i.e.  $\text{CO}_2$ ,  $\text{SO}_2$  in the atmosphere. All these pollutants lead towards global warming.

### 2.3. Mining:

Mining also contributes to global warming. Mining for oil and coal releases Methane in the atmosphere.

Methane enters the atmosphere and combines with oxygen to form more  $\text{CO}_2$ , which also increase global warming.

### 2.4. Population Explosions:

As much as population increasing, deforestation and land use is also increasing. It is increasing  $\text{CO}_2$ ,  $\text{CO}$ ,  $\text{NO}_x$  etc. All these pollutants, which cause pollution, are increasing global warming as well.

### 2.5. Industrialization:

Rapid industrialization led to severe pollution and exploitation of the natural resources. According to IPCC Report,

"Human activities are estimated to have caused approximately  $1.0^\circ\text{C}$  of global warming above pre-industrial levels, with a likely range of  $0.8^\circ\text{C}$  to  $1.2^\circ\text{C}$ . It can be reach between 2030 and 2052 to  $1.5^\circ\text{C}$  if it continues".

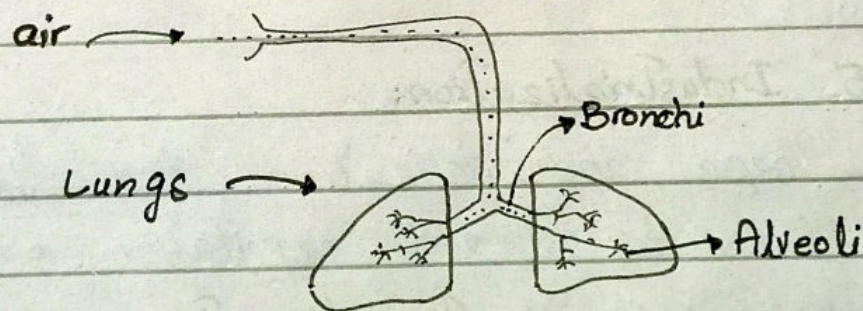
So, due to emissions of gases through industrialization, global warming is also increasing.

### 3- Impacts of global Warming on the health sector of Pakistan:

As global warming increases, it puts impact on the environment, where living components also exist. Global warming impacts on health sector of Pakistan. These impacts are given below:

#### 3.1- Respiratory System Problems:

Increase in temperature increases the rate of respiration. It has impacted on the working system of respiratory system. It promotes airway inflammation



Inhaling hot air from nose or mouth, affects lungs badly. It can cause few diseases:

a- Asthma:

b- Lungs cancer

c- COPD

a- Asthma: When temperature is increased, people with suffer at higher

risk with breathing problem.

According to the WHO,

"6-million deaths takes annually in the world, due to the bad air quality and high temperature."

### b- Lungs Cancer:

Lungs cancer is one of the most common disease in the world, when warmer temperature lead to an increase in pollutants and allergies; air is inhaled and it leads to reduced lungs functions.

### c- COPD:

Increase in temperature and extreme weather events has increased effects of heat exposure. Extremes of temperature have been associated with increased respiratory morbidity in COPD.

### 3.2 - Dengue:

Climate change and global warming has also increased risks of some diseases transmitted by mosquitoes. One of them is dengue, warmer temperatures enhance dengue virus replication within the mosquitoes' bodies, so that they are able to infect new hosts more quickly.

According to the National Institute

## of Health-Islamabad,

"A cumulative Total of 25932 confirmed dengue cases and 62 deaths have been reported nationally."

### 3.3- Malaria:

Warmer Temperatures speed up the growth cycle of the malaria parasite in the Anopheles mosquito. High Temperature is a major determinant of malaria risk.

#### According To WHO,

"Pakistan is one of the seven countries in Eastern Mediterranean region that account 98% malaria burden in the region."

So, global warming has caused to various diseases in Pakistan's health sector.

### Denoument:

Summing up, environmental pollution has become threat to the life.

It has contributed to the global warming by human activities like, population growth, industrialization, mining, etc. Moreover, global warming<sup>has</sup> impacted health sector in Pakistan by increasing diseases like, malaria, dengue, lungs diseases, etc. So, environmental pollution has affected life in the environment.