

Science at Stockholm: A worldwide Earthwatch

Earthwatch, a proposed worldwide environmental monitoring system, has caused no controversy at the United Nations Conference on the Human Environment in Stockholm. The need for such a system, which will tell mankind with precision just where the environment is going, appears to be well recognized. The only disagreement is over the funding of the system.

Earthwatch was devised by the conference secretariat with the advice of many scientists, including members of the U.S. Study of Critical Environmental Problems (SCEP) and other such groups. The conference gave the plan overwhelming approval.

Some of the features of the proposed system:

- Ten baseline stations in representative remote areas, ranging from tundra to desert and jungle. The stations would monitor worldwide environmental changes, uniquely observable from stations where there is no local pollution. They would also do baseline studies of local ecosystems—perhaps on the order of the International Biological Program biome studies—to produce data on systems not yet affected by man.

- More than 100 stations for monitoring regional air quality. The evidence grows that there are three basic categories of air pollution mankind must deal with: the local kind, mostly in urban areas; the regional (and often international) kind, which can average as much as half the urban levels; and the worldwide kind.

- Water-borne stations, including undersea habitats and perhaps submarines, to produce baseline data on aquatic and marine ecosystems, as well as to monitor changes in these systems wrought by man's activities.

- Research centers and biological stations—also perhaps comparable to some of the IBP biomes—to monitor and analyze changes in soils and in plant and animal life.

- A system for monitoring food contamination by chemicals or pathogens.

In a related separate action, the conference approved a long-urged (by SCEP and others) move: An international registry for chemicals, so that amounts, use and transfer of toxic materials can be internationally monitored.

In another, more diffuse, scientific area, the thesis of *The Limits to Growth* and "Blueprint for Survival"—documents which claim mankind must halt economic development before it results in a tailspin caused by pollution, declin-

ing food and depletion of nonrenewable resources—was hotly argued.

The view that tended to prevail was the in-between one expressed by Canada's Maurice F. Strong, organizer of the conference, and World Bank President Robert S. McNamara. Strong and McNamara said economic development cannot be halted without dire consequences but that there should be a major qualitative shift to kinds of development that meet real human needs and at the same time have minimal impact



on the local and world environment.

In the area of natural resources, delegates passed resolutions on the preservation of whales, forests, wildlife and water. But the nonrenewable resources of the kind discussed in *The Limits to Growth*—mainly minerals and fuels—were little mentioned, at least in terms that recognized the perils of depletion. For instance, there appeared to be a sanguine acceptance of the need for huge numbers of nuclear power plants as coal and oil resources decrease, but little recognition of the menace of the thermal pollution they cause. In this as in many other areas, the assumption seemed to be that technology would solve all the problems.

It appeared there would be no agreement on proscription of ocean dumping of toxic or otherwise harmful materials. Maritime nations meeting before the conference were unable to agree on the terms of the proscriptions. Much of the progress at the meeting had taken place earlier, and was merely reported at Stockholm. British scientists, for instance, reported major gains in development of viral agents against insect pests. The major scientific gain at the conference itself appeared to be the initiation of Earthwatch, and this is a significant gain. But a scientifically meaningful deceleration of environmental principles seemed unlikely to materialize, as Chinese delegates demanded a highly political, anti-West, statement.

Politics at Stockholm: National foot-dragging

Important gains for scientific understanding of environmental problems were made at the UN Conference on the Human Environment in Stockholm. But many of the gains require political action to turn them into substance, and the world's leading industrial power, the United States, appeared to be dragging its feet as far as meaningful political reforms are concerned. Although the U.S. delegates often found themselves alone in their predetermined positions, whether the decisions of the conference will have any teeth without U.S. support is still moot.

Britain, Canada and Japan called for major new aid programs by the industrialized nations to help poor nations with nonpolluting kinds of economic development and with abatement of already existing pollution. Buichi Oishi, the Japanese delegate, went so far as to label Japan's phenomenal postwar industrial growth as "tragic." He called for industrial nations to "help the developing states so as to prevent them from fol-

lowing the path of environmental destruction that Japan has trodden."

But chief U.S. delegate Russell Train, acting on apparently inflexible instructions, was adamant in his opposition to any formula for increasing aid to the poor nations. He was even opposed to compensation to poor nations that had suffered environmental and economic loss due to the activities of their richer neighbors. An example is the damage to Peru's fisheries from mercury contamination which originated in the industrial nations. But the conference passed such a compensation resolution over U.S. objection. If the resolution became international law, Peru, for instance, could be compensated if it lost U.S. markets for its tuna because mercury levels exceed Food and Drug Administration guidelines.

The United States was equally adamant in opposing more than an \$8 million annual expenditure as its contribution to a UN environmental agency. The conference secretariat estimates a global monitoring system under such an agency will cost \$164 million. The \$8 million a year offered by the United States would be the U.S. proportionate share of an amount about two-thirds less than called for by the secretariat.

But it was on the issues of poor versus rich nations that the United States found itself so often in the minority that at one point it appeared U.S. delegates might walk out if a Peoples