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Wood

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WOOD

WOOD IN AMERICA

"The first-wave Yankees, and the second and third...had every use for trees. Buckets and bedsteads, cribs and cabins, candlesticks and coffins. Ash for their oars, pine for their mainmasts, maple for gunstocks, hornbeam for handles. They used it all, and well...."--John G. Mitchell, AUDUBON, March 1981

America's forests seemed limitless just 200 years ago. Native-American populations had lived harmoniously with the forests for centuries. When Europeans first came to this country, almost half of the land was forested. As the pioneers moved west, they blazed trails and began clearing land for agriculture and grazing. Today, only about one-third of the country is forested. Wood is a **renewable** resource, and, with good management techniques, forests could not only be replenished, but could be a continuing source of **renewable** energy.

The year 1850 marks the height of America's use of wood as an energy source. About 100 million cords of wood were burned that year. A cord is a stack of wood four feet wide, four feet high and eight feet long. Almost every home had a wood-burning cookstove and another stove for heating. Some had wood-burning furnaces. Following the introduction of coal, many people continued to prefer wood because it was cleaner and had no unpleasant odor. Wood-burning stoves were commonly used until the 1940s, even following the introduction of gas and electric stoves.

In addition to heating and cooking, wood was used as a building material for houses, furniture and utensils. It could also be made into charcoal by burning it in an oven with little air. Charcoal provided a concentrated, hot fire for metal foundries and blacksmith shops in every community. Wood was the first fuel for the steam paddle boats along the country's rivers and also fueled the first steam locomotives.

MODERN USES OF WOOD

Although oil and gas have largely replaced wood as a major energy source for the country, wood has become popular again. Consequently, the management of the country's timberlands have become a critical issue. Especially since 1973, the United States has vastly increased its wood use, most notably as a source of heat for the home. In 1981, close to 10 percent of American households burned wood as either a primary or secondary source of heat.

Researchers are also developing ways to use wood as biomass fuel. Biomass is organic waste left behind either from the logging industry or in industrial processing plants. It includes woodchips, sawdust and trimmings from trees. Biomass can be converted into liquid fuel.

In the 1980s, wood contributed very little to the nation's energy supply, but it surpassed that supplied by nuclear power. It is unlikely that wood would become the principal energy resource again, but experts estimate that, with proper management of timberlands and advanced technology, wood may eventually supply between seven and 10 percent of America's energy. Elsewhere in the world, dependence on wood is far greater, and there is a critical wood shortage.

WOOD SHORTAGES

"In Somalia, a woman may walk till noon to collect enough wood to warm her children that night. By dusk, she reaches home again, lights some sticks to cook food for her family and later to warm them as they sleep in the cold desert. Tomorrow, she will go out again. And the next day. The few sticks she takes are more than the land can replenish. Sand creeps up; the trees recede. Her daughter may walk until dusk to reach the woods."--USDA Forest Service, 1984

For thousands of years, human populations have been cutting down trees the world over. At different times in different countries, timberlands have been threatened. In Europe, changes in population and climate have caused forests to recede and regenerate over the centuries. Today's forests are much smaller than they once were.

In the Third World, a similar scenario is taking place today. As the population increases rapidly, the demands on the wood supply have greatly increased. Forests are being depleted at an astounding pace. This is due to the need for more agricultural land to feed the population and to provide wood for fuel and building materials. Additionally, some of these countries are trying to keep up with the worldwide demand for cheap paper products, cheap beef and exotic woods.

In varying degrees, most Third World countries rely on wood as a major source of energy. Areas of Africa, Asia and Latin America, once covered with forests, are now faced with severe deforestation. It used to take a child or her mother a few hours to collect firewood. Now it requires the whole day. In many areas of Asia, people burn cow dung for fuel. It is readily available and is somewhat efficient as a fuel, but this practice is taking away a valuable source of fertilizer necessary to maintain soil quality.

The disappearance of forests is causing serious environmental problems. Without trees, there is no protection for the soil. Erosion takes place, and desertification is the result. This is the complete disappearance of fertile topsoil. Once this happens, there is no way of replacing the topsoil, and the land is incapable of supporting much plant life.

The disappearance of forests has also been linked to a change in rainfall patterns and to the greenhouse effect--a general warming of the Earth's atmosphere. The effect could melt polar ice caps, drastically raise sea levels and create problems for agriculture and human habitation.

WOOD IS **RENEWABLE**

Wood is the world's oldest energy fuel. Coal and oil reserves were formed over a period of millions of years, but, in a **natural** state, trees grow and mature within a few generations. As trees die or limbs fall off, decay takes place, returning nutrients to the soil. New trees grow in this replenished soil. A **natural** forest will reach a state of equilibrium where new trees are always replacing older ones.

Most forests, however, are not being left alone. In countries with timberland left, rigorous management programs are needed to ensure the survival of the forests and also develop them as a **renewable** energy source.

In the United States, management techniques include spacing control, fertilization and genetic improvement, along with a careful program of harvesting and replanting. The U.S. Department of Agriculture estimates that the annual net timber growth in 1984 was only two-thirds of what it could be if the forests were at their peak. More complete utilization of wood **resources** and increased efficiency

in wood-processing and manufacturing procedures would help meet increased demands.

WOOD AND POLLUTION

In the early 1970s, scientists in North America and Europe began to notice that sections of forests were dying for no apparent reason. Eventually, it was determined that rainfall in certain areas, especially near large urban industrial areas, was highly acidic. This is caused by the burning of fossil fuels, which contribute pollutants to the atmosphere. These combine with water vapor in the clouds and return to Earth in the form of acid rain.

PEOPLE AND THE ENVIRONMENT

Rapid deforestation in many developing countries depicts the critical balance between people and the environment. According to environmental writer Georgia Tasker: "Such destruction comes not just from a poor farmer chopping down a few trees to plant a patch of corn, but 400 million poor farmers; from an explosive birth rate that produced 85 million new humans last year; from not enough food; not enough wood for fuel...."

Every conservation project counts, no matter how small. "For Every Child a Tree" is a project sponsored by the United Nations Environment Program. This awareness program advocates giving children the gift of a newly planted tree when they are born, and at other special occasions during their lives.