

January 17, 1995

Japan's Cedar Forests Are Man-Made Disaster

By JAMES STERNGOLD

IT was a crisp, golden day in the vast forests here, near the base of Mount Fuji, but for Shigejiro Sugiyama a stroll in the country was an encounter with an impending disaster.

He plucked a sprig of cedar and pointed out how the trees were heavy with dense rows of tiny amber buds, the product of a particularly hot, dry summer. They meant that come spring, he and millions of other Japanese are likely to suffer in what experts are saying will be the worst year ever for a malady known in no other country to such a degree: allergic reactions to cedar pollen.

But for Mr. Sugiyama, the real disaster was in the fact that this health problem was caused by what many here describe as short-sighted Government policies, not nature.

The forests in this mountainous region were once verdant swaths of oak, maple and numerous other kinds of broadleaf trees and evergreens. But after World War II, Government bureaucrats applied their aggressive industrial policies to the environment as well as the economy. In the process, they financed the replacement of what they saw as commercially useless natural forests with more economically productive trees.

For the most part, this extraordinary experiment in environmental engineering has involved planting a single species, the Japanese cedar, because of the usefulness of its wood and the speed of its growth. As a result, Japan now has the largest tracts of cedar on earth, with this scenic region around Mount Fuji, long regarded as a symbol of the nation, among the most densely planted.

The aim was to make the country self-sufficient in wood products, but the widespread sensitivities to cedar pollen are just one indication of how this single-minded strategy has gone awry. It is becoming increasingly apparent, experts say, that the superabundance of a single species of tree is threatening wildlife, causing heavy soil erosion, reducing the water table and creating the potential for disastrous landslides.

Even in economic terms, the strategy has failed. There is a growing volume of domestic cedar available -- Mr. Sugiyama's stroll here took him past loggers chopping and stacking the nearly identically proportioned trees -- but it is being overwhelmed by imports of inexpensive timber, mostly from the rapidly dwindling forests of Southeast Asia. That has put cedar prices into a 13-year decline and sharply reduced the proportion of Japan's annual wood supply the country grows itself, from 80 percent three decades ago to 26 percent now.

The cases of pollenosis, as the reactions to the cedar pollen are known, are a product of the unprecedented concentration of mature cedars; it is believed that never before have humans been assaulted by such huge waves of pollen. Mr. Sugiyama, a lawyer, was prompted to act when he first suffered attacks of sneezing and wheezing two years ago. He has become the first person to sue the Government to force it to change its reforestation policies.

"When I started suffering, it got so bad I wanted to scratch out my eyes," said Mr. Sugiyama, whose name means cedar mountain. "I finally realized that this was a result of the Government's misguided reforestation policy and that I could do something about it."

With 1 in 10 Japanese affected, the allergies have become a national obsession. By late February, one of the most closely watched items in the news every day is a running count of the cedar pollen in the air. Tokyo has two big electronic billboards on which it flashes the figures, and the city runs allergy hot lines.

"At the peak, you can actually see a pollen fog coming from the cedar forests," said Dr. Yozo Saito, an allergy specialist at Tokyo Medical and Dental University and head of a commission on the problem for the Tokyo metropolitan government. "It is so bad that when people first began to notice this a decade or so ago they thought there were forest fires."

The reforestation policy represents a side of Japan's industrial policy little known outside the country, but obvious to anyone who has explored the countryside. In many parts of Japan, beautiful natural scenery has been transformed into monotonous tableaux of a uniform dark green. The miles of tall, slender cedars, straight as telephone poles, make up nearly 20 percent of Japan's forests, or more than 10 million acres. The policy illustrates the surprisingly manipulative view the Government has taken of the environment, in spite of the revered place mountains, forests, streams and lakes hold in traditional Japanese culture.

For example, all but two of the country's rivers have been dammed or diverted, or directed into concrete embankments. The number of lakes and wetlands still in their natural state, already tiny, has declined to only 210 from 233 in the mid-1980's, according to the Government, with the remainder in some way built up.

But the reforestation strategy, driven by subsidies that cover about half the cost of replanting, was perhaps the grandest attempt to make the environment a cog in the country's industrial strategy.

There are 62.3 million acres of forest in Japan, covering two-thirds of the country's mountainous land area. But 41 percent of the forests have been artificially planted, and 44 percent of the reforested area is planted with cedar, formally known as *Cryptomeria japonica*.

"The reforestation policy was a failure," said Tsunahide Shitei, the former president of Kyoto Prefectural University and one of Japan's leading forestry experts. "During the high-growth years of the economy, the Forestry Agency was dragged into this fast-growth atmosphere and focused only on commercial concerns. They should have planted broadleaf trees as well."

"They completely ignored the fact that a forest involves considerations other than business. A tree does not exist just for economic gain."

Taishitiroo Satoo, a forestry expert who has retired from Tokyo University and is now president of the Japan Wildlife Research Center, said: "Fortunately, there have been no great disasters, like we had with Minamata disease, but the problem is very serious. This policy is destroying biodiversity."

He was referring to Japan's most notorious industrial pollution disaster. Several decades ago, the dumping of mercury and other heavy-metal compounds into Minamata Bay in western Japan caused an outbreak of health disorders that left hundreds dead and thousands more injured.

The Government responded to some industrial pollution problems with stringent environmental safeguards. Japan now produces, for instance, less than half as much carbon dioxide per person as the United States.

But Yoichi Kaya, an engineering professor at Tokyo University and a Government adviser on technology and environmental issues, said the fundamental problem is that the economic calculus driving industrial policy here treats the environment and public health as an afterthought.

The Government has a huge apparatus for developing competitive industries but Mr. Kaya complained, "there is no effective mechanism for assessing new technologies and their environmental impact before they are put in place, or for formulating policies that can deal with these questions."

Forestry Agency officials say the tree-planting policy was necessary because the natural forests were devastated during and immediately after World War II for use as fuel and in building. But the officials concede the policy may have gone too far.

"We were able to meet most of our goals on reforestation, but now we've reached the next stage, where we have to look at quality and not just quantity," said Mitsunobu Oonishi, assistant director of the Forestry Agency's planning division.

He admitted that in addition to the allergy problems, the monoculture forests have harmed wildlife and increased the likelihood of natural disasters.

"Natural forests are less efficient, economically speaking," Mr. Oonishi added. "But the artificial forests have not been well taken care of. They need a lot of maintenance, such as trimming the branches that produce the pollen."

The Japanese cedar, or sugi, has been here for tens of thousands of years, but it was only after the intensive planting began that the allergic reactions emerged. Yoshinobu Naruse, who is working with Mr. Sugiyama on the problem, has lived on the edge of this forest for decades, but only succumbed to the allergies a few years ago, as many of the nearby trees matured.

While the extraordinary abundance of cedar pollen is generally agreed to be the main cause of the allergic reactions, many experts believe air pollution, particularly diesel exhaust, worsens the malady, and that changing diets may be a factor.

In their natural state, the cedars grow into towering giants. The wood has a clear, smooth grain, gives off a pleasant woody scent and is resistant to many insects. It has been used for centuries in home building.

When they are planted, the trees grow swiftly but completely change the character of the forest, experts say, preventing sunlight from reaching the forest floor and offering little food or protection for animals. Because they have shallow roots, they hold less water in the earth and can be felled easily by storms and landslides.

The Forestry Agency has few ideas and even less money with which to tackle the problem. The years of subsidies have left the agency about \$30 billion in debt.

"They say they've been trying to come up with some new strain of cedar, but it takes at least 20 years for these trees to mature," said Michiro Maki, a health officer with the Tokyo metropolitan government. "So that will be of no use for a long, long time."