

Deforestation and Its Environmental Effect

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ABSTRACT

Deforestation is the permanent removal of trees to make room for something besides forest. This can include clearing the land for agriculture or grazing, or using the timber for fuel, construction or manufacturing etc. Deforestation has a lot environmental effect, e.g. disruption of the carbon circle, erosion, soil degradation, coastal flooding and changes in ecosystem. Major Key solutions like Green business, Eco-forestry, Responsible
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land use planning and Reforestation. Trees play a vital role in protecting our environment in several ways. Fewer forests mean that the sustainability of our planet earth is endangered. So far, there are actions and measures that are being undertaken to curtail deforestation, a move towards saving our natural environment and repairing the damage that has been caused for more than a century.

INTRODUCTION

Deforestation is the permanent destruction of indigenous forests and woodlands. The term does not include the removal of industrial forests such as plantations. It has resulted in the reduction of indigenous forests. Deforestation is a problem that is caused largely by greed and want for property, money and possibly status [1] [2]. In many parts of the world the forest is taken for granted as a replenish able resource, which it is. The problem is that the trees cannot be re grown and replanted at the rate at which they are being cut down. For this reason the forests are declining at an incredible rate and there is no for seeable future for places like the Amazon which remained untouched for 20 000 years and now could be destroyed in less than a human's life time. Deforestation is a problem with far reaching consequences ranging from a barren landscape to a higher Carbon Dioxide levels in the air [3]. The underlying point is that we have to pull together to stop the destruction of the world's woodlands and forests. With each

forest clearing, we lose about 135 species of animals, plants, and insects a day. Forests provide us with many benefits, including goods such as timber and paper. They help mitigate climate change by consuming the carbon dioxide we put into the air, while breathing out oxygen. If major steps towards afforestation are not taken, then even the great adaptability of human beings may not be enough to cope up with the harsh climate of the future. Deforestation does have solutions. It's just that the people must step forward [4] [5]. The safe keeping of our precious planet lies with each and every member of its human population. We are the ones accountable for our actions even though it is ourselves we are accountable too.

Causes of Deforestation

1. Agricultural Expansion: The conversion of forests into agricultural plantations is a major cause of deforestation. The increase in global demand for commodities, such as palm oil and soybeans etc, are driving industrial-scale producers to clear forests at an alarming rate. Indonesia, the largest producer of

palm oil, was named the "Fastest Forest Destroyer," in the 2008 Guinness World Records. Even when efforts are made to replenish barren plantations, the depleted soil is not able to produce the same biodiversity it once was. Agriculture, mining, and drilling combine to account for over half of the world's deforestation [6].

2. **Livestock Ranching:** Forest clearing for livestock ranching is another contributor of deforestation. Strong global demand for beef, supported by governments is expanding this kind of deforestation [7].

3. **Logging:** Logging, or commercial logging, involves cutting trees for sale as timber or pulp [8]. The timber is used to build homes, furniture, etc and the pulp is used to make paper and paper products. Logging, including illegal logging, is a driver of deforestation. Illegal logging operations provide short-term income for people living on less than \$1 a day. However, it destroys the livelihoods of those who depend on the forest [9].

4. **Infrastructure Expansion:** Road construction can lead to deforestation by providing an entryway to previously remote land. The road expansions often lead to logging and illegal logging, where opportunists slash down trees without permission from authorities [10]. The cleared land then attracts an influx of settlers and disturbs the peace that once reigned the small villages.

5. **Overpopulation:** Our planet once housed an estimated maximum of 15 million people in prehistory. It now sustains a whopping 7 billion and counting. With overpopulation, there is an increase in global needs and wants, leading to expansion and deforestation. The planet's forests are being devastated at an even rate with population growth [11].

Environmental Effect

The carbon cycle is hugely disrupted by deforestation. Not only do trees take in carbon and release oxygen, but they also sequester that carbon, particularly in decomposing wood. Slashing and burning the forest releases all of that carbon at

once, making it too much for the remaining forest to process. This isn't how nature was designed [12] [13].

The water cycle is also upset when forests are cut down. The natural system has rain falling onto maritime forest canopies, which catch and return the water to the atmosphere. After that, the water can move further inland. Without this system, continental areas become more desert-like.

An opposite problem caused by deforestation is flooding. Forests help to absorb heavy rains, which is how we avoid rivers and lakes overflowing.

Without forests to temper the rains, the influx of water becomes too much for the established natural systems to handle. Rivers overflow [14].

Another deforestation-related issue is access to freshwater. Where the forest floor once absorbed water and released it into streams and rivers, now rain flows straight to rivers and then down to the ocean, where it becomes salinized. This rain used to recharge aquifers, but now it drains away [15].

Clear-cutting forests also degrades the soil. Forests store nutrients and feed the soil as part of the natural life cycle of plants and animals. Without these life cycles, the soil isn't revitalized. After a few years, all the soil fertility is gone, and things start to get more dusty and barren [16].

Without the forest canopy to buffer rains and tree roots to cling to the soil, the earth's surface is far more susceptible to erosion. According to scientists estimate a third of all arable land has been lost to erosion since the 1960s [17].

Solutions to Deforestation

1. Green businesses are one solution that's helping to lessen our reliance on deforestation for paper products. Instead, we can recycle the materials we already have to avoid cutting more trees for things like toilet paper, boxes, office supplies, etc. Reusing what we can makes a big difference.

2. Eco-forestry is a more sustainable way of utilizing our forests, particularly for timber and wood pulp. Instead of clear-cutting, trees are selectively cut and

removed with an effort to minimize damage to the forest and act as environmental stewards of the forest rather than exploiters.

3. Responsible land use planning is another way to stop deforestation. Rather than constantly allowing cities and towns to sprawl and cutting down more forests to make room, we need to realize the potential of the spaces we already have. We can reinvigorate downtown areas rather than building more suburbs [18]. We can practice more sustainable farming methods to keep the land fertile and productive. We can link our food production to population centers, and return to consuming more locally produced foods.

4. Law and Regulations: Due to the nature and extent of forest destruction, efforts to stop the human activities can be complemented by laws and regulation at governmental and organizational levels. As much as people increasingly become aware of deforestation consequences, some people focus more on the immediate economic gains at the expense of the long-term environmental damage.

Thus, deforestation is an important issue to be discussed. It has adverse effects on each living beings' life. Deforestation has become a huge concern in today's life as there has been a rise in the decline of forests. Trees are cut down in order to manufacture paper products as well as for livestock farming and so on. In order to feed the ever increasing population of the Earth, trees and forests are converted to farm lands. This has become a threat to the world and it has been seen that rates of decline in the forests are increasing at

5. Sensitization and Educative Campaigns: Deforestation can also be counteracted through awareness and sensitization. Sensitization and educative campaigns can be a simple but a more workable solution. Initiating awareness creation champagnes makes it easy for people to detect the causes, effects, and ways of counteracting deforestation [19]. Personal experiences from adversely affected communities such as farmers can be used to emphasize the negative effects of deforestation.

6. Lastly, there's inspiration from reforestation. Though reforestation doesn't necessarily prevent deforestation, it does create new forests, and it's developing into a huge movement: Replanting (Reforestation) Replanting or tree planting utilizes almost the same aspect as community forestry. However, it entirely focuses of replanting, a feature commonly known as reforestation. Reforestation is the restoration or replanting of forests that have been reduced by fire or felling. It requires an ongoing process and should not be viewed as a onetime thing [20].

CONCLUSION

a rapid rate. This has led the planet to warm up and leading to high temperatures. This cycle would continue for the following years to come unless necessary steps are taken to prevent deforestation. Deforestation has caused fewer trees to grow. It has also gone a long way in eliminating valuable ecosystems in the planet. If major steps towards afforestation are not taken, then even the great adaptability of human beings may not be enough to cope up with the harsh climate of the future.

REFERENCES

1. Cousteau, P. (2013, October 18). The devastation of Indonesia's forests. 2013
2. Fearnside, P. M. (1997). Transmigration in Indonesia: Lessons from Its Environmental and Social Impacts.
3. Gardner G.T. & Stern P.C. (2002). Environmental Problems and Human Behavior. Boston: MA. Pearson.
4. Green Peace. (2012). APP's Forest Conservation Policy. Hardin, G. (1968). The Tragedy of the Commons. Science, .
5. Indonesian Rainforests. (n.d.). Retrieved October 24, 2014,
6. Palmer, C. E. (2000). The Extent And Cause of Illegal Logging: An Analysis Of A Major Cause of Tropical Deforestation In Indonesia.

7. Santilli, M., Moutinho, P., Schwartzman, S., Nepstad, D., Curran, L., & Nobre, C. (2005). Tropical Deforestation and the Kyoto Protocol.
8. Sunderlind, W. D. & Resosudarmo, I.A.P. (1996). Towards a Resolution of the Ambiguities.
9. Shukman, D. (2013, June 21). Singapore haze hits record high from Indonesia fires.
10. Brook, B., Sodhi, N., & Ng, P. (2003, July 24). Catastrophic extinctions follow deforestation in Singapore.
11. Butler, R. (2012, July 22). CONSEQUENCES OF DEFORESTATION.
12. Chew, V. (n.d.). Singapore Green Plan (SGP).
13. Clayton S. & Myers G. (2009). Conservation Psychology: Understanding and Promoting Human Care for Nature. Oxford, UK. Wiley-Blackwell.
14. Debjani. (n.d.). What are the major Consequences of Deforestation? [what-are-the-major-consequences-of-deforestation.html](#)
15. Gardner G.T. & Stern P.C. (2002). Environmental Problems and Human Behavior. Boston, MA. Pearson.
16. Szalay, J. (2013, March 6). Deforestation: Facts, Causes & Effects.
17. Pickrell, J. (2003, July 23). Singapore Extinctions Spell Doom For Asia?
18. Philemon, J. (2011, September 11). Our growing population - the need for deforestation.
19. Santilli, M., Moutinho, P., Schwartzman, S., Nepstad, D., Curran, L., & Nobre, C. (2005). Tropical Deforestation and the Kyoto Protocol.
20. Palmer, C. E. (2000). The Extent And Cause of Illegal Logging: An Analysis Of A Major Cause of Tropical Deforestation In Indonesia.