



NEWSLETTER

INTERNATIONAL LAKE ENVIRONMENT COMMITTEE

— For Better Lake Management —

This Newsletter is also available in Japanese.

ILEC / UNCRD / UNEP JOINT WORKSHOP ON ENVIRONMENTAL PLANNING AND MANAGEMENT

Expert Group Workshop on Environmental Planning and Management: Focus on Training Aspects Derived from Studies of Inland Water Management

This international workshop was successfully held from 10 to 21 November 1986 in Otsu and Nagoya, Japan, under the joint sponsorship of ILEC, the United Nations Centre for Regional Development (UNCRD), and the United Nations Environment Programme (UNEP). It was attended by more than thirty senior-level scientists and experts in the field of environmental planning and management from sixteen countries, including nine ILEC members. Environment Agency, National Land Agency, Ministry of Foreign Affairs, Shiga Prefectural Government, and the Council of Local Governments for the Improvement of Lake Environment (Koshō-Kyō) of Japan, supported the workshop.

The workshop was designed to serve as a preparatory step to the launching of a training project in the near future to assist and facilitate the transfer of knowledge, technology and experiences to the developing countries. The major

tasks of the workshop will therefore include: (a) identification of manpower requirements to strengthen the capacity of developing countries to promote environmental planning and management and (b) formulation of guidelines for relevant training courses and training materials to be used therein. As a means to better facilitate such identification and formulation, the workshop deliberations were concentrated on issues related to the management of inland water resources.

The workshop was organized in two major parts:

Part I was held at Lake Biwa Research Institute, Otsu, Shiga Prefecture, from 10 to 15 November. The first step of this part was the presentation and discussion of resource papers on specific issues related to environmental planning and management with a view to arriving at a common frame of reference (macro-perspective) for discussion in subsequent sessions. Then, the case studies on environmental planning and management was considered. On 13th, studies were devoted to current practices in planning and management in Japan at national and regional levels, with emphasis on lakes and their environments. On 14th, a one-day field visit to the basin area of Lake Biwa, including two sewage treatment facilities of different scales and a flood control weir, was organized to appreciate the practices of environmental management of the area.

As a supporting programme of the workshop, an open forum for citizens was held under the title of "Environmentally Sound Management of Lakes" by Shiga Prefectural Government after the end of the plenary session of Part I in the afternoon of 15th. Seven participants attended the forum as panelists for round-up discussion, and Prof. Liu gave a special lecture entitled "A Study on the Present Situation of Eutrophication of Lakes and its Prevention and Control in China".



Dr. Hidehiko Sazanami, Director of UNCRD, delivers address during opening of Otsu section at Lake Biwa Research Institute.

Part II was subsequently convened at UNCRD in Nagoya from 17 to 21, with its focus on the various design aspects of the training modules for environmental planning and management. The first step of this part was presentation of resource papers on training needs with a view to identification of a common frame of reference for the formulation of training courses and materials. In the second step, participants were divided into three groups to discuss and work out detailed guidelines for the preparation of training materials. Prof. G. N. Golubev, Assistant Executive Director of UNEP, gave a special lecture on the Environmental Management of Inland Waters (EMINWA) Programme of UNEP. The workshop was brought to a close with the final plenary session at which the outputs from each of the working groups were integrated.

PARTICIPANTS AND PAPERS

[ARGENTINA] Conrado E. Bauer (ILEC member); [BRAZIL] José G. Tundisi (ILEC member), "Local Community Involvement in Environmental Planning and Management(EPM): Focus on River Basin Management - The Lobo-Broa Reservoir Case Study"; [CANADA] Richard A. Vollenweider (ILEC member); [CHINA] Liu Hongliang (ILEC member), "A Study of the Present Situation of Eutrophication of Lakes and its Prevention and Control in China"; [DENMARK] Sven E. Jørgensen (ILEC member), "Information Systems and Modelling for EPM: Focus on Lake Environment Management"; [WEST GERMANY] Jurgen Overbeck (ILEC member), "Scientific Approach to Lake Environment Management"; [INDIA] P. K. Biswas; [INDONESIA] Herman Haeruman, "Development of EPM at Village Level: A Case Study of Desa Sidroejo, Biltar, East Java, Indonesia"; Dodi Poertranto: [JAPAN] Takao Abe, "Regional Environment Management in Japan"; Toshiaki Kagatsume, "The Regional Environment

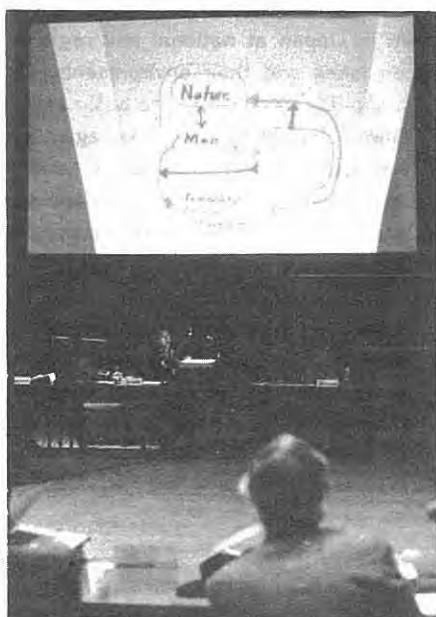
Management Plan of Shiga Prefecture"; Osamu Maeda, "Lake Kasumigaura Chronology"; Kohki Nakajima, "Lake Water Quality Administration in Japan"; Masahisa Nakamura, "Policy Analysis Perspectives in EPM"; Takaaki Niren, "The Evolution of Environmental Policies for Lake Biwa"; Yukio Onishi and Yukiko Kada, "Environmental Information Data Base System and Shiga Prefecture Environment Atlas"; Junji Takayanagi, "The Lake Biwa Comprehensive Development Project and Environmental Conservation"; Takeshi Goda (ILEC member); Michio Hashimoto (ILEC member), "Manpower Development for EPM in Developing Countries"; Tatuo Kira (ILEC member); Antonio L. Fernandez; [KENYA] Beatrice Munyando; [MALAYSIA] Augustine Koh Oon Shin, "EPM in Malaysia: A Case Study of EPM in the Klan Valley Region"; Zubir Yahya, "Environmental Planning and Regional Development in Malaysia"; [NEPAL] Pradip Man Baisyet, "Watershed Management in Nepal"; [PHILLIPINES] Marlito L. Cardenas, "Assessment of EPM in Laguna Lake Region"; Colin P. Rees, "The Asian Development Bank's Approach to EPM"; Leandro A. Viloria, "Need for and Prospects of Training in EPM for Local and Regional Development"; [TANZANIA] G. L. Kamukala; [THAILAND] Surin Setamanit, "EPM in Thailand with Particular Reference to the Songkhla Lake Basin"; Jakkris Sivadechathep; Guenter Tharun, "Approaches and Methods of Training in EPM"; [ZAMBIA] C. R. W. Kayomba; [UNEP] Genady N. Golubev, "Environmentally Sound Management of Inland Waters"; Masahiro Ohta, "Assessment of Training Needs in EPM"; [UNCRD] Hidehiko Sazanami (Director); Chakrit N. Padungkarn (Deputy Director); Kenji Oya (Programme Specialist); James F. Goater (Documentation Assistant).

Among the principal conclusions and recommendations of the workshop were the following:

- I. While many countries have established legal and institutional mechanisms to address environmental problems, suitably trained personnel who can analyse, plan, and



Workshop participants



Dr. M. Nakamura at his presentation.

implement programmes and projects for environmental management are lacking, particularly in developing countries.

2. The area of water resource development and management is where this lack is most felt. A major challenge is how to secure the concerted efforts of experts from a wide variety of disciplines to ensure the long-term benefits of water-related ecosystems. As water is a most indispensable resource for human life, it is logical and appropriate that any major effort to strengthen the capacity for promotion of EPM should begin with this resource.

3. In the context of the regional development planning process, EPM may be viewed as a programme of activities designed to, firstly, assess environmental consequences of development alternatives with adequate representation of costs and benefits; secondly, resolve conflicts and allocate the use of environmental and natural resources between sectors and over space and time; and thirdly, direct, control, and manage development activities in ways appropriate to the environment.

4. While it is frequently serious inadequacy in the analysis of the physical system itself which leads to insufficient understanding of the alternative approaches in EPM, it must be stressed that human resources development in EPM with specific reference to developing countries needs to give due consideration to the assessment of socioeconomic, sociocultural and, legal-institutional systems.

5. Manpower development is the most important essential issue to establish the institutional mechanisms with administrative, technical, and scientific competence for EPM. Ideally, a manpower development programme for EPM is an integral part of the national human resource development plan. Nowadays, however, few countries have a plan for human resource development to complement the national economic plan. This is a problem which can be successfully met only with the full assistance of technical cooperation agencies - international, regional, and bilateral.

6. In instituting national manpower development programme for EPM for any particular country, the following points must



Round-up discussion at UNCRD office in Nagoya

constantly be kept in mind:

(1) The structure, pattern, and distribution of environmental problems are influenced by those complex interrelations among population, resources, development, and environment.

(2) There is a wide spectrum of human environmental problems which provide the definition of scope, goal, objective, and target for environmental planning and management in the given time, place and occasion.

(3) The priority of the policy direction depends on needs, urgency, demand with public awareness in the scope of development.

7. As training can be looked upon as planned learning process, specifically to improve people's job performance, EPM training cannot be divorced from the actual contexts in which planners and administrators work. Thus, when EPM training programmes are being formulated and implemented, the social, economic, political, and administrative conditions determining occupational contexts in developing countries must be fully considered.

8. EPM training programmes should be designed to achieve multiplier effects in ways that with the information, knowledge, and skills acquired, training participants themselves become agents of change as well as trainers.

9. The principal target groups of training programmes in EPM should be those groups which serve as the essential multipliers within their countries and institutions, such as environmental managers, development planners, and administrators, who, in many cases, are to serve as trainers in imparting the necessary skills, knowledge, and attitude to their staff in promoting environmentally sound development at the local and regional levels. These people range from technical staff, through mid-career planners and administrators, to policymakers and politicians.

10. The development of training content in the interest of improving management skills and building on available human resources and institutional capability should address, among others, the following issues:

(1) Enhancement of the ability to integrate EPM in the development planning cycle;

(2) Need for incorporating scientific bases for EPM;

(3) EPM implementation; and

(4) Touching on human quality aspects and other intangible considerations.

11. The quality of training depends on the relevance of training inputs and outputs. The following may be considered as relevant criteria:

(1) Relevant knowledge and skills for problem-solving;

(2) Adjustment to local/regional conditions;

(3) Articulation of constraints; and

(4) Predisposition to project management.

I 2. In view of the above, and considering that active learning is desirable, "learning by doing" is a relevant approach to EPM training. This approach is considered particularly suitable for training the middle-to senior-level planners and administrators, who are deemed capable of doing follow-ups and becoming trainers themselves. To this end, the project case work (PCW) method is advocated.

I 3. Two themes emerged as a suitable strategy for international technical cooperation agencies in programmes to strengthen national capabilities in EPM. These are labelled as "packaged approach" and "multiplier effect approach."

(1) The "packaged approach" suggests three things: that the programme encompass the trilogy of research, training, and advisory services; that the components of the programme be undertaken on a "phased approach"; that the programme be jointly funded and carried out on a collaborative basis for at least five years to ensure lasting impact.

(2) To achieve "multiplier effect" existing structures should be used wherever possible - vital to utilize the experience and existing institutions in the country - to encourage continuity and build up skills for the longer term. As part of institution-building, for example, universities or research institutes may be given assistance in core teaching and provided facilities such as computer hardware and software.

(3) The "multiplier effect" may also be achieved through individual change agents, e.g., via training for trainers' courses, echo seminars, etc.

WORLD CONFERENCE ON LARGE LAKES

World Conference on Large Lakes - Mackinac '86, took place in Mackinac Island, State of Michigan on May 18, 19, 20 and 21 (1986), at Grand Hotel, bringing together more than 400 scientists, policy makers, business and citizen leaders from nearly 40 countries. Toxic contamination, significant issues confronting the quality of the world's large lakes, were chosen as the conference theme. The Conference was only the second of its kind. The first conference, World Lake Environment Conference, was held in 1984 in Shiga, Japan. A sister state to Shiga, the Governor of the State of Michigan has accepted an invitation from the Governor of Shiga Prefecture, Japan, to host this second conference to build upon the successful results of the first conference. US EPA, Environment Canada, Shiga Prefecture and other 15 governmental, non-governmental and business organizations served as co-sponsors of the conference.

On 18 evening, the conference commenced with a welcoming address by James Blanchard, Governor of Michigan, Masayoshi Tekemura, Governor of Shiga, Gu Jin-chi, Vice Governor of Sichuan Province of China, William Milliken, Chairman of the Board for the Centre for the Great



Conferece place, Grand Hotel at Mackinac Island.

Lakes. In the afternoon of the day, technical poster session was held and more than 40 posters were developed by presentors.

Technical sessions were held 19 and 20, and the conference themes were explored during the following four concurrent sessions.

- Chronic Effects of Toxic Contaminants
- Consideration of Toxic Substances in Fisheries Management
- Prevention of Toxic Contamination of Large Lakes: Managing Large Lake Ecosystem for Sustainable Development
- Sources, Fate and Controls of Toxic Contamants

On 21, in the closing session, Prof. T. Kira, Chairperson of ILEC, along with Tom McMillan, Environment Canada Minister, and Jame Barnes, US EPA Deputy Administrator addressed, and the convening of the third world lake conference in Hungary in September 1988 was announced. At a plenary session held before the closing address, findings and conclusions were presented from each of the four sessions, based upon nearly 100 presentations. Those recommendations were condensed into the following excerpt by the Conference staff.

CONFERENCE SUMMARY

The 1986 World Conference on Large Lakes has confirmed the crucial need for the most basic of commodities - information. Governments and public institutions have a responsibility to communicate to citizens and the media clear, concise, and accurate data concerning the environmental health and well being of the ecosystem.

For example, the public deserves more complete information and criteria regarding fisheries closures or advisories. Human exposure and chronic health effects must be documented relative to long-term exposure to multiple persistent toxic chemicals.

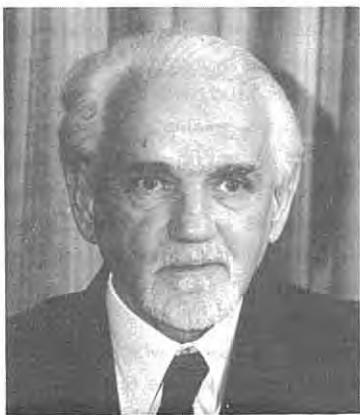
With regard to human health, the economics of the fisheries, and the overall health of the ecosystem, the solution is also simple--stop the input of contaminants. The world is well aware that attention should continue to be

placed on the control of known point sources. As an example, the report of the U.S.-Canadian International Joint Commission on the role of non-point pollution in North America has served as a strong basis for the development of new strategies to cope with non-point source pollution. However, the focus of most studies remains limited to conventional pollutions. The next step for the world community is to focus on the control of toxic substance for both point and non-point sources and to monitor for emerging pollutants.

Historically, scientific inquiry and public policy development have been regarded as mutually exclusive elements in the management of large lake systems. A research brokerage function, designed to link science and public policy is largely absent in large lake management systems.

It is not enough that the scientific community continue to recognize the interrelationships of our environment through an "Ecosystem approach". The regulatory community, through political processes, must respond by implementing policy guided by a perspective of our interrelated environment which extends beyond national boundaries or environmental compartments and must arrange their institutions accordingly. The world community must adopt philosophy of prevention of toxic substance contamination rather than merely reacting to environmental crises.

DR. VOLLENWEIDER RECEIVES THE 1986 TYLER PRIZE



Dr. R. A. Vollenweider

Dr. Richard A. Vollenweider, Vice-Chairperson of ILEC, Senior Scientist at the Canada Centre for Inland Waters, Burlington, and Professor at McMaster University, Hamilton, Ontario has received the 1986 Tyler Prize at the University of Southern California, on May 17, 1986. He shares the prize with Professor Werner Stumm, Director of the Swiss Federal Institute for Water Resources and Water Pollution Control, Dubendorf, Switzerland.

The 1986 Tyler Prize has once more drawn attention to the importance of water resource and water quality conservation as one of the critical issues of our times. By awarding the works of Drs. Stumm and Vollenweider, the Prize Committee also emphasized the need for, and the contribution made by the two scientists to comprehensive

and holistic approach in dealing with the environmental problems of water resources. This is indeed one of the aim and rationals which have lead to establishment of International Lake Environment Committee.

Dr. Vollenweider has been honored for his pioneering studies which laid the groundwork for eutrophication control. With his 1968 OECD Report (Scientific Fundamentals of the Eutrophication of Lakes and Flowing Waters, with Special Reference to Nitrogen and Phosphorus as the Factors in Eutrophication, Paris OECD, Directorate for Scientific Affairs) and subsequent papers on modelling the eutrophication process, he was among the first to approach the problem from a quantitative and whole basin point of view. After publishing his milestone report, Dr. Vollenweider organized and chaired an 18-nation OECD Cooperative Programme on Eutrophication to collect data linking nutrient loads with eutrophication in about 200 lakes and reservoirs in North America, Western Europe, Japan and Australia. The result of this study published under OECD 1982 (Eutrophication of Waters Monitoring, Assessment and Control, prepared by R.A. Vollenweider and J.J. Kerekes) has lead to improved loading criteria for phosphorus, and to a redefinition of the criteria for trophic categories of lakes to be utilized worldwide.

Dr. Vollenweider has helped developing nations in South and Central America and elsewhere in their fight against eutrophication, a problem particularly felt in warm climate countries, and on behalf of the Italian Government has coordinated research on eutrophication of the Adriatic Sea.

Note: The Tyler Prize, established in 1973 by John and Alice Tyler founders of the Farmer's Insurance Group in the United States, since its inception has been the largest environmental award presented in America, and is recognized throughout the world as the equivalent of the Nobel Prize for outstanding contributions in fields that involve environmental and related energy studies and issues. Tyler Laureates altogether have been honored for their outstanding achievements benefiting humanity covering the following areas: detecting carcinogens in the environment and in food (Bruce Ames), preserving and understanding tropical forests (Organization for Tropical Studies), pioneering atmospheric chemistry and warning against ozone depletion (Harold S. Johnston, Mario J. Molina, F. Sherwood Rowland), landmark studies in animal ecology and maintaining species diversity (Charles S. Elton, G. Evelyn Hutchinson, Eugene Odum, Edward O. Wilson), discovery and analysis of the chemical nature of smog (Arie Jan Hagen-Smit), worldwide leadership in wildlife protection (Russel E. Train), understanding and defining future strategies for global energy supply (Carroll L. Wilson), pioneering research in oceanography and atmospheric conditions (Rodger R. Revelle), designing and implementing renewable sources of energy (Southern California Edison Company), establishing new perspectives on the complex interrelationships between the environment and human organisms (Rene Dubos, Maurice Strong), pioneering water purification and water quality standards (Ruth Patrick, Abel Wolman).

For new nomination to and condition for the 1988 Tyler Prize, contact Dr. Jerome B. Waker, Executive Director, The Tyler Prize, University of Southern California, CA 90089-4019.

TRAINING COURSE AND WORKSHOP IN LIMNOLOGY AND MANAGEMENT OF RESERVOIRS

Centre for Hydric Resources and Applied Ecology, School of Engineering, at S. Carlos, University of S. Paulo, Brazil

SUPPORT: University of S. Paulo,
International Lake Environment Committee,
Organization of American States,
National Research Council of Brazil,
Ministry of Education of Brazil(CAPES),
Hydroelectric companies(EletroNorte).

Period: 5 March - 14 April, 1987

This course was developed in order to provide managers and planners of hydroelectric companies, officers of water research boards, and post-graduate students in engineering biology and chemistry with basic techniques of management of reservoirs, and to interrelate scientific studies and fundamental information with management procedures.

The course will be distributed in four main topics:

- 1) Limnology and functioning of lakes and reservoirs including biological, physical and chemical aspects.
- 2) Circulation, hydrodynamics of lakes and reservoirs: theoretical aspects and practical determinations.
- 3) Ecological modelling of reservoirs and its application to management.
- 4) Management of reservoirs: regional implications and perspectives.

The course will have a practical emphasis taking the advantage of the field facilities provided by the Center of Hydric Resources and Applied Ecology. Located at the shore of Broa Reservoir, the Center has the ideal situation for practical training in many aspects of limnology and for demonstration of management techniques and procedures.

Since Broa Reservoir is located only 100km from the large reservoir systems of the Rio Tiete in S. Paulo State, field trips to those systems are programmed in order to illustrate several problems of management of large reservoirs such as:

- a) Eutrophication and siltation.
- b) Effects of macrophyte growth on reservoir ecology.
- c) Impacts of agricultural activity and its management (use of fertilizers, irrigation).
- d) Impact of navigation(sugar cane transportation).
- e) Impact of domestic sewage and its management.

f) Impact of large scale industrial activities (alcohol production and its management).

g) Aspects of regional development related to the construction of a large network of reservoirs: impacts on ecological systems and the problems related with environmental management in this region.

The background for this course is related with the increasing economic and social importance of reservoir systems in this southern part of Brazil, and in Argentina, Uruguay, Paraguay and Chile. The interactions of the reservoirs with the watershed are a matter of extreme importance when considering the significance of land uses, agricultural activity and water management associated with the reservoir construction. The results of all the human activities in the watershed and the cultural eutrophication processes, can be measured effectively and provide a basis for management techniques. It is important also to relate the system of operation of the reservoir with the management procedures. Techniques for multiple use and its management will be discussed and illustrated.

At the end of the course a workshop on "Limnology and Management of Reservoirs (7, 8, 9 and 10 of April) is programmed, with the aim to summarize the main points of management and its scientific background and to discuss regional problems pointed by the construction of reservoirs in South and Central America. The planning component will be emphasized in this workshop. Also the Broa Reservoir and watershed case study will be presented and discussed with detail, as one example of regional development associated with scientific studies, management and community participation. The current status of on going activities in countries in South and Central America, the implementation and further development of priority projects will be discussed.

This is the first course in which scientific aspects and management procedures will be discussed in the context of reservoirs in Brazil and South America. The course and workshop are the first activity of ILEC in the South and Central American continents.

Four ILEC members will be participating in this activity: Dr. C. Bauer, Dr. R.A. Vollenweider, Dr. S.E. Jørgensen and Dr. J.G. Tundisi.

Coordination of the course/workshop - Dr. J. G. Tundisi

LAKES OF THE WORLD

2. TAI FU (LAKE TAI)

Tai Hu or Lake Tai, one of the five largest freshwater lakes in China, is located about 180km to the west of

Shanghai the productive Chang Jiang(Yangtze) Delta, and has been closely involved with Chinese history and culture.

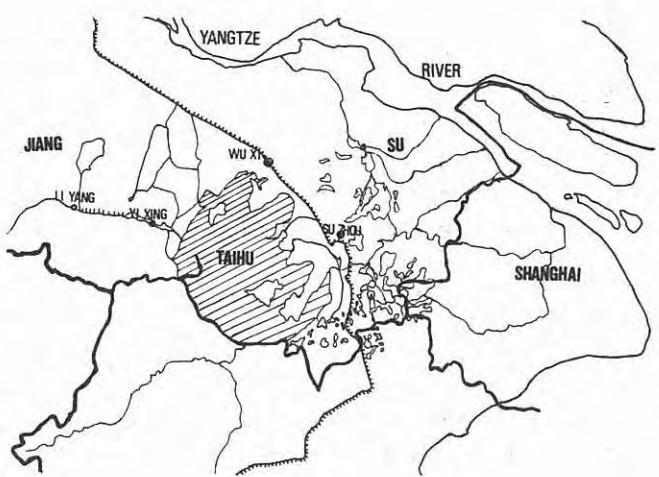
Tai Hu covers an area of 2,460km² in between the two provinces of Jiangsu and Zhejiang. It is a shallow lake with an average depth of about two meters; the maximum depth is only 4.8m. The total capacity amounts to 4.87 billion m³. There are some 46 islands on the lake with a summed area of about 90km². It is those islands with green hills that makes Tai Hu a famous scenic place. Every year more than four millions of tourists visit the two beautiful towns, Suzhou and Wuxi, on the northern shore of the lake and the other nearby scenic spots.

The catchment area of the lake is about 14,000 km² wide. There are three inflowing rivers running down from the southwestern and northwestern mountains districts, while the lake water flows out to the Yangtze River and its tributary the Huangpu through a dense network of rivers and canals. The annual input and output of water to and from the lake amount to 7.66 billion and 7.63 billion m³ respectively.

The Tai Hu Basin encompasses an extensive area of high economic importance. Shanghai, in its eastern part, is the most important industrial city of China. The plain north of the lake includes three cities, Suzhou, Wuxi and Chan Zhou, as well as 13 counties with 16,360 km² of rich farmlands and a population of 10.7 millions, and is a newly developing industrial zone which has kept the highest economic growth rate during the last two decades.

Tai Hu supplies an annual total of 250 million tons of drinking water to Wuxi, Suzhou and the surrounding counties. The water supply to Shanghai is also actually from Tai Hu through the Huangpu River and Lake Dingsan. Farmlands in the Tai Hu Basin receive 900 million tons of irrigation water annually from the lake. It is also economically important for its fishery production and inland waterborne transportation.

The lake's water quality has been deteriorated in the recent twenty years owing to the industrial and economic development in its catchment area. Phytoplankton blooms have become apparent near the mouths of rivers flowing in from urban and industrial areas. A comprehensive study on the lake environment has, therefore, been undertaken since 1980 seeking measures for environmental management and



pollution control.

The results of intensive water quality monitoring shows that the lake is largely in the mesotrophic stage, while about 1/5 of the lake area is really eutrophic. Pollutions of heavy metals, pesticides and organic wastes have also been detected, but the eutrophication is evidently the prevailing problem that Tai Hu confronts. The nutrient loading comes mainly from the surface runoff of farmlands and urban sewage. The water quality deterioration is so serious that a strategical program for efficient pollution control is urgently needed.

A series of propositions have therefore been submitted to the government authority as follows.

1) A transregional organization, Water Resources Protection Committee of Tai Hu (WRPCT), is to be set up in responsibility of a) drawing up laws and regulations for water quality control in counties and prefectures in the lake's basin area, b) formulating policies for water quality protection and control programs, c) inspecting the implementation of the policies and programs, and d) organizing study projects and monitoring programs.

2) Still-the-State Policy is recommended. No new pollution source is to be allowed in the lake's basin area. All developmental programs must be inspected by WRPCT and may be accepted only when they are provided with sufficient pollution control facilities.

3) The Decree for Tai Hu Protection, which has been promulgated by Jiangsu Provincial Government, is supported.

4) Sound environmental management and planning are essential for the lakes as well as its catchment area.

It is expected that water pollution and eutrophication will be sufficiently controlled in a few years to result in the significant slowdown of these processes.

Liu Hongliang



SECRETARY-GENERAL VISITS UNEP

Dr. M. Hashimoto, Secretary-General of ILEC, visited UNEP headquarters in Nairobi on 19th and 20th and the Regional Office for Asia and the Pacific on 27th August, 1986. Further cooperation between UNEP and ILEC, especially the potential areas and ways, was explored during the meeting with Dr. M. K. Tolba, Executive Director, Dr. G. N. Golubev, Assistant Executive Director, and Dr. Nay Htun, Director and Regional Representative for Asia and the Pacific.

ILEC BUREAU MEETING

In parallel with the UNCRD/ILEC/UNEP Joint Workshop, the 2nd Bureau Meeting was held at Biwako Hotel, Otsu, Japan on 13th November, 1986.

GUIDELINE WORK-PARTY MEETING

The 1st Guideline Work-Party Meeting of ILEC was held at Biwako Hotel, Otsu, Japan on November 14th, 1986. All the work-party members and four of bureau members joined the Work-Party Meeting, and deliberation were developed on the compilation of guideline books. The outputs of the meeting will be submitted to the coming General Meeting as materials for discussion.

FORTHCOMING MEETINGS

THE 2ND GENERAL MEETING OF ILEC

The meeting is tentatively scheduled for February 18-20, 1987, at Lake Biwa Research Institute, Otsu, Japan. Bureau Meeting and each work-party meeting will also be held concurrently.

THE 23RD CONGRESS OF SIL

Dates: February 8-14, 1987

Place: Waikato University, Hamilton, New Zealand

Sponsored: The New Zealand Limnological Society, and

The Royal Society of New Zealand

This is the first congress of the International Association of Theoretical and Applied Limnology(SIL) to be held in the Southern Hemisphere, with its theme: Water, to use and enjoy.

In addition to the ordinary sessions, the following special sessions are planned: 1. Wetland, 2. High latitude aquatic ecosystems, 3. Water resource management, 4. Mathematical models of lake ecosystems, 5. Water quality for recreation, 6. Man-made disturbance of large lake systems, 7. Succession in plankton communities.

Commencing three days after the SIL Congress in Hamilton, The 4th International Symposium on the Interaction between Sediment and Water will be held in Melbourne, Australia from February 16-20, 1987.

PUBLICATIONS

"Characteristics of Lakes in the Eastern United States"
EPA, June 1986

Volume I: Population Descriptions and Physico-Chemical Relationships,

Volume II: Lakes Sampled and Descriptive Statistics for Physical and Chemical Variables,

Volume III: Data Compendium of Site Characteristics and Chemical Variables

These reports are a product from National Surface Water Survey (NSWS) which was implemented in 1984 by the U.S. EPA under the auspices of the National Acid Precipitation Assessment Program. The initial reports from the Eastern Lake Survey component of the NSWS, provide details of the survey design and the results of the study. Additional reports from the NSWS will be produced as other portions of the program are completed. Magnetic tape or floppy disk of the data base used for this report are also available.

CALL FOR ARTICLES

Those who wish to contribute to ILEC Newsletter are invited to send manuscripts to the secretariat.



INTERNATIONAL LAKE ENVIRONMENT COMMITTEE

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