

Jabatan
Alam Sekitar



BAB / CHAPTER 6



Department of
Environment



KOMUNIKASI STRATEGIK

PROMOSI KESEDARAN ALAM SEKITAR (SEKOLAH)

Sekolah Lestari - Anugerah Alam Sekitar

Jabatan Alam Sekitar dengan kerjasama LESTARI, UKM telah mengadakan satu bengkel pada 13-14 Januari 2003 yang dihadiri oleh 60 peserta untuk memurnikan draf Garis Panduan Ke Arah Pembentukan Sekolah Lestari dengan mengambilkira pandangan daripada pelbagai pihak seperti agensi-agensi Kerajaan, swasta dan Badan Bukan Kerajaan.

Hasil daripada beberapa siri perundingan pada tahun 2003, dokumen Program Sekolah Lestari bertajuk Asas Pembentukan Sekolah Lestari telah diterbitkan. Dokumen ini bertujuan untuk membantu sekolah memperkukuhkan proses pelaksanaan program dan aktiviti pendidikan alam sekitar yang sedia ada. Melalui program ini, pengetahuan, pembangunan kemahiran dan nilai murni alam sekitar dapat diterapkan dalam empat komponen program iaitu Pengurusan, Kurikulum, Kokurikulum dan Penghijauan yang melibatkan pengurusan sekolah, guru-guru, staf am dan pelajar-pelajar sekolah.

Projek Wira Alam

Projek Wira Alam (PWA) yang telah dilancarkan pada 5 Jun 1998 adalah program JAS dengan kerjasama Persatuan Pencinta Alam Malaysia (MNS) dan Kementerian Pendidikan Malaysia. Projek ini dibahagikan kepada tiga (3) tahap iaitu Tahap 1 (Wira Diri); Tahap 2 (Wira Komuniti) dan Tahap 3 (Wira Alam). Setiap pelajar perlu menyelesaikan tugas yang ditetapkan di dalam buku aktiviti Projek Wira Alam setiap tahap sebelum ke peringkat seterusnya.

STRATEGIC COMMUNICATIONS

PROMOTION OF ENVIRONMENTAL AWARENESS (SCHOOLS)

Sustainable School - Environment Award

The Department of Environment with the cooperation of LESTARI, UKM held a workshop on 13-14 January 2003 which was attended by sixty participants to fine-tune the Draft 'Guidelines for the Establishment of Sustainable Schools', taking into account the views and inputs from various parties such as Government agencies, the private sector and Non-Governmental Organizations.

After a number of consultative meetings in 2003, a document entitled "Basis for the Establishment of Sustainable School" was published. The document aims to assist schools in strengthening the implementation of environmental education programmes and activities. Knowledge, skill development and positive environmental values are infused into the four components of the program namely Management, Curriculum, Co-curriculum and Greening activities which will involve the school management, the teaching and general staff as well as the school children.

Wira Alam Project

Launched on 5 Jun 1998, the 'Wira Alam' Project is a DOE initiated programme with the cooperation of the Malaysian Nature Society (MNS) and the Ministry of Education (MoE). The project is divided into three (3) stages namely, Level 1 (Wira Diri); Level 2 (Wira Komuniti) and (Level 3 Wira Alam). Each participating student must complete the tasks provided in the activity book at each level before advancing to the next.

Pada akhir tahun 2003, seramai 8,780 pelajar telah menyertai Tahap 1 (Wira Diri); sejumlah 1,019 pelajar menyertai Tahap 2 (Wira Komuniti) dan 182 pelajar mencapai Tahap 3 (Wira Alam). Kumpulan pertama yang terdiri daripada 21 pelajar dari tiga (3) buah sekolah telah menyempurnakan peringkat Tahap 3 (Wira Alam) dan dianugerahkan sebagai WIRAALAM dalam satu majlis yang dirasmikan oleh Dato' Seri Law Hieng Ding, Menteri Sains, Teknologi dan Alam Sekitar.

By the end of 2003, a total of 8,780 students had participated at Level 1 (Wira Diri); 1,019 student at Level 2 (Wira Komuniti) and 182 students reached Level 3 (Wira Alam). The pioneer group of 21 students from three schools completed Level 3 and were recognised as WIRA ALAM (Environmental Heroes) in a ceremony officiated by the Minister of Science, Technology and Environment, Dato' Seri Law Hieng Ding.

Nama Name	Sekolah School	Guru Penasihat Advisory Teachers
Ahmad Muzani b. Mat Yoong Fei Yan Norismahita bt. Ismail Noor Ain bt. Roslan Khairul Nizam b. Abdullah Fawzli b. Muhammad Salim	Sek. Men. Keb. Bandar Baru Bangi, Selangor	Pn. Che Maimon
Chung Sze Meang Chung Sze Hui	Sek. Men. Keb. Batu Kawa, Sarawak	En. Arrick Bantin
M. Sabah b. Jumain Hairuddin b. Achmad Rugaya bt. Ali Juriani bt. Mohammad Kasma b. Hj. Habba Siti Hasnawati bt. Amir Suriati bt. Biru Hashim b. Abdul Rahim Salnah bt Arsah Arnoldus Sanga Bayene Taufik b. Hj. AbdulLatif Syarnizi b. Wahadi Haslina bt. Labo	Sek. Men. Keb. Agaseh Lahad Datu, Sabah	En. Suharpi Lasuddung

Satu Bengkel Projek Wira Alam untuk 80 guru-guru penasihat Kelab Pencinta Alam juga telah dianjurkan pada 25- 27 Ogos 2003 di Taman Rimba Templer, Selangor. Bengkel anjuran bersama JAS dan Persatuan Pencinta Alam Malaysia (MNS) bertujuan untuk melatih guru berkenaan dengan pelaksanaan aktiviti alam sekitar di bawah Projek Wira Alam di sekolah.

A Wira Alam workshop for 80 advisory teachers from the School Nature Clubs was held on 25-27 August 2003 at Templer Park, Selangor. The workshop was organized by DOE and MNS to assist teachers to be familiarized with the implementation of activities for the Wira Alam Program in schools.



Gambarfoto 6.1 : Majlis Anugerah Wira Alam 2003
 Photo 6.1 : Wira Alam 2003 Award Ceremony

Projek Riadah Alam Sekitar (PRIAS)

Program tahunan ini yang bermula sejak 1992 merupakan kerjasama antara Jabatan Alam Sekitar, Persatuan Sains Malaysia (MSA), Tetra Pak (M) Sdn. Bhd. dan Kementerian Pendidikan Malaysia. Projek ini memerlukan pelajar membuat kajian berdasarkan tema alam sekitar yang dipilih bagi tahun tertentu dan pelajar adalah dikehendaki membuat kajian terhadap perkara tersebut.

Tema PRIAS untuk 2003 ialah 'Kitar Semula Kertas' dan pemenangnya ialah:

- Tempat Pertama : Sek. Men (P) Sri Aman, Petaling Jaya, Selangor
- Pelajar : i. Phoong Yoke Xi
 ii. Teo Yoke Teng
 iii. Lim Yuet Chern
 iv. Nor Dalilah Ismail

Hadiah Wang Tunai RM2,500.00, Sijil & Lawatan ke Kilang Tetra Pak di Singapura.

- Tempat Kedua : SM Sains Tengku Muhammad Faris Petra, Pengkalan Chepa, Kelantan
- Pelajar : i. Mohd Rifhan Syahmi B. Mohd Rusdi
 ii. Mohd Aiman Izzat B. Muhamad



Gambarfoto 6.2 : Model Projek PRIAS bertajuk 'Sisa Pepejal'
 Photo 6.2 : PRIAS Project - Solid Waste

Riadah Alam Sekitar (PRIAS) Project

This annual program started since 1992 is a joint environmental initiative between DOE, the Malaysian Scientific Association (MSA), Tetra Pak (M) Sdn. Bhd. and the Ministry of Education (MoE). A specific environmental theme would be selected for the year and participating students would be expected to undertake "research" on the subject.

The theme for PRIAS 2003 was 'Paper Recycling' and the winning entries were from:

- 1st Place : Sek. Men (P) Sri Aman, Petaling Jaya, Selangor
- Students : i. Phoong Yoke Xi
 ii. Teo Yoke Teng
 iii. Lim Yuet Chern
 iv. Nor Dalilah Ismail

Cash prize of RM2,500.00, Certificates and a visit to the Tetra Pak Factory in Singapore.

- 2nd Place : SM Sains Tengku Muhammad Faris Petra, Pengkalan Chepa, Kelantan
- Students : i. Mohd Rifhan Syahmi B. Mohd Rusdi
 ii. Mohd Aiman Izzat B. Muhamad

- iii. Khairolhida Bt. Ibrahim
- iv. Nurul Nadirah Bt. Ahmad Najmee

- iii. Khairolhida Bt. Ibrahim
- iv. Nurul Nadirah Bt. Ahmad Najmee

Hadiah Wang Tunai RM 1,250.00, Sijil dan Lawatan ke Kilang Tetra Pak di Malaysia

Cash prize of RM 1,250.00, Certificates and Visit to the Tetra Pak factory in Malaysia.

- Tempat Ketiga : SMK Seri Keramat, Lembah Keramat, Kuala Lumpur
- Pelajar : i. Fatimah Zahirah Bt. Mohd Damanhuri
ii. Hidayatul Asyiqin Bt. Mohd Yusof
iii. Nadia Salmi Bt. Zakaria
iv. Siti Janatul Adeni Bt. Ab. Latif

- 3rd Place : SMK Seri Keramat, Lembah Keramat, Kuala Lumpur
- Students : i. Fatimah Zahirah Bt. Mohd Damanhuri
ii. Hidayatul Asyiqin Bt. Mohd Yusof
iii. Nadia Salmi Bt. Zakaria
iv. Siti Janatul Adeni Bt. Ab. Latif

Hadiah Wang Tunai RM750.00 dan Sijil

Cash prize of RM750.00 and Certificates

- Tempat Ketiga : SMK Tarcisian Convent, Ipoh, Perak
- Pelajar : i. Hajjariah Bt. Jaapar
ii. Manpreet Kaur Sandhu a/p Sahib Singh
iii. Sin Hui Ling
iv. Thenmoli a/p Palaniyappan

- 3rd Place : SMK Tarcisian Convent, Ipoh, Perak
- Students : i. Hajjariah Bt. Jaapar
ii. Manpreet Kaur Sandhu a/p Sahib Singh
iii. Sin Hui Ling
iv. Thenmoli a/p Palaniyappan

Hadiah Wang Tunai RM750.00 dan Sijil

Cash prize of RM750.00 and Certificates

10 Hadiah Saguhati bernilai RM100.00 setiap satu dan Sijil:

10 Consolation Prizes of RM 100.00 each and Certificates were presented to :

- i. SMK Dato Permaisuri, Miri, Sarawak
- ii. Kolej DPAH Abdillah, Petrajaya, Kuching, Sarawak
- iii. SMK Lutong, Miri, Sarawak
- iv. SMK Lutong, Miri, Sarawak
- v. SM Sung Siew (CF), Sandakan, Sabah
- vi. SM Sains Pokok Sena, Pokok Sena, Kedah
- vii. SMK Jalan Damai, Bukit Mertajam, Pulau Pinang
- viii. SMK Convent Teluk Intan, Perak
- ix. SMK Beserah, Kuantan, Pahang
- x. SM Sains Dungun, Dungun, Terengganu

- i. SMK Dato Permaisuri, Miri, Sarawak
- ii. Kolej DPAH Abdillah, Petrajaya, Kuching, Sarawak
- iii. SMK Lutong, Miri, Sarawak
- iv. SMK Lutong, Miri, Sarawak
- v. SM Sung Siew (CF), Sandakan, Sabah
- vi. SM Sains Pokok Sena, Pokok Sena, Kedah
- vii. SMK Jalan Damai, Bukit Mertajam, Pulau Pinang
- viii. SMK Convent Teluk Intan, Perak
- ix. SMK Beserah, Kuantan, Pahang
- x. SM Sains Dungun, Dungun, Terengganu

Kem Kesedaran Alam Sekitar (KeKAS)

Pada tahun 2003, seramai lebih kurang 485 guru sekolah rendah dan menengah di seluruh Malaysia telah menghadiri 12 Bengkel Fasilitator Kem Kesedaran Alam Sekitar (KeKAS) dengan menggunakan modul KeKAS iaitu Ekosistem Marin, Hutan, Tanah Tinggi, Sungai, Perbandaran, Pertanian Organik dan Perladangan. Manakala 4,477 pelajar sekolah telah menghadiri 81 KeKAS yang dilaksanakan oleh JAS Negeri di seluruh Malaysia dengan kerjasama Jabatan Pendidikan Negeri dan agensi-agensi lain.

Pertandingan Debat Alam Sekitar Antara Institusi Pengajian Tinggi (IPT)

Pertandingan kali ke 13 ini adalah anjuran bersama Jabatan Alam Sekitar dengan Majlis Debat Universiti-Universiti Malaysia (MADUM), Dewan Bahasa dan Pustaka, dan Kementerian Pendidikan Malaysia. Sejumlah 19 Institusi Pengajian Tinggi Malaysia telah mengambil bahagian dalam pertandingan ini yang diadakan pada 27-31 Julai 2003 di Universiti Putra Malaysia iaitu:

- Universiti Pertanian Malaysia (UPM)
- Universiti Kebangsaan Malaysia (UKM)
- Universiti Malaya (UM)
- Universiti Islam Antarabangsa (UIA)
- Universiti Teknologi Malaysia (UTM)
- Universiti Sains Malaysia (USM)
- Universiti Utara Malaysia (UUM)
- Universiti Teknologi Mara (UiTM)
- Universiti Malaysia Sarawak (UNIMAS)
- Universiti Malaysia Sabah (UMS)
- Universiti Pendidikan Sultan Idris (UPSI)
- Kolej Universiti Islam Malaysia (KUIM)
- Kolej Universiti Teknologi Tun Hussien Onn (KUiTTHO)
- Kolej Universiti Sains dan Teknologi Malaysia (KUSTEM)
- Kolej Universiti Teknikal Kebangsaan Malaysia (KUTKM)

Environmental Awareness Camp (KeKAS)

In 2003, 12 Facilitator Workshops for 485 primary and secondary school teachers throughout Malaysia were organised based on seven Ecosystem Modules namely Marine, Forest, Highland, River, Urban, Organic Farming and Plantation Ecosystems. A total of 4,477 students attended 81 KeKAS organised by State DOE Offices throughout Malaysia with the cooperation of the State Education Departments and other agencies.

Inter-Varsity Environmental Debate Among Institutions Of Higher Learning (IPT)

In collaboration with the Malaysian Universities Debating Council (MADUM), Dewan Bahasa dan Pustaka and the Ministry of Education, the Department of Environment organised the 13th Interschool Environmental Debate at Universiti Putra Malaysia (UPM), Serdang, Selangor from 27-31 July 2003. A total of 19 teams from Institutions of Higher Learning in Malaysia participated namely:

- Universiti Pertanian Malaysia (UPM)
- Universiti Kebangsaan Malaysia (UKM)
- Universiti Malaya (UM)
- Universiti Islam Antarabangsa (UIA)
- Universiti Teknologi Malaysia (UTM)
- Universiti Sains Malaysia (USM)
- Universiti Utara Malaysia (UUM)
- Universiti Teknologi Mara (UiTM)
- Universiti Malaysia Sarawak (UNIMAS)
- Universiti Malaysia Sabah (UMS)
- Universiti Pendidikan Sultan Idris (UPSI)
- Kolej Universiti Islam Malaysia (KUIM)
- Kolej Universiti Teknologi Tun Hussien Onn (KUiTTHO)
- Kolej Universiti Sains dan Teknologi Malaysia (KUSTEM)
- Kolej Universiti Teknikal Kebangsaan Malaysia (KUTKM)

- Kolej Universiti Kejuruteraan Utara Malaysia (KUKUM)
- Kolej Universiti Kejuruteraan dan Teknologi Malaysia (KUKTM)
- Universiti Tenaga Nasional (UNITEN)
- Universiti Multimedia (MMU)

Pertandingan Peringkat Awal melibatkan enam pusingan dan lapan pasukan terbaik akan dipilih untuk ke peringkat suku akhir dan empat pasukan yang berjaya akan ke separuh akhir dan akhirnya dua pasukan terbaik akan bertanding di peringkat akhir.

- Kolej Universiti Kejuruteraan Utara Malaysia (KUKUM)
- Kolej Universiti Kejuruteraan dan Teknologi Malaysia (KUKTM)
- Universiti Tenaga Nasional (UNITEN)
- Universiti Multimedia (MMU)

Six preliminary rounds were held and eight highest ranking teams were selected to compete in the quarterfinals after which four successful teams qualified for the semi-finals, and eventually two teams entered the Final.



Gambarfoto 6.3 : Debat Alam Sekitar Antara IPT 2003 : Pasukan Pemenang : UIA
Photo 6.3 : Intersivarsity Debate 2003 : UIA The Champion Team

**PERINGKAT AWAL
PRELIMINARY ROUNDS**

Pusingan Pertama | First Round:
Isu Alam Sekitar di Malaysia Sengaja Dibesarkan

Pusingan Kedua | Second Round:
Dasar Alam Sekitar Negara: Indah Khobar Daripada Rupa

Pusingan Ketiga | Third Round:
E.I.A Alat Perancang Yang Relevan

Pusingan Keempat | Fourth Round:
Demi Alam Sekitar, Elok Juga Petrol Naik Harga

Pusingan Kelima | Fifth Round:
Pendidikan Alam Sekitar Di Malaysia Tidak Efektif

Pusingan Keenam | Sixth Round:
Demi Kesejahteraan, Insinerator Diperlukan

PERINGKAT SUKU AKHIR | QUARTER FINALS :
Kerajaan Penentu Kelestarian Alam Sekitar

UIAM lwn UUM

UiTM lwn USM

UM lwn UNIMAS

UPSI lwn UNITEN

PERINGKAT SEPARUH AKHIR | SEMI-FINALS :
Masyarakat Malaysia Tidak Serius Dalam Menangani Isu Alam Sekitar

UIAM lwn UNITEN

USM lwn UM

PERINGKAT AKHIR | FINALS :
Kegagalan Sidang Alam Sekitar Di Peringkat Antarabangsa, Petanda Kehancuran Dunia

UIAM lwn USM

Pertandingan Akhir Debat Alam Sekitar 2003 diadakan di Dewan Besar, Pusat Kebudayaan dan Kesenian Sultan Salahuddin Abdul Aziz Shah, Universiti Putra Malaysia di antara Universiti Islam Antarabangsa Malaysia (UIAM) dan Universiti Sains Malaysia (USM). UIAM Mohd Faizi Che Abu, A.Akhiruddin@Boy Acho, Noorsyakina Simin dan pendebat simpanan, Habiburrahman Johari. USM diwakili Mohd Shahrizal Abd. Rahim, Mohd Tramizi Hussin, Ridwan Ali dan pendebat simpanan, Abdul Hadi Abdul Apet.

UIAM berjaya bergelar johan pertandingan Debat Alam Sekitar 2003 menerima Piala Pusingan Menteri Sains, Teknologi dan Alam Sekitar serta wang tunai RM8,000.00. Manakala USM, sebagai naib johan menerima wang tunai RM 5,000.00. Dua pasukan yang layak ke separuh akhir iaitu Universiti Malaya (UM) dan Universiti Tenaga Nasional (UNITEN), masing-masing menerima wang tunai RM1,000.00 dan hadiah iringan. Pendebat UIAM, Noorsyakina Simin muncul Pendebat Terbaik dan menerima Piala Ketua Pengarah Alam Sekitar, wang tunai RM1,500.00. Hadiah disampaikan oleh Y.B. Datuk Hj. Zainal bin Dahalan, Timbalan Menteri Sains, Teknologi dan Alam Sekitar.

Bandar Lestari - Anugerah Alam Sekitar

The finals of the 2003 Environmental Debate Competition held at the Grand Hall of the Sultan Salahuddin Abdul Aziz Shah Centre for Culture and Arts, Universiti Putra Malaysia was between International Islamic University of Malaysia (UIAM) and Universiti Sains Malaysia (USM). UIAM was represented by Mohd Faizi One Abu, A.Akhiruddin @ Boy Acho, Noorsyakina Simin and Habiburrahman Johari as reserve. USM was represented by Mohd Shahrizal Abd Rahim, Mohd Tarmizi Hussin, Ridwan Ali and Abdul Hadi Abdul Apet as the reserve.

UIAM emerged the winner of the 2003 Environmental Debate and received the Minister of Science, Technology and Environment Trophy together with a cash prize of RM8,000.00 and certificates of participation. The runners-up, USM received a cash prize of RM6,000.00 and certificates of participation. The two teams which qualified for the semi-finals, namely University of Malaya (UM) and Universiti Tenaga Nasional (UNITEN) each received cash prizes of RM1,000.00 and certificates of participation. Ms. Noorsyakina Simin from UIAM was the Best Debater and received the Director General of Environment Trophy, together with a cash prize of RM1,500.00. The prize giving ceremony was graced by Y.B. Datuk Hj Zainal bin Dahalan, the Deputy Minister of Science, Technology and the Environment.

Bandar Lestari - Environment Award



Logo : Bandar Lestari - Anugerah Alam Sekitar
Logo : Bandar Lestari - Environment Award

Bandar Lestari - Anugerah Alam Sekitar telah diwujudkan dalam tahun 2003 oleh Jabatan Alam Sekitar, dengan kerjasama beberapa Agensi Kerajaan seperti Jabatan Kerajaan Tempatan di bawah Kementerian Perumahan dan Kerajaan Tempatan dan organisasi yang berteraskan masyarakat. Anugerah ini bertujuan untuk mengiktiraf pusat-pusat bandar yang telah menerapkan dimensi alam sekitar di dalam perancangan, pentadbiran dan pelaksanaan program-program, projek-projek dan aktiviti-aktiviti mereka.

Objektif utama anugerah ini :

- mengiktiraf usaha dan sumbangan oleh badan pentadbiran bandaraya dan bandar untuk mencapai kelestarian alam sekitar melalui polisi dan tindakan
- meningkatkan kesedaran berkaitan kelestarian alam sekitar dengan mendapat sokongan masyarakat tempatan
- menggalakkan pendekatan inovatif dan amalan-amalan baik ke arah kelestarian alam sekitar.

Anugerah ini, yang dikenali sebagai 'Bandar Lestari - Anugerah Alam Sekitar' ini adalah dinilai berasaskan lima kategori yang berkaitan alam sekitar iaitu alam sekitar fizikal, inisiatif ekologi, perkhidmatan perbandaran, pentadbiran alam sekitar, dan pendidikan dan kesedaran alam sekitar.

Majlis pelancaran Bandar Lestari - Anugerah Alam Sekitar telah dirasmikan oleh Y.B. Dato' Seri Law Hieng Ding, Menteri Sains, Teknologi dan Alam Sekitar bersempena Hari Alam Sekitar Sedunia pada 5 Jun 2003.

Persidangan Alam Sekitar dan Peranan Kaum Wanita

Pada 19 Ogos 2003, Jabatan Alam Sekitar, dengan kerjasama *Mothers for Mothers Network/e-Homemakers* dan Nestle (Malaysia) Bhd telah mengambil inisiatif menganjurkan satu persidangan bertajuk '*Environment: The Role of Women*'. Majlis telah dirasmikan oleh Y.Bhg. Datin Seri Ngui Soon Leng, isteri Y.B. Menteri Sains, Teknologi dan Alam Sekitar. Antara objektif persidangan ini adalah:

The Bandar Lestari - Environment Award was initiated in 2003 by the Department of Environment, in collaboration with relevant government agencies in particular, the Local Government Department of the Ministry of Housing and Local Government and community-based organizations to give recognition to local authorities in urban centres that have incorporated the environmental dimension in the planning, administration and implementation of their programmes, projects and activities.

The primary objectives are :

- to recognise the work of local authorities in urban centres with regard to their environmental sustainability efforts.
- to raise awareness regarding environmental sustainability at the local level and mobilize support from communities
- to promote and disseminate information on innovative approaches and examples of good practices towards environmental sustainability

The Award, to be known as the 'Sustainable City-Environment Award' will be based on achievements in five environment-related categories namely, physical environment, ecological initiatives, urban services, environmental governance, education and awareness.

The Bandar Lestari - Environment Award was launched by Y.B. Dato' Seri Law Hieng Ding, the Honourable Minister of Science, Technology and the Environment on 5 June 2003 in conjunction with World Environment Day.

Environment and The Role of Women Conference

On 19 August 2003, the Department of Environment, in collaboration with Mothers for Mothers Network/e-Homemakers and Nestle (Malaysia) Bhd. organised a conference on "Environment and the Role of Women" which was officiated by Y. Bhg. Datin Seri Ngui Soon Leng, the wife of the Honourable Minister of Science, Technology and the Environment. The strategic objectives of the conference were:

- untuk mengembangkan lagi peranan dan penglibatan wanita dalam aktiviti-aktiviti pemeliharaan dan pemuliharaan alam sekitar
- menyediakan platform untuk suri rumahtangga mengadakan perbincangan, pertukaran idea
- merangka kesedaran ke arah mencapai alam sekitar yang bersih dan sihat.
- to enhance the role and involvement of women in environmental protection and conservation activities
- to provide a platform for homemakers for discussion, exchange of ideas and experiences towards a clean and healthy environment
- to create awareness and encourage environmental-friendly practices at home.

Persidangan Alam Sekitar dan Peranan Wanita yang julung-julung kali diadakan ini telah berjaya menarik lebih 300 orang peserta tempatan dan juga luar negara. Dua orang penceramah luar negara, iaitu Ms. Janet McNeill, pencinta alam sekitar dari Ontario, Canada dan Dr. Susanna Brida-Hofher, seorang doktor veterinar dari Austria serta enam orang penceramah wanita Malaysia yang terkenal telah hadir untuk bersama-sama berkongsi pengalaman di samping memberi inspirasi ke arah cara hidup yang lebih mesra alam sekitar.

Acara menarik sempena dengan persidangan ini adalah satu pameran bertema '*Home-made Environmental Products*' oleh 20 usahawan termasuk mereka yang beroperasi dari rumah. Pameran ini berjaya mempamerkan bagaimana barangan buangan domestik boleh dihasilkan semula menjadi produk-produk yang berguna.

Minggu Alam Sekitar Malaysia (MASM) 2003

Minggu Alam Sekitar adalah acara tahunan Jabatan Alam Sekitar yang disambut dengan objektif untuk menyemai dan meningkatkan kesedaran alam sekitar di kalangan masyarakat Malaysia. Sambutan Minggu Alam Sekitar Malaysia Peringkat Kebangsaan 2003 telah diadakan di Dataran Gunung Lambak, Kluang, Johor Darul Ta'zim pada 18-24 Oktober 2003. Majlis ini telah dirasmikan oleh Y.A.B. Dato' Haji Abdul Ghani bin Othman, Menteri Besar Johor. Ucapan alu-aluan telah disampaikan oleh Y.B. Dato' Haji Zainal bin Dahalan, Timbalan Menteri Sains, Teknologi dan Alam Sekitar bagi pihak Y.B. Menteri Sains, Teknologi dan Alam Sekitar. Di antara dif-dif kehormat yang hadir ialah Ketua Setiausaha MOSTE, Setiausaha Kerajaan

This first ever conference successfully attracted more than 300 participants, both local and international. Two international speakers, namely Ms. Janet McNeill, an environmentalist from Ontario, Canada and Dr. Susanna Brida-Hofherr, a veterinarian from Austria, presented their views during the plenary session and six distinguished Malaysian women shared their experiences and provided the inspiration for action on green living.

The highlight of the conference was the Home-made Environmental Products Exhibition which was participated by over 20 local homemakers and entrepreneurs. The 20 exhibition booths showcased how household throwaways could be reused and converted into useful items.

Malaysia Environment Week (MASM) 2003

The Malaysia Environment Week is an annual event organised by the Department of Environment, primarily to inculcate and enhance environmental awareness among Malaysians. The National Malaysia Environment Week 2003 celebration was held on 18-24 October 2003 at Dataran Gunung Lambak, Kluang, Johor Darul Ta'zim. The ceremony was launched by the Chief Minister of the State of Johor, the Rt. Honourable Dato' Haji Abdul Ghani bin Othman. The Honourable Dato' Haji Zainal bin Dahalan, the Deputy Minister of Science, Technology and the Environment delivered the welcome speech on behalf of the Honourable Minister of Science, Technology and the Environment (MOSTE). Among the dignitaries present



Gambarfoto 6.4 : Majlis Pelancaran MASM Peringkat Kebangsaan 2003, Kluang, Johor.

Photo 6.4 : Launching of National MASM 2003, Kluang, Johor.



Gambarfoto 6.5 : MASM 2003 - J-Robik
Photo 6.5 : MASM 2003 - J-Robik

Negeri Johor dan Ahli-Ahli EXCO yang bertanggungjawab ke atas Alam Sekitar. Tema yang telah dipilih bagi tahun 2003 ialah 'Alam Sekitar Bersih Untuk Kehidupan Sejahtera'.

Seramai 2500 orang telah hadir memeriahkan majlis pelancaran di kaki Gunung Lambak, Kluang. Antara aktiviti-aktiviti yang telah dilangsungkan sepanjang sambutan minggu MASM tersebut adalah cabaran 4x4 *Enviro Challenge*; Pembersihan dan Mencantikkan Sungai Mengkibol, Kluang; Seminar Pengurusan Alam Sekitar, Pameran Alam Sekitar, Konsert Muzikal Alam yang mengetengahkan artis-artis popular tanah air seperti saudara Zainal Abidin dan *Eco- trip* ke Taman Negara Endau Rompin.

were the Secretary-General of MOSTE, the Johor State Secretary and State EXCO Members responsible for Environmental Matters. The theme for 2003 was 'A Clean Environment for Healthy Living'.

A large turnout of 2500 people were present at the Launching Ceremony at the foothills of Gunung Lambak, Kluang. Among the highlights during the MASM week were the 4x4 *Enviro-Challenge*; Clean-up and Beautification of Sungai Mengkibol, Kluang; Environmental Management Seminar; Environmental Exhibition; an Environmental Concert featuring top local artistes such as singer Zainal Abidin and an *Eco-trip* to the Endau Rompin National Park.



Gambarfoto 6.6 : 'Eco-Trip ke Taman Negara Endau Rompin, Johor
Photo 6.6 : Eco-Trip to Endau Rompin National Park, Johor

Anugerah Langkawi

Anugerah Langkawi bagi tahun 2003 telah dimenangi oleh Puan Khadijah Abdul Rahman, Pengarah Yayasan Anak Warisan Alam (YAWA) yang juga merupakan seorang ahli pengasas Yayasan tersebut. Pemenang wanita yang pertama ini telah dipilih berdasarkan usaha-usaha gigih dan komitmen beliau dalam menanam dan memupuk semangat cintakan dan menghargai alam sekitar di kalangan kanak-kanak dan remaja.

Anugerah Langkawi menyediakan hadiah berupa wang tunai berjumlah RM10,000.00, sebuah plak penghargaan dan sijil penghargaan yang ditandatangani oleh D.Y.M.M. Seri Paduka Baginda Yang di-Pertuan Agong Tuanku Syed Sirajuddin Putra Jamalullail.

Pameran Bertemakan Alam Sekitar

Pada tahun 2003, Jabatan Alam Sekitar telah menyertai 11 pameran utama sebagai salah satu usaha kebangsaan untuk mempromosi dan meningkatkan kesedaran alam sekitar.

- Lawatan Duli Yang Maha Mulia Seri Paduka Baginda Yang di-Pertuan Agong ke Kementerian Sains, Teknologi dan Alam Sekitar pada 17 Mac 2003, Putrajaya.
- Kempen Minggu Keselamatan DRB HICOM pada 28-30 April, Shah Alam, Selangor.
- Pesta Sains Semulajadi pada 30 Mei-9 Jun 2003, Pusat Sains Negara, Bukit Kiara, Kuala Lumpur.
- Hari Bersama Pelanggan Jabatan Alam Sekitar pada 12 Julai 2003, Putrajaya.
- EXPO S&T pada 7-9 Ogos 2003, PWTC, Kuala Lumpur.
- "Conference: The Role of Women", pada 19 Ogos 2003, Selangor.

Langkawi Award

The 2003 Langkawi Award was presented to Puan Khadijah Abdul Rahman, the Founder Member and Director of the Children's Environmental Heritage Foundation (YAWA), As the first women recipient, she was chosen for her commitment and tireless effort to instill love and appreciation for nature and environment among young children and youth.

The Langkawi Award 2003 consisted of a cash prize of RM10,000.00, a Plaque and a Certificate signed by D.Y.M.M. Seri Paduka Baginda Yang di-Pertuan Agong Tuanku Syed Sirajuddin Putra Jamalullail.

Environmental Exhibitions

In 2003, DOE was invited to take part in 11 major exhibitions as part of the overall national effort to promote and inculcate greater environmental awareness.

- Exhibition in conjunction with the official visit of D.Y.M.M. Seri Paduka Baginda Yang di-Pertuan Agong to the Ministry of Science, Technology and the Environment, Putrajaya, 17 March 2003.
- DRB HICOM Safety Week Campaign on 28-30 April, Shah Alam, Selangor.
- Natural Science Festival, 30 May-9 June 2003 at Pusat Sains Negara, Bukit Kiara, Kuala Lumpur.
- DOE's Client Day, 12 July 2003 at Putrajaya.
- EXPO S&T, 7-9 August 2003 at PWTC Kuala Lumpur.
- Conference: The Role of Women, 19 August 2003 at Selangor.

- Hari Bersama Pelanggan Jabatan Alam Sekitar pada 13 September 2003, Putrajaya.
- Bulan Sains dan Teknologi pada 24-28 September 2003, Plaza Angsana, Johor Baharu, Johor.
- Hari Bersama Pelanggan MOSTE pada 11 Oktober 2003, Lembaga Perlesenan Tenaga Atom, Selangor.
- Minggu Alam Sekitar Malaysia 2003 pada 18-24 Oktober 2003, Kluang, Johor.
- East Asian Seas Congress 2003 pada 6-13 Disember 2003, Putrajaya.
- DOE's Client Day, 13 September 2003 at Putrajaya.
- Science and Technology Month, 24-28 September 2003 at Plaza Angsana, Johor Bahru, Johor.
- MOSTE Client Day, 11 October 2003 at the Atomic Energy Licensing Board, Selangor.
- Malaysian Environment Week 2003, 18-24 October 2003 at Kluang, Johor.
- East Asian Seas Congress 2003, 6-13 December 2003 at Putrajaya.

Kuiz Kesedaran Alam Sekitar

Jabatan Alam Sekitar dengan kerjasama Radio 1 dan Radio Muzik RTM telah mengadakan Program Kuiz Kesedaran Alam Sekitar. Kuiz untuk pendengar Radio 1 diadakan pada jam 3.30-4.00 setiap petang Khamis manakala kuiz melalui sistem pesanan ringkas (SMS) untuk pendengar Radio Muzik diadakan lima (5) kali seminggu iaitu dari hari Isnin hingga Jumaat. Setiap minggu satu topik alam sekitar khusus akan dibincangkan.

Environmental Awareness Quiz

In collaboration with RTM Radio 1 and Radio Music, the Department of Environment, organised a Radio Environmental Awareness Quiz Programme for listeners every Thursday, between 3.30 p.m-4.00 p.m on Radio 1. Each week a specific environmental topic of public interest would be discussed. On Radio Music, Short Messaging System (SMS) contests were organised every Monday to Friday.



Gambarfoto 6.8 : Permainan 'Keep Recyclables in Mind'
Photo 6.8 : 'Keep Recyclables in Mind' Game



Gambarfoto 6.9 : Kempen Kitar Semula Bateri Telefon Bimbit Terpakai
Photo 6.9 : Awareness Campaign: Recycling

Pertandingan Kad Kreatif Alam Sekitar

Jabatan Alam Sekitar dengan kerjasama Stesen Radio Muzik telah meneruskan penganjuran pertandingan kad-kad ucapan berbentuk kad kreatif yang bertemakan alam sekitar. Pemenang pertama menerima wang tunai sebanyak RM500.00, kedua sebanyak RM300.00, ketiga RM200.00. Sepuluh hadiah saguhati bernilai RM100.00 setiaknya turut disediakan.

Maklumat Alam Sekitar

Terdapat peningkatan sebanyak 32% dalam jumlah bahan-bahan bercetak pada tahun 2003 selaras dengan peningkatan usaha-usaha kesedaran alam sekitar. Sejumlah 446,000 naskhah bahan-bahan bacaan alam sekitar seperti Laporan Kualiti Alam Sekeliling 2002, Laporan Tahunan Jabatan Alam Sekitar 2002, buku kecil, Majalah ERA Hijau dan IMPAK, brosur dan laporan telah diterbitkan.

Environmental Creative Card Competition

The Department of Environment and Radio Music Station jointly organised a Creative Card Competition for radio listeners involving the creative designing of greeting cards with environmental messages which were read out over the air. The first prize winner received a prize of RM500.00, the second RM300.00 and the third RM200.00. Ten consolation prizes of RM100.00 each were also awarded.

Dissemination of Environmental Information

The demand for printed environmental information increased by 32% in 2003, as more efforts were expended to raise environmental awareness. A total of 446,000 copies of environmental reading materials were generated such as the Environmental Quality Report 2002, the 2002 Department of Environment Annual Report, Handbooks, ERA Hijau magazines, IMPAK magazines, brochures, leaflets and reports.

Bahan-bahan bercetak tersebut diedarkan kepada pelbagai agensi Kerajaan, perpustakaan-perpustakaan, pusat rujukan, institusi pendidikan, persatuan bukan kerajaan, individu yang termasuk dalam senarai mel Jabatan dan pelawat-pelawat serta pelajar-pelajar institut pengajian tinggi. (Rajah 6.1)

Maklumbalas-Pertanyaan

Jabatan Alam Sekitar telah menerima sebanyak 1,421 pertanyaan pada tahun 2003 melalui pos, e-mel utama JAS dan pengguna-pengguna perpustakaan (Rajah 6.2). Pada tahun yang sama juga terdapat peningkatan dalam jumlah pertanyaan sebanyak 10% jika dibandingkan dengan tahun sebelumnya. Jenis-jenis maklumat yang dipohon adalah mengenai status kualiti air dan udara, pembakaran terbuka, garis panduan penilaian impak alam sekitar, aduan tentang pencemaran udara, pelupusan bahan terjadual, tumpahan minyak, bau busuk, marin, pelupusan haram, penipisan lapisan ozon, ISO 14001, status air bawah tanah, pelabelan-eko dan maklumat umum tentang kualiti alam sekitar.

Perkhidmatan Perpustakaan-Enviro

Perpustakaan-Enviro yang terletak di Ibu Pejabat Jabatan Alam Sekitar berfungsi sebagai pusat rujukan bukan sahaja kepada kakitangan Jabatan tetapi juga kepada orang awam dan para pelajar yang berdaftar sebagai pengguna.

Sehingga 31 Disember 2003, koleksi bahan rujukan adalah sebanyak 25,224. Bilangan pengguna perpustakaan telah meningkat kepada 1,240 (27%) orang berbanding dengan 973 orang pada tahun sebelumnya (Rajah 6.3). 84% daripada pengguna perpustakaan adalah pelajar-pelajar, sama seperti tahun sebelumnya (Rajah 6.4).

The printed materials were distributed to various government agencies, libraries and reference centres, educational institutions, non-governmental organizations, individuals as listed in DOE's mailing list and to visitors and students from Institutions of Higher Learning. (Figure 6.1).

Query-Response

The Department of Environment received a total of 1,421 queries in 2003 through the post, e-mail and from library users, an increase of 10% compared to 2002 (Figure 6.2). The type of information sought after were those pertaining to air and water quality status of specific locations, clarification on open burning, environmental impact assessment guidelines, public complaints, guidelines and assistance for disposal of scheduled wastes, oil spill incidents, noise and odour control, marine pollution, illegal dumping of wastes, ozone depletion substances, ISO 14001 procedure, groundwater quality, eco-labeling and general information on the state of the environment.

Enviro-Library Services

The Enviro-Library located at the Department of Environment Head Office served as a Reference Centre for not only the staff of the Department of Environment but also the public and students who are registered users.

As of 31 December 2003, the entire collection of reference materials totalled 25,224. The number of library users increased 27% to 1,240 compared to 973 in 2002 (Figure 6.3); 84% of library users in 2003 were students, similar to that of previous years (Figure 6.4).



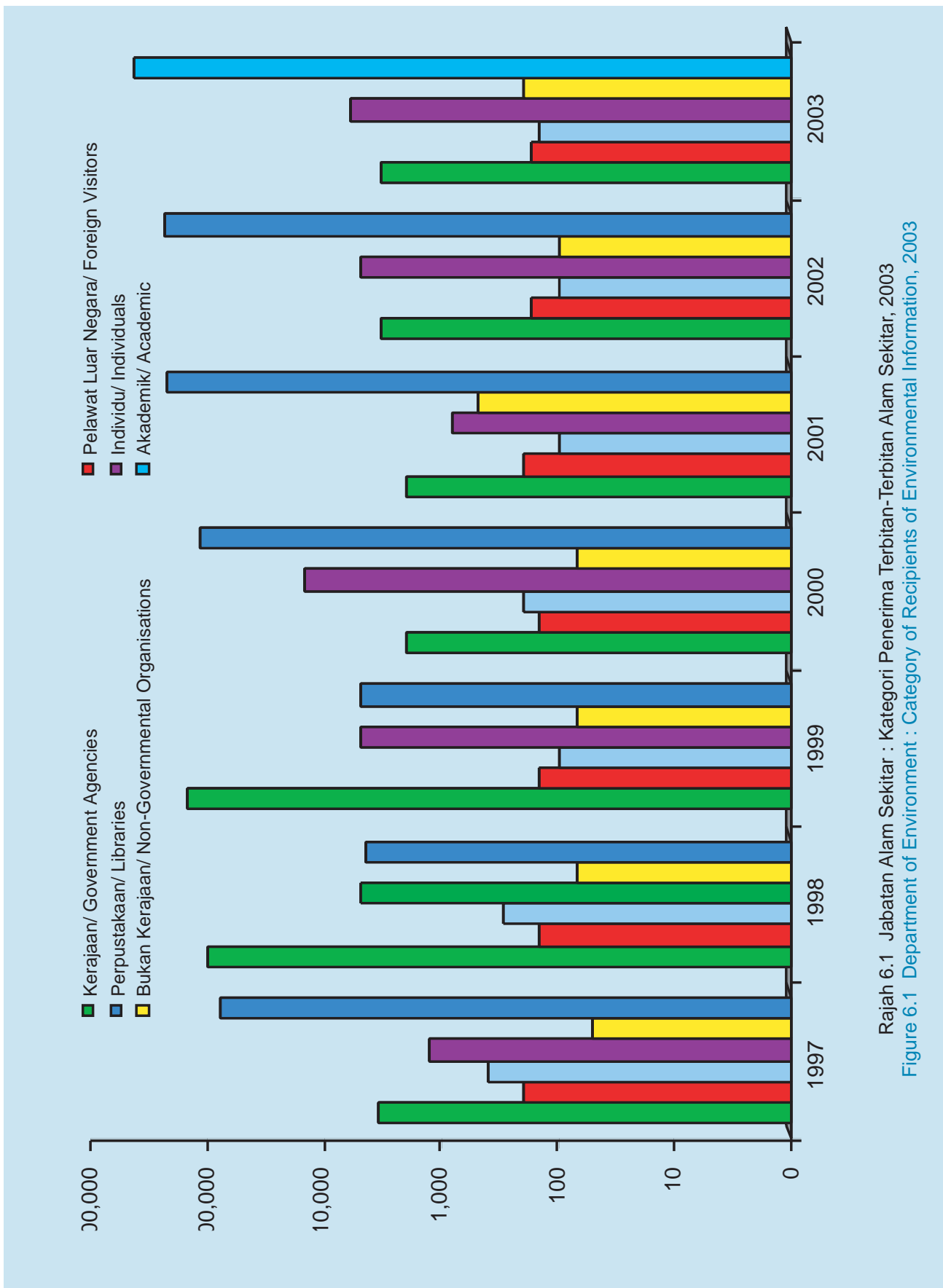
Gambarfoto 6.10 : Aktiviti Kem Alam Sekitar : Denai Buta
Photo 6.10 : Env. Camp Activity : Blind Trail



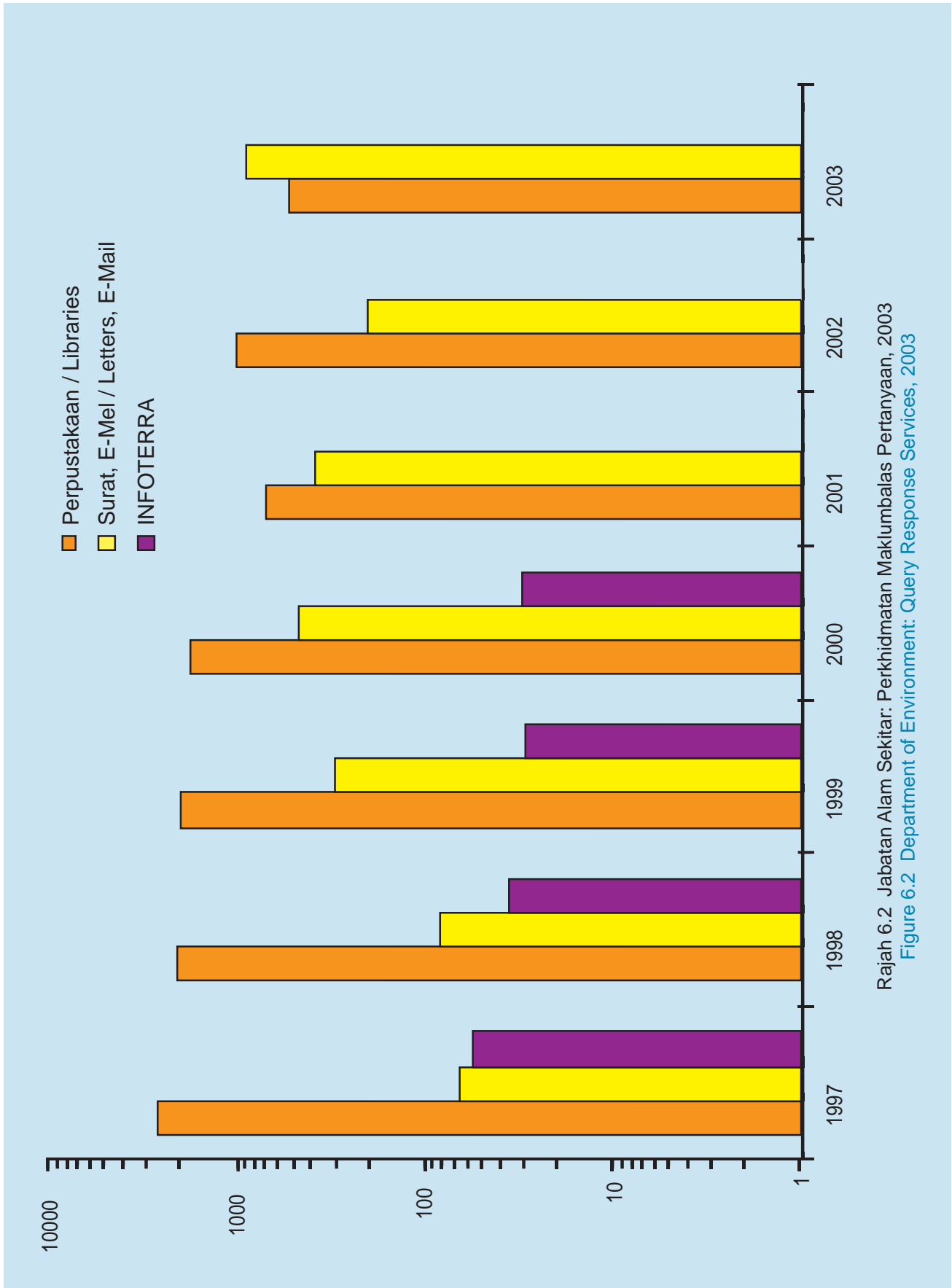
Gambarfoto 6.11 : Aktiviti Kem Alam Sekitar : Kajian Hutan
Photo 6.11 : Env. Camp Activity : Forest/Nature Study



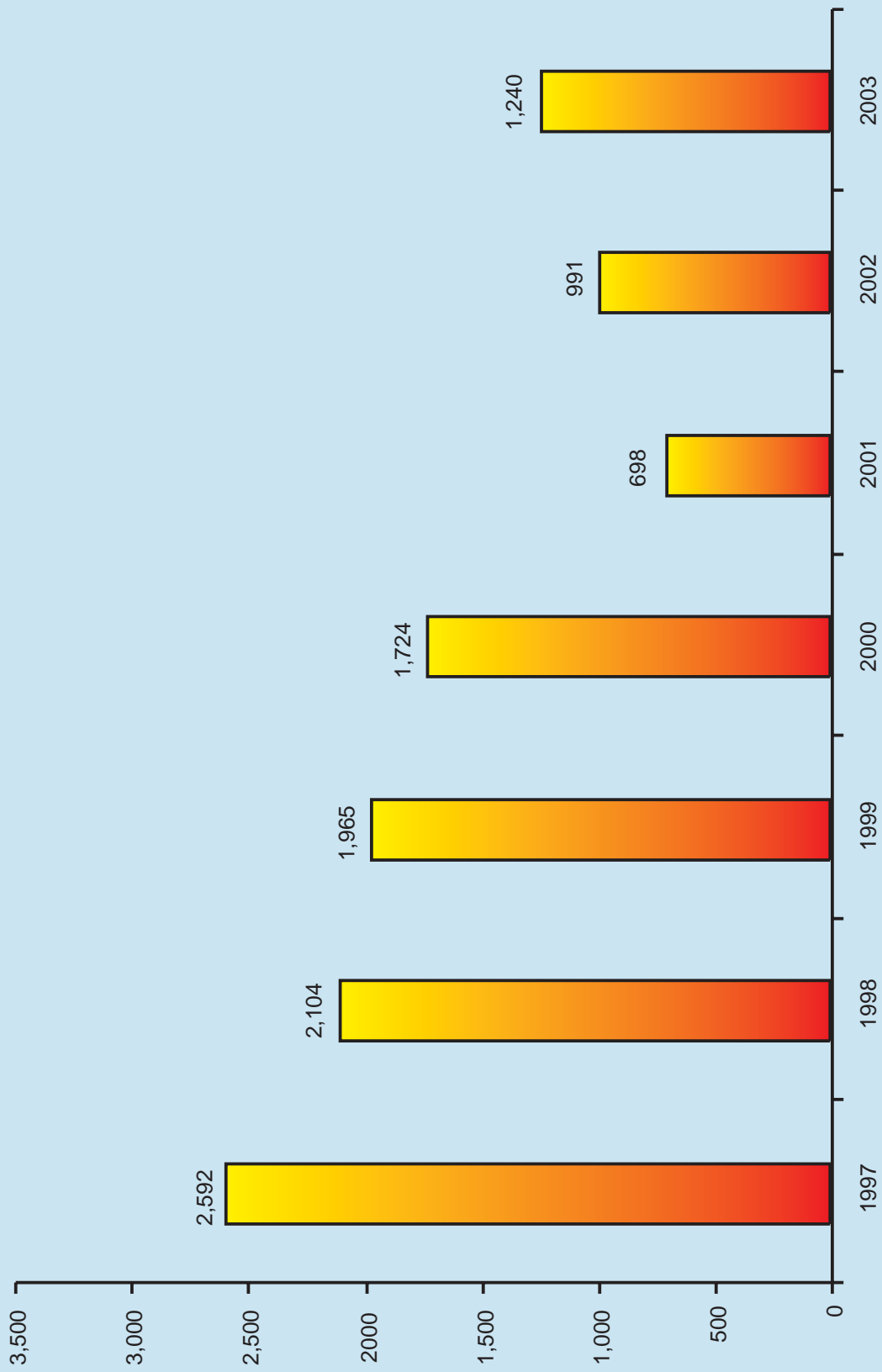
Gambarfoto 6.12 : MASM 2003 : Alam Semulajadi di Taman Negara Endau-Rompin
Photo 6.12 : MASM 2003 :Pristine Endau-Rompin National Park



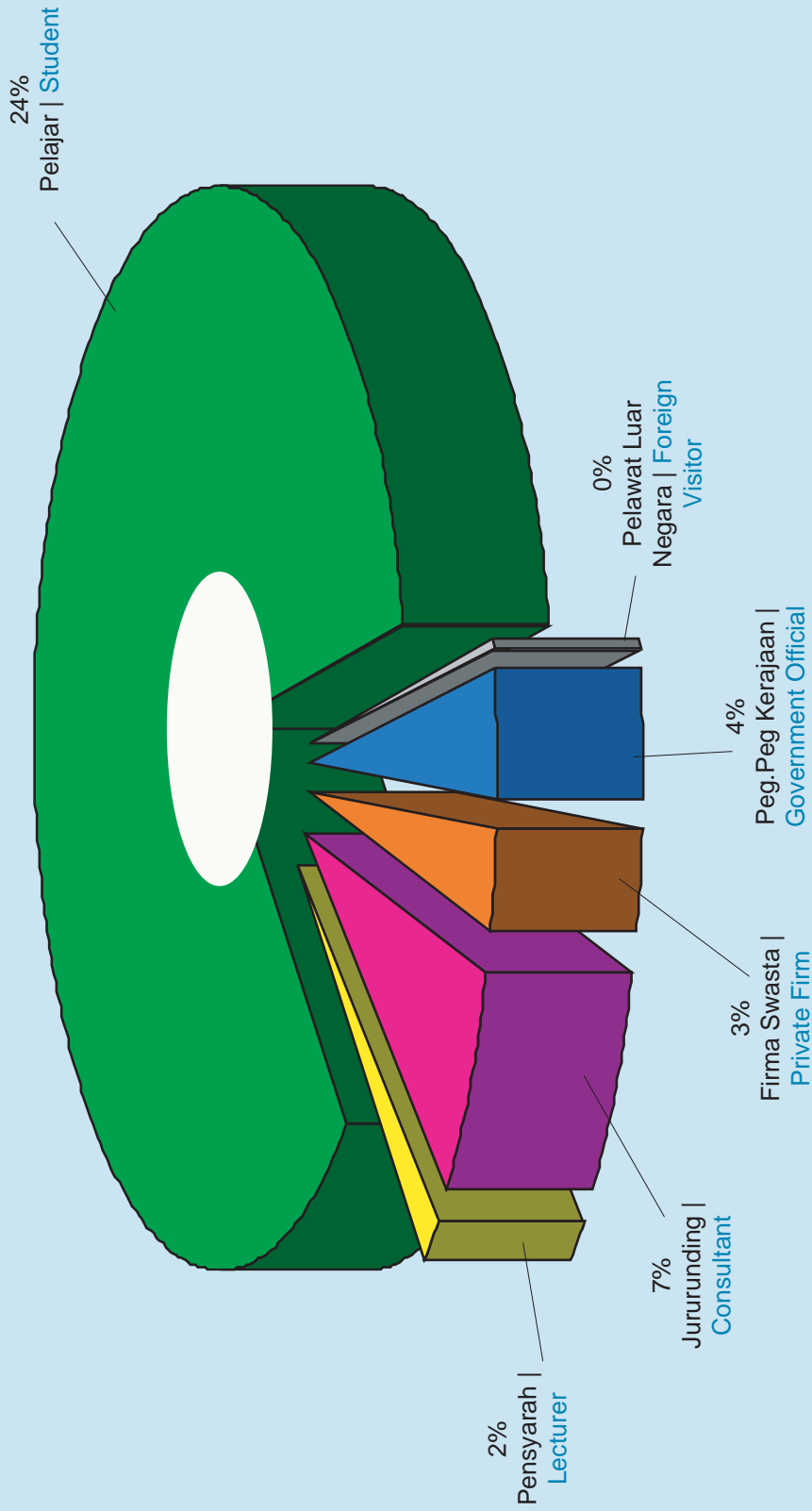
Rajah 6.1 Jabatan Alam Sekitar : Kategori Penerima Terbitan Alam Sekitar, 2003
Figure 6.1 Department of Environment : Category of Recipients of Environmental Information, 2003



Rajah 6.2 Jabatan Alam Sekitar: Perkhidmatan Maklumbalas Pertanyaan, 2003
Figure 6.2 Department of Environment: Query Response Services, 2003



Rajah 6.3 Jabatan Alam Sekitar: Bilangan Pengguna Perpustakaan, 2003
Figure 6.3 Department of Environment: Number of Library Users, 2003



Rajah 6.4 Jabatan Alam Sekitar: Pengguna-Pengguna Perpustakaan Jabatan Alam Sekitar Mengikut Kategori 2003
Figure 6.4 Department of Environment: Category of Library Users, 2003

Jabatan
Alam Sekitar



BAB / CHAPTER 7



Department of
Environment



HAL EHWAL ANTARABANGSA

KERJASAMA SERANTAU

Mesyuarat Kumpulan Kerja ASEAN mengenai Sub-Regional Fire Fighting Arrangements (SRFAs) untuk Sumatera dan Borneo

Mesyuarat ke-13 Kumpulan Kerja ASEAN mengenai SRFAs telah diadakan di Jambi, Sumatera, Indonesia pada 31 Julai 2003 -1 Ogos 2003 dan telah dihadiri oleh wakil-wakil dari Brunei Darussalam, Indonesia, Malaysia dan juga wakil dari Sekretariat ASEAN, Projek *SEA-Fire Danger Rating System*, *EU-Forest Liaison Bureau*, *Projek EU-South Sumatera Forest Fire Management*, *Global Environment Centre (GEC)*, *Projek JICA Forest Fire Prevention Management*, *Haze Prevention Group* dan *Program Wetlands International-Indonesia*.

Laporan mengenai Kejadian Kebakaran dan Jerebu dan Ramalan Kajicuaca oleh *ASEAN Specialised Meteorological Centre (ASMC)* di Singapura dan Langkah-Langkah Pencegahan dan Persediaan Musim Kering telah dibentangkan oleh wakil negara SRFAs terbabit. Perbincangan mengenai tindakan susulan Mesyuarat ke-20 Kumpulan Tindakan Teknikal Jerebu (HTTF) dan Mesyuarat Menteri-Menteri ASEAN mengenai Jerebu yang ke-10 telah juga diadakan. Sekretariat ASEAN telah melaporkan mengenai projek kerjasama ASEAN berkaitan Jerebu Merentasi Sempadan dan Simulasi Latihan Bencana Kebakaran dan Jerebu yang pertama (*SRFA Fire and Haze Disaster Simulation Exercise*) yang telah diadakan di Jakarta sebelum mesyuarat di Jambi.

Mesyuarat juga telah meluluskan rangka kerja Bengkel Garispanduan Pelaksanaan Polisi ASEAN mengenai Pembakaran Sifar. Bengkel tersebut telah dipersetujui diadakan di Malaysia pada tahun 2004. Deraf Garis Panduan Pelaksanaan Amalan Pembakaran Terkawal oleh Indonesia telah

INTERNATIONAL ENVIRONMENT AFFAIRS

REGIONAL COOPERATION

ASEAN Working Groups on Sub-Regional Fire Fighting Arrangements (SRFAs) for Sumatera and Borneo

The 13th SRFA Meeting was held in Jambi, Sumatera, Indonesia on 31 July 2003-1 August 2003 and was attended by delegates from Brunei Darussalam, Indonesia, Malaysia and representatives from the ASEAN Secretariat, the SEA-Fire Danger Rating System Project, the EU-Forest Liaison Bureau, EU-South Sumatera Forest Fire Management Project, Global Environment Centre (GEC), JICA Forest Fire Prevention Management Project, the Haze Prevention Group and Wetlands International-Indonesia Programme.

Reports of Fire and Haze Occurrence and Meteorological forecast by the ASEAN Specialised Meteorological Centre (ASMC) in Singapore and Preventive Measures and Readiness for the Dry Season were presented by the respective SRFA members. Discussion on follow-up actions arising from the 20th Haze Technical Task Force (HTTF) Meeting and the 10th Asean Ministerial Meeting on Haze (AMMH) also took place. The ASEAN Secretariat reported on the status of ASEAN Cooperative Projects on Transboundary Haze and SRFA Fire and Haze Disaster Simulation Exercise which was carried out in Jakarta prior to the Jambi meeting.

The meeting also endorsed the outline for the conduct of a Workshop on Guidelines for the Implementation of the ASEAN Policy on Zero Burning which was to be conducted in Malaysia. The draft Guidelines for Implementation of Controlled Burning Practices by Indonesia was also presented at the meeting. It was

dibentangkan pada mesyuarat tersebut. Mesyuarat juga bersetuju untuk mengadakan mesyuarat ke-14 di Malaysia pada tahun 2004.

SRFA Fire And Haze Disaster Table-top Exercise

Simulasi SRFA Fire and Haze Disaster Table-top Exercise yang pertama telah diadakan pada 29 Julai 2003 di Kementerian Alam Sekitar Indonesia, Jakarta. Latihan tersebut telah dihadiri oleh wakil-wakil Brunei Darussalam, Indonesia, Malaysia dan Singapura. Wakil dari Sekretariat ASEAN dan UN-OCHA turut mengambil bahagian. Latihan diadakan bertujuan untuk menguji keberkesanan mekanisme penyelarasan dan komunikasi di kalangan negara ahli SRFA. Ia merangkumi sesi latihan untuk komunikasi, penyelarasan dan rangkaian arahan yang merupakan komponen utama dalam maklumbalas kecemasan di bawah Perjanjian ASEAN mengenai Pencemaran Jerebu yang Merentasi Sempadan. Ia juga merupakan mekanisme yang telah digariskan dalam SRFA Standard Operating Procedure (SOP).sebelum simulasi latihan. Latihan tersebut telah menguji keberkesanan SOP dan telah memberi peluang kepada para peserta untuk memperbaiki kelemahan dalam SOP.

agreed that the 14th SRFA of Meeting be held in Malaysia in 2004.

SRFA Fire And Haze Disaster Table-top Exercise

The first SRFA Fire and Haze Disaster Table-top Exercise was held on 29 July 2003 at the Ministry of Environment, Indonesia in Jakarta. The exercise was attended by representatives from Brunei Darussalam, Indonesia, Malaysia and Singapore. Representatives from the ASEAN Secretariat and UN-OCHA also participated in the exercise. The exercise was designed to test the coordination and communication mechanism among SRFA member countries. It included hands-on sessions for communication, coordination and chain of command which were vital components for Joint Emergency Response under the ASEAN Agreement on Transboundary Haze Pollution as well as the mechanism outlined in the SRFA Standard Operating Procedure (SOP). The exercise tested the effectiveness of the SOP and provided participating countries an opportunity to further refine any weaknesses in the SOP. The second Table-top Exercise would be conducted in Malaysia in 2004.



Gambarfoto 7.1 : Kongres East Asian Seas: Pembukaan Rasmi Oleh Y.B Menteri Sains, Teknologi dan Alam Sekitar

Photo 7.1 : East Asian Seas Congress: Opening Ceremony by the Hon. Minister of Science, Technology and the Environment



Gambarfoto 7.2 : Perasmian Pameran Persidangan PEMSEA 2003 Oleh Tetamu Kehormat

Photo 7.2 : Dignitaries Launching PEMSEA Exhibition during EAS Conference 2003

KERJASAMA DUA HALA

Malaysia-Thailand

1. Mesyuarat Pegawai Tinggi Malaysia-Thailand mengenai Sains, Teknologi dan Alam Sekitar (SOMSTE)

Mesyuarat keenam SOMSTE telah diadakan pada 16-17 Julai 2003 di Bangkok, Thailand merangkumi kawasan yang berpotensi untuk kerjasama dua hala :

- Bioteknologi
- Bioteknologi dan Alam Sekitar
- Metrologi
- *Advanced Materials*
- *Remote Sensing* dan Teknologi Maklumat
- Sains dan Teknologi Pertahanan.

Mengenai isu yang berkaitan alam sekitar, SOMSTE mempertimbangkan :

- Isu alam sekitar yang membabitkan Malaysia dan Thailand yang memerlukan usaha bersama untuk menanganinya;
- Perancangan dan pelaksanaan program bersama yang memberi faedah kepada kedua pihak dalam mengurangkan pencemaran dan memperbaiki kualiti alam sekitar;
- Kerjasama dua hala dalam pengurusan pencemaran merentasi sempadan seperti jerebu dan pembuangan bahan bahaya;
- Menjalankan program latihan bersama, pertukaran maklumat dan perkongsian pengalaman mengenai pengurusan alam sekitar.

BILATERAL COOPERATION

Malaysia-Thailand

1. Malaysia-Thailand Senior Officials Meeting on Science, Technology and the Environment (SOMSTE)

The Sixth Malaysia-Thailand SOMSTE Meeting was held on 16-17 July 2003 in Bangkok, Thailand and discussed the following potential areas for bilateral cooperation :

- Biotechnology
- Environment and Biotechnology
- Metrology
- Advanced Materials
- Remote Sensing and Information Technology
- Defence Science and Technology.

On the subject of Environment, SOMSTE deliberated on the following :

- Collaborative efforts to deal with environmental issues of concern to both Malaysia and Thailand;
- Planning and execution of collaborative programmes of mutual benefit to reduce pollution and enhance the quality of the environment;
- Bilateral cooperation in managing transboundary pollution such as haze and illegal trafficking of hazardous wastes;
- Conducting joint training programmes, exchange of information and sharing of experience on environmental management relevant to both countries.

Tiga (3) kertas kerja yang telah dibentangkan oleh waki JAS ialah:

- Laporan Program Kualiti Sungai Golok;
- Pengawasan Pencemaran Udara; dan
- Projek Saluran Paip LPG Trans Thailand-Malaysia - Perspektif Alam Sekitar.

Susulan dari SOMSTE, satu mesyuarat dua hala telah diadakan antara Y.B. Menteri Sains, Teknologi dan Alam Sekitar Malaysia dengan Menteri Sains, Teknologi dan Alam Sekitar Thailand.

2. Lawatan Siswazah Sarjana Prince of Songkla University, HatYai, Thailand

Seramai 12 orang siswazah sarjana dari Jabatan Kesihatan Alam Sekitar, Universiti Prince of Songkla, Hatyai telah melawat Jabatan Alam Sekitar pada 8 Ogos 2003. Delegasi telah diberi taklimat mengenai aspek polisi alam sekitar, perancangan dan pentadbiran, pengurusan alam sekitar termasuk pengurusan bahan berbahaya, air dan udara dan EIA. Delegasi juga telah melawat Kualiti Alam Sdn. Bhd., di Bukit Nanas, Negeri Sembilan.

Malaysia-Denmark

Seramai 40 orang siswazah dari Malaysia dan Denmark telah melawat Jabatab Alam Sekitar pada 22 Januari 2003. Para pelajar dari Kursus Bersama MUCED-DUCED telah diberi taklimat mengenai penglibatan awam dalam Polisi Alam Sekitar.

Malaysia-Vietnam

Lapan (8) orang pegawai tinggi Vietnam termasuk Timbalan Menteri Pertanian dan Pembangunan Desa telah melawat JAS pada 3 Julai 2003. Tujuan lawatan ialah untuk mempelajari mengenai pengurusan kebakaran hutan dan pencemaran udara merentasi sempadan. Pegawai dari Jabatan Bomba dan Penyelamat turut memberi taklimat.

Three (3) papers were presented by the DOE representatives at the meeting:

- Report on Golok River Water Quality Monitoring Programme;
- Air Pollution Control;
- The Trans Thailand-Malaysia LPG Pipelines Project - Environmental Perspective.

Pursuant to the SOMSTE, a bilateral meeting was held between H.E. Minister of Science, Technology and Environment of Malaysia and H.E. Minister of Science, Technology and Environment of Thailand.

2. Visit of Graduate Students from Prince of Songkla University, HatYai, Thailand

A group of 12 graduate students from the Department of Environmental Health, University of Prince Songkla, Hatyai visited Department of Environment on 8 August 2003. The delegation was briefed on the National Environmental Policy, Environment Planning and Management which included hazardous wastes management, water and air management, and EIA. The group visited Kualiti Alam Sdn. Bhd., at Bukit Nanas, Negeri Sembilan.

Malaysia-Denmark

A group of 40 graduate students from Malaysia and Denmark visited the Department of Environemt on 22 January 2003 under the auspices of MUCED-DUCED Joint Training Project.

Malaysia-Vietnam

Eight senior officials including the Deputy Minister of Agriculture and Rural Development of Vietnam visited DOE on 3 July 2003. The purpose of the visit was to learn more about forest fire management and transboundary haze pollution. A representative from the Fire and Rescue Department gave a briefing on forest fire management in Malaysia.

Malaysia-Taiwan

Satu delegasi seramai 35 orang dari Pusat Alam Sekitar, Teknologi Pembangunan Keselamatan dan Kesihatan dan Penyelidikan Teknologi Industri Taiwan telah melawat Jabatan Alam Sekitar pada 29 September 2003. Delegasi telah diberi taklimat mengenai peruntukan dan keperluan alam sekitar untuk pelabur luar negara di Malaysia.

KERJASAMA ANTARABANGSA**Senior Government Officials' Meeting (SGOM) on the Sustainable Development Strategy for the Seas of East Asia**

Mesyuarat berkenaan telah diadakan pada 4-5 Ogos 2003 di Pattaya, Thailand. Mesyuarat telah membincangkan serta membuat ulasan terhadap draf *Sustainable Development Strategy for the Seas of East Asia* (SDS-SEA) dan Deklarasi Putrajaya. Dokumen-dokumen ini akan dibentangkan untuk persetujuan Menteri-menteri dari 12 buah Negara (Brunei, Kemboja, Indonesia, Malaysia, Filipina, Singapura, Taiwan, Vietnam, China, Jepun, Korea Selatan dan Korea Utara) pada Ministerial Forum ketika East Asian Seas Congress 2003 pada 8-12 Disember 2003 di Putrajaya, Malaysia.

9th Programme Steering Committee (PSC) Meeting for the GEF/UNDP/IMO Regional Programme on the East Asian Seas

Mesyuarat berkenaan telah diadakan pada 6-9 Ogos 2003 di Pattaya, Thailand. Negara terlibat telah melaporkan tentang Laporan Kemajuan Kebangsaan berkenaan *Integrated Coastal Management* (ICM). Turut dibincangkan ialah strategi dan pendekatan bagi pelaksanaan *East Asian Sea Congress* 2003 di Malaysia.

Malaysia-Taiwan

A delegation of 35 members from the Centre for Environment, Safety and Health Technology Development and Industrial Technology Research Institute of Taiwan (CESH/ITRI) paid a one day visit to the Department of Environment on 29 September 2003. The delegates were briefed on the environmental requirements for investors in Malaysia.

INTERNATIONAL COOPERATION**Senior Government Officials' Meeting (SGOM) on the Sustainable Development Strategy for the Seas of East Asia**

The Meeting was held on 4-5 August 2003 in Pattaya, Thailand. The Meeting discussed and reviewed the draft Sustainable Development Strategy for the Seas of East Asia (SDS-SEA) and the Putrajaya Declaration to be presented for the approval of the Ministers from 12 participating countries (Brunei, Cambodia, Indonesia, Malaysia, Philippines, Singapore, Thailand, Vietnam, China, Japan, South Korea and North Korea) at the Ministerial Forum during the East Asian Seas Congress on 8-12 December 2003 in Putrajaya, Malaysia.

9th Programme Steering Committee (PSC) Meeting for the GEF/UNDP/IMO Regional Programme on the East Asian Seas

The Meeting was held on 6-9 August 2003 in Pattaya, Thailand. Participating countries presented their National Progress Report on Integrated Coastal Management (ICM). The meeting also discussed the preparation for The East Asian Seas Congress to be held in Malaysia in 2003.

Kongres Laut Asia Timur 2003: Pelaksanaan Serantau Komitmen WSSD untuk Laut Timur Asia, 8-12 Disember 2003, Putrajaya, Malaysia

Kongres Laut Asia Timur 2003 yang dianjurkan bersama IMO/PEMSEA dan Pertubuhan-pertubuhan Antarabangsa serta bantuan logistik dari Jabatan Alam Sekitar Malaysia telah diadakan pada 8-12 Disember 2003. Seramai 429 peserta mengambil bahagian, 115 adalah dari Malaysia sementara yang lainnya dari 32 negara luar. Kongres merangkumi :

- Forum Peringkat Menteri mengenai Pembangunan Mapan Laut Timur Asia (12 Disember).
- Persidangan Antarabangsa mengenai Pembangunan Mapan Laut Timur Asia : Ke arah Era Baru Kerjasama dan Perkongsian Serantau (8-11 Disember).
- Acara Sampingan:
 - Forum Ketiga Rangkaian Serantau Kerajaan Serantau dalam Melaksana Pengurusan Pantai Bersepadu.
 - Forum Media mengenai Perkongsian Dalam Komunikasi Alam Sekitar.
 - Mesyuarat Kumpulan Pakar Pelbagai Disiplin.
 - Mesyuarat Meja Bulat Pelaburan Alam Sekitar.

Objektif Forum Peringkat Menteri mengenai Pembangunan Mapan Laut Timur Asia (12 Disember) ialah:

- Untuk mengumpulkan pembuat dasar peringkat atasan bagi membincang keadaan alam sekitar serantau dan sumber asli.
- Untuk mengadakan dialog mengenai pembangunan mapan pantai dan laut.
- Untuk mendapat persetujuan ke atas rangka kerja tindakan bersama bagi Laut Asia.

The East Asian Seas Congress 2003: “Regional Implementation of the WSSD Commitments for the Seas of East Asia”, 8-12 December 2003, Putrajaya

The East Asian Seas Congress 2003 organised by IMO/PEMSEA and international organisations and with local logistic support from the Department of Environment Malaysia was held on 8-12 December 2003. A total of 429 participants took part of which 115 were Malaysians while the rest of the participants were from 32 other nations. The Congress featured;

- The Ministerial Forum on the Sustainable Development of the Seas of East Asia (12 December 2003).
- The International Conference on the Sustainable Development of the East Asian Seas: Towards a New Era of Regional Collaboration and Partnerships (8-11 December 2003).
- Side Events:
 - The 3rd Forum of the Regional Network of Local Governments (RNLG) Implementing Integrated Coastal Management.
 - Media Forum on Partnerships in Environmental Communication.
 - Multidisciplinary Experts’ Group (MEG) Meeting.
 - Environmental Investments Round Table.

The objectives of The Ministerial Forum on the Sustainable Development of the Seas of East Asia were:

- To bring together East Asia’s top level policymakers to discuss the state of the region’s environment and natural resources.
- To have dialogue on the sustainable development of coasts and ocean.
- To agree on a common framework of actions for the East Asian Seas.

12 orang Menteri dari negara Pantai Laut Asian Timur telah menandatangani Deklarasi Putrajaya mengenai Kerjasama Serantau untuk Pembangunan Mapan Laut Timur Asia. Para Menteri tersebut adalah dari Negara Brunei Darussalam, Kemboja, Republik Rakyat China, DPR Korea, Indonesia, Japan, Malaysia, Filipina, Republik Korea, Singapura, Thailand dan Vietnam.

Persidangan Antarabangsa telah diadakan pada 8-11 Disember. Objektifnya ialah untuk menemukan pihak yang berkepentingan, pembuat dasar, ahli ekonomi, wakil Pertubuhan Bukan Kerajaan, wakil media, ahli akademik, sektor awam dan swasta- bagi membincangkan cara untuk memperkukuhkan kerjasama serantau dan berusaha ke arah mencapai pembangunan mapan pantai dan laut Laut Timur Asia.

Persidangan menumpukan kepada dua tema:

- Mengkaji semula Usaha Kebangsaan dan Antarabangsa Ke arah Menangani Masalah Utama Yang Berkaitan Laut Asia Timur.
- Pendekatan Merentasi Sektor yang Utama Ke arah Mencapai Pembangunan Mapan.

Lapan (8) bengkel telah diadakan secara serentak. Penceramah tempatan dan luar negara turut membentangkan kertas kerja pada bengkel-bengkel tersebut. Pameran bertemakan: 'Kerjasama dan Perkongsian Serantau untuk Pembangunan Mapan Laut dan Pantai, telah diadakan sempena persidangan.

Twelve Ministers from coastal States of the East Asian region signed the Putrajaya Declaration for Regional Cooperation for the Sustainable Development of the Seas of East Asia. The Ministers were from Brunei Darussalam, Cambodia, PR China, DPR Korea, Indonesia, Japan, Malaysia, Philippines, RO Korea, Singapore, Thailand and Vietnam.

The International Conference was held on 8-11 December 2003. The primary objective was to bring together stakeholders, policy-makers, economists, environmental and natural resource managers, Non-Governmental Organisations' representatives, media, practitioners, academicians, civil society and the private sector to discuss ways to strengthen regional collaboration and work towards achieving sustainable coastal and ocean development for the Seas of East Asia.

The Conference focussed on two themes:

- Review of International and National Efforts Towards Addressing the Main Sectoral Concerns Regarding the Seas of East Asia.
- Essential Cross-Sectoral Approaches Towards Achieving Sustainable Development.

Eight (8) concurrent workshop sessions were organised. International and local speakers presented papers during the workshops. Exhibits on the theme: 'Regional Collaboration and Partnerships for the Sustainable Development of Coasts and Oceans' were also set up during the Conference.

Menteri Sains, Teknologi dan Alam Sekitar telah menjadi tuan rumah persidangan. Jabatan Alam Sekitar juga telah menyediakan kemudahan logistik. Penganjur bersama persidangan adalah: *Global Environmental Facility*, Program Pembangunan Bangsa-bangsa Bersatu, Pertubuhan Maritim Antarabangsa, Program Pembangunan Bangsa-bangsa Bersatu-*Global Programme of Action for the Protection of Marine Environment from Land Based Activities*, *Ship and Ocean Foundation* dan *WorldFish Centre*.

The Conference was hosted by the Ministry of Science, Technology and the Environment. Logistic support was provided by the Department of Environment, Malaysia. Co-organisers of the Conference included the *Global Environmental Facility*; the *United Nations Development Programme*; the *International Maritime Organisation*; the *United Nations Development Programme-Global Programme of Action for the Protection of Marine Environment from Land-Based Activities*; *Ship and Ocean Foundation* and *WorldFish Centre*.



Gambarfoto 7.3 : Majlis Menandatangani deklarasi Putrajaya Mengenai 'Sustainable Development for the Seas of East Asia'
Photo 7.3 : The Signing Ceremony of the Putrajaya Declaration on Sustainable Development for the Seas of East Asia

Jabatan
Alam Sekitar



BAB / CHAPTER 8



Department of
Environment



BAHAGIAN TEKNOLOGI MAKLUMAT

Bahagian Teknologi Maklumat (BTM) selaku titik fokus di dalam mengendalikan pembangunan ICT untuk keseluruhan Jabatan Alam Sekitar (JAS) bertanggungjawab dalam melaksanakan perolehan, membangunkan sistem aplikasi, meningkatkan perkhidmatan talian internet dan latihan pengguna sebagai pemangkin di dalam mencapai wawasan untukserta misi keseluruhan Jabatan Alam Sekitar.

Bahagian Sistem Maklumat telah ditukar nama menjadi Bahagian Teknologi Maklumat mulai September 2002. (Jadual 8.1 dan Rajah 8.1).

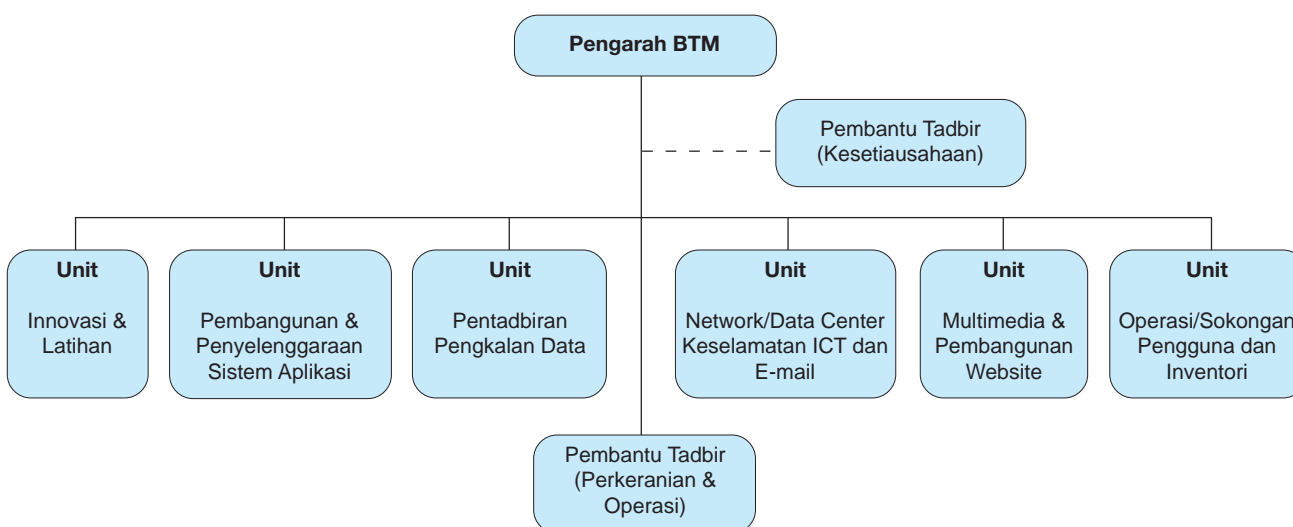
INFORMATION TECHNOLOGY DIVISION

The Information Technology Division (ITD) as a focal point for ICT development activities of DOE is responsible for the procurement, application systems development, improvement of the level of internet service and end-user training to achieve the overall vision and mission of the Department of Environment.

The Information System Division was renamed the Information Technology Division in September 2002. (Table 8.1 and Figure 8.1).

Jadual 8.1 Jabatan Alam Sekitar: Personel Bahagian Teknologi Maklumat, JAS
Table 8.1 Department of Environment: Staffing of DOE Information Technology Division

PERJAWATAN POST		IBUPEJABAT HEAD OFFICE	NEGERI STATE	EiMAS	JUMLAH TOTAL
PSM	F48	1	-	-	1
	F41	6	-	1	7
PPSM	F32	2	-	-	2
	F29	11	12	1	24
JK	FT17	2	-	-	2
OMPD	F14	1	-	-	1
	F11	7	28	2	37
JUMLAH TOTAL		30	40	4	74



Rajah 8.1 Jabatan Alam Sekitar: Carta Organisasi Bahagian Teknologi Maklumat (September 2002)
Figure 8.1 Department of Environment: Organisation Chart of Information Technology Division (September 2002)

Perolehan Perkakasan dan Perisian ICT

Perolehan perkakasan ICT adalah bertujuan untuk mewujudkan suasana kerja ICT yang cemerlang melalui teknologi ICT yang terkini yang dapat memenuhi keperluan semua pegawai dan kakitangan Jabatan Alam Sekitar. (Jadual 8.2).

Procurement of ICT Hardware and Software

The primary objective of ICT hardware procurement is to create a conducive ICT working environment through state-of-the art technology and to render professional ICT support to meet the requirements of DOE's officers. (Table 8.2).

Jadual 8.2 Jabatan Alam Sekitar: Perkakasan ICT
Table 8.2 Department of Environment: Hardware ICT

PERKAKASAN HARDWARE	1999		2000		2001		2002		2003		BILANGAN NUMBER
	M	S	M	S	M	S	M	S	M	S	
Server	22	-	4	-	5	-	1	-	-	-	32
Komputer Computer	31	-	82	-	25	-	190	-	40	50	418
Pencetak Printer	30	-	31	-	9	-	20	-	-	30	120
Switches/Hub	15	-	-	-	15	-	-	-	5	-	30
Pengimbas Scanner	-	-	-	-	23	-	-	-	-	-	23
Notebooks	1	-	33	-	12	-	18	-	-	-	64
Firewalls	-	-	1	-	1	-	-	-	-	-	2

Bagi menjamin prestasi perkakasan yang optima, pelbagai jenis sistem perisian dan aplikasi telah digunakan dalam operasi harian Bahagian Teknologi Maklumat, Jabatan Alam Sekitar (Jadual 8.3).

In order to ensure optimal performance of hardware, several commercial software applications that are rated highly in the ICT market had been deployed to enhance the daily operations of DOE's Information Technology Division (Table 8.3).

Jadual 8.3 Jabatan Alam Sekitar: Perisian Komersial Yang Digunakan
Table 8.3 Department of Environment: Commercial Software Used

Bil. NO	JENIS TYPE
1	Crystal Report
2	Oracle 9i Internet APP Unilimited User (Ent.Edition)
3	Oracle 9i Internet APP wireless Edition Unilimited User (Ent.Edition)
4	MS-Exchange Server Ent 2000
5	MS-Exchange 2000 CAL All Language
6	MS-Windows 2000 Advanced Server for Dual Processor
7	MS- Windows 2000 CAL English
8	Arcview 8.1 and ArcView Spatial Analyst Ext.
9	PC-DUO Enterprise
10	Veritas Backup Exec for Win NT and Win 2000
11	Veritas NetBackup Professional
12	Zone Alarm Pro
13	Antivirus Trend Micro Netsuite
14	Norton antivirus for MS Exchange
15	Antivirus Norton System Work Professional 2002
16	Microsoft Content Management Server

UNIT PENGURUSAN ICT DAN KESELAMATAN

Secara ringkas, unit ini bertanggungjawab untuk memberi perkhidmatan sokongan kepada kakitangan Jabatan Alam Sekitar bagi menyelesaikan permasalahan dalam penggunaan perkakasan, perisian, sistem aplikasi serta memastikan keselamatan intergriti sistem rangkaian ICT.

Selain itu, unit ini juga bertanggungjawab dalam memberi kesedaran tentang penggunaan ICT serta memberi latihan pengenalan asas penggunaan sistem operasi dan perisian berciri "*office automation*" kepada kakitangan JAS.

Pelbagai aduan yang diterima daripada pengguna direkod dan disimpan untuk tujuan pemulihan meningkatkan keupayaan Bahagian Teknologi Maklumat.

Penggunaan E-mel Di Jabatan Alam Sekitar

Terdapat peningkatan yang positif dalam penggunaan e-mel rasmi Jabatan iaitu sebanyak 1,112 akaun. Penggunaan e-mel adalah penting dalam tugas-tugas harian kerana ia mampu menyebarkan maklumat dengan pantas dan cekap.

Pengurusan Virus Di Rangkaian JAS-Net

Tahun 2003 merupakan tahun yang banyak sekali menghadapi cabaran dalam penyenggaraan keselamatan ICT Bahagian Teknologi Maklumat. Virus cecacing *Blaster* dan *Sobig* yang telah mengejutkan pengguna IT di seluruh dunia telah turut menyerang rangkaian JAS-Net pada bulan Ogos 2003. Bahagian Teknologi Maklumat telah mengambil langkah-langkah pemulihan yang segera untuk menyelesaikan masalah ini dengan mengemaskini sistem operasi dan antivirus di setiap komputer di JAS.

ICT MANAGEMENT AND SECURITY UNIT

This unit is basically responsible to provide supporting services to DOE staff such as solving problems associated with malfunctioning of hardware and software application systems. It is also responsible for security and system integrity.

Apart from the above, it is also responsible to ensure the use of ICT technology and provide basic user training on application systems for office automation.

Client complaints were recorded and reviewed periodically to ensure remedial action and improve the ICT division's credibility.

E-mail Usage of Department of Environment

The number of e-mail users of DOE increased tremendously to 1112 accounts in 2003. The use of e-mail in daily work was important to deliver information accurately and speedily.

Virus Management in JAS-Net Network

In 2003, the ICT world was traumatised by virus threats from sources such as the Blaster and Sobig worms. The DOE network was also attacked by these viruses and immediate action was taken to overcome these problems.

SISTEM EKAS III (Sistem Kawalan Alam Sekitar)

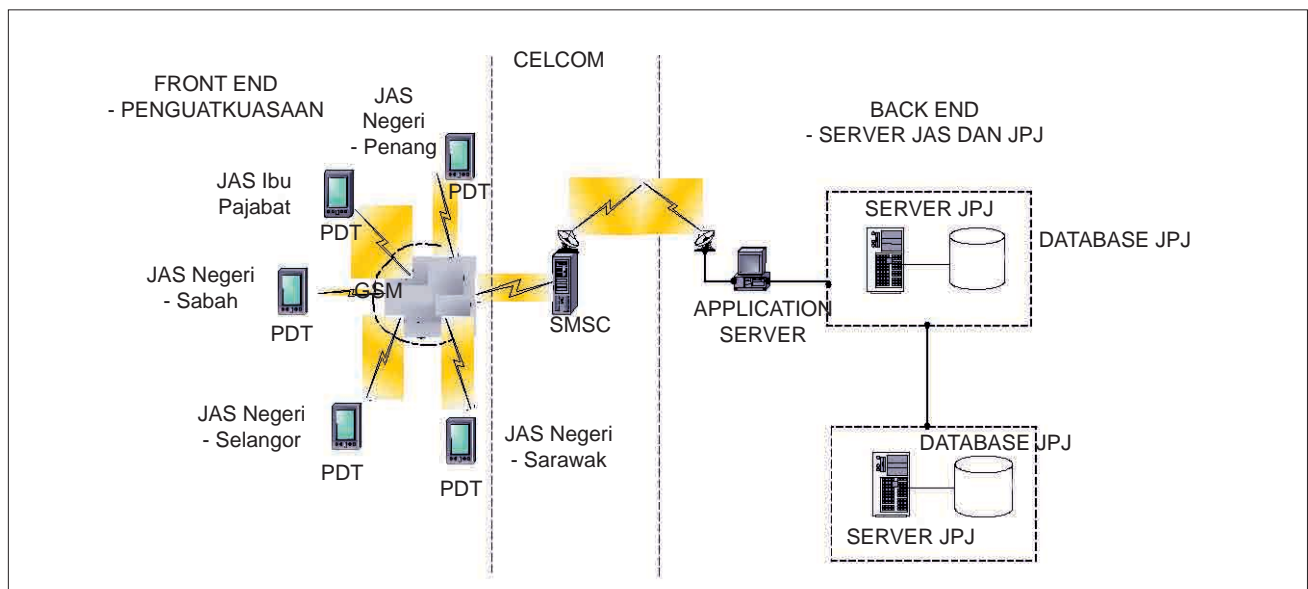
Terdapat dua sistem di bawah EKAS III iaitu Sistem VEMIS dan Sistem Inventori.

- Sistem VEMIS (*Vehicle Emission Monitoring Information System*); dan
- Sistem VEMIS yang dibangunkan bagi penguatkuasaan tahap asap dan bunyi kenderaan. Sistem tersebut kini di peringkat 70% pembangunan. Senibina rangkaian adalah seperti di Rajah 8.2.

EKAS III System

There are two main systems under EKAS III, namely VEMIS System and Inventory System.

- VEMIS System(*Vehicle Emission Monitoring Information System*)
- The VEMIS system is dedicated for the enforcement of smoky and noisy vehicles. The development of this system reached 70% completion in 2003. The system network architecture is shown in Figure 8.2.



Rajah 8.2 Jabatan Alam Sekitar: Senibina Rangkaian VEMIS
Figure 8.3 Department of Environment: VEMIS Network Architecture

Sistem Inventori

Sistem Inventori adalah bertujuan untuk mengawal selia segala peralatan dan hartamilik kepunyaan Jabatan Alam sekitar iaitu Harta Modal, Aset dan Stok Gunahabis. Sistem ini kini diperingkat 80% pembangunan.

Inventory System

The inventory system is focused on the control of inventory and DOE's ICT assets. In 2003, the system's development reached 80% completion and its status was monitored regularly.

Sistem Perpustakaan Satelit (SPS)

Sistem ini adalah perluasan daripada Sistem ILMU yang digunakan oleh JAS. Menerusi SPS, semua JAS negeri diberi kemudahan untuk merekod bahan rujukan, menjalankan proses penkatalogan dan daftar keahlian di negeri masing-masing. Sistem ini telah digunakan sejak Disember 2003.

Portal Jabatan Alam Sekitar

Jabatan Alam Sekitar (JAS) telah membangunkan laman web rasmi sebagai satu kaedah untuk menyalurkan maklumat yang berkaitan dengan alam sekitar kepada orang ramai. Laman web JAS ini yang telah dibangunkan dengan menggunakan perisian pengurusan maklumat atau *content management server* telah dilancarkan pada bulan Mac, 1999.

Portal Jabatan Alam Sekitar dibangunkan dengan memberi penekanan kepada aplikasi, pangkalan data dan sistem. Ia mempunyai ciri single window access di mana Portal JAS bertindak sebagai *gateway* yang menghubungkan sistem-sistem lain di Jabatan Alam Sekitar seperti EKAS, Sistem Perpustakaan, LAW Net dan sebagainya. Kemudahan sistem yang *user friendly* menggalakkan warga JAS menggunakan portal ini.

Pembangunan Portal Jabatan Alam Sekitar adalah berdasarkan kepada beberapa modul aplikasi seperti dalam Rajah 8.3. Antara modul aplikasi ini adalah profil Jabatan, Akta Kualiti Alam Sekeliling 1974, kajian pengguna, laman web JAS Negeri, buletin dan penerbitan JAS, tempahan bilik-bilik mesyuarat, borang-borang alam sekitar, audio/video dan sebagainya.

Satelite Library System(SPS)

The SPS is an enhancement package of System ILMU currently used by DOE. This web based system allows DOE's State users to update book reference, cataloging and membership registration. The SPS system had been in use since December 2003.

Department of Environment Portal

The Department of Environment official portal was developed as a channel to provide environmental information to the public. The web base which was developed using Content Management Server was launched since March 1999.

The Department of Environment portal had been developed with emphasis on its application, database and system capabilities. It had a unique feature of a single window access and a gateway connecting it to other systems such as EKAS, the Library System, Law Net etc.

The content of the DOE portal was developed based on several modules as shown in Figure 8.3 below. Some of the application modules were: the Organisational Profile of Department of Environment; Environment Quality Act 1974; User's Utilization Monitoring; State Department of Environment websites; Department of Environment Bulletin and Publications; meeting rooms' reservations and related environmental forms, audio/visuals etc.



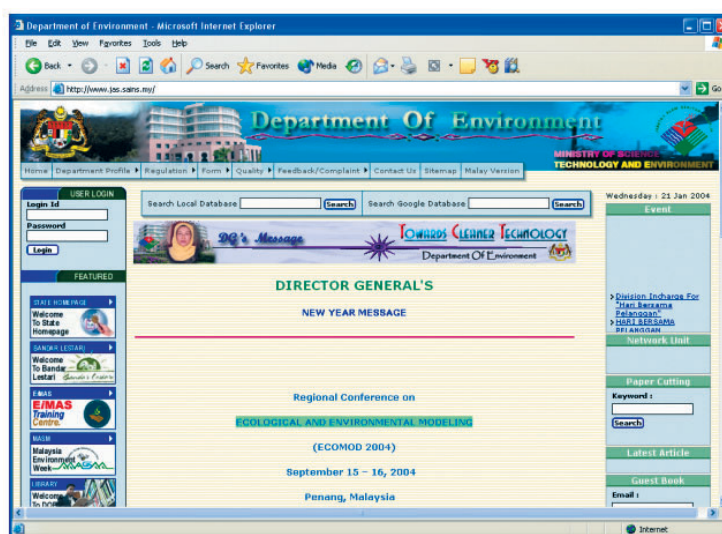
Rajah 8.3 Jabatan Alam Sekitar: Kandungan Portal
Figure 8.3 Department of Environment: Content of Portal

Portal JAS juga mempunyai kemudahan-kemudahan lain seperti *web mail*, profil personel yang dikemaskini, *knowledge management*, *search engine*, maklumat Penilaian Tahap Kecekapan dan pautan ke laman web lain yang berkaitan.

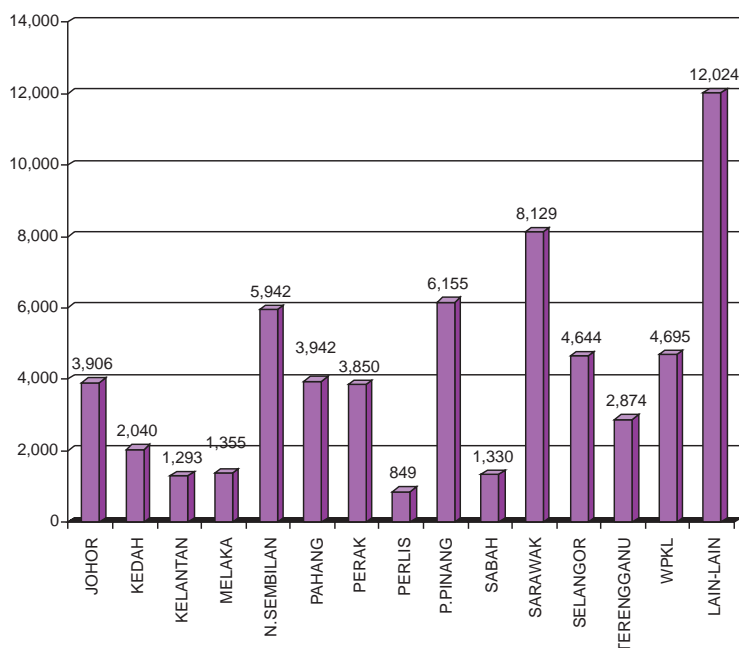
DOE's Portal also had facilities such as web mail, updated personnel profile, knowledge management, search engine, competency evaluating related information and links to other related websites.

Portal JAS telah dilancarkan secara *soft launch* pada 15 Ogos 2003 dan boleh dicapai melalui URL: <http://www.jas.sains.my> (Rajah 8.4). Dari 2 September 2003 sehingga 31 Disember 2003, jumlah pelawat yang telah mengunjungi Portal JAS telah melebihi 63,000 pelawat. (Rajah 8.5).

The soft launch of DOE's Portal was on 15 August 2003, at URL:<http://www.jas.sains.my> (Figure 8.4). From 2 September 2003 until 31 December 2003, more than 63,000 hits were recorded. (Figure 8.5).



Rajah 8.4 Jabatan Alam Sekitar: Portal Jabatan Alam Sekitar (Muka Depan)
Figure 8.4 Department of Environment: DOE Portal (Front Page)



Rajah 8.5 Jabatan Alam Sekitar: Statistik Pelawat Portal JAS
Figure 8.5 Department of Environment: DOE Portal Visitors' Statistics

Senarai Program

Latihan IT dalaman adalah seperti ditunjukkan di Jadual 8.4.

Kolokium ICT

Dua jenis program latihan yang melibatkan pegawai dan kakitangan Ibu Pejabat JAS, MOSTE dan Jabatan Standard telah diadakan. Tajuk kolokium adalah “Self-guarding Your Desktop Computer” dan “Protect Your PC”.

Training Programme

In-House IT Training Program is as shown in Table 8.4.

ICT Colloquium

Two in-house training programs were held for the staff of DOE (Head Office), MOSTE and the Department of Standard. The colloquium topics included “Self Guarding Your Desktop Computer” and “Protect Your PC”.

Jadual 8.4 Jabatan Alam Sekitar: Program Latihan IT Dalaman
Table 8.4 Department of Environment: In-House IT Training Program

Bil. NO	KURSUS COURSES	PESERTA PARTICIPANTS
1	Kursus E-kawalan Alam Sekitar I (E-KAS I)	PPSM Negeri
2	Kursus Content Management Server	PSM & PPSM
3	Kursus E-Kawalan Alam Sekitar II (E-KAS II) - Sistem Filing / Sistem Kontigensi	PSM,PPSM & PK
4	Kursus Crystal Report	PSM & PPSM
5	Kursus Satelite Library	Pegawai mengendalikan perpustakaan

Mesyuarat Pembangunan ICT

Mesyuarat Pembangunan ICT telah berjaya diadakan sebanyak tiga (3) kali dalam tahun 2003. Tujuan mesyuarat ini adalah untuk membincangkan masalah-masalah yang berkaitan dengan pembangunan ICT di JAS Negeri dan Ibu Pejabat serta membincangkan segala tindakan dan keputusan yang diambil bagi setiap JAS negeri ke arah memantapkan lagi pengurusan ICT di JAS seluruh Malaysia.

Seminar Pembangunan ICT

Seminar Pembangunan ICT telah diadakan di Langkawi pada tahun 2003 untuk membincangkan pelaksanaan ICT dan isu-isu yang berkaitan dengan pembangunan ICT di seluruh Pejabat-Pejabat Jabatan Alam Sekitar.

ICT Development Meeting

The meeting was held thrice in 2003. The main objective of the meeting was to discuss problems and actions taken in the area of ICT development activities for State DOE offices as well as the Head Office.

ICT Development Seminar

An ICT Development Seminar was held in Langkawi in 2003 to discuss implementation issues pertaining to ICT development activities.

Jabatan
Alam Sekitar



BAB / CHAPTER 9



Department of
Environment



INSTITUT ALAM SEKITAR MALAYSIA (EiMAS)

Program latihan 2003 merangkumi sebahagian besarnya kursus-kursus dalam perkhidmatan yang bertujuan untuk meningkatkan kecekapan dan kompetensi kakitangan tentang kerja mereka. Buat pertama kalinya juga, kursus Induksi Khusus untuk pegawai-pegawai baru yang bertujuan memberi pendedahan kepada aspek etika dalam perkhidmatan awam, bidang tugas dan tanggungjawab Jabatan Alam Sekitar telah dilaksanakan di EiMAS.

Program Latihan Dalam Jabatan

Bagi tahun 2003, Seksyen Pembangunan Kurikulum EiMAS membahagikan kursus-kursus yang dilaksanakan kepada lapan kategori utama iaitu:

- i. Pengurusan Alam Sekitar Dan Penilaian Impak Persekitaran;
- ii. Prinsip Rekabentuk Dan Fungsi Sistem Kawalan Pencemaran;
- iii. Penguatkuasaan dan Undang-Undang Alam Sekitar;
- iv. Pengawasan Kualiti Alam Sekitar;
- v. Pengurusan Am, Pentadbiran Dan Kewangan;
- vi. Teknologi Maklumat Dan Komunikasi;
- vii. Peningkatan Pencapaian Diri;
- viii. Penilaian Tahap Kecekapan Di bawah SSM.

Sebanyak 55 program latihan telah berjaya dilaksanakan oleh Seksyen Pembangunan Kurikulum EiMAS yang melibatkan keseluruhan 271 hari dalam tahun 2003.

ENVIRONMENT INSTITUTE OF MALAYSIA (EiMAS)

EiMAS training programme included mainly in-service training courses to upgrade the skill and competency level of Department of Environment's officers and staff. In 2003, for the first time, EiMAS conducted induction courses for newly-appointed officers covering work ethics in public service and the roles and responsibilities of the department.

In House Training Programme

In 2003, the Curriculum Development Section of EiMAS categorised training courses into eight main categories :

- i. Environmental Management And Impact Assessment;
- ii. Design Principles And Pollution Control System;
- iii. Environmental Legislations And Enforcement;
- iv. Environmental Quality Monitoring;
- v. Management, Administration And Finance;
- vi. Information And Communication Tecnology;
- vii. Self Improvement;
- viii. Competency Level Assessment Under SSM.

Fifty five (55) training courses were successfully carried out by the Curriculum Development Section of EiMAS which took up 271 training days in the year 2003.

Program latihan ini merangkumi program latihan yang dirancang serta secara ad-hoc iaitu atas pandangan pihak pengurusan terdapat keperluan segera untuk diadakan program latihan tersebut.

Jumlah keseluruhan peserta dari Jabatan Alam Sekitar yang telah mengikuti program latihan yang dianjurkan oleh EiMAS adalah seramai 1,326 orang. EiMAS juga telah menganjurkan kursus Penilaian Tahap Kecekapan Di bawah SSM iaitu PTK 4 dan PTK 6 yang melibatkan peserta dari agensi lain terutamanya agensi dari Kementerian Sains, Teknologi dan Alam Sekitar iaitu seramai 102 orang peserta.

Pada dasarnya, kumpulan sasaran bagi pelaksanaan program kursus yang dirancang adalah untuk pegawai-pegawai dari Jabatan Alam Sekitar, agensi-agensi berkaitan dan juga pihak industri. (Jadual 9.1).

Selain daripada kursus tersebut yang telah dilaksanakan, Seksyen Pembangunan Kurikulum EiMAS juga telah mengadakan beberapa siri ceramah/kolokium yang bertujuan mempertingkatkan pengetahuan pegawai JAS dalam bidang pengurusan alam sekitar, keselamatan, penguatkuasaan, teknologi bersih dan budaya membaca. (Jadual 9.2).

Dalam melaksanakan program latihan ini pelbagai pendekatan telah diambil bagi memastikan program latihan yang dirancang dapat dilaksanakan selaras dengan objektifnya bagi setiap kursus yang hendak diadakan. Selain daripada menggunakan kemahiran dan kepakaran yang ada dikalangan anggota Jabatan Alam Sekitar, terdapat juga program yang dilaksanakan secara kerjasama dengan beberapa agensi yang lain yang diketahui mempunyai kepakaran serta kemahiran yang diperlukan dalam subjek tersebut. Antara agensi Kerajaan yang

These courses conducted were inclusive of planned courses as well as courses identified by the management as urgently needed.

The overall number of DOE participants who attended such courses at EiMAS was 1,326. EiMAS also organised the Competency Level Assessment Courses Under SSM for Grade 54 (PTK 6) and Grade 48 (PTK 4) officers which involved 102 participants from other government agencies especially from the Ministry of Science, Technology and the Environment.

Basically, the planned training programme target groups were DOE officers, related agencies and also from the industries. (Table 9.1).

Apart from the courses that had been conducted, the Curriculum Development Section of EiMAS also organised a series of talks/colloquiums to upgrade and enhance the knowledge of DOE's officers on environmental management, safety, enforcement, cleaner technology and reading culture. (Table 9.2).

Various approaches were identified to ensure that the planned training programmes were conducted in line with the objective of each course. Apart from engaging senior and experienced Department of Environment officers to give lectures in these courses, some courses were conducted with the cooperation of other agencies that had expertise and skills needed in certain subjects. Other government agencies that were invited to provide training in specific subjects were the Institut Latihan Kehakiman dan Perundangan (ILKAP), Pejabat Keselamatan Jabatan Perdana

membantu dalam menjayakan program latihan ini adalah seperti Institut Latihan Kehakiman dan Perundangan (ILKAP), Pejabat Keselamatan Jabatan Perdana Menteri, Jabatan Perkhidmatan Awam, Kementerian Kewangan dan pejabat Jabatan Alam Sekitar Negeri.

Program Latihan Luar Jabatan

Sepanjang tahun 2003, EiMAS telah menyelaraskan penyertaan 19 orang pegawai dalam lima (5) program latihan anjuran lain-lain agensi dalam negara seperti dalam Jadual 9.3. Selain itu, hanya empat (4) orang pegawai telah menghadiri tiga (3) program latihan di luar negara (Jadual 9.4).

Program Kerjasama Dengan Pakar-pakar Tempatan

Dalam tahun 2003, kursus asas sains dan kejuruteraan telah dianjurkan dengan kerjasama UKM yang melibatkan 45 orang pegawai Jabatan Alam Sekitar yang layak untuk kenaikan pangkat dan menggalakkan mereka meningkatkan profesionalisme masing-masing.

Menteri, the Public Services Department, the Ministry of Finance and the Department of Environment State Offices.

External Training Programme

Throughout 2003, EiMAS facilitated the participation of 19 DOE officers in 12 local training courses organised by other agencies (Table 9.3). Four (4) officers attended three (3) overseas training courses (Table 9.4).

Collaboration With Local Expertise

In 2003, a two week course on basic science and engineering was conducted with the cooperation of Universiti Kebangsaan Malaysia for 45 DOE officers due for promotion as well as to upgrade their professionalism and competency.

Jadual 9.1 Jabatan Alam Sekitar: Kursus Latihan Dalaman, 2003
Table 9.1 Department of Environment: In-House Training Courses, 2003

KATEGORI KURSUS COURSES CATEGORY	BIL. KURSUS NO. OF COURSES	PESERTA JAS DOE PARTICIPANTS	PESERTA LUAR EXTERNAL PARTICIPANTS	BIL. HARI LATIHAN TRAINING DAYS
Pengurusan Alam Sekitar dan Penilaian Impak Persekitaran Environmental Management And Impact Assessment	15	289	-	40
Prinsip Rekabentuk dan Fungsi Sistem Kawalan Pencemaran Design Principles And Pollution Control System Functions	9	265	3	36

Jadual 9.1 Jabatan Alam Sekitar: Kursus Latihan Dalaman, 2003 (samb)
Table 9.1 Department of Environment: In-House Training Courses, 2003 (cont)

KATEGORI KURSUS COURSES CATEGORY	BIL. KURSUS NO. OF COURSES	PESERTA JAS DOE PARTICIPANTS	PESERTA LUAR EXTERNAL PARTICIPANTS	BIL. HARI LATIHAN TRAINING DAYS
Penguatkuasaan dan Undang-Undang Alam Sekitar Environmental Legislation And Enforcement	7	157	-	30
Pengawasan Kualiti Alam Sekitar Environmental Monitoring	3	102	4	10
Pengurusan Am, Pentadbiran dan Kewangan Management, Administration And Finance	9	291	-	79
Teknologi Maklumat dan Komunikasi Information And Communication Technology	6	125	-	22
Peningkatan Pencapaian Diri Self Improvement	4	73	-	14
Penilaian Tahap Kecekapan Di bawah SSM Competency Level Assessment Under SSM	2	24	102	40
JUMLAH TOTAL	55	1,326	109	271

Jadual 9.2 Jabatan Alam Sekitar: Senarai Kolokium, 2003
Table 9.2 Department of Environment: List of Colloquiums, 2003

BIL NO.	TAJUK TOPICS	TARIKH DATES	PENCERAMAH SPEAKER
1.	Penguatkuasaan Daripada Perspektif Jabatan Kastam Malaysia Enforcement From The Perspective of Customs Department Malaysia	18 Julai 2003 18 July 2003	Pengarah Jabatan Kastam Negeri Sembilan Director, Custom Department Negeri Sembilan
2.	Budaya Membaca Sempena Bulan Membaca	26 Julai 2003 26 July 2003	Dr. H.M. Tuah Iskandar
3.	Environmental Management Systems And Environmental Audit	30 Ogos 2003 30 August 2003	Dr. Chong Hock Guan, GMP Environmental Consultants
4.	Application Of Yeast Technology On Wastewater Treatment	22 Disember 2003 22 December 2003	Nishihara Environment Technology Sdn. Bhd./ Earthcare Environment Tech. Sdn. Bhd.

Jadual 9.3 Jabatan Alam Sekitar: Kursus Latihan Dalaman yang Dihadiri oleh Pegawai-Pegawai JAS, 2003
Table 9.3 Department of Environment: In-Country External Training Courses Attended by DOE Officers, 2003

BIL NO.	TAJUK TOPICS	BIL. KURSUS YANG DIHADIRI NO. COURSES ATTENDED	PESERTA JAS DOE PARTICIPANTS
1.	Perundangan dan Penguatkuasaan Law and Enforcement	1	1
2.	Pengurusan Alam Sekitar Environmental Management	3	10
3.	Pengurusan Bahan Buangan Waste Management	3	3
4.	Pengurusan Sumber Manusia Human Resources Management	2	2
5.	Keselamatan dan Kesihatan Safety and Health	3	3
JUMLAH TOTAL		12	19

Jadual 9.4 Jabatan Alam Sekitar: Kursus Latihan Luar Negara yang Dihadiri oleh Pegawai-Pegawai JAS, 2003
Table 9.4 Department of Environment: Overseas Training Courses Attended by DOE Officers, 2003

BIL NO.	TAJUK TOPICS	PENGANJUR ORGANISER	TEMPAT VENUE	PESERTA JAS NO. OF DOE PARTICIPANTS
1.	Automobile & Environment	JICA	JAPAN	1
2.	JICA-KOICA Joint Program On Restoration Of Freshwater Environment By Eco-Sound Technology	JICA-KOICA	JAPAN/KOREA	2
3.	Training Workshop On Biodiversity & Natural Resources	UNESCAP/UNEP	THAILAND	1
JUMLAH TOTAL				4

Jabatan
Alam Sekitar



BAB / CHAPTER 10



Department of
Environment



TEKNOLOGI KAWALAN DAN TEKNOLOGI BERSIH

Pendahuluan

Pada tahun 2003, Unit Pengeluaran Bersih (*Cleaner Production - CP Unit*) adalah terdiri daripada lima (5) orang pegawai iaitu seorang Ketua Penolong Pengarah, dua (2) orang pegawai kawalan, seorang penolong Pegawai Kawalan Kanan dan seorang Penolong Pegawai Kawalan. Dengan pertambahan pegawai-pegawai ini unit pengeluaran bersih dibahagi kepada dua (2) unit kecil iaitu, Unit Promosi dan Unit Audit CP. Penstrukturan semula pegawai-pegawai di Jabatan Alam Sekitar ini membolehkan program/aktiviti pengeluaran bersih ditumpukan kepada sektor industri di Malaysia dengan lebih giat lagi.

Aktiviti-aktiviti utama unit ini adalah seperti berikut:

A. Program Promosi dan Kesedaran Pengeluaran Bersih

Program promosi dan kesedaran pengeluaran bersih terbahagi kepada dua (2) iaitu:

- i. Penganjuran kursus/latihan/seminar/bengkel;
- ii. Penyebaran maklumat berkaitan Teknologi bersih dan pengeluaran melalui ceramah umum/kolokium.
- i. **Zero Emission Control Technology (14-19 Mei 2003)**
 Kursus "*Zero Emission Control Technology*" disertai oleh 25 peserta (yang terdiri pegawai-pegawai Jabatan Alam Sekitar) telah diadakan di EiMAS pada 14-19 Mei 2003. Kursus ini telah dikendalikan dengan kerjasama penceramah Universiti Teknologi Malaysia. Dalam kursus ini peserta didedahkan dengan konsep pelepasan sifar (*zero emission*) dan pelbagai teknologi

CONTROL TECHNOLOGY AND CLEANER TECHNOLOGY

Introduction

In 2003, the Cleaner Production Unit (CP Unit) consisted of five (5) desk officers, namely one Principal Assistant Director, two (2) Environmental Control Officers, one (1) Senior Assistant Environmental Control Officer and an Assistant Environmental Control Officer. With the new additional officers, the CP Unit was divided into two (2) smaller units namely, Promotion and CP Audit Unit. The restructuring process in the Department of Environment (DOE) had enabled cleaner production programme and activities to be focused more actively on the industrial sector in Malaysia.

The main activities of CP Unit in 2003 were:

A. Cleaner Production Promotion and Awareness Programme

Cleaner Production promotion and awareness programme were divided into two (2) main activities:

- i. Organizing courses/training/seminars/workshops;
- ii. Information dissemination related to cleaner technology/production through public lectures and colloquiums.
- i. **Zero Emission Control Technology (14-19 May 2003)**
 The Zero Emission Control Technology Course was participated by 25 participants (mainly DOE officers) and was held in EiMAS from 14-19 May 2003. The course was organized in collaboration with lecturers from Universiti Teknologi Malaysia. The participants were exposed to the zero emission concept and various environmental pollution and prevention control technologies.

kawalan dan pencegahan pencemaran alam sekitar. Pihak urusetia telah mengaturkan satu lawatan ke kilang *Malaysian Newsprint Industries* (MNI) iaitu sebuah kilang pemprosesan kertas yang mengamalkan konsep pelepasan sifar dan menggunakan teknologi bersih bagi kawalan pencemaran. Dalam lawatan ini peserta telah diberi penjelasan daripada pihak kilang berkenaan dengan pengendalian operasi pemprosesan dan kaedah rawatan buangan yang dilaksanakan oleh kilang.

ii. Introduction to Cleaner Production (18-21 April 2003)

Unit *Cleaner Production* (CP) juga terlibat didalam memberi ceramah mengenai konsep CP sempena dengan Kursus Induksi (Bil. 1/2003) pada 18-21 April 2003. Ceramah ini memberi pendedahan asas mengenai faedah dan kaedah pelaksanaan CP.

iii. Wastewater/Water Pollution Control (28-30 April 2003)

Seramai 28 peserta yang terdiri daripada pegawai-pegawai Jabatan Alam Sekitar telah menghadiri Kursus Pengenalan *Wastewater/Water Pollution Control* di Air Keroh Country Resort, Melaka merangkumi penerangan berkenaan dengan konsep asas tentang punca-punca pencemaran, implikasi kepada kesihatan, pengurusan dan kawalan air serta air buangan. Satu lawatan telah diadakan ke kilang National Semiconductor Sdn. Bhd. di Kawasan Perindustrian Batu Berendam Melaka untuk melihat dengan jelas konsep *waste water treatment*.

The Secretariat organised a visit to Malaysian Newsprint Industries (MNI), a paper processing factory practising the zero emission concept and clean technology to control pollution. The participants were briefed by the management of the factory on the operational, processing and waste treatment methods during the visit.

ii. Introduction to Cleaner Production (18-21 April 2003)

The CP Unit was also involved in giving lecturer on the Concept of Cleaner Production at the Induction Course (Series 1/2003) for DOE Officers in 18-21 April 2003. The lecture provided a basic understanding of the concept and benefits of CP production.

iii. Wastewater/Pollution Control (28-30 April 2003)

A group of 28 participants attended the Introduction Course on *Wastewater/Pollution Control* at Air Keroh Country Resort, Melaka covering basics concepts regarding pollution sources, health implications, water and waste water control management. A plant visit to National Semiconductor Sdn. Bhd. at Batu Berendam Melaka Industrial Area was conducted to introduce participants to the concept of waste water treatment.

iv. Air Pollution Control (5-7 Mei 2003)

Seramai 23 peserta yang terdiri daripada pegawai-pegawai Jabatan Alam Sekitar telah menghadiri Kursus Pengenalan *Air Pollution Control* di Institut Alam Sekitar Malaysia (EiMAS), Bangi meliputi konsep asas antaranya, punca- punca pencemaran, implikasi kepada kesihatan dan pengurusan dan kawalan udara. Bagi menerangkan konsep kawalan pencemaran udara, satu lawatan telah diadakan ke kilang *Lafarge Malayan Cement* di Rawang, Selangor untuk melihat dengan jelas konsep *air pollution control*.

v. Workshop on Cleaner Production Implementation (16-17 September 2003)

Seramai 44 peserta yang terdiri daripada pegawai- pegawai Jabatan Alam Sekitar dan juga agensi berkaitan terlibat dalam bengkel ini. Bengkel ini adalah sebahagian daripada lanjutan kajian pelaksanaan *Cleaner Production* yang sedang dijalankan oleh perunding dari Universiti Teknologi Malaysia. Para peserta diberi penerangan mengenai tujuan, objektif dan juga output kajian yang yang selesai pada 2003.

vi. Kursus Latihan Cleaner Production (8-10 Oktober 2003)

Pada 8-10 Oktober 2003, pihak Institut Alam Sekitar (EiMAS) dengan kerjasama UKM Pakarunding Sdn. Bhd. telah mengendalikan kursus latihan ini selama tiga (3) hari. Kursus ini disertai oleh seramai 27 peserta yang terdiri daripada pegawai-pegawai Jabatan

iv. Air Pollution Control (5 –7 May 2003)

A group of 23 participants from DOE attended the introduction course on “Air Pollution Control” in EiMAS, Bangi covering basic concepts of air pollution, health implications and air pollution control and management. A site visit to Lafarge Malayan Cement Plant at Rawang, Selangor was conducted to further illustrate the principles of air pollution control.

v. Workshop on Cleaner Production Implementation (16-17 September 2003)

A group of 44 participants from DOE and other agencies were involved in this workshop. The workshop was part of the study on Cleaner Production Implementation that was carried out by consultants from Universiti Teknologi Malaysia. The participants were informed of the aim, objectives and output of the study which was completed by December 2003.

vi. Training Course on Cleaner Production (8-10 October 2003)

On 8-10 October 2003, EiMAS in collaboration with UKM Pakarunding organised a three (3) day training course on cleaner production. The course was participated by 27 participants from State DOE Offices. The course covered CP audit,

Alam Sekitar seluruh Malaysia. Peserta diberikan pendedahan asas mengenai langkah-langkah untuk membuat audit CP, *Life Cycle Analysis*, beberapa kes kajian berkaitan CP dan satu lawatan ke kilang *Upha Pharmaceutical Sdn. Bhd.* telah diadakan untuk mendedahkan kaedah rawatan bahan buangan di kilang berkenaan.

vii. Ceramah dan Kolokium

Sebanyak empat (4) kolokium telah dijalankan pada tahun 2003 (Jadual 10.1). Kolokium seperti ini diadakan bertujuan untuk menyampaikan maklumat berkaitan teknologi bersih, kes kajian dan amalan pengeluaran bersih kepada golongan sasaran seperti pihak industri dan pegawai JAS.

B. Program Lawatan Audit Cleaner Production

Unit Cleaner Production telah menjalankan sebanyak 30 lawatan audit *cleaner production* bagi tahun 2003 dengan pemerhatian terhadap tiga (3) sektor pengeluaran utama iaitu sadur elektrik, tekstil dan makanan. Objektif utama lawatan adalah untuk mengenalpasti proses dan opsyen-opsyen *cleaner production* yang telah dilaksanakan oleh pihak kilang. (Jadual 10.2).

Life Cycle Analysis, case studies and a site visit was conducted to *Upha Pharmaceutical Sdn. Bhd.* to understand its waste treatment disposal method.

vi. Lectures and Colloquiums

There were four (4) colloquiums organised in 2003 (Table 10.1). The objectives of the colloquiums were to disseminate information relating to cleaner technology, case studies and cleaner production practices to specific target groups such as industries as well as DOE officers.

B. Cleaner Production Audit Visit

The CP Audit Unit conducted a total of 30 cleaner production audits in 2003 focusing on three (3) manufacturing sectors, namely electroplating, textiles, food and beverages. The main objective of the visit was to identified processes and cleaner production options that could be implemented (Table 10.2).

C. Kajian “A Study on Promotion and Implementation of Cleaner Production Practices in Malaysian Industry: Development of a National Programme and Action Plan for Promotion of Cleaner Production”

Kajian ini dimulakan pada Ogos 2002 dan selesai pada Disember 2003. Objektif utama kajian ini adalah untuk menyediakan satu pelan tindakan bagi pelaksanaan CP di Malaysia. Antara output kajian adalah seperti berikut:

- i. CP Action Plan
- ii. CP Technology Database and Case Studies
- iii. CP Audit Guidelines
- iv. Economic Incentives

C. “A Study on Promotion and Implementation of Cleaner Production Practices in Malaysian Industry: Development of a National Programme and Action Plan for Promotion of Cleaner Production”

The study was initiated in August 2002 and was completed in December 2003. The main objective of this study was to prepare an action plan for CP implementation in Malaysia. Among the outputs of the study were:

- i. CP Action Plan
- ii. CP Technology Database and Case Studies
- iii. CP Audit Guidelines
- iv. Economic Incentives

Jadual 10.1 Jabatan Alam Sekitar : Kolokium , 2003
Table 10.1 Department of Environment : Colloquium, 2003

BIL NO.	TAJUK TOPICS	TEMPAT VENUE	PESERTA JAS NO. OF DOE PARTICIPANTS
1.	Enhance Mineral Oil For Drilling Purpose	2 Julai 2003 2 July 2003	28
2.	Occupational Safety and Health at Work Place- Strategies and Challenges	9 Ogos 2003 9 August 2003	40
3.	Zero Effluent Discharge for Palm Oil Mill	23 Ogos 2003 23 August 2003	60
4.	Village CP: The Vietnam Urban Environmental Management Exchange Project- A Case Study of Two Vietnamese Village	13 September 2003 13 September 2003	20

Jadual 10.2 Jabatan Alam Sekitar: Program Lawatan Audit Cleaner Production, Januari-Jun 2003
Table 10.2 Department of Environment: Cleaner Production Audit Visit Programme, January-Jun 2003

BIL NO.	NAMA PREMIS PREMISE NAME	JENIS INDUSTRI TYPE OF INDUSTRY	TARIKH DATE
1.	Possehl Electronic (M) Sdn. Bhd. Batu Berendam, MELAKA	Electroplating	26/02/2003
2.	D.O.E Industrial Sdn. Bhd. Kaw. Per. Senawang, Seremban NEGERI SEMBILAN	Electroplating	17/03/2003
3.	Marseiling Electroplating No. 2 Jalan P/5, Kawasan MEIL, Bandar Baru Bangi 43000 BANGI	Electroplating	9/04/003
4.	Applied Component & Tool Manufacturing No 8722, Plot 8, FTZ Batu Berendam, Kaw. Per. Bt. Berendam, MELAKA	Electroplating	28/04/2003
5.	Pacific Food Product Sdn Bhd (MAMEE) Lot 1, Air Keroh Ind.Estate 75450 MELAKA	Makanan Food	30/04/2003
6.	Dewina Food Ind. Sdn. Bhd. Lot 11, Jalan P/9B Kaw.Perusahaan Bangi 43650 Bandar Baru Bangi	Makanan Food	12/05/2003
7.	Polar Ice Cream Sdn. Bhd. Lot 3, Jalan CJ1/2, MEIL Ind.Estate, Batu 11, Jalan Balakong 43200 SELANGOR	Makanan Food	13/05/2003
8.	Prima – Agri Product Sdn. Bhd. No. 16 & 18, Jalan P/13 Kaw. Perindustrian Sg. Chua, KAJANG	Makanan Food	28/05/2003
9.	Plus Eleven Food Manufacturing Sdn. Bhd. No. 11B, Lot PT 14725 Senawang New Ind. Park 70400 SENAWANG	Makanan Food	04/06/2003
10.	Permanis Sdn. Bhd. Lot 5 & 7 Kawasan Perusahaan Bangi 43650 Bandar Baru Bangi	Minuman Beverage	05/06/2003
11.	Kim Fashion Knitwear (M) Sdn. Bhd. 120 & 121, Kaw. Per. Senawang 70450 SEREMBAN	Tekstil Textile	25/06/2003