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Environment has gone beyond the tipping point

Outline

1. Introduction

Thesis Statement:

Human actions have caused an irreparable damage to the environment. This is evident by severe global warming, climate change and associated extreme weather events. At this point, complete restoration of nature is not possible, however, concrete efforts should be made to mitigate the effects of environmental degradation.

2. Contemporary condition of environment:

An overview

3. Causes of environmental degradation

a. Dependence on fossil fuels for energy

b. Rapid industrialization at the expense of environment.

c. Deforestation and desertification of land

4. Lack of global consensus on environmental issues.

5. Economic ambitions and domestic political gains halting real progress.

4. Impacts of environmental damage

a. Increasing global temperatures and melting glaciers.

b. Havocs wreaked by extreme weather events

c. Increasing food insecurity and water shortage.

d. Unmanageable economic losses and fiscal crisis.

e. Declining human health and increasing morbidity.

5. Proposed remedies for tackling environmental crisis

a. Promoting climate awareness and education.

b. Transitioning to renewable energy sources.

c. Improving disaster management systems.

d. Conclusion.

"The era of global warming is over. We have entered into the era of global boiling" [Antonio Guterres]. The year 2023 was marked as the hottest year of the century. Environment has been damaged to an extent that it threatens the future of human race in this world. Unsustainable human activities have been described as the sole reason of this crisis. A new era of industrialisation started in 1760 which led to many advancements in businesses, economy and production sector, but these achievements were made at the expense of nature. The economic engine of west was built mainly on fossil fuels. This produced a dangerous amount of hazardous gases and destroyed the natural climate for upcoming generations. Along with that, millions of hectares of land which was cultivable, is converted into commercial land. Due to deforestation and

extensive desertification, the damaged atmosphere could not be purified. The consequences of these actions are seen today. Global temperatures have increased, glaciers are melting and oceans have acidified. Millions of people across the world are facing severe shortage of food and water. Crops are either destroyed by extreme weather events or due to changes in rainfall pattern. All this has caused an unmanageable fiscal crisis, especially in vulnerable areas across the world. At this point, complete restoration of nature is not possible, however, concrete efforts should be made to mitigate the effects of environmental degradation.

21st century is bearing the consequences of man's actions of the past two hundred years. Only in 2023, two storms, a typhoon, three terrible earthquakes and extremely high temperatures were observed in various

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areas across the globe. Moreover, horrible floods of severe intensity, occurred in India, China and Bangladesh. According to World Meteorological Organization, 12,000 extreme weather events have happened in the past 30 decades. The highest death toll due to these events is observed in Asia and Africa. One million deaths were reported in Africa due to draught and changing weather patterns. According to UNDP, global temperature threshold of 1.5°C would be crossed way before the end of twenty first century. These indices point a very bleak picture of the current environmental conditions.

Multiple causes have been stipulated for the degradation of environment. The root cause is the dependency on fossil fuels. Although west is now moving towards

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Renewable energy sources, it overwhelmingly used fossil fuels for many decades.

Global south is still very much dependent on fossil fuels like coal, oil and natural gas for its socio economic

development. According to NTPC, Pakistan produces 60% electricity through coal.

China is the largest producer and burner of coal in Asia, followed by

India. This coal, when burnt, produces enormous amount of green house gases, causing serious harm to environment.

Industrialization, not only damaged environment through the use of fossil fuels, but also by exploiting environmental resources. Norman Borlaug introduced man made fertilizers to increase the production of food and other commodities obtained from plants. Although it yielded an increase in crop production, soil quality degraded and water bodies were seriously damaged by

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eutrophication. 25% increase in nitric oxide content in the atmosphere has been observed since the 1950's. Love canal tragedy, Exxon mobile disaster, Bhopal industry airtoxin leakage and Chernobyl incidents are some of the key disastrous events which greatly damaged the environment.

Moreover, environment has been exploited seriously due to deforestation. According to Greenbiz, 7.4 million hectares of land (agricultural and cultivable) is degraded each year for commercialization purposes. A few years ago, the capital of Pakistan was known for its beautiful green belts. Today, most of them have been cut and replaced by residential colonies. Real estate mafia has deep pockets and they are not held accountable for these malicious practices.

Along with local issues, there is a lack of global consensus on environmental concerns. The first ever international agreement on environment conservation was Stockholm Conference. USSR did not participate in the conference. A few decades after Stockholm conference, Paris agreement was signed in COP 21. USA backed out and withdrew from Paris agreement. Chinese president Xi has officially announced that China's emissions will continue to increase for the next few years. In the current situation, it is very difficult for the world leaders to come at a single consensus.

The reason behind international disagreement on environment protection is mainly due to economic ambitions. Global north has already built its economy. Accordingly to Global south, restricting the use of fossil fuels for developing countries

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is nothing short of green imperialism. Moreover, the domestic political interests also hamper the progress of environment protection. In USA, democrats and republicans hold different views to climate change, mainly because of vested political interests. All these factors have contributed to the worsening climate change and degradation of environment.

Because of the above mentioned causes, global temperatures are increasing. According to IPCC, the concentration of CO₂ in atmosphere has reached 400 ppm. This is the highest ratio in the past 8000 years. 4th July, 2023 was recorded as the hottest day ever on earth. Because of an increase in temperature, glaciers are melting. NASA's satellite images have shown a tremendous decrease in polar ice. As a consequence

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many species in Tundra biome have become extinct. Millions of species of flora and fauna face the risk of extinction, if global temperatures continue to increase.

As climate changes, extreme weather events become frequent and dangerous. One step leads to another and a cascade of dangerous processes starts. Due to melting of glaciers, multiple glacier overflow lakes (GOL) have formed. Only in Pakistan, 2600 GOL have been created. Icejam flooding has become a norm in the northern areas of Pakistan. Floods, wild fires, storms, cyclones, typhons are all manifestations of increasing weather abnormalities.

The most imminent threat to humanity because of environmental degradation is food and water insecurity. Because of over exploitation

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of water resources, the levels of ground water have dropped below a dangerous level. According to United Nations Food Programme, millions of people across the world face severe food shortage. 40% of the world population is living under poverty. Food shortage has caused an immense increase in the price of fruits and vegetables across the world.

Inflation and poverty are the direct impacts of environmental crisis. According to World Economic Forum, 23 trillion dollars worth of economy would be lost by 2030 due to climate change. Developing countries, which are already in debt, would face serious fiscal meltdown due to climate related economic losses. Only in Pakistan, the recent floods of 2023 caused the loss of almost 30 billion dollars. A country which

is already facing serious financial constraints cannot bear further losses due to climate change.

Not only economy, human health is also seriously suffering due to environment degradation. Air quality is getting worse by each passing year. According to WHO, the life span of an average Pakistani citizen is cut by five years due to air pollution.

There is a serious increase observed in pneumonia cases, especially in children. Upper respiratory airway diseases were one of the most common OPD cases in Pakistan this year.

Along with poor air quality, drinking water is also not safe. Many communicable diseases are rampant in developing countries due to use of unsafe drinking water.

Although human activities have caused serious harm to environment, man has also come up

with solution to mitigate the effects of these actions. The first and foremost need is to educate people about the protection and conservation of environment. Governments alone can only make policies, but it is upto the citizens to act on these policies. An average American citizen produces 16 tons of CO_2 in his lifetime.

An average person produces 2 - 2.5 kg solid waste per day. The first principle of environment conservation is to reduce waste.

This can only be done if people are aware of the consequences of their actions.

The dirty heart of climate change is fossil fuel industry. The need of the hour is to shift as early as possible to renewable energy sources. Solar, wind, geothermal and nuclear energy are some safe and efficient energy alternatives. In COP 28, it was mutually agreed upon

to phase out fossil fuels by the year 2050. A pledge was made to reduce emissions by 43% as compared to the levels of 2019. Moreover, a loss and damage fund was also established for developing countries facing climate crisis.

Along with awareness and energy transition, it should be understood that the ongoing extreme weather events will continue to occur because of the existing change in climate.

For this, an efficient disaster response and management department should be made. In Pakistan, NDMA and PDMA are working to mitigate and manage the impacts of climate change.

As per World Meteorological Organization, an early warning given 24 hours prior to an environmental disaster can prevent up to 30% of human and property losses.

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Disaster management and early warning system are the backbone of environment protection strategy.

In a nutshell, it is agreed upon by the environmentalists and scientists that environment has reached beyond a tipping point. The onground weather situation reflects this tragic truth. Life and livelihood on the planet earth is in danger. It is no doubt the biggest threat to humanity in the 21st century. Although, this damage cannot be reversed and environment cannot be restored in its natural condition, the situation can be contained. Through pragmatic policies and concerted action, it is possible to limit environmental damage.