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Modern Technology is Saving the Planet: Here's How

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With increasing urbanization, development, and modernization comes some drawbacks. One of the major setbacks that the world is facing with modernization is degradation of the environment and nature. Developing industries and rising skyscrapers fail to recognize the damages they do to nature and wildlife. Now, this is the time to realize how we can utilize technology and its modern aspects for the betterment of the globe.

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Introduction:

Information and communication technologies are proving to become helpful for the conduction of various preservation programmes. IT components like big data, blockchain, and machine learning are paving a path for better and efficient ways of sustainable development. Let us take a look at how we can preserve the planet by these IT strategies and combat future challenges. We shall view real-life examples where technology has benefited aggravated situations.

Artificial Intelligence

- AI is aiding in analyzing and understanding natural cycles, habitats, and systems. Climate scientists can use AI for improved and accurate climate predictions through advanced AI algorithms and greater computing power. This way optimization, sharing, analyzing data, and discussions become easier amongst the scientists worldwide.
- AI upholds wildlife tracking and alerts. Endangered species like Tigers are tracked down by it and this also helps in keeping a check on their vulnerable numbers (WWF Intel, China). Their habitat protection and restoration is the priority.
- Water security and clean air planning can be done through AI. Water supply, efficiency, sanitation, drought planning can be done.
- Weather and disease resilience is another area that is assisted through AI. Early predictions, warnings, financial instruments can prevent future mishappenings beforehand. This can lead to the development of 'smart' disaster responses.
- In recent years, we have seen AI build ocean data platforms, smart agriculture, trial decentralized energy, and water grids trading. These are just a few cases; AI holds a plethora of solutions for upcoming problems to mankind.

2. Satellite Earth Observations

- Ocean plastics monitoring is done by many organizations like Ocean Cleanup and the European Space Agency. They are grabbing attention for employing machine learning and satellite imaging to deploy 5 trillion plastic waste pieces in the international waters.



- Tracking consistent global changes, like ozone layer depletion levels, levels of greenhouse gases in the environment, monitoring marine pollution, and deforestation. Global fishing and vessel traffic can also be monitored.

3. Blockchain

- Blockchain has begun to advance almost all the fields today; be it commerce, medicine, trade, science, etc. it has proven to become the ultimate solution for transparency worldwide. A critical problem of the food and trade industry- illegal seafood trade, circulation, and slave labor was solved by blockchain. Forces of WWF in Fiji, New Zealand, and Australia combined to solve this urgency. It is called "from bait to plate". Black market fishing causes global financial losses of up to 36.4 billion dollars per year. Through blockchain, they proved legal origins of their seafood bycatch documentation. Technologies

to detect fishing and traceability systems to track commodities throughout the supply chain. It also leads to better governance as only permitted species are hunted and ensured. From port, processing, inspection, store, and until it hits your home, the customer can view their orders. It provides transparency and

trust. Henceforth, it is best to say that blockchain has caused a revolution in commodity markets.

- Management of plastic pollution: plastic banks offer blockchain secured tokens in return of plastics that were supposed to be dumped in the ocean.
- UNFCCC launched Climate Change Coalition- over 80 organizations making climate change efforts using blockchain technologies.

4. Big Data and Data Visualization

- Big data is the key technology that can be used to track and measure Earth's resources. Our resources are precious and they are ascending to the brink. At such critical times, big data can provide us a better vision for our important decisions in the future.
- Big data can give us clues about bigger reasons and causes of a problem. The unknown is always of a greater threat.

- Data visualizations make it easier for us to understand, survey, and deduce results from a set of data.
- With due help of data visualization and machine learning, big data can drive us to better conclusions.



5. Internet and Social Media

- An engaged public can be very useful. This not only conducts better awareness about issues but also leads to efficient handling of any urgent situation. Social media caters to a large pool of audience- both local and international. Apps are also used for awareness- like the Arogya setu app being used for COVID-19 awareness, detection, and transmission of data for infected patients.

Lastly; although ICTs succeed in a variety of ways to prevent our environment, nature and the resources should not be taken for granted. Situations can be improved but only upto an extent. So we have to be careful and act responsibly as future residents of the globe.

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Arushi Verma - a student, currently pursuing B.tech in Biotechnology (Amity University). I believe that cybernetics and the internet is like a ball of strings which acts like a mediator, and connects several disciplines of our society. As a result, we can all relate to each other better and help different people through our own knowledge.

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Annexure I

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Reviewers Comment

Reviewer’s Comment 1: The paper has very well highlighted how technology is helping in preservation of the environment in a way of sustainable development by using emergent technologies.

Reviewer’s Comment 2: The topic of the manuscript is interesting as well as contemporary in nature. The author has covered all the burgeoning areas related to IT such as blockchain, artificial intelligence and big data.

Reviewer’s Comment 3: The article explains how we can preserve the planet by IT strategies and combat future challenges. This is made interesting by viewing real-life examples where technology has benefited aggravated situations.



Editorial Excerpt

The article has 2% of plagiarism which is accepted percentage for publication. The finding related to this manuscript “Technology is Saving the Planet”, Big data can give us clues about • bigger reasons and causes of a problem. It has been earmarked finalized for publication under the category of “**Case Base Study (CBS)**”.

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Disclaimer

All views expressed in this article are my own. References for relevant sections can be cited for more understanding. I, as an author have cited my own work along with content from other referenced sources in this particular article. All contents are provided in good faith and make no representation Or warranty of any kind regarding validity and completeness of the content.



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