Sabah Biodiversity Centre

Background

The Sabah Biodiversity Enactment 2000 was gazetted in year 2000 and enforced in May 2002, due to the increasing concern and awareness for the need to manage Sabah's rich biological resources holistically and prudently. On the 6th December, 2007, finally, the 1st Sabah Biodiversity Council meeting was held. The State's Natural Resource office was appointed as the Council's secretary. One of the main decisions taken was for the secretary to discuss with the relevant departments for the setting up of the Sabah Biodiversity Centre.

The Sabah Biodiversity Centre was instrumental in preparing the draft material of the 1st Council Meeting for NRO Office evaluation and arrangement of the 1st Council Meeting. During the meeting, SBC also conducted a brief presentation to introduce what biodiversity is all about and its importance to members of the Council.

The enactment, with the formal setting up Sabah Biodiversity Centre later on and with the support of existing State's related legal framework, will certainly strengthen the management, conservation, protection and regulations of Sabah's rich biological resources for Sabah's natural environment protection and socio-economic development.

Personnel

Towards the end of 2007, En. Julius Kodoh the assistant head of Sabah Biodiversity Centre left SBC/FRC/SFD for UMS to take up a better remuneration post there.

The current year also saw the SBC successfully getting a grant under MOSTI's (Ministry of Science, Technology and Innovation) e-science research grant to implement a study entitled " Evaluation of Tourism Potential in Forest Reserves using GIS as a Tool". Subsequently, in October, a Contract Officer in the name of Ms Rosalia C Corpuz was appointed (Q41) for a 1.5 year contract under the project to assist SBC in executing the agreed work plans of the project. In addition, due to the increasing work loads of the "Projek Kebun China" which SBC acts as secretariat, FRC also engaged a contract sub-professional officer to specifically look after the project. A general worker who is a graduate in computer programme related works was also engaged by FRC to assist FRC in maintaining the SFD's website as well as in helping SBC in its Bio-database Project.

As of end of 2007, SBC was manned by 7 staff: 1 permanent professional, 2 contract-professional, 1 Contract sub-professional, 1 clerical staff, 1 general worker and one driver. The permanent professional is the Head of the Sabah Biodiversity centre Unit holding Q48. The 2 contract officers (Grade Q41) are under the e-science project with a specific task and responsibility to implement the 2 e-science project approved for SBC/FRC/SFD. The 1 sub-professional is tasked to assist specifically in the "Projek Kebun China". The other 3 are; 1 clerical staff, 1 general worker and 1 driver. Due to the limited number of staffs, the various works tasked to SBC were thinly spread-out among themselves in implementing the work programmes.

Core Programme and Activities

In line with the listed function and responsibilities of the Sabah Biodiversity Centre as stipulated in provision 9 of the Sabah Biodiversity Enactment 2000, the following 5 main core programme and activities were outlined to guide the Sabah Biodiversity Centre in undertaking its day to day activities particularly in making the necessary preparation for the formal establishment of the SBC. The 5 main core programme and activities are:

i. Development of a Holistic and Prudent Biodiversity Management Strategy and its Sustainable and Optimum Utilization in Sabah
ii. Development of a Database and Information System for Sabah's Biological Resources
iii. Traditional Knowledge & Benefit-Sharing of the Biological Resources
iv. Promoting Education and Knowledge of the Biodiversity in Sabah.
v. Promoting the Identification of New Natural and Biotechnological products derived from Biodiversity and Biological Resources of the State

Programme and Activities Throughout The Year

BBEC Phase 2

SBC attended a series of meetings and workshops in the earlier part of the year pertaining to work plans for BBEC Phase 2. BBEC phase 2 is planned in recognizance of outputs under phase 1 which is planned to be utilized and integrated into the various sectors and government agencies in implementing the related biodiversity programme and activities. Basically, it intends to strengthen the system of biodiversity and ecosystems conservation through a comprehensive and sustainable approach. It envisages the spirit of working together among various government related sectors and stakeholders towards a common goal, conservation of biodiversity and ecosystems in Sabah.

Under BBEC phase 2, the Sabah Biodiversity Enactment 2000 shall be the guiding legal framework with the Sabah Biodiversity Council, Natural Resource Office and Sabah Biodiversity Centre as prominent Government Agencies in enhancing the functions of the BBEC Phase 2 Project Steering Committee.

The SBC was in attendance representing SFD during the signing ceremony of the Minutes of Meetings between JICA and Authorities concerned of the Government of Malaysia on the Japanese Technical Cooperation Programme for Bornean Biodiversity and Ecosystems Conservation II which was held on 6th March, 2007.

FRC Open Day

SBC was again given the privilege by FRC/SFD to organize and act as the secretariat in organizing the FRC Open Day in conjunction with the Sandakan Festival. It was held on the 9th June 2007. The objectives of the event were as below:

i. To raise awareness about the forest research program of the Sabah Forestry Department.
ii. To create a sense of appreciation (or value) of forest research at the Forest Research Centre
iii. To share some of the knowledge and information outcomes of the research to the general public and students.

It is one of the many events in which SBC was involved in promoting education and knowledge of biodiversity in Sabah to the general public. Though it was held only for one day, however, it managed to attract more than 1,000 visitors from a wide spectrum of the communities including school going children, teachers, professionals and the people at large.

The Development of Sandakan Rain Forest Park Project (Projek Kebun China)

This project in Malay entitled "Projek Pembangunan Taman Hutan Hujan Sandakan" is sited at the Kebun China Forest Reserve. In this Phase 2, it received funding under RMK9 from Jabatan Landskap Negara, channel through Kementerian Pelancungan, Kebudayaan dan Alam Sekitar Negeri Sabah. SBC acted as the secretariat with The Head of Forest Research Centre himself as the Project Manager.

A ceiling allocation of RM3 million was allocated to this project. It aims to develop Kebun China Forest Reserve as an Icon for Sandakan and a must see / visit tourism attraction areas being located at the heart of Sandakan Municipality area. Its development concept is forest based recreational area incorporating botanical and nature education, recreational facilities, Conservation areas and values as well as eco-tourism elements. Towards the end of 2007, various facilities were constructed and made ready for used by all visitors namely;

- The Kebun Cina Gallery: It houses the various exhibits concerning the history of Kebun Cina FR and the rich biodiversity that grows naturally in the areas.
- The Pitcher Plant Garden: It was constructed to guide visitors to see the various Nepenthes plants that grow naturally in the area. The various signboards along this Boardwalk allow visitors to learn and identify for themselves the various Nepenthes, its various features and its natural requirements.
- Children Playground: It has some facilities for kids to play and provide joggers and visitors a resting place.
- Topotype/Nature Trail: Jungle trail was constructed in the areas to allow people to trail the Kebun Cina FR's and to experience the forest and nature wonders of Kebun China forests. These trails will guide people to experience forest nature and also see some of the topotype tree species of which their original specimens was used to formally described taxonomically the tree species concerned.

A Seminar was organized on 15th December, 2007 with the following objectives;

1. To explain & demonstrate the attractive features of Sandakan Rainforest Park to eco-tourism stakeholders,
2. To solicit suggestions on the development of SRFP from eco-tourism stakeholders and
3. To initiate long-term collaboration between SRFP and all stakeholders.

This project is managed under a Joint Management Committee and Joint Chairmanship between SFD and MPS. A Consultant is engaged to help further develop the concept and design of this project.

Identification and Updating Specimen Collection at SANS Herbarium

Identification and updating plant specimen collection at SANS Herbarium continued undertaken as there are still lots of specimens that have yet to be identified. The expertise of Dr. Anthony Lamb and Mr Leopold Madani continued to be sought after by SBC/FRC to assist in these important work, which without them would hamper botanical revision work at the SANS herbarium.

During the period of 2007, Dr Anthony Lamb helped to scientifically identify 320 specimens of various SAN'S specimens mainly under the families of Orchidaceae, Ericacaea, Nepenthaceae, Zingiberaceae, Lowiaceae and Apocynaceae.

Development of a Database and Information System

It is a State's RMK9 Development Project with an allocation of RM1.3 million. It involves a number of sections that undertake biodiversity related studies and specimens collection. The project is monitored through a Project Steering Committee and Technical Committee to steer and guide the implementation of this project. The project steering committee is chaired by the Head of FRC, whilst the Technical Committee was chaired by The "Pengurus Project". A couple of meetings of both Steering and Technical Committee took place in 2007.

Apart from officers from the relevant sections in SBC/FRC and IT Division in SFD HQ, JPKNS (Jabatan Perkhidmatan Komputer Negeri) is also a member in both the committee to assist SBC/FRC in developing the Biodatabase. JPKNS shall play a lead role in developing the Bio-database system with input from various officers in FRC.

Some Computer Hardware and Software were procured in 2007 and distributed to the relevant sections to expedite input of available data. This Bio-database system shall data based all biological specimens collected in FRC which include specimens collected at the SANS herbarium, the Insectarium and all other available Sabah's biodiversity information which have been published. It will also incorporate data basing of the FRC's library books, journals etc collections using the establish ILMU system currently utilized by the Sabah State's Library.

As of end of 2007, a total of 32,534 data of SANS collection has been digitized into BRAHMS under the project. For the library components, a total of 3,745 books accession covering about 80% of FRC's books has been digitized and inputted on-line under the ILMU system. However, for the later rechecked is needed particularly in its classification aspect as advised by the State's Library. Other information that has been digitized using MS-Access software are: Aves or birds (528 sp), Reptilia (190 sp), Amphibia (109 sp), Mammals (226 sp), 6 classes of Fish (758 sp), Gastropoda (100 sp), Pteridophytes or Ferns (793 sp) and others. Most of these non-plants are supported with pictures to make the Biodatabase attractive.

Input of all these data was made possible through contracting of work to selected individuals under the state's RMK9 fund.

EScience Project

Study on the distribution and used of medicinal ferns and poisonous plants in Sabah

This is a study with research grant from MOSTI.

Objectives of this study are:

1. To determine the distribution and used of medicinal ferns and poisonous plants in Sabah
2. To build up a database of medicinal ferns and poisonous plants in Sabah
3. To identify species, sites and habitats of medicinal ferns and poisonous plants for in situ conservation.

This study has been carried out since December, 2006 for a period of 2 years. Based on information and references available from various sources, a questionnaire was formulated to guide the field work in achieving the objectives of this study.

Field survey was conducted in various districts namely; Penampang, Keningau, Tambunan, Kinabatangan, Kudat, Pitas, Kota Marudu, Kota Belud, Tawau and Semporna. Three villages were chosen for each district, and at least 5 respondents were interviewed from each village.

So far, a total of 82 respondents took part in the interview. It discovers 33 species of medicinal ferns and 48 species of poisonous plants which are used by the local communities.

However, some plants collected have yet to be identified and verified.

Data collected are analyzed and stored in a database as required by the project. Some of the rare ones shall be planted in ex-situ conservation areas for further study.

A preliminary report entitle "Some Information on a Study of Poisonous Plants in Sabah" under this Project was prepared during the year.

More information regarding the species shall be added as this study progresses.

Evaluation of Tourism Potential in Forest Reserves using GIS as a Tool

Another study with research grant from MOSTI

Objectives of this study are:

1. To establish a model process for assessment of tourism potential in forest reserves utilising Geographic Information System (GIS)
2. To establish a model process for zoning and structuring tourism development in forest reserves utilising GIS
3. To identify potential sites for development of tourism facilities & services using GIS
4. To evaluate the tourism development potential sites in forest reserves of Sabah using GIS
5. The study is planned to cover 13 forestry districts east of Sabah to include the islands of Banggi, Balambangan and Malawali in Kudat, Pitas, Telupid, Beluran, Deramakot, Sandakan, Kota Kinabatangan, Ulu Segama Malua, Lahad Datu, Kunak, Semporna, Tawau and Kalabakan.

The project is based on the multi-dimensional concept of tourism and will be represented in a mapping format incorporating different categories of map layers namely: natural resources, man-made features, existing and planned tourism resources and, socio-cultural and historical landscapes. This forms the foundation on which potential can be assessed based on accessibility, recreation potential and, the natural and cultural uniqueness of the destination.

GIS has been applied to tourism planning and development in many countries. In Australia and New Zealand for instance, GIS has been utilized in tourist flows models. As a tool, supported by sound research, GIS has the capability to bolster the planning and development of sustainable tourism not only within the forest reserves but also the whole of Sabah.

Trus Madi Conservation Management Plan

SBC was involved in the discussion and planning of the above plan and have attended a series of meeting regarding the project. Specifically, SBC was requested to assist in contributing to a component on the planning and the need to conduct Scientific Expedition on specific areas which has not been explored to unveil the biodiversity of the areas during the implementation phase of the project.

Difficult things take a long time, impossible things a little longer.

– Author Unknown