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Preface

The present issue sums up the results of the research project "Ecological effects of pollution in Chaohu Lake" conducted in the People's Republic of China between 1987 and 1990 with in the framework of the Cooperative Ecological Research Project (CERP) and the Man and the Biosphere (MAB) Programme of UNESCO. Aiming to establish relations between the People's Republic of China and the Federal Republic of Germany, the CERP provides an excellent basis for a close cooperation in the field of ecology.

Inspired and encouraged by the alternative approaches of their German counterparts, scientists of the Chinese Academy of Sciences were given the opportunity of widen and upgrade their knowledge. Likewise, in the wake of this cooperation, German scientists became aware of the many problems in China which are in need of solutions. Thus, the project not only enabled a transfer of technical and scientific expertise and experience −two undoubtedly significant objectives of this cooperation, but also served to awaken the understanding in Germany of the need to help solve the problems of countries faced with a sharp increase in population. Given these reasons, the research project constituted a good opportunity for cooperation between Chinese and German scientists.

The environmental problems arising from the growing population in China became apparent, among other things, in the rapid eutrophication of Chaohu Lake situated in the east of the country. The versatile exploitation of this water body and the destruction of the environment due to economic development and an improvement in living standards has brought severe disadvantages for the water quality of the lake. Besides supplying drinking water for the surrounding areas and notably the province's capital Hefei, the lake also serves as a source of food and employment for the many adjacent settlements. Moreover, the lake constitutes one of the most important waterways in the region. Owing to the dramatic damage caused to this water body, the restricted use and in particular the temporary interruption of the drinking water production has now made everyone realize the necessity of specific and well-defined water protection measures which not only ensure future claims to the use of the lake, but also aid in the conservation for a vital aquatic ecosystem.

Compared to the circumstances encountered in Europe, those on site were markedly different and required of the German scientists and technicians, working together with their Chinese colleagues, an ability to adapt to the prevailing economic and ecological conditions.

Twelve Chinese scientists and nine technicians worked jointly with five German scientists in the CERP C-3 project and were assisted by a number of coworkers. The principal investigators responsible for the project were Dr. Chengqing Yin from the Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences and Prof. H. Bernhardt from the

Wahnbach Reservoir Association, Siegburg, Germany.

The objectives of the CERP C-3 project were to assess the eutrophication process of Chaohu Lake and to determine and solve the extent of pollution induced by outside influences. The second stage then served the purpose of developing a possible control of the eutrophication process. The studies were conducted with the following intentions:

- to develop methods for the investigation of the lake and the catchment area which would help to solve the tasks.
- to assess the ecological effects of heavy nutrient loads on the lake system.
- to observe the eutrophication and the extent and distribution of algal bloom developments over a period of time.
- to study the relationship between the algal bloom development and the environmental factors with the aim of finding possible means to control this maximum algal development.
- to assess organic pollution in the lake and its major tributaries and the impact of pollution on the water supply.

The research project produced results which are meaningful and complete. This is quite remarkable bearing in mind the scope of the research object and the considerable problems the Chinese colleagues had to cope with.

The results obtained provide the requisite knowledge base needed to devise and implement measures which can improve the conditions of the lake. By ascertaining the location of highly polluted areas the investigators were able to prepare specific counter measures at some inflow streams.

The research results could also furnish suggestions to the local Government and the lake management agencies on how to stabilize the lake system and to promote a lake recovery within the next few decades. It would then also be possible to set priorities for a rehabilitation for the lake in the interests of everyone.

All scientists and technicians participating in this cooperation have tried to the best of their abilities to solve the tasks entrusted to them and endeavoured with the limited technical possibilities which could be appreciably improved with the help of the CERP to accomplish the results presented in this special issue.

The results of this volume bear witness that even over large distances it is possible to establish a scientific and technical cooperation between countries and to tackle and resolve problems together.

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