

13. General Recommendations

13.1. TRAINING AND REGIONAL LABORATORIES

Many Agencies rightly stress the need for training programs and the establishment of regional laboratories. In the field of marine training and education, SCOR and IOC already have a comprehensive series of activities, including designated depository libraries. In the interests of efficiency, Inter-Agency coordination and multiple use of the same facilities is desirable. Complete integration will not be possible because of the differing structures and operating procedures of the Agencies. In some cases too, there are scientific reasons for not considering total integration.

Training seminars and workshops should also be coordinated wherever possible. A practical solution might consist of general seminars on the GEMS program, organized by the Inter-Agency W/G on Monitoring, and followed by specialized seminars, arranged by individual agencies.

The following recommendations are made.

Recommendation 53: It is recommended that the Inter-Agency W/G on Monitoring engage a consultant to examine Agency programs for training workshops and regional laboratories, and to recommend ways and means of obtaining maximum coordination.

Recommendation 54: It is recommended that a specific reference centre be designated in each region of the developing world, for books, reports, manuals and journals related to environmental monitoring and assessment. It is further recommended that funding and coordination be provided by UNEP. Finally, it is recommended that SCOPE be invited to provide annually to UNEP a list of relevant publications to be requisitioned by UNEP for all such reference centres.

Because of the very broad nature of GEMS and of Earthwatch, and because of the high priority of the programs, research on environmental monitoring and assessment must be stimulated at a multi-disciplinary level. The following recommendation is therefore made.

Recommendation 55: It is recommended that one or a few Member States be encouraged to give long-term support to institutions on monitoring and assessment, with associated training facilities for scientists from the developing countries. The institutes should be located at universities and should have the endorsement of the Member State and of its appropriate Academy of Science.

13.2. DATA PROCESSING AND PUBLICATION SYSTEMS

Although there is no requirement for a world data bank, the Agency data systems must be compatible. The following recommendation is therefore made.

Recommendation 56: It is recommended that the Inter-Agency W/G on Monitoring engage a consultant to examine Agency environmental data systems, to ensure compatibility and to make appropriate recommendations.

13.3 INTERNATIONAL REFERRAL SERVICE

There must be a close connection between IRS and GEMS. The following specific recommendations are made, in addition to that contained in Recommendation 54.

Recommendation 57: It is recommended that IRS should maintain complete documentation on GEMS components, including physiogeographical descriptions of monitoring sites and areas, with annual revisions.

Recommendation 58: It is recommended that UNEP support the work of the Smithsonian Institution in providing periodic surveys of national and regional environmental monitoring activities, to assist Member States and the Governing Council in their deliberations concerning GEMS programs.

13.4. MANAGEMENT OF GEMS

GEMS is envisaged as developing slowly into a very large system, with many major components. The need for careful coordination and management is therefore evident. Many of the Agencies, as well as UNEP itself, will require a full-time staff officer for GEMS within the next two years. In addition, there must be periodic reviews of the scientific credibility of the programs as well as assessments of the state of the environment. The following general recommendations are made.

Recommendation 59: It is recommended that the Inter-Agency W G on Monitoring be retained as an essential coordinating body for GEMS. In order that the W/G can meet its objectives, it is recommended that UNEP employ a full-time staff officer for GEMS and that sympathetic consideration be given to Agency proposals for similar positions.

Recommendation 60: It is recommended that the Inter-Agency W G on Monitoring prepare in 1976, a preliminary *assessment* of the health

of the international and global environments, based on GEMS and other data. In that preliminary report, attention should be given to the examination of appropriate methodologies for assessment.

Recommendation 61: It is recommended that SCOPE and SCOR be invited to provide to the Inter-Agency W G on Monitoring, continuing scientific advice on GEMS and on methodologies for environmental assessment.

The development of suitable methodologies for environmental assessment will not be an easy task. At a meeting in London in September 1973, a SCOPE W G on Monitoring and Assessment proposed a series of workshops on methodology, one for each medium, followed by a further synthesizing workshop for all media. This concept was accepted by the SCOPE Second General Assembly, as a viable mechanism for providing methodologies for predicting the future, and permitting the development of environmental options for the "global village."

Environmental assessment will of course, require reliable data. Thus the greatest importance must be placed on quality control, and on the absolute necessity for inter-governmental agreement on comparable sampling and analytical procedures for monitoring each pollutant and indicator.