

QUESTION : 03

1. INTRODUCTION

Life on Earth is a blessing because in the known universe that expands millions of light years, it is nowhere but here. However, humans have never value this factor, therefore, they keep destroying the planet's biosphere. The rapid material growth has made human blindfolded. In the hindsight environment is affected. From rising sea levels to temperature, the Earth needs care. As an administrator, one must know that there is not the death of measures drafted but the lack of management and implementations.

2. GIST OF ENVIRONMENTAL POLLUTION :

The Earth has been witnessing the surge in temperatures. According to Climate Change Report of UNFCCC, 2022 humans have achieved 1.5°C mark as compared to pre-industrial level (1860s). Further, the sea levels are rising at 0.44mm per year. Along with the loss of biodiversity is another issue. As per WWF, 1 out of 7 mammals are at the verge of extinction. The Earth's forest has been shrunk rapidly amid urbanisation. Natural disasters become a norm with California fire being the latest. Lastly, the intensity of El Niño has caused major climate shift of the Earth.

3. IMPACT OF ENVIRONMENTAL POLLUTION

- i) LOSS OF AGRICULTURAL LAND: Due to waste disposal and poor agricultural practices, the cultivated land is diminishing. According to FAO, the cultivable land has been reduced by two-fold as compared to last century.
- ii) HEALTH PROBLEMS: Rising air pollution is a major contributor in it. In this year, the air quality reached at nadir in India and Pakistan with major cities such as Lahore, Multan, Delhi touched AQI upto 2000+. Similarly, solid waste disposal cause major issue to health besides use of pesticides on plants.
- iii) DEARTH OF WATER RESOURCES: As per the UNFCCC report, by 2100, Himalayas would have lost their ice by 50 per cent. This will cause major flooding in Pakistan and with time the flow of Indus will diminish. Pakistan is already facing water scarcity. Only 36 per cent of people have access to clean water - FAO.
- iv) ECONOMIC ONUS: Due to the surge in natural calamities, developing countries everywhere find themselves at the catch-22 situation with respect to reserves. The emission done by global leaders has been punished to poor countries. Only China and USA contribute to 50 per cent of total emission, yet USA is not ready to take responsibility and help financially.

4. MEASURES AS AN ADMINISTRATOR

4.1 ENVIRONMENTAL AWARENESS

It is the ~~now~~ need of the hour that people know about environment. For it, NGOs must be engaged to cooperate with government's policies for environment. Media can be used to promote the concepts of sustainability and management.

4.2 PROMOTE DIGITIZATION AND DIGITALIZATION:

The promotion of digitization and digitalization would mean less paperwork which itself is good for environment - as trees cut for papers. It also promote efficiency. The red-tapism and corruption can be countered.

4.3 SUSTAINABLE PRACTICES IN THE OFFICE:

The change must start from home. The sub-ordinates and staff must be taught the significance of environmental degradation and its preservation. Simple habits such as close the tap when applying soap, avoid smoking, prefer public transport or cycles can be an option.

4.4 FOCUS ON THE IMPLEMENTATION OF POLICIES:

Avoiding to the PEPA act everyone must receive equal resources. The unjust must be encountered. For example,

hardly 30 percent of Karachi's population receive water while majority rely on water-tankers. This tanker-mania must be dealt with even hand to provide the basic resource to all.

4.5 IMPROVING AGRICULTURAL PRACTICES

The methods of organic farming must be taught to farmers. This will increase the yield by 50 percent and decrease energy consumption by 70 percent. The training of farmers along with the innovation of lands must be a way-out.

4.6 ADDRESSING WATER ISSUE/LOST :

In Pakistan, 90% water is consumed by agriculture alone. In this, 30% of water is lost in canals due to its leakage according to IRSA. This must be countered through administration. To take accountability of people at the helm of affairs must be a way-out. Also, agriculture must be tax on water usage.

4.7 STRICT ACTION OVER VIOLATION :

According to Pakistan's Environmental policy, the vehicles must not be allowed that produces smoke and chimneys of industries were ordered to install venting scrubber to avoid sulphur emission. There should be a check on it. Punjab's govt. recently implemented this initiative, which other provinces should follow.

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4.8 ETHICAL CONSUMERISM MUST PREVAIL:

For the western societies, this phenomenon has become quite common, but for global south it is not. Hence, it must be implemented for industries. Public must be aware of what to buy and how to buy.

Example: Company A makes delicious chocolates but it is notorious for labour exploitation, and avoiding environmental precautions. So, its products must be boycotted by Public.

4.9 HUMAN DEVELOPMENT MUST NOT BE IGNORED:

Poverty is the greatest contributor in environmental degradation. Therefore, investment in human development must be a way forward. It will not only make them more environmentally aware but refrain them from adopting unsustainable practices. An administrator must implement the legislations.

5. CONCLUSION

In conclusion, environmental pollution is a reality that needs to be addressed. There are dozens of policies but no implementation. Therefore, an administrator must make everyone taking benefit of resources. Through accountability and implementing the policies, an administrator can preserve environment from one's end.

QUESTION: 04

1. INTRODUCTION

The Earth has its biome that holds many living beings. These living beings are not homogenous, but differ with respect to genetics, species, and ecosystem. So, this variety of life makes Earth a habitable planet. Its loss is dangerous. If biodiversity is lost then the whole biome of Earth will be disturbed, affecting sustenance of life.

2. WHAT IS BIODIVERSITY

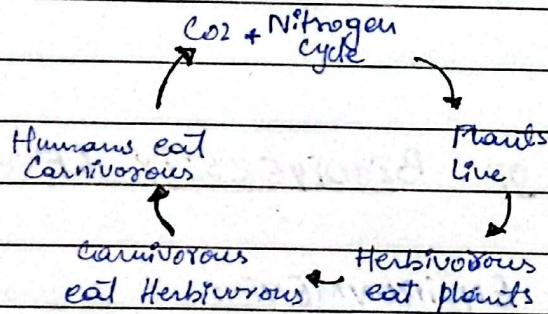
The totality of life on Earth with all its species in it is called biodiversity. All kinds of life-forms constitute a biodiversity. Without it, the ecosystem of Earth will be jolted.

2.1 VARIETY IN BIODIVERSITY

- i. Animals
- ii. Fungi
- iii. Bacteria
- iv. Plants
- v. Microorganisms.

2.2 SIGNIFICANCE OF BIODIVERSITY

- i) Human Survival: Plants provide food to humans without which humans cease to exist.
- ii) Ecosystem Health: The overall ecosystem is maintained. Change in environment can cause the balance to shift as happened in Ice-ages of Earth.
- iii) Maintaining Different Biomes: Biodiversity helps biomes to sustain. For example, without Nitrogen cycle, plants will die. If that happens, the animals will die. Resultantly, humans will be reduced to none.



3. LEVELS OF BIODIVERSITY

3.1 GENETIC LEVEL:

- i- The variety of genes within a species.
- ii- This diversity leads them to adapt in different environments.

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- iii. For examples, polar bears can survive extreme coldness despite being a bear.

3.2 SPECIES LEVEL

- i. The diversity of species in an area e.g. plants, animals, microbes.
- ii. Usually rainforest are popular habitats for it.
- iii. For example, In Amazon Rainforest, animals, plants and many microbes can be found under respective families.

3.3 ECOSYSTEM LEVEL:

- i. The diversity of ecosystem in given area.
- ii. The size of an ecosystem may vary.
- iii. For example, a city may have humans, plants, forest as well as lakes.

3.4 IMPORTANCE OF BIODIVERSITY LEVELS:

- i) ADAPTATION TO ENVIRONMENT: The evolution is done or happen because of the organism capability to have genetic level biodiversity.
- ii) PROVIDE FOOD: Different levels of biodiversity provide sustenance of life. They contribute in Nitrogen cycle, biodiversity cycle and provide survival to humans.

4.3 BIODIVERSITY LOSS.

4.1 UNDERSTANDING CONCEPT:

The reduction in the number of species in given area, or the complete vanish of a certain species is biodiversity loss. Throughout the history, many species had been vanished on Earth, but the process is fast-forwarded now.

Example: The extinction of sabertooth tigers, Mammmoth Elephant or the white horn Rhinos.

4.2 CAUSES OF BIODIVERSITY LOSS:

(i) CLIMATE - CHANGE:

Many species extinct or reduce because of the change of temperatures or sea levels. Majorly humans contribute in it.

(ii) OVER-EXPLOITATION:

This include excessive hunting or excessive catching animals for food. For instance, catching fishes during their breeding months.

(iii) URBANIZATION:

This includes the cutting of forest and building steel infrastructure on it.

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The organisms that are forced to migrate were either been killed or live in a degraded ecosystem. This either evolves them or made them killed by superior species.

4.3 IMPACT OF BIODIVERSITY LOSS

i) IMBALANCE IN ECOSYSTEM:

The ecosystem is disturbed due to this. This impacts the species in and often makes the ecosystem hostile.

ii) DISEASE TRANSMISSION:

When habitat of humans and animals is closely-related, their diseases of animals can affect humans. Covid-19 is its example.

iii) CONFLICT AND FOOD SECURITY:

Conflicts between humans and wildlife will mostly lead to the loss of wildlife. Also, loss of biodiversity means loss of medicine. More than 70% pharma depends upon species of plants.

5. WAY FORWARD TO PRESERVE BIODIVERSITY

5.1 SUSTAINABLE PRACTICES:

Humans must follow sustainable practices through the implementation of sustainable Development Goals (SDGs). This will preserve ecosystems.

5.2 REDUCING POLLUTION:

The commitments under Convention of Biodiversity loss must be enacted with political will and public support. Pollution, for this, must be controlled. From water pollution to air, humans needs to adopt holistic approach.

5.3 CONTROLLED GROWTH

The rapid pace of human growth from stone-age to agriculturist and now technologically-conscious species, humans needs a halt. The urbanizing, development, Ethics and consumerism need regulation now. In this way, biodiversity can be preserved.

5.4 IDENTIFYING KEY-SPECIES:

Species that add the to biodiversity life cycle must be protected first; preserving it first will save others. After all, that will be the king species of that cycle.

6. CONCLUSION

In a summary, biodiversity is important for the ecosystem of earth. Without it, the earth will not host life on it. However, it faces many challenges in today's world. But, where there is a will there is a way. In case of biodiversity, humans need to be pragmatic and solve the issue lest they become extinct.

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QUESTION : 06

1. INTRODUCTION

The arrival of Trump will make significant changes in the environmental approach of USA. When the big brother of the house does an action, everyone abides. Hence, many countries may follow the path blindly over the trail of super-power. This will affect the climate-risk countries. Many environmentalists believe that environmental catastrophe will increase in the coming years. Withdrawal of USA from Green Deals will only worsen the already volatile situation.

2. APPROACH OF USA

2.1 CLIMATE CHANGE IS A HOAX:

Trump administration believes that climate change is not the reality. This believe along with Trump's making America Great (MAGA) has already pushed him away from spending a penny to environmental deals.

2.2 WITHDRAWAL FROM GREEN DEALS:

Trump pledged to withdraw from Paris Agreement, 2015 as he had done in his first term. As of January 22nd, Trump has made America withdraw from Paris agreement. This is likely to get more worrisome.

3. IMPACT OF USA'S WITHDRAWAL:

3.1 MAJOR HURDLE IN CLIMATE FUNDS:

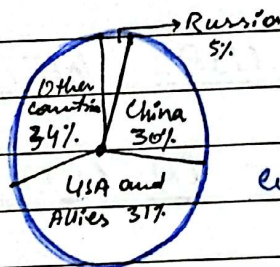
The developing world once again urged the world to grant environmental fund. It must be increase to \$300bn. But, the withdrawal of US from Green Deals would make it hard to achieve. Either some developed nations will be in more stress or they too will ignore.

3.2 THE DEFIANCE OF RESPONSIBILITY MAY PREVAIL

With USA out of the Green Deals, other might follow. For example, Europe can follow its footsteps, leaving majority the victims in Green Deals. It will be catastrophic for poor countries because they are paying for the sins of the developed ones.

3.3 CONTRIBUTIONS IN EMISSION WILL INCREASE

Almost 30 percent emission is done by America and its allies. So, leaving Green deals would result in increase in these emissions because these countries, including USA, will not be eligible to international commitments.



CO₂ Emission Contribution.

3.4 DEVELOPING WORLD WILL BE IN PERIL

The climate change will make developing world to reduce their expenditures in order to get prepared for yearly natural calamities. Due to this, the development will further halt in developing world.

3.5 CLIMATE REFUGEES WILL INCREASE:

According to World Risk assessment report, by 2030 there would be 1-2m climate refugees around the world. Tuvalu is its manifestation. This will increase more Xenocentrism in the West as it is evident in Italy, UK, France already. Brain Drain will worsen environment as people will work in inhuman condition. Sustainable approach will be a myth.

3.6 RISING CLASS DIFFERENCE WILL CAUSE CONFLICTS, DEPLETING ENVIRONMENT:

When the state is unable to provide economic growth and environmental ones, the people will either leave the country or engage in conflict. This will create social deviance in the society. Hence, poverty will prevail, and poverty is the most danger to environmental pollution. To put things in perspective, Pakistan's 2022 floods impacted 30million people with \$30bn loss, pushing 10million into poverty -NDMA. Since then, poverty line is only engulfing more and more, reached 38%.

3.7 USE OF RENEWABLES WILL DIMINISH:

According to EU reports, many coal plants have been reopened in Europe for energy production. The trend may

extend, compromising what little was achieved by humans. This will increase carbon emissions, making more ice to melt and temperature to increase. According to UNFCCC, by the end of the century 20% of the planet will be uninhabitable to live amid rising temperatures.

4. CRITICAL ANALYSIS

The withdrawal of America from Green Deals will affect the world and environment negatively. Already, humans have crossed the mark of 1.5°C , now the new threshold is 1.75°C . Ignoring climate change will only impact the world, and unfortunately, America lies on the very planet. However, the critique argue that the events will be calm-down by nature and it is all hoax. Well, the karma was seen in the Californian fire. If world leaders especially, USA will not lead a sustainable world, some other country will, such as China. Hence, China's influence will increase and the USA's decision will backfire. Therefore, USA needs to think at collective level rather than at individual level.

5. CONCLUSION

In concluding, it is a harsh reality that climate change is not a myth. The withdrawal of USA will worsen the situation. Other developing world will be majorly affected. Interestingly, climate change knows no-bound or boundaries. Hence, sooner or later this hour will hit Pentagon too. Therefore, USA needs to realize this and revisit its approach over environment lest the states live but not the humans.

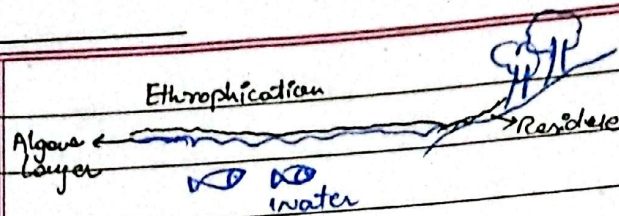
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QUESTION : 08

1. EUTROPHICATION

1.2 DEFINATION

It is a process in a water body, where the water body is enriched with nutrients. These excessive nutrients leads to harmful growth of algae over the surface, making water looks green.



1.2 CAUSES OF EUTROPHICATION

- i- Agricultural waste / residue.
- ii- Harmful pesticides left-over.
- iii- Fertilisers usage in agriculture.
- iv- Industrial waste (rich with nitrogen or ammonia).

1.3 IMPACT OF EUTROPHICATION

- i- The dearth of sunlight affects water biome.
- ii- The growth of water-plants becomes hard.
- iii- Aquatic life finds it hard to breathe.
- iv- The water is difficult to clean.

1.4 SOLUTION TO COUNTER EUTROPHICATION

- i- Treatment of agricultural waste.
- ii- Decrease the use of pesticides and fertilisers.
- iii- Awareness programs especially for farmers.
- iv- Method of organic farming through sustainable means.
- v- Legislations over waste disposal on Industries.

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2. DEFORESTATION

2.1 DEFINITION

The turning of land into barren land due to the excessive cutting of trees in a specific area. It is mostly done for commercial means, but it hurts the environment the most.

2.1 SIGNIFICANCE OF FOREST

Every country must have at least 25 percent of land covered with forest. However, except Bhutan and some, this number is a pipe-dream.

Forests provide food, habitat, shelter, control floods, preserve species, contain CO_2 in them, and give oxygen. Amazon forest alone holds upto 40 percent of carbon emission - USEPA.

2.2 CAUSES OF DEFORESTATION

- i. Population growth
- ii. Demand of commercial industries (furniture)
- iii. Rabid urbanization
- iv. Lack of political will.

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2.3 IMPACT OF DEFORESTATION

- i- loss of biodiversity.
- ii- loss of habitat and animal species.
- iii- Carbon emissions in environment.
- iv- Natural scenery cease to exist
- v- Land become barren.

2.4 SOLUTIONS TO COUNTER DEFORESTATION

- i- Afforestation after deforestation.
- ii- Encourage everyone to support plantation.
- iii- Switch to environmentally commercial products.
- iv- Ban on certain forest to preserve species.

4.3 REDD

4.3.1 WHAT IS REDD

It stands for Reducing Emissions from Deforestation and forest Degradation. It is also known as REDD+. Its purpose is to preserve the forest around the globe. It is an inter-governmental approach to reduce greenhouse gases.

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Q.3 'REDD+ IN KENYA'

- i- Encourages countries to save forest.
- ii- In return of this, countries are compensated financially. It is helpful for developing states.
- iii- The purpose is to save forest biome.

Q.4 : SIGNIFICANCE

- i- REDD+ helps countries to achieve sustainable goals of UN
- ii- Saving forest is an important milestone for Paris agreement as well.
- iii- Moreover, the overall emissions will reduce drastically.
- iv- Humans will have check on uncontrolled urbanization.

Q.5 WAY OF IMPLEMENTATION

- i- Countries build own strategies and relevant policies.
- ii- A framework is constructed for the regulation.
- iii- Action plans are implemented.
- iv- The report submitted to UNFCCC for financial compensation.

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5. GREEN REVOLUTION

5.1 CONCEPT

It is a period of green agriculture in mid to late 20th century. During this period, agriculture was innovated. The crop per yield increased through many advanced ways.

5.2 WHAT HAPPENED IN GREEN REV.:

- i- HYBRID SEEDS INTRODUCED: It enhanced overall yield of a land.
- ii- MODERN TECHNIQUES: New agricultural techniques such as Sprinkle system for rice.
- iii- FARMERS UPLIFTMENT: Farmers were provided education and awareness over the use of fertilizers.

5.3 RESULT OF GREEN REVOLUTION:

- i- Significant increase in rice and wheat production.
- ii- Countries like, India, Brazil, Mexico hold monopoly over agriculture around the world.
- iii- Food security countered.
- iv- Jobs were created.
- v- Sustainable practice of agriculture.

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