Who Should Pay for the Cost of Preserving the Tropical Rain Forests?

Tropical rain forests, woodlands drenched with over 80 inches of rainfall each year, once formed an almost continuous belt around Earth between the Tropics of Cancer and Capricorn. Millions of years ago, these forests covered 16 percent of the land. Now they cover only 6 percent. Tropical rain forests are disappearing rapidly—at the rate of 40 million acres per year. Why should this matter? Rain forests are part of the intricate web of life on Earth and their destruction will have consequences for everyone.

The Nature of Tropical Rain Forests

Tropical rain forests abound with unique and beautiful plants and animals found nowhere else. At least 50 percent of all species live in these forests. About one quarter of the world’s medicines contain ingredients from tropical plants. For example, doctors use the rosy periwinkle to treat lymphocytic leukemia in children, quinine from the bark of the Cinchona plant to prevent and treat malaria, and curare, also from tree bark, during heart surgery. Countless other tropical plants found in rain forests have yet to be chemically analyzed. Only a mere 1 percent of tropical plants have been examined so far.

Forests are an important stabilizing feature of Earth’s land surface. They absorb carbon dioxide, release oxygen, and help to regulate the water cycle. Forests are part of the intricate web of life that acts within the ecosystem. Destroying forests, especially tropical rain forests, threatens the future of the biosphere.

Paradise Lost?

Destruction of the rain forest has occurred for a combination of social, economic, and political reasons. Rapid population growth has forced some people in economically challenged nations to utilize the land covered by the rain forests to grow food. Many virgin forests have been cleared to make room for agriculture. Unfortunately, the fragile tropical soils cannot sustain crop growth for more than a few years. When the farmers move on to clear another section of the forest, their old fields are used by ranchers to graze cattle. Ranchers use the land for another seven to ten years, until the soil is hard-packed, weed-ridden, and useless.

Logging also destroys tropical rain forests. In the process of cutting commercially valuable trees, loggers may destroy 30 to 60 percent of the other trees in the forest. The removal of so many trees causes fertile topsoil to run off in the heavy rains that characterize tropical rain forests. The logging industry also builds roads that allow access to land deep inside the forest, which is later cleared for crops.

Rain forests are often destroyed by slash-and-burn techniques, where the forest vegetation is cut down and burned to clear the land for cultivation. In the burning process, the carbon stored in the plants is released as carbon dioxide. Normally, carbon dioxide allows energy from the sun to pass through the atmosphere to the Earth’s surface, but it also keeps some of the reflected energy from escaping back into space. This “greenhouse effect” helps to regulate Earth’s temperature. When excess carbon dioxide and other greenhouse gases are released into the atmosphere, the “greenhouse effect” may increase and cause global warming. Global warming could shift climate patterns, disrupt crop production and water supplies, and threaten coastal areas with rising sea levels.

Although the ash from burned trees enriches the nutrient-poor topsoil, it only helps for a few years before the nutrients are used up. Rain forest soils are typically poor in nutrients because 95 percent of the nutrients are bound up in the forest itself.

Forests play a crucial role in Earth’s recycling of carbon. Plants and soil hold triple
the amount of carbon that the atmosphere contains. When trees are cleared, they are no longer able to remove carbon dioxide from the atmosphere.

**Approaching a Solution**  Nations that allow clear-cutting of their rain forests are struggling to survive economically. People who are poor and hungry are using their natural resources in an effort to survive. It may be important to help developing nations thrive economically while working to maintain the ecological balance in all areas on Earth.

Various proposals are being considered to provide economic incentives for preserving rain forests. People can be taught to farm more effectively, so they avoid destroying more of the forest than necessary. Conservation International, in Washington, D.C., has pioneered “debt for nature” swaps, whereby the international debts of a country are canceled in return for their protection of tropical rain forests. Conservationists are also trying to identify and preserve pristine areas that are particularly rich in plants and animals, so that other parts of the forest can be cultivated.

People are exploring many other ideas that can help to preserve the tropical rain forests without imposing economic hardship on the local societies. One such idea is the creation of communally owned logging organizations to provide people with an economic stake in the forest’s health. These organizations would supervise logging practices to ensure that harvested trees are removed carefully, minimizing the destruction of other plants. Because rain forests are an important source of medicinal plants, commercial drug manufacturers are also becoming involved. One major pharmaceutical company pays people who live in the forests to harvest the plants. Native peoples are also encouraged to harvest natural forest products carefully. For example, cashews and Brazil nuts are valuable crops, and their cultivation encourages careful maintenance, rather than wholesale destruction, of the forest. By providing economic incentives, saving the tropical rain forests can work for everyone.

**REVIEW**  On the lines provided, answer the following questions.

1. What are “debt for nature” swaps? How can they be used to encourage the protection of tropical rain forests?

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2. How are the rain forests an integral part of Earth’s ecosystems?

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**CONSIDER THIS**  On a separate piece of paper, answer the following questions.

1. Why shouldn’t developing countries be expected to shoulder the burden of protecting tropical rain forests alone?
2. What can you do to help protect tropical rain forests?