

PERPUSTAKAAN
JABATAN ALAM SEKITAR

Uapan Perasmian Oleh Y.B. Ahli Mesyuarat
Kerajaan Negeri Selangor YB Dato' Yap
Pian Hon, DPMS, AMN, PJK. Di Majlis
Perasmian Pameran Aktiviti Pendidikan
Dan Kesedaran Alam Sekitar Peringkat
Daerah Petaling, Jam 9.00 pagi 14hb Mac.
1986 Di Dewan Sivik, Petaling Jaya.

Saya merasa bangga kerana dijemput untuk merasmikan Pameran Aktiviti-Aktiviti Pendidikan dan Kesedaran Alam Sekitar di Peringkat Daerah Petaling yang akan berlangsung selama dua hari mulai hari ini. Pameran ini dianjurkan sempena Kempen Pendidikan dan Kesedaran Alam Sekitar di Peringkat Negeri Selangor yang sedang diadakan selama dua bulan mulai 4hb Mac 1986 yang lalu di Shah Alam. Kempen yang sedang dilangsungkan ini meliputi penerbitan risalah-risalah, filem-filem dokumentari atau program-program majalah melalui radio dan television Malaysia mengenai tema-tema seperti Keadaan Alam Sekitar Kita, Kebersihan dan Keindahan Alam Sekitar, Pencemaran Air dan Hakisan Tanah, Pencemaran Laut, Pencemaran Udara, Pencemaran Bunyi Bising dan Alam Sekitar Hari Esok.

Tujuan Aktiviti Kempen Pendidikan dan Kesedaran Alam Sekitar ialah untuk memberi kesedaran kepada masyarakat umum tentang masalah-masalah alam sekitar yang sedang kita hadapi dan kesan-kesan buruk akibat kemerosotan kualiti alam sekitar kepada kehidupan manusia. Adalah diharapkan dengan kesedaran ini setiap individu didalam Negeri Selangor ini termasuklah perancang-perancang, pembuat-pembuat keputusan, pekilang-pekilang, pemaju-pemaju, murid-murid sekolah dan orang ramai amnya akan menerapkan unsur-unsur pemeliharaan dan penjagaan alam sekitar di dalam segala tindak-tanduk mereka.

Dalam Kempen ini beberapa pameran tentang aktiviti-aktiviti pendidikan dan kesedaran alam sekitar juga diadakan. Sebelum ini satu pameran di Peringkat Negeri Selangor telah diadakan di Ruang Legar, Bangunan Sultan Salahuddin Abdul Aziz Shah, Shah Alam pada 4 - 5hb Mac. 1986. Pameran yang akan diadakan mulai hari ini dan esok di Dewan Sivik, Petaling Jaya adalah merupakan pameran Kesedaran Alam Sekitar di Peringkat Daerah khususnya Daerah Petaling.

Selepas ini satu pameran lagi akan diadakan pada 4 - 5hb April 1986 di Dewan Orang Ramai, Kajang, Selangor.

Pengurusan alam sekitar adalah satu perkara yang kompleks dan memerlukan kerjasama di antara semua pihak, seperti Agensi-agensi Kerajaan di Peringkat Persekutuan, Negeri dan Tempatan, pihak swasta, institusi-institusi pengajian tinggi, badan-badan bukan kerajaan (NGOS), murid-murid sekolah dan orang ramai.

Di dalam hubungan ini di Peringkat Kerajaan Persekutuan, undang-undang kawalan pencemaran alam sekitar telah dan sedang dikuatkuasakan oleh Jabatan Alam Sekitar dan pengawasan kualiti alam sekitar dijalankan untuk menentukan bahawa paras pencemaran dikawal sehingga ke suatu paras yang selamat. Oleh kerana tenaga kerja di Jabatan Alam Sekitar adalah terhad, Kerajaan Negeri dan Kerajaan Tempatan perlu memberi kerjasama kepada Jabatan Alam Sekitar didalam tugas-tugas mengawal masalah pencemaran. Bagi tujuan ini sebuah Jawatankuasa di Peringkat Negeri telahpun ditubuhkan pada 3hb Feb. 1986 yang lalu yang mana ia-nya dipengerusikan oleh saya sendiri untuk meneliti masalah-masalah dan isu-isu alam sekitar dan seterusnya merangka pelan tindakan untuk mengatasi masalah tersebut. Ianya mempunyai satu sekretariat bersama oleh kedua-dua pihak Bahagian Perumahan Pejabat Setiausaha Negeri Selangor dan Pejabat Wilayah Tengah, Jabatan Alam Sekitar. Semenjak penubuhan J/K ini pihak Kerajaan Negeri Selangor telah menerima dan meneliti satu lapuran dari Jabatan Alam Sekitar tentang isu-isu dan masalah-masalah di negeri ini serta syor-syor dan tindakan-tindakan yang perlu diambil oleh Kerajaan Negeri Selangor. Seterusnya pihak Kerajaan Negeri akan mengambil langkah-langkah yang sesuai untuk mengatasi masalah tersebut.

Penguasa-penguasa Tempatan boleh memainkan peranan yang penting didalam usaha membersihkan alam sekitar melalui perkhidmatan yang sempurna. Sebagai contoh perkhidmatan kutipan dan pelupusan sampah sarap perlulah dilaksanakan mengikut amalan-amalan yang baik dan hanya ditempat-tempat yang ditetapkan. Pelupusan sampah sarap secara pembakaran terbuka hendaklah diberhentikan sama sekali. Disamping itu perkhidmatan yang dijalankan oleh Penguasa-Penguasa Tempatan seperti membersihkan parit-parit dan memotong rumput serta program-program kecantikan tempat-tempat awam seperti bulatan, taman-taman, perhentian bas, pasar dan penanaman pokok-pokok disepanjang jalan raya adalah langkah-langkah positif bagi mengindahkan alam sekitar sangatlah digalakkan.

Pihak pekilang juga boleh memainkan peranan yang penting didalam usaha mengawal pencemaran dari premis masing-masing dan juga membersihkan dan mengindahkan sekeliling kawasan kilang. Pihak pemaju pula boleh menentukan supaya di dalam kerja-kerja meratakan tanah, langkah-langkah untuk mencegah hakisan tanah dan kelodakan diambil oleh mereka dengan bersungguh-sungguh. Segala aktiviti-aktiviti berkaitan dengan pembakaran terbuka keatas bahan-bahan lebihan projek-projek pembinaan hendaklah diberhentikan sama sekali.

Didalam hal ini murid-murid sekolah hendaklah disemai idea-idea yang positif kearah mencintai sumber alam semulajadi dan alam persekitaraan kita. Mereka ini perlulah digalak supaya suka menjalankan aktiviti-aktiviti sukarela seperti bergotong-royong, mengutip sampah sarap dikawasan-kawasan sekeliling sekolah dan dididik supaya membuang sampah di tempat-tempat yang ditentukan dan aktiviti-aktiviti lain yang berkaitan dengan penjagaan dan pengindahan alam sekitar.

Orang ramai pula hendaklah mempunyai sikap yang cintakan alam sekitar dan berusaha ke arah menjaga, membersihkan dan mengindahkan kawasan-kawasan kediaman serta tempat-tempat kemudahan awam seperti jalan raya, tempat-tempat rekreasi, perhentian-perhentian bas, panggung-panggung wayang, tandas awam, pasar-pasar dan sebagainya.

Akhir kata saya ingin mengucapkan setinggi-tinggi terima kasih kepada Kementerian Sains, Teknologi dan Alam Sekitar khususnya Jabatan Alam Sekitar diatas usaha-usaha gigih Kementerian dan Jabatan diatas kerjasama didalam menjayakan Kempen Pendidikan dan Kesedaran Alam Sekitar khususnya Pameran yang diadakan pada hari ini. Tidak lupa juga ribuan terima kasih saya kepada pihak Majlis Perbandaran Petaling Jaya kerana membenarkan penggunaan Dewan Sivik ini sebagai tempat pameran mengenai Aktiviti Pendidikan dan Kesedaran Alam Sekitar.

Dengan ini saya dengan sukacitanya merasmikan pembukaan Pameran Pendidikan dan Kesedaran Alam Sekitar dan berharap semoga ianya akan berfaedah dan memberi munafaat kepada semua lapisan masyarakat.

Sekian. Terima kasih.

LAUNCHING OF THE DOE ROVING SQUAD
FOR VEHICULAR SMOKE POLLUTION CONTROL
BY

Y.B. TUAN LAW HIENG DING, DEPUTY MINISTER OF
SCIENCE, TECHNOLOGY AND ENVIRONMENT,
3RD JULY 1987

Introduction:

1. Smoke emission from diesel vehicle has been a recognised nuisance and health threat especially to city dwellers where the concentration of vehicles is high. The Department has been vigorously carried out enforcement campaigns to bring violators to book. In the past decade over 800 campaigns have been carried out with the full cooperation of the police and vehicles tested and violators penalised for failure to comply with the requirements of the law.

2. In the course of carrying these enforcement campaigns, DOE and the Police are also concerned that the work would be carried out speedily in order to cause as little inconvenience to the public as possible, and also not to add chaos to the already congested traffic on our roads in urban centres. Therefore, early and effective detention of smoky vehicles is necessary and the smoke test should be carried out in the shortest possible time.

3. In this respect, the DOE has experimented and carried out numerous tests to find an effective means to implement the scheme and with the cooperation of the police, it is now ready to put the first Roving enforcement test unit to carry out the above function.

No. of sites identified : more than — sites
at most busy/main roads in the city.

Objectives:

4. The Roving Unit is intended to use in urban centres where previously the carrying out of smoke test would cause great inconvenience to the public and congestion of traffic flow.

5. The Roving Unit equipped with appropriate communication equipment and readily installed smoke testing apparatus would be able to detect any smoky vehicle on city roads and to carry out a smoke test without having to spend time preparing the test apparatus for carrying out test.

6. The Roving Unit is intended to instill a sense of confidence in the public that the law is ready to act on any violator. It is also intended to make any negligent party than they risk to be caught if their vehicle is put on the road.

Operation:

7. The Roving Squad may consist of one/two police officer on motorbike and mobile testing team equipped with installed and ready to be used testing apparatus.

8. The police officers and the mobile team communicate through walkie-talkie.

9. The roving squad is deployed on the streets of the urban centres where the officers -

- (i) look out for any vehicles seen to be smoking or suspect of smoking.
- (ii) look out for vehicles, especially public service vehicles having to follow fixed routes, that have been black listed as a result of public complaint made to DOE.

10. On the identifying/detection of target, the suspect vehicle would be ordered to stop at a convenient site previously identified.

11. The mobile testing team would lower the testing meter from a specially constructed jig and the test would immediately be carried out to determine the reading of smoke density. The test is expected to be completed within 5 minutes or sooner.

12. The violators would be issued a summon on the spot.

13. The Roving Unit would be back onto the road to continue its operation.

14. The squad would initially operate in Kuala Lumpur and would subsequently be implemented in other towns.

Public Assistance:

15 Members of the public are urged to lodge report with DOE on any particular vehicle seen to be emitting dark smoke. Please call -

Tel: 03-4416282 (Adnan)

 03-2938955 (Adnan)

by providing details such as -

Vehicle No.:

Type:

Where seen:

Date and Time:

Owner: if available.

TML/al



MENTERI SAINS, TEKNOLOGI
DAN ALAM SEKITAR, MALAYSIA



PERPUSTAKAAN

MESSAGE

In the face of rapid industrial growth and the prospect of attaining a better quality of life, developing countries in Asia have now recognized the need to deal with problems caused by industrial wastes, particularly those that are toxic and hazardous.

There is no doubt that failure to find measures to properly manage, treat and dispose such wastes will mean the pollution of the resources necessary to sustain human life such as water, vegetation and land. We in Malaysia have taken steps to ensure that the quality of our environment will not be threatened and that the pollution level will not cause irreparable damage to life and property. We are presently conducting studies into this important field of dealing with toxic and hazardous wastes. This Conference is indeed timely and apt, seeing that its objective is to address issues pertaining to the planning, managing and financing of hazardous industrial waste disposal systems as well as emphasis on current and new technology available to handle such wastes.

I am glad that my Ministry is associated with this Conference and that we could provide the necessary support in terms of advice and expertise for the Conference programme. It is heartening to note the keen interest of the Institute for International Research in environmental matters and I am confident the Conference will prove to be interesting and beneficial to all.

I wish IIR every success in organising this Conference and hope that Malaysian industries will participate in it.

S.K.T. Yong

(DATUK AMAR STEPHEN K.T. YONG)

17 July 1987

UCAPAN Y.B. DATUK AMAR STEPHEN K.T. YONG
MENTERI SAINS, TEKNOLOGI DAN ALAM SEKITAR
SEMPENA MAJLIS PELANCARAN SAMBUTAN 10 TAHUN
PENUBUHAN SIRIM PADA SELASA 17 SEPTEMBER 1986
DI GRAND BALLROOM HOTEL SHANGRI-LA K. LUMPUR
JAM 10.45 PAGI

Saya merasa bangga di saat yang bersejarah ini, iaitu sempena Ulang Tahun Ke 10 SIRIM.

Sepuluh tahun dulu SIM (atau Institut Piawaian Malaysia) dan NISIR (atau Institut Kebangsaan bagi Penyelidikan Sains dan Perindustrian) dicantum untuk menjadi SIRIM. Pada ketika itu, adalah diharapkan bahawa dengan percantuman itu, institut yang baru itu akan bertindak sebagai sebuah pusat yang akan memberi "impetus" dan melupuri pembangunan perindustrian di negara ini melalui khidmat bimbingan dan teknikal dalam bidang pengujian, piawaian dan kemajuan teknologi kepada pihak industri yang kian berkembang. Dalam tempoh 10 tahun yang lalu, bilangan anggota SIRIM telah meningkat dan lebih pengalaman diperolehi. Beberapa pusat khas telah ditambah di SIRIM seperti Pusat Teknologi Industri Logam (MITEC), Pusat Penyelidikan & Pembangunan Industri Logam (MIRDC) dan Pusat Metrologi yang mempunyai alat kelengkapan yang bernilai kira-kira \$20 juta ringgit.

Tempoh sepuluh tahun itu bolehlah dianggap sebagai tahun konsolidasi yang mana adalah perlu bagi sebuah institut baru yang diberi tanggungjawab untuk melupuri proses perindustrian serta

meningkatkan keupayaan teknologi. Adalah disebut ramai bahawa bagi seseorang peniaga, usia kritikalnya ialah di antara 30 ke 40 tahun; dan jika ia tidak berjaya mendapatkan kemudahan-kemudahan untuk keluarganya semasa tempoh itu, beliau bolehlah menganggap bahawa beliau telah gagal. Dalam pada itu, tahun ke 10 SIRIM ialah tahun kritikal di mana SIRIM perlu menentukan peranan yang sepatutnya bagi masa depan untuk menghasilkan kejayaan atau sebaliknya. Dalam hubungan ini, untuk menghasilkan kejayaan, SIRIM hendaklah memenuhi keperluan negara, khususnya program perindustrian. SIRIM adalah penting untuk kemajuan industri negara kita oleh kerana pemiawaian dan aktiviti pengujian merupakan kunci ke pasaran luar negeri dan persaingan antara-bangsa.

Tuan-tuan dan Puan-puan,

Saya berharap pihak industri sendiri akan menampil ke hadapan untuk mendekatkan SIRIM dan meninjau apakah keupayaan dan kelemahan di SIRIM. Pihak industri hendaklah mencadangkan bagaimana SIRIM boleh bergerak dari fasa konsolidasi ke fasa dinamis untuk mengwujudkan perhubungan dengan industri dengan tujuan menggunakan tenaga manusia SIRIM dan alat kelengkapan baru dan mahal yang disediakan oleh Kerajaan. Saya ingin menyatakan dengan terus terang bahawa saya berharap pihak industri, sama ada sebuah syarikat atau persatuan, dari seluruh Malaysia akan datang ke Kementerian saya dan kepada saya sendiri untuk membincangkan

masalah dan mencadangkan penyelesaian yang mereka fikir boleh dilaksanakan oleh Kerajaan untuk membantu mereka mencapai produktiviti yang lebih tinggi serta kualiti di dalam pengeluaran mereka.

Keperluan teknikal industri hanya boleh disuarakan oleh pihak industri sendiri oleh kerana mereka akan mendapatkan faedah dari pembangunan infrastruktur yang perlu untuk mendukung perindustrian. Adalah perlu bagi pihak industri untuk menentukan bentuk dan jenis sokongan teknikal yang diberikan oleh SIRIM untuk memenuhi keperluan-keperluan industri. Maksud saya ialah bahawa pihak industri mesti, melibatkan, diri dan memainkan peranannya di dalam semua aspek fungsi-fungsi SIRIM. Perhubungan yang erat dan rapat mesti wujud di antara industri dengan usaha R & D di SIRIM, terutamanya di dalam bidang penggunaan teknologi baru secara "commercial". Tambahan lagi, SIRIM perlu dipandu oleh keperluan bantuan teknik pihak industri.

Tuan-tuan dan Puan-puan,

Adalah mustahak hubungan di antara industri dan SIRIM diwujudkan memandangkan hubungan yang dimaksudkan itu adalah sangat lemah pada masa kini. Saya ingin menggesa pihak industri dan SIRIM berganding bahu untuk membincangkan peranan-peranan masa depan SIRIM dan bagaimana hubungan itu boleh dikukuhkan.

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Saya berharap saya akan kelihatan penurunan kumpulan dialog yang akan menjadi inti untuk kerjasama di antara industri dan SIRIM. Kumpulan dialog ini akan dapat mengeluarkan idea-idea baru dan memikirkan penggunaan teknologikal yang berfaedah. Dengan cara ini, pihak industri akan mendapat dorongan untuk menubuhkan kemudahan K & D sendiri dengan kerjasama SIRIM. Perubahan corak teknologi negara kita boleh ditingkatkan dengan adanya suatu pertalian di antara industri yang menerima teknologi dengan SIRIM yang memberikan sokongan teknologi.

Tuan-tuan dan Puan-puan,

Saya sedar bahawa pada masa kini, pihak industri tidak mempunyai perwakilan yang besar di dalam Majlis SIRIM. Keadaan ini akan diperbetulkan. Saya bercadang untuk meminda Akta SIRIM untuk membolehkan lebih ramai lagi wakil dari sektor industri untuk menyertai Majlis SIRIM.

Saya sudah pasti bahawa SIRIM akan menghadapi lebih banyak permintaan dan cabaran pada masa depan. Walaupun demikian, saya yakin bahawa dengan mempunyai keazaman untuk mencapai hasratnya dan dengan kerjasama dari pihak industri, SIRIM akan menjadi lebih kukuh tahun demi tahun.

Tuan-tuan dan Puan-puan,

Dengan ini, saya dengan sukacitanya melancarkan Sambutan Ulang Tahun ke 10 SIRIM dengan rasminya.



Yq. Berbahagia En. Nik Mohd. Amin,
Ketua Setiausaha Kementerian saya;

Yq. Berusaha En. A. Maheswaran,
Ketua Pengarah Alam Sekitar;

Yang Berhormat Wakil-Wakil Kerajaan Negeri;

Tuan-tuan dan Puan-puan yang dihormati
sekalian.

UCAPAN Y.B. DATUK AMAR STEPHEN K.T. YONG,
MENTERI SAINS, TEKNOLOGI DAN ALAM SEKITAR
DI UPACARA PEMBUKAAN SEMINAR KEADAAN KUALITI
ALAM SEKELILING 1985 DI BANGUNAN PUSAT
PEMBANGUNAN ASIA DAN PASIFIK (APDC),
PESIRAN DUTA, KUALA LUMPUR
PADA HARI ISNIN 8 JULAI 1985 JAM 3.00 PETANG

Saya merasa sangat sukacita kerana dapat merasmikan Seminar Keadaan Kualiti Alam Sekeliling sempena sambutan Satu Dekad Alam Sekitar di Malaysia dan Hari Alam Sekitar Sedunia 1985.

Saya mengambil kesempatan ini untuk mengucapkan selamat datang kepada para hadirin ke upacara ini khususnya Y.B. Wakil-wakil dari beberapa Kerajaan Negeri. Kehadiran tuan-tuan dan puan-puan menunjukkan minat ke atas kepentingan kualiti alam sekeliling kepada kualiti hidupan kita semua.

Saya mengucapkan setinggi-tinggi tahniah kepada Jawatankuasa Pengelola di bawah kepimpinan Yang Berbahagia Tan Sri Datuk Dr. Hamzah Sendut di atas inisiatif dalam memilih tema yang paling sesuai bagi Seminar ini. Akta Kualiti Alam Sekeliling 1974 telahpun dikuatkuasakan selama 10 tahun. Tibalah masanya

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untuk membuat suatu penilaian ke atas kesan-kesan penkuatkuasaan berbagai peraturan di bawah Akta tersebut ke atas kualiti alam sekeliling.

Saya merasa sangat sukacita bahawa Seminar ini akan menumpukan perhatian kepada tiga matlamat iaitu :-

(a) Untuk menilai pencapaian sehingga masa kini di dalam kawalan pencemaran alam sekitar;

(ii) Untuk mengenalpasti isu-isu alam sekitar semasa yang perlu diberi perhatian serta mengkaji kekurangan dan masalah di dalam pengurusan alam sekitar; dan

(iii) Untuk menentukan arah masa depan demi penqurusan alam sekitar yang lebih berkesan.

Pihak pengelola Seminar ini telah dengan bijaknya memilih peserta Seminar untuk merangkumi pihak-pihak alam sekitar dari sektor awam dan swasta. Peserta-peserta bagi Seminar ini adalah meliputi pembuat keputusan, tokoh politik, wakil-wakil agensi-agensi Kerajaan di peringkat Persekutuan dan Negeri, Badan-badan Berkanun, Pihak-pihak Berkuasa Tempatan, Ahli-ahli Akademik, Badan-badan Ikhtisas, Pertubuhan-Pertubuhan bukan Kerajaan, Institut-Institut Penyelidikan, industri, pakar perunding, pembekal-pembekal alat kelenyakan serta Pertubuhan Kesihatan Sedunia.

Saya difahamkan bahawa Seminar ini mempunyai skop yang komprehensif dengan mengandungi 12 sesi teknikal di mana sebanyak 31 Kertaskerja akan dibentangkan. Kertaskertaskerja ini semua akan meliputi semua aspek penqurusan alam sekitar termasuk peranan yang boleh dimainkan oleh pihak swasta dan masyarakat umum.

Saya merasa sangat gembira untuk mengambil perhatian bahawa ciri yang unik bagi Seminar ini ialah bahawa buat pertama kali pihak swasta dan pertubuhan-pertubuhan bukan Kerajaan telah berganding bahu dengan sektor awam untuk mengelola serta menyertai dengan sepenuhnya Seminar ini. Kerjasama dan sumbangan mereka ini adalah sangat menggalakkan. Ia adalah merupakan satu langkah untuk menangqong bersama dengan pihak awam tugas penqurusan alam sekitar

yang begitu luas dan kompleks. Saya mengambil kesempatan ini untuk mengucapkan penghargaan saya kepada semua pihak kerana telah bersama-sama menanggung beban Kementerian saya untuk mengelolakan Seminar ini.

Ladies and Gentlemen,

Environmental disruption and pollution of the biosphere have grown in scale and become more complex in this modern world of ours. In the quest for improvement of our standard of living, the chosen path is that of rapid economic development.

We have witnessed that the economic activities necessary for such development have resulted in the alteration of the physical, chemical and biological quality of the human

environment in certain regions. It is therefore timely to take stock of the price paid by society at large for haphazard and ill-planned economic activities. For example, deforestation and attendant denudation of the forest cover can destabilize water-flows, leading to siltation of rivers, reservoirs, hydro-electric dams and irrigation works, thus resulting in severe flooding during rainy seasons and water shortages and stress situations during dry seasons. Other negative effects of ill-planned economic development and industrialization without adequate environmental safeguards include crop damage due to increasing air and water pollution, loss of fisheries down-stream due to water pollution and to dam and highway construction, loss of good quality farmland due to urban sprawl, pollution of coastal waters caused by

wastewater discharges from communal and industrial sources and oil pollution from passing ships, loss of wildlife habitat due to deforestation and to reservoir construction, increased health risks due to discharge of toxic and hazardous wastes and to accumulation of persistent chemicals in the environment.

It is a sobering thought when we reflect that there is only one land mass, one atmosphere and a finite supply of water for us to share. To survive, let alone maintain life in dignity, we must make the best use of these environmental resources so that sustainable development can take place and that we do not foreclose options of our future generations.

To do so and to meet the rising expectations and aspirations for changing

lifestyles and the needs attendant upon population growth, we have to place reliance on harnessing advances in science and technology in respect of environmental protection and wise resource management. We cannot afford to let pollution negate the hoped-for flow of benefits from development. A sensible balance has to be struck! To this end, environmental protection is best integrated as a dimension of socio-economic development since we neither desire an immaculate environment for its own sake nor all-out development at the expense of the environment and of society.

Turning to Malaysia, the high rate of economic development experienced in the past decades, particularly in the 27 years since Merdeka, has drawn heavily on Malaysia's resource base both renewable and non-renewable,

ranking from forestry, land, fossil fuels, minerals to the most basic resource of all such as water. The Government, sensitive to the implications of reaching a condition of near full utilization of these resources by the year 2000, did take action to bring about a gradual transition from an exploitive, resource-based economy to one of a more balanced semi-industrialized condition. In successive five-year national economic development plans, Malaysia has given due attention to the manufacturing sector in its development strategy. In fact, it now has become the fastest growing sector of the national economy.

The 1980's have been characterized as the decade of development of the resource-based industries with a shift in the strategy favouring basic industries in order to provide

for the material conditions of an acceptable standard of living. In the process, we have heavy industries beginning to emerge from the Fourth Malaysia Plan. The rapid development and structural change of the economy brought in its wake several problems. One was the compelling need to manage the environment. There was the realization that our economy depends and will continue to depend on the renewable resources which, for a relatively small country like Malaysia, are limited, fragile and in dire need of comprehensive protection. It was also recognized that development cannot confer lasting benefits unless environmental considerations and related eco-systems become an integral part of development planning and decision-making. In other words, man must operate in harmony with his environment.

In order to cope with the gradually rising environmental costs of industrialization and urbanization and to incorporate environmental consideration in its planning and investment decisions, the Government has responded by formulating appropriate policies and programmes to ensure that economic development goes hand in hand with sound management of the environment. Evidence of such positive actions include the creation of the Department of Environment as the national environmental protection agency, the enactment of the Environmental Quality Act, 1974 and the formulation of several Regulations under the Act and its enforcement to control pollution, and water and air quality monitoring, and the enactment of the National Parks Act, 1980.

However, with the prospect of an enhanced economic development under the Fifth Malaysia Plan, the environmental problems will become more complex. Therefore, new concepts and improved techniques as well as appropriate approaches will need to be adopted for the management of the environment.

The major environmental problems causing public concern in Malaysia have been identified as follows :-

- (1) Polluting emissions, both gaseous and liquid, from a wide range of vehicular traffic and industries, including agro-based ones such as palm oil and rubber processing facilities;

- (2) Particulate matter - such as smoke emissions from stacks and vehicle exhaust and dust from quarrying and crushing activities, vehicular traffic, construction activities and open burning of solid wastes;
- (3) Erosion and sedimentation of rivers and canals, arising from housing, land settlement, urbanization and infrastructure construction;
- (4) High ambient lead levels of concentrations 2 to 4 times higher than the allowable ambient level at busy road junctions in urban areas;

- (5) Mining and industrial effluents polluting rivers and inland waterways, resulting in fishkill in river systems;
- (6) Discharge of untreated sewage into water-courses;
- (7) Oil spills and the discharge of wastes from ships near coastal areas causing fishkill and loss of other marine life;
- (8) Excessive deforestation and logging, shifting cultivation and dam construction for irrigation and hydro-power projects which disrupt and dislocate traditional human settlements and wildlife;

(9) Indiscriminate dumping of solid wastes, poor refuse collection system and rampant littering;

(10) Misuse of fertilizers, pesticides and herbicides in agriculture leading to the eutrophication of inland waters;

(11) The build-up of dangerous pesticide residues in fish and other marine biota and adverse impacts through the food chain;

(12) Indiscriminate disposal and dumping of toxic and hazardous wastes generated by industries;

(13) Occurrence of haze coupled with long dry spells leading to localized high temperatures, especially in the urban setting and resulting in poor visibility and interruption of airline flight schedules; and

(14) High noise levels measured at the boundary of many residential buildings and schools located near main roads.

Since the environment is complex and man's activities do influence and are influenced by the environment, inter-disciplinary action on a broad front is required to cope effectively with environmental problems. To be effective,

such inter-disciplinary endeavours need the closest rapport among all sectors on the environmental scene.

Whilst the concern with the human environment can only reinforce the commitment to development, it should serve, however to provide new dimensions to the development concept itself. The concept has as its aim the satisfaction of human needs without destroying the environment from which these needs are generated. In this respect, therefore, in view of the interaction that exists between resource development and environmental quality, environmental management should be understood to mean prudent management of the quantity and quality of our national resources.

As the prospects of a long-run abundant supply of natural resources are dim and technological innovations are inadequate, discrete and unpredictable, we have to take a serious look at our resource limitations, especially renewable resources so that we may tailor our development efforts suitably. This does not imply sacrificing development itself. What it does imply, though, is that the patterns of resource development and resource use have to be restructured by adopting policies of resource management which are innovative and imaginative, and focus on employment and efficiently organized productive activities. Resource development, therefore, has to be approached on an integrated basis, treating environment as an important parameter in order to bring maximum economic and social

benefits to improve the quality of life.

Essentially, it should aim at :-

(i) Minimizing wastes in the process of resource development and utilization of wastes;

(ii) Developing appropriate technology for management and control of wastes;

(iii) Limiting the environmental problems.

Since development of natural resources itself is a continuous process which involves intentional changes to the environment through the various activities, it must therefore be

accompanied by conscious efforts in guiding these environmental changes so that the sustaining of economic growth will serve the purpose of providing a better standard of living not only in the material sense, but also in the value of life itself. The task of guiding this change must be carried out through a proper long-term management of the resources by maintaining an equilibrium between the modes of resources and the rising needs. It simply means conservation and wise use of the resources such that it is possible to continue to have and use them or even improve their yield for a long time to come.

The present environmental problems have been the results of neglecting environmental considerations at Federal, State and private

sector levels. There has been a lack of anticipatory planning which is the most sensible and less expensive strategy for dealing with environmental problems. In the absence of such planning, Malaysia had no choice, but to adopt a problem-responsive strategy to start with, which means reacting to a problem after it has taken place and damage done. In most cases, problem-responsive situations have been found to be expensive, inconvenient, time-consuming and sometimes, insoluble in economic terms.

The Environment Department has therefore developed a three-pronged strategy encompassing short-term, medium-term and long-term measures designed to ensure that development projects, by dint of environmental planning, will avoid

costly remedial measures at a later stage. Essentially, this strategy will also help ensure that no new environmental problems are created.

The short-term measure calls for the control of liquid effluent discharges and air pollutant emissions from existing and new factories. A number of regulations have been introduced by my Ministry on the recommendation of the Environmental Quality Council. These regulations, relating to control of pollution from palm oil mills and rubber factories and the control of air and water pollution from other industries, prescribe various standards for the discharge of liquid effluents and the emission of air pollutants.

The aim of the second strategy, which is a medium-term measure, is to provide environmental guidelines for planning and development agencies in order to assist them to take into account environmental protection measures in the planning and implementation of their projects.

The third strategy, which is a long-term measure, is to ensure that environmental quality including the quality of the physical environment and the quality of life of the people affected by the project is taken into account in development. This would mean a development strategy which includes an integrated approach entailing advanced or forward planning in environmentally-related activities. This is with the view of

incorporating the environmental dimension in development planning right at the base level in order to achieve sustained development and long-term conservation of environmental assets. At the same time, it means improving the quality of life for all.

We have to bear in mind that resource management is currently being carried out both at Federal and State levels by the various agencies responsible for resource development and decision-making within their respective jurisdiction. Since the task of environmental management is both vast and complex, it stands to reason that in order to accomplish it effectively, it must be borne and shared by all concerned.

The Department of Environment by virtue of the Environmental Quality Act, 1974 has primarily to co-ordinate actions for effective environmental management. The Act, now being subjected to a comprehensive review process, is primarily designed to control our air, water and marine pollution. Its enforcement represents Malaysia's major effort in the field of first echelon environmental management. Additional Regulations to control the following environmental problems are currently being formulated:-

- (i) Marine pollution due to discharges from ships and dumpings into the seas;
- (ii) Toxic and hazardous wastes disposal; and

(iii) Noise pollution.

Having due regard to the rather complex sharing of legislative responsibility between the Federal and State Governments, some aspects of environmental control such as land-use have necessarily not been highlighted in Federal legislation and control regulations. To cope with this situation, the DOE has resorted to the provision of a series of guidelines and giving inputs on specific matters requiring decision or action at State level.

The present organizational set-up of the DOE still reflects, to some degree, the priority accorded to first echelon environmental management, although with the efflux of time it has moved into the second echelon

environmental management procedures, that is, environmental impact assessment of new projects.

As for the third echelon environmental management, it means long-term environmental resource planning which would represent the next logical step towards full effective environmental management. Here, constitutional provisions could prove a limiting factor on the Federal Government in terms of legislative and regulatory powers. In this sense, effective management will depend on the degree of co-operation and goodwill of State and Local Governments. My Ministry and I personally will continue the efforts of getting closer co-operation from all the State Governments. The Regional Environment Offices will redouble

efforts for a closer rapport with the respective State Governments. In this respect, I have already requested the Chief Ministers and Menteri Besar to form State Committees specifically for joint-handling of environmental problems in their respective States. I feel that by this approach it would be possible to enforce more effectively environmentally-related State legislations together with Federal legislations.

May I reiterate that there is a need for a new approach to economic and social progress, based on careful stewardship of the earth's resources and a concern for the interests of future generations. The guiding principle of such development should be the achievement of sustainable economic and social progress, not only within the limits imposed by

nature, but also and above all, in the context of respect for and protection of mankind. A strategy for sustainable development should be formulated as soon as possible which, while respecting human needs, should ensure a balance between man and his environment.

In the long-term, environmental protection and enhancement are best organized on a preventive basis. This necessarily calls for interdisciplinary planning by all parties concerned as well as the integration of environmental considerations at all stages of development planning.

It is my fervent hope that out of this Seminar would emerge a declaration which would impress and alert the Malaysian community as to

the seriousness of the continuing deterioration of the environment and affirm our renewed commitment to the environmental cause during the coming decades. It is also my hope that a consensus will emerge that would subscribe to the following principles :-

- (1) Sustainable economic development is an essential goal. Environmental management should be an integral part of economic development. Environmental issues should be addressed in the earliest stages of the economic planning and development process;
- (2) Economic growth can be made compatible with environmental protection;

(3) Despite its limitations, Cost/Benefit Analysis is an essential element of environmental decision-making. The Cost/Benefit system should be improved to attempt to quantify the value of our cultural heritage;

(4) There is not only the direct cost of environmental protection that has to be considered, but also the cost of damage to society as a whole;

(5) An anticipatory and preventive approach to the threat of environmental degradation is

preferable to correcting environmental problems after they have occurred;

(6) Mechanisms should be established to improve co-operation between industry and Government on environmental management issues;

(7) Multinational companies should be urged to participate in local environmental protection efforts and, when necessary, take the lead in raising the level of awareness and sophistication in dealing with these problems;

(10) To strengthen the anticipatory and preventive approach to environmental management within industry, each line manager from the chief executive down should also think of himself or herself as an environmental manager. Clear accountability for environmental performance should accompany managerial responsibility in each case;

(11) To improve relations on environmental matters with local and more broadly-based communities and to establish a climate of confidence, industry should be encouraged to supply information to the public and labour force on

a continuing, objective basis on the impacts of the companies' activities on the environment.

These are some points that have come to my mind that I wish to share with you.

Saya berharap Seminar ini akan menghasilkan syor-syor dan cadangan-cadangan yang berfaedah demi penurusan yang bijak ke atas alam sekeliling yang merupakan warisan kita semua. Saya mengucapkan selamat maju jaya kepada tuan-tuan dan puan-puan sekalian di dalam Seminar ini.

Tuan-tuan dan Puan-puan,

Dengan ini saya dengan sukacitanya mengisytiharkan Seminar ini dibuka dengan rasminya.

Press Release
By The Honourable Minister of Science, Technology
And The Environment On The Tenth Anniversary Of
Environmental Management in Malaysia,
And The World Environment Day 1985

The Ministry of Science, Technology and Environment will be celebrating 'A Decade of Environmental Management in Malaysia and the World Environment Day 1985' from 10th May 1985 to Mid September 1985.

The objectives of the celebration are two-fold. Firstly to heighten the consciousness of the people on environmental issues and the effects on them and to motivate them to act positively both individually and collectively towards the protection of the environment. In addition environmental management is becoming more and more complex especially with the thrust on heavy industries and rapid growth of the manufacturing sector. Therefore in order to accomplish the task of environmental management successfully it must be shared. In this respect, it is essential for the State Governments, Local Authorities and the society as a whole to be involved and co-operate in this task of environmental management. Secondly, to review the present environmental management and to determine the future directions for effective environmental quality improvement and enhancement.

A novel feature of the celebration is the sense of participation and involvement of the public and private sectors including industry, and non-governmental organizations in the organizing of the activities for the celebration.

A steering committee under the chairmanship of the Hon. Tuan Law Hieng Ding and a total of 16 sub-committees have been formed with the involvement of members from public and private sectors to undertake and organize specific activities.

The celebration will be launched on 10 May 1985 by the Hon. Deputy Prime Minister, Dato' Musa Hitam at the 'foyer' of the Dayabumi Complex. The celebration will last for a period of 4 months ending in September 1985. In conjunction with the launching an environmental exhibition will be held. The exhibition will be open to the public from 10th to 17th May 1985 and is expected to display efforts and achievements in environmental protection by various agencies both governmental and non-governmental through posters, models, slide shows and movies. Other highlights of the activities are as follows:-

- **Seminar on the State of the Environmental Quality in Malaysia**

A 3-day Seminar on the State of the Environmental Quality in Malaysia will be held in July at the Asian Pacific Development Center. The objectives of the Seminar are:-

- * to review the achievements to date with respect to environmental protection since the coming into force of the Environmental Quality Act 1974;

- * to identify environmental issues that need to be focussed;
- * to provide a forum for environmental actors including decision-makers, industrialist, academicians, politicians, etc. to determine future directions in environmental management.

- **Photography Competition**

A photography competition will be opened to the public from 12th May to 30th June 1985. The subject for the competition is about Man and his Environment and the photographer using his camera should bring the message home. The competition is jointly organized by the Photographic Society of Malaysia and the Department of Environment.

- **Art Competition**

An art competition on the environment will be open to primary and secondary schools. The competition is jointly organized by the Malayan Nature Society and the Department of Environment and will be open from 10th May till 15th July 1985. The objectives of this competition is to create awareness and interest among school children with regard to the flora and fauna of Malaysia and to provide an opportunity for the school children to express their creativity through art.

Essay Writing Competition

An essay writing competition will be held amongst school children in forms 4 and 5. The competition is jointly organized by the Ministry of Education and the Department of Environment and will be open from 2nd May till 30th June 1985.

School Excursions

School excursions will be conducted throughout the country beginning from 16th May 1985 till August 1985. The excursions jointly organized by the Ministry of Education and the Department of Environment will provide opportunity for students to visit zoos, forest reserves, research institutions, parks and industries with waste treatment and anti-pollution facilities.

The art, essay competition and the excursions are organized with a view to inculcating the younger generation the necessity and purpose of environmental protection including nature conservation.

Inter-University Debate

An Inter-University Debate will also be organized amongst local universities and institutions of higher learning. Topics on environment will be debated upon by undergraduates. The objective of the debate is to heighten environmental awareness amongst university students who would be the leaders and administrators of tomorrow. The debate will be

held from 27th July with finals on 8th August at Universiti Kebangsaan Malaysia, Bangi. The debate is jointly organized by Universiti Kebangsaan Malaysia and the Department of Environment.

Competitions

Various competitions will also be held to create environmental responsibilities and civic consciousness and such competitions are:-

- Competition among industries to determine the factories that are operated under environmentally sound conditions. The competition jointly organized by the Federation of Malaysian Manufacturers and the Department of Environment will be held from 2nd - 13th May 1985.
- A competition among local authorities to determine the environmentally best managed local authority will also be held.

Apart from the activities and competitions various private firms and organizations are also sponsoring several beautification and adoption schemes the details of which are as given below:-

- PETRONAS 2¹/₂ mile Port Dickson
Beach Beautification Project.
- MMC Rehabilitation Project
for the Beautification of
Barren Mining Land.
Experimental Project for
Palm Oil/Rubber on Tin Tailing
Area at 'Berjuntai Tin Dredges'.
Aquaculture Project at the
ex-mining pools.

- SHELL 4¹/₂ mile Port Dickson
Beach Beautification Project.
Contribution to Aquarium at
Zoo Negara.
- Mobil Deer 'Adoption' Project at
Zoo Negara.
- B.P. Flamingo 'Adoption Project'
at Zoo Negara.
- ESSO Poster of Malaysian fishes.

Several oil companies are putting-up celebration theme on arches at various roads in Kuala Lumpur.

Non-Governmental organizations will also be organizing various activities for the celebration. Some of the activities are as follows:-

Environmental Management and Research Society (ENSEARCH)	Dinner and Prize Giving
Environmental Protection Society of Malaysia (EPSM)	Toxic Waste Control Campaign, Envirowalk, Slide Show, Exhibition, Annual Assessment on Pollution and Protection.
Federation of Malaysian Consumers Association	'Recycle, Return Reuse' Campaign, Focus in Consumer Magazine.
Malayan Nature Society	Endau-Rompin Science Expedition.
Friends of the Earth	Essay Competition for Schools.

In addition to activities in Kuala Lumpur various programmes has been planned at State level.

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SPEECH BY THE HON. DATUK AMAR STEPHEN K.T. YONG
MINISTER OF SCIENCE, TECHNOLOGY & ENVIRONMENT
AT THE OPENING CEREMONY OF THE MALAYSIAN
NATIONAL COMPUTER CONFERENCE '85 AT TUN HUSSEIN
ONN HALL, LEVEL 2, PUTRA WORLD TRADE CENTRE,
KUALA LUMPUR ON TUESDAY, 19 NOVEMBER 1985
AT 11.00 A.M.

Terlebih dahulu saya ingin menyampaikan kemaafan daripada Y.B. Datuk Amar Stephen K.T. Yong yang tidak dapat bersama-sama dengan kita pada hari ini oleh kerana beliau dikehendaki merasmikan suatu Konvensyen Peringkat Antarabangsa di Genting Highlands pada pagi ini. Walaupun demikian, beliau telah meminta saya bagi pihak beliau untuk mengucapkan ribuan terima kasih kepada Persatuan Komputer Malaysia di atas jemputan ini untuk merasmikan Persidangan Komputer Kebangsaan Malaysia 1985 pada pagi ini. Izinkan saya untuk menyampaikan ucapan Y.B. Datuk Amar Stephen K.T. Yong di Upacara yang meriah ini.

Setinggi-tinggi tahniah saya ucapkan kepada Persatuan Komputer Malaysia kerana dapat menjayakan satu lagi Persidangan di dalam bidang teknologi komputer.

Seperti yang tuan-tuan dan puan-puan sedia maklum, tema Persidangan tahun ini ialah Komputer dan Pembangunan dan tema ini adalah kena dan sesuai pada saat ini memandangkan negara kita sedang menjalankan rancangan-rancangan pembangunan dengan pesatnya. Tidaklah boleh dinafikan lagi bahawa dengan munculnya suatu era teknologi komputer, negara-negara sedang membangun akan tentu mengaku bahawa komputer adalah perlu di dalam usaha pembangunan

negara. Penggunaan komputer di dalam negara ini kian bertambah dan saya percaya ia akan memainkan peranan yang utama di semua bidang ekonomi dan kehidupan kita.

Ladies and Gentlemen,

I note that the MCS has actively promoted the importance of using computer technology in our nation. In our efforts to bring about an awareness of the need for computer technology, I wish to thank the MCS for taking the initiative to organize workshops, evening talks, conferences, and supplying speakers to schools, associations and so on. Such initiatives have indeed complemented the Government's efforts in highlighting the importance of using computer technology to increase efficiency and productivity.

The Government is aware of the importance of computer technology and has encouraged schools to set up computer clubs so that interest in computers can be aroused among our young people. My Ministry through the National Council for Scientific Research and Development with the co-operation of the Ministry of Education, MCS, MSA and other bodies conducted computer camps in 1983 and 1984. Another camp is planned for early 1986.

This pioneer programme has been well received by the young participants in the past and no doubt we will get the same response for future computer camps.

Our country is on the threshold of greater and rapid industrialization. We have the unique opportunity to do a quantum jump in our "industrial revolution". We can build an appropriate industrial infrastructure without having to go through the birth-pangs of the early industrialization experienced by the West. We have the privilege of being able to pick and choose the sort of manufacturing facilities we want. We are in a position to capitalize on new technology. Take the case of a highly-trained person such as a doctor who, having undergone years of training, would nowadays have to rely on a computer to produce results on scanning, analyzing of diseased tissues, body fluids and so on. With the advent of CAD and CAE systems, we have the engineers and architects making their presence felt in the field of computer technology. Next come the accountants who will depend on the computer to ensure that accounts are kept straight and proper. I think the day will come when lawyers will have all the case law stored in computers and decisions on certain particular issues could be retrieved at the mere touch of a button.

As you are aware, we are the largest manufacturer of computer chips in the world. Unfortunately, we do not use any of them for our own manufacturing plants. I believe there is an opportunity for Malaysia to be a manufacturer of computer components and sub-assemblies. Joint-venture and licensing arrangements could be made to capitalize on our skilled and relatively inexpensive labour. In addition, we have skilled software

engineers who are able to write or modify the complex software that goes with the operation of computers.

The computer is as good as its input - the better the software, the better the use of the computer. Take the case of remote sensing applications where images taken from satellites such as Landsat and by aircraft make no sense to the naked eye, but through processing by computers using specially written software, you can determine the conditions of the forests, rivers, the salinity level of water, the soil conditions and the minerals on the earth's surface, and even analyze the condition of the soil, I am told, as far down as 25 metres. The application of such information or a combination of these information can prove to be immensely valuable to planners and decision-makers.

I wish to reiterate my remarks at the MMCC '83 where I said that there is no reason why our centres of technology and higher learning could not take the leading role in developing software to meet our own industrial and economic development needs. I acknowledge that the requirement for software is specific, but with the growing demand for software, there is an urgent need to study issues and problems facing the industry and come out with solutions. Positive steps ought to be taken to draw up programmes to develop software in Malaysia in order to ensure that we will not be too dependent on softwares produced in industrialized countries.

I note that one of the key topics for consideration at this Conference is the use of computers in agriculture. It is obvious that with appropriate software, the computer can be a tool of immense value in the field of agriculture. Our national economy still depends heavily on the agricultural sector which will only benefit greatly if we can take advantage of the information and materials made available by remote sensing applications through the use of computers. I believe we are on the threshold of an "agricultural revolution" in our country and the agricultural sector must not be left behind or stranded in the wake of computer development.

Ladies and Gentlemen,

Computer technology, as you are aware, is the fastest changing technology in the world. Its potential for applications in every facet of human activity is extremely high. In this regard, we must ensure that advances in computer technology are communicated not only to the people using the technology, but to the community at large. With this in mind, may I urge the MCS to continue its commendable efforts to promote the education and use of computer technology in Malaysia. I hope this Conference will enable ideas and information to be exchanged and experience shared so that it not only enrich the knowledge of computer users but serve as a means towards national development.

Tuan-tuan dan Puan-puan,

Saya mengucapkan selamat maju jaya dan selamat bersidang.

Dengan ini saya bagi pihak Y.B. Datuk Amar Stephen K.T. Yong, dengan sukacitanya mengisytiharkan Persidangan ini dibuka dengan rasminya.

SPEECH BY THE HON. DATUK AMAR STEPHEN K.T. YONG
MINISTER OF SCIENCE, TECHNOLOGY & ENVIRONMENT
AT THE OFFICIAL INAUGURATION & CONFERENCE
DINNER OF THE SECOND ASIAN CONFERENCE ON
TECHNOLOGY FOR RURAL DEVELOPMENT AT THE
HARLEQUIN BALLROOM, THE MERLIN KUALA LUMPUR ON
WEDNESDAY 4 DECEMBER 1985 AT 8.00 P.M.

I am pleased to be here at the Official Inauguration & Conference Dinner of the Second Asian Conference on Technology for Rural Development. I like to thank the Organizers for inviting me to address this distinguished gathering of Malaysian and foreign scientists. To our friends for overseas, may I say "Welcome to Malaysia". I understand that the first Conference on this subject organized by the Malaysian Scientific Association in 1978 was opened by my predecessor, Tan Sri Ong Kee Hui. It does seem my Ministry is closely associated with your Society.

The subject of Rural Development continues to engage the close attention of the developing countries in Asia. This is because although much economic progress has been made, the problems of rural poverty are of such dimension and complexity that they require a prolonged and sustained development effort.

Taking Malaysia as an example, our four national development plans, spread over two decades, has as one of its main thrusts, the eradication of poverty. We are rather fortunate that the poverty rate in Malaysia is at a different level compared to many other developing countries and is far above the poverty line

usually adopted by other countries. Nevertheless, the Government is very concerned that poverty does exist and there continues to be a significant gap between the rural and the more affluent urban population. This does not mean that poverty is only a rural problem. There are many urban poor among us, particularly in today's recessionary times. Many factories and businesses face dim prospects and many workers are unemployed. However, it is still recognized that poverty is basically a rural problem.

The issues and problems of rural development in the developing countries, though many and complex, are well-known. Strategies to eradicate poverty continued to be based on the traditional programmes of land development and resettlement to satisfy the special need of the landless. Irrigation projects have been introduced to facilitate multiple cropping in paddy farming and rubber replanting with higher yielding varieties. However, the success of these development efforts are constrained by social and institutional factors. You are no doubt well aware of these factors and they have often been highlighted.

The rubber smallholders, the paddy farmers, the fishermen - are all beset with a host of problems, many beyond our control. In spite of numerous advances made in the technology on rubber, for example, their impact has not been felt, primarily because the low commodity prices are dictated by external forces. Even the replanting programmes with high-yielding trees have not made the desired impact because the increase in yields have been

more than offset by a fall in the commodity prices. These are the realities that we have to face to make any headway in the rural sector. Nevertheless, there are very few other options open to us and we have to continue to face the challenges, mustering all the resources (albeit limited) under our command. One of these important resources is to make the best use of science and technology.

The generation of appropriate technology is a prerequisite for any rural thrust in rural development. This has been clearly recognized in most developing countries. In many of them, there are now institutes devoted to the development of Appropriate Technology for Rural Development. UNESCO has established an Asian Network on Appropriate Technology for Rural Development which links such institutions together. I believe this Network is well represented at this Conference.

Experience has shown that the technology for rural development needs to be continuously updated. Taking the Malaysian rubber industry as an example, not long ago, the problem was of surplus labour and the technology that was required was a labour intensive one to ensure that there was maximum employment. The scenario has changed drastically. With increased industrialization, job opportunities in the manufacturing sector has attracted a large portion of the rural population. The bright lights of the city have also attracted our youths, resulting in the labour situation in agricultural sector being changed from that of a

surplus to a shortage. The rubber industry has responded by looking into labour-saving devices for tapping and is also looking into automated systems of harvesting (that is collecting the latex). Another labour-saving device is the rearing of sheep in the rubber estates. This not only keeps the weeds in check, but also provides an additional source of income. I see there are papers on these topics being presented in the Conference. You will therefore no doubt hear more of these changes in the rural technology scene.

There is no doubt that technology must respond to the changing scenario. Bold decisions have to be made to break away from traditional methods and practices.

Other than new technologies, new strategies are required. The problem of uneconomic small-holdings, low productivity and poor agro-nomic and management practices has to be overcome. New strategies have therefore been planned to introduce estate-type management, setting up of cottage industries, or other types of non-agricultural activities.

Thought is also being given to change the image of rubber as the smallholders traditional crop. It is likely that this trend will take place in the future as rubber smallholders are encouraged to go for other more economic crops such as oil palm and cocoa. A switch from one crop to another need not necessarily mean that our problems can completely be solved, because it will

bring about new challenges - physical, financial and technological. There are no guarantees that the "golden crop" of today (palm oil) will remain so forever. There are already signs that the future prospects of oil palm would face new challenges as many countries jump on the band-wagon. Production in Malaysia and in other countries could well create a surplus stock situation. So while the prospects of palm oil and cocoa seem much brighter than rubber, there is no room for complacency. We must adopt a dynamic policy of continuously upgrading the technology in growing, harvesting, processing, manufacturing and marketing of our agricultural products, so that we can better face the perennial problems of depressed prices which seem to be the fate of primary commodities. Perhaps the solution is to review the international economic order. Another area is diversification of crops. Malaysia imports foodstuff to the tune of \$3 billion a year and much of it could be produced ourselves.

Rural development issues have no boundaries. The universities, research institutions and professional societies - all have a very useful and necessary role. It is therefore most heartening to see that the universities, the leading research institutions namely RRI, PORIM, MARDI and SIRIM, an implementing agency (RISDA) and 4 professional societies (the Malaysian Scientific Association, the Malaysian Institute of Chemistry, the Malaysian Society of Soil Science and the Malaysian Plant Protection Society) have all identified them-selves actively with this Conference. Their involvement is a clear reflection of

their concern for this important issue. From the list of organizations identified as co-sponsors, I dare say that this must be a new record in terms of the number of collaborating organizations in hosting a regional conference. This spirit of co-operation among so many institutions augurs well for the future and I am certain it will result in more emphatic studies being made in employing science and technology as means to eradicate rural poverty.

I am also pleased that a number of international and regional organizations namely the Committee on Science and Technology in Developing Countries, the Federation of Asian Scientific Academies and Societies, the International Foundation for Science, the Commonwealth Foundation and UNESCO, have also come forward to support the Conference. As rural development is indeed a regional and international issue, it requires a concerted attention from all quarters. The presence of delegates from as many as 20 Asian countries shows the regional attention given to this important subject.

With nearly 85 papers on different aspects of rural technology, I am confident that this Conference will unearth a wealth of knowledge for rural development in the Asian region. I am particularly happy to note the large number of papers on the use of solar energy. This topic is of recent origin and is making rapid strides. I am glad that Malaysia too is keeping abreast in this field, for solar energy has great potential in agriculture and other aspects of rural activity.

The equally important emphasis that is being given to "aquaculture" at this Conference is noteworthy. Aquaculture lends itself as a particularly useful economic activity for the rural folk. As I have said, Malaysia is a big importer of food, any inroads that we can make to increase food production will have far-reaching implications to the economy of the country.

Malaysia is indeed privileged to hold this important Conference for the second time and to play host to a gathering of distinguished scientists and authorities such as you. Being a small country in the Asian context, we feel particularly honoured to be given this opportunity of showing you our rural development efforts. With nearly 2 decades of undiminished commitment towards rural development, we believe we have a "story" to tell. Your presence here however will help us take stock of our own performance and evaluate our past efforts.

To our visitors, apart from sharing your knowledge and experience at this Conference, I sincerely hope you will take time off after the Conference to see a bit of our beautiful country.

To the Malaysian Scientific Association, may I offer my heartiest congratulations for initiating and organizing this Conference which is your contribution to our National Science Year. Your skill in mustering the co-operation (and I understand also getting the financial support in these difficult times) of

so many local and international organizations speaks volumes of your ability.

I am confident that your deliberations will make a lasting impact on our rural development efforts. I shall therefore follow your proceedings with keen interest and look forward to receiving the results of your deliberations.

Ladies and Gentlemen,

I now have pleasure in inaugurating the Second Asian Conference on Technology for Rural Development and wish you all every success.

UCAPAN Y.B. DATUK AMAR STEPHEN K.T. YONG
MENTERI SAINS, TEKNOLOGI DAN ALAM SEKITAR
DI UPACARA PENANDAKAN KEJAYAAN USAHASAMA PROJEK
METROLOGI JICA-SIRIM DAN PEMBUKAAN RASMI MAKMAL
METROLOGI KEBANGSAAN DI BANGUNAN BARU METROLOGI
SIRIM, SHAH ALAM, SELANGOR
PADA 3 DISEMBER 1985 JAM 9.30 PAGI.

Pa makmal

It gives me great pleasure to welcome you to the official opening of the National Metrology Laboratory in SIRIM. It marks the completion of another co-operative programme undertaken by the Japanese International Co-operation Agency (or JICA). I must put on record my Ministry's appreciation and my personal gratitude to the Government of Japan, JICA and all the individuals who are involved with the successful implementation of the Project. JICA has indeed proved to be our trusted and reliable partner in our efforts to develop the technical and scientific infrastructures in SIRIM. JICA played an active role in assisting us to establish the Metal Industry Technology Centre and the Metal Industry Research and Development Centre. I hope that such close relationship will continue and that we can look forward to JICA's assistance in other future projects.

Tuan-tuan dan Puan-puan,

Tafsiran "Metrologi" ialah ilmu atau sistem timbang dan sukat. Metrologi adalah di anggap sebagai kunci ke arah usaha perindustrian serta menjamin keyakinan dan kualiti eksport-eksport negara kita. Misalnya ukuran yang tepat boleh mengelakkan

kerugian daripada berlaku akibat dari ukuran yang salah. Kesilapan yang kecil di dalam bacaan ukuran sebanyak 0.01 di dalam ukuran aliran petrolium boleh membawakan kerugian berjuta-juta ringgit kepada royalti pendapatan negara kita. Oleh yang demikian, adalah sangat perlu suatu makmal metrologi ditubuhkan untuk keperluan industri di dalam bidang "precision engineering" yang kian bertambah sophisticated dan kian maju ke arah teknologi tinggi. Makmal Metrologi Kebangsaan di SIRIM dilengkapi dengan alat-alat yang bernilai sebanyak \$4 juta. Makmal ini berkeupayaan untuk memberikan tentukuran yang tepat dari segi ukuran panjang, isipadu, aliran, jirim, suhu, tekanan dan sebagainya. Adalah dipercayai bahawa Malaysia kini mempunyai salah satu daripada Pusat Metrologi yang secukup lengkap di rantau Asia Tenggara serta dengan adanya pegawai-pegawai yang terlatih setelah menjalani latihan selama 3 tahun di Jepun.

Dengan penyempurnaan projek ini, infrastruktur teknikal SIRIM untuk memberi khidmat dalam peningkatan keupayaan teknologi industri akan bertambah lagi.

Objektif keseluruhan Pusat ini adalah untuk menyediakan sistem pengukuran yang jitu kepada industri bagi maksud kawalan kualiti serta mengukuhkan lagi pihak pungutan pendapatan Kerajaan terhadap pengukuran tepat ke atas prodak-prodak supaya cukai ke atas barangan dapat ditaksirkan dengan tepat juga.

Sebaliknya timbang dan sukat yang tepat akan membolehkan para pengguna dan masyarakat umum mendapatkan kuantiti barangan yang tepat dan khidmat yang mereka membiayai. SIRIM telah dilantik sebagai pihak yang berkuasa ke atas timbang dan sukat semenjak 15 Januari 1979 dan pengesanan timbang dan sukat oleh SIRIM akan memudahkan amalan perniagaan yang adil serta penyeragaman sukatan.

Adalah menjadi harapan saya bahawa pengusaha dan peniaga kita akan menggunakan khidmat baru ini di SIRIM. Seperti tuan-tuan dan puan-puan sedia maklum, dalam tempoh 3 tahun yang lalu, beberapa pusat teknologi telah ditubuhkan di SIRIM iaitu Pusat Teknologi Industri Logam (MITEC), Pusat Penyelidikan dan Kemajuan Industri Logam (MIRDC), Makmal Pengujian Saintifik dan juga Pusat Maklumat dan Dokumentasi Paten. Kesemua kemudahan ini ialah sebahagian daripada pelan induk Kementerian saya di mana SIRIM ialah pihak perlaksanaan untuk berusaha meningkatkan lagi kepakaran teknikal industri di negara ini. Terpulanglah kepada pihak industri untuk menilai dan mengulas ke atas kemudahan-kemudahan yang ditawarkan dan mengesyorkan cara-cara dan kaedah-kaedah untuk memperbaiki lagi prestasi SIRIM. Saya yakin bahawa dengan kerjasama di antara Kementerian saya dan pihak industri, kita memang boleh meningkatkan lagi keupayaan teknologi dan inovatif sehingga tahap di mana kita akan dapat menyediakan batu asas untuk menjadikan negara kita berdikari di dalam bidang-bidang teknologi.

Tuan-tuan dan Puan-puan,

Dengan kenyataan-kenyataan itu serta dengan harapan bahawa kemudahan-kemudahan Makmal Metrologi Kebangsaan ini digunakan dengan sepenuh-penuhnya oleh industri-industri, saya dengan sukacitanya mengisytiharkan Makmal Metrologi Kebangsaan dibuka dengan rasminya.



Siaran Akhbar
Oleh Y.B. Menteri Sains, Teknologi dan Alam Sekitar
Sempena Ulangtahun Ke-10 Pengurusan Alam Sekitar
Di Malaysia dan Hari Alam Sekitar Sedunia 1985

Kementerian Sains, Teknologi dan Alam Sekitar akan meraikan 'Satu Dekad Pengurusan Alam Sekitar Di Malaysia' dan Hari Alam Sekitar Sedunia 1985 dari 10 Mei hingga pertengahan bulan September, 1985.

Perayaan ini mempunyai dua objektif. Pertama, untuk meningkatkan kesedaran orang ramai mengenai isu-isu alam sekitar dan kesan ke atas mereka supaya mereka dapat bertindak secara positif ke arah pemuliharaan alam sekitar samada secara individu atau berkumpulan. Tambahan pula, pengurusan alam sekitar menjadi bertambah kompleks dengan adanya pertambahan penduduk, pertumbuhan pesat industri-industri berat dan sektor-sektor pengeluaran. Oleh yang demikian, kerjasama dari semua pihak dan penglibatan pihak Kerajaan-Kerajaan Negeri, Pihak Berkuasa Tempatan dan masyarakat keseluruhannya adalah perlu dalam pengurusan alam sekitar yang berkesan dan sempurna.

Tujuan kedua pula ialah untuk mengkaji kedudukan pengurusan alam sekitar pada masa ini dan untuk menentukan ke arah mana pengurusan masa hadapan hendak ditujukan bagi memperbaiki dan meningkatkan lagi kualiti alam sekeliling.

Satu keistimewaan dalam Perayaan ini ialah penglibatan dan penyertaan orang ramai dan sektor-sektor swasta termasuklah pihak industri dan organisasi-organisasi bukan kerajaan dalam menganjurkan aktiviti-aktiviti Sambutan.

Satu Jawatankuasa Induk yang dipengerusikan oleh Y.B. Tuan Law Hieng Ding, Setiausaha Parlimen Kementerian, dan 16 jawatankuasa kecil telah di- bentuk di mana ahli-ahlinya terdiri dari agensi Kerajaan dan sektor swasta untuk menyelenggarakan aktiviti-aktiviti tertentu.

Sambutan ini akan dilancarkan pada 10 Mei 1985 oleh Y.A.B.Dato' Musa Hitam, Timbalan Perdana Menteri, di foyer Kompleks Dayabumi. Sambutan ini akan berlangsung 4 bulan dan berakhir pada bulan September, 1985.

Sempena hari pelancaran ini, satu Pameran Mengenai Alam Sekitar akan diadakan dan terbuka untuk orang ramai dari 10 hingga 17 Mei 1985 di mana poster-poster, model-model dan pertunjukan 'slide' dan filem yang menunjukkan usaha-usaha dan pencapaian berbagai agensi Kerajaan dan bukan-Kerajaan dalam perlindungan alam sekitar akan dipamerkan.

Aktiviti-aktiviti lain adalah seperti berikut:-

- **Seminar Keadaan Kualiti Alam Sekeliling Di Malaysia**

Seminar mengenai Keadaan Kualiti Alam Sekeliling di Malaysia akan diadakan selama 3 hari dalam bulan Julai 1985 di Pusat Perkembangan Asia dan Pasifik. Tujuan Seminar ini adalah:-

- * untuk mengkaji pencapaian sehingga kini dalam pemeliharaan alam sekitar semenjak penguatkuasaan Akta Kualiti Alam Sekeliling 1974;

- * untuk mengenalpasti isu-isu alam sekitar yang perlu diberi perhatian;
- * untuk mengadakan forum bagi mereka-mereka yang terlibat dengan alam sekitar termasuklah pembuat-pembuat keputusan, pengusaha-pengusaha industri, para akademik, ahli-ahli politik dan lain-lain lagi untuk menentukan arah pengurusan alam sekitar di masa akan datang.

Peraduan Seni Foto

Satu Peraduan Seni Foto akan diadakan untuk orang ramai dan akan berlangsung dari 12 Mei hingga 30 Jun 1985. Tema bagi Peraduan ini ialah **Manusia dan Persekitarannya** dan ahli-ahli seni foto yang menggunakan kamera mereka mestilah menyampaikan mesej ini. Peraduan ini dianjurkan bersama oleh Persatuan Seni Foto Malaysia dan Jabatan Alam Sekitar.

Peraduan Melukis

Satu Peraduan Melukis mengenai alam sekitar akan diadakan bagi murid-murid sekolah rendah dan menengah. Peraduan ini dianjurkan bersama oleh Persatuan Pencinta Alam dan Jabatan Alam Sekitar dan berlangsung pada 10 Mei hingga 15 Julai 1985. Objektif Peraduan ini ialah untuk membangkitkan kesedaran dan minat murid-murid kepada haiwan dan tumbuh-tumbuhan di Malaysia disamping memberi peluang kepada murid-murid untuk menonjolkan bakat-bakat mereka kepada seni lukis.

- **Peraduan Mengarang Essei**

Satu Peraduan Mengarang akan diadakan bagi murid-murid sekolah di Tingkatan 4 dan 5. Peraduan ini dianjurkan bersama oleh Kementerian Pelajaran dan Jabatan Alam Sekitar dan berlangsung pada 2 Mei hingga 30 Jun 1985.

- **Lawatan Murid-Murid Sekolah**

Lawatan Murid-Murid Sekolah akan diadakan di seluruh negara mulai dari 16 Mei hingga Ogos 1985. Lawatan ini dianjurkan bersama oleh Kementerian Pelajaran dan Jabatan Alam Sekitar untuk memberi peluang kepada murid-murid melawati zoo-zoo, hutan simpanan, pusat-pusat penyelidikan, taman-taman dan juga kilang-kilang yang mempunyai kemudahan pengolahan sisa-sisa dan pencegah pencemaran.

Peraduan Melukis, Mengarang dan Lawatan Sekolah-Sekolah dianjurkan dengan tujuan untuk menanamkan semangat di jenerasi muda tentang pentingnya pemeliharaan alam sekitar termasuk pemuliharaan alam semulajadi.

- **Debat Antara Universiti-Universiti**

Debat Antara Universiti-Universiti tempatan dan institut pengajian tinggi atas tajuk alam sekitar akan diadakan di peringkat mahasiswa. Tujuan Debat ini ialah untuk meningkatkan kesedaran alam sekitar di kalangan mahasiswa universiti yang merupakan bakal pemimpin-pemimpin dan pentadbir-pentadbir. Pertandingan Debat ini akan diadakan

pada 27 Julai 1985 dan Peringkat Akhirnya akan diadakan pada 8 Ogos 1985 di Universiti Kebangsaan Malaysia, Bangi. Debat ini dianjurkan bersama oleh Universiti Kebangsaan Malaysia dan Jabatan Alam Sekitar.

Lain-Lain Aktiviti

Sebagai satu kempen untuk mewujudkan sikap bertanggung-jawab ke atas alam sekitar dan kesedaran sivik suatu penilaian akan dijalankan untuk menentukan bilangan kilang yang telah beroperasi di dalam keadaan alam sekitar yang baik. Penilaian ini akan diselenggarakan bersama oleh Persekutuan Pekilang-Pekilang Malaysia dan Jabatan Alam Sekitar, dan akan tamat pada 13 Mei, 1985.

Penilaian yang serupa akan dijalankan bagi menentukan pihak-pihak berkuasa tempatan yang telah mencapai paras pengurusan alam sekitar yang baik.

Selain dari aktiviti-aktiviti dan peraduan-peraduan, beberapa firma swasta dan persatuan-persatuan juga menganjurkan projek-projek pengindahan dan skim 'anak angkat' seperti berikut:-

-	PETRONAS	Projek Pengindahan Pantai
		Batu 2 ¹ / ₂ Port Dickson.

- Malaysian Mining Corp. (MMC) Projek Pemulihan dan Mencantikkan Tanah-Tanah Tinggal Bekas Lombong.
Projek Eksperimen Kelapa Sawit/Getah di atas kawasan tahi bijeh di 'Berjuntai Tin Dredges'.
Projek Akuakultur di kolam-kolam bekas lombong.
- SHELL Projek Pengindahan Pantai $4\frac{1}{2}$ batu Port Dickson.
Sumbangan kepada Akuarium di Zoo Negara.
- Mobil Projek 'Anak Angkat' Rusa di Zoo Negara.
- B.P. Projek 'Anak Angkat' Flamingo di Zoo Negara.
- ESSO Poster Ikan-Ikan Malaysia.

Beberapa syarikat minyak akan mengadakan tema Sambutan di pintu-pintu gerbang yang sedia ada di beberapa batang jalan di Kuala Lumpur.

Organisasi-organisasi bukan-kerajaan juga akan menganjurkan beberapa aktiviti-aktiviti bagi Sambutan, di antaranya ialah:-

Persatuan Pengurusan dan Penyelidikan Alam Sekitar Malaysia (ENSEARCH)

Persatuan Perlindungan Alam Sekitar Malaysia (EPSM)

Jamuan Makan Malam dan Upacara Penyampaian Hadiah-Hadiah.

Kempen Kawalan Buangan Toksik, 'Envirowalk',
Pertunjukan slide,

Pameran, Penilaian Tahunan Pencemaran dan Perlindungan.

Persekutuan Persatuan
Pengguna-Pengguna
Malaysia

Kempen 'Recycle, Return,
Reuse', Fokus di Majalah
Pengguna.

Persatuan Pencinta
Alam Malaysia

Ekspedisi Sains
Endau-Rompin.

Sahabat Alam Malaysia

Peraduan Mengarang
untuk Sekolah-Sekolah.

Selain dari aktiviti-aktiviti di Kuala Lumpur, pihak-
pihak Kerajaan Negeri juga akan mengadakan berbagai
aktiviti sambutan di peringkat negeri.

Pejabat Y.B.Menteri,

Kuala Lumpur.

9 Mei, 1985.

SPEECH BY THE HON. DATUK AMAR STEPHEN K.T. YONG
MINISTER OF SCIENCE, TECHNOLOGY & ENVIRONMENT
AT THE LAUNCHING OF THE MALAYSIAN INSTITUTE OF
TRAINING AND DEVELOPMENT AND DIPLOMA IN SALES
AND MARKETING PROGRAMME ON SATURDAY,
14 DECEMBER 1985 AT THE ASIAN & PACIFIC
DEVELOPMENT CENTRE AT 2.30 P.M.

It gives me great pleasure to officiate the launching of the Malaysian Institute of Training and Development and the commencement of the Diploma in Sales and Marketing Programme. As a non-profit making national institute dedicated to training and human resource development, the Malaysian Institute of Training and Development, or MITD in short, may fulfil the needs in national development.

The Government views human resources as our country's most important and valuable asset and has always accorded top priority in their training and development. In fact, a corps of trained work force is essential for the successful transfer of technology and its effective adoption and adaptation. For these reasons, the setting up of a national training and human resource development institute such as MITD deserves full support.

MITD which was formed two years ago by a group of academicians and practising professionals has established its presence in Penang, Johore Bahru and now Kuala Lumpur. It has launched several diploma programmes and conducted a number of public courses. I understand from the Governing Council that

plans are underway to conduct many more such programmes and courses and to extend their presence to other towns.

Within a short span of its existence, I understand MITD has acquired affiliation with several renowned international professional bodies, including the International Federation of Training and Development Organizations (IFTDO), the Asian Regional Training and Development Organization (ARTDO) and the Association of Development Research and Training Institutes of Asia and the Pacific (ADIPA). It has also established close and special links with the Institute of Training and Development in the U.K. and the American Society of Training and Development. Through these international affiliations and special links, it can be expected that the latest in management science and training technology would be made available to the country.

I am glad to note that MITD has brought international recognition for Malaysia with the recent election of its Chairman of MITD (K.L.), Mr. Thomas Chee, as a International Director and an Executive Board Member of the International Federation of Training and Development Organizations (IFTDO). Indeed, MITD has done the country proud by having a Malaysian as the only Asian elected to the Executive Board of IFTDO. May I take this opportunity to offer my congratulations to Mr. Thomas Chee and MITD.

There is no doubt that MITD's growth and success as a professional institute for the training and development of human

resources will be a great contribution to increased productivity and advancement of our society and nation. I wish MITD every success in its endeavour. At the same time, may I also wish the course participants every success in their endeavour to better themselves.

On this note, I now have great pleasure in officially launching the MITD and the Diploma in Sales and Marketing Programme.

SPEECH BY THE HON. DATUK AMAR STEPHEN K.T. YONG
MINISTER OF SCIENCE, TECHNOLOGY & ENVIRONMENT
AT THE OFFICIAL INAUGURATION & CONFERENCE
DINNER OF THE SECOND ASIAN CONFERENCE ON
TECHNOLOGY FOR RURAL DEVELOPMENT AT THE
HARLEQUIN BALLROOM, THE MERLIN KUALA LUMPUR ON
WEDNESDAY 4 DECEMBER 1985 AT 8.00 P.M.

I am pleased to be here at the Official Inauguration & Conference Dinner of the Second Asian Conference on Technology for Rural Development. I like to thank the Organizers for inviting me to address this distinguished gathering of Malaysian and foreign scientists. To our friends for overseas, may I say "Welcome to Malaysia". I understand that the first Conference on this subject organized by the Malaysian Scientific Association in 1978 was opened by my predecessor, Tan Sri Ong Kee Hui. It does seem my Ministry is closely associated with your Society.

The subject of Rural Development continues to engage the close attention of the developing countries in Asia. This is because although much economic progress has been made, the problems of rural poverty are of such dimension and complexity that they require a prolonged and sustained development effort.

Taking Malaysia as an example, our four national development plans, spread over two decades, has as one of its main thrusts, the eradication of poverty. We are rather fortunate that the poverty rate in Malaysia is at a different level compared to many other developing countries and is far above the poverty line

usually adopted by other countries. Nevertheless, the Government is very concerned that poverty does exist and there continues to be a significant gap between the rural and the more affluent urban population. This does not mean that poverty is only a rural problem. There are many urban poor among us, particularly in today's recessionary times. Many factories and businesses face dim prospects and many workers are unemployed. However, it is still recognized that poverty is basically a rural problem.

The issues and problems of rural development in the developing countries, though many and complex, are well-known. Strategies to eradicate poverty continued to be based on the traditional programmes of land development and resettlement to satisfy the special need of the landless. Irrigation projects have been introduced to facilitate multiple cropping in padi farming and rubber replanting with higher yielding varieties. However, the success of these development efforts are constrained by social and institutional factors. You are no doubt well aware of these factors and they have often been highlighted.

The rubber smallholders, the paddy farmers, the fishermen - are all beset with a host of problems, many beyond our control. In spite of numerous advances made in the technology on rubber, for example, their impact has not been felt, primarily because the low commodity prices are dictated by external forces. Even the replanting programmes with high-yielding trees have not made the desired impact because the increase in yields have been

more than offset by a fall in the commodity prices. These are the realities that we have to face to make any headway in the rural sector. Nevertheless, there are very few other options open to us and we have to continue to face the challenges, mustering all the resources (albeit limited) under our command. One of these important resources is to make the best use of science and technology.

The generation of appropriate technology is a prerequisite for any rural thrust in rural development. This has been clearly recognized in most developing countries. In many of them, there are now institutes devoted to the development of Appropriate Technology for Rural Development. UNESCO has established an Asian Network on Appropriate Technology for Rural Development which links such institutions together. I believe this Network is well represented at this Conference.

Experience has shown that the technology for rural development needs to be continuously updated. Taking the Malaysian rubber industry as an example, not long ago, the problem was of surplus labour and the technology that was required was a labour intensive one to ensure that there was maximum employment. The scenario has changed drastically. With increased industrialization, job opportunities in the manufacturing sector has attracted a large portion of the rural population. The bright lights of the city have also attracted our youths, resulting in the labour situation in agricultural sector being changed from that of a

surplus to a shortage. The rubber industry has responded by looking into labour-saving devices for tapping and is also looking into automated systems of harvesting (that is collecting the latex). Another labour-saving device is the rearing of sheep in the rubber estates. This not only keeps the weeds in check, but also provides an additional source of income. I see there are papers on these topics being presented in the Conference. You will therefore no doubt hear more of these changes in the rural technology scene.

There is no doubt that technology must respond to the changing scenario. Bold decisions have to be made to break away from traditional methods and practices.

Other than new technologies, new strategies are required. The problem of uneconomic small-holdings, low productivity and poor agro-nomic and management practices has to be overcome. New strategies have therefore been planned to introduce estate-type management, setting up of cottage industries, or other types of non-agricultural activities.

Thought is also being given to change the image of rubber as the smallholders traditional crop. It is likely that this trend will take place in the future as rubber smallholders are encouraged to go for other more economic crops such as oil palm and cocoa. A switch from one crop to another need not necessarily mean that our problems can completely be solved, because it will

bring about new challenges - physical, financial and technological. There are no guarantees that the "golden crop" of today (palm oil) will remain so forever. There are already signs that the future prospects of oil palm would face new challenges as many countries jump on the band-wagon. Production in Malaysia and in other countries could well create a surplus stock situation. So while the prospects of palm oil and cocoa seem much brighter than rubber, there is no room for complacency. We must adopt a dynamic policy of continuously upgrading the technology in growing, harvesting, processing, manufacturing and marketing of our agricultural products, so that we can better face the perennial problems of depressed prices which seem to be the fate of primary commodities. Perhaps the solution is to review the international economic order. Another area is diversification of crops. Malaysia imports foodstuff to the tune of \$3 billion a year and much of it could be produced ourselves.

Rural development issues have no boundaries. The universities, research institutions and professional societies - all have a very useful and necessary role. It is therefore most heartening to see that the universities, the leading research institutions namely RRI, PGRIM, MARDI and SIRIM, an implementing agency (RISDA) and 4 professional societies (the Malaysian Scientific Association, the Malaysian Institute of Chemistry, the Malaysian Society of Soil Science and the Malaysian Plant Protection Society) have all identified themselves actively with this Conference. Their involvement is a clear reflection of

their concern for this important issue. From the list of organizations identified as co-sponsors, I dare say that this must be a new record in terms of the number of collaborating organizations in hosting a regional conference. This spirit of co-operation among so many institutions augurs well for the future and I am certain it will result in more emphatic studies being made in employing science and technology as means to eradicate rural poverty.

I am also pleased that a number of international and regional organizations namely the Committee on Science and Technology in Developing Countries, the Federation of Asian Scientific Academies and Societies, the International Foundation for Science, the Commonwealth Foundation and UNESCO, have also come forward to support the Conference. As rural development is indeed a regional and international issue, it requires a concerted attention from all quarters. The presence of delegates from as many as 20 Asian countries shows the regional attention given to this important subject.

With nearly 85 papers on different aspects of rural technology, I am confident that this Conference will unearth a wealth of knowledge for rural development in the Asian region. I am particularly happy to note the large number of papers on the use of solar energy. This topic is of recent origin and is making rapid strides. I am glad that Malaysia too is keeping abreast in this field, for solar energy has great potential in agriculture and other aspects of rural activity.

The equally important emphasis that is being given to "aquaculture" at this Conference is noteworthy. Aquaculture lends itself as a particularly useful economic activity for the rural folk. As I have said, Malaysia is a big importer of food, any inroads that we can make to increase food production will have far-reaching implications to the economy of the country.

Malaysia is indeed privileged to hold this important Conference for the second time and to play host to a gathering of distinguished scientists and authorities such as you. Being a small country in the Asian context, we feel particularly honoured to be given this opportunity of showing you our rural development efforts. With nearly 2 decades of undiminished commitment towards rural development, we believe we have a "story" to tell. Your presence here however will help us take stock of our own performance and evaluate our past efforts.

To our visitors, apart from sharing your knowledge and experience at this Conference, I sincerely hope you will take time off after the Conference to see a bit of our beautiful country.

To the Malaysian Scientific Association, may I offer my heartiest congratulations for initiating and organizing this Conference which is your contribution to our National Science Year. Your skill in mustering the co-operation (and I understand also getting the financial support in these difficult times) of

so many local and international organizations speaks volumes of your ability.

I am confident that your deliberations will make a lasting impact on our rural development efforts. I shall therefore follow your proceedings with keen interest and look forward to receiving the results of your deliberations.

Ladies and Gentlemen,

I now have pleasure in inaugurating the Second Asian Conference on Technology for Rural Development and wish you all every success.

7.
SPEECH BY THE HON. DATUK AMAR STEPHEN K.T. YONG,
THE MINISTER OF SCIENCE, TECHNOLOGY AND THE
ENVIRONMENT AT THE OPENING CEREMONY OF THE
TRAINING WORKSHOP ON COMPUTER-AIDED DESIGN &
DRAFTING AND COMPUTER-AIDED MANUFACTURING
(CADD-CAM) AT THE FACULTY OF ENGINEERING,
UNIVERSITY OF MALAYA ON MONDAY 1 MAY 1985
AT 9.00 A.M.

PERPUSTAKAAN
JABATAN ALAM SEKITAR

Saya merasa sangat sukacita kerana dapat bersama-sama dengan tuan-tuan dan puan-puan di Majlis ini sempena Upacara Pembukaan Rasmi Bengkel Latihan Rehabentuk dan Pendrafan Di-bantu Komputer dan Pembuatan Dibantu Komputer. Saya sangat mengalu-alukan bengkel Latihan ini yang ditajakan oleh Majlis Sains Komonwel dengan kerjasama Kementerian saya, Fakulti Kejuruteraan dan Pusat Komputer Universiti Malaya. Setinggi-tinggi tahniah saya ucapkan kepada Jawatankuasa Pengelola yang telah berusaha dengan bertungkus lumus untuk menajayakan pengantjaran Bengkel Latihan yang diadakan pada pagi ini.

Ladies and Gentlemen,

It gives me great pleasure to be present with you this morning in conjunction with the opening ceremony of the Training Workshop on Computer Aided Design and Drafting and Computer-Aided Manufacturing (or CADD-CAM). I would like to congratulate the Organizers for successfully organizing this Training Workshop as well as bringing together distinguished scientists and technologists from the Commonwealth to this Training Workshop.

There is no doubt that development efforts in the country will have to draw further on computer technology - one of which is CADD/CAM. It has been shown that CADD/CAM can improve engineering and manufacturing productivity and help create better product designs by making it practical to assess design at greater details and offer more alternatives. However, CADD/CAM is to us a new development and its utilization in industrial development in Malaysia is still in its infancy.

There is much to be learned in its application. I therefore commend the Commonwealth Science Council in co-operation with my Ministry, the Faculty of Engineering and the Computer Centre of the University of Malaya, for holding this Training Workshop.

The Faculty of Engineering, University of Malaya, as the premier engineering academic institution in the country, will celebrate its 30th anniversary this year. I understand that it will introduce a new curriculum and teaching system which will ensure that engineers graduating from the Faculty will meet the needs of the nation. It will be appropriate for the Faculty to be directly involved in developing the field of CADD/CAM and CAE.

Since CADD/CAM/CAE are new developments in computer technology utilization, the Computer Centre of the University of Malaya must necessarily be involved in these developments. It has been announced that the Computer Centre will offer courses for those interested to obtain Masters and Ph.D degrees in Computer Science. The time may now have come for the Computer Centre of

University to develop into a major academic institution, besides being a service institution to meet the computer requirements of the University.

While we study as to how CAD/CAM can be utilized to replace the traditional and time-proven design methodologies and its advantages, we have to consider also what are the risks and shortcomings, if any.

In March this year, I was invited to attend a "Conference on Industrial Automation" organized by the Hong Kong Productivity Council. There was a paper on "CAD/CAM for manufacturers today: risks and shortcomings" presented by one Mr. Charles Foundyler of the U.S.A.

He stated that today's systems have a number of generic shortcomings and listed a number of items to which attention should be given. Among others he mentioned: poor data management in the systems which give a place to dump data, but provides little help in retrieval; and that the systems are computationally underpowered; and also there is chronic lack of compatibility in all areas of CAD/CAM and CAE.

In his opinion, automation or computer assistance for creating an accessible CAD/CAM and CAE database is very much overdue and will certainly be a feature of the next generation of systems.

I do hope you may in this Training Workshop have the opportunity to examine critically and objectively the systems which are available so that a proper assessment can be made of their true value. The speakers in this work-shop, being experts in the field, will no doubt in their discourse throw light on all aspects of CADD/CAM systems. I am sure all participants will benefit from this Workshop. May I extend to the overseas resource persons and participants a warm welcome and wish them a pleasant stay in Malaysia.

On this note, I now have great pleasure in declaring this Training Workshop officially open.

SPEECH BY THE HON. DATUK AMAR STEPHEN K.T. YONG
MINISTER OF SCIENCE, TECHNOLOGY & ENVIRONMENT,
AT THE HARVARD BUSINESS SCHOOL ALUMNI
CLUB OF MALAYSIA SEMINAR ON TRANSFER
OF TECHNOLOGY AT THE BALLROOM, THE
REGENT OF KUALA LUMPUR ON THURSDAY,
12 DECEMBER 1985 AT 8.30 P.M.

PERPUSTAKAAN
JABATAN ALAM SEKITAR

It is an honour for me to address this distinguished gathering on the subject of "The Role of Multinational Corporations and Host Agencies in Technology Acquisition and Technological Capability Development in Malaysia". This is a subject on which volumes have been written and published, and endless hours have been spent in discussions in various fora, seminars, workshops, conferences organized both by international, regional and local organizations. I do not think I can do justice to the subject in 15 minutes, which has been given to me tonight. If I should overstep the time limit, I hope the Chairman will not haul me up.

I will try to limit my talk to a few key trends on technological progress that is occurring and try to relate what impacts these trends will have on the development of technology capability in the region as a whole and Malaysia in particular.

I will then try to stimulate some discussion by bringing up some issues that our country is presently facing and put up some suggestions in dealing with them and invite your comments thereon.

Ladies and Gentlemen,

The key industrialization policy of most developing countries depends to a great extent on investments from developed countries, and it turned out that most of these investments are from multinational corporations or MNCs. It is the idealistic hope of developing countries that these MNCs will not only bring in the much needed capital, but also the technological knowhow and expertise whereby the host country could adopt and absorb what technology there is. In return for the capital, technology, expertise and knowhow, developing countries could provide cheap labour, special industrial zones, necessary infrastructure and fiscal incentives such as tariff protection against competition and granting of pioneer status.

However, with the change of manufacturing technology from labour-intensive to computer-aided manufacturing, computer-aided design and the wonderful world of micro-electronics, the advantage of cheap labour in developing countries is now pitted against energy-saving machines, new management technologies that provide better control over production to the extent of zero inventory.

Take the case of the T.V. set as an example: in 1982 to 1983, there are practically 400 components required to build a T.V. set which had to undergo sub-assembly to assembly work. In 1984, only 5 VLIC (Very Large Integrated Circuits) and 3 peripheral chips are required with practically no manual assembly work.

The cost of manufacturing per unit using automation is estimated to cost 1.78 cents in the United States per device as compared to 7.53 cents using manual. The cost of using automation type of manufacturing process is about the same anywhere in the world. What I wish to convey here is that with CAD and CAM, we have a new manufacturing process called Completely Integrated Manufacturing or (C.I.M). The implications of C.I.M. to foreign investments in developing countries is obvious as multinationals prefer better control and efficient production and better supporting services due to the complex components being used for manufacturing and the need to integrate R & D into production and marketing. Multinationals in developed countries are now using central manufacturing units which can be set up in their home country. This is especially true for the electronic industry.

This trend means that we must develop our technological capability to absorb such technologies while the multinationals are still around.

Since the newly industrialized countries (or NICs) of which Malaysia is one, have achieved certain technological advancement in Asia, one can understand that multinationals from developed countries are more cautious about technology transfer. It can be expected that there will be more stringent conditions in joint venture agreements, greater attention paid to intellectual property rights and copyrights, and industrial design of plants and machineries will be only done in their central offices and

the multinationals will negotiate for greater control on key issues especially decision on markets and technology.

It is a known fact that technology transfer entails licensing contracts, management or technical agreements, turnkey plants, imports of machinery, training programmes, franchising, consultation services and so on. According to an article in The Malaysian Business, there are 600 multinationals with investments totalling over 2.8 billion ringgit in Malaysia. The major industries where foreign equity dominates are scientific and engineering equipment, transportation equipment, petroleum, beverages, tobacco, electrical and electronic products and chemicals.

Looking at the types of industry and the extent of foreign equity in the country and also the extent to which the management, decision-making, fabrication, design, and engineering supporting activities that rest with the foreign partner, one could safely say that there is little and, in some cases, no technology transfer takes place in the country. The largest part of foreign investment is still in industries that we should by now be able to do it ourselves because the technology for these industries are relatively simple, matured technology which are easily available and for which I am sure we possess the capability. These industries are food manufacturing, textiles and textile products, chemicals and chemical products and electrical and electronic equipment. In the case of electronic equipment,

the skills which are developed in Malaysia are limited to mainly assembly-type operations and foreign companies rely on major imports of production inputs that have their design and research and development based in their home country. I understand that the chemical industry involves only mixing and formulation of imported drugs and medicine, soap and cleaning preparation and perfumery cosmetics and other toilet preparations.

It appears that the multinational's main objectives are, while ensuring profits, retaining the right to carry on the fabrication and design of the machineries necessary for production to be done in the home country, the right to withhold new innovations, the right to supply spare parts and most of all, the rights to make management decisions and control of all technical requirements. Of course, the fault of not achieving technology transfer could not wholly be blamed on the multinationals. They always claim that the technology level of the host country is not up to the level where technology could be absorbed. It is also said that technology transfer from overseas to Malaysia has not been successful because Malaysians are unable to absorb and adapt the foreign technology for local use again. In order to first absorb, adapt, modify and innovate any technology, I think there must be available among the transferees the basic level of knowhow. So, should we not pay our attention to this area?

In Malaysia, the factory floors are manned by technicians whose knowledge is only limited to operating the machines, maintaining them in good working order, and no more. Whereas in Japan and Korea, the engineers are people who understand the intricate working of the machines and the technologies of developing such machines. They are the people who can by handling and operating the machines, modify or improve by innovation the performance of the machines in increasing productivity. It is unlikely that technicians or mechanics can ever do that. According to the latest report, the majority of the 12,000 engineers and technicians in Malaysia are more involved in management than in the production process in factories. Therefore, should there not be a need for our engineers and senior technicians to soil their hands and get involved in the adaptation and innovation of technologies?

In the Malaysian context, we should concentrate more on industries that are related to our primary commodities. The products that we could make out of our primary commodities in this country are plentiful, but some of the industries are still employing obsolete or inefficient production technologies. It is time we look at industrial R & D and place heavy emphasis on the search for new products and new uses for our primary commodities. Though we have various institutes like RRIM, PORIM, MARDI, Fisheries Research Institute, FRI and so on, the agro-industrial sector has yet to get a tremendous boost from the activities of these institutes. Although agricultural research to produce

high-yielding and pest-resistant crops through genetic engineering techniques, such as cloning, has been very successful in this country, very little research has gone into the end products, whereby our primary commodities can be turned into various goods meeting the needs of consumers in the international markets.

It is noticeable that even when the emphasis on development priority shifted from diversification of crops to import substitution industries and agro-based industries, the agricultural R & D institutes did not make the shift accordingly. This is evident in the staff composition of the institutes and the type of research conducted. To conduct industrial research, we need the employment of engineers, designers, fabricators, pilot plants, trial production, venture capital and holding companies of R & D institutes to trial market the products. We need economists to do feasibility studies. All these are presently not found within the organization of agricultural R & D institutes, though RRI's Rubber Technology Centre in Sungai Buloh and PORIM's shift of emphasis from strictly agriculture or biological-based research to industrial-type research such as producing diesel from palm oil and Vitamin E from palm oil sludge could be the exceptions. It seems to me the exceptions should be the rule.

Malaysia will have to progress along this line. We should develop palm oil processing machineries, and pollution control devices or even go into downstream processing of LNG and

petroleum or develop oil exploration equipment and perhaps the chemical industry too.

However, the progress along the technological development sequence requires support of government resources and combination of private enterprise expertise and resources for a concrete programme of industrial R & D. Perhaps we can take a page from the Japanese experience. Japan's technological progress is in 4 stages - firstly, from producing textiles, cement, ships and steel, all of which took place from 1950 to 1964. Secondly, from 1956 to 1975, they began to produce automobiles, consumer electronics, photocopiers and computers and in the third stage from 1975 to 1984, there appeared compact products such as electronic materials, micro-electronics, new materials, life sciences and so on. From 1986 onwards which is the 4th stage, Japan is expected to excel in research services and leisure sector. These four stages of development are the result of its strong emphasis on industrial R & D and its acumen in identifying the right technology to develop and the ability to step up from one stage to the next.

We cannot hope to repeat the Japanese experience, but it should provide us as a guide. We have to determine and chart our own course. To upgrade our capabilities and our technological levels, we have proposed the concept of joint ventures with overseas partners involving the private sector and with the Governments as Coordinators. This experiment is being carried out with Australia.

Following the Memorandum of Understanding signed by me and the Australian Minister for Science in February this year my Australian counterpart and I in November this year endorsed a co-operative programme in key fields of science and technology. We initially identified 11 joint research and development projects relevant to industrial development from which both countries could benefit through pooling of resources and expertise to bring about an effective transfer of technology.

The 11 projects are in the following fields:

- a) Applied Microelectronics involving projects such as "Design Database for VLSI Circuits & Evaluation of Existing Software";
- b) Remote Sensing projects in "Land Use Applications", "Peat Soils Characterization", "Mineral Exploration using Vegetation Stress";
- c) Scientific Instrumentation for "Water Quality Evaluation", "Gas Flow Meters"; and
- d) Biomedical Technology in "Endocrinology".

The Working Parties of the 2 countries have defined the project proposals as well as identified the relevant agencies in the public and private sectors as partners for implementation.

It is hope that each project will sow the seeds of further growth and greater industrial development. They are mainly directed at devising new products and services relevant to the needs of the 2 countries and to the region as a whole. It is envisaged that in some cases, the results will have world-wide applications.

It is my fervent hope that such co-operation will lead to jointly developed and owned technology and processes and will lead on to joint enterprises in the manufacture and marketing of goods and services.

It should be noted that in the past, co-operation in science and technology has generally meant a one-way flow of information or technology from a "developed" country to a "developing" country. With this new co-operative programme, we see the emergence of a philosophy of genuine co-operation for mutual benefit and a sincere effort on both sides to work together towards mutual goals. The projects that Malaysia and Australia have agreed upon and endorsed signify the birth of a concept of partnership in technology.

On self examination, we must admit that at present there are several areas in which we must strengthen. Those that come to mind are:-

- (i) There is a complete lack of technological information in every sector of the economy. As a result, technology choice is not based on best technological alternatives or technological assessment or evaluation.
- (ii) There is no system in the country to encourage innovation and invention.
- (iii) Public and Private Sector industrial research is lacking.
- (iv) Apart from heavy investment companies or big multinationals, medium and small companies lean too much on Government's testing facilities to assist in upgrading their product quality.

My Ministry has devised a two-prong strategy to remedy the situation. The main objective of this strategy is to upgrade the technology capability of the country as to be able to absorb, adopt, adapt, modify, innovate and invent technology.

The first strategy is to assist the inflow and transfer of foreign technology into the country. Some of the programmes under this strategy are already implemented and the programmes are :-

- i) Together with the Ministry of Trade and Industry, we have been instrumental in the encouragement of the establishment of a new Patent legislation which will encourage innovation, invention and provide protection for the inflow of foreign technology into the country. We hope that new technologies will be brought into the country as a result of this protection.
- ii) Establishment of a Patent Information and Documentation Centre in SIRIM which will develop into a Technology Information Centre. This Centre in future will perform state of the art studies of technology, technology assessment, and provide advice on technology purchase of alternative technology packages, price of technology and the technology supplier thereby putting the buyer of the technology in a stronger negotiating position with regard to purchase of technology.
- iii) Establishment of a Technology Transfer Centre to oversee the setting up of various centres such as plastics, ceramics, petroleum and petrol-related industries, metals and metallurgy, non-metallic products and bio-technology. These centres will give emphasis on testing, training, design and fabrication services, renting of machine-time for trial

production run and other services including consultancy.

iv) Organizing seminars and workshops, whereby a few have already been held, to bring technology suppliers and technology buyers together so that they could discuss their individual needs.

v) The Technology Transfer Centre may also provide licencing expertise to the technology buyers and sellers to facilitate negotiation and advise the buyers on the condition that should be safeguarded in a technology agreement.

The second prong strategy is to increase local technological capability so as to stimulate generation of indigenous technology. The programmes under my Ministry are:-

- i) The call for the establishment of an Inventors Society whereby the Ministry will provide familiarization programmes for the inventors of this country on intellectual property.
- ii) The establishment of a Commercialization of Research Results Unit in the Technology Transfer Centre Technology Transfer Centre (TTC) whereby local R & D results generated will be studied for possibility of

commercialization i.e., enter into joint venture production with private companies through establishment of private corporations.

- iii) Encourage private sector participation in industrial R & D with the Technology Transfer Centre.

These are a few of the important programmes that we have in mind. The main body that will determine the future technological development of the country will be the newly established Technology Transfer Council that I intend to chair. This Council will look at technology policies, strategies, plans and programmes as well as monitor programme implementation and even industrial R & D. The composition of the Council will have to be decided, but I should think that members will be mostly from the industrial sector representing each industry and the financial sector. We will establish sector specific sub-committees to discuss sectorial problems such as plastic technology sub-committee, metal technology sub-committee, and such sub-committees will decide on the development of each industrial Sector. I would envisage that the private sector will have to help out in financing the development of the Centre through membership fees, but in return the facilities of machineries, expertise and R & D results are available to them. However, the details would have to be worked out.

I hope the response from the private sector would be positive so that together we could be partners in the development and advancement of technology.

Please pardon me for being so long-winded. Thank you for your patience and indulgence.

**PERUTUSAN KHAS OLEH Y.B. MENTERI SAINS,
TEKNOLOGI DAN ALAM SEKITAR SEMPENA
HARI ALAM SEKITAR SEDUNIA**

Sebagai memperingati Persidangan Antarabangsa Mengenai Persekitaran Manusia yang diadakan pada Jun, 1972 di Stockholm, hari ini kita sekali lagi merayakan Hari Alam Sekitar Sedunia. Pada tahun ini juga genaplah Satu Dekad Pengurusan Alam Sekitar di Malaysia yang di sambut dengan perayaan yang meriah dimulai dengan pelancaran sambutan oleh Y.A.B. Timbalan Perdana Menteri pada 10hb. Mei, 1985.

Negara kita telah mengalami pembangunan pesat dalam sektor ekonomi seperti dalam bidang pertanian, perindustrian, pembangunan tanah, projek perumahan, perhutanan, perkembangan tenaga manusia untuk projek infrastruktur seperti pembinaan lebuh raya dan pelabohan. Pembangunan seperti ini mengakibatkan kesan-kesan sampingan terutamanya pemusnahan alam sekitar yang menyebabkan kemerosotan kualiti kehidupan setiap lapisan masyarakat. Tahun demi tahun berlalu, masalah ini semakin bertambah di setiap negeri di Malaysia. Mulai tahun 1975, Kerajaan telah mengambil langkah yang tepat dengan merancang polisi dan program yang sesuai bagi memastikan bahawa pembangunan ekonomi selaras dengan pengurusan alam sekitar yang baik. Akta Kualiti Alam Sekeliling telah diluluskan pada bulan September, 1974 dan dilaksanakan di pertengahan bulan April, 1975 dengan penubuhan Bahagian Alam Sekitar di bawah Kementerian Sains, Teknologi dan Alam Sekitar. Bahagian ini telah berkembang dengan pesatnya semenjak penubuhannya dalam tahun 1975 dengan tenaga manusia sejumlah 45 kakitangan kepada 370 kakitangan pada tahun 1984. Semenjak lhb. Januari, 1981, beberapa pejabat-pejabat wilayah telah ditubuhkan untuk mengujudkan

perhubungan yang lebih rapat dengan Kerajaan Negeri terutamanya pihak berkuasa tempatan. Pada lhb. September, 1983 taraf bahagian telah dinaikkan kepada Jabatan Persekutuan. Akta Kualiti Alam Sekeliling, 1974 mengandungi skop dan strategi yang luas dan oleh itu pelaksanaan yang sistematik dan secara 'selective' telah dilaksanakan.

Mengikut strategi yang dinyatakan di atas, pencegahan pencemaran telah menjadi aktiviti dan usaha yang utama bagi Jabatan Alam Sekitar dan tumpuan telah diberikan kepada perkembangan prosedur pentadbiran dan peraturan-peraturan bagi mengawal pencemaran. Kilang getah dan kelapa sawit telah dikenalpasti sebagai punca pencemaran air yang paling utama dan telah diberi keutamaan untuk mengawal pencemaran dari kedua-dua punca ini. Jabatan Alam Sekitar mengambil masa hampir 2 tahun untuk menyediakan standard-standard bagi pelepasan getah dan kelapa sawit di samping menyediakan peraturan-peraturan bagi mengawal kedua-duanya. Akhirnya 2 peraturan iaitu Peraturan Kualiti Alam Sekeliling (Premis Yang Ditetapkan) (Minyak Kelapa Sawit Mentah) dan Peraturan Kualiti Alam Sekeliling (Premis Yang Ditetapkan) (Getah Asli Mentah) telah dikuatkuasakan masing-masing pada 1.7.1978 dan 1.4.1979. Lebih kurang 220 kilang kelapa sawit dan 227 kilang getah di Malaysia telah diawasi di bawah peraturan-peraturan tersebut.

Begitu juga masalah pencemaran udara di bandar-bandar dan kawasan berhampiran bandar telah berleluasa amnya berpunca dari asap, debu-debu dan pelepasan gas dari kilang-kilang dan aktiviti-aktiviti perindustrian di samping peningkatan penggunaan kenderaan bermotor. Ini

ditambah pula dengan pelepasan effluen dan bunyi bising dari kilang-kilang yang semuanya merupakan gangguan kepada kesihatan dan kesejahteraan setiap manusia. Tiga lagi peraturan yang telah dikuatkuasakan bagi mencegah pencemaran iaitu Peraturan Kualiti Alam Sekeliling (Udara Bersih) 1978, Peraturan Kualiti Alam Sekeliling (Kumbahan dan Effluen-Effluen Perindustrian) 1979 dan Kaedah-Kaedah Kereta Motor (Kawalan Pelepasan Asap dan Gas) 1977. Selain dari itu, satu lagi peraturan untuk mengawal pencemaran bunyi bising sedang dirumus. Satu lagi aspek alam sekitar yang diberi perhatian ialah pencemaran laut yang mana satu Rancangan Kontingensi Kebangsaan bagi Mencegah dan Mengawal Tumpahan Minyak telah dibuat dengan kerjasama Jabatan Laut dan agensi-agensi lain yang berkaitan. Sebanyak 35 juta ringgit telah diperuntukkan bagi membeli alat-alat seperti bot, bot laju dan lain-lain lagi. Satu peraturan bagi mengawal pencemaran laut oleh pelepasan dari kapal-kapal sedang disediakan. Selain dari itu, satu peraturan untuk mengawal pelupusan bahan buangan toksik dan merbahaya dan pengurangan pelumbum dalam petrol juga akan diwartakan tidak lama lagi.

Walaupun telah ada beberapa pencapaian, namun alam sekitar kita masih tidak memuaskan dari segi beberapa aspek. Beberapa masalah alam sekitar yang telah dikenalpasti pada tahun 1975 dianggap tidak serius, namun setengahnya masih berlanjutan hingga ke hari ini sementara masalah-masalah baru pula timbul. Kemerosotan sumber tanah dan air akibat dari penebangan dan penggondolan hutan yang berleluasa, hakisan tanah, banjir, kelodakan sungai, pembuangan bahan-bahan toksik dan merbahaya yang berlanjutan merupakan satu ancaman yang serius.

Sementara langkah-langkah yang ketat telah diambil untuk mengawal pencemaran dari industri, namun Akta Kualiti Alam Sekeliling itu sendiri tidaklah lengkap jika kita menghadapi cabaran-cabaran akan datang seperti:-

- (a) Isu-isu alam sekitar yang timbul dari pembangunan tanah dan lain-lain sumber semula jadi;
- (b) Bahan buangan toksik dan merbahaya yang dihasilkan dari pertumbuhan pesat sektor-sektor pengeluaran;
- (c) Kekurangan pembersihan dan pengolahan kumbahan yang mana berterusan menjadi punca sebaran penyakit berjangkit dan pencemaran pantai yang merupakan tempat rekreasi bagi menarik pelancung-pelancung;
- (d) Bekalan air minuman yang bersih dan selamat bagi tahun 1990 sejajar dengan Dekad Antarabangsa Bekalan Air Minuman dan Sanitasi;
- (e) Pertambahan jentera perancangan yang sedia ada bagi menggabungkan faktor-faktor alam sekitar dalam perancangan pembangunan.

Di bawah Rancangan Malaysia Kelima, Kementerian saya akan menumpukan usahanya kepada perancangan alam sekitar yang baik untuk menggabungkan faktor-faktor alam sekitar mulai dari peringkat awal lagi bagi setiap perancangan. Pada dasarnya, cara yang paling berkesan bagi mengawal masalah alam sekitar ialah perancangan awal dalam aktiviti-aktiviti yang berkaitan dengan alam sekitar

supaya kekayaan alam semulajadi dapat dipelihara. Bagi tujuan ini, adalah penting untuk memastikan bahawa perhatian yang segera diberikan kepada pemeliharaan alam sekitar dalam semua projek pembangunan untuk mengelakkan pemusnahan alam sekitar yang akan mengambil masa yang lama untuk dipulih semula.

Beberapa industri yang berpotensi untuk mencemar dan projek-projek di bawah Rancangan Malaysia Kelima akan diminta mengadakan penilaian kesan-kesan ke atas alam sekitar untuk memastikan dan menjangka kesan-kesan ke atas ekologi dan alam sekitar supaya langkah-langkah awal dapat diambil bagi mengalakkan perkara-perkara yang tidak diingini.

Sebagai tambahan kepada perancangan alam sekitar yang baik, Jabatan Alam Sekitar juga aktif di dalam bidang pendidikan alam sekitar dengan tujuan untuk memperkembangkan kefahaman dan kesedaran yang baru tentang alam sekitar di setiap lapisan masyarakat.

Untuk menjayakan tugas-tugas berkenaan, tiga lagi unit baru ditubuhkan dalam Jabatan Alam Sekitar iaitu Unit Penilaian Kesan-Kesan Keatas Alam Sekitar, Unit Pengurusan dan Pengawasan Sumber dan Unit Maklumat dan Pendidikan di samping penyusunan semula organisasi Jabatan yang sedang dirancang.

Sebagai penutup, saya ingin menegaskan sekali lagi bahawa satu pendekatan baru kepada kemajuan sosial dan ekonomi adalah perlu berdasarkan kepada pengendalian

sumber-sumber alam dengan cermat dan berhati-hati untuk generasi yang akan datang. Prinsip panduan ini dapat di capai melalui perkembangan ekonomi dan sosial. Ianya bukan sahaja terhad kepada alam semulajadi tetapi juga dalam konteks memelihara dan menghormati hak-hak manusia. Manusia harus menumpukan operasinya supaya harmoni dengan alam sekitar. Satu strategi pembangunan mesti dibentuk secepat mungkin yang bertujuan menghormati keperluan manusia di samping memastikan keseimbangan antara manusia dan alam sekitar.

Bagi tujuan jangka panjang, pemeliharaan dan peningkatan kualiti alam sekitar akan lebih baik jika di kelolakan berdasarkan kepada langkah-langkah pencegahan, penglibatan semua pihak dalam satu-satu perancangan dan penggabungan pertimbangan alam sekitar dalam semua peringkat perancangan pembangunan.

6hb. Jun, 1985.

AA/AM/sh.

SPEECH BY THE HON. DATUK AMAR STEPHEN K.T. YONG
MINISTER OF SCIENCE, TECHNOLOGY & ENVIRONMENT
AT THE SIGNING CEREMONY FOR THE CONTRACT
AGREEMENT ON THE CANADIAN SCIENCE CIRCUS
ON FRIDAY, 29 NOVEMBER 1985 AT 10.00 A.M.

I welcome you all to witness the formalizing of the instrument for the visit by the Canadian Science Circus to Malaysia. This visit will be one of the activities planned for the First ASEAN Science and Technology Week to be held in April 1986. As you may be aware, the First ASEAN Science and Technology Week has a programme of activities organized by the ASEAN Committee on Science and Technology and my Ministry to provide the thrust or direction for present and future co-operation in science and technology development between ASEAN and her dialogue partners. The programme other than the Science Circus will include the presence of several key personalities, top professionals and eminent scientists speaking at a conference, and the holding of a Science and Technology Exhibition high-lighting the development of science and technology in various fields.

I hope that the Science and Technology Exhibition will be supported by all ASEAN dialogue partners considering that it offers the opportunity for new technologies from developed countries to be shown to scientists, policy-makers and the public from ASEAN.

Ladies and Gentlemen,

The holding of the Circus in Malaysia will be the Canadian Science Circus' maiden visit to Asean. I believed this visit will promote the popularization of science amongst the public, particularly school children. The Canadian Science Circus has visited other countries and has proved to be very popular and a tremendous success with the public.

I wish to take this opportunity, Your Excellency, to express my Ministry's appreciation to the Government of Canada for making a direct contribution of Canadian \$100,000 to facilitate the participation of Canadian scientists in the Science & Technology Week. I am certain that we will mutually benefit from the interaction that will take place between your scientists and those of ASEAN.

It is my fervent hope that we would see further development in the co-operation between Canadian and Malaysian scientists working in certain fields of high technology. In our efforts to become an industrialized nation, Malaysia must essentially establish a strong foundation on science and technology. It is only through efforts such as the exhibition of high technology, popularization of science and technology and the hosting of other scientific and technological activities which involve the public, that will stimulate the interest in science and technology. The Science Circus will show us the wonderful world of science. So I

would like our people to avail themselves from 24th April to 25th May 1986 to attend the world-renown Canadian Science Circus which will be held at the Putra World Trade Centre in Kuala Lumpur.

Ladies and Gentlemen,

In conclusion, I would like to express once again my appreciation to the Government of Canada for its support in the field of science and technology in Malaysia. I believe such support is bearing fruit and we look forward towards closer co-operation in the future.

May I wish the organizers of the First ASEAN Science and Technology Week Science success in their endeavour.

Thank you.

SPEECH BY THE HON. DATUK AMAR STEPHEN K.T. YONG
MINISTER OF SCIENCE, TECHNOLOGY & ENVIRONMENT
AT MALAM KIMIA 1985 ON SATURDAY 30 NOV. 1985
AT THE HARLEQUIN BALLROOM,
THE MERLIN KUALA LUMPUR

Terlebih dahulu saya ingin mengucapkan berbanyak terima kasih kepada Jawatankuasa Pengelola di atas jemputan ke Malam Kimia Tahunan ini. Majlis Malam ini telah menyaksikan pelancaran Skim Makmal Bertauliah yang akan berkuatkuasa mulai daripada 1 Januari 1986.

Seperti tuan-tuan dan puan-puan sedia maklum, Akta Kimia Tahun 1975 telah dikuatkuasakan pada tahun 1977 untuk menguruskan aktiviti ahli kimia di dalam bidang cerakinan kimia. Dengan penguatkuasaan Akta tersebut, Institut Kimia sendiri telah menyediakan Kanun Etika dan satu Maziran untuk menentukan bahawa khidmat yang diberikan kepada orang ramai ialah khidmat yang mempunyai taraf profesionalisma yang tinggi. Perlaksanaan Skim Makmal Bertauliah ini merupakan satu langkah untuk memberi khidmat yang lebih baik kepada orang ramai. Setinggi-tinggi tahniah saya ucapkan kepada 25 buah makmal yang telah berjaya mendapatkan Sijil Bertauliah dari IKM.

May I express my sincere appreciation to the Organizing Committee for inviting me to your Annual Malam Kimia. I am particularly happy to be present since at this year's Malam Kimia, you are also launching your Laboratory Accreditation Scheme which takes effect from 1st January 1986.

As you are aware, the Chemists Act 1975 was implemented in 1977 to regulate the activity of chemists in the area of chemical analysis. The Malaysian Institute of Chemists or Institut Kimia Malaysia in the implementation of this Act already has a Code of Ethics and an Inspectorate to ensure that members of the public seeking such services will be assured of a high standard of professionalism. It is now appropriate for this Laboratory Accreditation Scheme to be implemented as the next step to providing better services to the public.

I therefore wish to congratulate the 25 laboratories which have successfully applied for accreditation in the various fields of their expertise.

I am glad that the Institute has come up with this voluntary scheme which will further ensure that a high standard of chemical analysis will be achieved and maintained by the laboratories in Malaysia. The very fact that 25 laboratories have met the Institute's criteria for accreditation is a sign that our laboratories are geared to provide a reliable service in chemical analysis.

The Department of Chemistry under my Ministry, invariably the main national centre for analytical chemistry and forensic sciences, has vast expertise and competence. With the workload reaching almost 500,000 exhibits a year and steadily increasing,

the Department now is very hard-pressed and this Accreditation Scheme may assist in relieving it from areas of work where no law enforcement is involved.

This laboratory accreditation is nothing new. The Department of Chemistry is actively involved in the implementation of accreditation and monitoring of private laboratories for examination of frozen, cooked and peeled prawns for export and for lead levels in blood of factory workers. The Department is also actively involved in the process of formulating procedures for approving laboratories for the testing of food samples under the Food Act 1983 for export purposes. The Rubber Research Institute of Malaysia had also implemented a similar scheme for Standard Malaysian Rubber.

This certification that you have received just now, the Certification of Accreditation, imposes a heavy responsibility on the Chemists. The Analytical Chemist must not only strive to uphold the integrity of the samples sent to him for analysis, but also guarantee the integrity of the results of the analysis. All in all, it will not only be his honour that will be at stake, but also that of the profession and the country.

I would like to draw your attention to the fact that even though the work of these accredited laboratories may not seem to be for Court purposes, one has to bear in mind that their

results may one day be the subject of a civil claim and be subjected to examination in a court of law. All work therefore has to be prepared for the strictest scrutiny and adverse criticism. So uphold your esteemed professionalism and let not your assessment be clouded by financial gains. Do not fall into the pit of temptation. To illustrate this, I would like to correlate Newton's Third Law to Analytical Chemistry, if I may call it - "Newton's Law of Analytical Chemistry" - 'For every expert Chemist, there is an equal and opposite expert.' If you find that your client is "shopping around" for something that is going to damage your integrity, be on guard! Do not be the servant but the master of your expertise. A chemist must demonstrate his expertise and his fairness and not be distracted by anything else. If he can do this, he will indeed be a master of the art (or shall I say science) of analytical chemistry.

There has already been a great increase of awareness of laboratory hazards such as laboratory accidents, infections and exposure to toxic and hazardous chemicals. Obviously, laboratory safety depends a lot on common sense. One of the functions of the Department of Chemistry, as required by the Chemists Act 1975, is the inspection of private chemical laboratories. These laboratories which have to be registered with the IKM must have adequate safety features and procedures for workers. The IKM and other other professional bodies like the Medical Laboratory Technologists had held fora and workshops on laboratory safety.

Safety Committees were also established comprising laboratory safety officers from local universities, research institutions, government departments and the industrial sector. A Safety Code for Chemical Laboratories, bulletins and articles on safety were published for distribution to all relevant agencies. It is the general opinion of all concerned that all these efforts need to be consolidated, and towards this end, my Ministry is co-ordinating a move for a formal legislation on laboratory safety or the establishment of a National Code of Practice for Safety in Laboratories. This Code, when it is formulated, will further enhance the safety of not only those working in the laboratories, but also members of the public. It will not only cover commercial laboratories, but also government laboratories and, more important, the science laboratories in our schools. It is likely that at the school level the hidden dangers that lurk in the laboratory may not be well appreciated. However, the laws and regulations should serve as a guide. There is nothing better than self-imposed regulatory standards by the chemist himself in ensuring safety in the laboratory.

Turning to the other aspect of your Malam Kimia, namely the presentation of your Annual Chemistry Awards, I must extend my heartiest congratulations to the winners of this year's Awards. I hope these Awards will serve as an incentive for them to continue to do well and aim for excellence in their chosen careers.

We are today in very difficult times. It is important for students to realize that paper qualifications alone are not sufficient to secure a comfortable living. In this competitive age, we have to aim for excellence to give us that competitive edge that is necessary in times such as these we are now experiencing. Those privileged few, such as you, who have won these Awards for your academic prowess, are better placed to meet the challenges ahead. Much is therefore expected of you, and on citizens such as you, will depend the future prosperity of our nation. I therefore urge you to continue to work as hard as you have done in the past so that you will bring glory to yourself, your parents, your school or institution and the nation.

To the Institut Kimia Malaysia, I wish to say "Syabas" for another successful year. I have watched with much satisfaction your progress and am confident that you will continue to prosper.

Ladies and Gentlemen,

May I invite you to be up standing and drink a toast to the continued prosperity of Institut Kimia Malaysia.

SPEECH BY THE HON. DATUK AMAR STEPHEN K.T. YONG
MINISTER OF SCIENCE, TECHNOLOGY AND ENVIRONMENT
ON THE OCCASION OF THE DINNER HELD IN
CONJUNCTION WITH THE CELEBRATION OF A DECADE OF
ENVIRONMENTAL MANAGEMENT IN MALAYSIA AND WORLD
ENVIRONMENT DAY 1985 AT THE NIRVANA BALLROOM,
K.L. HILTON ON TUESDAY, 3 SEPTEMBER 1985
AT 8.30 P.M.

Saya merasa sangat sukacita kerana dapat bersama dengan
tuan-tuan dan puan-puan di majlis ini yang menandakan kemuncak
Sambutan selama 3 bulan sempena Satu Dekad Pengurusan Alam
Sekitar di Malaysia.

Setinggi-tinggi tahniah saya ucapkan kepada Jawatankuasa
Pencelara di bawah pimpinan Y.B. Encik Law Hieng Ping yang telah
berusaha bertungkus-lumus untuk menjayakan Sambutan itu sehingga
hari ini.

Sehenti, tuan-tuan dan puan-puan sedia maklum, tujuan
sambutan ini ialah :-

- i) untuk mengwujudkan kesedaran semua rakyat terhadap
isu-isu alam sekitar di negara ini serta peranan
rakyat untuk melindungi alam sekitar; dan

ii) untuk menjalankan suatu penilaian ke atas keadaan alam sekitar dengan berpandukan langkah-langkah yang telah diambil selama 10 tahun yang lalu untuk melindungi dan meningkatkan lagi kualiti alam sekeliling, menentu-pastikan kelemahan-kelemahan serta merangkakan arah depan dan tumpuan strategi yang perlu untuk digubal-kan bagi menghadapi cabaran dan isu-isu pada masa depan.

Adalah diperhatikan bahawa program Sambutan telah disediakan dengan berbagai aktiviti yang sesuai untuk kumpulan sasaran yang tertentu seperti tokoh politik, pembuat keputusan di peringkat persekutuan dan Negeri, murid, sekolah, penuntut universiti, pertubuhan bukan kerajaan dan khalayak ramai. Saya ingin menyatakan di sini bahawa kerjasama dan paras penyertaan oleh semua pihak berkenaan di dalam bidang alam sekitar termasuk sektor industri dan pertubuhan bukan Kerajaan adalah sungguh memencalakkan dan ia adalah menyediakan langkah untuk mengadakan lebih banyak lagi tindakan bersama berhubung dengan perlingkungan, kualiti alam sekeliling.

Ladies and Gentlemen,

The three-month Celebrations has brought to the fore and the recognition of the progress that Malaysia has made in its long-standing commitment to a clean and healthy environment

for our people. It has become increasingly clear that our people consider clean air and water, fruitful farm-lands beautiful mountains and rivers, and plentiful energy and mineral resources as parts of our natural heritage. Therefore as we strive for economic progress and a better quality of life, there must be careful management of our abundant natural resources to ensure sustained development.

To this end, the Government on its part has enacted and implemented several far-reaching and comprehensive environmental legislations, while more are being formulated. There are laws protecting air and water quality. There are laws too to protect our wildlife and national parks. Laws are also being enacted to control marine pollution, noise pollution, and emission from motor vehicles and to control the manufacture, storage, transportation and disposal of hazardous substances. Efforts are underway to create more parks and wildlife sanctuaries and preserve the scenic beauty of rivers and hills for the enjoyment of present and future generations.

I am deeply impressed by the consensus that has emerged from the Seminar on the State of Environmental Quality identifying the problem areas and the appropriate future strategies and thrusts in environmental management. It has been very glaringly brought out that nature is not an enemy to be conquered, but an eternal

- 4 -

companion of mankind and that effective environmental management is a process of reconciliation of human, social and industrial activities with the systems of Nature.

In this respect, it has been emphasized that anticipatory planning and preventive approach to environmental management should be adopted and implemented at both Federal and State levels. This requires inter-disciplinary action on a broad front and the closest rapport among all sectors on the environmental scene. Here I am glad to report that during the past year, considerable efforts have been made to increase the involvement of State Governments, other government agencies, universities, research institutes and non-governmental organizations in joint actions and programmes relating to environmental protection. The response has been very positive! It is my firm conviction that during the Fifth Malaysia Plan period, there will be a definite commitment by State Governments towards an integrated approach with environmental management becoming an integral part of economic development. Plans are already afoot to develop environmental management capabilities at State level. Greater emphasis is also being placed to develop programmes on public awareness and environmental education.

Turning to the role of the industries in environmental management, a consensus subscribing to the following principles has emerged :-

- i) Economic growth can be made compatible with environmental protection;
- ii) Care for the environment is a common responsibility of society and should be taken account of in all activities including industrial activities. In this respect, cost-benefit analysis, despite its limitations, should form an essential element of environmental decision-making;
- iii) Sustainable economic development should be a desirable national goal;
- iv) Co-operation is more efficient than confrontation in addressing environmental concerns. In this respect, mechanisms should be found to improve co-operation between industry and Government on environmental management issues;
- v) Industry associations as well as individual industrial enterprises should be urged to continue and expand from within their organizations the support and expert staff required for policy contributions and technological assistance to national environmental efforts;

vi) To encourage more innovative and cost-effective approaches by industry, and more systematic and early consultations with industry by Government;

vii) To strengthen the anticipatory and preventive approach to environmental management within industry, each line manager from the chief executive down should also think of himself or herself as an environmental manager. Clear accountability for environmental performance should accompany managerial responsibility in each case;

viii) To improve relations on environmental matters with local and more broadly-based communities and to establish a climate of confidence, industry should be encouraged to supply information to the public and labour force on a continuing objective basis on the impacts of the companies activities on the environment.

The above goals can only be achieved through close government-industry co-operation which must be undertaken in an atmosphere of mutual trust and understanding and based on good faith.

Ladies and Gentlemen,

While we can claim certain environmental achievements so far, we must continue to address ourselves to the pressing environmental issues now confronting us, so that we will move towards our common national goals: the preservation of a wholesome environment and its scenic beauty, the protection of wildlife, their sanctuaries and parklands, and a future that is both economically prosperous and environmentally sound.

Tuan-tuan dan Puan-puan,

Akhir kata, saya mengambil kesempatan ini untuk mengucapkan tahniah kepada semua pemenang pertandingan dan penilaian yang telah diadakan bagi Sambutan ini serta merakamkan penghargaan saya kepada pihak-pihak Pengelola dan peserta-peserta yang berkenaan. Saya berharap pertandingan dan penilaian yang telah diadakan itu akan mempercepatkan lagi pengwujudan kesedaran terhadap alam sekitar serta semangat bekerjasama untuk mengatasi masalah alam sekitar.

Saya juga ingin mengucapkan berbanyak terima kasih kepada semua yang telah memberi sumbangan demi kejayaan tiap-tiap aktiviti yang ada hubungan dengan Sambutan Satu Dekad Pengurusan Alam Sekitar di Malaysia.

Terima kasih.

SPEECH BY THE HON. DATUK AMAR STEPHEN K.T. YONG
MINISTER OF SCIENCE, TECHNOLOGY & ENVIRONMENT,
AT THE OPENING OF "THE OFFICE OF THE FUTURE"
EXHIBITION AT GLOBAL SISTEMAJU SDN. BHD.,
15TH FLOOR, PLAZA M&F, KUALA LUMPUR
ON TUESDAY, 5 NOVEMBER 1985 AT 10.00 A.M.

Saya merasa sangat sukacita kerana dapat bersama-sama dengan tuan-tuan dan puan-puan sempena dengan perasmian Malaysian Wang Fair yang kedua ini. Setinggi-tinggi tahniah saya ucapkan kepada Global Sistemaju Sdn. Bhd. yang telah sekali lagi mengambil inisiatif untuk mempamerkan inovasi-inovasi yang terbaru di dalam bidang teknologi komputer.

Di dalam dunia yang berkembang dengan begitu pesat pengetahuan teknologi komputer tidak boleh ketinggalan lagi. Memanglah tidak boleh dinafikan bahawa pembangunan sesebuah negara adalah bergantung juga kepada teknologi komputer dan penggunaannya di dalam berbagai sektor ekonomi. Maklumat-maklumat yang disimpan dalam komputer amatlah penting untuk merangka-rangka rancangan dan strategi pembangunan negara. Dalam hubungan ini saya mengalu-alukan pameran ini dan berharap pihak awam dan swasta serta orang perseorangan akan mengunjungi pameran ini dan memberi sambutan yang menggalakkan.

I am pleased to be in your midst in conjunction with this Second Annual Malaysian Wang Fair. May I congratulate Global Sistemaju Sdn. Bhd. for again taking the initiative to bring to the attention of the Malaysian public the latest innovations in computer technology. I note that the theme for this year's Exhibition is "The Office of the Future."

Modern industrialized society is faced with an "information explosion", with information technology providing means for exploiting and controlling the stored information by enabling it to be analyzed, manipulated and transmitted at high speed over vast distances. The use of computers and related information technologies are capable of profoundly influencing so many aspects of modern life that some observers have suggested that we are at the start of an "Information Age."

Computers were first developed as an aid to the mathematician and statistician. The first commercial computers became available at the end of the 1950s and the growth of the computer industry has been extraordinary. By 1980, it had become one of the three top industries in the world, together with the oil and automobile industries. Today, it is clear that computers had wide applicability in almost every facet of life.

Until recently, in the business world, companies have used computers mostly to auto-mate routine jobs. Today, companies are beginning to have a new perception of the role of information technology in business. Information is fast becoming a strategic asset and a critical element of success of a corporation or a nation. The saying, "Information Is Power", now implies that to control information management is to control society's levers of power. As the use of information technology escalates, companies are harnessing its power to gain a competitive edge.

Information can mean profits and that failure to adapt to new information technologies can also lead to great losses (for example, in the watchmaking, calculator and type writer industries). In public organizations, effective information management can mean tangible improvements in the service offered to people, while at the same time minimizing expenditure.

I cannot emphasize enough the importance of the need for a proper understanding of technology before we can apply its use in a scientific and systematic way. Computer requirements must be related to a coherent corporate information strategy that takes into account yesterday's experience, today's realities and tomorrow's opportunities. Businesses that decide to automate must learn to purchase equipment in a context of knowledge rather than awe. For the uninformed, hurried purchases can result in a lot of expensive items sitting in offices unused or underused.

In the Information Age, money transactions, mail, information enquiries, police detective work, meetings and many other activities can take place via electronic information networks. Electrical signals passed down a telecommunications line can have immense value when retranslated into, say, a financial transaction or an expensive software programme.

Developments in database and networking technology have been aimed at providing an important information management tool.

Data gathered for one purpose and stored in one location can be accessed from a variety of places for a variety of reasons. From a corporate management point of view, this type of data storage and processing facility is one of the main benefits of a computer system. However, this same capability is open to abuse when applied to information about an individual or a group. If information obtained for medical purposes, for example, is made accessible to an employer without the consent of the person concerned, constitutes an infringement of privacy. The ability to correlate information efficiently and make it available at the touch of a keyboard has led to justifiable fears that information obtained for medical purposes, for example, is made accessible to an employer without the consent of the person concerned, constitutes an infringement of privacy. The ability to correlate information efficiently and make it available at the touch of a keyboard has led to justifiable fears that computers could become an efficient weapon in the hands of a 'Big Brother' government or could be used in many ways to violate an individual's constitutional rights and freedom.

These fears have led to the implementation of 'data protection' legislation in most Western countries. During the 1970s, there were two major government reports in the UK on data protection legislation.

Many countries have also set up national data authorities with whom all databases must be registered.

The rules made under the legislation have many practical implications for an organization's computer service and should be taken into account even in countries where there is no legislation or where legislation does not apply to all organizations (in some countries, data protection laws apply only to databases held by public organizations). For example, all employees in an organization could be offered the right to find out what information is being held on them. As well as conforming to any actual or impending legislation, this approach can have a positive impact on employee relations and can help, particularly during the implementation of a system, to ensure that personnel files are accurate.

The ability to erase information after a set period could also become part of a system specification. The associated technical problems are easier to solve during initial design than at a later stage by means of 'add-on' features. Managers should be acquainted with current legislation and likely future developments, not only in the country in which the database is to be held but internationally.

Computer crime has been called the 'career of the future' by an assistant district attorney in the US. The rewards can be high, and the chances of being caught are relatively low. The computing service is an integral part of an organization's activities. Adverse publicity about the vulnerability of the service to computer criminals might destroy customer confidence,

and so organizations frequently prefer to let the criminal go free. Although this attitude is understandable, it is short-sighted because it helps to hide the true scale of the problem. This limits the amount of police resources devoted to computer crime and reduces police experience in investigating and prosecuting such crimes. Obviously, prevention is better than detection and prosecutions.

Coming back to the home front, I would like to stress here that my Ministry is always concerned with the stimulation of the development of Science and Technology, including popularizing computer usage. Two computer camps have been held with the intention of encouraging computer usage among school children. The impact of the two camps was tremendous and was instrumental in the setting up of computer clubs in some schools. However, out of all the schools in the country, only a mere two per cent have computer clubs. Hence, much more should be done to upgrade computer education in schools and I am pleased to note that the Ministry of Education is taking positive steps towards this end. Computer literacy is the only way to ensure that the technological advances around us will not pass us by.

I would take this opportunity to mention here that the Patent Information and Documentation Centre (PIDC) based in SIRIM since its inception 2 years ago, has a repository of about 1.5 million patent documents which can enable us to gain access to information on innovations and inventions over the last 20

years. This information is available to the public to enable them to inquire the validity of the protection claimed by owners of patents.

Currently, the Malaysian public has responded reasonably well in spite of the fact that the PIDC is still not fully operational vis-a-vis the coming into force of the Patents Act 1983. The public has been using the PIDC as a referral centre. Patent searches are done for those who have approached PIDC for patent information.

Malaysian innovators and inventors can be assured of protection of their patents by having their innovations and inventions registered with the Registrar of Patents and Trademarks in the Ministry of Trade and Industry. At the same time, the PIDC under-takes substantive examination of patent applications to ensure that the novelty, inventive step and industrial applicability of the claim do not infringe upon existing state of-the-art inventions in the field. Such infringements, if left undetected, can be very costly to users because of legal implications. If the innovation or invention passes the substantive examination process and is subsequently granted patent rights, the innovator or inventor gets full proprietary rights to exploit his innovation or invention to the fullest under complete protection of the Patents Act.

There is a lot of talent in Malaysia to improve the technologies that are available. We have on record some Malaysians working in multinational corporations who have come up with new and innovative techniques and products. Unfortunately, these innovations and inventions go to the corporations which employ them.

These innovations have been made possible because of the working conditions and environment which enable these Malaysians to develop their ingenuity and inventiveness. This is the sort of environment we have to create in our country so that our up and coming technicians and scientists with the best brains could develop their potentialities to the fullest. To start off, the research institutes which are public-funded should take the lead in this. In all technological fields, there should not be too much emphasis placed on ethnicity or connections. The main consideration ought to be the aptitude, capacity, interest and determination of the people concerned. Opportunities and encouragement should be given to people with such qualities.

Now I would like to conclude my speech by saying a few words about Wang Laboratories and the organizers. Wang Laboratories is a recognized leader in computer technology, setting industry standards in easy-to use word processing and data processing. It is playing a dominant role in establishing the automated office of the future - an office where computer technology will handle routine and repetitive tasks, freeing personnel to concentrate on productive decision-making processes.

Global Sistemaju Sdn. Bhd., the exclusive distributor in Peninsular Malaysia for Wang Laboratories Inc., USA, has organized this 2nd Annual Malaysian Wang Fair together with timely seminars which provide an opportunity for us to step back from events that are revolutionizing our country and businesses, and discern problems and issues that may arise in the near future.

It is also at seminars and exhibitions like these that the latest technological concepts and issues associated with information technology are disseminated to the public. Certainly, computer vendors can play a role in the raising of computer literacy also in the country.

UCAPAN Y.B. DATUK AMAR STEPHEN K.T. YONG
MENTERI SAINS, TEKNOLOGI DAN ALAM SEKITAR
DI UPACARA PENANDAKAN KEJAYAAN USAHASAMA PROJEK
METROLOGI JICA-SIRIM DAN PEMBUKAAN RASMI MAKMAL
METROLOGI KEBANGSAAN DI BANGUNAN BARU METROLOGI
SIRIM, SHAH ALAM, SELANGOR
PADA 3 DISEMBER 1985 JAM 9.30 PAGI.

PERPUSTAKAAN
JABATAN ALAM SEKITAR

It gives me great pleasure to welcome you to the official opening of the National Metrology Laboratory in SIRIM. It marks the completion of another co-operative programme undertaken by the Japanese International Co-operation Agency (or JICA). I must put on record my Ministry's appreciation and my personal gratitude to the Government of Japan, JICA and all the individuals who are involved with the successful implementation of the Project. JICA has indeed proved to be our trusted and reliable partner in our efforts to develop the technical and scientific infrastructures in SIRIM. JICA played an active role in assisting us to establish the Metal Industry Technology Centre and the Metal Industry Research and Development Centre. I hope that such close relationship will continue and that we can look forward to JICA's assistance in other future projects.

Tuan-tuan dan Puan-puan,

Tafsiran "Metrologi" ialah ilmu atau sistem timbang dan sukat. Metrologi adalah di anggap sebagai kunci ke arah usaha perindustrian serta menjamin keyakinan dan kualiti eksport-eksport negara kita. Misalnya ukuran yang tepat boleh mengelakkan

kerugian daripada berlaku akibat dari ukuran yang salah. Kesilapan yang kecil di dalam bacaan ukuran sebanyak 0.01 di dalam ukuran aliran petrolium boleh membawakan kerugian berjuta-juta ringgit kepada royalti pendapatan negara kita. Oleh yang demikian, adalah sangat perlu suatu makmal metrologi ditubuhkan untuk keperluan industri di dalam bidang "precision engineering" yang kian bertambah sophisticated dan kian maju ke arah teknologi tinggi. Makmal Metrologi Kebangsaan di SIRIM dilengkapi dengan alat-alat yang bernilai sebanyak \$4 juta. Makmal ini berkeupayaan untuk memberikan tentukuran yang tepat dari segi ukuran panjang, isipadu, aliran, jirim, suhu, tekanan dan sebagainya. Adalah dipercayai bahawa Malaysia kini mempunyai salah satu daripada Pusat Metrologi yang secukup lengkap di rantau Asia Tenggara serta dengan adanya pegawai-pegawai yang terlatih setelah menjalani latihan selama 3 tahun di Jepun.

Dengan penyempurnaan projek ini, infrastruktur teknikal SIRIM untuk memberi khidmat dalam peningkatan kemampuan teknologi industri akan bertambah lagi.

Objektif keseluruhan Pusat ini adalah untuk menyediakan sistem pengukuran yang jitu kepada industri bagi maksud kawalan kualiti serta mengukuhkan lagi pihak penguatn pendapatan Kerajaan terhadap pengukuran tepat ke atas prodak-prodak supaya cukai ke atas barangan dapat ditaksirkan dengan tepat juga.

Sebaliknya timbang dan sukat yang tepat akan membolehkan para pengguna dan masyarakat umum mendapatkan kuantiti barangan yang tepat dan khidmat yang mereka membiayai. SIRIM telah dilantik sebagai pihak yang berkuasa ke atas timbang dan sukat semenjak 15 Januari 1979 dan pengesanan timbang dan sukat oleh SIRIM akan memudahkan amalan perniagaan yang adil serta penyeragaman sukatan.

Adalah menjadi harapan saya bahawa pengusaha dan peniaga kita akan menggunakan khidmat baru ini di SIRIM. Seperti tuan-tuan dan puan-puan sedia maklum, dalam tempoh 3 tahun yang lalu, beberapa pusat teknologi telah ditubuhkan di SIRIM iaitu Pusat Teknologi Industri Logam (MITEC), Pusat Penyelidikan dan Kemajuan Industri Logam (MIRDC), Makmal Pengujian Sainifik dan juga Pusat Maklumat dan Dokumentasi Paten. Kesemua kemudahan ini ialah sebahagian daripada pelan induk Kementerian saya di mana SIRIM ialah pihak perlaksanaan untuk berusaha meningkatkan lagi kepakaran teknikal industri di negara ini. Terpulanglah kepada pihak industri untuk menilai dan mengulas ke atas kemudahan-kemudahan yang ditawarkan dan mengesyorkan cara-cara dan kaedah-kaedah untuk memperbaiki lagi prestasi SIRIM. Saya yakin bahawa dengan kerjasama di antara Kementerian saya dan pihak industri, kita memang boleh meningkatkan lagi keupayaan teknologi dan inovatif sehingga tahap di mana kita akan dapat menyediakan batu asas untuk menjadikan negara kita berdikari di dalam bidang-bidang teknologi.

Tuan-tuan dan Puan-puan,

Dengan kenyataan-kenyataan itu serta dengan harapan bahawa kemudahan-kemudahan Makmal Metrologi Kebangsaan ini digunakan dengan sepenuh-penuhnya oleh industri-industri, saya dengan sukacitanya mengisytiharkan Makmal Metrologi Kebangsaan dibuka dengan rasminya.

UCAPAN Y.B. DATUK AMAR STEPHEN K.T. YONG,
MENTERI SAINS, TEKNOLOGI DAN ALAM SEKITAR
DI MAJLIS PELANCARAN SAMBUTAN ULANG TAHUN KE 10
PENGURUSAN ALAM SEKITAR DI MALAYSIA DAN
HARI ALAM SEKITAR SEDUNIA 1985
YANG DIADAKAN DI FOYER KOMPLEKS DAYABUNI
PADA HARI JUMAAT 10 MEI 1985 JAM 9.00 PAGI

Terlebih dahulu saya mengucapkan ribuan terima kasih kepada Y.A.B. Dato' Musa Hitam, Timbalan Perdana Menteri Malaysia di atas kesudiannya untuk melancarkan Sambutan Ulang Tahun Ke-10 Pengurusan Alam Sekitar Di Malaysia dan Hari Alam Sekitar Sedunia Tahun 1985 pada pagi ini.

Setinggi-tinggi tahniah saya ucapkan kepada Y.B. Encik Law Bieng Ding dan Ahli-Ahli Jawatankuasa Pengelola Sambutan yang telah ber-jaya mengaturkan Majlis Pelancaran pada pagi ini.

Sambutan Ulang Tahun Ke-10 Pengurusan Alam Sekitar Di Malaysia serta Hari Alam Sekitar Se-dunia Tahun 1985 dianjurkan oleh pihak kerajaan dengan kerjasama pihak swasta, badan-badan profesyenal, badan-badan sukarela serta orang perseorangan mulai hari ini sehingga bulan September. Ianya bertujuan untuk meningkatkan kesedaran umum mengenai tanggungjawab bersama bagi memelihara kualiti alam sekitar. Pelbagai acara telah diaturkan untuk memenuhi jarak masa lebih kurang 4 bulan bagi meningkatkan kesedaran tanggungjawab memelihara persekitaran sama ada di rumah, tempat-tempat kerja, tempat-tempat tumpuan orang ramai serta alam sekeliling keseluruhannya.

Untuk menentukan supaya keadaan alam sekitar kita terjamin, ianya memerlukan kerjasama yang erat daripada pihak-pihak yang bertanggungjawab mengenai kebersihan seperti pihak berkuasa tempatan, pihak yang merancang dan melaksana program pembancunan serta pihak industri yang proses pengeluarannya mengeluarkan bahan-bahan pencemar ke udara, alirair atau tanah. Saya sentiasa memandang berat terhadap masalah pencemaran serta bersedia mendapat pandangan dan maklumbalas daripada pihak-pihak yang terlibat supaya dapat Kementerian saya menjalankan kewajipan dan tanggungjawabnya.

Tuan-tuan dan Puan-puan,

Sambutan yang diadakan pada hari ini adalah sesuai bagi merenung kembali dan mengulangkaji tahap-tahap pencapaian yang lepas serta memandang ke hadapan terhadap prospek-prospek masa depan.

Di antara perubahan sama ada dari segi sosial, politik dan ekonomi dalam tempoh satu dekad yang lalu, perubahan yang penting sekali ialah sikap kita terhadap alam sekitar dan ianya ada kaitan dengan masa depan bumi ini dan kebajikan generasi muda. Memang sudah menjadi kenyataan bahawa bumi kita ini adalah mudah terancam dan sumber-sumbernya adalah terhad. Oleh yang demikian, pertumbuhan ekonomi yang pesat dan kebaikan masyarakat hendaklah dikaitkan dengan amalan pembancunan yang mementingkan alam sekitar serta keupayaannya.

Perubahan sikap kita yang positif bukan sahaja berlaku dengan pantas tetapi juga begitu meluas. Penduduk bumi ini juga menyedari bahayanya pencemaran dan penyalahgunaan serta penghapusan sumber-sumber bumi ini dan dalam pada itu, telah menggesa supaya tindakan yang lebih berkesan diambil untuk melindungi alam sekitar. Yang penting sekali ialah kesedaran perlindungan alam sekitar telahpun wujud di peringkat golongan pembuat dasar. Ini adalah satu satu pencapaian yang utama. Tambahan lagi, ini telah menghasilkan kemunculan prinsip-prinsip dan pendekatan-pendekatan seperti berikut :-

a) Pertumbuhan Ekonomi dan Alam Sekitar

Pertumbuhan ekonomi jangka masa panjang adalah mustahak bagi memenuhi aspirasi semua rakyat di semua negara, dan jika ianya diuruskan dengan bijak, ianya tidak perlu bertentangan dengan pemuliharaan alam sekitar;

b) Corak hidup alternatif dan bentuk pembangunan

Pendekatan baru terhadap pembangunan perlu diperkenalkan di peringkat kebangsaan. Kita perlu mengadakan penyelidikan inovatif dan imaginatif di dalam bidang corak penggunaan alternatif, teknologi yang sesuai dan penggunaan tanah dengan baik serta rangka-kerja institusional dan pelajaran untuk menentukan pembangunan. Sebaliknya cara hidup yang boros dan terlalu mewah hendaklah ditekankan;

c) Pertalian di antara satu sama lain

Manusia, sumber-sumber alam semula jadi, alam sekitar dan pembangunan adalah berkait-mengait, dan dasar yang bersepadu mesti digubalkan sebagai rangka-kerja untuk menghasilkan kesan-kesan yang berfaedah di semua bidang;

d) Keadaan saling bergantung

Matlamat pembangunan negara mungkin dapat dicapai dengan lebih cekap dan berkesan melalui kerjasama antarabangsa dan serantau di antara negara-negara membangun dan maju ataupun di antara kelompok-kelompok negara-negara membangun.

e) Keadaan saling kena-mengena

Tindakan yang mendatangkan manfaat kepada sesuatu bidang mungkin membawa kesan-kesan sampingan yang tidak diisangka ataupun kerosakan kepada bidang-bidang yang lain, dan dalam pada itu, kemungkinan berlakunya akibat-akibat tersebut hendaklah diertimbangkan di peringkat perancangan;

f) Ketidakpastian:

Memandangkan keadaan alam yang berubah-ubah di dalam

proses-proses alam sekitar serta keadaan boleh berlakunya kesilapan dari model-model perubahan teknologi dan sosial, maka adalah bijak untuk mengadakan rancangan bagi pembangunan dan pengurusan alam sekitar dengan cara yang boleh disesuaikan dengan keadaan yang baru. Pengawasan adalah perlu supaya perubahan yang tidak diingini boleh dikesan di peringkat awal lagi dan tindakan pengurusan dapat diambil untuk menghadapi perubahan-perubahan itu;

g) Perubahan dan ketahanan:

Sistem-sistem alam sekitar bergerak secara dinamik dan menunjukkan perubahan semulajadi serta tidak bereaksi sejajar dengan tekanan-tekanan luar. Sistem-sistem ini boleh menjadi stabil dalam suatu keadaan tekanan tertakluk kepada batasan yang tertentu, tetapi ianya boleh berubah dengan cepat apabila batasan itu melampaui. Oleh yang demikian, rancangan-rancangan pembangunan tidak boleh berasaskan hanya kepada trend-trend semasa yang berterusan. Ianya hendaklah mengambilkira batasan yang luas sekali yang boleh membawa kesan kepada kestabilan sama ada serantau atau sedunia, dan kita mestilah sedar bahawa sumber-sumber semulajadi yang walaupun ternampak lebih dari cukup adalah mempunyai batasannya.

Dalam konteks Malaysia, pengurusan alam sekitar hendaklah dijalankan dalam rangka-kerja untuk menghasilkan pertumbuhan ekonomi dan peluang pekerjaan serta pembahagian saksama pendapatan kepada semua rakyat dengan tujuan memperbaiki lagi kualiti kehidupan. Oleh yang demikian, strategi kita ialah untuk memelihara alam sekitar di samping menuju ke hadapan dengan mengadakan pertumbuhan dan pembangunan ekonomi.

Kita mesti ambil ingatan bahawa pengurusan sumber-sumber alam semulajadi berjalan di peringkat Persekutuan dan peringkat negeri oleh berbagai agensi yang bertanggungjawab untuk pembangunan sumber-sumber semulajadi, dan jentera membuat keputusan adalah di dalam bidang-bidang pihak-pihak yang tertentu. Berandangkan tugas pengurusan alam sekitar adalah luas dan begitu kompleks, maka memanglah wajar bahawa untuk menguruskan alam sekitar dengan berkesan, tanggungjawabnya mestilah dipikul oleh semua pihak yang berkaitan.

Dengan kewibawaan Akta Kualiti Alam Sekeliling 1974, Jabatan Alam Sekitar ditugaskan untuk menyelaraskan tindakan-tindakan yang perlu bagi pengurusan alam sekitar yang berkesan. Akta ini bertujuan membolehkan Jabatan Alam Sekitar mengambil tindakan yang sewajarnya untuk mengawal pencemaran udara, air dan laut. Penguatkuasaan Akta itu merupakan usaha utama Malaysia di dalam barisan pertama pengurusan alam sekitar.

Berandangkan adanya pembahagian kompleks di dalam tanggungjawab perundangan di antara Kerajaan Persekutuan dengan Kerajaan

Negeri, maka beberapa aspek di dalam pengawalan alam sekitar, seperti penggunaan tanah, telah dengan sewajarnya tidak diliputi di dalam mana-mana perundangan dan peraturan-peraturan pihak Kerajaan Persekutuan. Untuk menemui keadaan sedemikian, Jabatan Alam Sekitar telah menyediakan beberapa siri garis-daris panduan serta memberi nasihat dari masa ke masa terhadap hal-hal yang tertentu yang memerlukan keputusan ataupun tindakan di peringkat negeri.

Struktur organisasi Jabatan Alam Sekitar masa kini masih lagi mencerminkan keutamaan yang diberi kepada barisan pertama di dalam pengurusan alam sekitar, walaupun ternampaknya Jabatan ini telah masuk ke tempoh barisan kedua di dalam prosidur pengurusan alam sekitar, iaitu berhubung dengan penilaian kesan-kesan alam sekitar ke atas projek-projek baru.

Berkenaan dengan barisan ketiga di dalam pengurusan alam sekitar, iaitu perancangan sumber-sumber alam sekitar jangka masa panjang, yang mana merupakan langkah yang wajar ke arah pengurusan alam sekitar yang paling berkesan, perbekalan perlembagaan mungkin akan menjadi faktor yang menyekat bagi Kerajaan Persekutuan dari segi kuasa-kuasa perundangan dan peraturan. Ini bermakna pengurusan yang ber-kesan adalah bergantung kepada tahap kerjasama dan muhibah yang wujud di antara Kerajaan Negeri dengan Kerajaan Tempatan.

Tuan-tuan dan Puan-puan,

Akhirnya, saya ingin sekali lagi mengulangkan bahawa betapa perlunya diadakan satu pendekatan baru ke arah kemajuan ekonomi dan sosial dan ianya hendaklah melibatkan penyeliaan yang teliti ke atas sumber-sumber bumi ini serta pertimbangan kepentingan generasi-generasi masa depan. Prinsip memandu di dalam pembangunan sedemikian ialah pencapaian kemajuan ekonomi dan sosial yang berterusan, bukan sahaja di dalam lingkungan yang ditetapkan oleh alam semulajadi, bahkan juga dalam konteks menghormati dan melindungi manusia sejagat. Ianya hendaklah membolehkan manusia hidup dalam keadaan berharmoni dengan alam sekelilingnya. Strategi untuk pembangunan yang berterusan ini hendaklah digubal dengan secepat mungkin serta menentukan wujudnya satu imbangan di antara manusia dengan alam sekitarnya.

Dalam jangka masa panjang, pemeliharaan alam sekitar hendaklah diuruskan dengan cara mencegah pencemaran. Ianya memerlukan perancangan antara semua bidang oleh semua pihak yang berkenaan serta integrasi pertimbangan alam sekitar di semua peringkat perancangan pembangunan.

UCAPAN Y.B. DATUK AMAR STEPHEN K.T. YONG,
MENTERI SAINS, TEKNOLOGI & ALAM SEKITAR
DI UPACARA MESYUARAT MAJLIS SIRIM KE 21
DI SIRIM PADA 20 JULAI 1985 JAM 9.30 PAGI

Saya merasa sangat sukacita untuk merasmikan Majlis SIRIM yang baru pada pagi ini. Saya ingin mengucapkan terima kasih kepada ahli-ahli Majlis ini yang telah bersetuju menerima perantaraan walaupun mereka mempunyai tanggungan diri sendiri serta sibuk dengan kerjaya mereka. Saya mengambil maklum bahawa sebagai ahli Majlis SIRIM, tuan-tuan dikehendaki memikul tanggungjawab yang berat ini. Saya menganggap khidmat tuan-tuan sebagai suatu khidmat kepada pembangunan negara.

Tahun 1985 merupakan sepuluh tahun tertubuhnya SIRIM sejak percantuman Institut Piawaian Malaysia (atau SIM) dan Institut Kebangsaan bagi Penyelidikan Sains & Perindustrian (atau MISIR) dalam tahun 1975. Sejak percantuman itu, SIRIM telah memberi keutamaan ke atas aktiviti-aktiviti piawaian, penyelidikan perindustrian, fabrikasi dan rekabentuk, khidmat perundingan kepada sektor perindustrian, khasnya sektor perusahaan kecil dan sederhana serta juga perkhidmatan ujian saintifik dan teknikal. Olehlah dikatakan bahawa SIRIM dalam sepuluh tahun ini telah berkembang dari satu institut yang bertanggungjawab ke atas aktiviti piawaian dan penyelidikan kepada aktiviti pemindahan teknologi. Walaupun kesan-kesan SIRIM sebagai institut yang diberi tanggungjawab membantu sektor perindustrian tidak berapa dirasai, aktiviti-aktiviti piawaian dan pengujian untuk sektor

perindustrian telah giat maju. Ini adalah akibat daripada perkembangan sektor perindustrian yang begitu pesat di dalam negara ini. Saya berpendapat bahawa permintaan untuk perkhidmatan ini akan kian meningkat pada masa-masa yang akan datang.

Dalam pada itu, adalah menjadi peranan dan tanggungjawab ahli-ahli majlis ini untuk menentukan perkembangan dan kemajuan institut ini pada masa depan. Tambahan lagi penggubalan dasar serta penentuan haluan Institut ini adalah juga tanggungjawab tuan-tuan supaya sumber-sumber yang sedia ada di dalam SIRIM dapat digembelungkan dan disalurkan untuk mencapai matlamat yang tertentu.

Matlamat untuk meningkatkan keupayaan teknologi di sektor perindustrian mestilah menjadi matlamat utama Institut ini. Oleh yang demikian selain dari peranan piawaian dan penyelidikan perindustrian, SIRIM hendaklah berfungsi untuk menjadi satu pusat pemindahan teknologi negara. Konsep pusat pemindahan teknologi negara adalah satu konsep yang mesti dikaji oleh Majlis ini. Pada hemat saya, konsep ini akan merangkumi segala aktiviti yang dijalankan oleh SIRIM. Ia juga akan memberi matlamat yang tertentu yang memperkaitkan aktiviti-aktiviti Institut ini dengan sektor perindustrian. Perkhidmatan pemindahan teknologi akan merangkumi aktiviti-aktiviti untuk meningkatkan mutu pengeluaran barang-barang tempatan, menjalankan ujian saintifik dan mekanikal ke atas barang-barang yang tertentu, merekabentuk dan fabrikasi

proses dan mesin, mengubahsuai proses pengeluaran dan mesin untuk keperluan tempatan, menjalankan penyelidikan ke atas sumber-sumber negara ini untuk memajukan sektor agro-industri, memberi perkhidmatan dan rundingan teknikal untuk meningkatkan keupayaan sektor perindustrian, memberi maklumat teknologi supaya meluaskan pilihan teknologi serta kesedaran pengusaha-pengusaha sektor perindustrian dan lain-lain lagi. Pada dasarnya, aktiviti-aktiviti utama meliputi penyelidikan perindustrian, perundingan dan nasihat teknikal, piawaian, pembentukan dan fabrikasi dan memperdagangkan hasil-hasil penyelidikan.

Lerasaskan konsep baru ini, Kementerian telah mengarahkan SIRIM untuk menyusun semula organisasinya. Penyusunan semula adalah perlu supaya SIRIM dapat bertindak untuk memenuhi permintaan dan keperluan sektor perindustrian yang berkembang dengan begitu pesat. Majlis ini hendaklah memberi perhatiannya yang utama untuk membincangkan penyusunan semula organisasi Institut ini.

Tuan-tuan dan Puan-puan,

Saya telah meneliti beberapa rancangan Institut ini yang telah dikedukakan kepada saya dahulu dan saya berpendapat bahawa Institut ini boleh disusun semula mengikut bidang-bidang perindustrian yang diberi keutamaan oleh Rancangan Pelan Induk Perindustrian yang sedang disediakan oleh MIDA. Bidang-bidang yang dimaksudkan itu termasuk penubuhan pusat-pusat teknikal yang

tertentu seperti Pusat Logam, Pusat "Non-Ferrous Industries," Pusat Plastik, Pusat Seramik dan lain-lain lagi. Ini akan dapat memelihara kepakaran yang tertentu serta meningkatkan lagi kepayaan pengkhususan dalam bidang-bidang yang diberi perhatian itu. Cara bagaimana Institut ini dapat disusun semula adalah terpulang kepada Majlis untuk diperbincangkan dan dikemukakan kepada saya.

Perhatian Majlis juga perlu ditujukan kepada usaha-usaha dan cadangan-cadangan untuk meningkatkan lagi kekesan cawangan-cawangan yang telah ditubuhkan oleh SIRIM. Pada fahaman saya dan berlandaskan laporan yang saya terima dari pengusaha-pengusaha tempatan, cawangan-cawangan yang ditubuhkan sekarang tidak begitu berkesan untuk menyebarkan aktiviti-aktiviti Institut ini. Saya berharap, Majlis ini dapat mengkaji kemungkinan untuk 'decentralise' aktiviti-aktiviti Institut ini supaya peranan yang dimainkan oleh cawangan-cawangan itu dapat dipertingkatkan lagi. Sebagai misalan, sekiranya Negeri Sarawak berupaya mengeluarkan komponen elektrik dan memerlukan pengujian dalam bidang itu, kemudahan-kemudahan untuk menguji komponen-komponen elektrik itu sepatutnya ditubuhkan di cawangan Sarawak. Saya juga berharap kemudahan-kemudahan yang sedia ada di cawangan-cawangan lain digunakan untuk memendekkan masa bagi memproseskan pengeluaran lesen dan sijil untuk menggunakan tanda pengesahan kualiti yang dikeluarkan oleh SIRIM. Penubuhan cawangan-cawangan itu akan tidak bermakna jika segala permintaan dan urusan dari sektor serindustrian dirujuk balik ke Ibu Pejabat SIRIM di mana proses itu akan mengambil masa yang agak lama.

Tuan-tuan dan Puan-puan,

Satu masalah besar yang dihadapi oleh SIRIM ialah berkaitan dengan peruntukan kewangan yang terhad. Institut-institut penyelidikan yang lain seperti MARDI diberi peruntukan perbelanjaan tahunan sebanyak lebih kurang \$60 juta, PGRIM dan RPI \$30 juta hingga \$40 juta. Bagi SIRIM, iaitu sebuah institut yang tunggal untuk memberi perkhidmatan kepada sektor perindustrian hanya lebih kurang \$12 juta hingga \$15 juta diperuntukkan setiap tahun. Saya berharap Majlis ini akan membincang dan mengesyorkan kepada saya strategi-strategi untuk memajukan aktiviti-aktiviti Institut ini bagi memenuhi dasar Persyarikatan Malaysia demi menambahkan lagi pendapatan SIRIM untuk menampung peruntukan tahunannya. Saya berpendapat bahawa SIRIM boleh menetapkan matlamat untuk mengutip bayaran perkhidmatannya sebanyak 40% dari segala peruntukan perbelanjaannya melalui bayaran untuk perkhidmatan teknikal. Perkhidmatan-perkhidmatan teknikal yang diberikan oleh Institut ini tidak boleh diberikan dengan percuma atau dengan subsidi dari kerajaan. Oleh itu, kadar bayaran dan yurannya mesti mencerminkan perbelanjaan Kerajaan. Institut ini mesti berusaha untuk berdikari dengan mengutip bayaran dari pelanggan-pelanggannya yang tertentu. Dengan matlamat ini, barulah SIRIM dapat mengukur kekesan penggunaan sumber-sumber tenaga serta kemudahan-kemudahan yang sedia ada padanya dengan jumlah bayaran perkhidmatan yang digunakan dan penggunaan alat-alat.

Satu lagi perkara yang mustahak ialah 'morale' dan sikap kakitangan SIRIM yang mesti diberi perhatian oleh Majlis ini. Keutamaan hendaklah diberikan oleh Majlis ini kepada peluang-peluang kenaikan pangkat dan juga suasana kerja pekerja-pekerja SIRIM oleh sebab masalah-masalah ini boleh menjejaskan produktiviti mereka. Dasar dan garis panduan untuk kenaikan pangkat mestilah jelas dan mengikuti peraturan-peraturan yang adil dan tertentu. Pertimbangan untuk kenaikan pangkat mesti mengambil kira dan berasaskan kepada merit, pengalaman bekerja yang mereka punyai, kecenderungan dan kekananan.

Sebagai satu institut yang memberi perkhidmatan teknikal kepada sektor perindustrian, kakitangannya perlu diberi latihan yang tepat dan mencukupi untuk meningkatkan keupayaan serta bidang pengkhususan mereka. Dengan itu, Majlis ini hendaklah juga memberi garis panduan yang jelas untuk memilih serta menghantar kakitangan yang sesuai dan berkebolehan untuk mengikuti kursus atau latihan yang diperlukan itu.

Sejak penubuhan SIRIM, Akta SIRIM 1975 tidak diubah, dan pada pendapat saya, tibalah masanya untuk mengkaji semula Akta SIRIM supaya Akta ini dapat mencerminkan peranan dan tanggungjawab baru Institut ini. Ini adalah diperlukan sekiranya SIRIM dikenendaki memainkan peranan sebagai sebuah pusat pemindahan teknologi yang merangkumi fungsi-fungsi seperti memperdagangkan hasil-hasil penyelidikan, memasuki perjanjian kerjasama dengan pihak swasta dalam satu-satu perniagaan, menubuhkan syarikat-

syarikat dan lain-lain lagi. Saya juga berharap tuan-tuan dapat mengkaji strategi yang baru untuk SIRIM bekerja dengan lebih rapat lagi dengan sektor perindustrian. Kerjasama seumpama itu dengan sektor perindustrian perlu juga diadakan dalam projek-projek kerjasama R & D, pembangunan dan mempopularkan piawaian Malaysia supaya ianya terkenal sebagai satu penentuan mutu negara ini dan juga memperkenalkan tanda mutu SIRIM sebagai satu penunjuk (indicator) yang memberi jaminan ke atas barangan negara yang boleh dipercayai oleh pembeli-pembeli di luar atau di dalam negara ini.

Tuan-tuan dan Puan-puan,

Akhir kata, saya berharap Majlis ini yang dilantik untuk tempoh selama tiga tahun dapat bertindak dengan berkesan. Pejabat saya adalah selalu terbuka untuk mereka yang hendak memberi teguran dan nasihat kepada saya supaya Institut ini dapat diuruskan dengan licin dan kecekapannya dapat dipertingkatkan lagi. Di sini, saya ingin mengambil kesempatan untuk merakamkan penghargaan saya ke atas usaha-usaha yang telah diberikan oleh ahli-ahli Majlis SIRIM yang lama yang telah dilantik mulai dari 1 Mac 1982 hingga 28 Februari 1985, khasnya kepada Pengerusi lama Majlis ini, Yg. Berbahagia Tan Sri Datuk Hj. Halalluddin bin Md. Ishak di atas sumbangan dan kepimpinan beliau yang telah meningkatkan lagi kecekapan Institut ini. Saya telah melantik Ketua Setiausaha Kementerian saya sebagai Pengerusi dengan tujuan supaya aktiviti-aktiviti Institut ini serta pelaksanaan dasar

perajaan dapat diberi perhatian yang lebih rapi oleh Kementerian saya dan saya sendiri. Saya berharap tuan-tuan dan puan-puan dapat memberi sokongan kepada beliau demi pencapaian matlamat pembangunan negara.

Dengan ini, saya dengan sukacitanya melancarkan Majlis SIRIH baru dengan rasminya.

Terima kasih.

Kenyataan Akhbar
Oleh Y.B. Menteri Sains, Teknologi dan Alam Sekitar
Sempena Ulangtahun Ke-10 Pengurusan Alam Sekitar
Di Malaysia dan Hari Alam Sekitar Sedunia 1985

Kementerian Sains, Teknologi dan Alam Sekitar akan meraikan 'Satu Dekad Pengurusan Alam Sekitar Di Malaysia' dan Hari Alam Sekitar Sedunia 1985.

Perayaan ini mempunyai dua objektif. Pertama, untuk meningkatkan kesedaran orang ramai mengenai isu-isu alam sekitar dan kesan ke atas mereka supaya mereka dapat bertindak secara positif ke arah pemuliharaan alam sekitar samada secara individu atau berkumpulan. Tambahan pula, pengurusan alam sekitar menjadi bertambah kompleks dengan adanya pertambahan penduduk, pertumbuhan pesat industri-industri berat dan sektor-sektor pengeluaran. Oleh yang demikian kerjasama dari semua pihak dan penglibatan pihak Kerajaan-Kerajaan Negeri, Penguasa Tempatan dan masyarakat seluruhnya adalah perlu dalam pengurusan alam sekitar yang berkesan dan sempurna.

Tujuan kedua pula ialah untuk mengkaji pengurusan alam sekitar pada masa ini dan untuk menentukan ke arah mana pengurusan masa hadapan hendak ditujukan bagi memperbaiki dan meningkatkan lagi kualiti alam sekeliling.

Satu keistimewaan dalam perayaan tahun ini ialah penglibatan dan penyertaan orang ramai dan sektor-sektor swasta termasuklah pihak industri dan agensi-agensi bukan kerajaan dalam menganjurkan aktiviti-aktiviti sambutan.

Satu jawatankuasa induk yang dipengerusikan oleh Y.B. Tuan Law Hieng Ding dan 17 jawatankuasa kecil telah dibentuk di mana ahli-ahlinya terdiri dari agensi Kerajaan dan sektor swasta untuk menyelenggarakan aktiviti-aktiviti tertentu.

Pelancaran sambutan akan diadakan pada 10 Mei 1985 oleh Y.A.B. Timbalan Perdana Menteri, Dato' Musa Hitam, di ruang legar Kompleks Dayabumi. Sambutan ini akan berlangsung dari masa ke semasa selama 3 bulan dan berakhir pada bulan Ogos 1985.

Sempena hari pelancaran ini satu pameran akan diadakan untuk orang ramai bermula dari 10 hingga 17 Mei 1985 di mana poster-poster, model-model dan pertunjukan 'slide' dan filem yang menunjukkan usaha-usaha dan pencapaian berbagai agensi Kerajaan dan bukan Kerajaan dalam pemuliharaan alam sekitar akan dipamerkan.

Aktiviti-aktiviti lain adalah seperti berikut:-

- **Seminar Keadaan Kualiti Alam Sekeliling Di Malaysia**

Seminar mengenai keadaan kualiti alam sekeliling di Malaysia akan diadakan selama 3 hari dalam bulan Julai 1985 di Pusat Perkembangan Asia dan Pasifik. Tujuan seminar ini adalah:-

- * untuk mengkaji pencapaian sehingga kini dalam pemuliharaan alam sekitar semenjak penguatkuasaan Akta Kualiti Alam Sekeliling 1974;

- * untuk mengenalpasti isu-isu alam sekitar yang perlu diberi perhatian;
- * untuk mengadakan forum bagi mereka-mereka yang terlibat dengan alam sekitar termasuklah pembuat-pembuat keputusan, pengusaha-pengusaha industri, para akademik, ahli-ahli politik dan lain-lain untuk menentukan arah pengurusan alam sekitar di masa akan datang.

- Peraduan Seni Foto

Satu peraduan seni foto akan diadakan untuk orang ramai mengambil bahagian dari 12 Mei hingga 30 Jun 1985. Tema bagi peraduan ini ialah Manusia dan Persekitarannya dan ahli-ahli seni foto yang menggunakan kamera mereka mestilah membawa balik mesej ini. Peraduan ini dianjurkan bersama oleh Persatuan Seni Foto Malaysia dan Jabatan Alam Sekitar.

- Peraduan Melukis

Satu peraduan melukis mengenai alam sekitar akan diadakan bagi murid-murid sekolah rendah dan menengah. Peraduan ini dianjurkan bersama oleh Persatuan Pencinta Alam dan Jabatan Alam Sekitar yang akan dibuka pada 10 Mei hingga 15 Julai 1985. Objektif peraduan ini ialah untuk membangkitkan kesedaran dan minat murid-murid kepada haiwan dan tumbuh-tumbuhan di Malaysia disamping memberi peluang kepada murid-murid untuk menonjolkan bakat-bakat mereka kepada seni lukis.

Peraduan Mengarang Essay

Satu peraduan mengarang akan diadakan bagi murid-murid sekolah menengah 4 dan 5. Peraduan ini dianjurkan bersama oleh Kementerian Pelajaran dan Jabatan Alam Sekitar yang akan dibuka pada 2 Mei hingga 30 Jun 1985.

Lawatan Murid-Murid Sekolah

Lawatan murid-murid sekolah akan diadakan di seluruh negara mulai dari 16 Mei hingga Ogos 1985. Lawatan ini dianjurkan bersama oleh Kementerian Pelajaran dan Jabatan Alam Sekitar untuk memberi peluang kepada murid-murid zoo-zoo, hutan simpan, pusat-pusat penyelidikan, taman-taman dan kilang-kilang.

Peraduan melukis, mengarang dan lawatan sekolah-sekolah dianjurkan dengan tujuan untuk menanamkan semangat jenerasi muda tentang pentingnya pemuliharaan dan perlindungan alam semulajadi.

Bahas Antara Universiti-Universiti

Bahas antara universiti-universiti tempatan dan institut pengajian tinggi atas tajuk alam sekitar akan diadakan di peringkat siswa. Tujuan perbahasan ini ialah untuk meningkatkan kesedaran alam sekitar di kalangan siswa-siswa universiti yang bakal menjadi pemimpin-pemimpin dan pentadbir-pentadbir masa hadapan. Pertandingan bahas

ini akan diadakan pada 27hb Julai 1985 dan perbahasan peringkat akhir akan diadakan pada 8hb Ogos 1985 di Universiti Kebangsaan Malaysia, Bangi. Perbahasan ini dianjurkan bersama oleh Universiti Kebangsaan Malaysia dan Jabatan Alam Sekitar.

Peraduan-Peraduan

Beberapa peraduan juga akan diadakan untuk menanam sikap bertanggungjawab ke atas alam sekitar dan kesedaran sivik yang diantaranya:-

- Peraduan di antara industri-industri untuk menentukan kilang yang beroperasi di dalam keadaan alam sekitar yang peraduan ini dianjurkan bersama oleh Persekutuan Pekilang-Pekilang Malaysia dan Jabatan Alam Sekitar yang akan diadakan pada 2-13 Mei 1985.
- Peraduan diantara penguasa-penguasa tempatan untuk menentukan penguasa yang menguruskan alam sekitar yang baik.

Selain dari aktiviti-aktiviti dan peraduan-peraduan, beberapa pihak swasta dan persatuan-persatuan juga membiayai projek-projek pengindahan dan skim 'anak angkat' seperti berikut:-

- PETRONAS Projek Pengindahan Pantai
Batu 2 ¹/₂ Port Dickson.

- MMC Projek Pemulihan dan Mencantikkan Tanah-Tanah Tinggal Bekas Lombong.
Projek Eksperimen Kelapa Sawit/Getah di atas kawasan tahi bijeh di 'Berjuntai Tin Dredges'.
Projek Akuakultur di kolam-kolam bekas lombong.
- SHELL Kempen mencantikkan pantai Port Dickson sepanjang 4 ¹/₂ batu.
Sumbangan kepada Akuarium di Zoo Negara.
- Mobil Projek 'Anak Angkat' Rusa di Zoo Negara.
- B.P. Projek 'Anak Angkat' Flamingo di Zoo Negara.
- ESSO Poster-poster ikan.

Beberapa syarikat minyak akan menukarkan perkataan-perkataan di pintu-pintu gerbang yang sedia ada dengan tema sambutan tahun ini di beberapa batang jalan di Kuala Lumpur.

Agensi-agensi bukan Kerajaan juga akan menganjurkan beberapa aktiviti-aktiviti sambutan di antaranya ialah:-

Persatuan Pengurusan
dan Penyelidikan Alam
Sekitar Malaysia
(ENSEARCH)

Jamuan Makan Malam
dan Upacara Penyampaian
Hadiah-Hadiah.

Persatuan Perlindungan
Alam Sekitar
Malaysia (EPSM)

Kempen Kawalan Buangan
Toksik, 'Envirowalk',
Pertunjukan slide,
Pameran, Penilaian
Tahunan Pencemaran dan
Perlindungan.

Persekutuan Persatuan
Pengguna-Pengguna
Malaysia

Kempen 'Recycle, Return,
Reuse', Fokus Majalah
Pengguna.

Persatuan Pencinta
Alam Malaysia

Ekspedasi Sains
Endau-Rompin.

Sahabat Alam Malaysia

Peraduan Mengarang
untuk Sekolah-Sekolah.

Selain dari aktiviti-aktiviti di Kuala Lumpur pihak-
pihak Kerajaan Negeri juga akan mengadakan berbagai
aktiviti sambutan di peringkat negeri.

PC(67)
UCAPAN Y.B. DATUK ANAR STEPHEN K.T. YONG,
MENTERI SAINS, TEKNOLOGI DAN ALAM SEKITAR
DI UPACARA PERASMIAH SIMPOSIUM KULTUR TISU
TUMBUHAN KEBANGSAAN KE DUA DI DEWAN PERSIDANGAN
PUSAT PEMBANGSAAN DAN PENDIDIKAN LANJUTAN,
UNIVERSITI PERTANIAN MALAYSIA
PADA SELASA 15 OKTOBER 1985 JAM 9.00 Pagi.

Saya merasa gembira kerana dapat bersama tuan-tuan dan puan-puan pada pagi ini sempena Simposium Kultur Tisu Tumbuhan Kebangsaan Yang Kedua. Setinggi-tinggi tahniah saya ucapkan kepada Jawatankuasa Penganjur dan institusi-institusi penganjur di atas usaha mereka untuk menjayakan penganjuran Simposium dan Bengkel ini.

Saya difahamkan bahawa bagi Simposium pada tahun ini, empat buah institusi penyelidikan adalah terlibat di dalam penganjuran Simposium dan Bengkel ini.

Kerjasama antara institusi-institusi ini lebih ketara apabila dilihat dari segi penyelidikan dalam bidang bioteknologi. Bidang ini memerlukan kepakaran di dalam beberapa cabang tertentu seperti Biokimia, Genetik, Kultur Tisu, Mikrobiologi, Kejuruteraan Kimia, Fisiologi dan Biologi Molekular. Kepakaran dalam disiplin-disiplin ini sudah sedia ada di negara kita, tetapi mereka-mereka ini berada di institusi-institusi yang berlainan. Usaha hendaklah dibuat bagi membuka peluang kepada pakar-pakar sains bekerjasama di bawah satu program dalam menjalankan penyelidikan mereka. Para saintis kita perlu mengetahui jenis penyelidikan yang dijalankan di antara mereka. Dengan cara itu juga kita dapat mengelompokkan kepakaran ini bagi meningkatkan prestasi penyelidikan dalam bidang Bioteknologi.

Dalam usaha untuk meningkatkan penyelidikan dalam bidang Bioteknologi, Kementerian saya telah membentuk sebuah Jawatankuasa Pakar Bioteknologi di bawah Majlis Penyelidikan dan Kemajuan Sains Negara. Tujuannya ialah untuk menggubal satu strategi penyelidikan dalam bidang ini. Strategi penyelidikan ini bertujuan memastikan bahawa segala usaha dibuat bagi menggunakan teknologi yang pesat berkembang ini demi kesejahteraan hidup rakyat negara ini. Antara bidang bioteknologi yang telah dibincangkan oleh Jawatankuasa tersebut secara mendalam termasuklah bidang Bioteknologi Tumbuhan yang juga merangkumi disiplin kultur tisu, Bioteknologi Perubatan manusia dan binatang ternakan, Bioteknologi makanan dan juga bioteknologi 'industrial'.

Ladies and Gentlemen,

There is this nagging question constantly in our minds. What has biotechnology to offer to a developing country like Malaysia? There seems to be no simple answers to this question. However, a developing country like Malaysia which possesses vast natural resources, in terms of agricultural as well as energy resources, could consider the pharmaceutical and chemical industries and the food and agro-based industries as two major areas for development. In terms of developing the food and agro-based industries, biotechnology is envisaged as being able to produce higher yielding plants, more resistant to water stress, pests and diseases. Biotechnology has to be viewed as an important tool in the development of the food manufacturing sector in the future.

In the development of the pharmaceutical and chemical industries, the rich variety of natural products and the wide range of plants available could be the foundation for the development of pharmaceutical and chemical industries. Take for instance, the production of fine chemicals could be developed further from the palm oil industry. With the energy surplus that is available in the country, the development of industrial manufacturing activities could be concentrated in these major areas.

In the past, the development of industrial research has been passive. The industrial sector has not been active in identifying problems or technology or their own technological needs. I would like to urge the private sector to come forward to identify the technology needs of their own areas of interest so that the Government could help develop appropriate technology to support the growth of industries.

As we are all aware, the growth of newly industrialized countries in the past has been based on heavy industries and high technology. To my mind, it is important for Malaysia to approach our industrialization programme with a more radical outlook through the employment of biotechnology, improved communication technology and the development of high technology which could exploit our natural resources. At this point, the role of international research bodies such as those in Europe and the U.S.A. should be examined in relation to the development of our own technology. We have to accept the fact that R & D cannot be

developed independently, and we could learn from the expertise of other countries in order to accelerate the development of our own national capabilities.

Tuan-tuan dan Puan-puan,

Di negara-negara yang maju, terutama sekali di Amerika Syarikat, terdapat pertum-buhan agensi-agensi penyelidikan bioteknologidengan pesatnya. Mereka ini berlumba-lumba cuba mendahului dalam penemuan-penemuan baru yang boleh memberi keuntungan kepada syarikat-syarikat mereka. Adanya di antara mereka yang telah beroleh kejayaan menggunakan kaedah kejuruteraan genetik, umpamanya dalam pengeluaran ubat suntikan 'interferon' bagi penyakit barah, dan juga pengeluaran pokok-pokok yang mempunyai ketahanan racun pemusnah tumbuhan. Di negara kita pula, penyelidik-penyelidik dari Institut Penyelidikan Perubatan dengan kerjasama Universiti Malaya telah berjaya menghasilkan ubat suntikan bagi demam denggi melalui kaedah kejuruteraan genetik. Ini jelas menunjukkan bahawa penyelidikan yang khusus serta keupayaan kewangan diperlukan bagi kejayaan penggunaan teknologi kejuruteraan genetik bagi menghasilkan sesuatu yang boleh memberi menafaat kepada negara.

Ingin saya menyentuh sedikit di sini tentang peruntukan kewangan bagi penyelidikan sains dan teknologi bagi negara kita. Sebagai sebuah negara yang sedang membangun, sudah semestinya negara kita menghadapi masalah dalam memberi peruntukan yang

cukup bagi pakar-pakar sains kita menjalankan kajian-kajian mereka. Ini bukanlah bermakna bahawa Kerajaan tidak menentingkan penyelidikan saintifik. Kerajaan negara perlu diagihkan mengikut prioriti atau keutamaan negara. Sudah semestinya penyelidikan yang 'applied-oriented' dan yang boleh memberi kesan kepada negara akan mendapat keutamaan. Sungguhpun begitu, Kerajaan juga memperuntukkan wang bari pelbagai penyelidikan asas strategik. Umpamanya, baru-baru ini Serenterian saya telah memberikan geran penyelidikan kepada Pakli untuk menjalankan penyelidikan dalam lapangan protoplas tumbuhan dalam usaha ke arah menghasilkan tumbuhan yang novel.

Penyelidikan dalam negara-negara yang maju tidak bergantung seratus-peratus kepada sumbangan kewangan dari Kerajaan. Kebanyakan daripada industri penyelidikan bioteknologi yang ditubuh merupakan industri swasta. Penyelidikan yang dijalankan di institusi-institusi pendidikan tinggi di negara-negara maju mendapat sumbangan kewangan dari pihak swasta juga. Dalam aspek ini, kita tidak boleh menafikan bahawa pihak swasta boleh memainkan peranan yang penting dalam meningkatkan penyelidikan dalam bidang-bidang seperti bio-teknologi. Penglibatan pihak swasta ini boleh dilakukan dengan beberapa cara. Mereka boleh melibatkan agensi mereka dengan secara langsung dalam menjalankan penyelidikan asas strategik atau bekerjasama dengan institusi-institusi penyelidikan dan universiti-universiti bagi menjalankan penyelidikan tertentu ataupun dengan membiayai penyelidikan-penyelidikan khusus bagi mendapatkan penemuan baru ke arah

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mengatasi masalah-masalah mereka. Satu lagi cara ialah dengan mengadakan kerjasama melalui penggunaan peralatan atau makmal yang khusus. Saya difahamkan bahawa sudah terdapat sebuah syarikat memproses bahan perasa makanan yang telah menawarkan 'bioclean laboratory' bagi kegunaan latihan penuntut-penuntut universiti tempatan dalam bidang bioteknologi. Saya berharap ini akan menjadi contoh kepada agensi-agensi swasta yang lain agar tampil ke hadapan memberi sumbangan yang sama ke arah memajukan penyelidikan dalam bidang sains di negara ini.

Ladies and Gentlemen,

There are amongst us participants from overseas. To you, I would like to say "Welcome to Malaysia". The organizers have set aside one day to discuss various developments in rubber tissue culture research under the auspices of the International Rubber Research and Development Board. Technical discussions among scientists from countries producing agricultural commodities such as rubber, oil palm, rice and other crops are essential particularly in the fast developing discipline of Biotechnology. I hope there would be close co-operation and exchange of ideas among the eminent scientists gathered here. I am sure new information and knowledge arising from meetings of this nature will benefit all.

Tuan-tuan dan Puan-puan,

Saya dengan sukacitanya mengisytiharkan Simposium ini dibuka dengan rasminya.

SPEECH BY THE HON. DATUK AMAR STEPHEN K.T. YONG
MINISTER OF SCIENCE, TECHNOLOGY AND THE
ENVIRONMENT AT THE INTERNATIONAL PLASTICS
CONFERENCE '85, TUESDAY, 22 OCTOBER 1985
AT THE BALLROOM, TRL INDUSTRIAL, KUALA LUMPUR
AT 9.00 A.M.

I am pleased to be in your midst this morning particularly in conjunction with the Plastics and Rubber Institute's Silver Jubilee Celebrations, for which this Conference has been organized.

I would like to extend my heartiest congratulations to the Plastics and Rubber Institute Malaysia on this auspicious occasion. It has more than come of age. This Silver Jubilee should open a new chapter for the Institute and I hope it would continue to play its active role in the national development of the country, especially in the field of plastics technology.

The Malaysian plastics industry began in the early Fifties on a backyard basis using hand-operated injection moulding machines. Three decades have passed and the industry experienced rapid growth. Today there are about 400 factories employing a work force of 30,000.

At present, most imports of raw materials for the industry are from Japan, Singapore, USA, Europe, Taiwan and the Middle-east. Certain grades of polyvinyl chloride, polystyrene, phenolic and polyester resins are manufactured locally. It has been estimated that the consumption of plastic raw materials in Malaysia for 1984 alone is 142,000 metric tonnes.

The plastics industry has greatly diversified their product varieties - from simple household items to more sophisticated and specialized products such as packaging, engineering and industrial parts and components. Modern and higher capacity machinery and equipment have also been installed to cater for the production of new and high precision products.

The total investment of the industry in 1984 is in the region of \$300 million with 8% of the industry having an investment of more than \$1 million and 32% having investments of between \$250,000 and \$1 million. The remaining 60% are small and cottage-type establishments. The total turnover for 1984 was valued at some \$700 million. Despite this, the share of plastics production in the national economy is still less than 1%, while its share in the local manufacturing industry is only about 3%.

With regard to personnel, survey results by SIKIM have shown that most of the skilled supervisors and technicians do not have any formal technical training in the related fields of plastics manufacturing. These personnel depend greatly on judgement gained from past working experience. Most of these people are good with their hands, but would face difficulties when sophisticated technical problems involving precision equipment arise.

On the technical front, some of the major problems experienced by the industry, particularly the small and medium-size factories, are processing techniques, product development, mould and die-making, standards and quality control of products. It was also apparent from the survey that most manufacturers do not have adequate access to technical information on new processing techniques, innovation and new products development. Such information is very important for the continuous progress of the industry since plastics technology today is one of the fastest developing fields of technology in the world.

The Government is aware of this situation and has endeavoured to provide technical assistance to this industry. To date, SIRIM has drawn up and approved about 30 Malaysian Standards for plastic products such as UPVC pipes, cisterns, conduits, industrial safety helmets, PVC resin and so on. Plastic processors are also participating in SIRIM's Certification Marking Schemes. Testing facilities in SIRIM can cater for the testing of plastic properties such as mechanical, thermal and physical properties.

Specialized technology centres such as the Metal Industry Technology Centre (MITEC) and the Metal Industry Research & Development Centre (MIRC) would be able to assist the industry in the areas of mould design and making, assembling and finishing of plastic products.

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The Government is in the process of establishing a Plastics Technology Centre in SIRIM. The proposed Centre would generally serve the following functions :-

- (i) Firstly, to strengthen and support the expansion of the Malaysian plastic processing industry;
- (ii) Secondly, to broaden and develop technological applications and know-how; and
- (iii) Thirdly, to assist the industry by planned training of personnel at various levels.

The potential areas where this proposed Centre could provide services, among others, are :-

- (a) raw material testing, and analysis and end-use evaluation;
- (b) R & D in local raw materials;
- (c) development of process and quality technology;
- (d) transfer of new processes and technology;
- (e) research into improvement in productivity, cost, product quality and performance;

(f) R & D on product design and innovation; and

(g) technical information and documentation.

There is so much technology involved in the plastics industry. New technologies are being developed from day to day. It is important to ensure that the industry keep up with the technological developments in this area. In fact, the industrial sector in the country need to keep in step with technological advancement so that Malaysia-made products can also be acceptable in overseas markets. In this respect, I have directed that steps be taken to revamp the Co-ordinating Council for Industrial Technology Transfer which is now transferred and come directly under my Ministry. One of the main tasks of the revamped Council for Industrial Technology Transfer would be to formulate policies, plans and programmes relating to industrial technology transfer that will be required in the country, and also the development of indigenous industrial technology and the commercialization of technologies so developed. This is to be done with the full participation by the private sector.

Under the Council, it is proposed to establish an Industrial Technology Transfer Centre (ITTC) for evaluating and processing industrial technologies which are required by the industries. The ITTC would act as the operational arm of the Council. It is envisaged that with this set-up, industries that wish to obtain up to date technologies or to upgrade them need not have to search for them overseas, but may take it up with the ITTC.

The Government has constantly invited industries to come forward to make known their needs to further enhance their technological capability, productivity and marketability of their products. I would like to urge the various industries to organize themselves into collective groups so that their needs as a whole can be ascertained more accurately because it is not possible for the Government to deal with each manufacturer individually. The industrial sector must also take the initiative to approach Government to work out a co-operative programme for industrial technology advancement. I hope the industry would support the revamped Council for Industrial Technology Transfer and its Centre, and play its role more meaningfully.

Ladies and Gentlemen,

I hope that this 3-day Conference will meet its objectives and serve as a forum for all participants to exchange information and gain new knowledge from each other, particularly from the experts who have been invited to present their working papers. To our friends from overseas, I would like to say "Welcome to Malaysia" and trust that you would find time to enjoy yourselves and get acquainted with our country.

In this note, I now have pleasure in declaring this International Plastics Conference officially opened.

PCU)
SPEECH BY THE HON. DATUK AMAR STEPHEN K.T. YONG
MINISTER OF SCIENCE, TECHNOLOGY AND THE
ENVIRONMENT AT THE OFFICIAL OPENING CEREMONY OF
THE 4TH ASEAN MEETING ON NATURE CONSERVATION
AT THE ASIAN AND PACIFIC DEVELOPMENT CENTRE ON
TUESDAY 22 OCTOBER 1985 AT 11.15 A.M.

I feel both honoured and privileged to have been invited to declare open this 4th Asean Meeting on Nature Conservation because the aspiration and purpose of this meeting is to galvanize and consolidate regional co-operation in establishing a regional system of conservation of nature and natural resources.

I think you, as a group of experts on nature conservation, can justly claim credit for having made significant contributions to conservation as a whole. Your group has initiated and is responsible for launching many valuable projects. Among the more notable is the Asean Wildlife Training Centre at Ciawe in Indonesia. Today, this School has so spread its wings that it is able to accept participants from outside the Asean region.

The Group was instrumental in initiating the "Asean Declaration on Heritage Parks and Reserves" which was signed by the Asean Ministers in November 1984. It is also responsible for producing the draft of the "Asean Agreement on the Conservation of Nature and Natural Resources" which was recently formally signed by the Asean Foreign Ministers.

"The Asean Declaration on Heritage Parks and Reserves" marks a concrete step towards preserving and protecting the uniqueness, diversity and outstanding values of our respective national parks and reserves in Asean. In this regard, allow me to draw your attention to a resolution of the 13th Session of UNEP Governing Council of May, 1985 which urges States to take all necessary steps at the national, regional and international levels to set up or improve biosphere reserves paying particular attention to the establishment and adequate maintenance of biosphere reserves considered to be of special importance. I am confident that most, if not all of us, fully support the UN efforts in preparing the "Action Plan for Biosphere Reserves". We in Asean can feel proud to have initiated the "Asean Heritage Parks and Reserves" project. Our objectives are similar to that proposed by the UN under the Action Plan. It is my fervent hope that UNEP, through the auspices of the Action Plan, will consider funding some of our projects under the umbrella of the Asean Heritage Sites.

In this connection, may I mention the Malayan Nature Society's scientific expedition to the Endau-Kompin Park recently. It was planned, organized and conducted by our own scientists. The experience gained and the information obtained by them will be very valuable and of great interest to

On flora, there must be hundreds of thousands of plant species in our rainforests whose properties are still unknown to us. Indiscriminate felling of trees, clearing of jungles in the name of development may extinguish many of these species. The time may have come for Asean to set up an Asean Natural History Museum and that in-depth study of our flora and the various species should be under-taken.

The "Asean Agreement on the Conservation of Nature and Natural Resources" seeks to attain the goal of sustainable development and to enable Asean members to develop national conservation strategies. It may provide a legal basis for co-operation within Asean on matters affecting the conservation of wildlife, their habitats and other faunal and floral resources in the region.

The Declaration and the Agreement have resulted in drawing up :-

- a) a List of Asean Heritage Parks and Reserves; and
- b) the List of endangered species that are to be subject to trade restrictions within the Asean region.

The first list of Asean Heritage Parks and Reserves is now a reality and includes at least one area from each Asean Country.

The listing shows that Asean are serious about the tenure of their Parks and Reserves and their determination to safeguard this tenure.

There is some concern to us in Asean on the question of the differences among us with respect to the laws protecting wildlife, as each country has its own priorities and emphases. While it is accepted that each country should manage its own domestic laws independently, some sort of cohesion should be worked out when it comes to trade in wild flora and fauna between members of Asean. I understand the Asean Agreement has now largely resolved this with CITES-type of provisions. I notice that in the Agenda of this Meeting, there is an item to tabulate the endangered species of Asean into two lists. I know that as scientists and wildlife managers you will probably find many areas of contention with respect to the listing of each species, but I must urge you to come to a compromise so that the spirit of the Agreement which is to protect and ensure the survival of endangered species of wildlife be upheld.

As you are aware, one of the most endangered species of wildlife is the rhinoceros. At the moment, the plight of the Sumatran Rhino in Sabah is desperate, particularly those which have been deprived of their natural habitat by human activities or development. Their survival in isolated pockets hangs in the balance, even if the poachers can be kept at bay. Their fate is

sealed unless some positive action is taken and taken immediately. I am glad that the State Government of Sabah has set up a Task Force to deal with the matter. Good intention is not enough for a successful operation. Sufficient funds, manpower and expertise will be required. I hope in this case, the Sabah State Government will give serious consideration to the various options which have been offered. The paramount consideration must be the survival of these displaced animals.

Ladies and Gentlemen,

Conservation is more than keeping our forests intact and providing sanctuaries to animals. It is part of the eco-system which if it is unduly disrupted may have serious consequences to weather conditions causing drought and flooding. Large-scale destruction of forest areas inevitably will modify the micro-climate of the area concerned and will possibly result in an hostile environment for the living species. Admittedly, a lot of research has still to be carried out. In any case, it is only right and proper that we allow the wildlife to survive. After all, they like human beings are creatures of God.

With the efforts made by conservationists and naturalists, such as people like you, there is increasing concern of the public on the environment and attention is being focussed on conservation issues in this region.

This meeting can be invaluable in promoting increased co-operation by regular consultation among member countries. It is hoped that in future there will be even greater co-ordination of, and co-operation, in our conservation efforts with the object of safe-guarding our natural heritage and quality of life.

I am sure that all of you will have stimulating and useful discussions on all the agenda items. At the same time, I trust that each and everyone of you will have a fruitful meeting and a pleasant stay in Kuala Lumpur.

Ladies and Gentlemen,

I now have great pleasure in declaring this 4th Asean meeting on Nature Conservation officially opened.

SPEECH BY THE HON. DATUK AMAN STEPHEN K.T. YONG
MINISTER OF SCIENCE, TECHNOLOGY & ENVIRONMENT
AT THE OPENING OF THE MAE/CETDER SEMINAR ON
TECHNOLOGY & ENVIRONMENT 1985 AT THE
KONTIKI ROOM, FEDERAL HOTEL,
ON SATURDAY 26 OCTOBER 1985 AT 10.15 A.M.

Saya merasa sangat sukacita di atas penghormatan untuk merasmikan pembukaan Seminar ini yang dianjurkan bersama-sama oleh Persatuan Jurutera Malaysia dan Pusat bagi Pembangunan Teknologi Alam Sekitar Malaysia yang menumpukan kepada soal teknologi dan alam sekitar.

Saya sangat menalu-alukan Seminar seumpama ini yang dianjurkan oleh badan-badan bukan kerajaan oleh kerana ia menunjukkan minat dan perhatian orang ramai terhadap soal pengurusan dan perlindungan alam sekeliling. Tanggungjawab untuk menentukan suatu alam sekitar yang sempurna ialah suatu tanggungjawab yang hendaklah dipikul oleh semua pihak baik dari kerajaan mahupun dari pihak swasta dan individu. Di dalam usaha pembangunan negara, kita hendaklah menentukan bahawa wujudnya kerjasama dan bukan konflik di antara tujuan-tujuan pembangunan dan matlamat perlindungan alam sekitar.

I am pleased indeed to have the honour to declare open this Seminar jointly organized by the Malaysian Association of Engineers (MAE) & the Centre for Environment Technology Development Malaysia (CETDER) on the subject of Technology and the Environment.

I notice that the Keynote Address will be delivered by Mr. Gurmit Singh, the Managing Director of C&I on "Technology & Environment - Collaboration or Conflict?". I am sure he would develop his argument in his usual convincing way and come to a conclusion (and I hope I am not stealing his thunder) that there should be collaboration and not conflict between development and environmental protection and management.

Development we must have if we are to progress economically even though by so doing, pollution will ensue in one form or the other. Indeed, every human activity causes pollution. The question is, can such pollution be controlled or that it be kept at the minimum or at least at the tolerable level that it would not adversely affect the health and well-being of mankind. The answer is in the affirmative, conditional upon at least 2 premise - one is forward planning and the other is application of appropriate technology.

In the past, most of our industries, particularly palm oil & rubber and some manu-facturing establishments, paid no attention to the polluting effects of their effluents. As a result, many of our rivers were polluted, marine life completely wiped out, causing hardship to thousands of riverine dwellers and fishermen. It was then realized that there was no proper law to deal with such a situation.

With that background, the Environmental Quality Act was introduced in 1974 which specified the parameters of the effluents allowed to be discharged. Introducing laws is one thing, and the effective implementation of it is another. As a responsible Government, it cannot by a dint of legislation expect the industries to comply without showing to them the technologies available to bring down the degree of pollution. And it has to be done gradually. With the developed technologies, particularly in the palm oil industry which drew on our own indigenous technology, we could bring down the BOD level from 20,000 ppm in 1974 to 100 ppm in 1984. Similarly with respect to the rubber industry, the BOD level was brought down from 5,000 to 10,000 ppm in 1974 to 100 ppm in 1984. Industrial effluents, apart from those discharged by the small and backdoor factories, have been brought under control. This clearly illustrates the importance of technology. I have high hopes for these technologies to be further developed so that the effluents could cause no pollution at all. This is feasible because of the concept of non-waste, that is to say recycling and utilizing of waste to turn it into useful materials. In fact, this had been experimented successfully in some big oil palm mills using the waste as a source of energy and turning the solids into feedmeal and fertilizers. To prove this point, I was recently presented with 2 gold carps by a chemical company and they were taken from a pond which collects the treated effluents from the factory. I am glad to say that this pair of gold carps named PCE and Alam Sekitar by the company concerned appear healthy and lively, and are doing very well.

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The importance of Environmental Impact Assessment Studies for any project, particularly big ones has been recognized for some time. Haphazard and unplanned development will degrade environmental quality to such an extent that it will cost many, many times more in remedying the situation later than undertaking proper planning and siting and pollution control measures in the first place. I must say there is an awareness among the general public that we must maintain a wholesome environment. Such awareness is due in large measure to the interest and efforts made by non-governmental organizations such as NAF and CETDEM and others. I would like to take this opportunity to commend your public-spiritedness. As I have stated on many occasions, environmental protection and management must be shared by all - the Government, the EOC's and the people themselves. As far as my Ministry and the EOE are concerned, we will enforce the provisions of the Environmental Quality Act vigorously. Due to the proliferation of backyard industries, many of which are unlicensed and whose existence are unknown to us until pollution takes place, we have our hands full playing the role of a "fire brigade" when we should be giving advice to operators, developers and the approving authorities how to go about their respective business with minimum pollution. We have now been able to get the State Government to form State Committees to be in charge of matters relating to the environment and our branch offices will be working closely with them. With the passing of the amendments to the EQA, it is now available to my Ministry, with the advice of the Environmental Quality Council, the power to prescribe

certain activities or projects for which EIA study must be undertaken before consideration could be given for it to begin. The amendment also has increased the number of members in the EOC by having more representatives from the industry and 2 from the FGO's. I hope that with such a line-up, the EOC will be able to balance between the need for development with the need for environmental protection. I am happy to note that CETDEM has been established as a non-profit making company and its proposed activities will include research, training and monitoring. Such activities would complement that of the Government's. Indeed, we need more research and training in the environmental domain.

PAE which has the engineering expertise may help to examine the possibility of upgrading environmental management and pollution control methods or technologies. The list of speakers and the panelists are all experts in their own fields. I am sure their deliberations will be useful and positive. I look forward to receiving a copy of the recommendations arising from this Seminar.

On this note, I now have pleasure in declaring this Seminar officially opened.

SPEECH BY THE HON. DATUK AMAR STEPHEN K.T. YONG
MINISTER OF SCIENCE, TECHNOLOGY AND ENVIRONMENT
AT THE OPENING CEREMONY OF THE MALAYSIAN-DANISH
SYMPOSIUM IN POLLUTION CONTROL TECHNOLOGY ON
TUESDAY 29 OCTOBER 1985 AT KUALA LUMPUR HILTON
AT 9.15 A.M.

It is a singular honour and pleasure for me to address this distinguished gathering of scientists, technologists, environmentalists and other personalities all eminent in their respective fields who have come together to share their experiences with us and to promote international co-operation in the field of environment.

I wish to express my sincere appreciation to the Government of Denmark for its kind gesture in fully sponsoring this symposium. May I congratulate the Organizers on their initiative in organizing this Symposium. The basic thrust of this Symposium is technology transfer which gives an opportunity for Malaysia to learn how the Danish industry has participated and helped in the fight against pollution. At this juncture, I would like to extend a warm welcome to all our friends from Denmark especially to my counterpart, the Hon'ble Mr. Christian Christensen who has taken time off amidst his busy schedule at home to grace this occasion by his presence as well as address this distinguished gathering.

Ladies and Gentlemen,

Until recently, the major environmental problems in Malaysia stemmed from the relative lack of development and inadequate infrastructure facilities. The priority has been to embark on economic development in order to provide for a better standard of living for our people. Thus, that Malaysia embarked on successive plans for accelerated development programmes spanning mining, forestry, agriculture, urbanization, land settlement and industry. In view of these development activities, Malaysia has had its share of environmental problems like any other country.

More recently our environmental problems owed their origin to large-scale land clearing causing erosion and siltation. Agro-based industries such as the palm oil mills and rubber factories alone, until a few years ago, discharged effluents with high Biochemical Oxygen Demand equivalent to waste generated by three times the human population of Malaysia, that is, a population equivalent of 40 million people. Other industries also discharge heavy metals and other toxic substances and emit sulphur dioxide, oxides of nitrogen, smoke and dust from industries, quarries and cement works. In addition, the pace of rapid urbanization together with the growth in affluence of the middle class, has put increasingly large numbers of motor vehicles on the roads causing traffic congestion in our major urban centres and resulting in high levels of hydrocarbons, lead

and carbon monoxide in the atmosphere. The use of agriculture chemicals such as fertilizers, herbicides and pesticides has had its effects on our environment.

Malaysia has just completed a decade of environmental management. A great deal has been accomplished, but much has still to be done. The environmental protection programme that has been developed over the past decade in Malaysia covers air and water pollution, noise and waste management. The programme has seven main elements which are :-

- (1) legislation to control the emission of pollutants into the environment;
- (2) a programme to check the effectiveness of existing controls and identify the need for new measures;
- (3) consultation with those sectors of industry and commerce likely to be affected by existing measures and new proposals and with the community;
- (4) management of toxic and hazardous wastes disposal;
- (5) involvement of State Governments in joint-actions relating to environmental protection, and development of environmental management capabilities at State level;

- (6) environmental impact assessment for the integration of environmental dimension into development planning; and
- (7) organizational framework to make the various parts of the programme operate effectively.

Several regulations under the Environmental Quality Act 1974 have been formulated and enforced so far. While these regulations have definitely helped to alleviate many pollution problems, there are, however, certain types of pollution sources for which legislative controls are not sufficient in themselves. In such cases, careful planning and assessment work is needed in addition to any controls that may be imposed. For this reason, several amendments have been made to the Environmental Quality Act which, among others, would give legal backing for the detailed environmental assessment of certain types of major development in the public and private sectors. The Amendment Bill is expected to be passed by the Parliament during its current session. In addition, several guidelines have been prepared by our Department of Environment to enable State Governments and other agencies to take environmental factors into consideration at the development planning stage.

Ladies and Gentlemen,

Availability of economically viable technology which works under local conditions is crucial to successful implementation of any pollution control strategy. In fact, in Malaysia the problem

of the lack of appropriate technology to bring the palm oil and rubber effluents within the desired parameters was overcome largely on the basis of self-reliance.

The oil palm and rubber industries have always been the mainstay of our national economy. At one time, the effluents from these industries accounted for some 90 per cent of the industrial pollution load. We did not have the benefit of guidelines developed elsewhere to fall back upon. The Malaysian scientific community of researchers and technologists rose to the occasion by developing and improving the necessary treatment technology. The results to date have amply vindicated our pragmatic approach. Today, Malaysia ranks as a world leader in palm oil and rubber factory effluent treatment technology.

Turning to other industries, Malaysia had to resort largely to adaptation of technology from industrialized countries. In this process, consultants come into their own important role in advising industries on suitable technology. Therefore, today's Symposium is important as a step towards effective and meaningful exchange of information and technology transfer. The efforts of the Organizers of this Symposium and the Royal Danish Embassy in bringing Danish Technology to our doorstep are indeed commendable.

The developed countries, for the most part, now have behind them significant achievements over a decade of intense efforts to protect the quality of the environment. Developing countries, through international collaboration and co-operation, stand to benefit from the wealth of experience and knowledge of the developed countries about the scientific, technical and economic aspects of environmental effects and control. Developing countries today are well-placed to have better access to the means and know-how to effectively deal with environmental issues before they assume crisis proportions. There is no reason to repeat the mistakes of others whose experience may warn us of pitfalls.

Generally, in developing countries, the relative lack of research facilities, resources, and trained key personnel have somewhat hampered the development and application of efficient and rational strategies for environmental protection and management. A number of developing countries have tried various innovations, modifications or direct transfer of technology to cope with problems at hand. Some countries have been successful, while others have been less fortunate in their environmental management programmes. Malaysia, in all modesty, can claim some measure of success. International collaboration by way of technical assistance and training, participation at seminars and information dissemination had contributed considerably towards this end.

Ladies and Gentlemen,

The Department of Environment has already benefitted considerably from Danish expertise in several areas such as marine pollution control, oil spill contingency planning, and management of toxic and hazardous wastes. I therefore view this Symposium as something of a pacesetter for enhancing environmental co-operation between Denmark and Malaysia. Denmark has now behind it significant achievements over a decade of intense efforts to protect the quality of the environment and is, therefore, well-placed to play a prominent role. The wealth of experience and knowledge on the scientific, technical and economic aspects of environmental effects and control that will be exchanged at this Symposium will, I am sure, contribute positively to the continued economic development of Malaysia without the destruction of the environment.

Ladies and Gentlemen,

On this note, I now have pleasure in declaring this Malaysian-Danish Symposium on Pollution Control Technology officially open.