

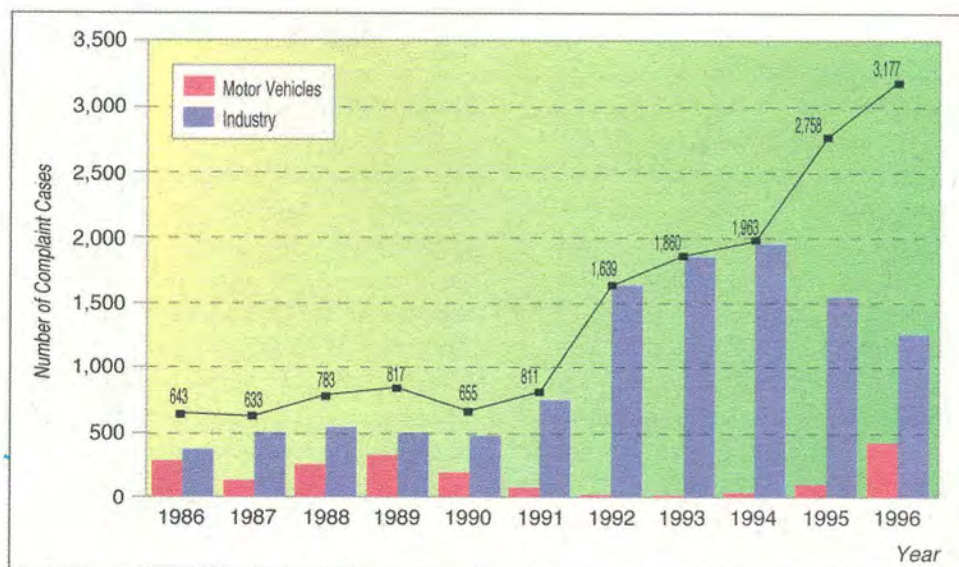


Figure 4.19 Malaysia: Trend in the Number of Complaints Cases Received by the Department of Environment, 1986-1996

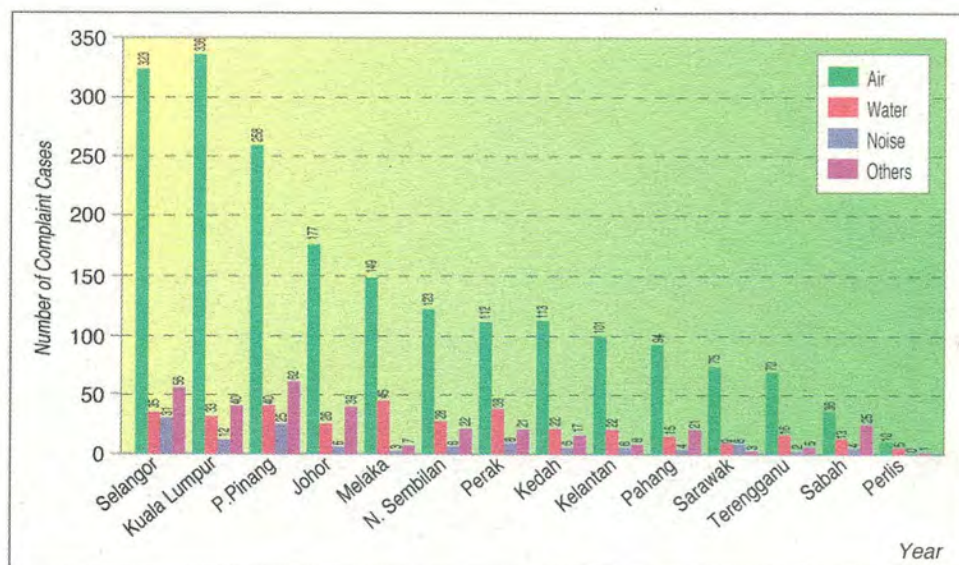


Figure 4.20 Malaysia: Nature of Pollution Complaints by State, 1996

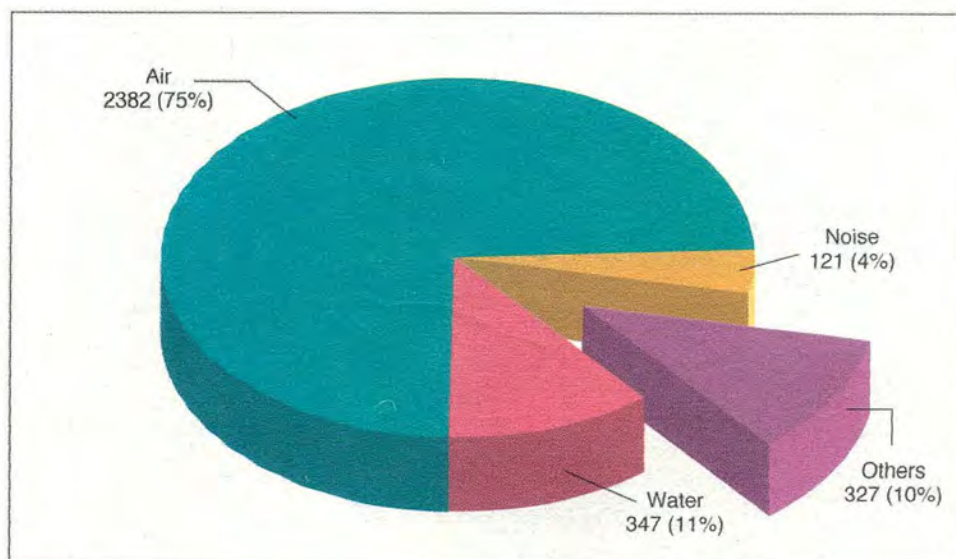


Figure 4.21 Malaysia: Nature of Complaints Received by the Department of Environment, 1996



As in previous years, complaints of air pollution which included black smoke emission from diesel motor vehicles accounted for a majority of the total pollution complaints received (75%) in 1996. Among the significant air pollution sources identified were non-industrial sources, followed by construction activities, wood-based industries and open burning at disposal sites as illustrated in Figure 4.22.

In respect of water pollution complaints, analysis showed that non-industrial sources, palm oil mills, feed mills, food and beverage industries and sewage were major contributors to water pollution as shown in Figure 4.23.

The small and medium industries contributed a great deal to the increase in the number of complaints due to their limited capital and space available to install control equipment.

LEGAL ACTION

Prosecution

Legal proceedings were taken against those who persistently flouted the law. In 1996, the court showed increasing awareness and concern for the environment by imposing more deterrent sentences. Eight (8) cases were given maximum fines of RM 10,000.00 each, three in Kuala Lumpur, four in Selangor and one in Negri Sembilan, involving open burning and discharging of effluent exceeding standards.

In 1996, a total of 256 cases were prosecuted under the Environmental Quality Act, 1974 and regulations made thereunder as shown in Figure 4.24. A sum of RM 1,183,000.00 were collected, an increase of 132% from the previous year.

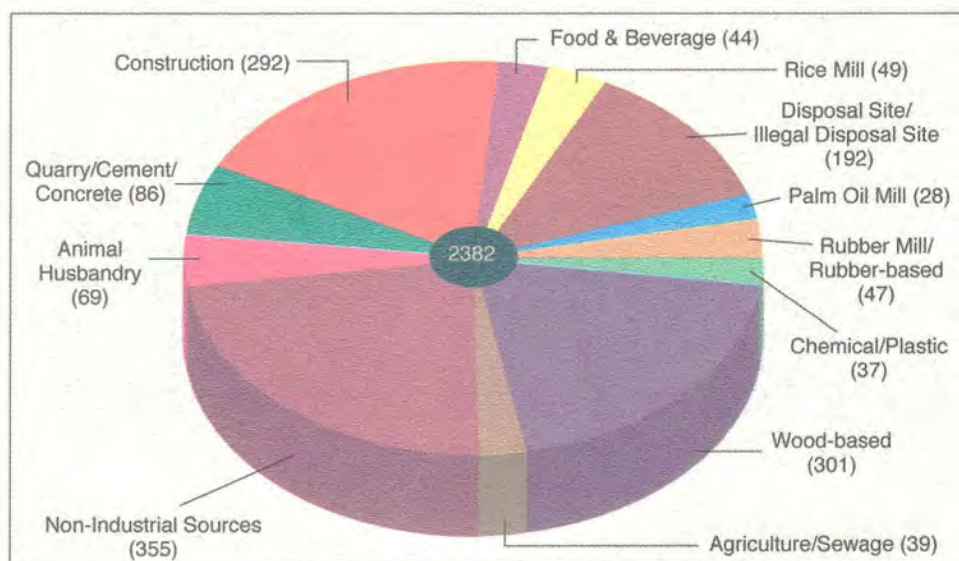


Figure 4.22 Malaysia: Sources of Air Pollution Complaints, 1996

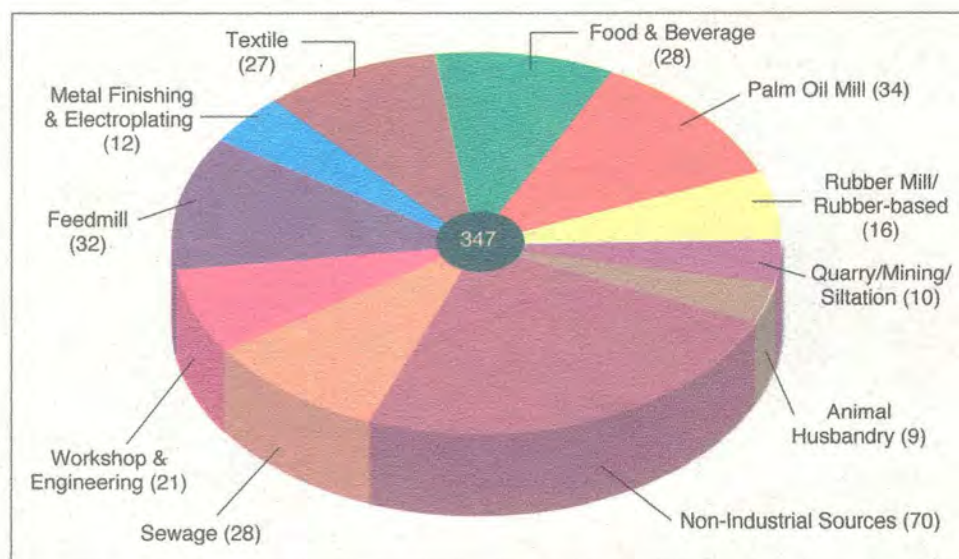


Figure 4.23 Malaysia: Sources of Water Pollution Complaints, 1996.

Figure 4.25 shows the breakdown of prosecution cases according to States over the period of 1980-1996. About 60% of the offences committed in 1996 were cases involving discharge of effluent exceeding the stipulated standards, in contravention of Section 25 of the Environmental Quality Act 1974 as illustrated in Figure 4.26.

Compounds

In 1996, a total of 2092 compounds were issued for various offences and of RM 1,168,820.00

were collected, a decrease of 10.5% over the previous year. Seventy one per cent of the compound cases were offences under the Environmental Quality (Clean Air) Regulations 1978 pertaining to open burning offences, while the remaining 29% were offences involving scheduled waste handling as shown in Figure 4.27.

Figures 4.28 and 4.29 give a breakdown of cases compounded under the two sets of Regulations.

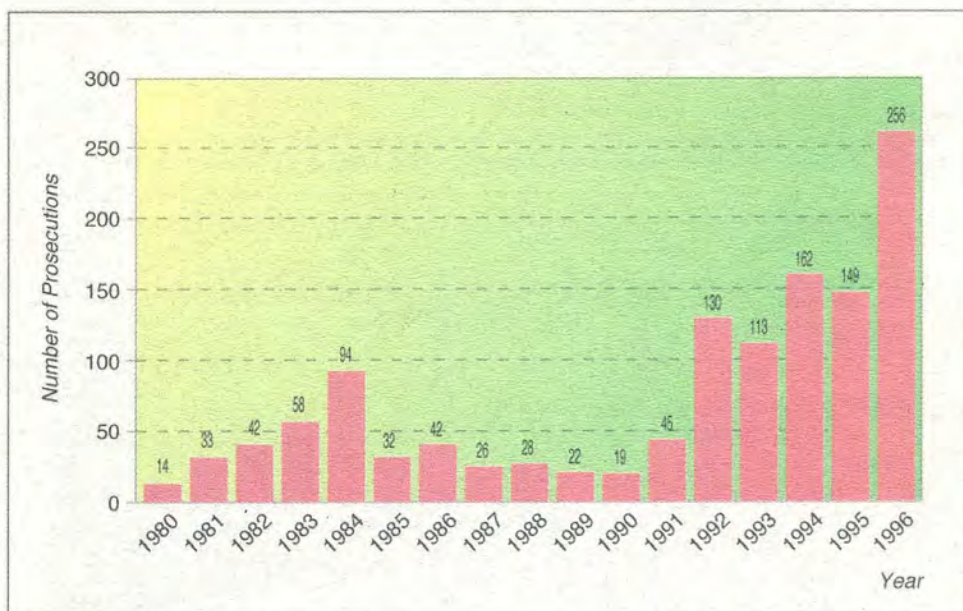


Figure 4.24 Malaysia: Number of Offences Prosecuted under the Environmental Quality Act, 1974 and Regulations made thereunder, 1980-1996

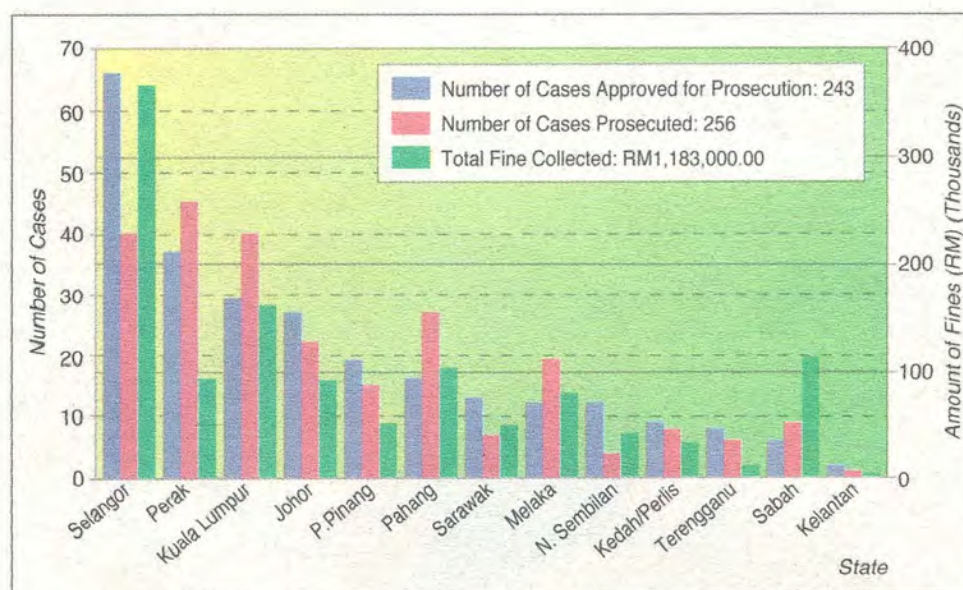


Figure 4.25 Malaysia: Cases Approved, Prosecuted and Fines Imposed by States, 1996



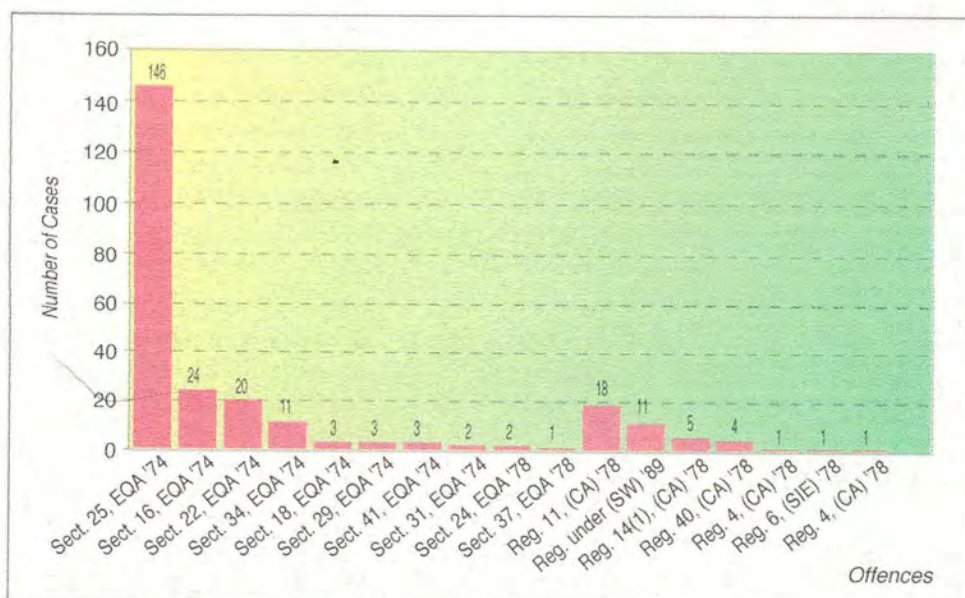


Figure 4.26 Malaysia: Number of Cases Prosecuted by Type of Offences, 1996

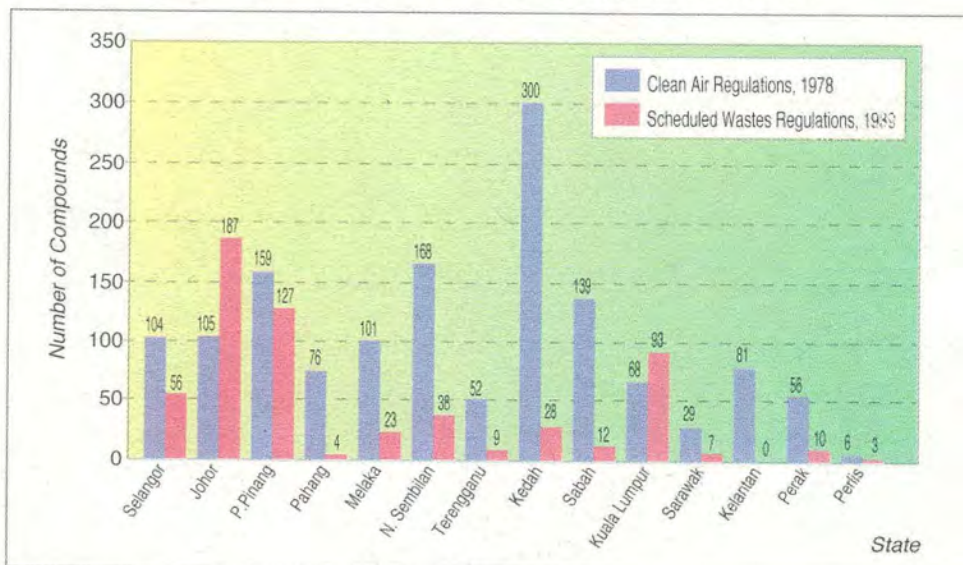


Figure 4.27 Malaysia: Number of Compounds Issued by State and Type of Offences, 1996

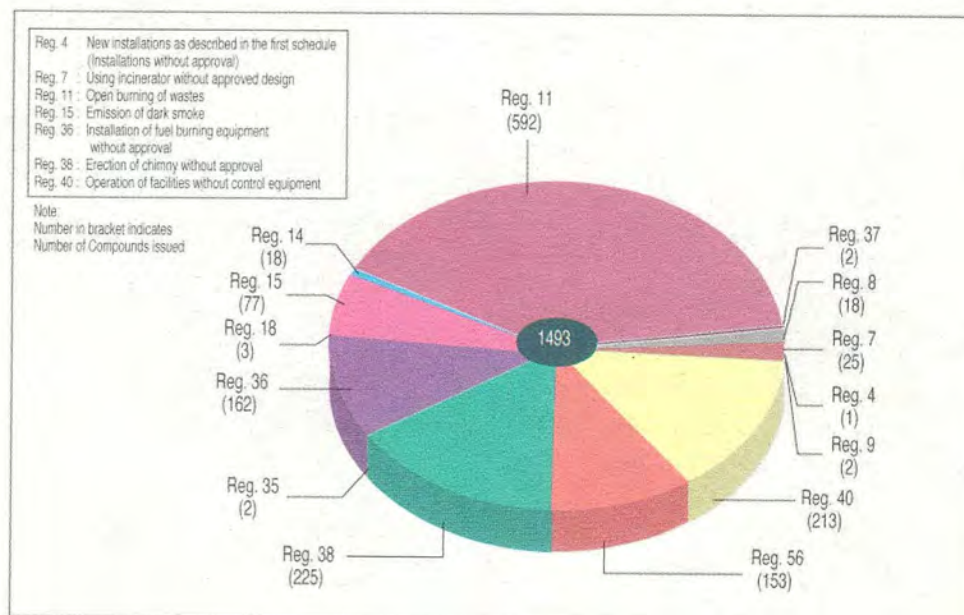


Figure 4.28 Malaysia: Cases Compounded under the Environmental Quality (Clean Air) Regulations, 1978. Numbers by Type, 1996

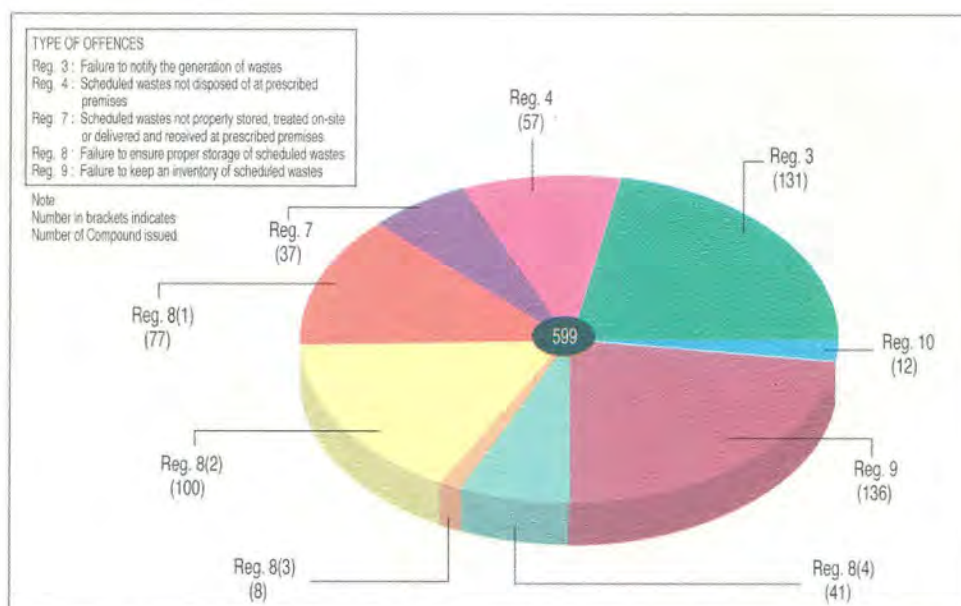


Figure 4.29 Malaysia: Cases Compounded under the Environmental Quality (Scheduled Wastes) Regulations, 1989, Numbers by Type, 1996

OIL SPILL RESPONSE

Oil Spill Incident

In March 1996, a major oil spill incident occurred at the Bintulu Crude Oil Terminal (BCOT) about five nautical miles offshore of Bintulu Sarawak, whereby 4,530 barrels of oil spilled into the sea during the initial stage of loading operation. This was caused by the complete rupture of the floating hose. Action for combating and beach clean-up operation under the first tier of National Oil Spill Response Plan was initiated by the spiller Shell Sarawak was done by the Sarawak Shell Bhd.

National Contingency Plan on Oil Spill Response

The National Oil Spill Contingency Plan to combat oil spills in Malaysian waters was further strengthened with the establishment of Oil Spill Beach Clean-up Committees at each State and the Beach Clean-up Fund.

Oil Spill Exercise

The Standard Operating Procedure between Malaysia and Brunei Darussalam for Joint Oil Spill Combat for South China Sea and Brunei Bay was tested by way of a table top exercise was held on September 24, 1996. The main objective was to test the communication linkage between all relevant authorities and parties in each country.

MARINE ENFORCEMENT PROCEDURE

Enforcement Procedure and Training

The Second Marine Pollution Enforcement Procedure Training Course was held on 21 - 25 May 1996 at Selesa Hotel, Pasir Gudang, Johor Bahru. Representatives from relevant agencies attended the course. Such training helped to strengthen cooperation between the various maritime enforcement agencies.

Detention of Vessel

More stringent requirements for release of ship detained for oil pollution were developed. They included:

- (i) undertaking by the ship owner to appear in court for any proceedings against him;
- (ii) authorization by ship owner to an advocate and solicitor to receive writ on his behalf; and
- (iii) submit a security to the Government of Malaysia; such amount being a sum sufficient to cover and meet the costs and expenses that could be incurred to remove and eliminate the pollution.

Sample format for Detention Order and Bank Guarantee are as in Attachment 4.1 and 4.2.





Site visit during the Marine Pollution Enforcement Procedure Training Course on May 21-25, 1996 at Pasir Gudang, Johor.



Dialogue between The Honourable Minister of Science, Technology and the Environment and Representative of the Shipping Industry on January 9, 1996.

Oily Discharges

In 1996, a total of 60 incidents of discharging oily waste into Malaysian water were reported as shown in Table 4.2.

Dialogue with Shipping Industry

On January 9, 1996 a dialogue between the Minister of Science, Technology and the Environment and representatives from the shipping industry was held. The purpose of this dialogue was to discuss matters relating to marine pollution as well as to seek further cooperation from the shipping industry to deal

with marine pollution. The issues raised were as follows;

- (i) Prohibition of discharges of oil or wastes into Malaysian waters;
- (ii) Sludge disposal from tankers;
- (iii) Awareness of Malaysian laws and International Conventions on Marine Pollution;
- (iv) Oil spill response and preparedness and reporting;
- (v) Marine enforcement procedure;
- (vi) Lack of reception facilities and cost of deslopping;
- (vii) Annex II of MARPOL 73/78 Convention;

Table 4.2 Malaysia: Oil Spills Incidents, 1976 - 1996

MONTH	NUMBER OF OIL SPILLS INCIDENTS																						TOTAL
19....	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96		
JANUARY	-	-	-	-	1	1	1	-	1	-	4	-	5	1	-	3	-	1	2	6	6	32	
FEBRUARY	-	-	-	-	-	-	3	-	1	-	-	2	3	-	-	-	2	1	1	4	5	22	
MARCH	-	-	-	-	2	1	-	1	1	2	2	-	3	3	-	-	-	4	1	2	8	30	
APRIL	-	-	-	-	-	1	2	-	1	-	-	-	-	2	-	2	-	1	1	1	4	15	
MAY	-	1	-	-	1	1	2	-	1	-	1	-	2	2	-	-	-	1	3	15	5	35	
JUNE	-	-	-	-	1	2	-	1	-	1	4	2	2	2	6	2	1	4	1	15	3	47	
JULY	1	-	-	-	3	-	-	-	-	-	5	1	2	2	-	1	1	3	1	15	5	40	
AUGUST	-	-	-	-	1	-	-	1	-	3	4	3	5	1	1	2	4	2	1	10	4	42	
SEPTEMBER	-	-	-	-	3	2	1	-	-	-	3	-	2	2	1	1	4	2	3	5	5	34	
OCTOBER	-	-	1	-	-	2	1	-	-	-	-	1	1	4	1	1	1	2	-	11	8	34	
NOVEMBER	-	-	-	-	1	1	2	1	-	-	1	1	1	-	-	-	2	2	2	7	6	27	
DECEMBER	-	-	-	-	-	1	1	1	-	-	1	4	-	3	-	-	1	1	1	2	1	17	
TOTAL	1	1	1	-	13	12	13	5	5	6	25	14	26	222	9	12	16	24	17	93	60	375	

- (viii) Facilities to receive sludge accumulated in machine space and pump room; and
- (ix) Transportation of toxic waste.

Ratification

On October 14, 1996, the Government of Malaysia ratified the United Nations Convention on the Law of the Sea (UNCLOS)

1982. The Convention laid down the various regimes for the proper utilization of the sea, the rights and obligation of the coastal/user States, safety of navigation, marine pollution control and prevention, exploitation of living and non living resources, marine scientific research and dispute settlement.



BANK GUARANTEE

Your Ref:
Our Ref:
Date :

The Director General
Department of Environment
KUALA LUMPUR

Dear Sirs,

VESSEL:

DATE:

OUR LETTER OF GUARANTEE NO. < Number of Guarantee Letter >

FOR AMOUNT :

DATE :

In consideration of your release and refrain from arresting or otherwise detaining the above vessel in connection with the discharge of oil or pollutants in contravention of Malaysian Law, we < Name of Bank with address > hereby undertake to pay you on demand a sum inclusive of interest and costs not exceeding RM _____ (Ringgit Malaysia: _____) which may be due to you in respect thereof from the owners of the above vessel.

We further agree that this Guarantee shall be a continuing guarantee for a period of three (3) years from the date hereof and will expire at the close of banking hours at this office on < date > except when renewed on demand by writing from you before the expiry date. The granting of any time or other indulgence to the owners by you, your servants or agents shall not in any way avoid or prejudice your rights herein.

Our liability is limited to the sum RM _____ (Ringgit Malaysia: _____). Notification of claims as stipulated herein above must be in received in writing by the Bank before the expiry date. Upon expiry, this guarantee shall become null and void whether return to us for cancellation or not and no claim hereunder will be entertained.

This Guarantee shall be governed and contrued in accordance to the laws of Malaysia.

Yours faithfully,

.....
Bank Manager

Attachment 4.2

DETENTION ORDER

_____, 199_

Owner or Master

Vessel _____

OFFENCES UNDER ENVIRONMENTAL QUALITY ACT 1974

1. Upon investigation carried out by the Malaysian authorities, we have reasons to believe that you, the owner /master of vessel _____ on the _____, 199_ at about _____ hrs at Lat. _____ N, Long. _____ E have discharged or spilled pollutants into Malaysian waters.
2. Legal action is being instituted against you and you are not to remove your ship which is to be evidence to be produced for legal proceedings.
3. The Director General of Environment would be prepared to release your vessel:-
 - (i) upon completion of investigation and preliminary legal proceeding by the authorities;
 - (ii) you undertake to appear in court for any proceedings against you;
 - (iii) your irrevocable authorization to a an advocate and solicitor to receive writ on your behalf, and
 - (iv) you submit a security of RM _____ (Ringgit Malaysia: _____) to the Government of Malaysia; such amount being a sum sufficient to cover and meet the costs and expenses that may be incurred in removing and eliminating the pollutants.

(IR. TAN MENG LENG)

Director-General of the Environmental Quality,
Malaysia.

Environmental Assessment

Chapter 5



ENVIRONMENTAL ASSESSMENT

Introduction

The Environmental Impact Assessment (EIA) procedure has been implemented for the past 8 years since the coming into force of the Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 1987 on 1st April 1988. Since then, the Department had reviewed a total of 1825 reports comprising of 1745 preliminary and 12 detailed EIA reports. The numbers of reports have been increasing over the years as can be seen from Figure 5.1. Various measures have been taken to enhance the EIA procedure inter-alia, decentralization, publication of specific guidelines and the establishment of "one-stop-agency" for processing EIA reports. However there were still shortcomings such as uniformity in EIA processing among State Offices, monitoring compliance of EIA approval conditions and greater public involvement in decision making.

A general review was therefore undertaken to gauge the effectiveness of the various measures implemented. Arising from this review, new approaches were introduced to improve the EIA procedure.

NEW APPROACHES

Public Participation in formulation of TOR

For the first time the Terms of Reference (TOR) for detailed EIA reports were displayed for public

comments. This would promote early exchange of views and information and concerns. It assisted project proponents to identify all the relevant issues at an early stage and to address them in the course of preparing the EIA report. The process greatly benefited the project proponent as it resulted in overall time saving in project planning and better decision making as a result of more information. The general public were also invited to sit on the review panels to ensure that reports were more comprehensive and thus accelerate the review process.

Guidelines for enforcement of EIA compliance

Approval of EIA report is only the first step in the overall EIA process. Project proponents must be committed to implement all mitigation measures proposed in the EIA reports. It is therefore vital that monitoring and enforcement of projects for compliance of EIA conditions be carried out to ensure that the whole EIA process is not reduced to a mere formality. A set of guidelines comprising types of information required, reporting format and sampling procedures had been prepared for use by State Offices.

Guidelines for reviewing EIA reports

With the decentralization of EIA review to the State Offices beginning in 1992, there is a need to relook at the review process to ensure uniformity of procedure among all the State Offices. Areas studied include techniques and

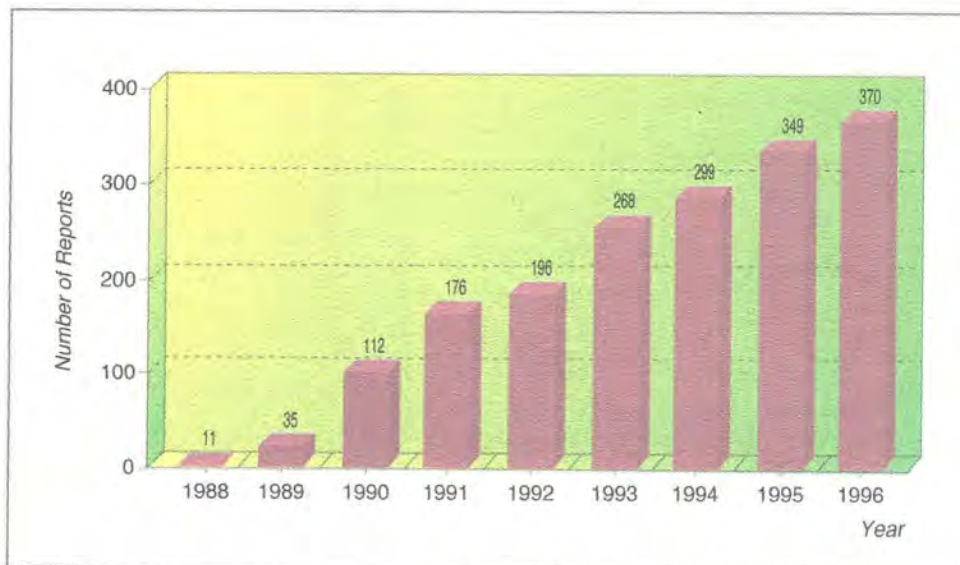


Figure 5.1 Department of Environment: Distribution of EIA Reports, 1 April 1988 - 31 December 1996



review methodology, criteria and basis for approval or rejection of reports and the conditions of approval. Towards this end, a Workshop was held and participated by all State Directors and Officers responsible for reviewing EIA reports, to draw up a set of guidelines and checklist for EIA report review. With these guidelines it is hoped that there will be greater transparency in the EIA review procedure.

Detailed EIA Report Procedure

After reviewing past records and experiences DOE decided that projects that are potentially polluting such as pulp and paper mills, coal-fired power plants, cement plants, iron and steel mill as well as large scale land clearing in sensitive areas would require detailed EIA reports to be submitted. This would enable significant potential impacts to be identified early and specific mitigating measures to be proposed. For a well-informed decision, as much information as possible had to be made available. Other than EIA reports being displayed for public comments, the TORs were also displayed for the same purpose. Independent experts and interested members of the public with the necessary qualification were invited to be in the review panel. As a first step towards third party review detailed EIA reports as well as project proponents were required to bear the cost of TOR, public announcement and the cost of the review process including honorarium for review members panels to reduce the burden for the Government.

Code of Practice for Earthworks

One of the main pollutants in our rivers is suspended solids arising from uncontrolled land clearing. Other than causing pollution of the rivers, it has also given rise to flash floods which is occurring at a much greater frequency than before. A proposal was put forward to housing developers and contractors to draw up a Code of Practice relating to earthworks. Due to the poor response from the industry, the Department took it upon itself to draft a Code of Practice. A panel of experts comprising of practicing engineers were called upon to assist the Department and a Workshop was also held to gather actual on the ground experience by some reputable developers in controlling and managing earthworks. It is expected that the Code will be ready by early 1997. Meanwhile, the requirements are now incorporated into approval condition for new projects.

In addition, all new projects having substantial earthwork component were required to prepare detailed implementation plan framed before work course proceeded. Phase implementation had been made mandatory and local authorities were requested to assist. For all projects subjected to the EIA Order, the Department also made it a condition that earthworks should follow the new schedule, which requires the preservation of trees, construction of drainage system, retention pond, silt traps, slope stabilization and turfing at an earlier stage.

EIA REPORTS PROCESSED IN 1996

Preliminary EIA reports continued to be processed by the State Offices while detailed EIAs and EIAs of projects that straddle across States were processed at the Head Office. To ensure thorough and comprehensive review, the time frame for reviewing EIA reports as stated in the Client's Charter was revised. For projects in sensitive areas, highland and land reclamation the processing period was increased to 3 months. In 1996 a total of 379 EIA reports including 4 risk assessment reports were received (Figure 5.2 to Figure 5.6).

Preliminary Reports

Out of the 370 reports received, housing projects accounted for 98 of them and quarry operation 61. The continuing development of the housing and infrastructure sector would involve much land clearing activities. Proper controls have to be in place to prevent massive soil loss leading to silting of the rivers and consequential occurrence of flash floods.

Detailed Reports

In 1996, four detailed EIA reports were received:

- (a) KL LinearCity Sdn Bhd, Kuala Lumpur;
- (b) Malaysia Newsprint Industries, Temerloh, Pahang;
- (c) Borneo Pulp and Paper Sdn Bhd, Tatau, Sarawak;
- (d) Straits Cement Sdn Bhd, Kuala Perlis, Perlis;

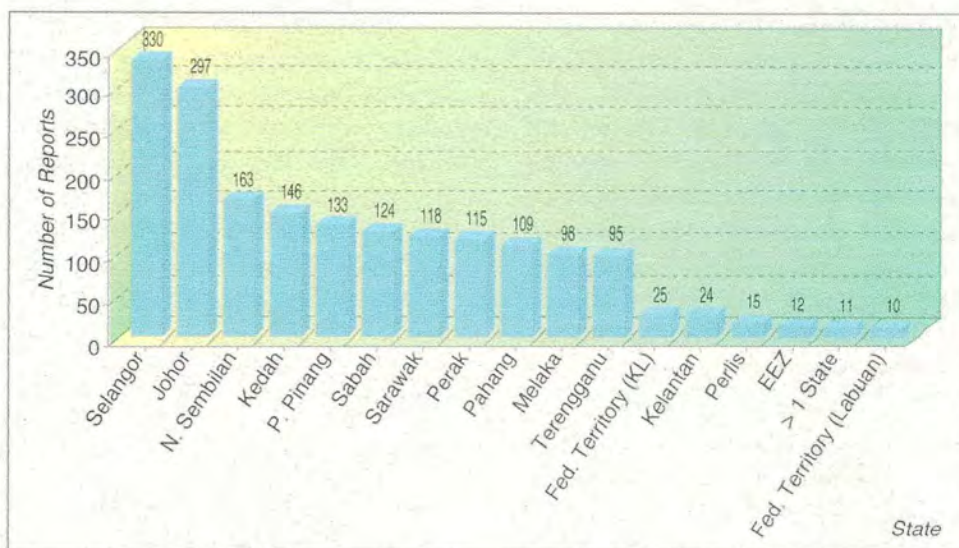


Figure 5.2 Department of Environment: Distribution of EIA Reports Submitted by State, 1988 - 1996

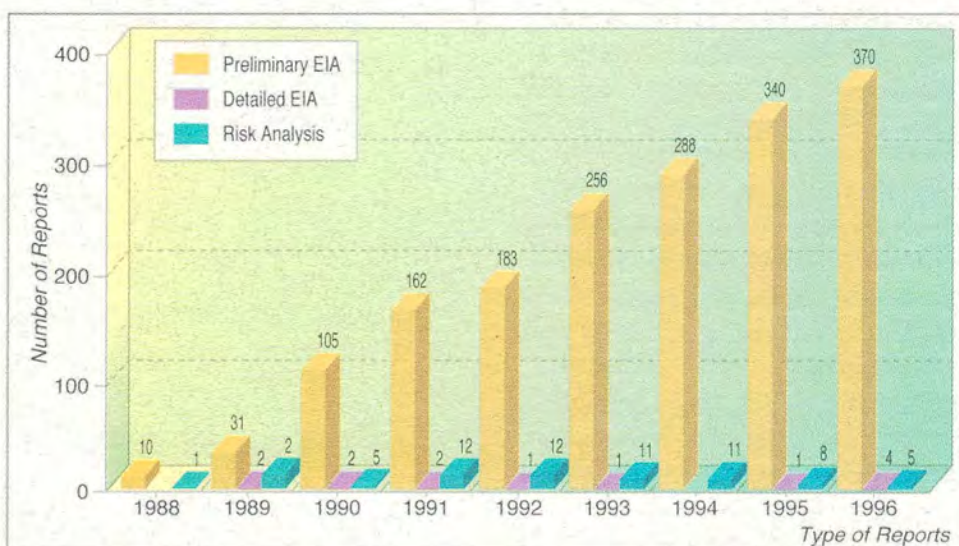


Figure 5.3 Department of Environment: Type of EIA Reports Submitted, 1988-1996

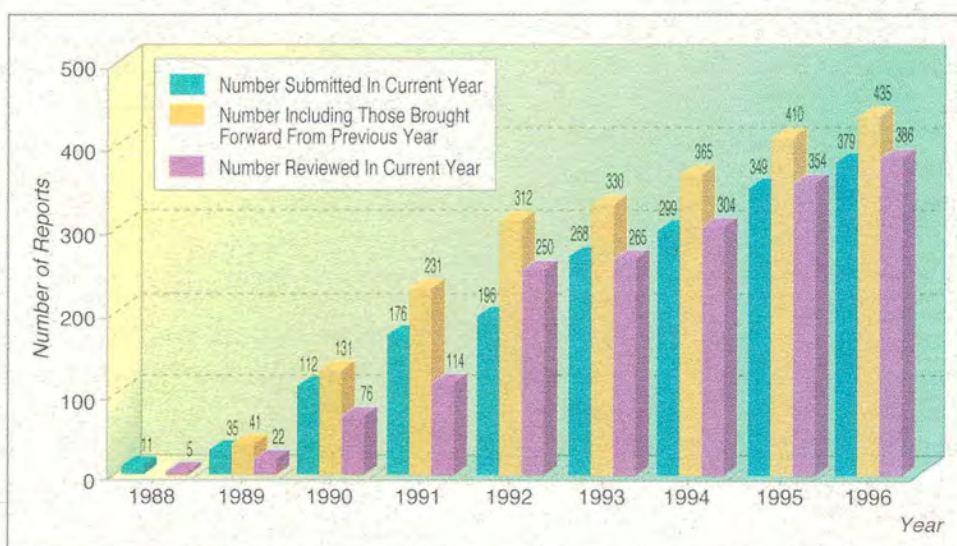


Figure 5.4 Department of Environment: Number of EIA Reports Submitted and Reviewed, 1988 - 1996

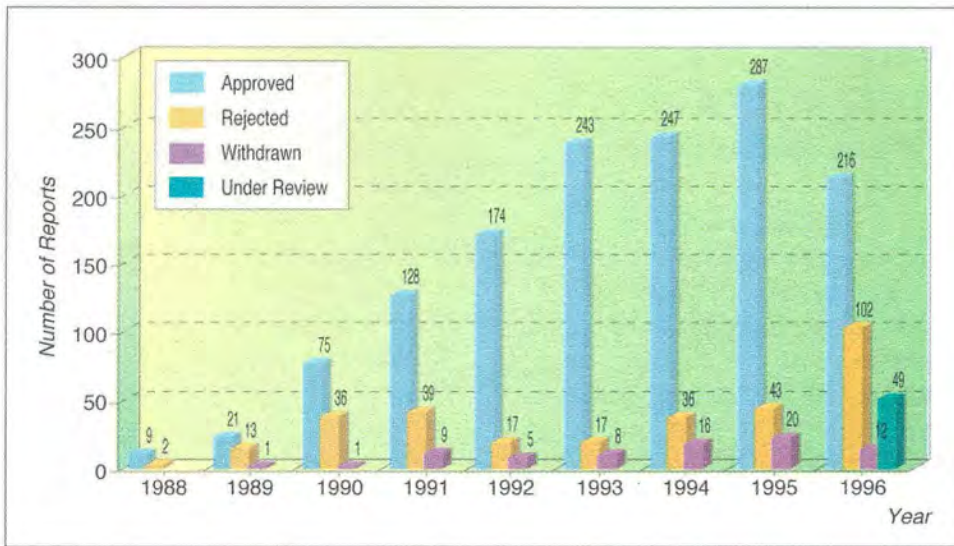


Figure 5.5 Department of Environment: Number of EIA Reports Processed, 1988 - 1996

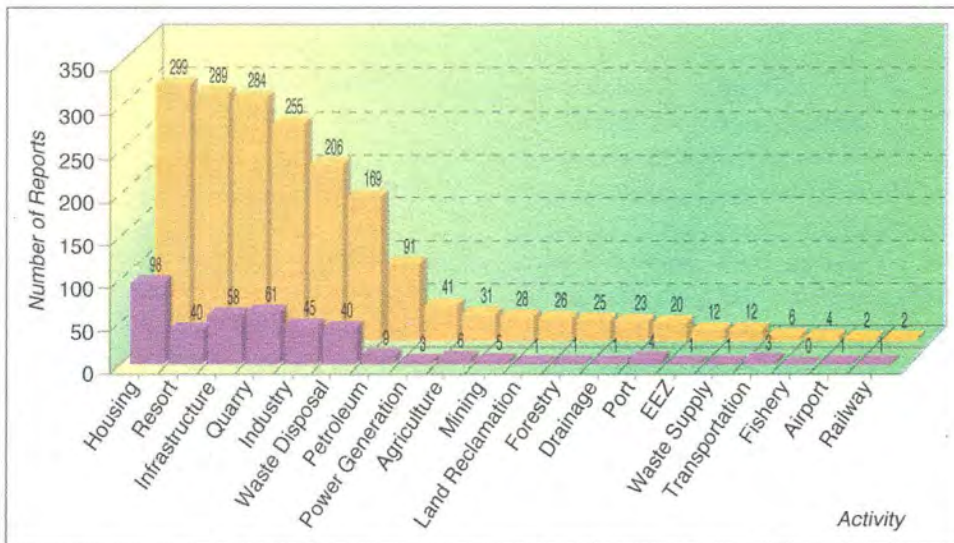


Figure 5.6 Department of Environment: Number of EIA Reports Submitted by Category of Activity, 1988 - 1996

In 1996, five State Governments i.e. Melaka, Kedah, Perak, Perlis and Negri Sembilan announced plans for sea reclamation for development which would involve a total area of 32,000 hectares. It was envisaged that the reclamation would be undertaken by different developers even at one particular site. Due to the potential impacts of each project and the need to have a holistic approach, the Department proposed that an overall EIA or macro EIA be conducted for each site. The Melaka State Government responded positively and agreed to such an EIA with the cost to be borne by the developers concerned.

EIA Compliance of Hill Slope Development

Development in the highland areas needed to be monitored more closely due to the environmental

issues that would arise in these sensitive areas. To ensure that these developments complied with the EIA approval conditions, 27 projects involving hill components were inspected. As a result of these enforcement visits, 7 court cases were taken against developers for non-compliance. Total fines of RM38,000 were imposed by the courts.

Enforcement Status for Projects Subjected to EIA

In 1996, DOE conducted 467 enforcement visits on projects that were subjected to EIA to make sure that project proponents complied with the EIA approval conditions. From these visits, 133 notices were given to project proponents that did not comply with the EIA approval conditions. For the year 1996, 10 project proponents were taken to court for non-compliance with the EIA conditions.

ENVIRONMENTAL INPUT TO DEVELOPMENT PLANNING

In ensuring that environmental factors were taken into account in development plans, the Department was called upon to provide environmental inputs. Environmental inputs were incorporated into the formulation of Development Plans for Recreational Islands in Peninsular Malaysia, IT-City Development Plans, Semerak Rural Development Project and the Environmental Management Plan for Beris Dam.

Geographical Information System

The mapping of EIA projects in the States of Selangor, Pahang and Johor were completed. The thematic maps produced contain information on the distribution of EIA projects and date of approval/rejection of EIA reports. The pilot project on Environmental Decision Support System (EDSS) which started in 1995 was further developed to support daily activities performed by the Kuala Lumpur Office. Other work carried out were information retrieval from GIS spatial database to facilitate dissemination and presentation of information in support of the Department's activities.

The Coastal Zone Environmental and Resource Management Project (CZERMP) under

the ASEAN-Australia Economic Cooperation Programme entered its second year of implementation. Oil spill response information system and coastal erosion information system were developed. The next phase of this project would involve training for end-users such as State Offices and the Department of Drainage and Irrigation.

Project Pre-siting Evaluation

As in previous years, the Department continued to give input to approving authorities on the suitability of project sites taking into account environmental considerations. A total of 6,820 applications were received and processed in 1996. Johor again received the most number of applications followed by Perak and Pahang. The number of applications for pre-siting evaluation by State is as shown in Figure 5.7.

Approval of Equipment/Facility

As required under the Environmental Quality Act 1974 and Regulations made thereunder, any person intending to carry out activities likely to release pollutants to the environment must obtain written permission from the Director General of Environmental Quality prior to the installation of such facilities. This is to ensure that adequate pollution control measures are incorporated to meet emission and discharge standards. Two types of written permission are generally

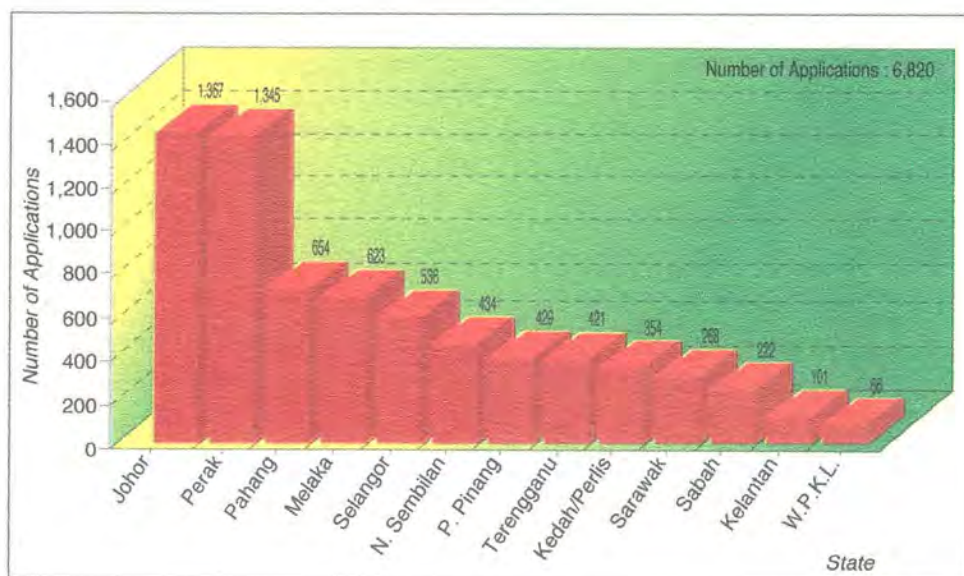


Figure 5.7 Malaysia: Applications for Pre-siting Evaluation of Development Projects, by State, 1996



Workshop On Code Of Practice for Soil Erosion and Siltation Arising from Earthworks Activities

required. One dealing with the construction of wastewater treatment plant and the other with installation of fuel burning equipment including chimneys.

Wastewater Treatment

The Department's State Offices processed a total of 579 applications for the construction of wastewater treatment plants. With the commissioning of these plants an additional 87,306 m³/day of effluent would be treated.

Fuel Burning Equipment

A total of 1,104 applications for the installation of fuel burning equipment were received by the State Offices. The use of these equipments would result in the additional consumption of liquid fuel by 429 tonnes/hour and solid fuel by 391 tonnes/hour.

DOE ADVISORY SERVICES CENTRE AT MIDA

The Advisory Centre continues to assist to facilitate investors in obtaining approvals for manufacturing licenses, tax incentives and general advice on environmental requirements. Table 5.1 shows the number of investments approved for the 1995-1996 period. From the 782 projects approved, it is estimated that RM3.4 million would be spent on pollution control and RM144 million on environmental protection measures.

Other than investment on pollution control by individual companies, the Integrated Waste Management Facility at Bukit Nanas, Negeri Sembilan had invested RM320 million to build a facility for treating scheduled waste generated by industries. To date, Indah Water Consortium (IWK), had invested RM417 million to refurbish and build new plants for sewage treatment.



Tunnel Construction at Karak Highway, showing slope stabilization to avoid erosion



Table 5.1 Malaysia: Projects Approved by Industry, 1996 and 1995

Industry	Number		Potential Employment		Proposed Called-up Capital (RM Million)		Loan (RM Million)		Total Proposed Capital Investment (RM Million)	
1996*	1995	1996*	1995	1996*	1995	1996*	1995	1996*	1995	
Electrical & Electronic Products	215	194	37,865	39,821	4,010.4	811.7	9,051.5	2,340.1	13,061.9	3,151.8
Paper, Printing & Publishing	29	21	4,168	1,824	1,598.2	164.2	2,586.6	182.4	4,184.8	346.6
Chemicals & Chemical Products	55	82	2,640	4,040	1,018.3	265.4	2,323.9	1,634.7	3,342.2	2,900.1
Non-Metallic Mineral Products	35	87	2,809	8,526	637.3	988.9	2,700.7	3,056.6	3,338.0	4,045.5
Natural Gas	1	-	402	-	2,137.0	-	-	-	2,137.0	-
Petroleum Refineries/Products	5	4	395	374	272.3	262.1	1,303.3	446.1	1,575.6	708.2
Basic Metal Products	39	37	3,015	4,233	463.1	958.0	731.7	2,483.0	1,194.8	3,441.0
Transport Equipment	46	59	4,067	5,442	387.7	431.5	795.7	983.2	1,183.4	1,414.7
Fabricated Metal Products	60	50	5,231	5,256	436.5	146.0	535.1	410.8	971.6	556.8
Wood & Wood Products	51	78	7,452	20,800	225.0	581.7	597.6	1,292.5	822.6	1,874.2
Machinery Manufacturing	60	36	5,020	3,184	312.7	106.9	264.3	205.7	577.0	312.6
Textiles & Textile Products	38	38	3,807	4,640	132.8	217.2	346.7	417.7	479.5	634.9
Plastic Products	52	76	3,906	4,604	124.4	166.6	257.7	261.0	382.1	427.6
Food Manufacturing	30	37	2,620	2,616	117.7	176.4	258.5	323.0	376.2	499.4
Rubber Products	14	35	1,984	2,963	178.3	91.6	62.8	79.6	241.1	171.2
Furniture & Fixtures	30	45	3,924	8,001	56.7	91.1	98.6	146.5	155.3	237.6
Scientific & Measuring Equipment	6	2	1,305	69	11.5	4.0	50.1	0.6	61.6	4.6
Beverages & Tobacco	3	2	212	6	9.9	4.5	19.1	2.3	29.0	6.8
Leather & Leather Products	2	3	235	559	7.0	26.4	14.8	39.3	21.8	65.7
Miscellaneous	11	12	834	649	48.1	29.9	74.0	39.9	122.1	69.8
Total	782	898	91,891	117,607	12,184.9	6,524.1	22,072.7	14,345.0	34,257.6	20,869.1

Note:-

*Provisional Figures as at January, 1997.

Source: MIDA

Programme Development

Chapter 6



REVIEW AND FORMULATION OF REGULATIONS

The efforts of the Department of Environment since June 1992 to address weaknesses and inadequacies of the Environmental Quality Act of 1974 (EQA) for purposes of controlling new and emerging environmental issues, and the enhancement as well as streamlining of enforcement and administrative needs of the Department, finally came to fruition when the Bill to amend the EQA was tabled and approved by Dewan Rakyat and Dewan Negara in April and June 1996 respectively. The Bill was given the Royal Assent in July 1996 and the Environmental Quality (Amendment) Act 1996 was gazetted and came into force on 1 August 1996.

In order to disseminate information on the new provisions and amendments in the amended EQA, the Department organized a workshop entitled Environmental Quality (Amendment) Act 1996 on 30 September 1996 in Kuala Lumpur. The workshop was organized with the cooperation of ENSEARCH Malaysia and attracted more than 100 participants from industries and professional bodies. More such workshops are being planned in other regions in the forthcoming year to ensure that information on the new amendments are widely disseminated and understood.

The mandate for vehicular pollution control and environmental protection of the Department was further strengthened with the gazettelement of the Environmental Quality (Control of Emission from Diesel Engines) Regulations 1996. These regulations were brought into force on 1 September 1996 and provided for the control of

emissions from diesel vehicles to come directly under the DOE. Consequentially, the Motor Vehicles (Gas and Smoke Emission) Rules 1987 formulated under the Road Traffic Ordinance 1958 were repealed.

Similarly the control of emissions from petrol engines was also effected with the introduction of the Environmental Quality (Control of Emission from Petrol Engines) Regulations 1996 which came into force on 1 November 1996.

In addition to the formulation of new regulations, a review of existing regulations was also carried out. The recommendations of the various working groups mandated by the Environmental Law Review Committee were considered and implemented accordingly. Priority was given to the Environmental Quality (Sewage and Industrial Effluents) Regulations 1979 (SIER) which were first introduced in January 1979. The review of SIER was carried out with consultations with relevant units within the Department as well as other relevant agencies to ensure that the regulations be fine-tuned to strengthen the enforcement and operational needs of the Department. The amendments are expected to be finalized in 1997.

As part of the formulation and review of regulations, a number of working papers were tabled to the Environmental Quality Council (EQC) and the Meeting of Ministers and State Executive Councillors responsible for Environmental Matters (MEXCOE) throughout the year. These included information on the new EQA amendments, proposals for the establishment of the Environmental Fund as provided for in the EQA and also the amendments to the SIER.

Besides tabling of working papers to EQC and MEXCOE, briefings on various aspects of environmental legislations were also conducted at seminars organized by the private sector and other institutions.

ENVIRONMENTAL GUIDELINES

Environmental guidelines are established to enhance the implementation of the EQA and regulations made thereunder. The widespread adoption of numerous environmental guidelines has brought about sound resource development planning, such as for regional development plans, master plans, structure plans, and local plans. For activities not within the ambit of the EQA and its regulations, additional efforts have



Workshop organised to disseminate information on the new provisions and amendments to the EQA

been made to ensure that all development proposals would take into consideration the environmental dimension in project planning.

In 1996, the 1978 Guidelines for the Prevention and Control of Soil Erosion and Siltation were reviewed to incorporate a broader spectrum of views and proposals such as to make them more applicable for various types of development activities. During the review of these Guidelines, other guidelines currently adopted by other Departments and Agencies in Malaysia and other countries were considered and incorporated where relevant. A workshop was held on 9 July 1996 which was attended by 70 participants from related government agencies, developers, NGOs environmental engineers and consultants to provide input as well as to gauge the acceptability of the guidelines.

The revised Guidelines were tabled at the MEXCOE meeting in Melaka in October 1996 and MEXCOE recommended that the guidelines be put forward to other related policy making bodies such as the Local Government Council and National Land Council.

MANAGEMENT OF CHEMICALS

In 1996, the Department of Environment attended three important international meetings relevant to the management of chemicals, namely, the First Session of the Intergovernmental Negotiating Committee for an International Legally Binding Instrument for the Application of the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (INC/PIC), on March 11 - 15, 1996 at Brussels, Belgium; the Government - Designated Group of Experts on Further Measures to Reduce the Risks from a Limited Number of Hazardous Chemicals on April 16 - 19, 1996 at Copenhagen, Denmark; and at the Second Session of the INC/PIC on September 16 - 20, 1996 at Nairobi, Kenya. While substantial progress had been made towards a legally binding instrument, many facets of the instrument needed further detailed consideration. Malaysia has consistently advocated the need to step up international control on movement and information exchange on hazardous chemicals. At the 1994 meeting in New York of the Commission On Sustainable Development (CSD), the Honourable Minister of Science, Technology and the Environment, Malaysia and the Honourable Minister of Energy,

Denmark agreed to cooperate and enhance efforts towards a legal instrument for hazardous chemicals and banning of exports of chemicals whose use have been domestically prohibited. DOE's participation at international level is a testimony of it's commitment to address the issues relating to chemical management especially in respect of toxic and hazardous chemicals.

While actively participating at the international forum, DOE also took steps to address issues at the domestic level. As there is no comprehensive legislation for the control of chemicals, a workshop was jointly organized by the DOE and the Chemical Industries Council of Malaysia (CICM) on May 9, 1996 to deliberate on the need for a comprehensive piece of legislation for chemical management. Foreign experts were invited to exchange information and experiences in their areas of expertise.

In line with the concept of APELL (Awareness and Preparedness for Emergencies at Local Level) the DOE also initiated a pilot project to develop a contingency plan for industrial chemicals accidents and emergencies, at the Bukit Merah Industrial Estates, in Perak. The roles and responsibilities of the various government agencies such as the Royal Malaysian Police, the Fire Services Department, the Ministry of Health, the Department of Occupational Safety and Health, the District Office and the Department of Environment, were outlined. These key agencies are all inter linked by computers and telephone/fax lines in order to ensure prompt response. The Response Plan is now in place and a table top exercise was held in December 1996 to test the effectiveness of the plan. The Plan could be further expanded to other parts of the country.

THE IMPLEMENTATION OF THE MONTREAL PROTOCOL

The Project Management Office under the Montreal Protocol for Substances that Deplete the Ozone Layer (Montreal Protocol Unit), continued to be the prime mover to phase-out ozone depleting substances, cooperating closely with the Executive Committee (EXCOM) of the Multilateral Fund (MLF) of the Montreal Protocol (MP). It co-ordinated and monitored the implementation of activities involving Ozone Depleting Substances (ODS) phase-out investment projects in compliance with all the protocol obligations.





Launching and Cheque under the Presentation Ceremony ODS Phase-out Umbrella Project

Table 6.1 ODS Phase-Out Awareness Activities

DATE	ACTIVITIES	VENUE
4 Jan. 1996	Seminar on Global Environmental Issues	INTAN, Kuala Lumpur
April 9, 1996	National Seminar on Foam - a Road Show	Kuala Lumpur
April 11, 1996	National Seminar on Foam - a Road Show	Pulau Pinang
May 7, 1996	National Seminar on Foam - a Road Show	Kota Kinabalu
May 9, 1996	National Seminar on Foam - a Road Show	Kuching
June 10, 1996	Launching and Cheque Presentation Ceremony under the ODS Phase-out Umbrella Project.	Kuala Lumpur
July 17 - 18, 1996	National Seminar on Halon	Pulau Langkawi
July 27, 1996	Briefing on Halon Phase-out for Officers from Tenaga Nasional Berhad	Kuala Lumpur
Sept. 15, 1996	Interview in Selamat Pagi Malaysia, a talk show on RTM (TV1), on CFC Issues.	Kuala Lumpur
Sept. 11, 18, 25, 1996	ODS Quiz on RTM (Radio 1) in conjunction with International Ozone Day. 10 winners were given prizes sponsored by Matsushita.	-
Oct. 21 - 27, 1996	ODS/CFC Free Products Exhibition during the celebration of Malaysian Environment Week.	Melaka
Dec. 9, 1996	Malaysia Ozone Layer Protection Award presentation ceremony. Sponsored by DuPont Far East Incorporated for the third consecutive year.	Kuala Lumpur

In 1996, a number of activities such as public awareness programmes (Table 6.1), ODS publications and ODS phase-out investment projects were carried out.

Report on Technology Development and Acquisition of Ozone Friendly Processes.

Financial and technical assistance were obtained from the Multilateral Fund for 84 ODS phase-out projects/activities amounting to US\$27

million (RM68.01 million) involving 5400 MT of ODS to be phased-out by the end of 1998 (Table 6.2).

Report on the Status of CFC-Free Technology Conversion by Small and Medium Scale Industries (SMIs).

The DOE conducted a survey on ODS industries/consumers at the end of 1995 to identify the basic technology applied in the conversion process. The

Table 6.2 Malaysia: Projects and Activities Approved by the Multilateral Fund (as of 31 December, 1996)

Sector	No. of Projects/Activities	Cost (RM)
Refrigerant	12	28,874,990.00
Cleaning Solvent	10	5,490,332.50
Foam	35	20,966,810.00
Aerosol	7	7,036,200.00
Halon	2	2,307,330.00
General Activities	17	3,481,820.00
Agriculture (Methyl Bromide)	1	12,500.00
Total	84	68,012,482.50
Year	Expected No. of Activities/ Projects to be Completed	Expected Amount of ODS to be Phased-out (MT)
1993	5	150.00
1994	8	100.00
1995	16	1333.00
1996	32	1667.00
1997	18	1660.00
1998	5	533.60
Total	84	5444.50
	No. of Activities/Projects Completed	Amount of ODS Phased-Out (MT)
Total	12 + (24) = 36	1942.50
Amount Disbursed	= RM32.75 Million	

source : DOE

Table 6.3 shows the distribution of SMIs consuming ODS by sector of application. In terms of ODS consumption, an annual usage of not more than 40 MT of ODS would classify an industry under the SMI group. Survey done showed that SMIs were involved only in the foam, aerosol and cleaning solvent sectors.

A rapid development of the conversion process is influenced by the following factors :

- international market forces
- continuity of supply
- competitiveness and cost
- encouragement from bigger industries
- policy changes by bigger industries
- assistance from MLF (incentives)

In the aerosol sector, 43 companies have already converted or are under conversion to CFC-free technology.

For the foam sector, 60 SMIs are in various stages of conversion with many of them already applying the new technology using HC, MC and water/CO₂/isocyanate. Ten project proposals in this sector will be submitted for approval in 1997.

The CFC-free technology has been widely applied in the solvent cleaning sector to replace the use of CFC 113 and Methyl Chloroform. Environmental-friendly cleanser chemicals such as "AXAREL" and alcohol are the most widely used cleaning materials as well as semi-aqueous, aqueous cleaning, non-flux and no-clean technologies. With the wide variety and availability of alternatives, it is expected that most SMIs will move towards CFC-free substitutes earlier than expected. Surveys conducted indicated that more than 400 SMIs had readily converted except for a few still using the "old" technology, such as in the metal cleaning process which is not meant for the international market.

Table 6.3 Distribution of ODS Consumers among SMIs by Sector

Sector	Number of Industry	Type of ODS Used
Aerosol	52	CFC 11, CFC 12
Foam	69	CFC 11, CFC 12
Cleaning Solvent	420	CFC 113, MTC
Refrigerant		
Commercial	12	CFC 11, CFC 12
Building	-	CFC 11, CFC 12
Motor Vehicle W/Shop	2600	CFC 12

Table 6.4 Comparison of Import Amount for CFC and MTC for 1989/1996

Types of CFCs	1989 (ODP, MT)	1996 (ODP, MT)	(%)
CFC 11	834	860.38	(+3.16) ¹
CFC 12	1470	1797.47	(-22.78) ²
CFC 113	1104	31.81	(-97.12) ³
MTC	234	-	(-100) ³

Table 6.4a Comparison of Import Amount for CFC and MTC for 1995/1996

Types of CFCs	1995 (ODP, MT)	1996 (ODP, MT)	(%)
CFC 11	836	860.38	(+2.91) ¹
CFC 12	2157	1797.47	(-16.67) ²
CFC 113	63	31.81	(-49.51) ³
MTC	10	-	(-100) ³

note :

¹ Consumption for both commercial and building refrigerant sectors.

² Motor vehicle air-conditioning system services

³ Used in metal cleaning and stamping sector

Source of data : Department of Statistics Malaysia

From records and findings of surveys as well as import monitoring data (Table 6.4), it is observed that the amount of ODS imported had greatly reduced over the previous eight years (1989 - 1996). Table 6.4a shows a more obvious reduction except in the refrigerant sector (CFC 11) since the market price of substitutes is still fairly high. Generally, conversion processes in the aerosol and solvent cleaning sectors had achieved more than 90% in 1995 as compared to 1989. It is expected that by 1998, the CFC consumption in these small sectors will be phased-out.

Meanwhile, the foam sector recorded a 60 to 70% rate of conversion within the same period. It is expected that 100% conversion could be achieved by the year 1998.

ENVIRONMENTAL RESEARCH AND DEVELOPMENT

Environmental research and development activities were conducted principally to promote the review and development of environmental criteria and standards, the formulation of new procedures and programmes for managing environmental problems as well as identification of causes and effects for better environmental management in Malaysia. In 1996, three such projects were implemented.

Regulations for Noise Pollution Control

The Institute of Noise and Vibration of Universiti Teknologi Malaysia was commissioned to undertake a study to define environmental noise and vibration limits as well as noise and vibration assessment and measurement procedures in Malaysia with the view to developing regulations in this area.

The project was overseer by a Steering Technical Committee comprising of representatives from various government agencies such as the Ministry of Health, the Department of Local Government, the Department of Occupational Safety and Health, the Department of Public Works, Kuala Lumpur City Hall, the Malaysian Highway Authority, the Department of Town and Country Planning and DOE. A training programme and workshop was conducted on 11 - 14 June 1996 to discuss the findings of the study as well as various implementation issues. The output of the project were:

- Draft Environmental Quality (Environmental Noise Limits and Control) Regulations
- Draft Environmental Quality (Noise Emission Limits) Regulations
- Draft Environmental Quality (Vibration Limits) Regulations
- Guidelines for Considering Noise and Vibration in Land Use Planning and Control



The draft Environmental Quality (Environmental Noise Limits and Control) Regulations provide for maximum permissible noise emission levels according to the receiving land use with particular reference to noise from road traffic, railway and construction activities. Equipment, products and activities that generate excessive noise as prescribed under the draft Environmental Quality (Noise Emission Limits) Regulations must also comply with the proposed maximum noise emission limits. Vibration limits were also proposed under the draft Environmental Quality (Vibration Limits) Regulations to deal with potential structural damage to buildings, as well as human annoyance and response. The proposed draft regulations would be subjected to further review before their final adoption.

Review of Air Emission Standards

The review of air emission standards stipulated under the Environmental Quality (Clean Air) Regulations 1978 which commenced in late 1995 was continued in 1996. The study was initiated with the view to update air quality improvement measures and develop new approaches to deal with air pollution problem taking into consideration, the increasing number of offences and the advent of new control technologies. A workshop was conducted on 29 November 1996 to discuss the findings of the study.

In the draft final report, amendments to the standards stipulated under the existing regulations were proposed. In relation to this, new limits for eight existing parameters were proposed and additional sources of pollutants were also

identified. In view of the rapid industrial development in the country and the type of pollutants emitted into the atmosphere, new parameters for inclusion into the said regulations were considered.

For the effective control of sulphur oxide emissions, the use of low sulphur fuel has been promoted on the basis of cost and benefit vis-à-vis air quality improvement. The study also identified other options for reducing emissions from stationary sources.

Institute for Environmental Skills and Training (IKLAS)

During the Seventh Malaysia Plan, the Department will give emphasis to skill development and training for environmental officials in environmental management. The proposed Institute for Environmental Skills and Training (IKLAS) will be established on a 10 acre site within the campus of the Universiti Kebangsaan Malaysia (UKM) in Bangi. The establishment of IKLAS is an important step forward for the Department to equip its own personnel as well as staff of other related government agencies and private sector with the knowledge and skills for pollution control and sound environmental management. A Memorandum of Understanding between DOE and UKM was signed on 30 July 1996 in the presence of the Minister of Science, Technology and the Environment. The Public Works Department (JKR) undertook the site survey in September 1996. The design work by the JKR will be completed by the middle of 1997. Actual site clearing and construction is expected to begin in 1998.



A visit to the proposed IKLAS's site by the Honourable Minister of Science, Technology and the Environment, accompanied by UKM's Vice-Cancellor and Officials from DOE and UKM.

POLLUTION SOURCES INVENTORY

The collection of data on the sources of water and air pollution is a continuing exercise to update the databases currently being maintained by DOE. Data were compiled from questionnaires returned by relevant agencies or industries concerned as well as by in-situ observations. The data were then processed to determine the pollution load using universally adopted standard emission factors.

Information on control technology, the installation and maintenance cost for pollution control systems were also included

Sources of Air Pollution

The three major sources of air pollution were stationary sources, mobile sources, and from open burning activities. Emission from motor vehicles was a major source of air pollution compared to other air pollution sources as shown in Figure 6.1. The 1996 vehicular population in Malaysia was

7,614,934, the highest number being in the Federal Territory.

The number of significant stationary sources had increased from 6,264 in 1995 to 9415 in 1996 (33.5% increase) as shown in Figure 6.2, with Selangor having the highest number, followed by Sarawak and Johor.

Air Pollution Load

Figure 6.3 shows the difference in the percentage of air pollution emission load from 1992 to 1996. In terms of percentage distribution, it clearly shows that 81.8% was from motor vehicles, 8.7% from power stations, 5.4% from industrial fuel burning, 3.0% from industrial production processes and 0.2% from domestic and commercial furnaces and 0.9 %from open burning at solid waste disposal sites.

Although the number of motor vehicles in 1996 had increased by 3.4% compared to 1995, the pollution load did not significantly increase, but in fact decreased, due to the implementation of the of AWASI Programme.

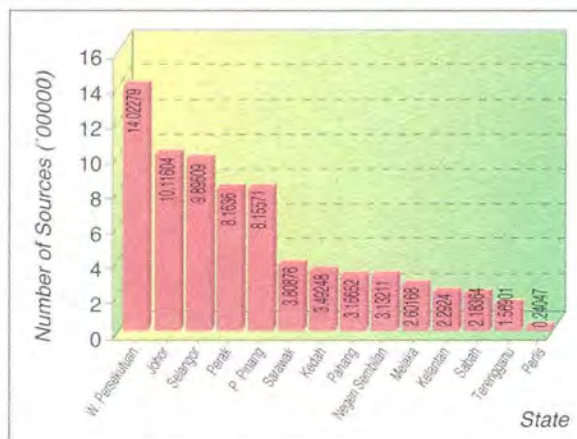


Figure 6.1 Malaysia: Number of Mobile Sources by State, 1996

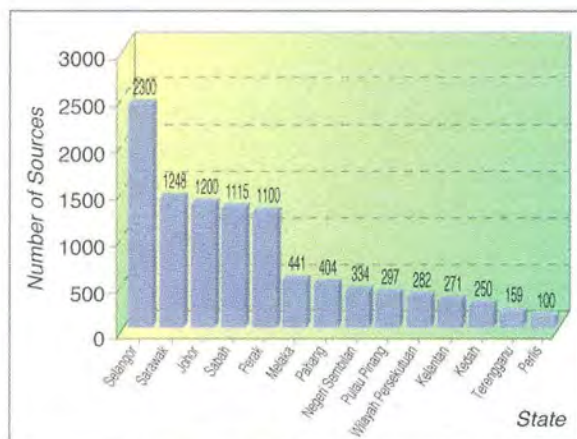


Figure 6.2 Malaysia: Number of Significant Stationary Air Pollution Sources by State, 1996

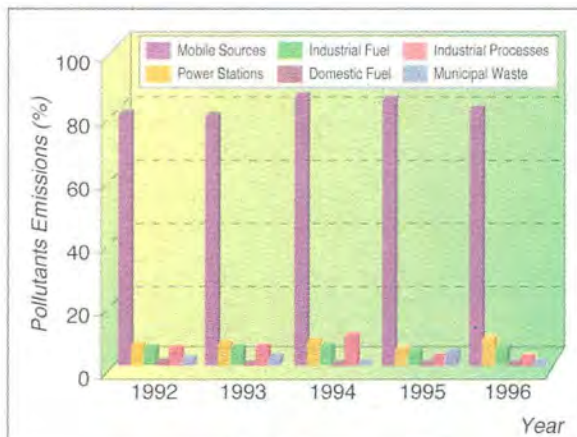


Figure 6.3 Malaysia: Trend of Emission of Pollutants to the Atmosphere by Various Sources, 1992-1996

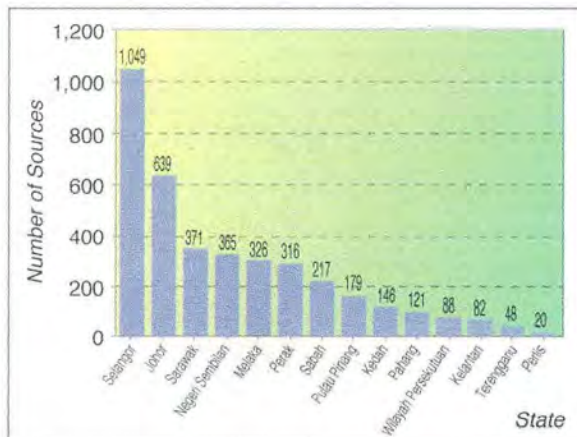


Figure 6.4 Malaysia: Distribution of Industrial Sources of Water Pollution by States, 1996

Water Pollution Sources

In 1996, water pollution sources increased 20.8% over the previous year. A total of 3,967 industries were identified as significant water pollution sources. Out of this total number, the food & beverage industry accounted for 686 sources (17.3%), followed by the electronics industry with 414 sources (10.4%) and the chemical industry with 356 sources (8.9 %). Figure 6.4 shows the distribution of these sources by State. Selangor had the highest number of sources (1049), followed by Johor (639), Sarawak (371) and Negri Sembilan (365).

Water Pollution Load

Sector Loading

In terms of BOD pollution load, the largest contributor of organic pollution was sewage (64.4%), followed by animal husbandry wastes (32.6%), agrobased (1.7%) and industrial effluent (1.3%). Figure 6.5 shows the BOD organic pollution load by sectors between 1991-1996,

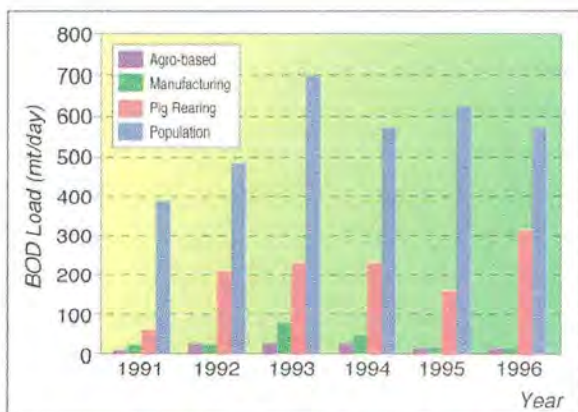


Figure 6.5 Malaysia: Estimated Load Discharged by Sector, 1991-1996

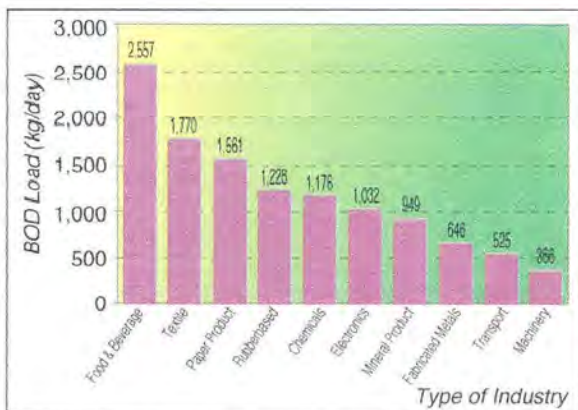


Figure 6.6 Malaysia: Estimated Organic Pollution Load by Type of Industry, 1996

calculations based on the findings of DOE's monitoring programme. Figure 6.6 shows the estimated BOD pollution load contributed by the different types of industrial sectors, accounting for 11.9×10^6 tonnes/day i.e. 1.3% of the total BOD load.

POLLUTION CONTROL TECHNOLOGY

Development of Database for Pollution Control Technology

An attempt to develop a Pollution Control Technology Database was started in 1996 to serve as a compendium of environmental consultants, contractors and suppliers of environmental technologies in Malaysia. Based on a survey conducted by DOE in 1996, 42 environmental consultants, contractors and suppliers which responded to the survey had been included in this compilation covering information on wastewater treatment systems, air pollution control equipment and noise abatement systems, categorised as shown in Table 6.5. This first compilation is by no means exhaustive and will be expanded and updated periodically based on feedback received and the co-operation of the parties concerned.

INFORMATION SYSTEM

The Department of Environment would continue to maximize the use of information technology (IT) as the principle means to improve the effectiveness and efficiency of its mechanisms to compile and disseminate environmentally-related information.

State DOE Offices also upgraded their computer systems to suit their needs. In addition to the existing eight main application systems, more application systems were developed in 1996 such as the Financial Monitoring System, the DOCUMAS for storage and retrieval of newspaper reports and documents and a System for Parliamentary Questions and Answers on the environment.

A great amount of work had also been carried out in the field of Geographical Information System (GIS). More enhanced usage of GIS would be expected in the near future with more advanced softwares becoming available in the market and the growing needs of the users. System integration is very much the next possible approach that would



**Table 6.5 Categorization of Environmental Consultancy Services,
Contractors and Suppliers of Pollution Control Systems**

No.	Environmental Sector	Environmental Subsector	Nature of Services					
			E	S	C	B	A	T
1.	Water Pollution	- Water Purification	4	1	1		5	2
		- Sewage Treatment	3			1	1	3
		- Industrial Effluent	5	2	1	2	9	3
		- Analysis & Monitoring	5				2	
		- Groundwater Remediation	1				1	
		- Oil Spill Control & Marine Pollution	1	2			1	
		- Consultancy & Management Services	5	1	1		3	1
2.	Air Pollution	- Industrial Pollution Control	1	1			4	
		- Urban Pollution Control		2				
		- CFC Replacement						
		- Instrumentation & Monitoring	3		1			
		- Consultancy & Management	6				2	
3.	Noise Pollution	- Noise Abatement Technology					3	
		- Instrumentation & Monitoring	1	1	1			
		- Consultancy & Management Services	5	1				
4.	Waste Management	- Urban Waste Collection/Disposal			1	1	1	
		- Toxic Waste Treatment	2				1	2
		- Waste Minimisation	3	2	1		3	
		- Recycling	2	1	1		3	2
		- Instrumentation & Monitoring	2				2	1
		- Landfill Equipment & Services		1	1			
		- Consultancy & Management Services	5			1	1	1
5.	Natural Resource Management	- Marine & Coastal	2					
		- Water Resources	1					
		- Soil Conservation		2				
		- Oil, Gas & Minerals	1					
		- Consultancy & Management Services	3				1	
6.	Energy Resources Management	- Incineration			1	1	1	
		- Power Generation & Distribution				1	3	
		- Instrumentation & Control			1			
		- Consultancy & Management Services	3				2	
		Total	64	20	16	2	46	15

Legend :

- E Environmental Consultant
- S Supplier
- C Contractor
- B Environmental Consultant & Supplier
- A Environmental Consultant, Supplier & Contractor
- T Turnkey Contractor

be implemented to provide a better computer solution for the department.

The DOE Home Page was launched on 10 September 1996 by the Honourable Minister of Science, Technology and the Environment and

general information pertaining to DOE's functions and responsibilities, services, environmental regulations and other relevant information can be accessed through the Internet <http://www.jas.sains.my/>.

Environmental Education and Information

Chapter **7**



ENVIRONMENTAL AWARENESS AND EDUCATION

The promotion of environmental awareness has always been a priority of the Department to complement national efforts to promote sustainable environmental management. Under the 7th Malaysian Plan, some RM15 million has been allocated for the purposes relating to enhancing environmental awareness, education and the dissemination of environmental information to a wider spectrum of the population. In 1996 alone, RM1.2 million was expended to undertake educational and awareness activities which involved government agencies, NGOs, schools and institutions of higher learning and the private sector, based on a framework developed by DOE and the Malaysian Technical Working Group on Environmental Awareness and Education for Agenda 21.

Promotion of Environmental Awareness Activities

- *Malaysian Environmental Week, October 21-27 1996 (MASM '96)*

As the premier environmental awareness event for sustaining environmental consciousness held annually since 1991, MASM '96 on a national scale was launched by the Chief Minister of Melaka, Dato' Seri Hj. Mohd. Zin b. Abd. Ghani. The 1996 theme was "Alam Sejahtera, Hidup Sempurna" to reflect the need to maintain a healthy environment for healthy living. The MASM theme song "Alam Gemilang" was also officially played for the first time at the launch. Other activities organised during the week in Melaka and throughout Malaysia are as shown in Table 7.1.

- *Other Significant Environmental Events*

Besides MASM '96, DOE also participated in a number of environmental activities to commemorate significant environmental dates in the global and national environmental calendar of events such as:

- Larian Hijau, 10 March 1996
- World Forest Day, 21 March 1996

- Water Day, 22 March 1996
- Earth Day, 22 April 1996
- World Environment Day, 5 June 1996
- Ozone Day, 16 September 1996
- Langkawi Award, 21 October 1996

Environmental Awareness at the Community Level

In 1996, the Bangsar Residents' Association, with the support of DOE and Unilever (M) Bhd. established the "Bangsar Green Spurs", a community environmental group, with the primary objective of educating, motivating and empowering the local people to actively participate in activities relating to its surroundings. The Bangsar Green Spurs is one good example in which the DOE successfully assisted a residential community to be involved in environmental activities. It is hoped that this pioneer project will spur other local communities and Residents' Associations to come forward for the betterment of the environment.

Survey of Environmental Awareness

In order to gauge the level of public environmental awareness and understanding of environmental issues, DOE with financial support from the Economic Planning Unit of the Prime Minister's Department and in collaboration with Frank Small Associates Sdn. Bhd. conducted a public survey involving some 3500 respondents. The survey revealed that almost 90% of Malaysians were aware of environmental issues and its health impacts, of which only 25% had participated in environmental activities of some sort. Eighty per cent of respondents were concerned with the



Launching of the MASM '96 poster by the Hon. Minister of Science, Technology and the Environment, together with the Deputy Ministry of Science, Technology and the Environment.

Table 7.1 Activities Organised In Conjunction With MASM '96, throughout Malaysia

Date	Venue	Activities	Organisers
KUALA LUMPUR			
5 June-October	Kuala Lumpur	Drawing Competition In Conjunction with World Environment Day	FOMCA
September	FRIM, Kepong	Training for SEPA's Member in the Tropical Forest	Malaysian Youth Council
14 October	Hotel Renaissance	ICI/CCM Journalism Award	ICI/CCM
14 October	IPT, Universiti Malaya	IPT Round Table Series 1996: Exposure of Rats to Simple Mixture of Air Pollutants: Effects and Mechanism	Universiti Malaya
15-17 October	IPT, Universiti Malaya	Students and undergraduates visit to environmental laboratories	Universiti Malaya
17 October	DOE Head Office	Press Conference for MASM '96 and Launching of MASM Poster	DOE
18 October	Universiti Malaya	Talk on Noise Pollution	Wetland International Asia Pacific, Kuala Lumpur
20 October	RTM (TV1)	Broadcast of Finals of Inter-Varsity Environmental Debate	DOE
21 October	Universiti Malaya	Poster Exhibition on Wetlands	Wetland International-Asia Pacific, Kuala Lumpur
21 October	Universiti Malaya	Talk & Video Show on Wetlands	Wetland International-Asia Pacific, Kuala Lumpur
24 October	Hilton Hotel, Kuala Lumpur	Launching of Global 500 Book	Golden Hope
23 October-23 November	Throughout Kuala Lumpur	Anti-Littering Campaign	Dewan Bandaraya Kuala Lumpur (DBKL)
23 October	Dewan Utama	Workshop on Enhancing Production Through Environmental Management	Business Council for Sustainable Development (BSCD)
25 October	Wisma MCA Jalan Ampang Kuala Lumpur	Workshop and Exhibition on Code of Practise for Controlling Soil Erosion & Siltation for Developers & Contractors	DOE & RMC Management Corporation (M) Sdn. Bhd
25 October	Masjid Negara	Friday Sermon: Islam & the Environment	Jabatan Agama Islam
26 October	Kuala Lumpur	Launching Ceremony of MASM '96 & Tree Planting Activities	DBKL
27 October	Kuala Lumpur	Cyclethon & Treasure Hunt	DBKL
November	Kuala Lumpur	Environment training for Young Leaders	Malaysian Youth Council
November	Kuala Lumpur	Seminar on Air Pollution	Perunding dan Kontraktor Alam Sekitar Malaysia (AECCOM)
6-8 November	Hotel Crown Princess	World Town Planning Day Celebrations	Malaysian Institute of Planners
26 November	Shangrila Hotel, Kuala Lumpur	Presentation of Hibiscus Award	MICCI, ENSEARCH, FMM, AIEIA with cooperation from DOE
December	Kuala Lumpur	Conference on Environment from Different Perspectives of Religions and Traditions	Malaysian Youth Council
PERLIS			
9-10 November	Utara Semarak Resort	Enviro-Camp	DOE Kedah/Perlis as Secretariat
16-22 November	Dewan Warisan, Kangar	Science, Technology & Environment Enhancement Programme	DOE Kedah/Perlis as Secretariat
16-22 November	Arau/Beseri	Seminar & Exhibition on Science & Technology	DOE Kedah/Perlis as Secretariat





Date	Venue	Activities	Organisers
KEDAH			
15-16 September	Dewan Orang Ramai, Guar Chempedak	Science, Technology & Environment Enhancement Programme	Exhibition by DOE Kedah
26 October	UUM, Sintok	Environmental Forum	UUM
PULAU PINANG			
July-October	Radio 3, P. Pinang	Broadcast of Environmental Programmes	Cooperation between P. Pinang DOE & RTM
17 September	Hotel Shangri-La	Seminar on Environmental Quality (Amendment) Act 1996	P. Pinang DOE
10 October	Radio 3, P. Pinang	Environmental Quiz	Cooperation between P. Pinang DOE & RTM
21-27 October	USM	Exhibition "Environmental Aspects in Architecture"	School of Housing, Building & Planning Society with cooperation from Environmental Laboratory School of HBP
November	Pulau Pinang	Inter-Industry Quiz	Penang DOE
16 November	Dewan Orang Ramai Jawi	MASM '96, Celebrations at State Level	P. Pinang State Government
26-28 November	Hutan Lipur	Enviro-Camp	DOE HQ
30 November-2 December	Pusat Latihan Perda Bukit Panchor, Nibong Tebal	Perkemahan Alam Sekitar Enviro-Camp	Penang DOE & State Committee on Environment
December	Dewan Sri Pinang	Environmental Night-Poetry Reading	P. Pinang DOE
PERAK			
16 September	USM Kampus Perak Sri Iskandar	Launching of Science & Technology Day Celebration	Perak State Government
21 September	Teluk Intan, Hilir Perak	Launching of MASM '96	Perak State Government
27-28 September	Hutan Bakau, Larut, Matang	Talk on Environment & Enviro-Camp	Perak DOE
PAHANG			
October	Radio 3, RTM Kuantan	Consumer's Programme	Pahang Consumers' Association
November	Beberapa Daerah Sekitar Pahang	Enviro-Camp	Pahang Consumers' Association
KELANTAN			
21 July	Kemahang, Tanah Merah	Education Visit to Kemahang Felda Palm Oil Factory	Kelantan DOE
15 August-14 October	Stadium Sultan Mohamad IV, Kota Bharu	Recycle Used Material Contest	DOE Kelantan & State Education Department
17-20 November	Hutan Lipur Bkt. Baka, Machang	Enviro-camp	Kelantan State DOE, Education Dept. & Forestry Department
TERENGGANU			
7 September	Kuala Trengganu	Seminar in conjunction with World Health Day - DOE's Role in Environmental Management	Dept. of Health & Trengganu State Government
14-19 September	Kuala Trengganu	Exhibition: Trengganu Science & Technology Week	Trengganu State Government
21-23 November	Kem Sri Keluang,	Enviro-Camp	DOE Terengganu



Date	Venue	Activities	Organisers
SELANGOR			
22 October	Tropicana Golf & Country Resort, PJ	Seminar on Environmental Management: Problem or Opportunity	Exmay Consulting
16 - 23 November	Taman Alam, Kuala Selangor	Launching of MASM '96	DOE Selangor & Selangor State Government
18-21 November	Taman Alam, Kuala Selangor	Enviro-Camp	DOE WP/KL
16-23 November	Petaling Jaya	Seminar on Environment	DOE Selangor & Selangor State Government
16-23 November	Klang	Clean-up Programme	DOE Selangor & Selangor State Government
16-23 November	Petaling Jaya	Industries Banking Schemes	DOE Selangor & Selangor State Government
16-23 November	Selangor	Anti-Black Smoke Operation with Cooperation of Traffic Police and RTD	DOE Selangor & Selangor State Government
18-20 November	Ulu Gombak	Enviro-Camp	Selangor
20 November	RISA	RTSA Radio Quiz	DOE Selangor & Selangor State Government
23 November	JAS Selangor	Talk on Careers in the Environmental Field	DOE Selangor & Selangor State Government
MELAKA			
20 October	Taman Rekreasi	Tree-Planting under the "Green the Nation" Project	DOE Melaka & Tree-Planting Group/Melaka City Council
21 October	Hotel City Bayview	Launching of MASM '96	Melaka State Gov.
21 October	Hotel Renaissance	MEXCOE Meeting	DOE
22 October	Hotel Renaissance	Seminar on "Self-Regulatory Environmental Control & Management System"	FMM & DOE Melaka
23 October	Radio 3 Melaka	Interview & Environmental Awareness Quiz	DOE Melaka
22 October	Taman Rama-Rama	Launching of Art Competition & Butterfly Culture Laboratory & Environmental Exhibition	Butterfly Farm
23 October	JPJ, Bukit Katil	Anti-Black Smoke & Noise From Motor Vehicles Campaign	DOE, Traffic Police and JPJ Melaka
25 October	Masjid Negeri	Friday Sermon: Islam & the Environment	Jabatan Agama Islam
25-27 October	Taman Lagenda, Bukit Asahan	Enviro-Camp	DOE Melaka
23 November	A'Famosa, Bandar Hilir	Clean-up Melaka Programme	TREES, MPMBB, & MAHA
NEGERI SEMBILAN			
23-26 November	Hutan Rekreasi Ulu Bendol,	Enviro-Camp	NS DOE & Education Dept.
November	DOE	Briefing on Prescribed Premises	DOE
November	DOE	Briefing on Black Smoke Emissions	DOE
JOHOR			
October	9 Districts in Johor	Essay Writing, Drawing Contest & Talk on Environment	State Education Dept. as Secretariat
October	9 Districts in Johor	Clean-up Campaigns	Local Councils as Secretariat



Date	Venue	Activities	Organisers
October	9 District in Johor	Tree Planting Campaign	Johor Forestry Dept. as Secretariat
October	Johor Bahru, Muar & Kluang	Environment Cyclethon/ Walkathon	Respective District Offices
27 October	Dataran Bandaraya, Johor Bahru	Launching of MASM '96 at Johor Bahru District Level	Johor Bahru District Office
3 November	Padang Sekolah Tinggi Muar, Daerah Muar	Launching of MASM '96 at Muar District Level	Muar District Office
6-7 November	UTM, Skudai	National Technical Seminar on Standardization & Development of Lightning Protection Technologies - Malaysian Environment	Universiti Teknologi Malaysia (UTM)
9 November	Tasik Rekreasi Kluang, Johor	Launching of MASM '96 at Kluang District Level	Kluang District Office
24 November	Stadium Batu Pahat, Johor	Official Launching of MASM '96 at Johor State Level	Johor State Government
SABAH			
July/October	Kota Kinabalu	Speech Competition	Ministry of Tourism & Environmental Development of Sabah (KPPASS)
July/November	Kota Kinabalu	Minimizing the Used of Plastic Bag Campaign	KPPASS
August/December	Kota Kinabalu	Environmental Journalism Award	KPPASS
September - December	Kota Kinabalu	Plastic Bag Campaign	Universiti Malaysia Sabah
September-October	Throughout Sabah	Selection of Best Palm Oil Mill in Sabah	DOE Sabah
October November	Sabah Waters	Anti Fish-Bombing Campaign	Fisheries Dept. of Sabah, Marine Police & Royal Malaysian Navy
October December	Throughout Sabah	State Level Clean-up Campaign	KPPASS
October December	S.M.K Putatan, Penampang	Tree Planting Project	KPPASS
October December	Kota Kinabalu	Environmental Education Programme	Ministry of Rural Development
26 October	Kompleks Sukan, Penampang	Launching of MASM '96, State Level	KPPASS
23-27 November	Poring Hot Spring, Ranau	Enviro-camp	Sabah DOE
November/December	Kota Kinabalu	Diesel Vehicles Black Smoke Emission Campaign	DOE Sabah
SARAWAK			
12-19 October	Dewan Suarah, Sibü	Launching & Closing Ceremony of MASM '96, State Level Tree Planting Project Talk on Environment	Ministry of Environment, Sarawak
26-29 October	Taman Rereasi Sebangkoi Sibü	Enviro-Camp Factory Clean-up Contest Debate Competition	DOE Sarawak
	Dewan Suarah Sibü Sibü	Drawing Contest Sibü Clean-up Campaign	

negative environmental impacts on the economy and a majority would prefer stricter environmental control. Furthermore it was also established that the print and electronic media played a key role in creating environmental awareness in Malaysia.

Following this survey, another survey involving about 2111 respondents was conducted between August and September 1996 by the New Straits Times in collaboration with DOE to assess the opinion of Malaysians on the state of the environment and the effectiveness of control agencies in managing it. The survey ascertained that the majority of respondents were not happy about the state of the environment, citing haze and air pollution, river pollution and garbage collection and disposal as their main concern. Most believed that pollution would have impact on the economy, human health, and quality of life and strongly urged the government, the private sector and the public to work together to overcome this problem. On suggestions as to how to improve the environment, top priority was environmental education, followed by greater public participation, more transparency of decisions, and increase in penalties. The understanding of environmental laws as well as the lack of awareness of the responsibilities of the various government agencies involved in environmental management were highlighted and it was felt that more effort should be taken to rectify this situation.

Children and Environment

Recognising the importance of inculcating environmental awareness in children, DOE supported the planning and organisation of the first Malaysian Children Conference on the Environment in Kuala Lumpur between 16-20 August 1996. The conference was successfully organised by the Junior Environmental Group of Malaysia (JEGOM), providing a forum for school children in Malaysia to congregate and express their own perceptions of the environment and their views for a better tomorrow. Y.Bhg. Datin Ngui Soon Leng, the wife of the Minister of Science, Technology and the Environment was the patron for the Conference, which was also attended by underprivileged and handicapped children in the Klang Valley. Following the success of the August Conference, two primary school children, Kenneth Yong Hoong Yuen (11 years old) from S.R. Bukit Damansara and Rina Priya Ayob (12 years old) from SRK Damansara Jaya, Petaling Jaya, were selected by DOE to participate in the Asian Eco-



Friendship Pledge for children during the Eco Club Conference at Niigata, Japan.



The first Malaysian Children Conference on the environment successfully organised by the Junior Environmental Group of Malaysia (JEGOM).

Club Conference in Niigata, Japan on 2 November 1996.

Media Cooperation in Promoting Environmental Awareness

In 1996, DOE initiated two major programmes with the cooperation of the electronic media. One was a TV serial, entitled 'Bicara Alam' that was aired every Sunday morning to discuss environmental issues of current interest. The other was a Radio Environmental Awareness Quiz broadcasted every Friday afternoon. In addition, DOE also supported and participated in a number of environmental-themed programmes such as 'Global' on TV2, 'Al-Kuliyyah' on TV3 and 'Khutbah Jumaat' for Masjid Negara during MASM'96 on TV1.

Throughout 1996, regular write-ups and environmental articles on local and international issues were featured in the major newspapers, particularly in the *Star* and the *New Straits Times*. In addition, regular environmental awareness quizzes were carried in the *Minda Pelajar*, a bulletin for school children published by the *Berita Harian*.

Recognition for Environmental Excellence

- **Langkawi Award**

The Langkawi Award was first launched in 1991 to commemorate the Langkawi Declaration on Development and Environment by the Commonwealth Heads of Government. It represents the premier and most prestigious environmental award introduced by the Malaysian Government for any Malaysian individual that has made a significant contribution to the protection and preservation of the environment. Between 1991-1995, the honour had been awarded to five deserving Malaysians. However no award was given out in 1996.

- **The Malaysian Ozone Layer Protection Award (MOLPA)**

MOLPA is sponsored by Dupont Malaysia in collaboration with the Department of Environment and is awarded yearly to industries as well as individuals in recognition of their effort to protect the ozone layer, either by way of reducing or substituting the use of ozone depleting substances.

- **Environmental Journalism Award**

The Environmental Journalism Award is a yearly award sponsored by ICI and the Chemical Company of Malaysia in collaboration with DOE and the Ministry of

Science, Technology and Environment. It is given out to outstanding journalists for providing balanced and responsible environmental reporting in the print and electronic media. The list of names for the 1995/1996 winners is as shown in Table 7.2.

- **Green Hibiscus Award**

The Green Hibiscus Award which made its debut in 1996, was initiated by a group of NGOs such as ENSEARCH, MICCI, APIEA, FMM and BCSD with the support of the Department of Environment. The award is given in recognition of environmental excellence by industries and businesses operating in Malaysia. In 1996, a total of 14 industries representing the chemical sector, electrical/electronic sector and the petroleum sector were shortlisted for the competition and were awarded the Exceptional and Notable Environmental Achievement Award in the respective fields of operation.

Development of Environmental Educational Resource Materials

Adequate information and environmental education materials are essential in generating greater awareness among the public. In 1996, the Department produced several trailers for television viewers, pertaining to the protection of air, water, the marine environment and toxic and hazardous wastes. These trailers were regularly shown on RTM and TV3 to arouse the viewers' awareness so as to solicit their co-operation to prevent such problems. An environmental song entitled "Alam Gemilang" and a video clip on environmental poems were also produced to further enhance such efforts.

Environmental Awareness Camps

Environmental Awareness (EA) Camps for school children between the ages of 14 and 16 regularly organised by DOE. For 1996, a total of 650 students participated in 13 EA Camps organized all over Malaysia. To complement this effort the Department also conducted a four day EA Camp Workshop for 46 facilitators to enable them to serve as resource persons for the Camps to be held at the State level. The format for the conduct of these camps was based on modules developed for the river, the marine, the forest, the highland, agriculture, organic farming and the urban ecosystem.



ICI-CCM Environmental Journalism Award, for 1995/1996 on 14 October.

**Table 7.2 ICI-CCM Environmental Journalism Award.
Winners for 1995/1996**

Print Media	Electronic Media	Photojournalism
English Language <i>Grand Prize</i> Mr James Sardathisa "Restoring our Rivers" The Daily Express <i>Special Mention</i> Ms Tan Cheng Li "Piracy in our Forest" The Star Ms Pang Hin Yue "What on Earth are we Breathing" New Straits Times Bahasa Malaysia <i>Grand Prize</i> Cik Rohana Man "Manusia Menganiaya Sungai" Harian Watan <i>Special Mention</i> En Laupa Junus "Tumpahan Minyak Ancam Perairan Negara" Harian Watan En Ali Mahmood "Indah water: Berakhirah Dilema Pengguna" Bacaria Chinese Language No Winner Tamil Language <i>Grand Prize</i> Mr Sandresegar A/L Palaniappan "Importance of Waste Recycling Malaysia Nanban" <i>Special Mention</i> Mr M.s.Malayandy "New Sky-New World" Tamil Nesan	<i>Grand Prize</i> Ms Serene Law & Production Team "A Greener Vission (part 1 & 2)" Money Matters <i>Special Mention</i> Mr Ian Lau Yan Fun & Production Team "Send in the Clowns" RTM 2	No Winners



Students participating in an Environmental Awareness Camps.

Other extra curricular environmental activities organised were:

- Projek Riadah Alam Sekitar (PRIAS): the Environmental Scrap-Book Competition for students in Form Fours and Fives sponsored by Tetra-Pak (M) Sdn. Bhd.
- River Watch Programme
- Annual Environmental Debate between Institutions of Higher Learning

ENVIRONMENTAL INFORMATION

The primary objective of the Environmental Information Services Unit is to promote and enhance public understanding of environmental issues with the view to creating a society better informed of environmental matters. This was done through the process of acquisition, collection and dissemination of environmental information, operating the enviro-library as well as the publication of IMPAK, ERA HIJAU (a quarterly magazine for school children), environmental information booklets, pamphlets and posters.

Publications

The publications of DOE in 1996 are as shown in Table 7.3.

The bulk of these publications were distributed to libraries, government agencies, foreign embassies and Malaysian diplomatic missions abroad, Universities and Institutions of Higher Learning, Schools, Non-Governmental Organisations and the local media. There was a 123% increase in request for information in 1996 as compared to 1995 (Figure 7.1). DOE's

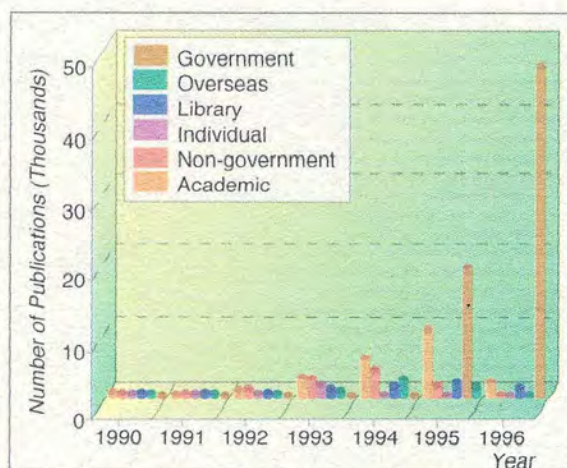


Figure 7.1 Department of Environment: Dissemination of Environmental Publications, 1990-1996

distribution list also included Members of both Houses of Parliament, distinguished environmental personalities and official visitors to the Department.

Environmental Query-Response Services

Throughout the year, queries were regularly received from Malaysians and from other countries wanting to know more about various environmental aspects of the Malaysian environmental management model, Malaysian environmental laws and

Table 7.3 Publications of the Department of Environment, 1996

Free Distribution	For Sale
• Information Kit • A Guidebook on Non-ODS Technology • Booklet of Vehicle Air-Conditioner Workshops participating in CFC Recycling Project • Information on Non-ODS Technology In The Foam Sector • Information on the Aerosol Industry and Ozone Depletion • Malaysia ODS Directory • Environmental Quality Report 1995 • ERA Hijau (Quarterly) • Environmental Fact Sheets on Wetlands, Air Pollution, Water Pollution, Forest and Acid Rain • DOE Profile • Pamphlets on Green Tips for Offices and Homes (Amalan Hijau) • Explanatory Notes on Car Air-Conditioners versus the Ozone Layer • Booklet on Protection of The Stratospheric Ozone Layer: Questions & Answer • Pamphlet on Ozone and Us	• Guidelines for the Prevention and Control of Soil Erosion and Siltation in Malaysia • Environmental Quality Data (1975-1995) • Environmental Quality Report 1995

regulations, environmental awareness and education activities and EIA. Library users constituted the highest group, followed by queries through letters and the International Referral System for Sources of Environmental Information (INFOTERRA) Network as shown in Figure 7.2 and Figure 7.3. As the National Focal Point (NFP) for Malaysia, DOE received queries via the INFOTERRA Network from countries such as China, Mauritius, Kenya, Sri Lanka, Switzerland, Singapore, Thailand and the United States of America. Environmental information contained in press clippings were popular among students and individuals and could be retrieved via the DOE DOCUMAS System. Figure 7.4 shows the number of news cuttings compiled since 1977.

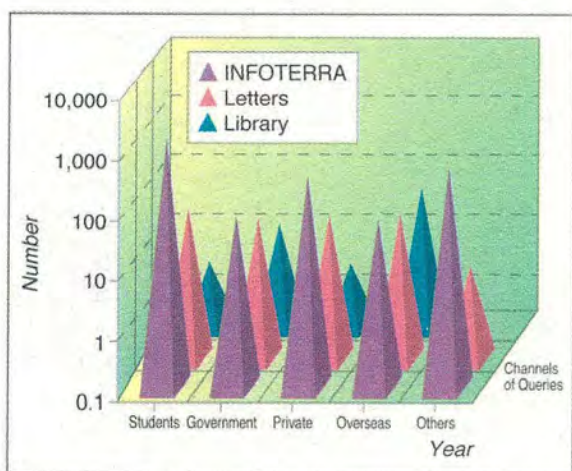


Figure 7.2 Department of Environment: Category of Applicants for Information, 1996

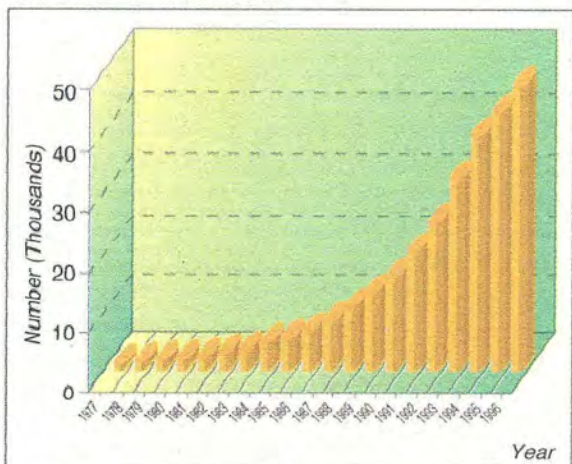


Figure 7.4 Department of Environment: Number of Newspaper Cuttings Compiled, 1977-1996

DOE Enviro-Library Services

Over the years since its establishment in 1983 and the launch of the Columbia Library System in 1994, the Enviro-Library has become an important environmental information reference centre for students, consultants, academicians, foreign visitors, governmental officials and the general public. In 1996, the user-register recorded a figure of 2,400 of which the majority were students (60%) (Figure 7.5). About 632 additional library materials were added to the existing collection making it a total of 14,488 volumes. With the approval of the Ministry of Finance, fees were imposed upon certain categories of users as shown in Table 7.4.

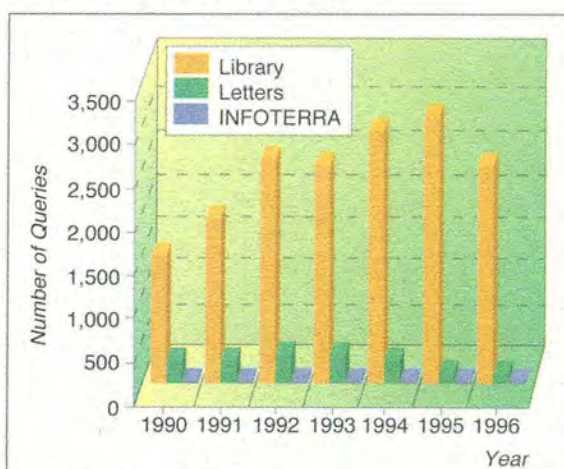


Figure 7.3 Department of Environment: Channels of Query Responses, 1990-1996

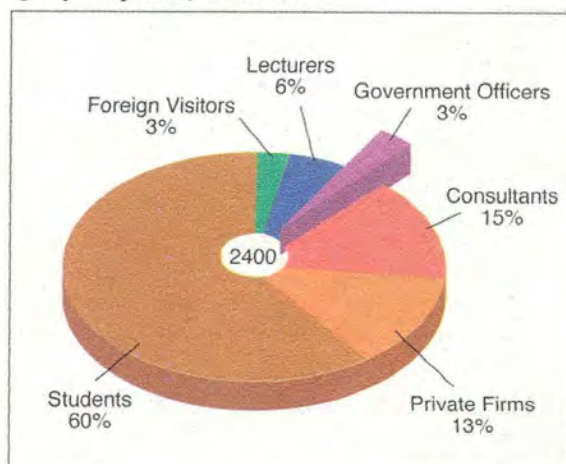


Figure 7.5 Department of Environment: Library Users, 1996

Table 7.4 Categories of Users

User	Fees
Students	Nil
Government Servants	Nil (on official business only)
Corporate/Consultants	RM500.00 per year
Individuals	RM50.00 per year
Ad hoc	RM10.00 per visit

OTHER CONTRIBUTIONS BY THE PRIVATE SECTOR AND NON- GOVERNMENTAL ORGANISATIONS

Non-Governmental Organisation (NGOs)

As in previous years, NGOs in Malaysia complemented the Government's efforts to promote greater environmental consciousness and responsibilities amongst the Malaysian public. Besides providing constructive views and environmental input at consultative meetings organised by the DOE, the NGOs serve as effective conduits to represent the views of the public in various aspects of environmental management in Malaysia such as at the annual dialogue with the Minister of Science, Technology and the Environment. In addition the NGOs also participated wholeheartedly in various environmental awareness and educational activities organised by DOE, such as the annual series of environmental awareness camps for school children, involving resource persons from the Malaysian Nature Society, the World Wildlife Fund for Nature Malaysia, the Selangor/Federal Territory Consumers' Association, CETDEM, as well as Universiti Malaya and Universiti Putra Malaysia.

Tree Planting Group - A Gift of Trees to Green the Nation

A private sector/NGO joint voluntary effort to green the nation was officially launched by the Prime Minister of Malaysia on 5 April 1996. The project is administered by a group known as the Tree Planting Group comprising of representatives from the Malaysian Chapter of the International Real Estate Federation (FIABCI), the Malaysian Association of Valuers and Private Property Consultants (PEPS), the Malaysian Nature Society, the Lion Clubs of Malaysia, One Earth Enterprises and the Forest Research Institute in collaboration with the Ministry of Housing and Local Government, the National Landscaping Department and the Department of Environment Ministry of Science, Technology and Environment.

Golden Hope Plantations Berhad

On 24th October, 1996 in conjunction with the Malaysian Environment Week, Y.B. Datuk Law

Hieng Ding, Minister of Science, Technology and the Environment launched a book "Towards Corporate Environmental Excellence - The Role of Business in Sustainable Development" co-published by the Global 500 Forum and Golden Hope Plantations Berhad to provide a guide for corporate environmental excellence. Golden Hope is a leading Malaysian corporation with a strong commitment towards the environment and is a recipient of the UNEP Global 500 Award for Environmental Achievement. It has supported and participated in several activities associated with the Department of Environment, such as the DOE's Environment Awareness Camp on the Plantation Eco-system for school children and the 1996 Malaysian Environment Week.



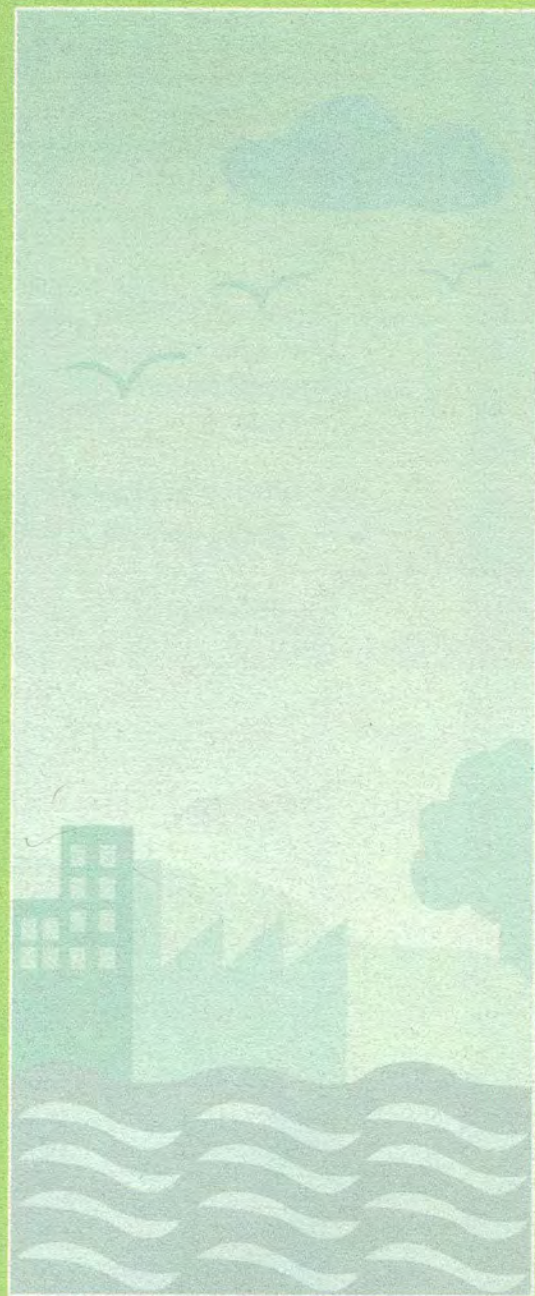
Y.B. Datuk Law Heing Ding launching the Golden Hope Global 500 Forum book, witnessed by Golden Hope's Group Chief Executive, Encik Abdul Rahman bin Ramli.

Business Council for Sustainable Development

The Business Council for Sustainable Development in Malaysia (BCSDM) is a registered non-profit organisation established by the business community to be the main linkage between the government and the business community in the national and global effort towards sustainable development. The Ministry of Science, Technology and the Environment recognises the role of BCSDM by having it included in the national framework for sound environmental management. Membership of BCSDM is open to corporate bodies and individuals. The Director General of the Department of Environment is a Honorary Member of BCSDM and also the ex-officio member of the Executive Committee. The list of BCSD activities for 1996 included recycling campaigns, seminars on enhancing productivity through sound environmental management and environmental legislation as well as co-organised the Hibiscus Award for business and industrial excellence.

International Environmental Cooperation

Chapter **8**



INTERNATIONAL ENVIRONMENTAL COOPERATION

The International Affairs Unit serves as DOE's Secretariat for environmental matters brought up at the international forum. It is also the focal point for international agencies such as UNEP, UNDP, ESCAP, WHO, CSD as well as for regional and bilateral interactions.

Over the years, Malaysia had been an active and significant environmental player in the international scene, often speaking out for the interest of developing countries. Towards this end, the Unit collates and analyses environmental information and development in the international arena.

In 1996, the Department of Environment participated in 57 Meetings and Conferences, 28 Workshops, Seminars and Symposiums and 22 Training Courses as indicated in Figure 8.1 & 8.2.

BILATERAL COOPERATION AND ASSISTANCE

• Malaysia - Singapore

The Tenth and Eleventh Meeting of the Malaysia-Singapore Joint Committee on the Environment (MSJCE) were held on 15-16 April 1996, in Melaka and 11-12 October 1996 in Singapore, respectively.

During these Meetings, the MSJCE discussed matters relating to the control of vehicular emissions, the improvement of water quality in the Straits of Johor, the control of movement

of hazardous chemicals via the Causeway and air quality monitoring. On August 22, 1996 a joint field exercise to test out the Emergency Response Plan for accidents involving hazardous chemicals at the Causeway was conducted. The exercise was participated by various relevant agencies from both sides of the Causeway and had helped to establish a workable mechanism to respond to emergency situations involving hazardous chemicals at the Causeway.

The 1996 Annual Meeting between the Minister of Science, Technology and the Environment of Malaysia and the Minister for the Environment of Singapore was held on 13-14 December 1996 in Pulau Pinang. Such meetings are held annually on a reciprocal basis to promote mutual understanding and foster closer working relationship between the two ministries.

• Malaysia - Thailand

The Third Malaysia-Thailand Senior Officials Meeting on Co-operation in Science, Technology and Environment was held in Kuala Lumpur on 19-21 December 1996. The Thai delegation was led by the Deputy Permanent Secretary of the Ministry of Science, Technology and Environment, Thailand, while the Malaysian delegation was led by Deputy Secretary-General I, Ministry of Science, Technology and Environment, Malaysia. On the Malaysian side various government agencies and institutions were also represented.

The primary objective of the Meeting was to enhance and strengthen bilateral



Figure 8.1 Department of Environment: Participation in Environmental Assignments outside Malaysia, 1996

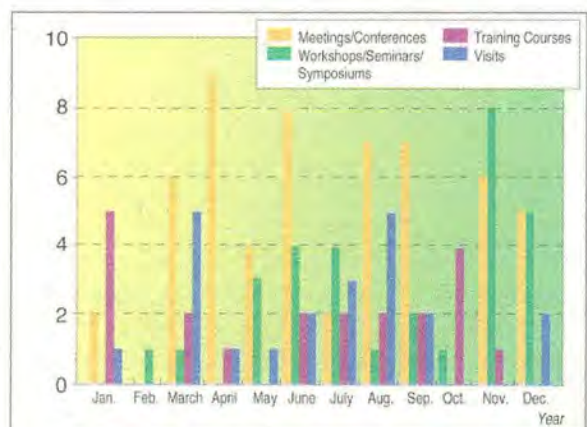


Figure 8.2 Department of Environment: Participation in Environmental Assignments outside Malaysia, Jan-Dec, 1996



Tenth Meeting of the Malaysia-Singapore Joint Committee on the Environment 15-16 April 1996, Melaka Malaysia

cooperation and relations between the two countries in the fields of science, technology and environment.

The Meeting also took note of the reports of the Working Groups in the various areas of cooperation as follows:-

- Biotechnology
- Environment and Biodiversity
- Testing, Education and Laboratory Works and Metrology
- Advanced Materials
- Information Technology and Remote Sensing
- Defence Science and Technology

The Working Group on Environment was chaired by the Deputy Director-General of Environment. Among the agenda items discussed were Preparedness for Combating Oil Spills, Joint Water Quality Monitoring, Control of Motor Vehicle Emissions, Transboundary Movement of Hazardous Wastes and Chemicals and Environmental Education and Awareness.

• Malaysia - Vietnam

Under the Malaysian Technical Cooperative Programme (MTCP), the Department of Environment conducted a training programme on Environment Management for twelve senior

Vietnamese officials from the Vietnamese Ministry of Science, Technology and Environment from 18-23 November 1996. The programme covered the following areas:-

- Environmental Impact Assessment: Procedures and Guidelines



Training programme on environmental management for senior environmental officials from Vietnam, 18-23 November 1996



Delegation from the Hanoi Communist Party Committee, Vietnam

Table 8.1 List of Foreign Visitors to DOE, 1996

Date	Organisation/Country	Subject Matter
11 January	Delegation of Senior Government Officials from Public Services Department, INDIA	Environmental Management
22 January	Delegation of 6 Senior Officials from National Environment Agency MOSTE, Vietnam	EIA
26 January	Delegation of 5 Nepalese Officials on ADB Study Mission	EIA
20 January	Delegation from Pudong New Area, CHINA	Environmental Management
5 February	3 Senior Officials from the Environment Agency, JAPAN	Environmental Management
14 February	2 Officials from Global Environment Centre Foundation, JAPAN	Environmental Management
27 February	Mr. Zhizhong Si, Environment Specialist, Canadian International Development Agency	Environmental Management
13 March	2 Officials from Department of Environmental Planning and Development, SOUTH AFRICA	Computer System (EDP)
4 April	Study tour by 20 Officials from Institute of Planners, HONG KONG	Environmental Protection
1 April	Dr. Mark Jacobs, Director of Environmental & Public Health, AUSTRALIA	Environmental Health Assessment
2 April	Mr. Ahn, Manager of Korean Government Trade Representative Office, KOREA	Waste and Wastewater Treatment
3 April	Mr. Torben Kristiansei, DANCED Consultant of RAMBOLL, DENMARK	Environmental Improvement in Wood Processing Industries
23 April	Dr. Lim Kalay, WHO Fellow, CAMBODIA	Monitoring and Control of Industrial effluent discharge
22-27 April	Dr. Vu Van Trihu and Dr. Nguyen Duc Trog, VIETNAM	Environmental Control Technology for Air, Water and Agriculture Pollution
17 April	2 Forestry Officials from the Federal Ministry of Agriculture, Abuja, NIGERIA	Environmental Management
30 April	2 Senior Officials from Environment Protection Division, National Planning Commission, NEPAL	EIA
16-19 June	Ms. Stella Regina Bernad, Assistant Network Coordinator of the Regional Network on the Legal Aspects of Marine Pollution, MANILA	Marine Pollution
20 June	6 Environment Officials, BAPEDAL, INDONESIA	ODS-Free Technology
29 June	Prof. Ganji Doost of the Civil Engineering Department Tarbiat Modarres University, IRAN	Environmental Management
1 July	Delegation of Senior Officials from the Science & Technology Commission Guangxi Research Institute, Guangxi Province, People's Republic of CHINA	Management of Marine Pollution, Oil Spills
15 July	Delegation of 13 Senior Officials from REPUBLIC OF PHILIPPINES	Polluters Pay - Effluent Charges
2 August	Delegation of 10 Officials from various government agencies in VIETNAM	Capacity Building and Environmental Awareness
9 August	30 students under the Environmental Protection Ambassadors Scheme, HONG KONG	Environmental Enforcement Procedures
16 August	4 Senior Officials from JICA, JAPAN	Review of JICA's Cooperation Programme with Malaysia
25 October	Mr. Jeffrey Wells, Senior Advisor International Trade Centre, Geneva SWITZERLAND	Handbook on Environment Engineering and Support Services
25 November	Mr. Yukio Tomisawa, Manager of Japan Research and Development Centre of Metals, JAPAN	Waste Treatment of Metallic Materials
30 October	Prof. Le Xian Tuang, Secretary-General and Delegates from Hanoi Communist Committee, VIETNAM	Environmental Protection and Management
26-27 Nov	Ms. Aida Barcelona, WHO Fellow from the PHILIPPINES	Air Pollution
6 December	3 Senior Officials from Department of Forestry, Abuja, NIGERIA	DOE : Organisation and Functions
18-23 Nov	Delegation of 12 Senior Officials from Ministry of Science, Technology and Environment, VIETNAM	MTCP: Training on Environmental Management
9 December	Delegation of 6 Senior Executives of the Rhode Island Export Assistance Centre, USA	Environmental Policy Management



- Management of Toxic and Hazardous Waste
- Setting up of Environmental Quality Monitoring Network (Air and Water) and Data Management
- Environmental Enforcement Guidelines and Procedures
- Environmental Control Technology for Air and Water Pollution and Agriculture Waste Management
- **Other Bilateral Co-operation**

DOE also received official delegations and foreign visitors from various countries as shown in Table 8.1. The subject matters frequently discussed were Environmental Management, Environmental Impact Assessment (EIA), Environmental Information and Awareness, Waste Treatment, Marine Pollution, Management of Ozone Depleting Substances (ODS) and ODS-free Technology.

REGIONAL COOPERATION

ASEAN Senior Officials on the Environment (ASOEN)

Malaysia hosted the Seventh Meeting of the ASEAN Senior Officials on the Environment (ASOEN) from 9-11 September 1996 in Langkawi, Malaysia. The Meeting was chaired by the Honourable Under-Secretary of Environment and Programme Development of the Philippines and was attended by delegates from all ASEAN member countries as well as the ASEAN Secretariat. Representatives from the Lao People's Democratic Republic (PDR) also attended the Meeting as Observers.

The Meeting reviewed the reports of the six ASOEN Working Groups and the status of the ASEAN Co-operative Programme in various environmental fields with UNEP, WWF and Dialogue Partners. The meeting also unanimously decided to elect Singapore as the ASOEN Chairman for 1997 for a period of three years.

Brunei-Indonesia-Malaysia-Philippines on Environmental Protection and Management (BIMP-EAGA-EPM)

The Third Meeting of the BIMP-EAGA Working Group on Environmental Protection and

Management (BIMP-EAGA-WGEPM) was held in Kuching, Sarawak on 10-11 May 1996. Brunei Darussalam was elected the Chairman and Malaysia the Vice-Chairman at the meeting which was attended by delegates from Brunei Darussalam, Indonesia, Malaysia and the Philippines as well as representatives from the private sector. In the case of Malaysia, the private sector representatives were from MOFAZ, Sabah Air, Skywest Aviation, Sarawak Shell and Kualiti Alam.

The Meeting also reviewed the progress of existing projects:

- (i) Manual on Environmental Requirements in BIMP-EAGA: A Guide for Investors;
- (ii) Formulation of Environmental Guidelines for Development Activities in BIMP-EAGA;
- (iii) Waste Management in BIMP-EAGA

The Meeting also considered new project proposals on Environmental Data Gathering Studies

Coordinating Body of the Seas of East Asia (COBSEA)

The Twelfth Meeting of COBSEA was held in Manila, Philippines from December 3-4 1996. The Meeting considered the following:-

- (i) new development, particularly with regard to the decisions of UNCED and Agenda 21.
- (ii) emerging environmental issues facing the region

The Meeting was attended by representatives from Australia, People's Republic of China, Indonesia, Republic of Korea, Malaysia, Philippines, Singapore, Thailand and the Socialist Republic of Vietnam.

INTERNATIONAL COOPERATION

Commission on Sustainable Development (CSD)

The Fourth Session of the Commission on Sustainable Development was held in New York, USA, from 18 April to 3 May 1996. The Malaysian delegation was led by the Honourable Minister of Science, Technology and the Environment at the Ministerial Level and



Malaysia's Permanent Representative to the United Nations at the Senior Officials' Level. Among the matters discussed were cross-sectoral issues, ranging from technology, education, capacity-building, trade, poverty, population and the protection of the marine environment.

Agenda 21, United Nations Conference on Environment and Development (1992)

At the national level the Department of Environment was given the responsibility to chair as well as to prepare a report under Technical Working Group 4 which was established by the Economic Planning Unit (EPU) of the Prime Minister's Department. The report would form part of the national report for the Special Session of the Commission on Sustainable Development to be held in June 1997. The Technical Working Group 4 was specially formed to deal with Chapters 19, 20, 22 of Agenda 21.

Chapter 19 : Environmentally Sound Management of Toxic Chemicals Including

Prevention of Illegal International Traffic in Toxic and Dangerous Products.

Chapter 20 : Environmentally Sound Management of Hazardous Wastes Including Prevention of Illegal International Traffic in Hazardous Wastes.

Chapter 22 : Safe and Environmentally Sound Management of Radioactive Wastes.

Several meetings were convened with the participation of other related agencies in the preparation of the report.

United Nation Environment Programme (UNEP)

As the National Focal Point for UNEP, DOE also participated actively in numerous activities organised by UNEP throughout 1996 as shown in Table 8.2.

Table 8.2 Participation in Activities Organised by UNEP, 1996

Title	Date	Venue	Output
(i) The First Session of the Intergovernmental Negotiating Committee for an International Legally Binding Instrument for the Application of the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade	March 01-15	Brussels, Belgium	The Meeting initiated preparation of an international legally binding instrument based on the report of the Ad Hoc Working Group of Experts on the Implementation of the amended London Guidelines held in Geneva, 11-15 April 1994, and the London Guidelines for the exchange of information on chemicals in international trade.
(ii) Ozone Research Managers Meeting	March 19-21	Geneva, Switzerland	The Meeting requested GEF to support the monitoring of ozone and UV-B radiation and related training on ozone monitoring in developing countries.
(iii) Follow-Up Meeting for the ODSNET/SEAP 1995 Meeting	March 21-22	Bangkok, Thailand	The Meeting adopted a common stand on how to strengthen the current institutional ODS network in the region as well as to increase cooperation on ODS information systems.
(iv) 10th Session of the Technical Working Group of the Basel Convention and Second Meeting of the Extended Bureau of the Basel Convention	April 22-26	Kuala Lumpur	Finalization of the list of wastes to be subjected to the Convention
(v) Government-Designated Group of Experts on Further Measures to Reduce the Risks from a limit number of hazardous chemicals	April 16-19	Copenhagen, Denmark	Discussion on further measures to reduce the risks from a limited number of hazardous chemicals
(vi) Fourth CSD Session	April 22-May 05	New York, USA	Guidelines for preparatory work for CSD sessions, and preparatory work for CSD at its 5th Session. Review of implementation of Agenda 21 to determine critical areas of sustainability for the future, including economic, social and institutional dimensions.
(vii) Sub-Regional Meeting on Military Activities and the Environment	June 26-28	Bangkok, Thailand	Defence related environmental problems such as hazardous waste management.
(viii) Fourth Session of the Ad-Hoc Working Group of Legal and Technical Experts of the Basel Convention	June 24-28	Geneva, Switzerland	Drafting of the Protocol on liability and compensation
(ix) COMEMIS/EAS/20/Advanced GIS Training	July 01-26	Bangkok, Thailand	Technical training on the application of GIS in developing coastal and marine databases. To create a network among the COMEMIS and participating countries in terms of sharing the coastal and marine databases.
(x) Technology Cooperation Workshop on ODS	July 04-07	Hanoi, Vietnam	Exchange and sharing of ODS information particularly on the issues of national legislations and control measures.
(xi) ODSNET/SEAP 1996 Meeting	August 08-16	Bandar Sri Begawan, Brunei	Information exchange with ODSROET Working members particularly relating to technology and regulatory matters and environmental publications.





Title	Date	Venue	Output
(xii) 13th OEWG Meeting of Montreal Protocol	August 28-29	Geneva, Switzerland	Further review of quantity of CFC use by the SMI's particularly cost-effectiveness threshold for each developing country.
(xiii) 17th Meeting of Melaka Straits Revolving Fund Committee	August 21-22	Pulau Lombok, Indonesia	Meeting agreed for Malaysia to prepare the information paper on "Response to Chemical Spills and Extension of Coverage of the Revolving Fund"
(xiv) UNEP-BIENNIAL Report Series Global Environment Outlook (GEO) Consultant Meeting	August 21-22	Sumatra, Indonesia	Discussion on preparation of Global Environmental Outlook Report for South East Asia.
(xviii) 20th Meeting of Montreal Protocol Multilateral Fund	October 16-18	Montreal	Consideration of proposal for policy guidelines for methyl bromide. Approved recommendations on project safety related cost. Preparation of guidance options in the choice of HCFCs as a substitute technology.
(xix) International Conference on ODS Technologies	21-23 October	Washington D.C	Increase to 50% representation of developing countries in TEAP and TOCs Committees. Approval of US\$540 million allocation for 1997-1999 Multilateral Fund replenishment, Malaysia elected as co-opted member in the EXCOM of Multilateral Fund for 1997.
(xx) UNEP's Roundtable Discussion on ODS Phase-Out	24 October	Washington D.C	Strengthening regional networks and upgrading information on new technology development from developed nations.
(xxi) 8th Meeting of the Parties to the Montreal Protocol	November 18-30	Costa Rica	Parties decided to increase the 50% representation of developing countries in TEAP and TOCs Committees. Meeting agreed on the figure US\$549 million allocation for the next 1997 - 1999 the multilateral fund replenishment. Malaysia was elected as co-opted number in the EXCOM of multilateral fund for 1997.
(xxii) Network for Training and Research on Environmental Management (TREM) Steering Committee Meeting	November 13-14	Bangkok, Thailand	The Meeting considered project proposals which were earlier evaluated by the Malaysian TREM (MATREM) and Thailand TREM (THAITREM) Steering Groups. The Proposals addressed priority areas identified by DANCED, urban environmental degradation, industrial pollution, forest depletion and deterioration of coastal zones with an aim to develop teaching and research programs in environmental management.

