

## LOSS OF TROPICAL FOREST AND THE NEED FOR PRESERVATION

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Any discussion on plant and animal conservation usually begins with tropical forests because these forests contain at least two-thirds of the world's organisms, which consist of at least 3 million species. Tropical forests today cover about 6 percent of the Earth's land area. The fastest destruction of tropical forests is taking place in Central and South America (especially Brazil), equatorial Africa, and parts of Asia. The forests in these regions of the world also include tropical rain forests—meaning they are dense, heavily wooded forests that grow in areas of high precipitation, receiving 55–160 inches (150–400 cm) of rain per year.

Tropical forests are characterized by a high amount of plant, tree, and animal diversity; dense canopy that lets little light reach below; temperature averages of 68–77°F (20–25°C) that vary little throughout the year; evenly distributed precipitation; and nutrient-poor soil.

**CAUSES OF LOST OF TROPICAL FOREST:** There are Primary and Secondary causes.

Primary causes, also called basic causes, refer to general conditions within a region's economy and politics that lead to deforestation. These include: poverty, overpopulation, historical factors, government policies, exports to the international market.

Poverty and overpopulation throughout the world, force people to deforest their land; consequently plant and animal biodiversity declines, pollution increases, and climate change upsets ecosystems. Regional history also puts pressure on forested lands, especially in relation to the region's poverty levels. Tropical forests exist mostly in developing countries, except for the forests of Hawaii and Australia. The history of these developing countries include a period of colonialism in which Great Britain, France, Spain, and Portugal took land away from their subjects- native people - who had managed it for generations. Over time, colonial management of the land's resources tended to exploit those resources more than private owners would likely exploit their own land. Financially poor countries additionally hold large international debt—money owed to other countries. In order to repay debt with high interest rates, developing countries may be tempted to harvest their natural resources for income. Thus government policies on debt repayment, natural resource management and exports may contribute to degradation and loss of tropical forests.

Secondary causes of tropical deforestation relate to the activities that have immediate negative effects on forests. The major secondary causes are as follows:

Logging and logging roads, cattle ranching, cash crops, small-scale cultivation, and fuel wood, mining and oil drilling, large dams, tourism, new roadways

These causes can be grouped in various ways. For instance, logging roads create much the same problem as public highways by removing trees, causing erosion, and fragmenting habitat, while cattle ranching resembles mining because it requires large tracts of cleared forest.

The upheaval in the Amazon Basin provides an example of how human activities kill a forest over time. In the first phase, logging operations removes the best timber from a region, after which the timber company sell the land to cattle ranchers for their animals to graze. Ranchers leave a few trees standing for shade, but after the land has been overgrazed, the ranches move to other places and families buy the land at discounted prices. These families cultivate small gardens and perhaps cut down more trees for cash crops or fuel and hunt the native animals. Eventually, the small farms deplete the nutrients from the soil so that it supports little new plant growth. As the farmers move on to cleared land for cultivation, they remove more forest. Meanwhile, other parts of the forest disappear as mining operations and oil drilling companies burn the already damaged patches of forest because burning is easier and quicker than cutting and hauling out the logs. After a few decades of succession of these human activities, the forested land turns into a bleak landscape that cannot support substantial human, animal, or plant life.

**PRESERVATION AND RESTORATION:** While Preservation concerns with how to conserve and safeguard the tropic forest from degradation and depletion, Restoration involves activities that enable a degraded forest to recover

It's health and returns to normal growth hence the following steps.

First and foremost, a well planned process of reforestation should be introduced in degraded areas. Reforestation involves the planting of hundreds of seedlings containing a mixed population of native trees, to encourage the return of forest in the seeded areas to their original condition within some years, depending on the type of trees. The United States, Kenya and many other countries have used reforestation to restore land that had been cleared of its forests.

Secondly, Ranchers should reduce forest and soil degradation by employing the *slash and burn method*. Slash and burn is a process of cutting down large tracts of forest, letting the downed trees dry, then burn them in place to release nutrients into the soil. Soils in tropical forests tend to be nutrient-poor due to the dense vegetation they support. Slash-and-burn methods fortify the soil for grazing or agriculture, but eventually the added nutrients also diminish and the ranches and farms move to another part of the forest to begin the process again. This constant using up of land and moving on to healthier sites is called *shifting cultivation*. Abandoned land that has been treated this way can again support a healthy mixture of growth through ecological succession in the succeeding decades.

Thirdly, rehabilitation techniques which entail partially restoration of degraded forests should be employed by authorities and individuals alike. Rehabilitation includes restoration of soil nutrients, selection of new plantings for fire or disease resistance, selection of species for erosion control.

Fourthly, for sustained preservation of tropical forest, there is need for sustainable harvesting, otherwise known as sustainable forestry. Sustainable harvesting/forestry relies on the concept that forests must be managed as a nonrenewable resource. Though tropical forests renew themselves over a span of years, the current rate of

destruction/depletion—0.2 percent per year—will eliminate them faster than they can rebound. Sustainable harvesting methods therefore allow loggers to remove the timber they need while reducing damage to untouched trees. This method enables timber companies to use techniques that are gentler on the forest ecosystem, called *reduced impact logging* techniques. E.g.

Pre-harvest mapping and selecting trees of commercial value; cutting canopy vines before felling trees to prevent damage to the surrounding canopy; building narrow roads or trails through the forest to reach cuttings, rather than clear-cutting for major roads; employing directional tree felling to reduce damage to standing trees; reduction of wood waste by cutting stumps low to the ground; protecting watersheds with stream buffer zones; use of low-impact *yarding* systems—methods for hauling, timber from forests to trucks; incorporating restoration and rehabilitation methods in logging areas preventing illegal logging; developing tree plantations on severely degraded land to prevent erosion and desertification; performing post-harvest assessments to develop constant improvements; all came under reduced impact logging techniques.

Lastly, the fate of tropical forests rests on a combination of actions that originate at the local level and go to international programs. Industries and governments must commit themselves to conservation and preservation plans. Without government help, tropical forests will likely continue to shrink in size until they become an endangered ecosystem.