International Journal of Humanities and Social Science Invention (IJHSSI)
ISSN (Online): 2319 – 7722, ISSN (Print): 2319 – 7714
www.ijhssi.org ||Volume 9 Issue 8 Ser. III || August 2020 || PP 89-93

Positive and Negative Effects of Technology on the Environment

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Abstract: *This article focuses on the paradoxical ideology that the concept of environmental technology can save the planet from harm, even though technology has a very negative impact on the environment. This idea is supported by his WWF 1, which said that while technology offers the solution, it is also part of the problem. The term "technology" refers to the application of scientific knowledge for practical purposes and to the machines and devices developed therefrom. We are currently living in a time of rapid change. There, technological developments are revolutionizing our lives, while at the same time plunging us into the depths of catastrophe in the form of climate change and resource scarcity. This article begins by discussing the negative environmental impact of technology causing some of the world's most serious environmental problems, and discusses the potential for technology to save the planet from the same problem. Finally, the special environmental technology of gas sensors is considered and how it contributes to reducing the negative impact on the environment.*

Key*words :-* *Technology's Positive Impact on the Environment , Reducing Paper Consumption , Reducing Energy Consumption , Low Carbon Technology , The Adverse Effects of Technology on the Environment , Negative Impact of Technology on the Environment , Manufacturing Durable and Non-Durable Electronic Products , Consumer Change to Reduce Negative Impact & conclusion.*

I. Introduction

Advances in technology have revolutionized our lives. Today, a variety of services and communications are just a click away. As technology evolves, you need different resources to support it. Our lives are so impacted in so many ways by technological advances that it becomes difficult to describe some of the areas that have been severely affected. This article discusses the positive and negative impacts of technology on the environment. Since humans learned to make stone tools two million years ago, the technology of the Industrial Revolution has driven the world's positive growth. We all know that technology can do great things. Sustainable technological progress is essential to the development of our species. As history has shown, technology can have a huge impact on our future. However, there are also negative environmental impacts of technology that should not be ignored.

Technology's Positive Impact on the Environment

Reducing Paper Consumption

Technology has helped the environment by reducing our need for paper. With the increasing use of email communication, the paperless office has become a common culture in the commerce sector. Reducing the need for paper also reduces deforestation and deforestation. This allows the country to form a smaller footprint.

Reducing Energy Consumption

As the use of technology in offices has increased, various ICT companies have developed "greener technologies" to overcome the detrimental effects of computers and accompanying technologies on the environment. .

The introduction of environmentally friendly technologies such as MFPs and PC power management systems can help businesses that rely heavily on technology reduce their energy consumption.

An example of an MFP is replacing a laser printer with an MFP. Such devices include facsimiles, copiers, and printers within a single system. This saves office space and electronic hardware usage.

The long-term goal of green technology is to build a standard system that allows IT staff and business managers to compare energy consumption and the steps needed to reduce it. In this way, the use of energy-saving equipment and going paperless have a positive impact on the environment.

Low Carbon Technology

Low carbon technology is another important environmental impact of this technology. This is a type of technology developed in China, which has the lowest carbon footprint of any developed country in the world. This low-carbon technology uses renewable fossil fuels to offset emissions levels that pollute the air.

The Adverse Effects of Technology on the Environment

Global Warming

The entire planet is experiencing dramatic climate change due to global warming. This damage has increased the potential for extinction of plants and birds and the spread of disease. Global warming is caused by increasing pollution, inactive lifestyles, heat generation, and over-reliance on technological gadgets.

Due to global warming, summers are getting hotter and winters are getting colder. This made life more difficult than normal. To solve this problem, we rely on the use of air conditioners and other electronic devices.

Global warming has been shown to be detrimental to plants, climate and animals.

Excessive Power Consumption:

Education, work and remote technology use result in high power consumption. In our daily life, we rely on various gadgets such as smartphones, TVs, air conditioners, washing machines and refrigerators. This requires increased power consumption. It is made from a lot of nuclear and fossil fuels, which has a devastating effect on the entire environment.

More Waste Generated:

Modernization of technology leads to the generation of large amounts of toxic waste. Portable and compact, tablets and laptops have replaced traditional large computers, releasing a lot of toxic waste into the environment.

Replacing incandescent lamps with fluorescent lamps and fluorescent lamps with "incandescent" lamps is harmful to the environment. This is because it contains a lot of toxic elements such as lead and mercury. These heavy metals can cause serious, life-threatening health problems. Excessive use of gadgets: As the use of mobile phones, tablets and other gadgets increases, the need for Wi-Fi increases. As a result, radiation exposure is also higher. This has led to long-term health problems. Birds are affected as well as humans. A decline in bird numbers is also seen in Wi-Fi enabled zones

Negative Impact of Technology on the Environment

When you think of technology, perhaps the first thing that comes to mind is the devices that most of us carry and use every day. Smartphones, tablets and laptops have revolutionized our lives. Many would argue that they have brought us many benefits.However, it is undeniable that these everyday technologies are taxing the environment.

All of these and other modern electronic devices raise concerns about resource consumption, energy consumption, carbon footprint and waste. If we look at the entire lifecycle of a technological device, it's easy to understand why these electronic marvels pose so much of a challenge to our environment.

1. Mineral Extraction

When analyzing the environmental costs of technology, it is important to consider the actual materials used in its manufacture and where those materials came from. A significant amount of finite natural resources and precious metals are used in the manufacture of electronics and other modern technologies. The big picture is complicated, the materials needed to build just one phone come from all over the world. This can complicate end-to-end analysis of natural resource degradation.

But environmental concerns (and human costs) really start to rise when you start looking at where the various factors come from. Of course, mining comes with energy consumption and carbon costs, all of which contribute to climate change.

Mining contributes to deforestation, landscape destruction, water pollution, and the release of large amounts of carbon dioxide, carbon monoxide, and other toxic gases and pollutants into the atmosphere.

Large machines, usually powered by fossil fuels, are commonly involved, and the processes involved often consume large amounts of water, produce industrial effluents, and are highly polluting. Of course, carbon dioxide is the most important of our greenhouse gas emissions and contributes to global warming.

Evidence shows how our hunger for technology and our need for rare earth minerals affect the environment. can be seen in

Think of the cobalt mines of the Congo, the lithium plunder of the Chilean desert, the toxic mud lakes of Inner Mongolia. And these three examples are just the tip of the iceberg.

The more we delve into the origins of the minerals and other materials needed to create our everyday technology, the more depressing and dire the situation becomes.

Technology Is Mineral Intensive: On average, about 35 different materials are used in smartphones. This is just one example of everyday technology. When you start thinking about where these different materials come from, you can see the magnitude of the problem.

Plastic is he second most commonly used material after silicon. As you know, plastic comes from fossil fuels. The production requires high emission technology and poses many serious threats to the environment. Iron, aluminum, copper, lead, zinc, tin, nickel and barium are the second most important materials (based on percentage of final product).

All of these must be mined, leading to depletion of natural resources and destruction of natural habitats. Additionally, miners running industrial processes are often exposed to noise pollution and toxic chemicals such as sulfur dioxide, and many suffer health problems. As seen above, mining can have significant environmental and human costs

2. High Energy Consumption and Carbon Footprint

The environmental impact of technology goes beyond raw materials and their origin. Manufacturers require vast amounts of energy to produce the complex electronic technology products we use. Transporting these products around the world by plane or by car also contributes to the greenhouse effect that causes global warming and air pollution.

Of course, the huge servers and databases that power these technologies also consume enormous amounts of energy each year. And much of it is not from renewable energy sources. For example, the global power demand for data centers in 2018 was an estimated 198 TWh, or almost 1% of the world's final power demand. We are becoming more efficient and using more renewable resources, but we still have a long way to go.

It should also be remembered that connecting electronic devices to non-renewable resources incurs carbon costs associated with their use. This contributes to greenhouse gases and the climate crisis.

3. E-Waste

These are not the only environmental costs of consumer technology. These products also pose problems at the end of their useful lives.Globally, we throw out $62.5 billion worth of e-waste every year.

A small portion of old electrical equipment is recycled. However, most end up in landfills or are incinerated there. Unfortunately, not only do these landfills release methane and other carbon emissions, but discarded equipment releases chemicals, including mercury, that mix with other wastewater pollutants such as pesticides. A hodgepodge of toxic chemicals can enter waterways, exacerbating pollution and harming wildlife.

These dumps are usually close to and out of sight of the poorest and most vulnerable people on the planet. Clearly, this not only endangers human health, but also impacts the environment in many very negative ways. Only 1/5 is officially recycled. Millions of people around the world are believed to be working informally to recycle valuable materials needed for smartphones and other similar devices.These people are exposed to hazardous work environments. It is often exposed, and adverse health and environmental effects can also be at risk.

e-waste is currently a major threat to our environment, but it can also be viewed as a major opportunity. Precious metals and other minerals and metals can be recovered from e-waste. This is one of the many reasons why you should recycle your e-waste.

Through careful recycling processes, many valuable materials can be recovered. Reclamation rather than excavation reduces both the waste and environmental impact associated with collecting new materials. This provides both environmental and economic benefits.

Technology companies are primarily responsible for the negative environmental impacts of technology

By moving away from the idea that technology products are disposable and moving towards a circular economy, we can reduce the environmental impact of technology.

The circular economy focuses on recovery and regeneration3. In such an economy, everyone is interested in reusing materials for a more sustainable approach to consumption. A type economy cannot be achieved.

Manufacturing Durable and Non-Durable Electronic Products

Unfortunately, technology companies often hinder, rather than help, the transition to a more responsible circular economy model. Computer hardware brands, smart device brands, and marketing teams are holding back efforts in many ways. For example, they incorporate planned obsolescence into their products for profit, requiring them to replace the product after a certain period of time.

users quickly become obsolete smartphones that are supposed to last her 4-6 years. Every year newer (and promised) better options become available. Some companies even degrade the performance of these older devices or block access to repairs, prompting buyers to purchase newer devices.

Constant hardware and software upgrades and extremely aggressive marketing means these tech companies are fueling overconsumption. These issues can make it difficult for consumers to keep using their devices longer. This is the best way to reduce damage to the environment.

And many large tech companies refuse to take responsibility for the negative impacts of the e-waste they create. Additionally, the growing world population and resulting demand for more devices in developing countries makes it more important than ever that our technology products are perfectly matched with proper waste disposal.

Examples of Government Regulations to Mitigate the Negative Impacts of Technology

- ★ Positive change requires major change and must be done not only by manufacturing companies, but also by governments, institutions and individuals.
- ★ Good laws can reach out to technology companies (and consumers) and have a positive impact on the environment.
- ★ Pollution monitoring has become commonplace, allowing governments to understand the scale of the problem.
- ★ The French government, for example, is one of the few governments actively tackling the obsolescence of technology companies operating in the country. In 2015, the French National Assembly imposed fines of up to €300,000 and imprisonment of up to two years for manufacturers who pre-planned product failures. After Apple admitted to deliberately slowing down older devices with his 2018 update, the Frenchman investigated the company under this French law.

US Laws Limiting Technology's Impact on the Environment

Other governments and Congresses are also trying to regulate e-waste and reduce the negative impacts of technology. In the United States, there are no national laws regarding the environmental impact of technology. But there are state-level laws.

California was the first state to pass an electronic recycling law in 2003, followed by 27 other states. New York is the first major city to establish its own e-waste collection program. The city has also banned electronic devices from entering trash cans. Many other jurisdictions around the world also have e-waste laws or regulations.

The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal is the most comprehensive international environmental treaty on hazardous and other wastes. The agreement is nearly universal with 187 Parties. However, in many places these laws, regulations and agreements are still inadequate.

Consumer Change to Reduce Negative Impact

Self-regulation by technology companies and government legislation are both very important. This will further reduce the negative impact of technology on the environment. But we, as consumers, also have a role to play in the face of growing environmental concerns related to our use of technology. There are things we have little control over. However, to limit the negative effects of the technology we use, we can:

- ❖ Use the technology we have for as long as possible.
- ❖ Decision to buy used/refurbished rather than new.
- ❖ When buying a new one, choose the option with the least ill effects possible. Look for ethical, green and sustainable options
- ❖ Choose technology that can be fixed, not one that breaks or ceases to function after a period of time.
- ❖ Repurpose your old devices in new ways at home or donate them to keep using them and keep them out of your household waste.
- ❖ There are many creative uses for old smartphones. These devices already include software to perform many tasks. For example, you can use your old smartphone as:
- ❖ Universal remote control for smart home
- ❖ Portable play device (for kids or yourself)
- ❖ GPS device
- ❖ Music device for car
- ❖ Toddler "practice phone".
- ❖ Home Office Video Calling Device
- ❖ 'Photo Frame' View photos or stream your webcam to enhance your home decor.
- ❖ Alarm clock or desk calendar.
- ❖ Security Camera
- ❖ This reuse of old technology also reduces the need for new technology. (And all the environmental destruction each new item brings). Recycle your
- ❖ technology responsibly Throw your
- ❖ gadget in the small electronics bin at your local recycling center. (If such facilities are available where you live.)

- Send the device to a professional electronic waste recycling company.
- Return to manufacturer. Many manufacturers have signed up to the Basel Convention and agreed to work together to develop environmentally sound waste management for mobile phones. Take the
- online course to learn more about e-waste and what to do about it
- As a consumer, being informed is important. The more we know about the environmental impacts associated with technology, the more likely we are to avoid getting involved in the problem.

We can also do our part by voting for those we believe have the best interest of the environment in mind. This is made possible by lobbying politicians and pressuring big tech companies to do the right thing about the environment and e-waste. We all have a voice to use and we must remember that we must speak up.

II. Conclusion

It is possible to significantly reduce the significant environmental impact of technology. As consumers, we often have more power than we realize to reduce resource use and protect the environment. This will contribute to reducing air and water pollution. With the rise of various types of technology, there are several negative and positive environmental impacts on our planet. Energy consumption is increasing due to the rise of modern technology and globalization. This has had devastating effects on Earth's air quality and climate. But without innovation and technology, we would not have been able to improve our energy management systems or develop environmentally friendly products such as biofuels. People need to take step-by-step action to reduce the level of technological damage to the environment. We also need to find ways to effectively manage new technologies so that they continue to have a beneficial impact on ecosystems. Soil pollution from global warming, ozone layer depletion, hazardous waste, acid rain, radiation disasters, climate change, desertification, deforestation, noise and loss of biodiversity is shared by countries around the world. Examples of current environmental issues. Population growth and rising or falling standards of living through the use or misuse of technology exacerbate these problems. Evidence shows that if existing human-environment interactions continue and human populations increase at current trends, irreversible environmental damage could be inflicted on this fragile planet. The knowledge and consistent use of technology gained through human resource development, combined with the motivation and positivity of people, both individually and as nations, can pave a sustainable path to saving the world from possible man-made disasters. There is evidence, though not enough, that individuals and nations understand the fragility of their environment. There is also a positive trend in international cooperation by technology.

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