How People Use Forests

Case A: Fertilizer in the Indian Himalayas[1]

People in the Indian Himalayas depend on two harvests a year for their survival: rice and millet in the monsoon season and wheat in winter. This intense farming takes a lot of nutrients from the soil, and the farmers use leaves from the forest to make up this shortage of nutrients.

One way that Himalayan farmers use leaves as fertilizer is to lay them directly on the fields as mulch. They also feed leaves to their oxen and water buffalos, which, in turn, transform fresh leaves into manure that can be applied to the soil as compost. In addition to processing compost material, the farmers use the livestock for plowing the fields and for milk and meat for their families.

As in most parts of India, forests are now found only on steep slopes and other inaccessible places. Every year, women work harder and travel farther to collect leaves, putting themselves increasingly at risk for injury when lopping off branches from high in trees and walking long distances with their heavy loads of leaf fodder. To save time, they often take leaves from the nearest trees, and those trees die more rapidly as a result of overharvesting, thus causing the forest to diminish more.

Case B: Ecotourism in Costa Rica[2]

The Costa Rican rainforest is rich and vibrant, with more than 12,000 native plant species and some 300 native animal species. The wildlife is spectacularly diverse. Because Costa Rica is the bridge between North and South America, many species migrating between the two continents can be seen in Costa Rica.

In the 1960s and 1970s, Costa Rica's rainforest had been threatened by the increase in human population. Confronted with the tasks of daily living, local people were cutting trees both to clear land for farming and cattle grazing and to obtain firewood for cooking.

Looking for a way to sustain the rainforest while providing a living for local people, Costa Rica began an ecotourism program in the mid-1980s. Ecotourism encourages tourists to visit an area so that they can learn about and enjoy the natural environment there. Ecotourists may hike, boat, or watch birds in the forest. In theory, this is a win-win situation where the forest prospers because it is no longer being cut and where the local inhabitants prosper with employment and income. It makes an intact rainforest a valuable resource. By 1994, ecotourism was second only to bananas in the money it brought to Costa Rica from foreign countries.

Although ecotourism has helped the rainforest, it has also presented new problems. For example, ecotourism brings thousands of tourists to parks that aren't set up for so many visitors; the parks have no parking lots, trails, or nature centers. In some areas, there have been problems with trash and trail erosion. There is also some concern that the large numbers of foreign tourists could cause part of the local culture to be lost.

Case C: Charcoal Production in the Democratic Republic of the Congo[3]

Charcoal is one of the main sources of energy for cooking and food production in the Democratic Republic of the Congo. Many people prefer charcoal because it has been a part of their culture for hundreds of years. It is

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a concentrated form of energy, burning hotter and more cleanly than wood. Meat from the forest is typically cooked over charcoal and is considered a delicacy prepared that way.

Because it is made from wood, charcoal is actually a type of fuelwood. Charcoal production begins in the forest, where trees are removed and cut. The wood is then burned slowly with limited oxygen in kilns. This process reduces the wood to its most basic carbon content.

Making charcoal brings important jobs to rural areas and can be done in conjunction with farming. Producers can use free raw materials (wood from natural forests) and can turn them into a marketable commodity in high demand. However, in the Democratic Republic of the Congo, charcoal production is also a threat to the forest because people cut trees at a faster rate than the trees can regrow. This problem has led to shrinking forest lands and to an increase in the price of charcoal. Because the charcoal has to be trucked from ever-greater distances, the price has steadily increased. This increase, in turn, has hurt small-scale industries that use wood and has put pressure on household budgets. In addition, charcoal use results in high carbon dioxide (CO_2) emissions, which is the primary greenhouse gas responsible for global warming.

For those reasons, many people feel that charcoal production should be stopped altogether. However, because the Congolese people prefer charcoal for cooking, and alternative energy sources are more expensive, attempts to ban the production or the use of charcoal have been mostly unsuccessful.

Case D: Senior Housing in Korea[4, 5, 6]

The Republic of Korea (formerly South Korea) was once lushly wooded, but by the 1900s its forests were nearly gone due to centuries of overuse, foreign occupation, and warfare. In the 1980s, Korea began planting trees and setting aside protected forestland. Until these forests mature, Korea must import all of its wood for construction and other uses.

As citizens of a small country with a very dense population, limited resources, and a dependence on imported wood, Koreans have learned to use wood products very efficiently. One issue they currently face is how to house their seniors in a way that is both sustainable and that provides a comfortable and healthy living environment. This issue is critical because Korea is projected to become a "super-aged society" by 2026, when 20 percent of its population will be older than 65 years.

Traditionally, Korean houses included lots of wood and stone building materials. Today, the typical Korean family lives in a cement high-rise apartment or condominium building in an industrialized city. The individual units in this type of housing are generally too small and too expensive to support multi-generational living. Besides, many Korean seniors would prefer housing that is filled with light and wood, and that has views of forests and mountains.

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By planning for senior housing that takes into consideration social, economic, and environmental needs, Korea hopes to find a viable solution for sustainable growth. Elements of this "green" approach include placing senior housing at the edges of cities, away from pollution and noise and closer to natural areas; and using sustainably-harvested and efficiently-produced wood materials, which also happen to be more insulating and energy efficient than other options.

Case E: Peruvian Mahogany – "Green Gold"[7]

People have long treasured mahogany wood for its beautiful color, workability, and durability. It is used to make expensive desks, entertainment systems, guitars, and high-grade paneling, among other things. Once crafted, products from a single mahogany tree may be worth up to $100,000. For that reason, the multimillion dollar mahogany business has been given the nickname "green gold."

Mahogany trees grow in the tropical rainforests of Central and South America. Brazil used to be the largest exporter of mahogany, but because Brazil began cracking down on illegal logging, most mahogany now comes from Peru. In 2002, Peru exported 45,000 cubic meters (1,600,000 cubic feet) of mahogany to American ports alone, which were 20 times its 1992 exports.

Mature trees, which can reach more than 37 meters (120 feet) tall, once towered over much of the Peruvian rainforest east of the Andes. Loggers have removed trees from the easily accessible areas and are now moving deeper and deeper into the rainforest. Trees are being taken from areas set aside for Indians—and even from national parks and reserves.

Even though Peru has adopted United Nations' guidelines for logging mahogany, up to 90 percent of the mahogany from Peru is illegally logged. Exporters are supposed to obtain a document certifying that the wood was legally logged, but the permit system is so corrupt that documents can be bought for as low as US $120, or they can be doctored easily.

Sources

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