

## Part-II

Q.2

Pakistan is facing with deteriorate -d air quality. Explain the phenomena, effects and measure?

### → Introduction:-

Pakistan is currently facing severe air pollution in terms of low air quality. As per report of Air Quality Index 2023, three cities of Pakistan are ranked among the most polluted cities of the world. This shows that Pakistan is facing deteriorating air quality and index. Lahore as top among polluted cities. There are multitude factors behind this.

### → Air Pollution:

Air pollution is a type of pollution in which air becomes polluted due to anthropogenic and natural factors. This leads to bad or deteriorating



air. The low quality of air has negative repercussions.

## → Phenomena of Deteriorating Air Quality:

Air gets deteriorated when man-made and natural activities release particulate and harmful gases. These gases go into atmosphere and react with gases of atmosphere. Ultimately, which results into low air quality. Deterioration of air quality also results into formation of smog and haze.

## → Factors Behind Deteriorated Air Quality:

Following are the factors behind deteriorated air quality.

### (i) Transportation:

The rapid use of transportation releases carbon monoxide and carbon dioxide into atmosphere which leads to air pollution.



(ii) Burning of Fossil Fuels:

The burning of fossil fuels lead to bad air quality. They release carbon di-oxide into air.

(iii) Burning of Crops:

The open burning of crops by farmers is contributing factor in formation of smog.

(iv) De-forestation:

The rapid cutting of trees are aiding in air pollution. Trees are important in consuming carbon di-oxide.

(v) Rapid Urbanization:

Rapid urbanization has increased the amount of chlorofluoro-carbons and halons into atmospheres which lead to air pollution.

(vi) Growing Industries:

The smoke of industries and chimney lead to air pollution.



## → Effects of Deteriorated Air Quality:

Following are the effects of deteriorated air quality.

(i) Cause of Skin Cancer:

The low air quality is a cause of skin cancer.

(ii) Cause of Eyes Diseases:

The bad air quality is also a cause of eye diseases.

(iii) Cause of Respiratory Problems:

It is cause of lung's normal functioning.

(iv) Leads to Reduce in Life Expectancy:

The low air quality leads to reduction in life expectancy of citizens.

(v) Formation of Smog:

The low air quality results in



formation of smog. The smog is combination of dust particles and beam of sunlight. It reduces visibility which disrupts normal functioning.

(vi) Threat to Avianes:

The air pollution is threat to avianes.

(vii) Leads to Acidic Rain:

The air pollution leads to acidic rain in which particles, dust combine with droplets in clouds to form acidic rain.

(viii) Increases Green House Gases Concentration

The low quality of air is due to emission of gases. It leads to increase in concentration of green house gases.

(ix) Ozone Depletion:

The low quality of air leads to ozone depletion. Ozone from the air depletes ozone layer.



## Appropriate Measures for Better Air Quality:

Following are appropriate measures for better air quality.

(i)

### Filtration of Smoke from Industries:

These should be concrete measures to filtration of smoke from industries before release into air.

(ii)

### Re-Plantation of Trees:

These should be plantation drives to re-plantation. Trees act as natural screens for consuming air pollution.

(iii)

### Banning of Burning of Crops:

Another appropriate measure would be banning of ~~leeks~~ burning crops by farmers.

(iv)

### Diplomatic Negotiations with Eastern Neighbours:

The government of Pakistan should carry diplomatic negotiation with India as most of smoke comes from Indian Punjab.



## (vi) Switch to Re-newable Energy Resources:

Pakistan is producing electricity on 60% use of thermal energy. It should switch to renewable energy resources.

## (vii) Switch to Electrical Vehicles:

There is a need of time to switch to electrical vehicles. The transportation sector of Pakistan is a major source of carbon monoxide.

## → Conclusion:

Pakistan is a developing country and it is behind in usage of renewable technologies. The current quality of air in Pakistan is the worst among regional peers. The factors and effects of air pollution are aforementioned. There is a need of hours to take concrete steps to reduce air pollution.





Q.3

Environmental Issues can be tackled through environmental management and effective decision making. Discuss?

### Introduction:

The world is facing existential environmental issues. Humans are now at the verge of catastrophe. The rate of developing and developed world leads to unlimited damage of environment and environmental species.

However, these damages can be tackled through environmental management and effective decision making.

"When your house is on fire, the first thing you do is stop pouring more oil. If the earth is on fire, stop pouring fossil fuels into it."

(King Charles)



→ Environmental Issues:

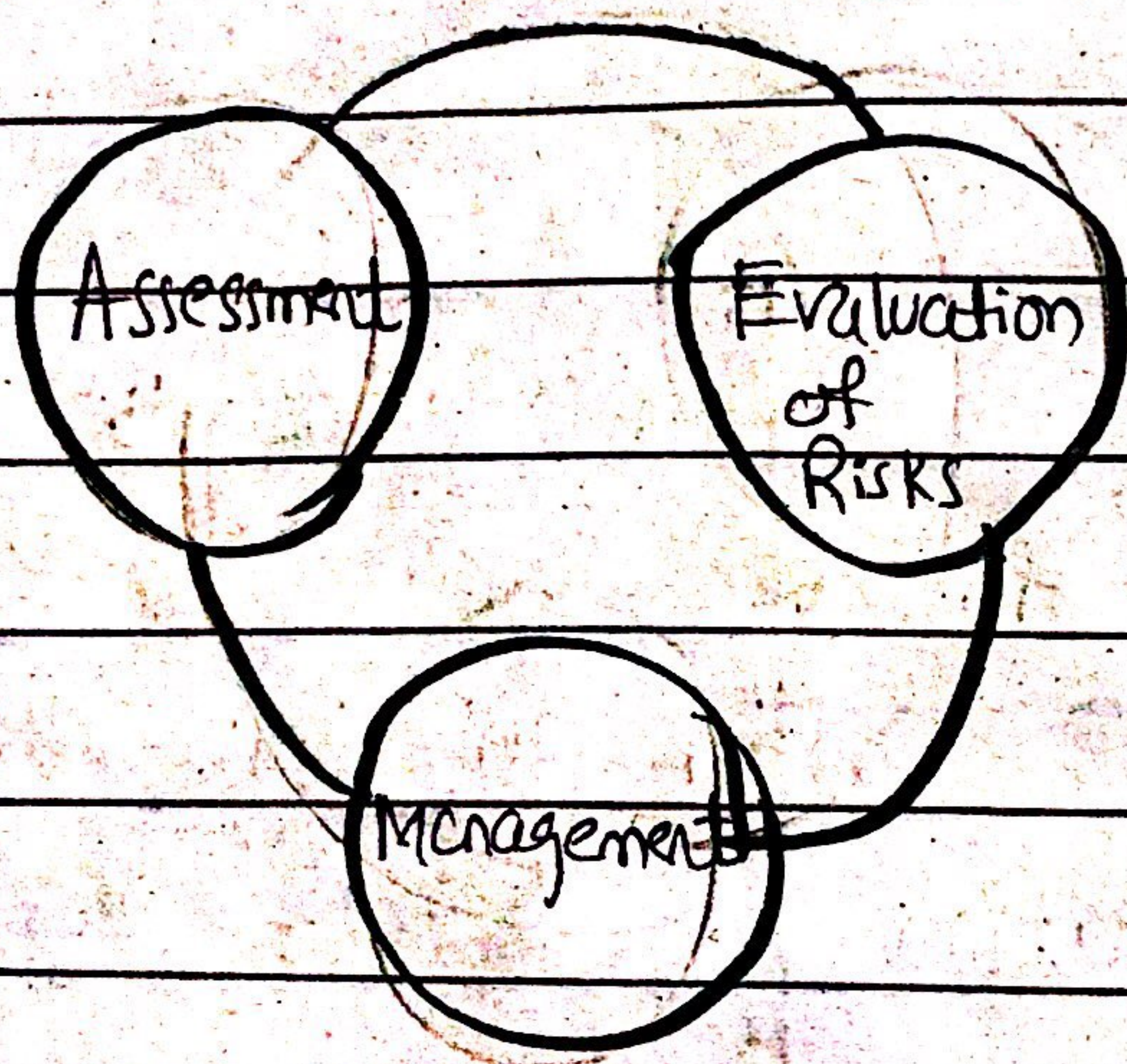
Environmental issues are damages to environment done by man-made activities. These issues are now become existential threats to humanity. These issues need to be solved.

	Loss of Bio-diversity
Vanishing of Aquatic life	
	Decline of Wetlands
Air Pollution	
	De-forestation
Degradation of Soil	
	Loss of Vegetation
Water scarcity	
	Ozone Depletion
Acidic Rain	



# Environmental Management:

Environmental management is a process in which assessment, evaluation and management of any environmental project is pre-estimated in order to promote sustainability.



## Component of Environmental Management

### a) Assessment:

Assessment is a component of environmental management in which analysis



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are made before commencement of any environmental programme. It involves surveys, town meeting and demographic surveys.

### (b) Evaluation of Risks:

This step involves evaluation of risks. The assessment draws a picture of possible risks. The evaluation of risks helps in finalisation of projects.

### (c) Management:

The environmental management involves planning and preparedness of risks. The selection of project areas and management of possible risks comes under environmental management.



## → Effective Decision Making:

Effective decision making aids in tackling environmental issues. It involves conferences, round table talks and defining of environmental policies.

## → Conference of Parties (COP):

Conference of parties involves annual meetings of all head of states, non-governmental organizations and environmental analysts. It decides targets, policies and transfer of environmental technologies to tackle environmental issues.

## → Strategic Environmental Assessment:

Strategic Environmental



Assessment (SEA) is a process  
of estimating risks before  
designing environmental policies  
and decision making.

It is a pre-requisite of  
policy decisions.



## → Environmental Ministries,

The Rio Declaration of 1992 had resulted in creation of environmental policies ministries. These ministries in every country deal with tackling environmental issues and promote sustainable growth.

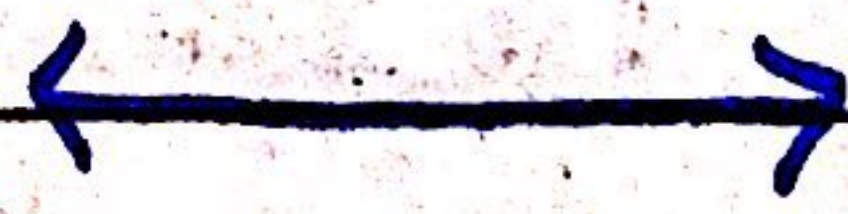
## → Conclusion:

It can be concluded that environmental management



and effective decision making has proved to be efficient in addressing environmental issues. The management and evaluation of possible outcomes of any project in environment can be helpful in tackling of issues and its destructive results.

Save the earth  
and save your  
generations.



Q.4

“Era of global warming has ended; this is era of global warming. Justify the statement?”



## Introduction:

"Era of global warming has ended; this is an era of global warming."

This is the statement from Opening ceremony of COP-28,

stated by secretary general of the United Nations. It

depicts serious concerns of global warming and

increase in temperature of

earth. There is a dire

need of taking bold

steps to save humanity and

control temperature of earth.

"By using fossil-fuels,

man is architect

of his own

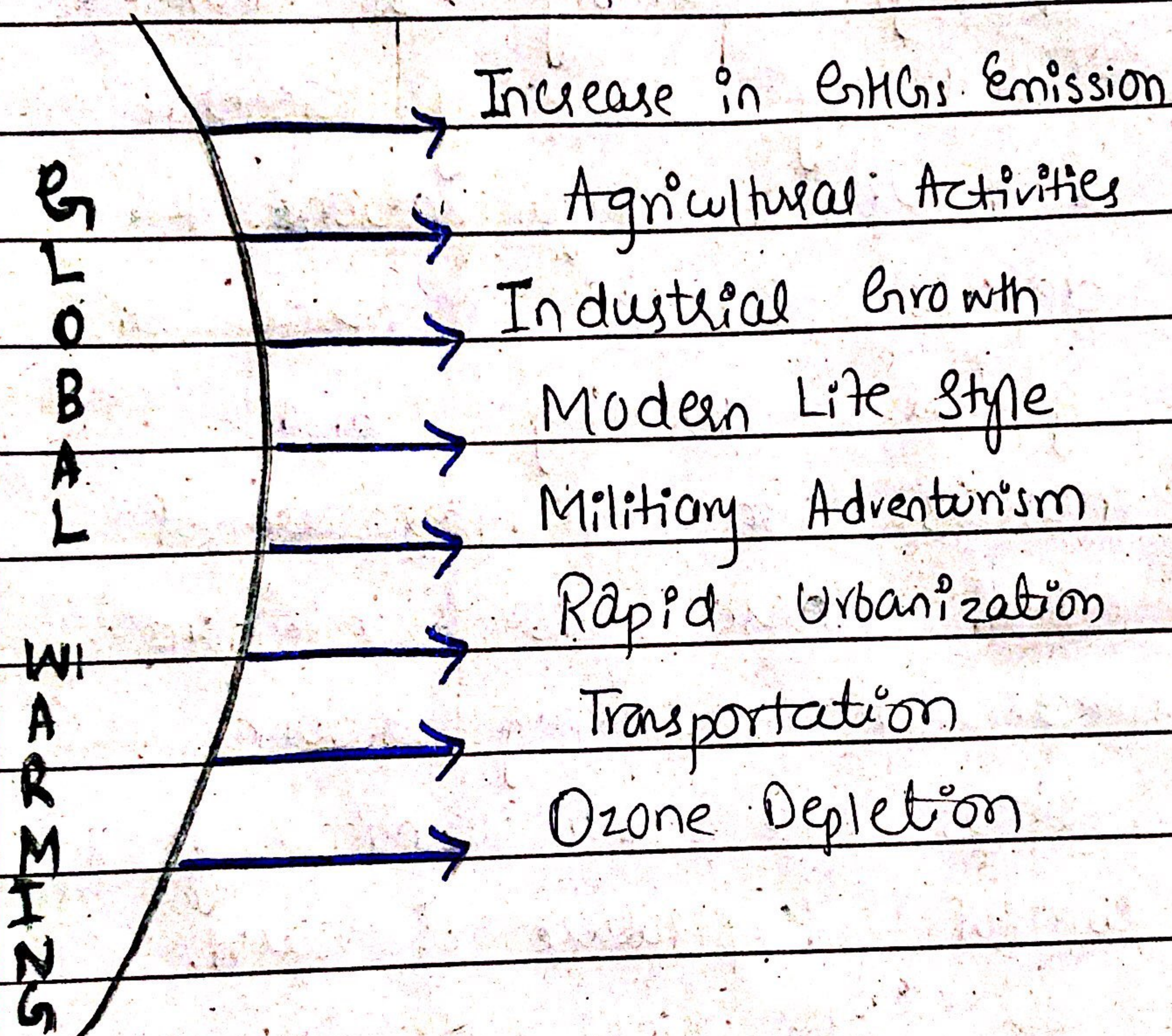
destruction."

(Barack Obama)



## → Factors Behind Global Warming:

Following are the factors behind global warming era.



### (i) Increase in Green House Gas Emission:

The increase in green house gases in atmosphere lead to



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increase in temperature of the earth.

(ii) Agricultural Activities:

The increase in agricultural activities by human to enhance production of food results in global warming. For instance, burning of crops.

(iii) Industrial Growth:

Industrial growth of developed countries has also contributed in the global increase in temperature. The pre-industrial era and post industrial era has difference of  $1^{\circ}$  temperature.

(iv) Modern Life Style:

Modern life style introduces modern facilities among humans. The



use of air conditioners and refrigerators releases chlorofluorocarbons in environment which causes depletion of ozone layer and result in increased temperature of the earth.

(v) Military Adventurism;

Military adventurism and nuclear arm race has increased the temperature of earth to certain level. The uranium enrichment has contributed in global warming.

(vi) Rapid Urbanization:

The rapid urbanization vanishes wetlands and forest covers. The erosion of forest is another factor in global boiling era.



(vii)

### Transportation:

The transportation sector has released carbon monoxide in atmosphere to great extent.

(viii)

### Ozone Depletion:

The depletion of ozone layer resulted into coming of ultra violet radiations on earth and they trapped into earth. It results in increasing temperature of earth.

→

### Measure to control Global

#### Boiling:

Following are the recommendations to control global boiling.

(i)

#### Limits CO<sub>2</sub> Emission:

The first measure is to limit emission of carbon dioxide on the earth.



(ii) Banning of Carbon Trading Quotas:

these should be banning of carbon trade quotas. Its misuse leads to increase in temperature.

(iii) Switch to Re-newable Energy Resources:

There is a dire need of switching to renewable energy resources such as wind and solar energy.

(iv) Switch to Electrical vehicles:

The switching of electrical vehicles from petroleum vehicles can reduce temperature of earth.

(v) Control Uranium Enrichment:

The control of uranium enrichment by war mongering countries can be aidful in limiting temperature.



(vi)

### Plantation Drives

The plantation of trees can be an effective measure in controlling temperature.

(vii)

### Transfer of Technologies:

The transfer of green technologies between developed and developing countries can limit global boiling.

### Conclusion:

The era of global boiling has started as temperature of earth has increased upto worrying level. The recent report of International Panel of Climate Change (IPCC) has warned that temperature of earth is increased upto 2°C. It is now existential threat, not only environmental threat. However,



it can be limited by  
taking serious and bold  
steps.

"Climate change does  
not respect boundaries,  
not countries. It is a  
global problem which  
needs global solidarity."

(COP26)



Q. 5 a) Highlights the developments  
of COP-28?

→ Introduction,

Conference

of Parties (COP) is  
annual session of all  
head of states, non-govern-  
-mental organizations and  
environmental experts. The recent



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meeting of COP was  
28<sup>th</sup> session. It held at  
Dubai between Nov - Dec 2023.  
It aimed to address  
environmental issues and  
affectedes of environmental  
degradation. However, it is  
yet to see either the  
promises would be fulfilled  
or forgotten.

### → Salient Features of COP-28:

Following  
are the salient features  
of COP-28.

- (i) It is aimed in COP-28  
to establish "loss and  
Damage Fund" for affecting  
and affected developing  
countries. This fund would  
be funded by the developed  
countries.



(i) The reduction in green house gases upto 2050 will be take place.

(ii) It is aimed that until 2075, all transportation sector will be switched to electrical mode.

(iv) It is also aimed to limit the temperature of earth to further escalation.

### → Critical Analysis of COP-28:

COP-28 faced criticism on various aspects. The selection of venue, Dubai, is major oil producing country's part. It aids in global warming. Another aspect of criticism is loss and damage fund. The developing countries



— / — / — but

have stance that developed countries had contributed in climate change by industrialization. Now it's our turn and developed countries should pay for it.

"No issue has divided the global north and south other than climate change."

(Dawn News)

### → Conclusion:

Climate change is a grave threat and the world is now focusing on it. The recent annual meeting of COP-28 aimed to limit global temperature and address consequences of climate change. Hence, it is up to the developed world that how they tackle issues.



b) Eutrophication?

### → Definition:

Eutrophication is a phenomena in which algae and bacteria grow in water and block the sunlight to enter into water and reach at the bottom.

### → Causes of Eutrophication:

Following are the causes of Eutrophication,

(i) Water Pollution:

The water pollution leads to growth of algae into water and causes



Eutrophication.

(b) Oil Spillage:

Oil Spillage from marine transportation leads to formation of oil layer on water which causes eutrophication.

(c) Use of Fertilizers:

Excessive use of fertilizers leads to cause eutrophication in water.

→ Impacts of Eutrophication:

Following are the impacts of eutrophication.

(i) Death of Marine Animals:

Eutrophication causes death of marine animals such as fishes as no sunlight is reaching there.



(i)

Damage to Water Quality:

Eutrophication leads to damage of water quality.

(ii)

Death of Phytoplanktons:

Eutrophication leads to death of phytoplankton in water.

→

Remedies to Stop Eutrophication:

Following are remedies to curb eutrophication.

(i)

Control Water Pollution:

Eutrophication can be controlled by controlling water pollution such as industrial and domestic wastes into water.



(ii)

## Less Use of Fertilizers:

Eutrophication can also be controlled by less usage of fertilizers.

(iii)

## Control Oil Leakage:

There should be sealed transportation of oil and petroleum products from machine.

