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Impact of Technological Advancement on Environment

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Abstract

Over time and in terms of sustainability, technological innovation has altered effectively and beneficence. By 2050, the population of major cities, particularly in developing countries, will have more than doubled. The environment is quickly deteriorating. Experts consider that the environment will collapse in the near future. Technology is assumed to be one of the major contributing factors of this degradation. As a result, numerous people regard advanced technologies as an evil spirit rather than a great privilege to the environment and humankind. The objective of this paper is to look into the effects of technological advancement on the standard of living in the Indian context. Besides advances in science and technology has been proven to be a great asset in many disciplines, but there are numerous areas where the impact is negative, as well as the consequences of the impact is immense.

Introduction

The environment is currently in poor condition, urging environmentalists to draw attention to all humans for a change in their behavior towards the environment. Human activities (industrial, agricultural, transportation, communication, mining, *etc*.) are assumed to be responsible for environmental degradation. Changes in climate, global warming, ozone layer depletion, biodiversity loss, increase in ocean acidity, increase in ocean noise, and deforestation are attributed to these activities. Many environmentalists and academics blame technology, believing that it is the result of human wrong-doing that has caused environmental issues. This is due to the fact that technology facilitates human exploitation of the environment.

Humans, for example, can cut down the same number of trees in a day that would have taken years to cut down without the use of technological devices. Technology has produced vehicles that are massive sources of CO_2 emissions. Communication technologies facilitate and accelerate communication. However, the intensity of radiation in the atmosphere has increased. Pesticides, herbicides, and fertilizers runoff into streams and rivers degrades their quality and has an impact on the lives of those who live there. Science and technology products cause massive environmental damage on a daily basis.

Many environmentalists are investigating the role of technology in environmental degradation. Despite this, many people believe that although technology contributes significantly to environmental problems, not everyone agrees that it should be eliminated. Some environmentalists believe that technology is not inherently bad; rather, how it is used determines its badness or goodness. They believe that if technology is used correctly, it has the potential to save the environment.

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Technology

Technology is the use of man-made hardware and wisdom to generate objects that enhances social abilities to perform duties that they would not otherwise undertake. Objects are created, structured, generated, and utilized. This necessitates a full network with inputs such as manual labor, resources, commodities, and knowledge and experience. All through history, people have created and used technology to change the way they resided, form communities, and alter the natural environment on regional, geographical, and international levels. There are three types of technology that can exist at any time: (1) sophisticated technology that is unable to enhance quite far, (2) progressive technology that can be advanced through learning and R&D, and (3) technology all the time.

The impacts of technology on the environment include both directly and indirectly. The creation of entirely new substances, *e.g.*, DDT & Chlorofluorocarbons (CFCs) is made possible by new technologies. Many of these new substances have unexpected and direct environmental consequences. Secondary impacts consequence from human's ability to mobilize vast resources and dramatically increase economic output *via* productivity and effectiveness benefits from prolonged new technologies. For example, the elimination of pathogenic infections such as typhoid and cholera has elevated survival rate, which merged with shorter work time and rising wages, has transformed time budgets as well as spending pattern, enabling human society to be exploited to potentially cause environmental issues.

The impacts of technology could be classified into three categories,

- Agriculture
- Industry
- Service

Agriculture

Farming, along with fire, is the oldest human technology and has had an impact on the natural environment for millennia. Agriculture consumes the most land and water resources. Since antiquity, many civilizations have used intensive soil cultivation, reservoirs, and irrigation. The global population has increased dramatically since the 1700s. To meet the growing demand for food, an estimated 12 million km^2 of land has been converted from forests and wetlands to croplands (Virmani Arya, 2021).

Among the most considerable effects, technology in the last few centuries have been massively improved agricultural practices. This development has enabled an increasing proportion of the world's growing population to relocate to cities. Farming employs less than 3% of the workforce in most industrialized countries today. Prior to the industrial revolution, and in many countries still today, that figure was around 75%, and the shift away from agricultural employment has resulted in urbanization. Many countries are currently undergoing this transition. In addition to contributing to overall population growth, increasing rural-to-urban migration causes infrastructure, health, housing, and transportation issues.

Industry

Industrialization is now at the heart of global change. Because of the success of industrialization, artificial matter and energy transformations have taken on global dimensions. Every year, industry mobilizes approximately 20 billion tonnes of materials in the form of fossil fuel, minerals, and renewable raw materials (Olah *et al*., 2020). The process of extraction, the conversion and disposal of these amounts generate 40 billion tonnes of solid waste $year^{-1}$. In contrast, natural river runoff transports approximately 10 to 25 billion tonnes of materials $year^{-1}$. Aside from quantity, quality is also important. For example, the release of less than one ton of dioxins and furans $year^{-1}$ is responsible for significant human health and environmental concerns.

Services

A unique and novel innovation sector that will probably influence human activity is the services and information industries (Zhang and Wei, 2022). The services and information industry is an emerging and important technological sector that is likely to dominate human behavior and the environmental impacts of it in the near future. In that, they are no longer solely dependent on natural and economic resources, as well as technological limitations, but also human activities. In developed countries, the service sector typically accounts for roughly two-thirds of GDP in terms of economic output and employment.

New tech has an ecological impact by:

- Rising global temperatures.
- Negatively impacting water quality.
- Pollution increases.
- Continuing to increase waste.
- Boosts energy consumption.
- Habitat destruction increases.
- Radiation is raised.

Rising Global Temperature

The increase in the mean temperature of the Earth's atmosphere and oceans is referred to as global warming. As per reports, the Earth's mean surface temperature has been increasing since the beginning of the "20th century" by 0.8 °C (1.4 °F)". According to scientists, "global climate change is primarily caused by increasing concentrations of

greenhouse gases caused by human activities such as the combustion of fossil fuels, habitat destruction and fossil fuel extraction." The majority of fossil fuels are burned as a result of industrial and technological activities. Since the "advent of the Industrial Revolution," anthropogenic induced by innovation has steadily risen the amount of greenhouse gases in the atmosphere.

Pollution Increase

Technology is thought to have accelerated the threshold and speed of environmental pollution. People travel more (mostly unnecessary) than ever before as a result of technological advancement. This increase in travel, aided by technology, directly contributes to air pollution.

Continuing to Increase Waste

The sources of waste, while different in each country are all more or less directly or indirectly related to technology. The exact opposite is true for tungsten bulbs that were being supplemented by fluorescent bulbs, which have now been replaced by incandescent bulbs. These discarded items end up in the environment as waste, the majority of which are non-biodegradable. Waste pollutes the soil, making it unfit for plant and animal life.

Boost Energy Consumption

Because of technology, power consumption has risen. Technology (such as phones, televisions, and radios) is used in schools, workplaces, homes, and other settings. These technologies are powered by electricity, which requires a large amount of fossil or nuclear fuel. Nuclear materials and fossil fuels are non-renewable. This means that extensive use of technology results in significant depletion of global energy (both fossil and renewable, nuclear power), implying that the world's energy supply will soon be insufficient to meet demand.

Habitat Destruction Increases

The advancement of technology allows for the construction of a large number of houses in a short period of time. Although this appears to be enjoyable for humans, it has resulted in the extinction of species. Scientists believe that species extinction of today is highest. Deforestation affecting living organism also affects the climate. This is the reason why there is climatic change present in the world (Bisong and Apologun, 2020).

Radiation is Raised

It is typical to see individuals engrossed in their mobile phones and tablets in homes, parks, offices, and even on the streets. Addiction to phones and their apps means a rise in Wi-Fi and internet connectivity, which in turn leads to an increase in radiation and, as a result, health problems. With connected to this Experts claim that only some birds become extinct in Wi-Fi-enabled areas as a result of this, which is the consequences of radiation.

Conclusion

As a result, we agree with others who make the argument that technology is neither negative nor positive, but rather neutral. It is the application of technology that determines whether it is harmful or beneficial to the environment. Historically, the use of innovation has inclined to have a negative impact on the environment. Today, often these scientists are knowledgeable of the past negative impact of technology and are working to position technology to positively contribute to environmental health. The technological advancement may not only have negative impacts, when it is rightly targeted it has great potential of maintaining environmental health.

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