

BIODIVERSITY AND ECONOMIC LOSS

Ruxshona Akmalbek qizi Aminboyeva

Student at the Presidential School in Khiva

Email: aminboyeveruxshona2010@gmail.com

Phone: +998976038404

“How does deforestation impact global biodiversity by destroying habitats, increasing climate change, and what measures can be taken for conservation?”

Annotation: This article examines the impact of deforestation on global biodiversity and the environment. It highlights how deforestation destroys habitats, increases climate change, and threatens various species. The report presents evidence from credible sources, such as National Geographic, WWF, FAO, and World Resources Institute, to demonstrate the loss of forests worldwide and its consequences on ecosystems and local climates. Furthermore, it explores measures taken by international and national organizations, including the World Wildlife Fund (WWF), Rainforest Alliance, and Uzbekistan's Green Nation Initiative, to reduce deforestation and promote sustainable land use. The article also emphasizes the role of individual actions, awareness, and global cooperation in preserving forests and combating climate change.

Keywords: Deforestation, Biodiversity, Habitat Loss, Climate Change, Forest Conservation, WWF, Rainforest Alliance, Green Nation Initiative, Sustainable Land Use, Environmental Protection

Introduction

Deforestation is one of the most serious environmental problems, as it threatens biodiversity and worsens climate change. Forests, especially tropical rainforest, are home to about 80% of the world's land species. However, large-scale deforestation caused by agriculture and urbanization has led to serious environmental issues. This report aims to explain how deforestation harms biodiversity by destroying habitats, changing the climate, and endangering species. It will also explore ways to reduce these effects.

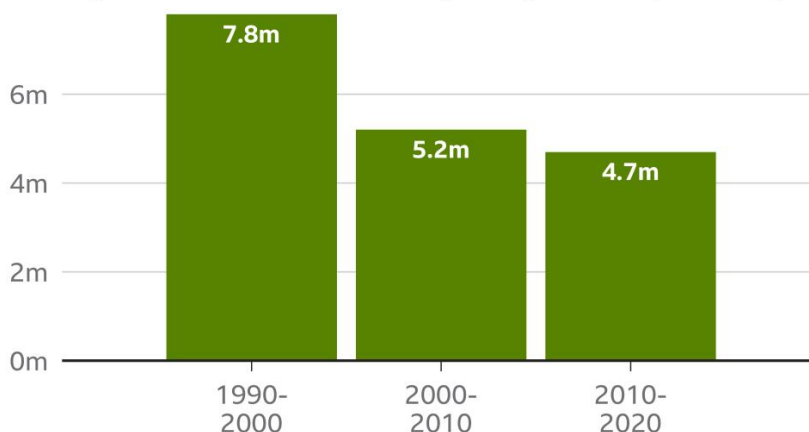
How does deforestation impact global biodiversity by destroying habitats?

One of the most direct consequences of deforestation is habitat destruction, which forces countless species into smaller, limited areas, making survival difficult. Forests provide food, shelter for millions of species. When trees are cut down, ecosystems become unstable, leading to instability in biodiversity.

As evidence, according to National Geographic organization, the Amazon rainforest, often called the "lungs of the Earth," has lost approximately 17% of its forest cover in the last 50 years, primarily due to livestock and soy farming. Another example is that, based on information given in WWF, the orangutan population in Borneo and Sumatra has declined by over 50% in the past 60 years due to palm oil plantations replacing their natural habitat.

The world's forests are still decreasing in size

Average area of forest lost each year by decade (hectares)



Figures are for net change in area

Source: UN Food and Agriculture Organisation, 2020

BBC

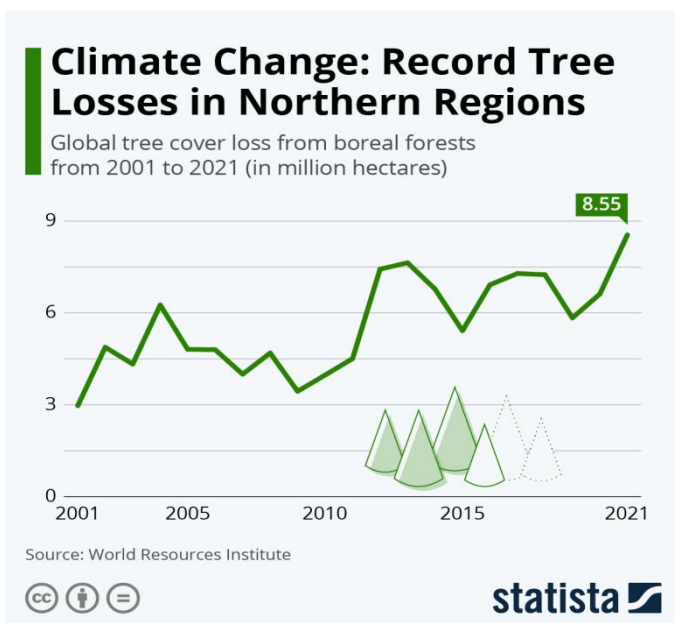
This bar chart, sourced from the UN Food and Agriculture Organization (FAO), 2020, shows the average annual forest loss (in hectares) per decade from 1990 to 2020. Good news is that the annual forest loss has decreased over the past three decades from 7.8 million hectares to 4.7 million hectares. Despite this, the world continues to lose millions of hectares of forest every year, reducing number of various species worldwide.

How does deforestation impact global biodiversity by increasing climate change?

Deforestation significantly contributes to climate change by increasing carbon dioxide (CO₂) levels in the atmosphere. Trees absorb CO₂ during photosynthesis, acting as carbon absorbents. When forests are cleared, this stored carbon is released, contributing to the greenhouse effect.

Recent studies have highlighted the significant impact of deforestation on climate change. For example, according to data provided by World Population Review, Brazil and Indonesia are among the countries with the highest deforestation rates, significantly impacting climate change. Between 1990 and 2020, Brazil lost approximately 356,287 square miles, 15.67% of its forest area, while Indonesia lost about 101,977 square miles, which is 22.28%. More CO₂ in the atmosphere traps heat, causing the greenhouse effect to rise. This leads to rising global temperatures and extreme weather conditions like heatwaves, droughts, and stronger storms.

Another evidence is a recent study in Nature Communications found that between 2003 and 2022, Africa lost nearly 18% of its mountain forests - an area of about 7.4 million hectares. This loss didn't just reduce tree cover; it actually raised local temperatures by over 1.3°C. Scientists warn that these changes make the climate worse, causing loss of animals and plants.



This secondary data from the World Resources Institute and Statista shows the increasing loss of northern forests due to climate change. Tree loss changed over time but reached a record 8.55 million hectares in 2021

What measures are being taken to reduce deforestation and its side effects?

The effects of deforestation are already visible, with climate change, loss of biodiversity, and land degradation becoming serious global challenges. To overcome environmental issues, various organizations have been formed to protect and restore forests. Organizations such as the World Wildlife Fund (WWF), Rainforest Alliance, and the United Nations' REDD+ program work to prevent deforestation, and restore damaged ecosystems. Their efforts play a crucial role in reducing deforestation's harmful impact on the environment.

One of those organizations is World Wildlife Fund (WWF). The organization plays a crucial role in addressing global deforestation by working on protecting forests, promoting sustainable land use, and restoring ecosystems. One of its main projects is the Trillion Trees Project, which aims to restore and protect one trillion trees worldwide. Between August 2023 and July 2024, deforestation in the Amazon decreased by 30.6% compared to the previous years, according to official website of WWF. The fund also works with governments and industries to promote sustainable forestry and reduce illegal logging. Through partnerships, policy advocacy, WWF helps slow deforestation and protect ecosystems such as the Amazon Rainforest, the Congo Basin, and forests in Southeast Asia.

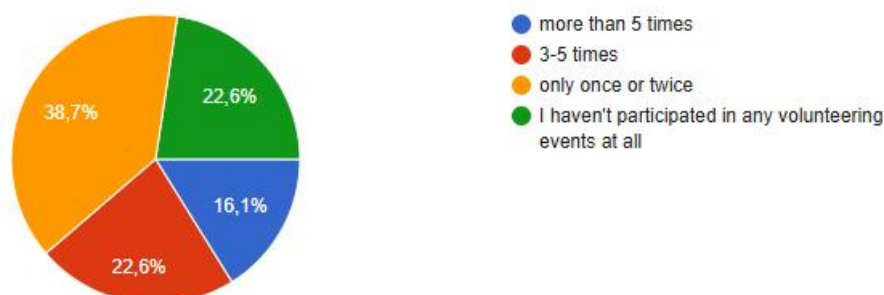
The next organization is The Rainforest Alliance. It helps fight deforestation by promoting sustainable farming and land use. It has a certification program that teaches farmers and businesses to use eco-friendly methods, reducing harm to forests. The organization works with local communities, businesses, and governments to protect nature while helping people earn a living. Because of their efforts, millions of hectares of forests have been saved, and deforestation has slowed in many areas. As of 2022, the Rainforest Alliance's certification programs have covered over 6 million hectares of farmland across 58 countries, involving approximately 4 million farmers and workers. By supporting sustainable practices and protecting wildlife, the Rainforest Alliance helps keep forests healthy and fights climate change.

A survey was given to 31 high school students from Khiva Presidential School to find out how often they take part in environmental volunteering.



How many times have you contributed to environmental protection through volunteering activities?

31 answers



The survey showed different levels of participation. Happily, 38.7% of students had volunteered once or twice, while 22.6% took part 3-5 times. Fortunately, 16.1% joined more than five times, showing strong dedication to the environment. Unfortunately, 22.6% had never participated in any environmental activities. These results show that while some students are engaged in protecting nature, there is still work to be done. More awareness and encouragement are needed to get more students involved in environmental actions.

Source Evaluation

At the start, I started with watching various videos about deforestation and its side effects on the environment to get to know what deforestation actually is. Following that, I searched about it deep in detail from reliable websites, such as official website of WWF and Rainforest Alliance to get statistics about effect of deforestation on climate change and destroying habitats. The way how WWF created a program called One Trillion Trees, contributed a lot to the protection of nature by decreasing deforestation in the Amazon by 30.6% compared to the previous years. Moreover, I used official website of World Resources Institute to get academically reliable data about effect of deforestation on climate change.

Perspectives

From my perspective, I believe that small actions can help protect nature. To reduce deforestation, I have tried to use less paper, recycle, and avoid products made from non-recyclable materials. I also try to spread awareness by encouraging others to be more eco-friendly. To do more, I can start planting trees, support organizations that protect forests by taking part in volunteering activities, and be more mindful of the products I buy. I think preventing deforestation requires global cooperation, stricter laws, and more education. If everyone makes small changes, we can help save forests for the future.

In Uzbekistan, actions are being taken to protect its forests and environment. The Yashil Makon (Green Nation) Initiative, started in 2021, plans to plant 1 billion trees to improve air and fight desertification. Tree barriers have also been created, with 175 kilometers of trees in Syrdarya and 11,500 trees in Tashkent. According to data provided by World Bank Group, Uzbekistan is working with the World Bank to restore damaged land and plant more trees. The

country is also part of the Bonn Challenge, a global effort to restore deforested areas. Through these actions, Uzbekistan aims to expand green spaces and overcome the effects of climate change.

Globally, deforestation is a serious issue that harms nature, causes climate change, and destroys animal habitats. Cutting down trees leads to hotter temperatures, extreme weather, and loss of biodiversity. Groups like the United Nations, WWF, and Rainforest Alliance are working worldwide to stop deforestation by planting trees, promoting sustainable land use, and making environmental policies stronger. Thankfully, projects like the Trillion Trees Project and the Bonn Challenge have helped restore millions of trees. However, illegal logging and farming still cause major forest loss. To protect forests for the future, countries must work together and take stronger action.

Conclusion

Deforestation is making climate change worse and destroying animal habitats. Trees absorb 2.6 billion tons of CO₂ every year, but cutting them down releases carbon, making the planet hotter. Between 1990 and 2020, Brazil lost 15.67% of its forests, and Indonesia lost 22.28%, increasing global warming.

Many animals are also losing their homes. The WWF says that orangutan numbers in Borneo and Sumatra have dropped by over 50% in 60 years due to deforestation. Fortunately, organizations like WWF, the Rainforest Alliance, and the United Nations' REDD+ program are working to stop forest loss by planting trees, promoting sustainable farming, and protecting endangered areas. To make a bigger impact, people, governments, and businesses must support these efforts. Saving forests will help the planet and protect wildlife for future generations.

Reference List

Owner of the website	"Title of the web page"	ear published	Title of website	Data viewed	Available URL
Bruno Meyerfeld	Deforestation of the Amazon at a nine-year low	024	LeMonde	18. 03.2025	https://www.lemonde.fr/en/environment/article/2024/11/09/deforestation-of-the-amazon-at-a-nine-year-low
Santiago Gowland	2022 Annual report. We're in	022	Rainforest Alliance	17. 03.2025	https://www.rainforest-alliance.org/annual_report/2022/
Marizilda Cruppe	Deforestation Fronts	020	WWF	17. 03.2025	https://wwf.panda.org/discover/our-focus/forests_practice/deforestation_fronts/

Abera T.A.	Nature communications	024	Nature	19.03.202 5	https://www.nature.com/articles/s41467-024-51324-7
Anna Lenaker and Frances Seymour	Forests	023	World Resources Institute	20.03.202 5	https://www.wri.org/insights/deforestation-heat-stress-tropics
Ian Tiseo	Energy and environment	024	Statista	19.03.202 5	https://www.statista.com/statistics/1470265/global-ghg-emissions-commodity-deforestation/