VIII. BIOTROP - SEAMEO REGIONAL CENTER FOR TROPICAL BIOLOGY

Historical background

The idea to establish a regional organization in order to improve the quality of education in South East Asia was conceived in a meeting of Ministers of Education and Culture in 1965. This idea took shape and was realized in an organization called the SEAMEO (South East Asian Ministers of Education Organization) which was officially inaugurated on February 7, 1968 by the signing of the SEAMEO Charter by seven Ministers of Education, representing the Governments of Indonesia, Laos, Malaysia, Philippines, Singapore, Thailand, and South Vietnam.

In 1971 the Republic of Khmer followed as the eighth member country, whereas in 1973 France became an associate member, followed by Australia and New Zealand in 1974.

One of the main goals of SEAMEO is to enhance the regional cooperation among the South East Asian Nations through science, education, and culture.

In order to achieve this goal the Council of the SEAMEO (SEAMEC) agreed in 1966 to establish the following centers:

1. The Central Coordinating Board for Tropical Medicine and Public Health with "National Centres" in Indonesia, Laos, Malaysia, Philippines, Thailand, and South Vietnam (C C B TROPMED);
2. Regional Center for Graduate Study and Research in Agriculture in Los Baños, Philippines (SEARCA);
3. Regional Center for Education in Science and Mathematics in Penang, Malaysia (RECSAM);
4. Regional English Language Center in Singapore (RELC).

The above four centres were followed by the establishment of the Regional Center for Tropical Biology (BIOTROP) in Bogor, Indonesia and the Regional Center for Educational Innovation and Technology (INNOTECH) in Saigon.

At the moment a seventh Regional Center for Applied Research in Archaeology and Fine Arts (ARCAFA) is being prepared.

Besides these Regional Centers, SEAMEC has also a Secretariat, the SEAMES (South East Asian Ministry of Education Secretariat) located in Bangkok. The function of SEAMES is to act as the executive body of the SEAMEO.

BIOTROP (Address: P.O.Box 17, Bogor, Indonesia)

In 1968 it was agreed to establish a Regional Center for Training, Research and Post-Graduate Study in Tropical Biology in Bogor, Indonesia. This name was later changed into Regional Center for Tropical Biology or BIOTROP.

At first the Center had no status of its own, but was grafted on the National Biological Institute of the Indone-

sian Council of Sciences. With the gradual development of its activities and also in order to adapt its status to that of a regional centre, BIOTROP was separated from the National Biological Institute. But this does not mean that BIOTROP became isolated. Cooperation with research institutions in and outside Indonesia is still being maintained and is becoming more and more intensive. The main objective of BIOTROP is to assist the member countries in identifying biological problems, the solution of which will enhance economic development and to that purpose carries out research, training programs and other activities in and outside Indonesia, and disseminates information on these activities and research results through publications.

BIOTROP professional programs cover the following areas:

1. Tropical Forest Biology
2. Tropical Pest Biology
3. Tropical Aquatic Biology.

These programs have the following activities:

a. Short term training courses (six weeks)
   Attended by two participants from each SEAMEO member country appointed by the respective Ministers of Education.
b. Long term training courses (six months)
   Attended by participants of SEAMEO member countries. The number of participants is in accordance with the facilities available at BIOTROP and cooperating institutions.
c. Seminars, workshops and regional conferences on special topics.

If necessary, the activities under a, b and c can be carried out outside Indonesia.

Next to these activities BIOTROP maintains a "Clearing House and Information Centre" composed of a library, documentation, editing and public relations sections. For these activities BIOTROP cooperates with the Central Library for Biology and Agriculture, as well as with other libraries and documentation centres in and outside Indonesia, particularly in South East Asia.

From 1968 up to June 30, 1973 BIOTROP was in its interim period and since July 1, 1973 entered its first 5 year permanent phase.

During the interim period the greater part of BIOTROP budget was borne by the United States Government through the SEAMES and the remainder by the Government of Indonesia. Within this first permanent phase the "Capital and Operating Funds" are shared on a 50% basis between the Government of Indonesia and the Government of the United States, whereas the "Special Funds" are shared on a 50% basis between the United States and the SEAMES.

During the last meeting in January 1973 in Phnom Penh the

Council (SEAMEC) approved the first Five Year Development Plan (1973-1978) and the Enabling Instrument of BIOTROP.

Besides, on June 30, 1973 an agreement was signed between the Government of Indonesia, SEAMEO and the Government of the United States on the aid program to BIOTROP, covering also BIOTROP budget for 1973-1978.

BIOTROP activities since 1968 up till now are summarized as follows:

a. Training courses (short - and long term): 24 courses have been held covering the following topics:
Tropical Forest Biology: Ecological and Economic Plant Taxonomy - Ecophysiology of Tropical Rain Forest - Ecological Plant Physiology - Chemistry of Natural Products - Forest Types and Forest Fungi - Human Biology - Tropical Forest Plant Community - Tropical Forest Faunistic Community - Basic Techniques for the Plant Sciences - Techniques in Mycological Research - Botanical Exploration - Ecological Considerations in Silvicultural Practice.
Tropical Pest Biology: Weed Science - Ectoparasite Biology - Pesticide Ecology.
Tropical Aquatic Biology: Practical Fish Breeding Techniques.
The training courses have been attended by about 259 participants from 8 SEAMEO countries.
Through its training activities, BIOTROP has already made an impact upon the educational development of some aspects of the biological sciences in Southeast Asia, particularly in the field of forest biology for proper ecological consideration in forest management, in the field of aquatic biology for proper management of fish-culture, and in the field of tropical pest biology as a basis for proper policy in pest management.

b. Research
Tropical Forest Biology — The welfare of the people of Southeast Asia depends to a large extent on natural resources, especially the renewable ones, such as forests. Forest not only provide timbers and other minor products, but they are also sources of water as well as a storehouse of genetic resources which are important in agriculture and forestry.
In order to assure continuous production, some studies have been carried out on silvicultural aspects of the lowland Dipterocarp forest based on observations of the current exploitation. On the other hand, large areas of the tropical forests have been logged for their timbers, using various methods. In many places in the region the logged forests were neglected and left to nature for their recovery. Frequently as the result of the logging operations

the cutover forests did not recover and redevelop, but instead deteriorated into economically 'useless' belukar (secondary forest) or alang-alang (*Imperata cylindrica*) fields.

A study of the problem of damage of residual trees as a result of mechanical logging was conducted in East Kalimantan in cooperation with the Kaltimex Jaya Timber Company.

In forest under natural regeneration, it is sometimes difficult, slow or even impossible to get adequate stocking over the whole area, within a reasonable period of time. Regeneration in such failed or backward patches, especially in the more intensively managed forest, is generally completed by sowing or planting.

Thus studies on cold storage of seeds of *Hopea odorata* and artificial defoliation of *Shorea chrysophylla* Ridl. were also conducted in Darmaga, Forest Research Institute Garden.

Rattans represent important forest products virtually peculiar to the Southeast Asia region. Their uses are legion in village life in Southeast Asia, but at present the two main uses are in the furniture industry and in the timber industry. Due to their important species in the market at the present time, a study of palm flora in Indonesia was also carried out. It is intended as a short elementary introduction to rattans as forest plants, a brief guide to their taxonomy and an indication of their collection, processing and marketing.

Tropical Pest Biology — Through its research activities, BIOTROP had initiated research undertaking to study the ecological aspects of pest on the productive value of cropping and open-water ecosystems and to develop sound guidelines for an integrated control approach in a given situation. Some lakes in Java with different stages of sudd formation have served as practical examples of cooperation between engineers, hydrologists and weed ecologists and will be used for training sites for the younger generation who will be responsible in the future maintenance of newly built dams in Southeast Asia.

The recent (June 1974) Southeast Asian Workshop on Aquatic weeds has reflected another aspect of BIOTROP's mission in the dissemination of research findings through seminars, workshops and the like. The workshop was able to ascribe degrees of importance of some aquatic weed species in Southeast Asia, providing a common platform for comparison and exchange of ideas for workers in the field of water resources management in general and aquatic weed control in particular. The workshop was attended by 85 participants from 13 countries.

Tropical Aquatic Biology — A research project has been initiated on "the effect of pesticides in fish production". A preliminary "study on the toxicity level of pesticides under laboratory conditions" was completed.

c. Publications
BIOTROP BULLETIN, Monograph series on species subjects (Irregular); published up to this date: nos. 1-8.
BIOTROP NEWSLETTER, quarterly, published up to this date: nos. 1-8.
Library Accession Lists published up to this date: nos. 1-3.
Seminar/workshop papers, scholar reports, survey reports, bibliographies, research reports.
Publications are available on exchange and sale.

d. The Tropical Pest Biology Program has undertaken the compilation of species identification sheets of Weeds, of which the first ones are of the family Nelumbonaceae and Hydrocharitaceae.

BIOTROP has already received assistance from scientific institutions or governments who sent their scientists to assist in training and research programs, books, and equipment, such as from the Danish Government, the Netherlands Government, the British Government, the Canadian Government and private scientific organizations in the United States of America, England and the Netherlands.

Through the "training and research scholarships" organized by the SEAMEO, the participants get the opportunity to know and see for themselves the conditions and way of life with all its aspects in the respective SEAMEO member countries, besides increasing their own knowledge and skill in their respective subject fields.

Understanding, exchange of experience and knowledge about the similarities and differences as well has given each of them a sense of solidarity which is of much importance in enhancing the unity and cooperation between the Southeast Asian countries.

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