

The Study on Biodiversity: A Comprehensive Overview and Significance

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Humans depend on variety for more than just the food, air, and water we eat and drink. Plants, animals, the land, water, the weather and people all live on Earth. Biodiversity has a direct effect on people's health, wealth, and safety, and we all have a part to play in the planet's ecosystems because, without it, our lives are in danger.

Biodiversity gives people the medicine they need to stay healthy and the materials they need to build their homes and clothes. However, there is more to it than that. Biodiversity also affects how diseases spread, what the local climate is like, and how well people and land recover after natural disasters.

Everyone is affected by the loss of biodiversity, but the most vulnerable people—those who are already on the outside and living in poverty—are hurt the most. When biodiversity is lost, it is especially dangerous for groups that are already weak. People who live in places that are prone to natural disasters, especially in low-income countries in the Global South, depend on wildlife in many ways. They are also in danger when species is in danger.

Biodiversity, which is short for "biological diversity," is the wide range of life on Earth, from the smallest microorganisms to the largest animals. Moreover, it is not just about rare or threatened species; it is about everything from genes and bacteria to whole ecosystems like forests and coral reefs.

Biodiversity is important for people and our world, and we could not live without it. It gives us food, clean water, and even medicine, which are all things we need to stay alive. Therefore, here is how to look at it. Biodiversity is we. It is like a big web where each species has a role to play.

However, here is the problem: people put too much stress on the world, which has a big effect on biodiversity. We are using up natural resources at a faster rate than ever before, which throws ecosystems out of balance and threatens species. Scientists think that the sixth mass extinction is happening on Earth

right now. Scientists have named about 1.75 million different species. This includes 950,000 different kinds of insects, 270,000 different kinds of plants, 19,000 different kinds of fish, 9,000 different kinds of birds, and 4,000 different kinds of animals. This is just a small part of all the species that live on Earth. There are still a lot of species that have not been found or named. (National Geographic)

The three most important things to know about biodiversity

1. Since 1970, the amount of wildlife on Earth has dropped by more than two-thirds.
2. Indigenous peoples protect 80% of the world's biological variety, but they make up 19% of the world's poorest people.
3. Even if we stopped hurting the world in 50 years, it would still take between 5 and 7 million years for biodiversity to get back to how it was before humans.

What is Biodiversity?

To put it simply, biodiversity is all the different things in the natural world that make it possible for us to live. These things include clean water and air, food, and a stable temperature. Nevertheless, we do not have much time left to protect it.

Protecting places like woods and oceans is especially important because they clean and spread water, take in carbon dioxide, and keep us safe from natural disasters.

But we are putting biodiversity in danger: deforestation, farming, too much growth, and pollution are all big problems for this valuable system. Like how the number of fish in the ocean has dropped by half since 1970.

However, there is hope, which is good. In December 2022, government and business leaders signed a landmark agreement to protect biodiversity and stop the rapid decline of nature before it's too late. Part of this agreement was to protect 30% of the land, ocean, and inland waters of the world.

We also need to be smarter about how we use land. When people only think about what they can get right now, they often do harmful things that will hurt our planet for a long time. We need to protect unspoiled areas, fix up land that has been damaged, and take a more global approach that saves biodiversity and puts our shared future first.

What are the main things that cause biodiversity to go down?

Our world is full of species, both known and unknown, but because of what people do, many of them are in danger of going extinct.

Land-use change is the main cause of biodiversity loss. This is when natural landscapes are turned into room for human activities like farming, mining, or expanding cities. When we change how land is used, we destroy native habitats and take away the homes of many species. When ecosystems are broken up, their balance is upset, and there is less room for natural resources and life.

Overfishing, rising and acidifying waters and pollution have all thrown the ocean out of balance in ways that threaten not only sea life but also people. Overfishing is the main reason why fish stocks are going down and marine environments are being destroyed.

Pollution of the air, water, or land by toxic chemicals and other pollutants is also bad for ecosystems and species. Some species go extinct, habitats get worse, and important biological processes are messed up.

Climate change, on the other hand, is the biggest threat to species of all. Because of the climate disaster, habitats are changing, species are moving to different places, reproductive cycles are being messed up, and species are becoming more vulnerable to diseases and pests. When these reasons work together, mass extinctions and the destruction of whole ecosystems happen.

People pay more attention to the climate problem, but biodiversity and climate are both crises

that are happening at the same time. Both the loss of biodiversity around the world and climate change are caused by people's exploitative economic systems. They make each other worse, and world leaders need to move quickly to stop them.

10 ways to protect and converse biodiversity

There is no need to sugarcoat it: people have already caused a huge loss of biodiversity on Earth. Back in 2010, 168 countries promised to protect and improve biodiversity by 2020. However, according to a report from the United Nations, not even one of the 20 goals set had been met by 2020.

People are still not aware of how important biodiversity is, development projects rarely include biodiversity, and subsidies for fossil fuels, pesticides, and other harmful substances stay high.

Governments can help change the food system by, for example, making sure that big food companies don't have too much power and instead subsidizing and backing farm efforts that focus on crop diversity, soil rehabilitation, and ecological harmony. Quick Links for 10 Ways to Save Biological Diversity are as follows

1. Laws made by the government
2. Nature preserves
3. Getting rid of invasive species
4. Restoring habitat
5. Breeding in cages and indigenous seed banks
6. Research
7. Slow down climate change effects
8. Buy goods that help the environment
9. Living in a way that is good for the environment
10. Better Education

Rules about how to use water need to be changed to reflect the fact that supplies are running out. Countries need to do more to stop pollution and punish the worst polluters. They also need to control invasive species and limit hunting and capturing of watery species.

Since the ocean is a shared area, countries need to work together more on issues like fishing zones, shipping routes, and pollution.

And while campaigns about plastic pollution often focus on daily items like straws and takeout

containers, fishing boats that lose or toss their nets and gear are the main cause of plastic pollution in the ocean. Places with a lot of different kinds of life, like around coral reefs, should be set aside as marine protected areas that limit or stop people from doing things there.

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