

Earth's Survival Hanging In the Balance: *Crisis in the Rainforests*

In the next 30 years, one single act could wipe out half of the world's species of plant and animal life. This one act could add significantly to global warming and to an overall rise in ocean levels, producing severe flooding worldwide. This one act will expedite the desertification of the earth and could set into motion a chaotic chain of events that even the most pessimistic of doomsday prophets has not foreseen. What could this act be?

The answer: tropical rainforest destruction. In the past 40 years, nearly half of the earth's tropical rainforests have been cut down. These rainforests are located primarily in Central and South America, in the Congo basin, and in such eastern islands as Sumatra, Borneo, and Papua, New Guinea.

Though covering only 7% of the earth's land surface, rainforests contain over half of the known 60 million species of life on earth. Vegetation is so diverse that a person can walk for over a mile without ever encountering the same tree species twice. One half-kilometer square in Malaysia has 835 tree species, more than are found in Canada and the United States combined.

In the next 30 years, the remaining stands of rainforest are targeted for destruction, thus forcing into extinction almost 30 million earth species. It is being called "the greatest extinction since the end of the age of dinosaurs" by Harvard biologist E.O. Wilson.

Alwyn Gentry of the Missouri Botanical Garden agrees. He compares it to "the Pleistocene extinction" that wiped out countless species 10,000 years ago.

"Few environmental disorders cause irreversible damage to our biosphere," writes Norman Myers in *The Primary Source*. "But the extinction of species is a different ballgame. When a species is gone, it is gone forever."

As a species becomes extinct, the world's gene pool decreases. Loss of a species means, for example, that the regular interbreeding of wild rainforest plants with domestic crops to increase their resistance to pests and disease will cease.

Even more important is that the rainforest is like a vast pharmacy. Tropical plants are the source for 25% of all prescription drugs. The tropics lack the most powerful insecticide of all: winter. Plants adapt by producing potent chemicals which often have strong medicinal properties.

There remain in the rainforests millions of plant specimens to analyze. A potential cure has already been found in tropical plants for AIDS. Researchers at Oxford University and other institutions have found that an extract from seeds of an Australian rainforest tree can kill the HIV virus in lab tests, and the compound is now on clinical trials in the United States.

The National Cancer Institute is in the midst of a five-year program in which botanists have joined medicine men in the jungle to learn the secrets they have discovered over the centuries. These teams have already sent samples of several flowering plants to scientists at the University of Illinois at Chicago College of Pharmacy, samples that seem to weaken the AIDS virus. Of the plants known to have anticancerous properties, 70% come from the rainforests.

Medicinal uses are not restricted to the plant kingdom. Marilyn Anderson of Colorado State University is studying how the black ghost-knife fish of the Amazon

completely regrows its spinal cord and nerves within a year after incurring severe damage. By identifying the chemicals or hormones that stimulate regeneration, Anderson hopes to discover how people might be able to repair damaged nerves.

Tropical rainforest destruction wipes out not only millions of valuable plant and animal species, but it also removes one of the earth's best climate-stability control centers. The technique of cutting down all of the rainforest vegetation and then burning it has a dangerous two-fold effect on the global environment.

First, rainforests purify the air we breathe. Trees extract carbon dioxide from the atmosphere, emit oxygen, and store the carbon in the wood, leaves, roots, and the surrounding soil. By removing vegetation, the earth is unable to metabolize CO₂ efficiently.

Second, the rotting and burning vegetation produces more CO₂ that enters the atmosphere and accumulates without the natural checks and balances that the rainforest provided. Thus the accumulation of CO₂ is increased by the rainforest destruction. The CO₂ promotes the warming of the earth which, in turn, leads to a global rise in sea levels due to polar icecap melting—and the global scenario is now chaotic.

Also, the rainforest acts like a massive sponge; it is a very efficient recycler of moisture. When a rainforest is cut down, the result is massive flooding during the rainy season and drought during the dry season.

Why would anyone risk such global repercussions? The key to answering this question is in remembering where rainforests are located—mostly in Third World countries that possess debts of over a trillion dollars. These countries are going to encourage any activity that might help pay interest on the massive debt. Whether it be logging, agriculture, or cattle ranching, any moneymaking activity is encouraged, even if it over-exploits natural resources.

These nations feel little responsibility for protecting the earth's atmosphere and climate. They point out that other nations got rich exhibiting similar greed in their expansionist days but now are trying to prevent them from doing the same. Short-term goals among Third World countries seem far more important than any long-term consequences.

And the goals are definitely short-term, for the soil in rainforests is nutrient-poor. When traditional agricultural practices are employed on these soils, they invariably fail, leaving a barren wasteland that rainforest vegetation is unable to recolonize. Tropical deforestation is irreversible.

Foreign investors must stop bankrolling the construction of roads and dams and mines which only hasten the destruction of the rainforests. One revolutionary idea is that the rest of the world ought to be paying rent on the rainforests, if they are so important to survival.

As conservationist Alvaro Ugalde notes, “the forests and biological diversity of the tropics are at the point of extinction, and heaven and earth must be moved today [to prevent it]. Tomorrow will be too late.”

Indeed, prompt government action is required in this matter. Presently only 5% of the world's rainforests are protected. With destruction at the rate of 50 acres per minute, the “tomorrow” Ugalde speaks of is here; “today” may already be too late.

