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

The Ministry of Science, Technology and the Environment will be celebrating 'A Decade of Environmental Management in Malaysia and the World Environment Day 1985' from 10th May 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 State Governments, Local Authorities and society as a whole to be involved and co-operate in this task of environmental management. Secondly, to review the present state ^{of} 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. Mr. Law Hieng Ding, Parliamentary Secretary of the Ministry, and a total of 16 sub-committees have been formed with the involvement of members from the public and private sectors to undertake and organize specific activities.

The Celebration will be launched on 10 May 1985 by the Rt. Hon. Dato' Musa Hitam, the Deputy Prime Minister, 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 opened to the public from 10 to 17 May, 1985 and is expected to highlight efforts and achievements in environmental protection by various agencies, both governmental and non-governmental, through posters, models, slide-shows and films. 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 and Pacific Development Centre. 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, industrialists, academicians, politicians, etc. to determine future directions in environmental management.

Photography Competition

A Photography Competition opened to the public ^{will be held} from 12 May to 30 June, 1985. The subject for the Competition is 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 opened to primary and secondary schools will be held. The Competition is jointly organized by the Malayan Nature Society and the Department of Environment and will be from 10 May till 15 July 1985. The objectives of this Competition **are** 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 Forms 4 and 5 students. The Competition is jointly organized by the Ministry of Education and the Department of Environment and will be held from 2 May till 30 June 1985.

- **School Excursions**

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

The Art, Essay Competitions and the Excursions are organized with a view to inculcating among 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 27 July with the Finals on 8 August at Universiti Kebangsaan Malaysia, Bangi. The Debate is jointly organized by Universiti Kebangsaan Malaysia and the Department of Environment.

Other Activities

As part of the campaign to create environmental responsibilities and civic consciousness, an appraisal will be carried out to determine the number of factories that have operated under environmentally sound conditions. This exercise will ^{be} undertaken jointly by the Federation of Malaysian Manufacturers and the Department of Environment which will end on 13 May 1985.

A similar exercise will be conducted in respect of local authorities to determine those which have attained the level of sound environmental management.

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

- PETRONAS 2¹/₂ mile Port Dickson Beach Beautification Project.
- Malaysian Mining Corporation (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 the 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:-

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| 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 (FOMCA) | '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.

Office of the Minister,
Kuala Lumpur.
9 May, 1985.

15

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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. Tidakkah 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 MNCC '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 APAR 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 6 MAY 1985
AT 9.00 A.M.

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 Komenwel dengan kerjasama Kementerian saya, Fakulti Kejuruteraan dan Pusat Komputer Universiti Malaya. Setinggi-tinggi tahniah saya ucapkan kepada Jawatankuasa Pencilola 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

the 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 CADD/CAE 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 "CADD/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 CADD/CAM and CAE.

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

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.

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 PCRIM'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 oversea 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 multi-nationals, 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 SIRIA 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.

LAMPIRAN 1

ATURCARA

- 10.30 pagi Ketibaan dif-dif jemputan.
- 11.00 pagi Ketibaan dif-dif kenamaan.
- 11.15 pagi Ketibaan Y.B. Menteri Sains,
Teknologi & Alam Sekitar.
- 11.20 pagi Ucapan Y.B. Tan Sri Dato'
Sallehuddin bin Mohamed
Pengerusi Majlis Penyelidikan
dan Kemajuan Sains Negara (MPKSN).
- 11.25 pagi Ucapan Y.B. Datuk Amar Stephen
K.T. Yong Menteri Sains,
Teknologi dan Alam Sekitar.
- 11.35 pagi Penyampaian ANUGERAH SAINS NEGARA.
- 11.45 pagi Ucapan penerimaan oleh pemenang.
- 12.00 ptg Ucapan Pengerusi Jawatankuasa
Penumpulan ~~Sumbangan Tabung~~
Amanah.
- 12.10 ptg Penyampaian derma TABUNG AMANAH.
- 12.30 ptg Jamuan Makan Tengahari.
Majlis Bersurai.

**KENYATAAN AKHBAR BAGI PRE-PUBLISITI
PELANCARAN TAHUN SAINS KEBANGSAAN 1985/86**

PERPUSTAKAAN
JABATAN ALAM SEKITAR

Adalah dimaklumkan bahawa satu Upacara Pelancaran Tahun Sains Kebangsaan 1985/86 akan diadakan di Hotel Hilton, Petaling Jaya. Pelancaran Tahun Sains Kebangsaan ini akan dirasmikan oleh Y.B. Menteri Sains, Teknologi dan Alam Sekitar, Datuk Amar Stephen K.T. Yong dan aturcara upacara pelancaran tersebut adalah seperti dikepilkan di Lampiran I.

2. Sebagai latarbelakang, usaha-usaha untuk mengadakan Tahun Sains Kebangsaan ini telah pun diluluskan oleh kerajaan dengan objektif untuk menggalakkan perkembangan sains dan teknologi (S & T). Pada asasnya, matlamat Tahun Sains Kebangsaan ini adalah seperti berikut:-

- (a) Memberi fokus terhadap perkembangan S & T di negara ini; dan
- (b) Menimbulkan kesedaran terhadap kepentingan S & T untuk negara di khalayak ramai.

3. Tema untuk Tahun Sains Kebangsaan adalah "Sains Asas Kemajuan". Tema ini adalah dipilih memandangkan pentingnya S & T diserapkan di dalam usaha-usaha pembangunan negara dan hanya dengan peningkatan penggunaan S & T barulah negara dapat mencapai tahap kemajuan yang lebih tinggi.

4. Tahun Sains ini merupakan satu acara di peringkat kebangsaan dan adalah diharapkan bahawa sambutan baik ke atasnya akan diterima oleh orang ramai dan dengan aktiviti-aktiviti yang diaturkan seperti di Lampiran II, minat masyarakat terhadap S & T akan berkembang.

5. Satu daripada acara yang penting untuk Tahun Sains ini adalah penyampaian Anugerah Sains Negara kepada ahli-ahli sains yang akan dibuat oleh Majlis Penyelidikan dan Kemajuan Sains Negara (MPKSN). Selepas pelancaran Tahun Sains Kebangsaan, Y.B. Menteri Sains, Teknologi dan Alam Sekitar akan menyampaikan hadiah Anugerah Sains Negara kepada tokoh-tokoh sains yang telah memberi sumbangan yang cemerlang kepada negara. Anugerah Sains Negara telah diujudkan oleh MPKSN sejajar dengan usaha-usaha kerajaan untuk meningkatkan lagi sumbangan ahli-ahli sains kepada negara. Anugerah Sains Negara merupakan hadiah wang tunai bernilai \$30,000/- serta satu sijil penghargaan juga akan diberi kepada ahli-ahli sains yang telah dipilih untuk menerima anugerah tersebut. Jika bilangan ahli-ahli sains yang dipilih lebih daripada seorang, hadiah wang tunai tersebut akan dibahagi sama rata kepada pemenang-pemenang hadiah tersebut. Penilaian ke atas calon-calon adalah berasaskan sumbangan mereka di dalam bidang S & T dan sumbangan mereka adalah dikaji dari segi aplikasi dan kesan terhadap masyarakat. Aspek-aspek lain serta kemampuan dan penyelidikan yang berterusan serta juga kedudukan ahli-ahli sains tersebut di peringkat kebangsaan dan antarabangsa adalah diambilkira.

6. Acara yang lain adalah termasuk Peraduan Pencipta Muda atau pun "Young Inventors Competition". Peraduan ini adalah bertujuan untuk menggalakkan kebolehan rekacipta atau pun "invention" di kalangan belia di bawah umur 21 tahun. Pemenang Peraduan ini akan diberi hadiah melawat "World Young Inventors Exposition dan juga Tsukuba Science Expo" di Tokyo.
7. Aktiviti-aktiviti lain adalah termasuk Pameran Sains dan Matematik Kebangsaan sekolah-Sekolah Menengah Kebangsaan yang telah diadakan pada 27 - 28 Jun, anjuran bersama Kementerian Pelajaran Malaysia serta Esso Malaysia Berhad dan Esso Production Malaysia Incorporation. Pameran Sains juga sedang dirancangkan oleh MPKSN di Pusat Sains, di dalam bulan September tahun ini. Pameran-pameran sains lain adalah digalakkan seperti Pameran Muzium Sains Elektrik dan juga satu pameran sains antarabangsa iaitu Ontario Science Centre yang berbentuk "Science Circus" adalah dirancangkan untuk diadakan pada bulan April 1986.
8. Untuk Tahun Sains Kebangsaan ini, ada juga diatitkan seminar-seminar seperti seminar yang telah diadakan pada bulan Mei 1985 mengenai "Science Parks" dan satu lagi seminar mengenai "Kerjasama Di dalam Bidang Penyelidikan di antara Universiti-Universiti tempatan, agensi-agensi kerajaan dan pihak swasta" sedang dirancangkan. Satu persidangan mengenai "Pembangunan Sains dan Teknologi di Rantau ASEAN" yang dijadualkan pada bulan

April 1986 sedang diuruskan. Selain dari itu satu Kuiz Sains Kebangsaan juga akan diadakan. Ini adalah anjuran bersama badan-badan dan persatuan-persatuan saintifik dan professional dan akan diadakan di dalam bulan September 1985.

9. Universiti-universiti tempatan juga sedang menyediakan aktiviti-aktiviti yang akan memperkenalkan S & T kepada masyarakat yang berbentuk ekspo dan pameran-pameran tertentu yang akan diadakan dari masa ke semasa. Adalah juga dimaklumkan bahawa pihak Universiti Sains Malaysia akan membuka Aked Sains di Muzium Universiti dan pameran-pameran di Aked Sains ini adalah diharapkan dapat memperkenalkan masyarakat terhadap prinsip-prinsip S & T di kalangan masyarakat terutamanya di utara Malaysia. Pihak USM juga akan mempamerkan teknologi-teknologi tradisional semasa Aked Sains tersebut yang dijadualkan pada bulan Julai 1985.

10. Aktiviti-aktiviti seperti pertunjukan filem-filem rencana dan filem-filem bercorak S & T akan dipersembahkan melalui TV. Akhbar-akhbar tempatan juga akan dipohon untuk mengeluarkan tulisan-tulisan rencana mengenai S & T dari masa ke semasa.

11. Di antara aktiviti-aktiviti yang telah juga diaturkan oleh MPKSN adalah kempen untuk memungut derma kepada Tabong Pembangunan Sains dan Teknologi yang

dikelolakan oleh Jawatankuasa Pengurusan Tabong Amanah MPKSN. Semenjak tabong ini dilancarkan pada tahun 1982, MPKSN telah pun mendapat beberapa derma dari orang ramai dan ini telah pun menggalak aktiviti-aktiviti penyelidikan dan mempopularkan S & T di dalam beberapa bentuk. Setakat ini sejumlah \$518,830.00 telah pun diberi kepada ahli-ahli penyelidik untuk menggalakkan penyelidikan. Di sini adalah dipohon pihak masyarakat umum terutamanya pihak-pihak swasta untuk memberi sumbangan mereka kepada Tabong Amanah MPKSN. Semua derma kepada tabong ini adalah dikecualikan daripada cukai oleh kerajaan.

12. Satu usaha untuk mengadakan Hari Bendera untuk memungut sumbangan daripada orang ramai juga akan diadakan dan ini adalah untuk melibatkan masyarakat di dalam usaha-usaha memberi sumbangan kepada tabong tersebut. Dengan usaha-usaha ini setiap orang di dalam masyarakat akan mendapat peluang untuk memberi sumbangan mereka tidak kira kecil atau pun besar.

13. Untuk tujuan mengadakan kempen memungut derma Tabong Amanah MPKSN ini, Y.B. Menteri Sains, Teknologi dan Alam Sekitar telah pun melantik satu jawatankuasa yang dipengerusikan oleh Y.B. Datuk Haji Mohd Isahak bin Mohd. Yusof dengan ahli-ahli daripada Dewan-Dewan Perniagaan, persatuan-persatuan professional dan lain-lain badan awam untuk mengkaji cara-cara yang akan memberi kesan untuk menambahkan derma Tabong ini.

14. Acara Tahun Sains Kebangsaan ini telah bermula daripada 13hb Mei dan akan tamat pada bulan April 1986.

**CADANGAN AKTIVITI-AKTIVITI TAHUN SAINS
KEBANGSAAN 1985/86**

1985

- MEI : 1. Seminar 'Science Park' (13 - 14 Mei 1985)
- JUN : 1. Pameran Sains di Maktab Perguruan Bahasa, Kuala Lumpur.
- JULAI : 1. Pelancaran Tahun Sains Kebangsaan 1985/86 oleh YAB Perdana Menteri.
2. Penyampaian Anugerah Sains Negara oleh YAB Perdana Menteri.
3. Ceramah TV - Rancangan SCOPE oleh YB. Menteri Sains, Teknologi dan Alam Sekitar.
4. Ehwat Semasa di TV bertajuk 'Peranan Penyelidikan Pertanian dalam Pembangunan Negara'.
5. Muzium Elektrik (dibuka sepanjang tahun).
6. Peraduan Pencipta Muda.
7. Program-program berunsurkan sains di sekolah.
8. Ceramah TV - Sains dan Masyarakat.
9. Pembukaan 'Aked Sains di Universiti Sains Malaysia, Pulau Pinang.
10. Pameran 'Teknologi Tradisional' di Universiti Sains Malaysia, Pulau Pinang.
- OGOS : 1. 'Science Fair' di Universiti-Universiti.
2. Ceramah Awam oleh Pemenang Anugerah Sains Negara.

- SEPTEMBER : 1. Pertunjukan filem.
2. Ceramah Awam oleh ahli-ahli sains yang terkemuka.
3. Kuiz Sains Nasional.
4. Simposium: Kerjasama Penyelidikan diantara industri-industri penyelidikan kerajaan dan swasta dengan universiti-universiti.
5. Pembukaan Pusat Sains.
- OKTOBER : 1. Filem Sains Fiksyen.
2. Filem Rencana.
- NOVEMBER : 1. Pertunjukan Komputer *.
- DISEMBER : 1. Kem Komputer. *
2. Filem Rencana.
3. 'Technology Fair' (RCTT).
- 1986
- JANUARI : Filem Rencana mengenai S&T di TV."
- FEBRUARI : 1. Aktiviti-aktiviti Pengumpulan Sumbangan
2. Siri Ceramah TV.
- MAC : 1. Siri Ceramah TV.
2. Aktiviti-aktiviti Pengumpulan Sumbangan.
- APRIL : 1. Minggu Sains ASEAN * (Di dalam Perancangan).
2. ASEAN S&T Exhibition.
3. Mesyuarat Menteri-Menteri Sains dan Teknologi ASEAN.
4. Mesyuarat Pegawai Tertinggi S&T.
5. ASEAN Science Circus.

* Tertakluk kepada pengesahan.

UCAPAN Y.B. DATUK AMAR STEPHEN K.T. YONG
MENTERI SAINS, TEKNOLOGI DAN ALAM SEKITAR
DI UPACARA MENANDAKAN 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.

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 pucutan 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 pengesahan 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 tuantuan 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.

DAPAN Y.B. DATUK AMAR STEPHEN K.T. YONG,
MENTERI SAINS, TEKNOLOGI DAN ALAM SEKITAR
DI MAJLIS PENYANPAIKAN HADIAH KEPADA PESERTA
CEMERLANG, PERADUAN PENCIPTA MUDA PADA
6 SEPTEMBER 1985, JAM 11.00 PAGI.

Saya merasa sukacita untuk menyampaikan hadiah kepada peserta cemerlang di dalam Peraduan Pencipta Muda.

Peraduan ini amatlah menantang memandangkan ini adalah pertama kalinya kita mengadakan peraduan seumpama ini walaupun pada mulanya amatlah sukar untuk kita mengadakan satu budaya mencipta atau "culture of invention". Saya berharap ini akan menjadi pelopor kepada usaha-usaha kita dalam menambahkan lagi daya penciptaan negara terutamanya di dalam bidang perindustrian.

Peraduan Pencipta Muda ini ialah di antara aktiviti-aktiviti Tahun Sains Kebangsaan 1985/86. Saya percaya Peraduan seumpama ini akan terus menggalakkan usaha-usaha Pencipta Muda atau "Young Inventors" berkembang maju di masa hadapan. Ini adalah selaras dengan galakan yang diberi oleh Kerajaan untuk membangunkan sains dan teknologi supaya usaha-usaha Kerajaan untuk menambahkan lagi pembangunan perindustrian dapat menerima sokongan yang lebih daripada pihak awam.

Peraduan ini dianjurkan oleh Majlis Penyelidikan dan Kemajuan Sains Negara (MPKSN) serta di atas galakan Yang Mulia, Raja Tan Sri Mohar bin Raja Badiozaman, Pengerusi, Majlis Penyelaras Bani Pemandahan Teknologi Perindustrian. Tujuan

utama Peraduan ini ialah untuk menambahkan lagi tahap kreativiti saintifik di kalangan belia-belia di negara ini. Dengan menggunakan prinsip-prinsip saintifik, ciptaan-ciptaan yang berguna dapat dihasilkan semoga ciptaan-ciptaan itu memberi imek teknologi dan juga imek kepada masyarakat.

Ladies and Gentlemen,

In most industrialized countries, invention and scientific creativity have been a part of the culture of the society. In countries such as Britain and Japan, the development of new inventions have been encouraged with the establishment of the Patents system. Such a system, has in fact promoted the development of new products and processes which will support the development of industrialization.

In 1983, the Patents Act was passed by Parliament and the implementation of it will be supported by the Patent Information and Development Centre (or PIDC) in SIRIM. The development of a Patent Information System will foster the role of technology acquisition as well as the development of technology screening activities. SIRIM in its role as an industrial research institution has to be active in the development of new technologies and the PIDC would undertake this role of promoting innovations and designing of industrial products seriously. With the support of such a Centre, the growth of technology development would be enhanced.

I am happy to note that this Competition for Young Inventors has received 17 entries in spite of the fact that this is the first time we have promoted such a competition. I am happy to know that there are a number of young people who could utilize the principles of science and create products that could prove to be useful commercially. However, I would like to encourage teachers and parents to play their supporting role in this direction. In this connection, I hope that institutions such as schools and technical colleges will encourage their students to participate actively and organize such a competition at the school level.

Ladies and Gentlemen,

The Organizing Committee has selected the most outstanding entry to be given a prize. This is, however, not the first prize as it did not fully attained the standards and criteria for the first prize. Nevertheless, the Committee decided to award a special prize to the most outstanding participant as a form of encouragement for young inventors. In this connection, I am pleased to announce that Saudari Rizwani Maarof and Saudari Haslina Mansor, are the winners. They have demonstrated that they are able to develop the static sweeper which makes use of the principle of static electricity. To them I offer my heartiest congratulations. It is hoped that the prize of a visit to the Science Exposition in Tsukuba, Japan and a visit to the

National Science Museum in Tokyo, will provide the necessary encouragement to our young inventors. Such exposure is intended to enrich the minds of our two winners and to encourage them to greater heights of achievement in the future.

My Ministry is in the process of arranging another competition to be held, in 1987. It is my hope that the next competition will see more participants and that such competitions will arouse the interest to develop the creativity of our young inventors.

Tuan-tuan dan Puan-puan,

Akhir kata, saya suka mengucapkan setinggi-tinggi tahniah kepada pemenang-pemegang Peraduan Pencipta Muda ini dan saya juga mengucapkan syabas kepada pihak MPKSM yang telah menganjur Peraduan ini.

Sekian, terima kasih.

SPEECH BY THE HON. DATUK AMPA STEPHEN K.T. YEAP
THE MINISTER OF SCIENCE, TECHNOLOGY AND THE
ENVIRONMENT AT THE OPENING CEREMONY OF THE
SYMPOSIUM ON WATER POLLUTION CONTROL AT THE
CONFERENCE CENTRE, RUBBER RESEARCH INSTITUTE OF
MALAYSIA, JALAN AMPANG, KUALA LUMPUR
ON SATURDAY, 1 JUNE 1985 AT 9.30 A.M.

Saya merasa sangat sukacita kerana dapat bersama-sama dengan tuan-tuan dan puan-puan sempena perasmian Symposium mengenai Masalah Pencemaran Air. Setinggi-tinggi tahniah saya ucapkan kepada ERSEARCH kerana dapat menganjurkan Symposium ini dengan jayanya.

Tema Symposium ini adalah sangat sesuai memandangkan sumber air adalah penting bagi kehidupan kita semua di bumi ini. Tidaklah boleh dinafikan bahawa air merupakan suatu sumber alam semula jadi yang penting demi menentukan kehidupan di bumi ini serta menjadi satu unsur penting bagi kegiatan-kegiatan manusia. Walaupun demikian, sumber air bolehlah dicemari oleh kegiatan manusia dan seterusnya menimbulkan masalah pencemaran air yang mana penyelesaiannya memerlukan teknologi dan sumber-sumber kewangan.

Ladies and Gentlemen,

I am glad to be present today on this occasion for the opening of the Symposium on Water Pollution Control organized by ERSEARCH. May I offer my congratulations to ERSEARCH in organizing this Symposium. This Symposium, I am informed, is a post-conference symposium following the "Conference on Industrial Water Technology" held recently in Singapore jointly organized by the International Association on Water Pollution Research and Control (IAMPRC), the Environmental Engineering Society of Singapore (EESS) and ERSEARCH. Both of these meetings, if I may say, are timely and of interest to us, both the Government and private sectors. The theme of the symposium is indeed appropriate, bearing in mind the importance of water in our life.

Ladies and Gentlemen,

None can deny that water is an important natural resource crucial to the sustenance of life on our planet and on which most of man's activities directly or indirectly depend. Water, however, can be easily contaminated by man's activities creating the problem of water pollution, the solution of which requires technologies and financial resources.

Malaysia has heavy rainfalls and theoretically has plenty of water. However, if the water is polluted, it is useless. The abundance therefore becomes meaningless.

Environmental deterioration is a price which we often have to pay in our quest for development. The question is, whether we can afford to pay such a price? The pursuit of economic growth and social betterment must therefore be weighed against the loss in terms of environmental degradation. The view that environmental preservation is not essential in a developing economy no longer holds true.

Long-term economic growth is essential for meeting the aspirations of the people for attaining a satisfactory standard of living and a better quality of life. In the Malaysian context, we hope to achieve this goal by incorporating the environmental dimension in all industrial, agricultural and other economic activities.

I am aware that some in this country feel that we are not kind enough towards environmental protection or preservation. To the critics, may I say that many of our environmental problems are inherited from neglect of the past which require remedial actions. Such remedial measures require time and money. For instance, to address the problem posed by sewage from domestic sources will require an investment of several billion ringgit over a long period of 20 to 25 years. Given the limited

resources of the country, it will be prudent to do whatever is within the available resources, while at the same time ensure that present and future development activities will have environmental considerations integrated therein. It is the Government's intention to adopt environmental planning such as zoning, environmental impact assessment as prerequisites for all development.

I am satisfied that over the decade, since the enactment of the Environmental Quality Act, 1974 and the establishment of the Department of Environment under the Ministry in April, 1975, substantial progress has been made in the direction of pollution control. As most of you are aware, water pollution was, in the 1970s, a critical problem resulting from the discharges of the agro-based industries. Today, this problem has been significantly reduced to acceptable levels, thanks to the efforts and co-operation given by all concerned.

Ladies and Gentlemen,

As I understand it, the Symposium today is to serve as a forum for discussions to assess the impact of experience in water pollution control and to evaluate the technological achievements in minimizing water pollution. In this regard, I am reminded of the frequent calls for technology transfer to expedite our efforts in the effective control of water pollution. In fact, we have been harping on technology transfer for a long time. I think that for this to take place, one party must be willing to transfer the technology and for the other to be equipped to receive it. We must accept the fact that no one is willing to effect such a transfer for nothing. Why should one transfer technology to another and create a rival who may deprive him of his profit? Secondly, even if there is a sincere willingness to transfer technology, there must be an ability and capability on the part of the transferee to absorb such technology. I dare say that in Malaysia, such capability and capacity may still be lacking in certain areas for want of a developed industrial base.

The question then is, how do you build the industrial base with-
out appropriate technology and how do you transfer such a
technology when the industrial base is not developed? This
brings me to the point that we have to develop our own technolo-
gical know-how and skills, by trial and error if need be, rather
than wait for technology transfer. Technology can be purchased
at a price from anywhere and learnt from the thousands of
technical and scientific journals which are available. All we
are required to do is to modify and adapt such technology to serve
our purpose.

I agree there is a need to step up R & D efforts, but I
think the industry, apart from the Government, should contribute
substantially to such efforts so that through our own technolo-
gical development, we can deal effectively with our environmental
problems. We have on record our own indigenous efforts in the
field of palm oil and rubber effluent treatment. As I have
mentioned earlier, there was a time when pollution of our water
courses from agro-based industries caused great anxiety. Today,
we have overcome the problem largely through our own efforts in
devising our own technology in this regard. I dare say that
Malaysia is now in a position to transfer some of its technology
on treatment for palm oil and rubber wastes to other countries
having such industries.

While I am satisfied that advances have been made to control
pollution in this country, I feel that we should not rest on our
laurels, but continue in our efforts, wherever possible, to
improve our environment. Whilst we are celebrating our First
Decade of Environmental Management, we need to look towards the
next decade which is undoubtedly more challenging and demanding.

To this end, I am sure ENSEARCH, being a body of
professionals basically, can play a leading role in mobilizing
professional manpower to develop the appropriate technology to
preserve our environment, while pressing on with economic and

ustrial development. The task of environmental management and protection is not for the Government alone. It has to be consciously borne by one and all... I make this call, bearing in mind that everyone contributes towards and is affected by changes to the environment.

Ladies and Gentlemen,

In closing, I wish you a very fruitful meeting and hope to receive a report of your deliberations and recommendations in due course. It is also my hope that ENSEARCH will keep up its good work and continue its efforts in contributing to our environmental well-being. On this note, I now declare this Symposium on Water Pollution Control officially opened.

Thank you.

UCAPAN Y.B. DATUK ANAP'LEHHER K.T. Y.
MENTERI SAINS, TEKNOLOGI DAN ALAM SEKITAR
DI UPACARA PEMBUKAAN SEMINAR KEPADAAN KUALITI
ALAM SEKELILING 1985 DI BANGUNAN PUSAT
PENGANGGARAN ASIA DAN PASIFIK (APLC),
PESIARAN DUTA, KUALA LUMPUR
PADA HARI ISMIF 8 JULAI 1985 JAM 3.00 PETANG

Saya merasa sangat sukacita kerana dapat merasmikan Seminar
Kepadaan 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 daribeberapa 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 Terbahagia Tan Sri Datuk Dr.
Hamzah Sendut di atas inisiatif dalam memilih tema yang paling
sesuai bagi Seminar ini. Akta Kualiti Alam Sekeliling 1974
telah pun dikuatkuasakan selama 10 tahun. Tibalah masanya 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 :-

- (i) 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

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 conversion 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, ranging 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 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;

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 deal 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 the 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 Menteriis 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.

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.

Seri
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;

- (a) more systematic and early consultations with industry and other social partners;
 - (b) the setting up of clear environmental control objectives;
 - (c) better emphasis on the use of appropriate economic instruments (such as incentives and disincentives);
 - (d) simplifying existing mechanisms without reducing efficiency;
 - (e) setting reasonable time limits within which procedures should be completed; and
 - (f) stimulating different forms of self-regulation;
- (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.

UCAPAN Y.B. DATUK AMAR STEPHEN K.T. YONG
MENTERI SAINS, TEKNOLOGI & ALAM SEKITAR
DI UPACARA PERASMIAN KULIAH AWAM
PADA SABTU, 2 NOVEMBER 1985
DI AUDITORIUM SULTAN AHMAD SHAH, RISDA
KUALA LUMPUR JAM 9.00 PAGI.

Saya merasa sangat gembira di atas sambutan kepada Kuliah Awam ini. Ini menandakan minat saudara-saudari di dalam kemajuan sains dan teknologi. Usaha-usaha Urusetia Majlis Penyelidikan dan Kemajuan Sains Negara (MPKSN) dan Bahagian Sains & Teknologi Kementerian saya dalam menganjurkan Kuliah Awam patutlah dipuji. Kuliah Awam pagi ini ialah salah satu daripada aktiviti-aktiviti Tahun Sains kebangsaan yang bermula pada bulan Mei tahun ini.

Matlamat Tahun Sains Kebangsaan 1985/86 ini adalah yang pertama, untuk memberi fokus terhadap perkembangan Sains dan Teknologi negara ini; dan yang kedua, untuk menimbulkan kesedaran terhadap pentingnya Sains dan Teknologi kepada rakyat jelata.

Pada 6 Julai tahun ini, 3 orang ahli sains telah dianugerahkan dengan Anugerah Sains Negara, dan mereka ialah Prof. Augustine Ong Soon Hock, Prof. Abdul Latif Ibrahim dan Dr. Mak Joon Pah. Ketiga-tiga ahli sains ini merupakan ahli sains yang ulung di negara kita yang telah diberi penghargaan oleh negara berasaskan sumbangan cemerlang masing-masing. Saya mengucapkan terima kasih kepada ahli-ahli sains ini yang sudi melapangkan masa untuk memberi kuliah awam kepada orang ramai.

Biasanya kita tidak dapat peluang untuk mendengar syarahan oleh ahli-ahli sains memandangkan tidak semua golongan masyarakat kita memahami apakah sebenarnya Sains dan Teknologi. Masyarakat umum di masa-masa yang lampau menganggap Sains dan Teknologi sebagai satu bidang yang sukar untuk difahami. Mungkin juga ada secolongan masyarakat yang menganggap sains sebagai satu misteri ataupun satu pengetahuan yang anih. Ini mungkin memberi gambaran yang tidak tepat terhadap kepentingan Sains dan Teknologi.

Kementerian saya sedang mengambil tindakan untuk mempopularkan Sains dan Teknologi melalui MPKSN dan juga badan-badan lain seperti "Malaysian Scientific Association (MSA)", Balai Ikhtisas Malaysia (BIM) dan lain-lain badan lagi yang terus membantu Kementerian saya untuk menggalakkan perkembangan Sains dan Teknologi.

Pada tahun 1982, Kementerian saya mengadakan satu Pameran Sains yang amat menggalakkan. Hampir 250,000 pelawat telah mengunjungi Pameran tersebut. Usaha-usaha sedang dijalankan untuk menubuhkan satu "Pusat Sains Negara" yang sementara di Jalan Kelantan. Pusat ini akan memamerkan benda-benda saintifik seperti komputer, mikro-komputer dan lain-lain benda dalam bidang seperti fizik, tenaga, astronomi sebagai langkah mempopularkan Sains dan Teknologi. Usaha-usaha ini akan mengeratkan lagi perhubungan di antara masyarakat umum dengan usaha-usaha Kerajaan di dalam bidang Sains dan Teknologi. Dengan cara ini, masyarakat

umum dapat memahami sumbangan-sumbangan Sains dan Teknologi serta arah kemajuan yang dituju di dalam usaha-usaha pembangunan negara. Di masa-masa yang lampau, pembangunan kita di dalam bidang pertanian dan sumber alam semulajadi telahpun diberi perhatian yang lebih dengan adanya institut-institut penyelidikan seperti Institut Penyelidikan Getah, Institut Penyelidikan Perhutanan, Institut Penyelidikan Minyak Kelapa Sawit dan Institut Penyelidikan dan Kemajuan Pertanian Malaysia. Usaha-usaha penyelidikan di negara kita pada masa kini tertumpu lebih kepada soal pengeluaran bahan-bahan komoditi. Pada hemat saya, perhatian perlu juga diberi kepada penyelidikan ke atas meningkatkan hasil-hasil keluaran atau "products", meninggikan lagi kualiti dan memperelokkan rekabentuk prodak. Ini adalah perlu untuk bersaing di dalam pasaran seberang laut. Satu lagi institut penyelidikan iaitu SIRIM perlu memberi perhatian yang lebih mendalam terhadap masalah-masalah perindustrian supaya kita dapat mencipta teknologi-teknologi yang baru dan berguna untuk negara. Saya percaya dengan penumpuan di dalam bidang teknologi perindustrian yang akan menggunakan teknologi-teknologi yang maju dan digunakan untuk memproses hasil-hasil sumber alam kita, ianya akan memberi kesan yang baik kepada ekonomi negara.

Memangnya Sains dan Teknologi akan terus berkembang. Kejayaan kita atau sebaliknya dalam menghadapi cabaran-cabaran masa depan bergantung kepada sama ada kita dapat mengembangkan kebolehan dan kuasa penyesuaian untuk menyerap teknologi-teknologi baru yang kian berkembang. Untuk menambahkan lagi

kepakaran negara di dalam bidang Sains dan Teknologi, tenaga manusia yang terlatih diperlukan, terutamanya di kalangan muda-mudi. Pelajar-pelajar di bangku sekolah yang mempunyai penuh minat di dalam bidang Sains dan Teknologi perlu diberi dorongan untuk mempelajari sains. Di peringkat awal, amatlah senang untuk kita mengajar dan memberi fahaman Sains dan Teknologi kepada belia kita.

Saudara-saudari,

Pada hari ini, Prof. Abdul Latif akan memberi ceramah mengenai perkembangan vaksin penyakit Newcastle; dan Dr. Mak Joon Wah pula akan menyentuh bidang penyelidikan penyakit filaria ataupun penyakit untut.

Prof. Augustine Ong Soon Hock yang tidak dapat hadir bersama kita pagi ini untuk menyampaikan kuliahnya telah memberi sumbangan di dalam perkembangan industri minyak kelapa sawit yang telahpun menghasilkan paten-paten tertentu.

Saudara-saudari,

Pencapaian yang begitu cemerlang oleh ketiga-tiga saintis menunjukkan bahawa ahli-ahli sains kita boleh menyumbang kepada kemajuan sains yang seterusnya dapat membawakan manfaat bukan sahaja kepada negara kita bahkan juga kepada dunia. Saya berharap kejayaan ini akan meningkatkan lagi kesedaran terhadap

pentingnya Sains dan Teknologi di masa-masa hadapan. Dengan usaha Kementerian saya dengan kerjasama jabatan-jabatan kerajaan yang lain, saya percaya kesedaran ini akan disokong penuh oleh Kerajaan dan rakyat kita demi menambahkan lagi kepakaran kita di dalam bidang Sains dan Teknologi.

Saudara-saudari,

Saya berharap ahli-ahli sains yang menjalankan aktiviti-aktiviti penyelidikan akan juga mencapai kejayaan dan dapat juga tergulung di antara ahli-ahli sains yang cemerlang di negara kita.

Saya berharap juga para hadirin di dewan ini akan dapat memahami apakah sumbangan ahli-ahli sains kepada masyarakat kita.

Kepada pelajar-pelajar yang ada bersama kita pada pagi ini dan juga di negara kita, saya menyeru saudara-saudari mengambil minat yang lebih di dalam bidang Sains dan Teknologi supaya kita akan mendapat sumbangan di dalam bidang Sains dan Teknologi demi kemakmuran dan kemajuan negara kita.

Saya dengan sukacitanya merasmikan Kuliah Awam ini dimulakan.

I am pleased to note that we have speakers from the United Kingdom, India, Singapore and Sweden, who have come all the way to Malaysia to share their highly valued experience with us. I am sure we have much to learn from our distinguished guests and I would like to take this opportunity to welcome them to Malaysia. I hope that despite the tight schedule, you will find time to see more of our country.

Ladies and gentlemen,

On this note, I now declare this Seminar on Science Parks officially opened.

SPEECH BY THE HON. DATUK AMAR STEPHEN K.T. YONG
MINISTER OF SCIENCE, TECHNOLOGY AND THE
ENVIRONMENT AT THE CLOSING CEREMONY OF THE 4TH
EEC - ASEAN SEMINAR ON TRANSFER OF TECHNOLOGY
AND SOCIO-ECONOMIC DEVELOPMENT AT THE
CRYSTAL BALLROOM KING COURT HOTEL
ON THURSDAY, 5TH SEPTEMBER 1985 AT 7.00 P.M.

I am glad to be present with you this evening for the Closing Ceremony of the EEC-ASEAN Seminar on Transfer of Technology and Socio-Economic Development. I would like to commend the Euro-Asia Centre of INDEFAD for taking the initiative to organize this Seminar in Kuala Lumpur for the second time. The holding of this Seminar is indeed timely and apt in view of ASEAN's desire to acquire technological advancement for the achievement of respective national development goals.

Transfer of Technology has so often been discussed and deliberated upon at length at various national and international fora. It is seen as an avenue to new methods of attaining a more rapid process of change, particularly for developing countries.

Malaysia, together with its ASEAN partners, places great emphasis on the needs of new technology and the role new technologies can play in national development. It must be noted that the importation and purchase of technology from abroad, particularly at the initial stage, has great financial implications.

It can place a heavy financial burden on the nation. Therefore, apart from taking steps to acquire, adapt and apply new technologies, it is very necessary to make careful preparations, plans and choices to ensure that appropriate technology transfer really takes place.

In Malaysia, there are existing Governmental support necessary for technology transfer such as tax laws providing incentives for investments in R & D; recognition and protection of industrial property rights; corporation laws; and labour laws, to name a few. Scientific personnel and other professionals must, on their part, be prepared to master the required technology acquired in the technology transfer process in order to meet development objectives and national aspirations.

Accelerated growth in industrial activities could only be achieved through the intensive application of advanced and appropriate technology. There need to be a two-prong strategy developed by the scientific and technological institutions in the country to strengthen the technological capability of the country.

Firstly, scientific and technological institutes should give special attention to activities that will strengthen the technological bargaining position of our industrial sector in

acquiring foreign technology. Secondly, efforts should be made by these institutes to adopt and modify foreign technologies as well as develop and innovate indigenous ones appropriate to our industrial sector.

Technology transfer cannot exist in a vacuum. The private and public sectors will have to upgrade technical knowhow, expertise of its technical manpower, build up physical and fiscal infrastructures in order to be in a position to encourage the efficient technology transfer process from abroad. Technical information is an important tool for technological bargaining. Scientific institutions should, therefore, be in a position to interpret and disseminate information on technologies to be acquired by the industrial sector. Encouragement will be given by the Government to increase foreign technological inflow. The move by the Government to give protection to industrial property rights will encourage the greater inflow of technology and technological information, thus giving our industrialists a wider choice to the available alternative sources of technology to meet their needs and to solve their production problems.

On the other hand, scientific institutions involved in R & D will have to place greater emphasis for the realization of their research results by strengthening technology transfer

mechanisms in their institutes. Research development which promotes faster and efficient technology transfer of research results will have to be emphasized. The problem of commercialization of research results from research institutions will have to be looked into in order to justify expenditure on research.

The Malaysian Government has been conscious of the need to develop science and technology. Development policies and strategies in the past have been based on science and technology. This is reflected in the building up of R & D infrastructure, and emphasis has been given to science education at both the school and university levels.

Ladies and Gentlemen,

Science and technology transcend national boundaries. International efforts to strengthen scientific and technological capability especially in developing countries is important. Exchange of information and experience in scientific and technological pursuits will lead to the maximizing of limited resources and prevent duplication of scientific and technological efforts.

I am aware that for the past 3 weeks the participants of this Seminar have had to grapple with various issues on technology transfer. I hope that what you have gained from the

lectures, discussions and sharing of experiences would in turn be passed on to your colleagues in your respective countries. There be a continuous and sincere free flow of information and technology between the EEC and ASEAN so that both community of nations can benefit mutually.

Ladies and Gentlemen,

On this note, I now have pleasure to declare this Seminar officially closed.

UCAPAN Y.B. DATUK AMAR STEPHEN K.T. YONG
MENTERI SAINS, TEKNOLOGI DAN ALAM SEKITAR
DI UPACARA PELANCARAN TAHUN SAINS KEBANGSAAN
1985/86 DAN PENYAMPAIAN ANUGERAH SAINS NEGARA
1985 PADA HARI SABTU, 6 JULAI 1985
DI P.J. HILTON, PETALING JAYA JAM 11.15 PAGI

Yg. Berbahagia Tan Sri Dato'
Sallehuddin bin Mohamed,
Ketua Setiausaha Negara merangkap Pengerusi
MPKSN;

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

Yg. Berbahagia Datuk Isahak Mohd Yusof,
Pengerusi Jawatankuasa Penqumpulan Derma
Tabung Amanah;

Yg. Berusaha Dr. Ahmad Zaharudin Idrus,
Setiausaha MPKSN;

Dif-Dif;

Tuan-tuan dan Puan-puan yang dihormati
sekalian.

Saya merasa amat bangga dan bersukacita kerana dapat bersama-sama dengan tuan-tuan dan puan-puan sempena Upacara Pelancaran Tahun Sains Kebangsaan 1985/86 serta Upacara Penyampaian Anugerah Sains Negara yang dijalankan bersama-sama pada hari ini.

Hari ini merupakan satu babak baru di dalam sejarah pembangunan sains dan teknologi di negara kita. Ini adalah pertama kalinya negara kita mengadakan Tahun Sains Kebangsaan dan juga Anugerah Sains Negara. Dengan pelancaran Tahun Sains ini, negara kita memberi pengiktirafan yang sewajarnya ke atas sumbangan oleh sains dan teknologi kepada kemajuan sosio-ekonomi negara kita. Kita juga memberi penghormatan kepada personel sains dan teknologi yang telah berkhidmat dengan penuh dedikasi dan kerajinan demi kepentingan sains, walaupun

- 2 -

penhargaan yang sedikit telahpun diberikan kepada mereka di atas sumbangan dan pencapaian mereka masing-masing.

Usaha mereka telah membolehkan negara kita berubah dari satu ekonomi yang bergantung kepada satu komoditi utama kepada suatu ekonomi yang dipelbaqakan yang menuju ke arah teknologi tinggi. Tidak boleh dinafikan bahawa kejayaan yang dicapai oleh Institusi Penyelidikan Getah Malaysia, PORIM, MARDI dan Universiti Pertanian Malaysia dalam memperkenalkan klon baru yang tinggi pengeluarannya serta mempunyai ciri-ciri menahan perosak, baka ternakan yang bermutu, teknologi untuk mengurangkan kerugian daripada penuaian, telah menjadikan negara kita salah satu daripada pengekspor utama di dunia ini di dalam

kertaran getah, minyak kelapa sawit dan koko. Institusi Penyelidikan Sains kita telah memperoleh nama baik di masyarakat antarabangsa sebagai yang paling baik sekali di dalam bidang penyelidikan pertanian.

Pencapaian ini tidak mungkin berlaku tanpa dedikasi dan ketekunan para penyelidik yang telah sanggup berbakti semasa menjalankan tugas-tugas mereka.

Ladies and Gentlemen,

The socio-economic development of the nation, among other things, is dependent to a great extent on the nation's ability to leapfrog into the arena of industrialized states. Such industrial advancement presupposes the

development of technological capabilities which can come about by technology transfer and by development of a strong technological base, supported by the necessary infrastructure to generate indigenous technology development.

Malaysia will have to adopt a programme of action with provision for new policy support measures. Such policy directions to foster technology development will inter alia have to emphasize :-

- (1) The strengthening of appropriate channels to facilitate the inflow of technology from external sources;

- (2) The development of domestic capacity for absorption and diffusion of technology within the country;
- (3) The creation of a high level of indigenous skills and know-how by the development of innovative, creative and manipulative capabilities; and
- (4) The fostering of internal technological capabilities by enlarging both private and public sector activities and by facilitating linkages between them for the commercialization of research results.

We have to accept the fact that, today's state-of-the-art in any technological area may become tomorrow's technological obsolescence.

It means technology in any area does not stand still. It has to be improved upon all the time so as to maintain the edge and competitiveness of our products.

Therefore, technology management must embrace the continuous development of new priorities and the seeking of new technological opportunities. It is obvious and inevitable that the technology base of the country, besides the development of its agro-based resources, should be geared towards the development of the so-named "sunrise industries". These sunrise industries can be categorized as :

- (1) Those industries at the forward post of research, such as biotechnology,

in which the natural resource-based industries can be developed and where an international market exists;

- (2) High technology durables which can provide major markets such as electronics-computerized systems and communication technology related to new demands in the market; and
- (3) New technologies which would have major impact in existing industry.

From the fore-mentioned categories, it appears that Malaysia's technological opportunities for the future will largely lie in two major areas, namely, (1) development of technologies for further exploitation of its

resource base; and (2) the development of new technologies for the development of the manufacturing industries. Such areas include biotechnology, electro-technology and electronics, instrumentation, robotics and informatics, communication technology and high technologies such as laser and fibre-optics, to mention a few. Such technological development will take full cognizance of the abundance of Malaysia's resources, the present supportive role of the resource-based industries, as well as the current developments in precision engineering industries. Consequently, it now appears more important than ever to embark upon planning for the future.

There are skeptics within and outside the country who doubt our capability to move into

such new areas. However, if we examine the present situation as compared with that two decades ago, our capability today has improved tremendously. No one then would have imagined the changes that are taking place today in the country. If we do not prepare ourselves mentally and physically, we will all fall behind in the race for development.

The nation's scientists and planners may have to be called upon to undertake the following :-

- (1) Identify areas of strength and weakness of the R & D base priorities and locate outlets in the international markets;

- (2) Sensitize the industrial sector of the importance of high technology;
- (3) Create a climate for the industrial community as a whole which would consider and be prepared to take the risks of high technology investment;
- (4) Determine the appropriate incentives to attract venture capital for R & D; and
- (5) Develop a programme of skill development to provide a pool of technology-literates.

The advent of the high technologies need not undermine the development of the traditional and existing industrial sectors; instead

they may revolutionize and modernize them by the introduction of automation and robotics. The 'face' of technology has to change if Malaysia is to move forward into the 21st Century with confidence. The responsibility rests with us all to commit ourselves to these new bold steps for the future.

Tuan-tuan dan Puan-puan,

Kementerian saya dengan sokongan agensi-agensi Kerajaan serta badan-badan saintifik dan ikhtisas telah dengan jayanya menqaturkan Kem Komputer, Pamiran Sains, Kuiz Sains Negara, Seminar dan tidak lama lagi akan menqelolakan "Young Inventors Competition". Tujuannya ialah untuk memperkenalkan berbaqai program untuk mempopularkan sains dan teknoloqi kepada

khalayak ramai. Pengisytiharan Tahun Sains Kebangsaan ini merupakan usaha Kerajaan dan masyarakat sains untuk menimbul dan memupuk semangat muda-mudi dan rakyat jelata terhadap peranan sains dan teknoloqi.

Pada masa yang sudah, Kerajaan telah memainkan peranan yang besar untuk mengqalakkan R & D. Pada pandangan saya, tibalah masanya pihak swasta juga memikul tanqqungan R & D supaya jumlah R & D negara akan bertambah lagi. Dalam hubungan ini, saya ingin menqambil kesempatan untuk menjemput dan menyeru sektor swasta supaya mendedah dan melibatkan diri dalam aktiviti R & D. Dengan cara inilah, Kerajaan dan pihak swasta boleh bergandinq bahu dan dianqqap sebagai "partners in progress" dan bersama-sama menunaikan peranan sebagai agen

untuk perubahan teknikal atau "technical change" negara kita.

Pada tahun 1982, Kerajaan telah menubuhkan satu Tabung Amanah dengan geran permulaan sebanyak \$1 juta untuk membiayai R & D di samping mengelolakan berbagai program berasaskan sains. Tujuan Tabung Amanah ini adalah banyak. Di antara tujuan-tujuannya ialah untuk membolehkan sektor swasta menceburkan diri dalam kegiatan R & D negara kita.

Dalam hubungan ini, Kementerian saya telah melancarkan satu kempen untuk memuncut derma daripada orang awam dan sektor swasta dengan tujuan memperbesar lagi Tabung tersebut. Sumbangan kepada Tabung Amanah ini

akan dapat menambahkan lagi pemberian bantuan kewangan kepada para saintis serta memperbanyakkan lagi aktiviti-aktiviti sains. Saya mengambil kesempatan ini untuk merayu kepada orang awam dan sektor swasta supaya menderma kepada Tabung Amanah ini dengan murah hati kerana objektif negara kita di dalam bidang sains dan teknologi dapat dicapai.

Pada hari ini, Anugerah Sains Negara akan disampaikan buat kali pertama untuk memberi pengiktirafan ke atas kecemerlangan individu dan dedikasi ahli-ahli sains di dalam kerja penyelidikan serta sumbangan mereka kepada sains. Saya ingin mengucapkan setinggi-tinggi tahniah kepada pemenang-pemenang Anugerah Sains Negara tahun ini iaitu Prof. Augustine Ong Soon Hock, Prof. Abd. Latif Ibrahim dan Dr. Mak Joon Kar. Malapuntulah hadiah Anugerah ini yang

bernilai sebanyak \$30,000/= tidaklah begitu banyak atau 'substantial', ia adalah merupakan tanda penghargaan negara ke atas pencapaian terkemuka pemenang masing-masing.

Anugerah Sains Negara ini juga bertujuan mengikhtirafkan sumbangan masyarakat sains demi kemakmuran dan kemajuan negara. Ia juga bertujuan menarik perhatian ramai kepada kepakaran dan tenaga manusia sains serta peranan penting mereka di dalam program kemajuan sosio-ekonomi negara.

Akhirnya saya suka mengucapkan berbanyak terima kasih kepada pegawai dan kakitangan Kementerian saya termasuk MPKSN, Kementerian dan Agensi Kerajaan yang lain serta Badan-Badan Saintifik dan Ikhtisas yang telah berusaha

bertungkus-lumus untuk mengatur Upacara ini serta aktiviti-aktiviti Tahun Sains. Saya percaya usaha-usaha ini akan disambut baik oleh orang ramai.

Tuan-tuan dan Puan-puan,

Dengan ini, saya dengan sukacitanya merasmikan pelancaran Tahun Sains Kebangsaan 1985/86.

WELCOMING ADDRESS BY
PETRONAS CHAIRMAN, YM RAJA TAN SRI
MOHAR BIN RAJA BADIOZAMAN AT THE
OPENING OF THE THIRD ASCOPE CONFERENCE
AND EXHIBITION: KUALA LUMPUR, 2 DECEMBER,
1985

WELCOMING ADDRESS BY PETRONAS CHAIRMAN,
YM RAJA TAN SRI MOHAR BIN RAJA BADIOZAMAN
AT THE OPENING OF THE THIRD ASCOPE CONFERENCE AND EXHIBITION
KUALA LUMPUR, 2 DECEMBER, 1985

YANG AMAT BERHORMAT
DATO' SERI DR MAHATHIR MOHAMAD
PERDANA MENTERI MALAYSIA

YANG AMAT BERBAHAGIA
DATO' SERI DATIN PADUKA DR SITI HASMAH

TERLEBIH DAHULU BAGI PIHAK PETRONAS DAN JUGA ASCOPE SAYA DENGAN SUKACITANYA MENGALU-ALUKAN KEDATANGAN SERTA MENGUCAPKAN BERBANYAK TERIMA KASIH DI ATAS KESUDIAN YANG AMAT BERHORMAT BERDUA MENGHADIRI MAJLIS PERASMIAN PERSIDANGAN DAN PAMERAN KETIGA ASCOPE PADA PAGI INI. SAYA JUGA MENYAMPAIKAN UCAPAN TERIMA KASIH PETRONAS DAN ASCOPE DI ATAS PERSETUJUAN YANG AMAT BERHORMAT MEMBERIKAN UCAPAN DAN SETERUSNYA MERASMIKAN PERSIDANGAN DAN PAMERAN KETIGA ASCOPE INI.

PERSIDANGAN DAN PAMERAN ASCOPE YANG AKAN BERLANGSUNG SELAMA TIGA HARI ADALAH SATU PERSIDANGAN DAN PAMERAN YANG TERBESAR BERKENAAN DENGAN PETROLEUM DAN TENAGA YANG PERNAH DIADAKAN DI NEGARA INI DENGAN DIHADIRI OLEH PESERTA-PESERTA DARI RANTAU ASEAN AND JUGA NEGARA-NEGARA DARI RANTAU LAIN DI DUNIA. INI MERUPAKAN SATU PENGHORMATAN KEPADA PETRONAS SEBAGAI TUAN RUMAH KEPADA PERHIMPUNAN YANG SEBESAR INI.

YANG AMAT BERHORMAT,

IZINKAN SAYA MENYAMPAIKAN UCAPAN ALU-ALUAN KEPADA PARA HADIRIN
TERUTAMA MEREKA YANG DATANG DARI LUAR NEGERI DALAM BAHASA INGGERIS.

YANG BERHORMAT
MENTERI-MENTERI

TUAN-TUAN YANG TERUTAMA

DIF-DIF KEHORMAT

TUAN-TUAN DAN PUAN-PUAN
YANG DIHORMATI SEKALIAN

ON BEHALF OF PETRONAS - AS HOST - IT IS MY GREAT PLEASURE TO WELCOME
ALL OF YOU TO THIRD ASCOPE CONFERENCE AND EXHIBITION. TO THOSE
OF YOU WHO HAVE COME FROM OVERSEAS TO BE WITH US THIS MORNING "SELAMAT
DATANG" TO MALAYSIA.

IT IS INDEED A GREAT PRIVILEGE FOR PETRONAS TO HOST THIS DISTINGUISHED
ASSEMBLY WHICH INCLUDES SPEAKERS, DELEGATES, OBSERVERS, EXHIBITORS
AND INDUSTRY AND CORPORATE LEADERS FROM WITHIN AND OUTSIDE THE ASEAN
REGION. I UNDERSTAND NEARLY 30 COUNTRIES ARE REPRESENTED AT THE
CONFERENCE AND EXHIBITION.

IT IS ALSO MY VERY PLEASANT DUTY TO BID A SPECIAL WELCOME TO THE
ASCOPE COUNCIL MEMBERS WHO ARE GATHERED HERE IN FULL FORCE. FOR THEM
THE ASCOPE CONFERENCE - WHICH IS HELD EVERY FOUR YEARS - IS AN
OCCASION FOR A REUNION OF MEMBERS AND FOR RENEWING AND STRENGTHENING

THE BONDS OF FRIENDSHIP AND COOPERATION.

WE ARE GREATLY HONOURED BY THE PRESENCE OF OUR PRIME MINISTER YANG AMAT BERHORMAT DATO' SERI DR MAHATHIR MOHAMAD. THE PRESENCE OF THE PRIME MINISTER HAS LENT DISTINCTION TO THE OCCASION THIS MORNING. ASCOPE IS DEEPLY GRATEFUL TO THE PRIME MINISTER FOR HAVING GRACIOUSLY ACCEPTED THE INVITATION TO ADDRESS AND DECLARE OPEN THE THIRD ASCOPE CONFERENCE AND EXHIBITION.

LADIES AND GENTLEMEN,

ASCOPE - THE ASEAN COUNCIL ON PETROLEUM - WAS NOT BORN OUT OF CRISIS. IT WAS FOUNDED ON A CONSENSUS BY THE NATIONAL OIL AGENCIES FROM THE THEN FIVE COUNTRIES ON 15 OCTOBER 1975 IN JAKARTA THAT THE MOST FEASIBLE APPROACH TO MEETING THE ENERGY CHALLENGES OF THE FUTURE BY ASEAN COUNTRIES IS THROUGH REGIONAL CONSULTATIONS AND COOPERATION.

THE STRENGTH AND POTENTIAL OF ASCOPE LIES IN ITS MEMBERS WHO ARE AMONG THE BIGGEST CORPORATIONS IN THEIR RESPECTIVE COUNTRIES AS WELL AS IN THE ASEAN REGION. IN THE TEN YEARS OF ITS INCEPTION ASCOPE HAS SERVED AS AN EFFECTIVE VEHICLE IN REGIONAL COOPERATION IN THE AREAS OF TRAINING, EXCHANGE OF TECHNICAL EXPERTS IN OIL EXPLORATION AND PRODUCTION, REFINING OPERATIONS, RESEARCH AND DEVELOPMENT OF ALTERNATIVE SOURCES OF INDIGENOUS ENERGY, TECHNICAL DATA EXCHANGE, PETROLEUM PROCESSING ARRANGEMENTS AND SUPPLY OF OIL TO MEMBERS IN TIME OF PETROLEUM SHORTAGES. AS A RECOGNITION OF ITS SUCCESS AND

EFFECTIVENESS AS A REGIONAL GROUPING, ASCOPE WAS DESIGNATED BY THE ASEAN ECONOMIC MINISTERS IN 1979 AS THE VEHICLE FOR INTERNATIONAL COOPERATION IN PETROLEUM MATTERS.

IN THE TEN YEARS OF ITS EXISTENCE ASCOPE HAS SEEN DRAMATIC CHANGES IN THE OIL SCENES. WHEN ASCOPE 1981 WAS HELD IN MANILA OIL PRICES WERE STILL ON THE CLIMB UNDER TIGHT SUPPLY CONDITIONS. TO-DAY FOUR YEARS LATER THE GLOBAL ENERGY SITUATION HAS COMPLETELY REVERSED WITH OVERSUPPLY OF OIL AND OIL PRICES EXPECTED TO TAKE A NOSE DIVE - SOME OIL WATCHERS HOWEVER PREDICT THAT THE EASY OIL SUPPLY SITUATION WILL DISAPPEAR IN THE EARLY 1990'S AND OIL PRICES WILL STRENGTHEN AGAIN.

AS AN ATTEMPT TO ASSESS THE WORLD TRENDS IN ENERGY DEVELOPMENT IN RELATION TO THE ASEAN REGION, THE THEME "ASEAN: THE CHANGING ENERGY SCENE" HAS BEEN CHOSEN. MORE THAN 60 SPEAKERS FROM SEVENTEEN COUNTRIES WILL BE ADDRESSING THE CONFERENCE OVER THE NEXT THREE DAYS COVERING VARIOUS ASPECTS OF THE PETROLEUM AND ENERGY BUSINESS. THE CONFERENCE WILL BE SUPPORTED BY AN EXHIBITION WITH COMPANIES FROM 20 COUNTRIES DISPLAYING THEIR PRODUCTS AND SERVICES FEATURING TECHNOLOGICAL ADVANCEMENT IN THE INDUSTRY. THE LARGE NUMBER OF DELEGATES AND THE PRESENCE OF TOP-RANKING OFFICIALS AND LEADING PROFESSIONALS IN THE PETROLEUM AND ENERGY BUSINESS FROM ALL OVER THE WORLD ARE INDICATIVE OF THE GROWING RECOGNITION OF THE ASCOPE CONFERENCE AND EXHIBITION AS AN IMPORTANT EVENT IN THE INTERNATIONAL ENERGY AND PETROLEUM INDUSTRY.

THE ASCOPE CONFERENCE AND EXHIBITION BENEFITS THE MEMBER COUNTRIES, THE PARTICIPANTS AND EXHIBITORS. THE MEMBER COUNTRIES WILL GAIN MUCH FROM THE IN-DEPTH DISCUSSIONS BY PETROLEUM AND ENERGY EXPERTS AND ALSO FROM THE PRESENTATION OF THE LATEST TECHNOLOGICAL ADVANCEMENTS IN THE ENERGY FIELD. FOR THE DELEGATES AND EXHIBITORS IN PARTICULAR FROM OTHER REGIONS, THE CONFERENCE OFFERS A WINDOW INTO THE LATEST DEVELOPMENTS AND BUSINESS OPPORTUNITIES IN THE ASEAN PETROLEUM INDUSTRY.

LADIES AND GENTLEMEN,

PETRONAS IS KEENLY AWARE AND APPRECIATIVE OF THE HONOUR IT HAS BEEN ACCORDED AS HOST FOR ASCOPE '85. WE REALISE THAT THIS IS A PRIVILEGE THAT WILL NOT COME AROUND AGAIN POSSIBLY FOR THE NEXT TWENTY FOUR YEARS--TILL THE YEAR 2009! WE HOPE ASCOPE '85 WILL ALSO GENERATE EXTERNAL INTERESTS NOT ONLY IN THE MALAYSIAN OIL AND GAS SECTOR BUT ALSO IN INVESTMENT OPPORTUNITIES IN OTHER SECTORS.

WE SINCERELY APPOLOGISE FOR ANY SHORT-COMINGS IN THE ARRANGEMENTS FOR THE CONFERENCE AND EXHIBITION. WE TAKE THIS OPPORTUNITY TO THANK ALL PARTICIPANTS AND EXHIBITORS FOR YOUR INTEREST AND SUPPORT. WE WISH YOU A SUCCESSFUL AND FRUITFUL CONFERENCE. TO THOSE WHO COME FROM OVERSEAS WE WISH YOU A PLEASANT AND ENJOYABLE STAY IN MALAYSIA.

LADIES AND GENTLEMEN,

IT IS NOW MY GREAT PLEASURE TO INVITE THE HONOURABLE PRIME MINISTER OF MALAYSIA DATO' SERI DR. MAHATHIR MOHAMAD TO ADDRESS AND DECLARE OPEN THE THIRD ASCOPE CONFERENCE AND EXHIBITION.

F.

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 schoold 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.

NST 20/5/85

PERPUSTAKAAN
JABATAN ALAM SEKITAR

The Minister of Science, Technology and the Environment, Datuk Amar Stephen K.T. Yong was interviewed by RTM (Radio) on "Motor Vehicle Pollution". The following is the text of the interview.

One of the main sources of air pollution in the country is from motor vehicles. The number of motor vehicles has increased tremendously in recent years. For instance, in 1975 there were 1,267,119 motor vehicles on the road and by July 1984, the figure came up to 3,436,064 - an increase of nearly three fold. The motor vehicles use either diesel fuel or petrol. The problem with most of the diesel-powered vehicles is emission of excessive smoke, and in the case of vehicles using petrol, though there is less smoke, they emit lead particles, hydro-carbon and carbon monoxide and other gases which are injurious to health.

What are the measures taken to control them? For vehicles emitting excessive smoke, there is the Motor Vehicles (Control of Smoke and Gas Emission) Rules 1977 made under the Road Traffic Ordinance 1958. The Regulations set a limit to smoke density of not more than 50 Hartridge Smoke Units or its equivalent. Surprise checks on motor vehicles have been carried out by our Department of Environment (DOE) in several major towns from time to time. From 1979 to 1984, over 400 enforcement campaigns have been carried out and legal actions were taken against more than 40,000 vehicles owners for violation of the Rules. The object of the exercise is to remind the owners of old and faulty vehicles to take the necessary corrective measures before taking their vehicles to the road. DOE is acquiring 7 more units of Hartridge Smoke Meters to add to the 3 it now possesses and more checks in more towns will be carried out in the future. One unit will be sent to Sabah and one to Sarawak.

As for control of gases from motor vehicles using petrol, it is a complex matter involving technology and question of cost. We have to ensure that whatever control introduced is cost-effective and enforceable.

We have already specified that all petrol vehicles should be equipped with crankcase blow-by device. This has helped to reduce 20% to 25% of Hydrocarbon emission from the vehicles with little additional cost.

Control of carbon monoxide can be effected without too much burden on the motorist and a plan is already in hand to control its emission as soon as the necessary checking equipment is received.

Currently, monitoring exercise is being carried out in urban centres on the levels of other gases such as nitrogen oxides, sulfur dioxide and remaining hydrocarbon.

By 1st July 1985, the lead content in petrol will be reduced from 0.8 gm per litre to 0.4 gm per litre.

From experience it is found that the enforcement of the control of smoke and gas emission rules has not been very effective due to several factors such as :-

Firstly, under the Road Traffic Ordinance, only the police can stop a vehicle for checking, and a joint operation is sometimes difficult to arrange because of the Police's own priorities. Over the years, about 35% of the agreed operations have to be cancelled due to last-minute reassignment of police duties.

Secondly, under the present law, vehicles can only be checked when they actually emit dark smoke, that is to say, when engines are running. So checks cannot be carried out if the faulty vehicle engine is not running.

Thirdly, the penalty under the Road Traffic Ordinance, for example compound of \$100, is not sufficiently severe to serve as a deterrent.

Fourthly, fleet owners are not required to have regular checks on their vehicles other than once in six months.

In view of these, my Ministry will introduce a new set of regulations under the Environmental Quality Act 1974 to include the following provisions :-

- (a) DOE officers are empowered to stop vehicles for checking and testing.
- (b) Stiffer fines be imposed for excessive smoke emissions, e.g. up to \$10,000 or maximum \$500/- compound for violations. The vehicles may be detained and would not be allowed to be operated until the faults are rectified.
- (c) Any vehicle in use is subject to checking including those found in bus terminals, waiting at the road side, etc.
- (d) All fleet owners would be required to operate their own checking facilities and carried out regular calibrations before vehicles are allowed to be used on the road.
- (e) To assist vehicle owners, vehicle dealers would be required to establish smoke checking facilities in the major towns.
- (f) Only engines meeting smoke emission standards are permitted to be imported or assembled in this country.

With such provisions, we hope that pollutants from vehicular sources would be further reduced.

In order to reduce motor vehicle pollution, my advice to the public and car owners is :-

- (i) whenever possible, try to use public transport (one bus carries 40/50 people but causes only marginally more pollution than a car);
- (ii) maintain your vehicle properly and keep the vehicle well-tuned;
- (iii) convert to using Liquified Petroleum Gas (LPG) which is cleaner, quieter and at lower running cost.

SPEECH BY THE HON. DATUK AMAR STEPHEN K.T. YONG
THE MINISTER OF SCIENCE, TECHNOLOGY AND THE
ENVIRONMENT AT THE OPENING OF THE SCIENCE PARKS
SEMINAR AT THE ASIAN & PACIFIC DEVELOPMENT
CENTRE, PERSIARAN DUTA, KUALA LUMPUR ON MONDAY,
13 MAY 1985 AT 9.00 A.M.

PERPUSTAKAAN
JABATAN ALAM SEKITAR

Saya merasa sangat sukacita untuk menyampaikan ucapan perasmian ini bagi pihak Y.B. Datuk Amar Stephen K.T. Yong, Menteri Sains, Teknologi dan Alam Sekitar yang tidak dapat bersama-sama dengan kita pada pagi ini oleh kerana beliau sedang menghadiri Persidangan Program Alam Sekitar Bangsa-Bangsa Bersatu atau UNEP di Nairobi, Kenya. Beliau telah meminta saya menyampaikan kemaafannya.

Saya juga merasa sangat sukacita kerana Majlis Penyelidikan dan Kemajuan Sains Negara atau MPKSN dapat mencanjurkan Seminar ini yang mana merupakan salah satu daripada aktiviti-aktiviti bagi Tahun Sains 1985/86. Setinggi-tinggi tahniah saya ucapkan kepada MPKSN di atas usaha mereka ini.

As I was saying, I am glad to deliver this opening address on behalf of the Hon. Datuk Amar Stephen K.T. Yong, the Minister of Science, Technology and the Environment who unfortunately is unable to be with us as he is attending the 13th Session of the Governing Council of the United Nations Environment Programme in Nairobi, Kenya. He has asked me to convey his sincere apologies. I am pleased to see this gathering of distinguished experts participating in the Seminar which is one of the activities celebrating the Science Year 1985/86. The efforts made by the National Council for Scientific Research & Development (or MPKSN) in organizing this Seminar is indeed commendable.

Ladies and Gentlemen,

Malaysia is now on the forward march towards its industrialization objective. This is evident in the emergence of new industries such as the automobile, LPG, petroleum-based and other heavy industries. Malaysia has under-taken various steps to promote development in the field of science and technology, and I believe these activities form the base for the development of an industrialized society. My Ministry has drawn up a number of programmes for promoting science and technology development, including intensification of R & D activities, the development of science and technology information networks, computerization and the use of new techniques such as remote sensing. These technologies are necessary for a country like Malaysia to achieve higher productivity and advancement. Emphasis will be placed on the development of research skills as well as providing efficient scientific services.

The Malaysian manufacturing sector has grown at an average growth rate of 17.5% per annum over the past decade, and it is the fastest growing sector of the economy. As a matter of comparison, its share of the GPP has increased from 13.4% in 1970 to 20.9% in 1980. In view of this continued growth in the manufacturing sector, there will be pressing needs for new technologies and increased human skills.

Ladies and Gentlemen,

I understand the overseas resources persons in this Seminar will present the various aspects of science parks development in different parts of the world. The creation of science parks has evoked various responses - some positive, while others are negative. Therefore, we need to examine the implications and other factors, having due regard to our local situation.

Essentially, Malaysia has stressed on the need to upgrade its manufacturing capability. Policy measures which favourably encourage industrial development aimed at bringing about major structural changes within the manufacturing sector and a greater diversification and growth of the national economy have been implemented. The development of industrial estates have been given emphasis. However, the overall development of industrial estates needs to be further supported by effective co-ordination and integration in their planning and development. New elements in the process of developing industrial development have to be examined, particularly in terms of technological inputs.

The move to link the development of universities, R & D institutions and management expertise to the existing industrial operations will not only facilitate the sharing of common services and infrastructural facilities, but also provide for new initiatives. Such initiatives have been noted in other countries

such as the United States of America and the United Kingdom. Similar experiences are also observed in certain countries in Asia.

In the process of developing science parks, it is envisaged that Malaysia will have to give high priority to R & D activities and manpower development. In the public sector, there are approximately 3,500 scientists involved in R & D. Some of these scientists could probably undertake more R & D activities judging from the response that the National Council for Scientific Research and Development received as research proposals for research grants.

Another aspect that I have stressed on many occasions is the need to increase R & D in the private sector. The private sector knows best what is to be done for research to improve their products and productivity. On the part of the Government, we are also willing to give our assistance to the private sector to improve their research capabilities. In the 1983 Budget, the Government has introduced tax incentives to encourage the private sector to undertake R & D. These incentives take the form of additional allowances for costs incurred in research and development. In addition, I have, at a previous dialogue session with the professional bodies, invited the private sector and professional bodies to submit proposals on how to improve their activities for the sake of the national economy. I am awaiting their submissions.

Ladies and Gentlemen,

In Malaysia, generally there is little linkage between the universities and industries. Each university has its own R & D programme and has achieved success in a number of areas. However, it is regrettable to note that not many of these research results have been commercialized. It seems that such linkage should be forced so that the efforts of research would not be laid to waste, but on the other hand, it would enhance the transfer of technology. The Science Park concept may well serve as a catalyst to bring this about.

Close relationships between universities and industry is desirable also for a number of other reasons. Availability of scientific expertise helps industry to utilize existing advanced technology. New technologies can be generated and adopted more efficiently by this process. Employment opportunities will be increase as more recruitment of qualified graduates for the industry would follow. Furthermore, undergraduates would have the opportunity to familiarize themselves with the practical aspects of industry. I note that our universities have, to a large extent, further expanded their graduate research programmes, essentially to encourage more students to obtain their post-graduate degrees at the local universities.

Ladies and Gentlemen,

It is said that the establishment of science parks will provide practical, commercial and technical assistance to realize ideas from the stages of innovation, research, development right on to marketing. However, getting financial institutions interested in the concept of science parks may not be easy. In my opinion, the financial institutions should not be afraid to come out to support the Government in the setting up of science parks if feasibility studies indicate the viability of such projects. The Government would do its part by seeking co-operation from the State authorities for alienation of land necessary for the purpose. Infrastructures such as highways, ports, airports, facilities such as telephone and telex services, power supply would be managed by the relevant authorities. We all have to bear in mind that success is most likely to result from close collaboration between interested parties, namely the land owner, the academic and research institutions, the industry, the local authority and the investor. In line with the Privatization concept, arrangements acceptable to all parties concerned can be studied and made feasible.

The convening of this Seminar is indeed timely and I am sure your deliberations will provide us with useful information and ideas on the setting up of science parks in Malaysia. I would like the BFKSE to make appropriate recommendations to the Government based on the outcome of this Seminar and other studies on the subject.

**UCAPAN KETUA SETIAUSAHA
KEMENTERIAN SAINS, TEKNOLOGI
DAN ALAM SEKITAR DI UPACARA
PENUTUP SEMINAR KEADAAN
KUALITI ALAM SEKELILING 1985
DI BANGUNAN APDC PADA 11 JULAI 1985
JAM 4.45 PETANG**

Pengerusi Majlis.

Yang Berusaha Encik A. Maheswaran,
Ketua Pengarah Alam Sekitar.

Ahli-ahli Yang Berhormat.

Dif-Dif Terhormat.

Tan Sri-Tan Sri.

Dato'-Dato'.

Tuan-tuan dan Puan-puan yang saya hormati
sekalian.

Saya berasa sukacita kerana dapat bersama-sama
tuan-tuan dan puan-puan sekali lagi pada petang
ini untuk menutup dengan rasminya Seminar
Keadaan Kualiti Alam Sekeliling 1985, yang
telah berjalan sejak 9 Julai.

- 2 -

2. Saya diberitahu bahawa seminar ini telah berjalan dengan lancar serta berjaya pula mencapai matlamat-matlamat yang ditetapkan oleh Jawatankuasa Penganjur serta menepati pula saranan-saranan Y.B. Menteri Sains, Teknologi dan Alam Sekitar. Kejayaan seminar ini jelaslah mencerminkan sokongan, minat dan kerjasama yang penuh yang telah diberi oleh semua pihak.

3. Seperti kita semua maklum, seminar ini bukan saja telah membincangkan masalah-masalah alam sekitar masa kini dan masa akan datang, tetapi juga telah mencadangkan langkah-langkah tersusun bagi membolehkan Kementerian saya mengambil tindakan yang sepatutnya. Saya sendiri akan meneliti cadangan-cadangan yang tuan-tuan dan puan-puan kemukakan dan saya percaya cadangan-cadangan itu akan memperkuat lagi usaha untuk memperbaiki

keadaan dan kualiti alam sekeliling yang kita warisi bersama.

4. Sebagai susulan daripada seminar ini, selain daripada Kementerian Sains, Teknologi dan Alam Sekitar serta Jabatan-jabatannya, Agensi-agensi Kerajaan dan Badan-badan atau Organisasi-organisasi yang tuan-tuan dan puan-puan wakili sendiri akan dapat meneliti kembali struktur dan fungsi masing-masing yang ada kaitan secara langsung atau tidak dengan alam sekitar. Oleh kerana pelbagai hal-ehwal alam sekitar adalah tanggungjawab semua pihak - Kerajaan, swasta dan juga orangramai di setiap lapisan masyarakat - saya suka menyeru sekali lagi supaya tiap-tiap pihak dan individu yang terlibat, secara langsung atau tidak, memainkan peranan masing-masing. Menjaga kebersihan, keindahan dan keselesaan keadaan alam sekeliling adalah tugas kita bersama. Untuk

mencapai matlamat ini, tidak perlu bagi tiap-tiap orang menjadi pakar dalam pelbagai bidang pengurusan alam sekitar; apa yang penting ialah kita semua sedar akan kepentingan alam yang kita diami, mempunyai hasrat untuk memeliharanya dan melakukan apa yang perlu dan boleh untuk mencapai tujuan tersebut.

5. Akta Kualiti Alam Sekeliling 1974 telah berkuatkuasa kira-kira 10 tahun dan beberapa set Peraturan Kualiti Alam Sekeliling telah digubal dan dilaksanakan. Sungguhpun undang-undang yang telah digubal untuk mengawal keadaan alam sekitar boleh dikatakan memadai, tetapi peraturan-peraturan baru perlu diadakan supaya undang-undang tersebut dapat dikuatkuasakan dengan lebih berkesan. Saya percaya dengan cara ini barulah pemeliharaan alam sekitar dapat dijalankan seperti yang dikehendaki.

6. Rancangan-rancangan pembangunan yang telah dimajukan selama suku abad yang lalu telah menimbulkan kesan-kesan yang tidak diingini ke atas kualiti alam sekitar. Perkembangan industri mempunyai akibat negatif yang serius kepada alam sekitar. Adalah diakui bahawa setengah-setengah sektor pengeluaran atau industri telah mencapai tahap kawalan pencemaran yang agak tinggi. Sungguhpun begitu sektor-sektor ekonomi yang lain seperti perlombongan, perumahan, pertanian, pembinaan lebuhraya, pambalakan, perkhidmatan perbandaran, pengangkutan dan perkapalan, aktiviti-aktiviti harian dan sampingan lain masih perlu mengambil langkah-langkah kawalan pencemaran yang memuaskan. Prestasi mereka haruslah sekurang-kurangnya setanding dengan apa yang telah dicapai oleh sektor perkilangan getah dan minyak kelapa sawit, dan setengah-setengah sektor bidang pembuatan.

7. Memandangkan bahawa jentera penyelarasan tidak terdapat di peringkat Negeri pada masa ini, saya ingin memaklumkan bahawa Kerajaan Pusat dan semua Kerajaan Negeri telahpun bersetuju dalam Mesyuarat Menteri-Menteri Besar dan Ketua-Ketua Menteri pada 5 Julai 1985 membentuk Jawatankuasa-jawatankuasa Tindakan Mengenai Alam Sekitar di negeri-negeri dan Jawatankuasa ini akan dipengerusikan oleh Ahli EXCO atau Menteri Negeri yang berkenaan. Untuk mencapai hasrat baik ini, Kementerian Sains, Teknologi dan Alam Sekitar akan menimbangkan peminjaman pegawai-pegawai dari Jabatan Alam Sekitar. Dengan ini, kerjasama antara agensi-agensi Kerajaan Pusat dan Negeri dapat dipertingkatkan dan perhubungan antara Kerajaan Pusat dan Negeri dapat dieratkan, selain daripada masalah kekurangan pegawai-pegawai yang pakar dan juga berpengalaman di peringkat tersebut dapat diatasi.

8. Saya difahamkan bahawa selain daripada membincang pelbagai konsep atau tekanan baru yang perlu diberikan kepada program-program alam sekitar yang akan datang, seminar ini juga telah mengemukakan saranan untuk pelaksanaan polisi dan program oleh Kerajaan berasaskan kepada data dan maklumat yang tepat dan mencukupi, supaya matlamat pembangunan sosio-ekonomi negara tidak terjejas dan kepentingan alam sekitar tidak diabaikan untuk kesejahteraan dan kebahagiaan rakyat semua. Dalam hal ini Kementerian saya akan menentukan bahawa maklumat mengenai alam sekitar disebarkan seberapa banyak dan luas yang diperlukan dengan tujuan untuk meningkatkan kesedaran semua lapisan rakyat dan semua golongan masyarakat tentang hal-ehwal alam sekitar di negara kita khasnya dan dunia amnya. Adalah diharapkan bahawa rakyat Malaysia bukan saja akan berbangga tentang

pembangunan ekonomi, perindustrian dan sosial yang menjadikan negara ini moden dan progresif serta memberikan penduduknya taraf hidup yang memuaskan tetapi juga akan berbangga tentang pemeliharaan alam sekeliling, yang sama pentingnya untuk perkembangan kebudayaan manusia dan kualiti kehidupan generasi sekarang dan lebih-lebih lagi generasi akan datang. Keseimbangan pembangunan dengan pemeliharaan bukanlah suatu perkara yang mustahil. Ini telahpun dibuktikan oleh negara-negara maju seperti Jepun dan Switzerland yang boleh dikatakan telah mencapai pencecokan seperti yang diharapkan. Kedua-duanya bukan sahaja merupakan gergasi dalam bidang pembangunan perindustrian tetapi dalam bidang pemeliharaan alam sekitar, negara-negara tersebut juga menjadi pemimpin yang patut diteladani.

9. Dengan harapan tersebut, saya dengan rasminya mengisytiharkan seminar ini ditutup.

KENYATAAN AKHBAR

Majlis Penyelidikan dan Kemajuan Sains Negara, Malaysia telah ditubuhkan pada 1hb. November, 1975. Objektif utama Majlis ialah untuk memastikan bahawa kegiatan-kegiatan Penyelidikan dan Pembangunan Saintifik dijalankan untuk memenuhi matlamat-matlamat dan keperluan-keperluan Pembangunan Negara. Fungsi utama Majlis ialah untuk menasihati Kerajaan dalam semua perkara-perkara Saintifik dan Teknologi dan untuk menyelaras semua kegiatan-kegiatan Penyelidikan dan Pembangunan Saintifik dalam Negara.

Majlis juga memainkan peranan sebagai penyelaras dan pendorong kepada usaha-usaha penyelidikan dan Kemajuan Sains dikalangan Sektor Awam dan Swasta. Seajar dengan maksud itu, maka Majlis telah dijadikan sebagai pemberi biaya atau Tabung Amanah sebagaimana yang telah diluluskan oleh Parlimen di bawah Akta Peraturan Kewangan, yang mana dengan itu tertubuhlah Tabung Penyelidikan dan Kemajuan Sains Negara yang berkuatkuasa pada 1hb. Februari, 1982. Penubuhan Tabung ini pada asasnya ialah untuk menggalakkan kegiatan-kegiatan penyelidikan Kemajuan Sains dan Teknologi di dalam negara melalui anugerah-anugerah, fellowship-fellowship, biasiswa-biasiswa dan bantuan-bantuan wang bagi projek-projek penubuhan badan-badan sains dan institusi-institusi pengajian tinggi dan juga bantuan kepada seseorang.

KEPUTUSAN JAWATANKUASA TABONG AMANAH MPKSN

| <u>PEMOHON</u> | <u>TAJUK PROJEK</u> | <u>JUMLAH YANG DILULUSKAN</u> |
|---|--|-------------------------------|
| 1. Marziah Mahmood, Jabatan Biokimia & Mikrobiologi, UPM. | Penggunaan Kultur Tisu dalam mengkaji zat mineral dalam kekacang. | \$25,000 |
| 2. Zulkifli Hj. Shamsuddin Jabatan Sains Tanah, UPM. | Kesan efluen Kilang Kelapa Sawit ke atas efisiensi pengikatan nitrogen oleh tanaman kekacang | \$29,000 |
| 3. Dr. Uma Devi IMR. | Health problems in selected Chinese Villages | \$25,000 |
| 4. Dr. Dora Tan Chin Guan, IMR. | Seroepidemiology of Infection with Hepatitis A and B Virus in Malaysia | \$17,050 |
| 5. Dr. Stephen Ambu, Taman Ular, IMR Kangar, Perlis. | Mengkaji Epidemiologi gigitan ular dan Kajihayat ular-ular di Semenanjung Malaysia. | \$13,600 |

\$109,650

UCAPAN OLEH Y.B. DATUK AMAR STEPHEN
K.T. YONG, MENTERI SAINS, TEKNOLOGI
DAN ALAM SEKITAR DI MAJLIS
PENYAMPAIAN CEK-CEK UNTUK GERAN
PENYELIDIKAN MAJLIS PENYELIDIKAN
DAN KEMAJUAN SAINS NEGARA PADA
HARI RABU, 29 FEBRUARI, 1984
DI BILIK GERAKAN KEMENTERIAN SAINS,
TEKNOLOGI DAN ALAM SEKITAR JAM
3.00 PETANG.

Yang Berbahagia En. Nik Mohd Amin,
Ketua Setiausaha Kementerian;

Ketua-Ketua Jabatan;

Ahli-Ahli Jawatankuasa Pengurusan
Tabong Amanah MPKSN;

Tuan-Tuan dan Puan-Puan yang dihormati sekalian.

Saya sangatlah sukacita menghadiri
Majlis Penyampaian Geran-Geran Penyelidikan
MPKSN pada petang ini. Majlis ini merupakan
satu 'milestone' ataupun petanda di dalam
kemajuan usaha-usaha MPKSN untuk menggalakkan
lagi penyelidikan di negara ini dengan tujuan
untuk menambahkan aktiviti-aktiviti penyelidikan
supaya kita dapat menikmati daripada kejayaan
dan hasil-hasil penyelidikan.

Di antara projek-projek penyelidikan yang
telah dikemukakan dan yang telah diberi per-
timbangan oleh Jawatankuasa Pengurusan Tabong
Amanah MPKSN, dua daripadanya adalah di dalam
bidang pertanian. Ini amatlah penting

memandangkan negara kita masih lagi bergantung kepada industri pertanian. Usaha penyelidikan di dalam bidang ini perlu dipertingkatkan lagi dengan tujuan untuk menambahkan lagi pengeluaran pertanian kita. Kita perlu memberi perhatian untuk menentukan supaya hasil-hasil penyelidikan akan memberi faedah kepada negara.

Satu daripada projek di dalam bidang pertanian adalah dengan tujuan untuk mengkaji masalah 'Nitrogen fixation' hasil buangan daripada usaha-usaha memproses kelapa sawit. Ini amatlah sesuai dengan usaha-usaha di dalam negara ini di mana kita ketahui bahawa para petani juga memerlukan penggunaan ataupun pengurusan pertanian yang sesuai. Dengan kajian ini, saya berharap bahawa sektor pertanian akan menerima faedah daripada kajian tersebut dan kita akan dapat menjimatkan penggunaan baja dan juga kita dapat menggunakan

....3/-

hasil buangan daripada industri minyak k. sawit.

Projek-projek di dalam bidang kesihatan juga dikemukakan, dan satu daripadanya ialah projek yang akan mengkaji ataupun mengadakan perbandingan di antara kampung-kampung di-negara kita. Perbandingan ini akan memberi faedah yang besar supaya kita dapat memahami masalah-masalah kesihatan yang ada dan juga akan dapat menentukan khidmat-khidmat dan teknologi-teknologi yang sesuai untuk dipergunakan bagi mengatasi masalah-masalah kesihatan. Kajian-kajian yang lain di dalam bidang kesihatan amatlah penting juga. Pada pandangan saya, hasil daripada penyelidikan di dalam bidang ini akan memberi faedah yang besar kepada masyarakat kita, kerana dengan tahap kesihatan yang lebih tinggi, daya pengeluaran masyarakat kita akan terus bertambah di masa-masa hadapan.

....4/-

Tuan-tuan dan Puan-puan,

Di sini saya suka mengambil kesempatan mencadangkan bahawa kita perlu meningkatkan lagi kepakaran kita di dalam usaha-usaha menjalankan penyelidikan. Dengan bertambahnya usaha penyelidikan, kita akan dapat menggunakan pengalaman yang diperolehi untuk memperolehi kaedah-kaedah yang sesuai dan juga menambahkan lagi keupayaan kita di dalam bidang sains dan teknologi. Adalah menjadi matlamat negara kita untuk menentukan bahawa pembangunan tenaga manusia saintifik ataupun 'scientific manpower' bukanlah sahaja di dalam usaha-usaha untuk menambahkan bilangan ahli-ahli sains. Akan tetapi, memandangkan bahawa negara kita dan bilangan penduduk kita adalah kecil, kita perlu menentukan supaya mutu ahli-ahli sains kita adalah lebih tinggi daripada negara-negara yang mempunyai bilangan penduduk yang lebih. Saya percaya bahawa dengan pertambahan

....5/-

bilangan ahli sains serta peningkatan ke-ahli-ahli sains, mereka akan dapat mencari penyelesaian yang sesuai bagi mengatasi masalah-masalah tertentu.

Tuan-tuan dan Puan-puan,

Di dalam usaha Kerajaan untuk meningkatkan lagi pengurusan sains dan teknologi bagi mempertingkatkan lagi keupayaan kita di dalam bidang ini, kita juga memerlukan badan-badan penyelidikan yang betul-betul pakar di dalam bidangnya. Ini adalah terbukti di dalam aktiviti badan-badan seperti Institut Penyelidikan Getah dan Institut Penyelidikan Perubatan yang telahpun memberi sumbangan yang cemerlang di masa-masa yang lampau dan terus memberi sumbangan mereka kepada negara. Saya suka menggalakkan badan-badan penyelidikan supaya mengatur langkah-langkah yang tepat dan mengkaji objektif-objektif penyelidikan agar

...6/-

- 6 -
ia menjadi sesuai dengan langkah-langkah pembangunan negara.

Tuan-tuan dan Puan-puan,

Saya ingin mengambil kesempatan ini untuk memohon kerjasama daripada pihak swasta supaya mereka dapat memberi sumbangan yang lebih di dalam bidang R. & D. Kerajaan telah pun membuat rayuan kepada syarikat-syarikat untuk membantu Tabung Penyelidikan MPKSN. Saya sungguh berharap bahawa di masa hadapan, pihak swasta dan syarikat-syarikat tertentu akan memberi sumbangan mereka supaya dapat menikmati kelak hasil-hasil penyelidikan.

Usaha untuk menggalakkan penyelidikan tidaklah semestinya dijalankan oleh Kerajaan sahaja. Di dalam negara-negara yang maju seperti Jepun dan Amerika Syarikat, kebanyakan penyelidikan adalah dilakukan oleh pihak swasta. Dengan sumbangan dari aktiviti penyelidikan

....7/-

- 7 -
oleh pihak swasta, hasil-hasil penyelidikan adalah digunakan secara segera ataupun 'immediate' dan dipasarkan. Dengan itu, matlamat untuk meningkatkan lagi pengeluaran di dalam negara akan bertambah.

Pada masa sekarang, kebanyakan pihak swasta di negara kita adalah bergantung kepada ibu-ibu syarikat di luar negeri, dan dengan itu telahpun membayar 'royalty' dan juga licensing fee kepada ibu-^{Ibu}syarikat-syarikat tersebut. Pada peringkat ini ~~mungkin~~ Kerajaan akan terus menggalakkan ~~tidak perlu menyekat~~ pemindahan teknologi secara ini tetapi kita perlu mengambil perhatian supaya di masa-masa hadapan pembayaran 'royalty' ~~fee~~ dan juga 'licensing fee' akan ^{debet}dikurangkan dan aktiviti-aktiviti R & D di negara ini dipertingkatkan lagi. Ini tidaklah bermakna bahawa aktiviti pemindahan teknologi daripada luar negeri tidaklah digalakkan. Akan tetapi,

...8/-

aktiviti pemindahan teknologi daripada luar negeri perlulah disesuaikan dengan keadaan di negara ^{kita} ini. Ini bermakna aktiviti mengubahsuaikan teknologi-teknologi daripada luar negeri juga memerlukan pusat-pusat penyelidikan di dalam syarikat-syarikat swasta. Ini adalah penting kerana saya percaya teknologi yang diimport secara terus daripada luar negeri perlu diubahsuaikan dengan keadaan di negara ini. Tambahan lagi, hanya dengan menggunakan ahli-ahli sains dan teknologi tempatan, dapatlah kita menambahkan lagi daya pengeluaran kita di dalam industri. Dengan itu, saya berharap bahawa usaha penyelidikan akan ditambahkan lagi di dalam negara ^{kita} ini dan tidaklah dikhaskan kepada Kerajaan sahaja.

Tuan-tuan dan Puan-puan,

Saya suka mengucapkan setinggi-tinggi tahniah kepada penerima-penerima geran

penyelidikan MPKSN. Saya berharap tuan-tuan dan puan-puan akan memberi tumpuan kepada dan ketekunan di dalam penggunaan geran penyelidikan serta usaha penyelidikan supaya menghasilkan faedah yang besar kepada negara.

Dengan ini, saya mengucapkan selamat maju jaya di dalam usaha penyelidikan kepada ahli-ahli sains yang telah berjaya menerima geran penyelidikan ini.

Sekian, terima kasih.

UCAPAN Y.B. DATUK AMAR STEPHEN K.T. YONG,
MENTERI SAINS, TEKNOLOGI DAN ALAM SEKITAR
DI UPACARA PERASMIAH PROJEK PETRONAS
DI BATU 3, PANTAI PORT DICKSON, NEGERI SEMBILAN
PADA 2 SEPTEMBER 1985 JAM 9.30 PAGI

Terlebih dahulu saya ingin mengucapkan ribuan terima kasih kepada Yang di Pertua Majlis Daerah Port Dickson di atas penghormatan yang diberikan kepada saya untuk menghadiri Majlis Perasmian Projek Pengindahan Pantai pada pagi ini.

Saya juga ingin mengucapkan terima kasih dan merakamkan penghargaan saya kepada YAB Datuk Menteri Besar Negeri Sembilan yang telah memberi kerjasama dan galakannya terhadap usaha memelihara kualiti alam sekeliling khususnya di Port Dickson ini dan pada amnya di seluruh Negeri Sembilan!

Saya juga mengambil kesempatan ini untuk merakamkan penghargaan saya kepada Petronas yang telah menampil ke hadapan untuk bekerjasama dengan Kerajaan demi kepentingan kualiti alam sekeliling. Setinggi-tinggi tahniah saya ucapkan kepada Petronas di atas usaha mereka untuk menjayakan Projek Pengindahan Pantai ini.

Tuan-tuan dan Puan-puan,

Pada tahun ini, sambutan Satu Dekad Pengurusan Alam Sekitar di Malaysia dan Hari Alam Sekitar Sedunia 1985 disambut secara besar-besaran. Pelbagai aktiviti telahpun dilancarkan dengan jayanya. Tujuan aktiviti-aktiviti yang telah dijalankan itu

ialah untuk meningkatkan lagi kesedaran dan komitmen semua golongan dan lapisan masyarakat terhadap kepentingan memelihara dan melindungi kualiti alam sekeliling negara kita. Aktiviti-aktiviti samudutan ini termasuklah :-

- i) Peraduan Melukis, Mengarang dan Perbahasan bagi generasi muda;
- ii) Suatu Seminar mengenai Kualiti Alam Sekeliling bagi golongan pembuat dasar dan keputusan dari agensi-agensinya Kerajaan dan pihak swasta;
- iii) Suatu Pertandingan Persekitaran Industri bagi golongan industri-industri di negara ini;
- iv) Suatu Peraduan Senifoto bagi mereka yang ingin menggambarkan kualiti alam sekeliling melalui fotografi; dan
- v) Bagi orang awam dan pihak-pihak berkuasa tempatan pula, suatu Penilaian Persekitaran Bandar di antara pihak-pihak berkuasa tempatan juga dijalankan.

Penilaian persekitaran bandar di antara pihak-pihak berkuasa tempatan telah selesai dijalankan baru-baru ini. Saya difahamkan bahawa Kerajaan Negeri Sembilan telah memilih Majlis Perbandaran

berentan dan Majlis Daerah Port Dickson untuk mengambil bahagian di dalam Penilaian itu. Keputusan Penilaian ini akan diumumkan pada esok hari.

Tuan-tuan dan Puan-puan,

Saya merasa sangat sukacita di atas usaha semua pihak untuk menjaga imej Port Dickson sebagai suatu kawasan pelancungan negara lebih-lebih lagi pada tahun depan, negara kita akan menjadi tuan rumah kepada Persidangan Pertubuhan Pelancungan Asia Pasifik atau "PATA Conference". Usaha untuk mengindahkan Port Dickson bukan sahaja untuk pelancung dari luar negeri, bahkan keindahannya adalah juga untuk rakyat kita sendiri supaya pelancung di kawasan peranginan seperti Port Dickson. Oleh yang demikian, penduduk-penduduk Port Dickson hendaklah merasa bangga kerana dapat duduk di kawasan yang sungguh indah seperti ini. Mereka hendaklah berusaha untuk mencegah pencemaran daripada mereka di kawasan ini. Dengan menggiatkan lagi usaha, kita bolehlah terus menikmati keindahan Port Dickson.

Semua jenis pencemaran bolehlah dikatakan berpunca dari aktiviti-aktiviti manusia. Yang ketara sekali ialah membuang sampah di merata-rata tempat. Tambahan lagi, selain daripada punca-punca perindustrian, punca-punca pencemaran yang lain termasuk pembuangan sampah-sarap rumah dan pengolahan najis.

di bawah perbekalan Perlembagaan Persekutuan. perkara-perkara yang saya sebutkan tadi adalah di bawah bidangkuasa pihak kerajaan negeri dan pihak berkuasa tempatan. Dalam hubungan ini, saya ingin menyoal pihak-pihak kerajaan negeri yang berkenaan untuk memberi keutamaan yang sepatutnya kepada perkara-perkara tersebut. Misalnya bagi pengolahan najis, ianya bolehlah diolah dan leransur-ansur iaitu dari satu kawasan ke satu kawasan berdasarkan kepada pelan induk. Berhubung dengan pelupusan sampah-sarap atau sisa-sisa pula, pertimbangan yang serius hendaklah diberikan untuk mengadakan sistem yang lebih moden bagi menyalurkan sampah-sarap. Sistem itu hendaklah termasuk pilihan-pilihan lain selain daripada cara melupuskan sampah-sarap dalam tapak pelupusan (land-fill) yang kini digunakan. Sememangnya cadangan-cadangan itu memerlukan sumber-sumber kewangan. Manapun demikian, saya yakin bahawa memandangkan projek seumpama ini adalah demi kepentingan kesihatan rakyat, sumber-sumber kewangan-nya bolehlah diperolehi jika adanya keazaman dan semangat oleh semua pihak yang berkenaan, iaitu pihak kerajaan dan rakyat, untuk memelihara kualiti alam sekeliling.

Tuan-tuan dan Puan-puan,

Saya berharap usaha yang akan dijalankan pada hari ini akan berterusan demi memperindahkan lagi kawasan pelancungan seperti Port Dickson supaya ia dapat menarik lebih ramai pelancong ke Port Dickson baik dari luar negeri mahupun dari dalam negeri.

Saya berharap Majlis Daerah Port Dickson bersama dengan Petronas akan menentukan bahawa usaha ini akan berkekalan bagi mengehadkan pencemaran demi kebahagiaan dan kesejahteraan pelancungan, pelancong dan penduduk-penduduk Port Dickson.

Terima kasih.

Ucapan Y.B. Encik Law Hieng Ding, Setiausaha
Parlimen, Kementerian Sains, Teknologi dan
Alam Sekitar di Upacara Penyampaian Resmi
Cek Oleh Syarikat-Syarikat di Malaysia kepada
Persatuan Pencinta Alam di Balai Seni Lukis
Negara pada 7hb. Jun, 1985

Yang Berbahagia Dr. Salleh Mohd. Nor,
Yang Di Pertua Persatuan Pencinta Alam.

Yang Berbahagia En. Yusuf Hashim, Wakil SHELL.

Tuan-tuan dan Puan-puan sekalian.

Terlebih dahulu saya ingin mengucapkan setinggi-tinggi penghargaan dan ribuan terima kasih kepada Syarikat-Syarikat Shell di Malaysia di atas sumbangan mereka untuk menjayakan 'Pertandingan Senilukis Kebangsaan Sekolah-Sekolah' sempena sambutan 'Satu Dekad Pengurusan Alam Sekitar dan Hari Alam Sekitar Sedunia 1985'. Saya rasa gembira kerana sumbangan Shell mencerminkan peranan, tanggungjawab dan minat sektor industri dalam perlindungan kualiti alam sekeliling dan menjadi satu teladan bagi industri-industri yang lain untuk diikuti.

Objektif pertandingan ini adalah untuk membangkitkan kesedaran dan minat murid-murid kepada haiwan dan tumbuhan di Malaysia di samping memberi peluang kepada murid-murid untuk menonjolkan bakat-bakat mereka kepada seni lukis.

Selain daripada sumbangan ini, Shell juga telah memberi sumbangan kepada Akuarium di Zoo Negara dan projek Pengindahan Pantai Port Dickson.

Syarikat-syarikat lain juga telah tampil ke hadapan untuk memberi sumbangan seperti di dalam lampiran.

Dalam perayaan tahun ini satu ciri keistimewaan adalah penglibatan dan penyertaan orang ramai dan sektor-sektor swasta termasuklah pihak' industri dan agensi-agensi bukan kerajaan dalam menganjurkan aktiviti-aktiviti sambutan ini. Ini adalah sejajar dengan konsep pensyarikatan Malaysia.

Saya ingin mengambil kesempatan ini untuk menyeru kepada syarikat-syarikat lain untuk memberi sumbangan samada dalam bentuk kewangan atau lain-lain ke atas aktiviti-aktiviti yang telah diatitkan bagi sambutan. Syarikat ini juga digalakkan untuk menganjurkan lain-lain aktiviti atau projek mengenai alam sekitar di dalam usaha meningkatkan kesedaran orang ramai mengenai isu-isu alam sekitar.

Sekian. Terima kasih.

4. Aktiviti-aktiviti Sambutan

4.1 Peringkat Kebangsaan

Beberapa aktiviti telah ditetapkan oleh Jawatankuasa dilaksanakan seperti berikut:-

- (a) Pelancaran Sambutan oleh Y.A.B. Dato' Musa Hitam, Timbalan Perdana Menteri Malaysia pada 10 Mei 1985 di Foyer Kompleks Daya Bumi.

Lebih kurang 400 orang tetamu telah hadir termasuklah duta-duta dari beberapa negara.

- (b) Pameran Satu Dekad Pengurusan Alam Sekitar
Pameran tersebut juga telah dirasmikan oleh Y.A.B. Timbalan Perdana Menteri dan berlangsung sehingga 26 Mei 1985. Setiap hari lebih kurang 400 orang pelawat telah datang mengunjungi pameran tersebut dan angka ini adalah berlipat ganda di hujung minggu.

- (c) 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.

(d) 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.

(e) Peraduan Melukis Murid-Murid Sekolah Rendah

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 di samping memberi peluang kepada murid-murid untuk menonjolkan bakat-bakat mereka kepada seni lukis.

(f) Peraduan Mengarang Essei Murid-Murid Sekolah Menengah

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.

(g) Lawatan Murid-Murid Sekolah Rendah

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 semula jadi.

(h) Debat Antara Penuntut-Penuntut 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.

(i) Pertandingan di antara Kilang-Kilang Perindustrian

Sebagai satu kempen untuk mewujudkan sikap bertanggungjawab 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. Pertandingan ini akan diselenggarakan bersama oleh Persekutuan Pekilang-Pekilang Malaysia dan Jabatan Alam Sekitar, dan akan tamat pada 30 Jun 1985.

(j) Peraduan Persekitaran Bandar Di Antara Penguasa-Penguasa Tempatan

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

(k) Projek-Projek Oleh Swasta

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

PETRONAS - Projek Pengindahan Pantai
Batu 2¹/₂ Port Dickson.

- Malaysian - Projek Pemulihan dan Mencantik-
Mining Corp. kan Tanah-Tanah Tinggal Bekas
(MMC) Lombong.
Projek Eksperimen Kelapa Sawit/
Getah di atas kawasan tahi bijeh
di 'Berjantai Tin Dredges'.
Projek Akuakultur di kolam-kolam
bekas lombong.
- SHELL - Projek Pengindahan Pantai 4¹/₂
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 telah mengadakan tema Sambutan di pintu-pintu gerbang yang sedia ada di beberapa batang jalan di Kuala Lumpur dari 9-18 Mei 1985.

(1) Persatuan Sukarela

Pihak Persatuan-persatuan Sukarela juga akan menganjurkan beberapa aktiviti-aktiviti bagi Sambutan, di antaranya ialah:-

Persatuan Pengurusan
dan Penyelidikan
Alam Sekitar Malaysia
(ENSEARCH)

Jamuan Makan Malam
dan Upacara Penyam-
paian 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 di Majalah Pengguna. |
| Persatuan Pencinta Alam Malaysia | Ekspedisi Sains Endau-Rompin. |
| Sahabat Alam Malaysia | Peraduan Mengarang untuk Sekolah-Sekolah. |

(m) Lain-Lain Aktiviti

(i) Pameran Buku-Buku Alam Sekitar

Pameran buku-buku alam sekitar di Perpustakaan Negara dan lain-lain perpustakaan awam.

(ii) 'Postal Franking' di pejabat-pejabat besar pos dari 5-31 Jun 1985.

4.2 Sambutan Peringkat Negeri

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

Sambutan di peringkat negeri adalah mengikut kemampuan Pejabat Setiausaha Kerajaan Negeri masing-masing.

JABATAN ALAM SEKITAR
KEMENTERIAN SAINS, TEKNOLOGI DAN ALAM SEKITAR

30 MEI 1985

AA/HHH/GMN/say.

UCAPAN Y.B. DATUK ANAP 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 DAYABUMI
PADA HARI JUMAT 10 MEI 1985 JAM 9.00 PAGI

KEMENTERIAN SAINS, TEKNOLOGI
DAN ALAM SEKITAR, MALAYSIA,
TINGKAT 14, MUI PLAZA,
JALAN PARRY,
KUALA LUMPUR, 04-01

Y.A.B. Dato' Musa Hitam,
Timbalan Perdana Menteri Malaysia;

Y.B. Encik Law Heng Ding,
Setiausaha Parlimen,
Kementerian Sains, Teknologi dan Alam Sekitar,
Merangkap Pengerusi Jawatankuasa Sambutan;

Y.A.B. Menteri-Menteri Besar dan
Ketua-Ketua Menteri;

Y.B. Menteri-Menteri;

Tuan-Tuan Yang Terutama Ketua Perwakilan
Negara-Negara Asing;

Tan Sri-Tan Sri/Datuk-Datuk;

Tuan-tuan dan puan-puan yang dihormati
sekalian.

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.E. Encik Law Sienq Ding dan Ahli-Ahli Jawatankuasa Pengelola Sambutan yang telah berjaya mengatitkan Majlis Pelancaran pada pagi ini.

Sambutan Ulang Tahun Ke-10 Pengurusan Alam Sekitar Di Malaysia serta Hari Alam Sekitar Sedunia Tahun 1985 dianjurkan oleh pihak Kerajaan dengan kerjasama pihak swasta, badan-badan profesional, badan-badan sukarela serta orang

perseorangan mulai hari ini sehingga pertengahan bulan Ogos 1985. Ianya bertujuan untuk meningkatkan kesedaran umum mengenai tanggungjawab bersama bagi memelihara kualiti alam sekitar. Pelbagai acara telah diatitkan 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 pembangunan serta pihak

industri yang proses pengeluarannya mengeluarkan bahan-bahan pencemar ke udara, alurair atau tanah. Saya sentiasa memandang herat 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 mengulangnaji tahap-tahap pencapaian yang lepas serta merandang 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 pembanqunan yang meremintqkan 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 penipahan 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 belajaran untuk menentukan pembangunan. Sebaliknya cara hidup yang boros dan terlalu mewah hendaklah disekatkan;

c) Fertalian di antara satu sama lain

Yanusia, sumber-sumber alam semula jadi, alam sekitar dan pembangunan adalah kait-mencari, dan dasar yang bersepadu mesti dikuatkuasakan seradai ranta-kerja untuk menghasilkan kesan-kesan yang berfaedah di semua bidang;

d) Keadaan saling berantun

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 disangka ataupun kerosakan kepada bidang-bidang yang lain, dan dalam pada itu, kemungkinan berlakunya akibat-akibat tersebut hendaklah dipertimbangkan 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;

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 mendambikira batasan yang luas sekali yang boleh membawa kesan kepada kestabilan sama ada serantau atau sedunia, dan kita mestilah sedar bahawa sumber-sumber semula jadi 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 pemerolehan saksama pendapatan kepada semua rakyat dengan tujuan mempertahankan laici Kualiti kehidupan. Oleh yang demikian, strategi kita ialah untuk memperhalusi alam sekitar di samping mematuhi 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 bidangkuasa pihak-pihak yang tertentu.

Merandangkan 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 ditugas-kan untuk menyelenggarakan 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.

Memandangkan adanya pembaharuan kompleks di dalam tadbirjawaban perundangan di antara Kerajaan Persekutuan dengan Kerajaan Negeri, maka beberapa aspek di dalam pentadbiran alam sekitar, seperti perancangan tanah, telah dengan sewajarnya tidak diliputi di dalam mana-mana perundangan dan peraturan-peraturan di bawah Kerajaan Persekutuan. Untuk menegai keadaan sedemikian, Jabatan Alam Sekitar telah menyediakan beberapa siri garis-garis 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 pentadbiran alam sekitar, walaupun ternampaknya

Jabatan ini telah masuk ke tempoh barisan kedua di dalam prosidur pentadbiran alam sekitar, iaitu berhubung dengan penilaian kesan-kesan alam sekitar ke atas projek-projek baru.

Berkenaan dengan barisan ketiga di dalam pentadbiran alam sekitar, iaitu perancangan sumber-sumber alam sekitar jangka masa panjang, yang mana merupakan langkah yang wajar ke arah pentadbiran 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 pentadbiran yang berkesan adalah bergantung kepada tahap kerjasama dan muhibah yang wujud di antara Kerajaan Negeri dengan Kerajaan Tempatan.

Tuan-tuan dan Euan-puan,

Akhirnya, saya ingin sekali lagi mendulankan bahwa 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 sejaat. Ianya hendaklah membolehkan manusia hidup dalam keadaan berharmoni dengan alam sekelilingnya. Strategi untuk pembangunan yang berterusan ini hendaklah diqubal 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.

The Honourable Mr. Law Hieng Ding,
Parliamentary Secretary of my Ministry;

Dr. Herman Haeruman,
Interim Co-ordinator,
Asean Experts Group On The Environment,

Mr. Nik Mohd. Amin Bin Nik Abu Bakar,
Secretary-General of my Ministry;

Mr. Nay Htun,
Director and Regional Representative
for Asia and The Pacific UNEP,

Mr. S.T. Sundram,
Director-General of Environment,

Distinguished Delegates;

Ladies and Gentlemen,

SPEECH BY THE HONOURABLE DATUK AMAR STEPHEN
K.T. YONG, MINISTER OF SCIENCE, TECHNOLOGY
AND THE ENVIRONMENT, AT THE OPENING OF THE
7TH MEETING OF THE ASEAN EXPERTS GROUP ON THE
ENVIRONMENT, AT GENTING HIGHLANDS, MALAYSIA
ON 2 APRIL, 1984 AT 9.30 A.M.

It is indeed a great honour and pleasure for me today to address this distinguished gathering of environmental experts and other personalities all eminent in their respective fields who have come together for this 7th Meeting of the ASEAN Experts Group on the Environment. I would like to add a special word of welcome to Malaysia to all ASEAN participants, particularly to the Delegates from Brunei Darussalam who are attending this Meeting for the first time. I hope that your stay here will be a comfortable and rewarding one.

Ladies and Gentlemen,

The people and countries in the ASEAN region have common desires and are experiencing similar difficulties in their social and economic development. The similarity is that development relies on a natural resource-base which can sustain

development, only if it is properly used and managed. Development frequently means altering both the fashion in which these resources are used and the intensity of their use. This increases the need for proper management to avoid unnecessary degradation and depletion of these natural resources and a resultant loss in development potential.

It is well known that the ASEAN region is rich in natural resources. However, the paradox lies in the fact that both development activities and the lack of these activities could have environmental implications. At the same time, many environmental problems in the ASEAN region are closely linked with poverty. This together with high rates of population growth exert pressures on resource use as well as generate demand for consumption of various

goods and services calling forth increased industrial production.

In the quest for material progress, all the countries of the region have opted for rapid economic development programmes spanning mining, forestry, agriculture, land settlement, industrial and infrastructure development. These developmental activities have reached levels at which the flows of residual materials and energy have begun to alter the physical, chemical and biological qualities of the human environment with the social cost of unbridled economic growth manifesting itself. For example, deforestation can destabilize water regimes, lead to siltation of rivers, aggravate flooding and worsen water stress during dry spells. Other negative aspects of haphazard

economic development and excessive industrialization without adequate environmental safeguards include crop damage due to increasing air and water pollution, loss of fisheries due to water pollution and dam construction, loss of food cropland to new urban centres, pollution of coastal waters caused by waste-water discharges from communal and industrial sources, loss of wildlife habitat due to infrastructural and agricultural development, increased health risks due to bio-accumulation of persistent chemicals in the environment and last but not least, urban sprawl arising from unplanned human settlements.

What is clear, however, is that the vicious circle of poverty causes increasing difficulties in maintaining the long-term

sustainability of resources and preventing damage and disruption to the environment. It is also clear that income disparity and environmental stress are closely linked. The poor, motivated by immediate short-term concerns, such as whether there is enough to eat today, are rarely mindful of the long-term effects of their activities on the environment. The rich motivated by the incentives of enhanced standard of living and maximum profits, promote excessive and often wasteful consumption of resources which also results in the pollution and deterioration of the environment. In either case, the result is exhaustion and degradation of the environment threatening the long-term sustainability of resources and limiting the availability of such fundamental essentials as food and energy.

...7/-

It is, therefore, clear that the countries of our region now face a rather complex environmental problem. Unfortunately, conventional economic analyses identify only the readily quantifiable benefits of industrialization and urbanization, and often ignore the less tangible gains due to environmental protection and conservation. The environmental losses which appear much later are not easy to quantify and do not fit into neat equations, but may often be irreversible. In this region, I believe that development alternatives that are directed towards alleviating poverty in the true sense, should also be environmentally sound. In this way, the strategies for development and environment will complement each other. This in turn will help to establish a series of compatible, fundamental objectives such as

...8/-

satisfying basic human needs, improving the people's health and living conditions, sustain development through rational management of resources and finally, respect for the limitations of the assimilative capacity of our environment.

In the light of the many advances in science and technology today, it can be said that developing countries such as ours, have better access to the means and the 'know-how' to effectively deal with environmental issues before they assume crisis proportions. There is no reason to relive the mistakes of the past. In a world facing a tight resource situation and an energy crunch, we in the ASEAN region can assure our people the full benefits from projects by forestalling negative side-effects through careful planning which takes due account of environmental factors. In general, the

relative lack of research facilities and trained key personnel in the developing countries have hampered the development and application of efficient and rational strategies for environmental protection and management.. With their relatively meagre resources, a number of developing countries have tried various innovations, modifications, and 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. The ASEAN countries in all modesty can be numbered among the moderately successful ones. We in this region are determined to pursue a development pattern which would result in significant and sustained improvement in the standard of living of the

people. In order to ensure sustained development, countries of the region have taken cognizance of their environmental issues.

Ladies and gentlemen,

Six years have passed since this Experts Group was formed. During this period, the Group has acted in an exemplary spirit of co-operation and Asean solidarity and has played an active role in a commendable manner to evolve appropriate environmental programmes in accordance with the common interest of the region. Evidence of such action is the formulation of the First ASEAN Environment Programme (ASEP I) which had succeeded in establishing the necessary groundwork vital for future regional collaboration.

...11/-

Under ASEP I, with the assistance of UNEP, action plans have been formulated for the priority areas of the Marine Environment, Nature Conservation, and Environmental Education and Training. Extensive programmes have been established under the priority areas of environmental management including Environmental Impact Assessment, Industry and Environment, and Environmental Information and Environmental Data. It is indeed gratifying that the First Phase of ASEP has been successfully completed and the stage has been set for intensified sub-regional co-operation in the environmental field.

Ladies and Gentlemen,

Despite all the efforts to protect and improve the environment in the region, many serious environmental problems remain to be

...12/-

overcome. Deforestation, soil and water degradation, diseases associated with adverse environmental conditions, changes in the atmosphere, acid rains, pollution of inland and ocean waters, careless disposal of toxic waste and the extinction of animal and plant species, can all be cited as continuing problems. These pose challenges for all of us over the next decade. In the Malaysian context, the manufacturing sector has begun to emerge as the fastest growing sector of the national economy and is well on the way to displace the agricultural sector as the mainstay of our economy. There is the on-going thrust in the direction of involvement in heavy industry coupled with projects to utilize our gas resources.

...13/-

The major development dilemma in the ASEAN region is the increasing stress on its resources brought about by the increasing tempo of development. In our early days of national development, when resources were seemingly vast and unlimited, deliberation on the choices of development alternatives did not seem necessary. Today, it has become increasingly clear that our biosphere resources are limited and prudent management of the natural resources is a crying need of the time. While pollution and conservation are important from the point of view of environmental management, its major concern is with optimal resource use, resource maintenance and enhancement. In fact, efficient environmental management can be complementary to development which is cost-effective.

...14/-

We can no longer afford the indiscriminate waste of our natural resources. Neither should we accept as inevitable the mounting costs of waste disposal. We must move increasingly toward closed systems that recycle, what now are considered wastes, back into useful products. In this respect, Malaysia can claim some credit and acknowledge the efforts of some of the industries that have moved in this direction. The Malaysian experience, particularly in recent years, has shown that several of the agro-industrial wastes are recoverable and can be of benefit. Of great additional importance is the question of creating non-waste and low-waste technologies, thus reducing or excluding harmful effects to the biosphere.

...15/-

This should aim at:-

- i) Minimizing wastes by process modification in resource development;
- ii) Utilization of wastes or its by-products;
- iii) Recovery and recycling of materials; and
- iv) Re-use of effluents.

Ladies and gentlemen,

Resource conservation should become an integral part of any waste management practice during resource development. The cycle of production-consumption-dumping is

....16/-

Y.B. Encik Mr. Law Hieng Ding,
Setiausaha Parlimen Kementerian saya;

Yang Berbahagia Encik Nik Mohd. Amin
bin Nik Abu Bakar,
Ketua Setiausaha Kementerian saya;

Tan Sri Lim Guan Eng
Yang Berusaha Encik A. Maheswaran,
Pemangku Ketua Pengarah Alam Sekitar;

Tan Sri Wang Jui Shan
Yours Excellencies & Representatives of Foreign
Missions in Malaysia;

Pegawai-Pegawai dan Pemerhati Latihan;

Tuan-tuan dan Puan-puan yang dihormati
sekalian.

SPEECH BY THE HON'BLE DATUK AMAR STEPHEN K.T.
YONG, THE MINISTER OF SCIENCE, TECHNOLOGY AND
THE ENVIRONMENT AT THE OFFICIAL LAUNCHING OF
THE "EXERCISE MALACCA '84" AT THE ASIAN &
PACIFIC DEVELOPMENT CENTRE (APDC), JALAN DUTA
ON MONDAY, 29th OCTOBER, 1984 AT 9.00 A.M.

Pengetahuan yang dipelajari dari Latihan ini akan menolong Malaysia di dalam mengemaskini serta mengulang-kaji Rancangan Kontingensi Kebangsaan 1975 untuk Mencegah dan Mengawal Tumpahan Minyak di Selat Melaka dan juga di-kawasan lain termasuk Laut China Selatan. Adalah diharap Rancangan Kebangsaan yang kemas-kini akan menjadi dasar untuk kerjasama serantau bukan hanya di antara tiga negara bersempadankan Selat Melaka dan Singapura, malahan meliputi kesemua negara ASEAN yang melingkungi lautan bersama.

It is a great pleasure for me to be here this morning to officiate the launching of "EXERCISE MALACCA '84", a simulation exercise to combat oil spills in the Straits of Malacca.

Saya merasa amat sukacita kerana dapat bersama-sama dengan tuan-tuan dan puan-puan untuk merasmikan pelancaran Latihan Melaka '84 iaitu satu Latihan Simulasi bagi Pencegahan Tumpahan Minyak di Selat Melaka.

Tujuan Latihan ini ialah untuk menguji takat kesediaan dan kekesanan Malaysia untuk menghadapi kejadian tumpahan minyak yang besar di Selat Melaka. Tambahan lagi, ia akan memberikan peluang bagi peserta-peserta Latihan Simulasi ini untuk mendapatkan pengalaman terhadap masalah yang berkaitan dengan operasi mengatasi pencemaran minyak di laut dan seterusnya mengadakan penilaian untuk mengembang dan mempertingkatkan lagi kemahiran dan kebolehan di dalam keadaan sedemikian.

Malacca, the "Showa Maru" spill in 1975 of 6,000 tons of crude oil and the "Diego Silang" spill in 1976, also of about 6,000 tons of crude oil, were the most publicised ones so far recorded. However, the biggest for the South China Sea was a 10,000 ton spill of crude oil due to a collision between two vessels in April, 1979. Collision and grounding remain the principal causes of oil spills in our waters. To clean up the mess caused by oil spills and the oily wastes discharged by passing ships, about \$4 million Ringgit had been spent since the Showa Maru incident in 1975.

Protection of the Straits from oil pollution and disposal of wastes from passing ships is manifestly both urgent and vital.

The Straits of Malacca is one of the most hazardous international sea-lanes due to its shallow and narrow waters in critical areas - in certain stretches it is less than 16 kilometres in width. It is also known to be one of the busiest and dirtiest waterways in the world. Traffic statistics for 1980 showed that there was a monthly average of 1,956 vessels passing through it, with oil tankers of different sizes accounting for about a quarter of this number. In the course of their passage, vessels are known to discharge their bilges and ballast waters, as a result of which, a good part of this inevitably ends up on our beaches as oil residues of beach tar. Between 1975 to 1980, there were no less than twenty five reported major incidents of oil pollution in our waters. In the Straits of

This concern is all the more justified as Malaysia has a relatively long sea coast of about 4,830 kilometres and endowed with valuable marine resources and ecosystems. The special characteristics of the Malaysian coastline is clearly seen in the extensive beaches which serve as national amenities, not to mention tourist attractions, and mangrove swamps in the coastal areas of Peninsular Malaysia, Sabah and Sarawak totalling some 652,000 hectares. In addition, the Straits of Malacca is the most important fishing ground in Peninsular Malaysia, accounting for 70 per cent of the total fish landings estimated at approximately 400,000 metric tons per annum. Besides, it provides employment for over 50,000 fishermen working aboard licensed boats.

With the increase in oil exploration and drilling activities off the coast of Peninsular Malaysia and off the coasts of Sabah and Sarawak as well, it can be reasonably expected that there will also be resultant increase in coastal marine pollution. A recent survey by the Environment Department of my Ministry, in collaboration with EXXON and PETRONAS, of accessible beaches along the East Coast of Peninsular Malaysia from Kota Bahru in Kelantan to Mersing in Johore and including offshore islands such as Pulau Tioman, Pulau Redang and Pulau Perhentian, has shown that more than 57 per cent of the beaches surveyed were subject to contamination by oil residues in the form of tar.

Faced with these problems, the Government on its part, has responded positively by taking

well as in the assessment of pollution damage. World statistics show that marine pollution is largely attributed to the land-based sources and not so much to vessel sources. However, in Malaysia the converse holds true. Vessels in Malaysian waters have been and remain the principal source of oil pollution.

Apart from the baseline studies on the marine environment, research on specific problem-oriented areas with emphasis on marine ecosystem is planned. To this end, the Marine Science Committee of the National Council for Scientific Research and Development is currently addressing itself to several related issues pertaining to marine biological resources, fisheries research, marine pollution, marine meteorology and oceanography.

appropriate measures aimed not only at mitigating the consequences of marine pollution, but more importantly, at alleviating or forestalling them altogether. Our approach takes two forms: firstly the management programme for the protection and conservation of the marine environment, and secondly the pollution control measures, or more aptly, the remedial action.

Under the marine environment management programme, mention must be made of the continuing efforts of the Environment Department in organizing baseline studies and monitoring programmes on coastal areas with a view to obtaining useful base data on the marine environment, its resources and state of pollution. Such information would assist in efforts to identify the present quality and factors currently influencing its quality, as

is required to keep to the western side of the Straits close to Sumatra, while westbound traffic to the eastern side close to Malaysia.

For the second approach which is pollution control, and which is relevant to this Simulation Exercise, we have the National Contingency Plan for the Control and Mitigation of Oil Spills in the Straits of Malacca. This Plan, which is jointly implemented by the Environment Department of my Ministry and the Marine Department, had an initial outlay of \$23 million Ringgit, which has since been increased to \$35 million Ringgit under the Fourth Malaysia Plan. This capital expenditure does not, of course, include the annual operational and maintenance costs of \$300,000 Ringgit by the Marine Department.

Malaysia's efforts in the prevention of marine pollution are further intensified with the implementation of the Traffic Separation Scheme in the Straits of Malacca, with effect from 1st May, 1981. This Scheme which has been endorsed by the International Maritime Organization (IMO) is administered by three countries, namely, Malaysia, Indonesia and Singapore. In Malaysia, it is directly under the responsibility of the Ministry of Transport. As you all know, the Scheme is basically aimed at navigational safety in the Straits, and it is expected to reduce the rate of accidents and as a consequence, the incidence of oil spills. Under this Scheme, all deep draught vessels and Very Large Crude Carriers shall allow an under keel clearance of at least 3.5 metres at all times during the passage through the Straits. Eastbound traffic

- (ii) Contain the spill;
- (iii) Recover the oil wherever possible; and
- (iv) Minimize environmental damage.

The Plan will be invoked in cases of both minor and major spills. For this purpose, a response procedure entitled "Marine Pollution Response Procedure" has been formulated to implement the Plan as well as to provide specific guidelines to the relevant agencies in the conduct of anti-oil pollution response action. This Procedure has been circulated to all parties responsible for clean-up operations.

The Plan, though comprehensive as it seems, might not necessarily work without the required trained manpower with expertise and special

The Contingency Plan has been implemented in stages and is now almost fully operational. So far, my Ministry has taken delivery of six barges, a fast speed patrol craft 'LANG RAJAWALI', two large workboats 'LANG SIPUT' and 'LANG TIRAM' equipped with skimmers, dispersant spray equipment and booms. Four tugboats have also been delivered and another two more will be purchased. It is our expectation that with the implementation of this Plan, Malaysia will have adequate capability to deal with oil spill incidents.

In essence, the Plan revolves round four basic principles which will be applied in any oil spill incident, namely :-

- (i) Limit the size of the spill;

introducing complementary amendments to both the Environmental Quality Act 1974 and the Merchant Shipping Ordinance of 1952 respectively. As a result of these changes in the legislations, the Director of Marine will be fully responsible for dealing with pollution from vessels, thus enabling the Director-General of Environment to concentrate his effort in addressing the problems of pollution particularly from land-based sources.

To enhance the effectiveness of these two pieces of legislations, the relevant Ministries, including my own, are in the process of preparing to ratify the three IMO Conventions, namely :

- (i) International Convention on Civil Liability for Oil Pollution Damage (CLC);

skills as well as the back-up of a properly co-ordinated organization which is efficient and dynamic.

The primary objective of this "Exercise Malacca '84", therefore, is to test the preparedness and effectiveness to deal with oil spills in terms of a prompt, smooth and speedy response in the event of a spill. In addition, it will also provide an excellent opportunity for the participants to experience at first hand and assess for themselves, the difficulties and problems inherent in cleaning-up oil pollution so as to develop and upgrade the expertise and capabilities.

I would like to take this opportunity to inform you that my Ministry together with the Ministry of Transport is in the process of

Singapore. In view of the recurrence of oil pollution in the Straits and in the region, we hold the view that the scope of the Fund should be extended so as to absorb the costs of clean-up of oil slicks in the Straits and in the region, should the origin of such slicks cannot be determined.

Ladies and Gentlemen,

As you will appreciate, the task of prevention and control of oil pollution and mitigating its effects is not one for the Government alone. It requires concerted efforts by all concerned, particularly the shipping and oil industries.

In this connection, I would like to urge those concerned to ensure that the required

- (ii) International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (FUND); and
- (iii) International Convention for the Prevention of Pollution by Ships (MARPOL).

I may also mention here that the Government together with the Governments of Indonesia and Singapore have established a separate Revolving Fund with an initial contribution of about \$4 million Ringgit from the Japanese Non Governmental Organization in 1981. The main purpose of this Fund is to provide the required advance for the immediate expenditure to be incurred in the mitigation and clean-up of major oil spills only from vessels in the Straits of Malacca and

I hope that this Exercise can be held at regular intervals so as to improve the efficiency of all agencies involved and to upgrade the skill and sharpen the alertness of every personnel at all levels, from the deck crew to the Directorate of Operations.

I also hope that the scope of the Exercise will be extended in the future. In terms of participation, it should involve many more agencies in both the public and private sectors of this country as well as from others. In terms of exercise content, it should also be comprehensive, covering many more subject matters pertaining to law, environmental damage assessment, compensation for pollution damages, scientific and technical support and other logistics, including materials supply and maintenance of equipment.

environmental protection systems are planned and installed consistent with best practicable technology. The shipping and oil industries in particular, between them have a critical role to play in the solution of our marine pollution problems. In playing that role, they must be sensitive at all times to the protection of the environment through the development of their own monitoring programmes which would help them to assess the effectiveness of pollution control systems installed as well as to identify and resolve the operational problems. This necessarily would amount to a commitment on the part of the shipping and marine industry to undertake research and development programmes on a sustained basis to help develop appropriate technology to counter marine pollution problems to the maximum extent possible.

We live in exciting times yet we should not through inertia, wanton neglect and indifference forego opportunities which open up before our very eyes through the myriad advances of science and technology. We do have our own breed of scientists and researchers of calibre who, given encouragement incentives and the right environment, can truly serve as a tremendous reservoir of talent to set us securely on the path of sensible, sustainable and sensitive development.

To optimise our prospects, the need of the hour is for intensive interaction stimulated by pooling of experiences and expertise, including the establishment of suitable clearing house mechanisms. To this end, a meeting such as this can provide stimulus and function as a pacesetter.

As the countries of the Asian region get more and more involved in a whole gamut of industrial activities another area that has emerged fraught with serious consequences is the matter of safe disposal of toxic and hazardous wastes. Lack of appropriate technology and in depth expertise in this area has resulted all too often in the indiscriminate disposal of these wastes. In Malaysia alone, there are an estimated 600 industrial establishments who generate toxic and hazardous wastes and as a first step the Department of Environment is presently compiling a comprehensive register of such establishments with details of such wastes generated by them and how disposed of.

I am confident that this Course for managers and executives will serve admirably to update and upgrade the knowledge of technology for the treatment of wastes in Asian countries.

On this note, I once again record deep appreciation to FACS and the organising committee and it is my fervent hope that this Course will be but the forerunner of more courses in related fields not only here in Malaysia but also elsewhere in this region and declare this Course officially opened.

DEPARTMENT OF ENVIRONMENT,
MINISTRY OF SCIENCE, TECHNOLOGY AND ENVIRONMENT.
MARCH, 1984.

Y.B. Encik Mr. Law Hieng Ding,
Setiausaha Parlimen Kementerian saya;

Yang Berbahagia Encik Nik Mohd. Amin
bin Nik Abu Bakar,
Ketua Setiausaha Kementerian saya;

Yang Berusaha Encik A. Maheswaran,
Pemangku Ketua Pengarah Alam Sekitar;

Yours Excellencies & Representatives of Foreign
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Pegawai-Pegawai dan Pemerhati Latihan;

Tuan-tuan dan Puan-puan yang dihormati
sekalian.

PERPUSTAKAAN
JABATAN ALAM SEKITAR

SPEECH BY THE HON'BLE DATUK AMAR STEPHEN K.T.
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THE ENVIRONMENT AT THE OFFICIAL LAUNCHING OF
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Malacca, the "Showa Maru" spill in 1975 of 6,000 tons of crude oil and the "Diego Silang" spill in 1976, also of about 6,000 tons of crude oil, were the most publicised ones so far recorded. However, the biggest for the South China Sea was a 10,000 ton spill of crude oil due to a collision between two vessels in April, 1979. Collision and grounding remain the principal causes of oil spills in our waters. To clean up the mess caused by oil spills and the oily wastes discharged by passing ships, about \$4 million Ringgit had been spent since the Showa Maru incident in 1975.

Protection of the Straits from oil pollution and disposal of wastes from passing ships is manifestly both urgent and vital.

The Straits of Malacca is one of the most hazardous international sea-lanes due to its shallow and narrow waters in critical areas - in certain stretches it is less than 16 kilometres in width. It is also known to be one of the busiest and dirtiest waterways in the world. Traffic statistics for 1980 showed that there was a monthly average of 1,956 vessels passing through it, with oil tankers of different sizes accounting for about a quarter of this number. In the course of their passage, vessels are known to discharge their bilges and ballast waters, as a result of which, a good part of this inevitably ends up on our beaches as oil residues of beach tar. Between 1975 to 1980, there were no less than twenty five reported major incidents of oil pollution in our waters. In the Straits of

This concern is all the more justified as Malaysia has a relatively long sea coast of about 4,830 kilometres and endowed with valuable marine resources and ecosystems. The special characteristics of the Malaysian coastline is clearly seen in the extensive beaches which serve as national amenities, not to mention tourist attractions, and mangrove swamps in the coastal areas of Peninsular Malaysia, Sabah and Sarawak totalling some 652,000 hectares. In addition, the Straits of Malacca is the most important fishing ground in Peninsular Malaysia, accounting for 70 per cent of the total fish landings estimated at approximately 400,000 metric tons per annum. Besides, it provides employment for over 50,000 fishermen working aboard licensed boats.

With the increase in oil exploration and drilling activities off the coast of Peninsular Malaysia and off the coasts of Sabah and Sarawak as well, it can be reasonably expected that there will also be resultant increase in coastal marine pollution. A recent survey by the Environment Department of my Ministry, in collaboration with EXXON and PETRONAS, of accessible beaches along the East Coast of Peninsular Malaysia from Kota Bahru in Kelantan to Mersing in Johore and including offshore islands such as Pulau Tioman, Pulau Redang and Pulau Perhentian, has shown that more than 57 per cent of the beaches surveyed were subject to contamination by oil residues in the form of tar.

Faced with these problems, the Government on its part, has responded positively by taking

well as in the assessment of pollution damage. World statistics show that marine pollution is largely attributed to the land-based sources and not so much to vessel sources. However, in Malaysia the converse holds true. Vessels in Malaysian waters have been and remain the principal source of oil pollution.

Apart from the baseline studies on the marine environment, research on specific problem-oriented areas with emphasis on marine ecosystem is planned. To this end, the Marine Science Committee of the National Council for Scientific Research and Development is currently addressing itself to several related issues pertaining to marine biological resources, fisheries research, marine pollution, marine meteorology and oceanography.

appropriate measures aimed not only at mitigating the consequences of marine pollution, but more importantly, at alleviating or forestalling them altogether. Our approach takes two forms: firstly the management programme for the protection and conservation of the marine environment, and secondly the pollution control measures, or more aptly, the remedial action.

Under the marine environment management programme, mention must be made of the continuing efforts of the Environment Department in organizing baseline studies and monitoring programmes on coastal areas with a view to obtaining useful base data on the marine environment, its resources and state of pollution. Such information would assist in efforts to identify the present quality and factors currently influencing its quality, as

is required to keep to the western side of the Straits close to Sumatra, while westbound traffic to the eastern side close to Malaysia.

For the second approach which is pollution control, and which is relevant to this Simulation Exercise, we have the National Contingency Plan for the Control and Mitigation of Oil Spills in the Straits of Malacca. This Plan, which is jointly implemented by the Environment Department of my Ministry and the Marine Department, had an initial outlay of \$23 million Ringgit, which has since been increased to \$35 million Ringgit under the Fourth Malaysia Plan. This capital expenditure does not, of course, include the annual operational and maintenance costs of \$300,000 Ringgit by the Marine Department.

Malaysia's efforts in the prevention of marine pollution are further intensified with the implementation of the Traffic Separation Scheme in the Straits of Malacca, with effect from 1st May, 1981. This Scheme which has been endorsed by the International Maritime Organization (IMO) is administered by three countries, namely, Malaysia, Indonesia and Singapore. In Malaysia, it is directly under the responsibility of the Ministry of Transport. As you all know, the Scheme is basically aimed at navigational safety in the Straits, and it is expected to reduce the rate of accidents and as a consequence, the incidence of oil spills. Under this Scheme, all deep draught vessels and Very Large Crude Carriers shall allow an under keel clearance of at least 3.5 metres at all times during the passage through the Straits. Eastbound traffic

- (ii) Contain the spill;
- (iii) Recover the oil wherever possible; and
- (iv) Minimize environmental damage.

The Plan will be invoked in cases of both minor and major spills. For this purpose, a response procedure entitled "Marine Pollution Response Procedure" has been formulated to implement the Plan as well as to provide specific guidelines to the relevant agencies in the conduct of anti-oil pollution response action. This Procedure has been circulated to all parties responsible for clean-up operations.

The Plan, though comprehensive as it seems, might not necessarily work without the required trained manpower with expertise and special

The Contingency Plan has been implemented in stages and is now almost fully operational. So far, my Ministry has taken delivery of six barges, a fast speed patrol craft 'LANG RAJAWALI', two large workboats 'LANG SIPUT' and 'LANG TIRAM' equipped with skimmers, dispersant spray equipment and booms. Four tugboats have also been delivered and another two more will be purchased. It is our expectation that with the implementation of this Plan, Malaysia will have adequate capability to deal with oil spill incidents.

In essence, the Plan revolves round four basic principles which will be applied in any oil spill incident, namely :-

- (i) Limit the size of the spill;

introducing complementary amendments to both the Environmental Quality Act 1974 and the Merchant Shipping Ordinance of 1952 respectively. As a result of these changes in the legislations, the Director of Marine will be fully responsible for dealing with pollution from vessels, thus enabling the Director-General of Environment to concentrate his effort in addressing the problems of pollution particularly from land-based sources.

To enhance the effectiveness of these two pieces of legislations, the relevant Ministries, including my own, are in the process of preparing to ratify the three IMO Conventions, namely :

- (i) International Convention on Civil Liability for Oil Pollution Damage (CLC);

skills as well as the back-up of a properly co-ordinated organization which is efficient and dynamic.

The primary objective of this "Exercise Malacca '84", therefore, is to test the preparedness and effectiveness to deal with oil spills in terms of a prompt, smooth and speedy response in the event of a spill. In addition, it will also provide an excellent opportunity for the participants to experience at first hand and assess for themselves, the difficulties and problems inherent in cleaning-up oil pollution so as to develop and upgrade the expertise and capabilities.

I would like to take this opportunity to inform you that my Ministry together with the Ministry of Transport is in the process of

Singapore. In view of the recurrence of oil pollution in the Straits and in the region, we hold the view that the scope of the Fund should be extended so as to absorb the costs of clean-up of oil slicks in the Straits and in the region, should the origin of such slicks cannot be determined.

Ladies and Gentlemen,

As you will appreciate, the task of prevention and control of oil pollution and mitigating its effects is not one for the Government alone. It requires concerted efforts by all concerned, particularly the shipping and oil industries.

In this connection, I would like to urge those concerned to ensure that the required

- (ii) International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (FUND); and
- (iii) International Convention for the Prevention of Pollution by Ships (MARPOL).

I may also mention here that the Government together with the Governments of Indonesia and Singapore have established a separate Revolving Fund with an initial contribution of about \$4 million Ringgit from the Japanese Non Governmental Organization in 1981. The main purpose of this Fund is to provide the required advance for the immediate expenditure to be incurred in the mitigation and clean-up of major oil spills only from vessels in the Straits of Malacca and