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SA4: Sustainability

*Implementing Policies to Reduce
Deforestation and Habitat Loss*

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Issue: Implementing policies to reduce deforestation and habitat loss

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Introduction

Habitat loss is the action by which a natural habitat becomes incapable of supporting its native species due to the destruction, fragmentation, or degradation of an ecosystem. The primary threat to survival of endangered species and organisms is the human occupation in these ecosystems such as agricultural purposes, oil and gas extraction, commercial development, pollution, water diversion and climate change- these impacts may have long term permanent damages on the global and local scale- which all result in the food chains and circulation of life to deteriorate. Major kinds of habitat loss include (1) habitat destruction: people directly destroying habitats in ways such as but not limited to filling in wetlands, dredging rivers, mowing fields or cutting down trees, (2) habitat fragmentation: habitats being interrupted by (cut up into fragments by) roads and development. These fragments of habitat may not be large or connected enough to support species that need a large territory where they can find mates or food, furthermore, this makes it difficult for migratory species to find places to rest and feed along their migration routes. (3) Finally, habitat degradation: this is caused by pollution, invasive species, and disruption of ecosystem processes.

Definition of Key Terms

Biodiversity: The term biodiversity (from “biological diversity”) refers to the variety of life on Earth at all its levels, from genes to ecosystems, and can encompass the evolutionary, ecological, and cultural processes that sustain life. Habitat fragmentation, geological processes, climate change, or human activities such as the introduction of exotic species or ecosystem nutrient depletion can all contribute to this process, which can be natural or manmade. The creatures that previously used the site are moved or exterminated during habitat loss, lowering biodiversity.

Agriculture: The science or practice of farming, which includes soil cultivation for agricultural production and animal rearing for food, wool, and other products. The unmonitored watering systems may lead to drought in an area which causes loss in biodiversity and thus, habitat loss as well. Due to nutrient runoff, bare, compacted terrain can cause soil erosion and degradation of topsoil quality. These and other effects have the potential to disrupt a wide range of delicate ecosystems and wildlife habitats.

Pollution: The introduction of dangerous items into the environment is referred to as pollution. Pollutants are the term for these dangerous compounds. Pollutants can come from the environment, such as volcanic ash. They can also be caused by human activities, such as garbage or factory runoff. Pollutants wreak havoc on the environment, including the air, water, and land. The pollution of water can kill fish and other organisms that contribute to the ecological system and food chain.

Climate Change: Long-term changes in temperature and weather patterns are referred to as climate change. These movements could be due to natural causes, such as oscillations in the solar cycle. However, human activities have been the primary cause of climate change since the 1800s, owing to the combustion of fossil fuels such as coal, oil, and gas. Fossil fuel combustion produces greenhouse gas emissions, which act as a blanket around the Earth, trapping the sun's heat and boosting temperatures. Carbon dioxide and methane are two examples of greenhouse gas emissions that contribute to climate change. These are produced by, for example, utilizing gasoline to drive a car or coal to heat a building. Carbon dioxide is released when land and forests are cleared. Garbage landfills are a major source of methane emissions. The main emitters include energy, industry, transportation, buildings, agriculture, and land use.

General Overview

Habitat loss is the greatest threat to biodiversity. Forest loss and degradation is caused by the expansion of agricultural land, intensive harvesting of timber, wood for fuel and other forest products, as well as overgrazing. Around half of the world's original forests have disappeared, and they are still being removed at a rate 10x higher than any possible level of regrowth. As tropical forests contain at least half the Earth's species, the clearance of some 17 million hectares each year is a dramatic loss. Furthermore, conversion of habitats by humans into other land uses can fragment and separate mammal populations and increase the likelihood of local population extinctions and eventual species extinction. Rapid deforestation of tropical areas is a growing threat to a number of mammalian species, including many large, wide-ranging, or specialist species of primates, cats, and forest ungulates, as well as numerous small species with restricted ranges such as rodents, insectivores, and marsupials. Most of these species cannot adapt to a highly fragmented or altered landscape, and the few that do adapt often come into conflict with humans by feeding on crops or livestock. The net loss in global forest area during the 1990s was about 94 million ha (equivalent to 2.4% of total forests). It is estimated that in the 1990s, almost 70% of deforested areas were converted to agricultural land. Because mammals are often relatively poor dispersers, the creation of corridors linking habitats has been suggested as a way to help some species (specifically in cases of habitat fragmentation), especially large or wide-ranging (including nomadic or migratory) ones. But for many mammals the necessary size and structure of corridors is unknown, and few management plans have yet to put this idea into practice.

Nevertheless, marine and coastal areas are also in danger due to touristic invasions, light pollution and the misleading of certain turtle species by light pollution coming from surrounding resorts and pollution. The undoubted human impacts on terrestrial and marine natural resources results in marine and coastal degradation. Population growth, urbanization, industrialization and tourism are all factors. In 1994, it was estimated that 37% of the global population lived within 60 km of the coast. Poverty, consumption, and

land-use patterns contribute to the degradation of marine habitats and to the destruction of the species that rely on them to survive.

In Africa, Latin America, and Asia, Palm oil plantations in the tropical regions have led to the large-scale destruction of important habitat for many species. The largest growth of palm oil plantations has been in Malaysia and Indonesia where large tracts of rainforest are cleared to grow palm oil crops. Orangutans, tigers, elephants, rhinos, and many other species are increasingly isolated and their sources of food and shelter are in decline. Human-wildlife conflict also increases because without sufficient natural habitat these species come into contact with humans and are often killed or captured.

Mining is another aspect to look into when considering the human interest in the natural habitual areas. Mining has a direct impact on local habitat degradation by removing native plant and soil, as well as indirect impacts through supporting changes at the landscape level, such as but not limited to road and secondary access openings, urbanization and deforestation for charcoal manufacturing and extraction.

Major Parties Involved and Their Views

Venezuela, Brazil and Peru: These countries all host the greatest rainforest on Earth: the Amazon. The vast variety of biodiversity is diminishing each day as deforestation affects the land. In the Amazon, however, the month of August, which is the driest, is known as the "fire season". As a result, deforestation happens not just as a result of widespread logging, but also as a result of tree burning. The cleared fields are mostly used to expand cattle ranches, which account for about 80% of the newly cleared land. The remaining area is devoted to agriculture, primarily soy production. Nonetheless, both beef and soy exports are important to Brazil's economy.

New Zealand: Despite the fact that humans arrived in New Zealand relatively late (about 700-800 years ago), their impact on the land and natural ecosystems has been significant. Maori hunting, fishing, and gathering were the first major impacts, resulting in the demise of native bird species such as huge moas and eagles. The advent of invasive alien species, on the other hand, posed an even larger threat to the hotspot's native biodiversity. When Europeans first landed on the islands in the early 1800s, they introduced 34 foreign mammal species (including brush-tailed possums, rabbits, cats, goats, stoats, ferrets, and numerous European bird species) as well as hundreds of exotic plant species, some of which have become invasive. In the last two hundred years, 16 land birds, one endemic bat, one fish, at least a dozen invertebrates, and ten plants have all perished as a result of hunting (and substantial habitat damage). Several other species are exclusively found on offshore islands in small populations. Invasive alien species continue to pose a significant threat to New Zealand's biodiversity, but large-scale habitat damage, such as deforestation, wetland drainage, and ecosystem degradation, is also a major concern.

Madagascar: In Madagascar, habitat degradation is fueled by both commercial interests and the local need for food and revenue. Land is cleared by large corporations in order to generate goods for sale and export. Local people also need to clear land to grow food and create fuel to use and sell, especially considering Madagascar is one of the world's poorest countries financially.

China: China boasts some of the world's largest biodiversity, but due to the country's massive population and recent tremendous socioeconomic development, it is experiencing severe biodiversity loss. Despite the government's and society's efforts and investments to protect biodiversity, particularly in recent decades, biodiversity losses have not been reversed, and may perhaps have been aggravated by unexpected consequences of these programs. China has prohibited logging in natural forests, set aside \$10 billion for reforestation programs, and announced plans to spend \$1 billion per year for the next 30 years to extend protected areas. China has imposed a 5% tax on wooden flooring and even chopsticks in order to curb wood usage.

India: In recent years, India has experienced increasing deforestation, due to its emphasis on economic growth. According to government data, during the previous 30 years, 14,000 square kilometers of forests have been removed to accommodate 23,716 industrial developments across India. India has enacted a prohibition on tree cutting without prior clearance from government committees, curbing the country's large-scale deforestation. However, due to the country's development demands, woods are under a lot of stress.

Timeline of Events.

Date of Event	<i>Description of Event</i>
12 September 1994	<i>General Assembly Resolution A/AC.241/27: ELABORATION OF AN INTERNATIONAL CONVENTION TO COMBAT DESERTIFICATION IN COUNTRIES EXPERIENCING SERIOUS DROUGHT AND/OR DESERTIFICATION, PARTICULARLY IN AFRICA</i>
1 December 1997	<i>UN Framework Convention on Climate Change and its Kyoto Protocol: UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE FCCC/INFORMAL/84</i>
2016	<i>IPCC Special Report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems:</i> https://www.ipcc.ch/srccl/chapter/summary-for-policymakers/

Treaties and Events

Convention on Biological Diversity, 22 May 1992

the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention)

the Convention on the Conservation of Antarctic Marine Living Resources (CAMLR)

The United Nations Framework Convention on Climate Change (UNFCCC)

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

Convention on the Conservation of Migratory Species of Wild Animals

World Heritage Convention (WHC)

Evaluation of Previous Attempts to Resolve the Issue

For the Amazon, the year 2021 is particularly crucial because there has been a 50 percent rise in total deforestation since 2018. Even though great efforts were made to reduce forest cutting between the early 2000s and a few years ago, this year's levels are the highest since 2006. As more land is removed, many of Amazonia's 5000 varied animal species are threatened with extinction within the next few decades. Furthermore, dam construction to generate more energy from the Amazon's abundant water resources, as well as road/infrastructure construction, have resulted in additional deforestation in the region. Illegal deforestation by parties seeking to profit economically from the region's agriculture and cattle potential accounts for a significant portion of the problem.

Possible Solutions

More natural environments should be recognized as protected areas by the United Nations and be surveyed by government officials or any organ that may keep the area from being illegally exploited for purposes such as illegal mining, oil extraction, etc. Governments should recognize and be persuaded to find cleaner sources for energy such as solar, wind etc. to endorse a movement against climate change and therefore exterminate a long term habitat loss that is inevitable for the polars of the earth, as well as every other region that will be affected by the phenomenon. Any company or industry that abuses the natural land should be forcefully shut down or replaced or revised, punishment for responsible individuals or at least some sort of law that discourages those who may attempt to harm a natural resource should be enforced. Furthermore, delegates can consider rewarding restoration projects for habitat destruction as well, any incentive could be given to agricultural industries for their proper use of land, thereby keeping a

more organized structure for the industry as well as more controlled use of water and land. Overall, the reasons for the occasion of habitat destruction should be revised to block any further abuse.

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