Nairobi Conferees Identify Desertification Indicators

An international group of scientists is preparing to refine and test a new set of indicators designed to find, measure, and monitor the phenomenon of desertification.

The effort will be undertaken as part of the Science Associations' Nairobi Seminar on Desertification, convened by AAAS and five other scientific groups from around the world late in August this year. The group met prior to the United Nations Conference on Desertification in order to develop the set of indicators and to review the U.N.'s Plan of Action to Combat Desertification.

In its final statement, the Science Associations noted that "desertification must be diagnosed and monitored through the whole range of physical, biological, and social processes relevant to the ecosystems and human use systems of dry lands." Social factors are particularly important in the study of desertification, said the scientists, "For if people are largely responsible for desertification, [it] is most efficiently combatted by diagnosing and arresting the social and economic processes that lead to it."

The indicators developed in Nairobi and scheduled for field testing fall into three categories: physical, biological/agricultural, and social. The physical characteristics include degree of salinization and alkalinization of the soil; depth to ground water and quality of water; effective soil depth above root-inhibiting layers; number of dust storms and sand storms; presence of soil crusts; amount of soil organic matter; changes in water flow and sediment load in watercourses; and area covered and turbidity of surface water. The key biological/agricultural indicators of desertification listed by the Nairobi group include canopy cover vegetation; aboveground biomass; distribution and frequency of key species of vegetation and animal populations; populations of domestic animals; herd composition; animal production; and yield (harvest).

In terms of social indicators, the scientists will investigate land use factors such as irrigated agriculture; dryland agriculture; pastoralism; cutting and removal of vegetation for fuel and construction; mining; and tourism and recreational use of lands. Other social indicators will involve settlement patterns, especially in rural populations and in relation to energy sources; human biological parameters, such as population structure and rates, measures of nutritional status, and public health indices; and social process parameters, including conflict, migration, redistribution patterns, marginalization, and cash versus subsistence.

For the field tests, the Nairobi Seminar scientists outlined plans for establishment of a working party, most likely to be composed of Seminar participants representing several disciplines. The investigators will seek out test sites that represent different types of land use systems and that offer potential for testing as many of the indicators—biological, physical, and social—as possible, as well as appropriate technical and administrative facilities, technicians, and scientists. "Ensuring prompt field adaptation [of the indicators] for diagnostic purposes" is the main task of the working party. The scientists also will undertake negotiations and inventory possibilities for long-term continuation of use of the indicators at the test sites. In due course, the indicators will be distributed for use by antidesertification program managers, planners, and members of the scientific community.

In closing their official statement, the Nairobi seminar participants offered the document "as a contribution to the work of the United Nations Conference," with the note of caution that it represented the deliberations of only a part of the scientific community. In addition, said the scientists, there is a need for further scien-

1978 AAAS Annual Meeting 12–17 February, Washington, D.C.

Washington, D.C., home of AAAS national headquarters, will host the Association's 144th national meeting, 12–17 February 1978. The AAAS Meetings Office reports that over 130 symposia, to be held at the Sheraton-Park and Shoreham Hotels, have already been scheduled, and that the traditional public lectures, Science Film Festival, and SCIENCE INTERNATIONAL exhibit are being finalized.

Among the topics already scheduled for discussion during the meeting are: sociobiology; advances in knowledge on use of recombinant DNA techniques; space exploration and the search for extraterrestrial intelligence; recent extremes in weather and long-term climatic patterns; stress; aging; the high school class of 1972; nuclear and alternative energy systems; whistle-blowing and scientific responsibility; desertification; minorities, women, and the handicapped in science; and more than a hundred others.

As a special meeting feature, the SCIENCE INTERNATIONAL exhibit of scientific instruments and publications will be dedicated to the theme "Tools of Science," and will include symposia and workshops in various areas of instrumentation as well as exhibits depicting the history of scientific instruments and prototypes of scientific tools not yet on the market.

As part of its Project on the Handicapped in Science, AAAS will again make its national meeting accessible to people who are in wheelchairs or who have other physical disabilities.

Watch *Science* in the coming months for additional information about the meeting (the preliminary program will appear in the 4 November 1977 issue) and registration forms, or contact the AAAS Meetings Office, 1776 Massachusetts Avenue, NW, Washington, D.C. 20036.