

Japan Prodded on the Environment

Japan's Environment Agency has sounded the call for Japan to take its position as a leader in international conservation and environmental protection commensurate with its position as a leading economic power.

That theme is the central message in a recently released White Paper (which has just become available in English) that urges greater participation by Japan's public and private sectors to protect the global environment. It is the first White Paper issued by the Environment Agency.

But the agency has its work cut out. According to a Japanese government survey, the Japanese public is not very concerned about global environmental problems. In addition, the agency has little political clout.

The report emphasizes that Japan—which will soon become the world's biggest donor of foreign aid—must take into account the environmental consequences of projects it funds.

Moreover, according to the report, Japan has a major international responsibility in part because it is a leading importer of exhaustible and renewable natural resources. It is the world's second largest consumer of fossil fuel, of which virtually all is imported. Japan also imports a huge volume of exotic woods from Southeast Asia, textile materials such as cotton, and much of its food.

As an industrialized nation, Japan's chlorofluorocarbon production accounts for just over 10% of the world production. It ranks fourth in the world in carbon dioxide emissions.

"The problem of the global environment has passed the stage of making proposals and deliberations and [has] entered the stage of taking concrete actions," the report says.

But convincing the Japanese public and the government of this imperative is another matter. The report says that fewer Japanese than Europeans are concerned about environmental issues. It compared the findings of two public opinion polls, one conducted this year by the Japanese government and one by the Commission of European Communities, which surveyed Europeans in 1986. The results showed that 26% of the Japanese public are highly concerned about species extinction compared to 42% of the European public. In Japan, 30% are worried about depletion of natural resources, whereas 35% of Europeans are. And 32% of those polled in Japan are troubled about the greenhouse effect compared to 38% in Europe.

To some environmentalists and others, the White Paper says all the right things, but Japan's actions say something else.

Frank Upham, a professor at Boston College who teaches Japanese environmental law, says that the White Paper "is an expression of a sincere belief. But there's a difference between that and taking steps to realize that ideal. The Japanese don't care a whit about preserving nature per se, but they've been successful in protecting the environment" as it relates to human health. Alan Miller, associate professor at the Widener Law School in Delaware, who has studied environmentalism in Japan, says that the White Paper contains "wondrous rhetoric, but I'm pretty skeptical." Upham and Miller both note that the environmental agency is a very weak political entity.

Miller remarks that the report's broad theme of internationalism "is a very trendy topic in Japan. Everything is being reexamined now." The Japanese, he says, "love nature symbols, like Mount Fuji. But nature

to the Japanese is an aesthetic that has little political significance."

Jorgen Thomsen of an environmental group TRAFFIC, which tracks the protection of endangered species and is funded by the World Wildlife Fund, asserts that Japan has a poor record in conservation in protecting whales, sea turtles, and musk deer, for example. "There are some new trends in Japan in conservation law, but there are still tremendous loopholes." Japan still has one of the longest lists of exceptions to a roster of endangered species that are protected under international agreement, Thomsen notes. In addition, the national government is pushing hard to build a new airport on a rare coral reef in Okinawa. The airport is regarded by environmentalists as a pork barrel project.

Says the White Paper, "It is necessary to inculcate people from their childhood with knowledge and consciousness about the relationship of the environment with daily life."

■ MARJORIE SUN

Biotechnology Investment Lags

Federal support of research that relies on biotechnology—the application of recombinant DNA, cell fusion, tissue culture, and other techniques for understanding and manipulating life forms—must be increased, according to a new report by the Office of Technology Assessment (OTA). Research on crop plants and on microorganisms that could break down hazardous wastes has been neglected by Congress and federal agencies, says the congressional research group.

OTA's findings are part of a new report, *U.S. Investment in Biotechnology*.^{*} In assessing investment patterns in biotechnology, the research agency concludes that if biotechnology-based agricultural research does not get more funding the result may be a "static agricultural sector." OTA suggests that the Department of Agriculture (USDA) give plant research a higher priority than animal studies and that it try to integrate efforts in basic biological science with applied agricultural research.

Similarly, OTA criticizes the Environmental Protection Agency (EPA) for its low level of R&D on biological processes for managing toxic wastes. Research in this area is being pursued slowly, says OTA, partly because there is a perception that EPA is biased against biological techniques. Additional money is needed to upgrade equipment and facilities at universities that utilize

^{*}This is the fourth report in a series entitled "New Developments in Biotechnology."

biotechnologies in research, the OTA report adds.

Human health is the mainstay of what has been called the biotechnology industry. Because of hefty federal support for the National Institutes of Health and other federal agencies, this area has fared well, OTA observes. But to continue this momentum sustained federal funding for basic research at federal laboratories and at universities is essential to American companies.

Federal investment in biotechnology, especially as it relates to human health, has been leveraged by university and industry research linkages. Although a few studies suggest that these links may have adverse effects, OTA observes that "little evidence exists to either substantiate or refute the claims that such cooperative efforts are undermining the university's mission and independence."

Using a broad definition of biotechnology, OTA found that the federal government spent \$2.7 billion in 1987 and that private industry spent an additional \$1.5 billion to \$2 billion. Collaboration between many of the 400 dedicated biotechnology companies has been increasing, says OTA. At the same time, joint ventures involving American and foreign firms are receding. About half as many agreements were made in 1987 as compared to a year earlier. OTA notes that Japanese companies account for a smaller percentage of these joint ventures than in the past.

■ MARK CRAWFORD