Deforestation: Different Methods To Counter This Crucial Problem

Earth without forests is a picture that most of us cannot even think about. Forests cover a majority of the planet's land area. This is one of the main reasons why forests are pretty important to us and the world around us. Forests are useful to mankind in more than one way. Forests provide us with food, fuel, and other bioproducts. It purifies air and water, protects soil, and maintain wildlife habitat. Forests also play a significant role in maintaining atmospheric temperature. But for the last several years, forests are being destroyed on a large scale. Cutting down trees from a forest land is called deforestation. Deforestation is consuming our forests at an alarming rate. Deforestation brings about a lot of unexpected changes to the world and hence results in many consequences. A study by NASA's Earth Observatory stated that, if the current rate of deforestation continues, the world's rain forests will vanish within the next 100 years and this would result in a number of problems like global warming, animal invasion, etc. The earth observatory also stated that "Brazil led the world in terms of total deforested area between 1990 and 2005."("Causes of Deforestation", 2005, pg 9). Along with all the above-mentioned problems, deforestation increases the greenhouse effect and accelerates global warming which poses a serious level of risk for humanity. Deforestation is caused in many ways. Some of the major factors that accelerate the process of deforestation are population growth, land for development, profit margins, drought mitigation, etc. All these factors are the main reason why it needs to be understood that deforestation is a serious problem and has to be stopped at any cost to prevent our destruction.

The trees in our surroundings start to seem unimportant as every day goes on. But however, if we really think about it, then everything that we do is solely dependent on them. According to statistics collected by the Food and Agriculture Organization of the UN, from 2000 to 2010, it is estimated that we have lost an estimate of 13 million hectares of forests because of deforestation. The effects of this rampant cutting are far more destructive than what we think it is. All it does is equally damage both us and other animals. According to a study conducted in Madagascar by Amy Durham, Elizabeth Erhart, Deboard Overdorff and Patricia Wright, they stated that the number of lemurs affected by deforestation was almost triple the number of lemurs who are in the protected areas of the forests. (Dunham, Erhart, Overdorff, Wright, "Evaluating effects of deforestation", 2008, pg 3). Another survey conducted by Yale University stated that in the year 2017, the total area of land that disappeared was the size of Italy.(Pearce, "Conflicting Data: How Fast Is the World Losing its Forests?", 2018, pg 1). This clearly conveys the important information about how the environment is slowly getting destroyed by our own actions. By clearing forests, we are causing the decline of wildlife. We destroy habitats and increase the vulnerability of animals and thus we are threatening the Earth's biodiversity. This is what makes the animals invade our space and causing numerous amounts of killings every year. Another effect of deforestation is that it disrupts the water cycles which causes the climate to become more and drier and causes soil erosion which also impacts us in a crucial manner. Along with all these reasons, deforestation can be the leading cause of environmental change, such as global warming. The way deforestation affects the environment is when the trees are cut down, the absorption of carbon into the environment decreases, which leads to an increase in the amount of carbon in the environment. Certain effects of climate change can already be seen in areas far north where glaciers are melting due to the increasing

temperatures. Seasons can also be affected due to climate change, which throws off the balance of animals, trees and other organisms. In this manner, the impact of all of this is far worse than what we actually think of it to be. When it comes to our future, deforestation also poses a major threat as it would completely destroy the lives of the people who are solely dependent on trees for their survival. These are a few of the main reasons why the importance of forests must be understood since soon, all these forests would no longer be there and that would affect our lives in such a manner that we aren't even able to think about.

Since the problem of deforestation has evolved and become a bigger one, the development of science and technology has greatly helped to monitor and control the problem of deforestation to a large extent. Satellites have been sent out into space to monitor and detect forest loss since it is the crucial step to solving the problem. A real-life attempt to reduce deforestation was taken by a group of researchers. Since the problem of deforestation was increasing on a drastic scale, a group of researchers developed a program in the country of Uganda to try and reduce the problem and its effects. The main reason why they chose the country of Uganda was since Uganda was the country where the problem of deforestation was highly active. Based on the information received about deforestation from 1990 - 2010, the researchers offered the land-owning families an annual payment of 70,000 Ugandan shillings or 28 US dollars per hectare to protect and conserve their land. Seema, Jayachandran in her article also stated that "The program was implemented as a randomized controlled trial in 121 villages, 60 of which received the program for 2 years" ("Cash for carbon", 2017, pg 1). Based on the results received, the program achieved its goal of increasing the tree cover on a significant level. This program caused an increase in the tree cover by roughly 5.5%. The program also reduced deforestation to a great extent in not only the enrolled villages but also in the non-enrolled ones. The next step after the information received was to analyze any problems that were caused to the surrounding villages during this process. However, no damage was reported. This completely solidifies the fact that deforestation can be easily reduced if all of us try hard and this would help to protect it and conserve it for future generations.

In this manner, deforestation is a crucial problem that needs to be solved as quickly as possible to prevent further destruction. There are several simple steps that we can practice in our daily life towards preventing deforestation. Make it a habit to plant trees whenever we get a chance. It is a good practice to gift trees as birthday or anniversary gifts and encourage our friends and relatives to plant and take care of them. Try to be paperless whenever possible. All plant-based products are recyclable. So make it a habit to recycle things whenever possible. Educate and encourage our community about the need for conserving forests. Support organizations that work towards reducing deforestation. Avoid wastage of resources. Make maximum use of renewable energy resources like solar energy, wind energy, etc over conventional energy resources. Along with reducing deforestation, steps must be taken for reforestation or re-planting trees on forest lands. Technology can help in a great way of marking the forest lands and assessing the extent of damage and rectifying it. Comparing the satellite pictures of different time periods can be a good reference point for tackling deforestation. Various governmental organizations can initiate schemes for involving citizens and encouraging them to plant trees and tackling the issue of deforestation. A successful idea was implemented by the officials of Uganda to give each and every household a certain amount of money for them to plant trees to fight against the problem. This proved to be quite successful as the number of trees in that region skyrocketed within the next certain amount of years when the survey was taken.

Tree planting is a labour-intensive and expensive activity. Hence replanting has simply not been able to keep pace with the speed of habitat loss. Finding innovative ways of planting new trees in a time and cost-effective manner is the need of the day. As per the news portal 'PHYS.ORG', a UK start-up is developing a high tech concept to tackle global deforestation and contributing to greater overall sustainability. The new planting system consists of a mapping unmanned aerial vehicle (UAV), a planting UAV and machine learning software. As planting is carried out by an aerial vehicle, terrain normally inaccessible by land-based approaches can now be reached. Pods are then fired into the ground by the drone, enabling the planting of a large number of trees in a short period of time. Each pod can be loaded with pre-germinated seeds and a nutritious hydro-gel, giving it all the minerals and moisture it needs to get started. The technique is fully automated and promises to be a significantly cheaper and faster means of reforestation. The company estimates that ten seeds can be planted per UAV per minute. Once scaled up, the company aims to plant one billion seeds a year.

Due to the advancement in technology, different methods have come forward to counter this crucial problem of deforestation. As responsible citizens, it is our duty to be vigilant and do our best to take necessary actions towards tackling this global problem. With the combined efforts of various nations and aggressive reforestation campaigns, we will be able to save our mother earth, which is the only planet known to harbor life.