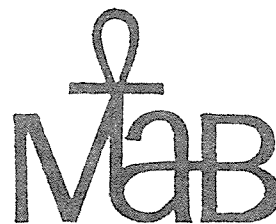

Japan InfoMAB

No. 3

1988. 2. 10.



Newsletter on MAB Activity of Japan
Japanese Coordinating Committee for MAB

Structure and Major Activities of the MAB Programme in Japan

Japan has been a member of the International Coordinating Council for MAB since 1971 when the MAB Programme was initiated. The Japanese National Commission for UNESCO established the National Committee for MAB within the Specialized Committee for Natural Science in 1977.

In the same year, the Special Research Project for Environmental Science commenced relative to the MAB Programme under the financing of the Japanese Ministry of Education, Science and Culture. Over the years, the Japanese Coordinating Committee for MAB, which was set under the Research Project, has operated as the executive body for the MAB Programme in Japan, under the supervision of the National Committee for MAB.

This issue contains a summary of the organization and the present major activities of the MAB Programme in Japan. An outline is shown in Figure 1.

The National Committee for MAB is composed of twelve academic members and seven representatives from governmental organizations. The Coordinating Committee for MAB is composed of thirty-four scientists whose accomplishments have been recognized by the natural or social scientific community. Rosters for both Committees are printed in an annual report published by the Coordinating Com-

mittee.

The Coordinating Committee holds an ordinary session of its General Assembly once or twice a year, and the Executive Secretary Meetings are held four or five times a year according to the current situation.

At the present time, the Japanese Coordinating Committee for MAB places priority emphasis on strengthening regional cooperation through workshops and overseas cooperative research, seeking Japanese MAB approaches corresponding with both the new research orientation proposed by the 9th MAB/ICC and the advance of the IGBP Programme, finding the financial resources for future MAB Programmes, and promoting international and domestic information exchange.

There are four working committees with the following objectives.

- 1) Future domestic studies and financial resources: Chairman, Professor Yasushi Kurihara (Animal Ecology, Tohoku University)
- 2) Future regional cooperation: Chairman, Professor Yusho Aruga (Plant Ecology, Tokyo University of Fisheries)
- 3) IGBP programming: Chairman, Dr. Kei-ichiro Fuwa (Inorganic Chemistry, Deputy Director of National Institute for Environmental Studies)
- 4) Editorial Board for the annual report and

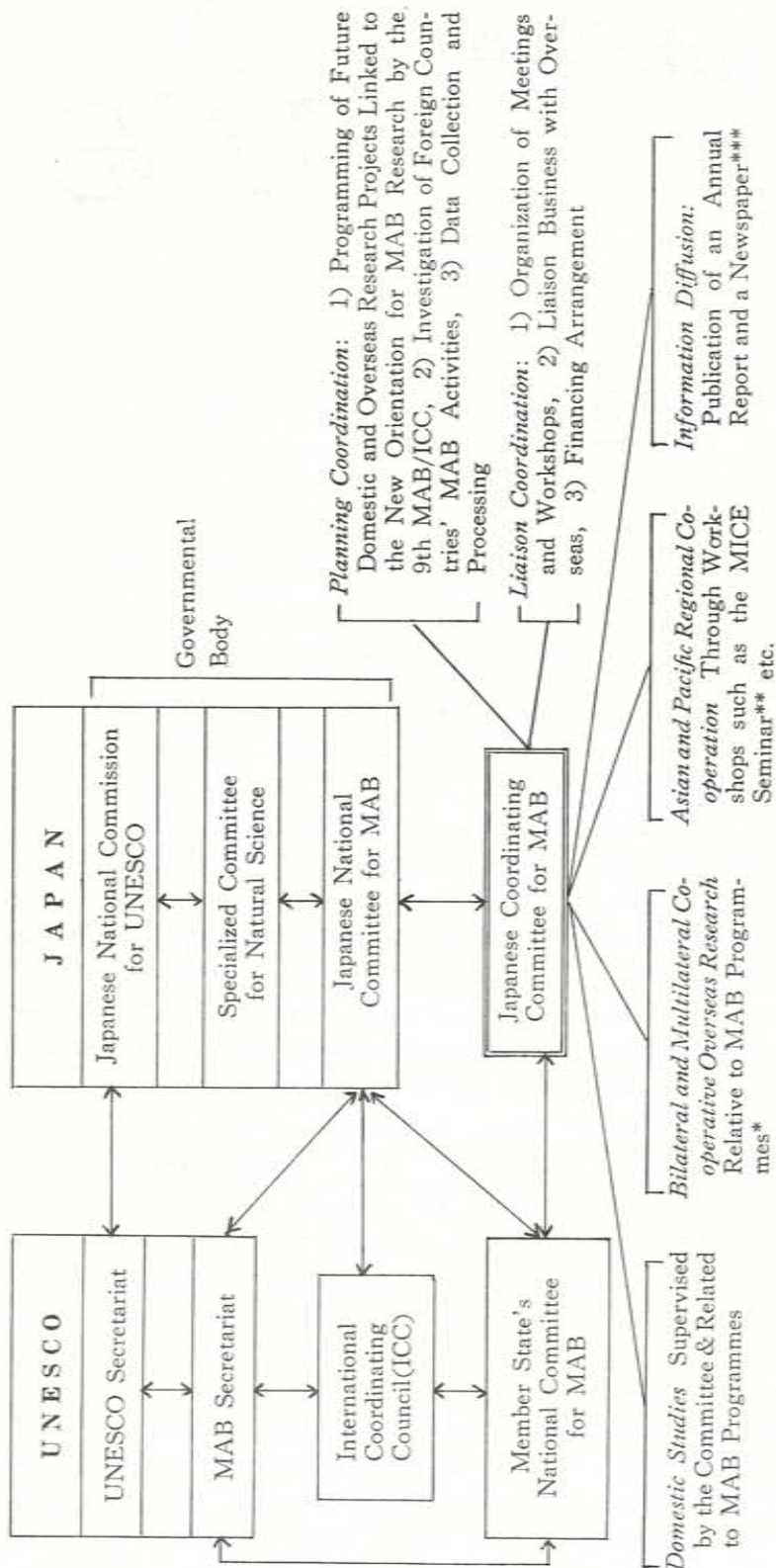


Figure 1. Overall Organization of the MAB Programme in Japan and its Activities in 1988

* Since 1985, several overseas research projects have been conducted in bilateral or multilateral cooperative form among Bhutan, China, India, Indonesia, Korea, Malaysia, Pakistan, Thailand and Japan.

** Since 1984, a regional seminar entitled 'Man's Impact on Coastal and Estuarine Ecosystems' (MICE) has been held yearly in Tokyo, Ciloto, Ranong and Okinawa.

*** Since 1988, an annual English report, 'Researches Related to UNESCO's Man and the Biosphere Programme in Japan', and since 1987, a newspaper, 'Japan InfoMAB', written in Japanese and English have been published.

Japan InfoMAB: Chairman, Professor Norio Ogura (Geochemistry, Tokyo University of Agriculture and Technology)

As a major domestic MAB research project, a study on the dynamics of estuarine ecosystems and their management has been carried out since 1987, financed with a Grant-in-Aid for Scientific Research from the Ministry of Education, Science and Culture, Japan. The major research sites are Sendai Bay, Tokyo Bay and Nakaumi Wetland in Japan as well as the Southeast Coast in Korea and Nara-thiwat Wetland in Thailand. A Special Project entitled "Formulation and Management of Man-Environment Systemes", under a Grant-in-Aid for Scientific Research in Japan, supports various domestic studies within areas of special importance to the MAB Programme.

Since 1985, several overseas research projects authorized by the Committee have been carried out under bilateral cooperation with Bhutan (Mountain Ecosystem at Area No. 6), China (Subtropical Forest Ecosystem at Area No. 1), India (Pesticide and Heavy Metal Pollution at Area No. 14), Indonesia (Mangrove Ecosystem at Area No. 5), Korea (Estuarine Ecosystem at Area No. 5), Thailand (Deteriorated Forest Ecosystem at Area No. 1, Salt-affected Soils at Area No. 4, 5 and Mangrove Ecosystem at Area No. 5).

In 1988, the following six bilateral and multilateral cooperative research projects supervised by the Committee are in progress.

- 1) Biological Processes and Regulation Systems of Mangrove Ecosystems in Asia and Pacific Region
Coordinator: Professor Kazuhiko Ogino (Forest Ecology, Ehime University)
Cooperating countries: Indonesia, Thailand and Australia
- 2) Coastal Wetland Soil Ecosystems in South-east Asia: Their Characteristics and Use-potential

Coordinator: Professor Kazutake Kyuma (Soil Science, Kyoto University)

Cooperating countries: Malaysia and Thailand

- 3) Improvement of Biological Productivity in Tropical Wastelands
Coordinator: Professor Kyoji Yoda (Ecology, Osaka City University)
Cooperating country: Thailand
 - 4) Plant Ecological Improvement of Salt-affected Soils in Thailand
Coordinator: Professor Takehisa Nakamura (Botany, Tokyo University of Agriculture)
Cooperating country: Thailand
 - 5) Ecology of Urbanization and Green Space in Arid and Semi-Arid Areas in Punjab-Gilgit
Coordinator: Professor Sadatoshi Tabata (Landscape Architecture, Chiba University)
Cooperating country: Pakistan
 - 6) Dynamics and Control of Soils in Tropical Monsoon Regions
Coordinator: Professor Tomio Yoshida (Soil Microbiology, Chiba University)
Cooperating country: Thailand
- The above-mentioned cooperative research projects have been supported by a Grant-in-Aid for Overseas Research from the Japanese Ministry of Education, Science and Culture.
- To enhance Asian and Pacific MAB regional cooperation, the Committee has organized or collaborated with the host countries to hold a yearly seminar entitled "Man's Impact on Coastal and Estuarine Ecosystems (MICE)" since 1984, as per the following:
- 1) The first MICE seminar held in Tokyo, Japan, in November of 1984.
Core theme: Coastal and Estuarine Ecosystems
 - 2) The second MICE seminar held in Ciloto, Indonesia, in March of 1986.
Core theme: Coral Reef Ecosystems
 - 3) The third MICE seminar held in Ranong,

Thailand, in December of 1986.

Core theme: Brackish Water Ecosystems

4) The fourth MICE seminar held in Okinawa, Japan, in September/October of 1987.

Core theme: Coral Reef and Mangrove Ecosystems

The fifth MICE seminar, "Tidal Flat Coastal Area Affected by Larger River Sedimentation", is scheduled to be held in Nanjing, China, in August of 1988.

The MICE seminars have been financed by the Japanese Fund-in-Trust, UNESCO Regular Budget and funds from host countries.

For the dual purpose of investigating foreign countries' MAB activities and to stimulate communication among foreign countries' and Japanese MAB staff, eight delegates have been sent to China, France, Germany, Indonesia, Malaysia, the Philippines, Thailand and the U.S.A. since 1983, under the support of the Travel Grant for Research Abroad Programme of the Japanese Ministry of Education, Science

and Culture. In 1988, two members of the Committee are scheduled to be dispatched to Australia, Kenya, Malaysia and Spain.

For information diffusion, the Committee has published an annual English report entitled "Researches Related to the UNESCO's Man and the Biosphere Programme in Japan" since 1978 and a biannual newspaper entitled "JAPAN InfoMAB", written in Japanese and English since 1987.

Correspondent:

Secretariat of Japanese Coordinating Committee for MAB

c/o Nodai Research Institute
Tokyo University of Agriculture
1-1-1 Sakuragaoka, Setagaya-ku
Tokyo, 156 Japan

Tel.: (03)420-2131 Ext. 673

Cable: NODAITUA TOKYO JAPAN

Yasuo Takai, Chairman, Japanese
Coordinating Committee for MAB

"MAB" Related Japanese Research Activities on Mangrove Ecology in Southeast Asia since 1980

On the tropical and subtropical coastal region, mangrove ecosystem develops combining a marine ecosystem with a terrestrial one. It is a biological system specifically diversified to the region.

It was Prof. Jiro Sugi, Tokyo University of Agriculture, Japan, and Prof. Sanga Sabhasri, Permanent Secretary of Ministry of Science, Technology and Energy, Thailand, who had previously great concern to the coastal region and noticed the necessity to investigate the mangroves to accumulate basic knowledges to secure the ecosystem, as early as 1970s. The bilateral cooperative research projects,

e. g. Thai-Japanese joint project, and international exchange program on mangrove studies were thus initiated in 1980.

MAB Related Japanese Mangrove Research Activities in Southeast Asia

In February and May 1980, a preliminary survey on mangrove ecology in Thailand was jointly carried out by a group of Japanese and Thai scientists led by Prof. Jiro Sugi, Japan, and Prof. Sanga Sabhasri, Thailand, financially supported by JSPS. Field survey was carried out to find out a proper research sites as well as details of research plans were care-

fully examined and discussed (1).

Prof. Koji Nozawa, Kagoshima University, led 7 Japanese staff to carry out a research work on conservation and utilization of mangrove forest in Thailand, supported by a Grant-in-Aid for International Research Program, Ministry of Education, Science and Culture of Japan, during November 1981 and March 1982. Prof. K. Ogino joined the expedition to take part in the forest ecological study supported by JSPS (2).

In 1983 phytosociological studies of mangrove vegetation in Thailand were initiated by Prof. Akira Miyawaki and Prof. Sanga Sabhasri with their staff supported by a Grant-in-Aid for International Research Program, MESCIJ (3).

Prof. Koji Nozawa led his second expedition on conservation and development of brackish water ecosystem in Thailand during November 1983 and January 1984. He and his staff were supported by a Grant-in-Aid for International Research Program, MESCIJ (4).

In 1984 through 1987, Prof. Jiro Sugi, Nodai Research Institute, Tokyo University of Agriculture, led a Japanese team for an applied studies of mangrove environment and physiology in tidal estuaries of Southeast Asia, supported by a Grant-in-Aid for International Research Program, MESCIJ.

In 1985 through 1987, Prof. K. Ogino and his staff carried out a field studies on species biology of mangrove ecosystem in east Indonesia, supported by a Grant-in-Aid for International Research Program, MESCIJ (5).

Tentative Conclusion

Through the research activities of bilateral and international projects thus carried out, it was tentatively concluded that the mangrove ecosystem as a working biological system of substrates, living plants and animals is maintained on a friable balance of various processes.

Once the balance is lost the recovery seems extremely difficult. What is predictable on the sites where mangrove trees are clear felled,

- 1) If the area is frequently inundated, large amount of organic matter may cause the exhaustion of the oxygen from soil and water, resulting in highly anaerobic condition which in turn leads to sterility of the soil, or
- 2) If the area is less inundated and subject to desiccation, oxidation of sulfur containing compounds results in formation of sulfate acid soil to lead the soil strong acidity. High acidity does not allow any organisms to live.

The detailed studies to enable quantitative model on the biological process workable have not yet been completed. It is deemed necessary to expand researches' attention toward this direction so that possible management scheme could be devised at the earliest possible occasion.

References

- 1) Ogino, K., A Working Plan of Forest Ecological Study, *in* Report of Overseas visits, April 1979—March 1980, Nodai Research Institute, 88-89, 1980.
- 2) Nozawa, K. (ed.), Mangrove Ecology in Thailand, 90pp., 1983.
- 3) Miyawaki, A. (ed.), Ecological Studies on the Vegetation of Mangrove Forests in Thailand, 152pp., 1985.
- 4) Nozawa, K. (ed.), Mangrove Estuarine Ecology in Thailand, 121pp., 1985.
- 5) Ogino, K. and M. Chihara (eds.), Biological System of Mangroves, 181pp., 1988.

Kazuhiko Ogino,
Ehime University

**Asian and Pacific Regional Workshop and International
Symposium on the Conservation and Management of
Coral Reef and Mangrove Ecosystems
— The 4th MICE Meeting —**

The 4th meeting of MICE (Man's Impact on the Coastal and Estuarine Ecosystems) was held in Okinawa during 25 September-3 October under the above heading as was resolved at the business meeting of the 2nd MICE meeting (Bogor, March 1986). The meeting was made of a workshop and a symposium. It was organized by an organizing committee formed by the representatives of the Japanese MAB Coordinating Committee, University of the Ryukyus and Okinawa Prefectural Government, and chaired by Prof. K. Yamazato, Director of the Sesoko Marine Science Center of the University of the Ryukyus.

The workshop in turn was made of two parts, coral reef and mangrove. The coral reef workshop was conducted at the Sesoko Marine Science Center (Sesoko Island) of the University of the Ryukyus and the mangrove workshop at the Tropical Agriculture Research Station (Iriomote Island), College of Agriculture of the same university. Altogether 22 scientists representing Korea, People's Republic of China, Thailand, Malaysia, Indonesia, Philippines, Australia and Fiji participated in the workshops. Among 22, the half were supported financially by Jakarta and New Delhi offices of UNESCO, and the remaining half were those who have been in Japan. In addition, 37 Japanese scientists participated, making the total number 59.

The coral reef workshop was conducted by 21 scientists which included 11 Asian and Pacific scientists and 10 Japanese scientists. They were divided into 4 groups. One group studied the effect of the siltation of red soil on the animal communities symbiotic with the

colonies of a coral *Pocillopora damicornis*. The second group studied the effect of red soil suspension on the mortality of the reef copepods and the third group studied the effects of siltation on the selection of substrates and settling behavior of the planula larvae of corals. The fourth group studied the effects of some detergents on the respiration and photosynthesis of corals and algae.

In the mangrove workshop, 11 foreign and 27 Japanese scientists and students participated. Because much labor-requiring field exercises were the highlights of the workshop, the assistance given by the students contributed much to the success of the workshop. The workshop was divided into three groups. The first group made ecological studies on the larger benthic animals of the mangrove swamps. The second group studied the physico-chemical nature of the soils of the mangrove swamp and the third group the root systems of the mangrove plants.

Both workshops were completed satisfactorily and safely without any major accidents, injuries and health problems. During coral reef workshop, rough weather prevented some field studies and collections of the research materials, but no major hazards resulted. Because the number of participants of the mangrove workshop exceeded the capacity of the dormitory of the Tropical Agriculture Research Station, some members had to be housed in nearby commercial facilities. It was noted that the island groceries and cooks could not exactly satisfy the food requirements of some foreign scientists.

After closing the workshops on 30 September, the participants moved to a hotel in Naha

on the following day. A business meeting to discuss about the achievements made in the present workshops and to discuss about the next MICE meeting was held at 1630-1830, 1 October. In addition to the participating scientists, Dr. J.R.E. Harger, Program Specialist of the Regional Office for Science and Technology for Southeast Asia, UNESCO, Jakarta and Prof. Y. Takai, Chairman, Japanese Coordinating Committee for MAB attended the meeting.

In this meeting, it was concluded that the 5th MICE meeting will be held in Nanjing, China and that the meeting will consist of a seminar and field study which will focus on the conservation of estuarine ecosystems. On behalf of the Chinese National Committee for MAB, Prof. D. Zhu extended invitations to all the members attending.

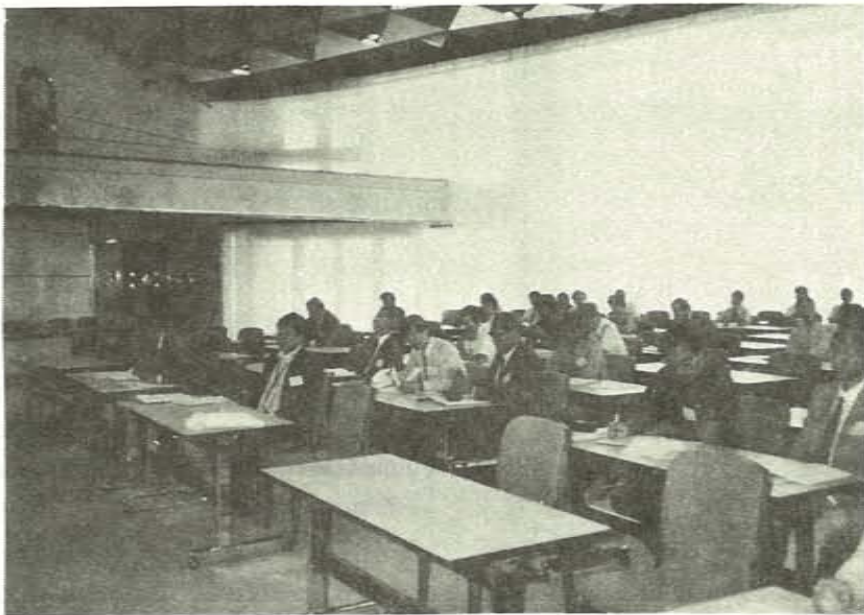
On 2-3 October, the International Symposium on the Conservation and Management of Coral Reef and Mangrove Ecosystems was held in a newly established Conference Hall of Okinawa Convention Center at Ginowan City. In addition to the participants of the



Professor K. TAMARU, Japanese National Commission for UNESCO addressing at the opening of the symposium.

workshops, many scientists and students attended. Altogether 48 foreign participants representing 23 organizations of 13 countries and 117 Japanese participants of 17 universities and additional other organizations attended the symposium.

Four distinguished speakers released the opening addresses at the Opening Session. They were Prof. Y. Agarie, President of the University of the Ryukyus, Mr. K. Asomura, Deputy Director-General, Monbusho, Prof. K. Tamaru, Japanese National Commission for



The symposium participants at the scientific session.

UNESCO, and Dr. J.R.E. Harger, Regional Office for Science and Technology for Southeast Asia, UNESCO. The scientific session was started with the keynote speech of Prof. J. Sugi of Tokyo University of Agriculture. Then, 15 papers on coral reefs and 11 papers on mangroves were presented.

The papers on the coral reefs mainly concerned about the results of the basic studies on the natural and human disturbances on coral reef ecosystems. The reports covered such wide geographical areas as Red Sea, Indian Ocean, Southeast Asia, Great Barrier Reef of Australia, Western Pacific, and Eastern Pacific. The papers on mangroves dealt mainly with the results of the studies concerned about present status on the conservation and management of mangroves of India, Southeast Asia, Australia, China, and Japan.

At the end of the symposium sessions, the closing remarks on coral reefs and mangroves were released by Prof. P. Glynn, University of Miami and by Dr. M. Vanucci, UNEP/UNESCO, respectively. It should be noted that at that time, a resolution that an international society for mangrove studies should be established was adopted.

In the evenings of 1 and 3 October, a welcome and a farewell parties were given by Mr. J. Nishime, Governor of Okinawa Prefecture and by Prof. Y. Agarie, President of the University of the Ryukyus, respectively, and the participants of both workshops and symposium enjoyed Okinawan hospitalities and Okinawan dishes.

Kiyoshi Yamazato,
The University of the Ryukyus

**Japanese Coordinating Committee for MAB
Editorial Board**

Norio OGURA
Hiroki HARAGUCHI
Yusho ARUGA