

MALAYSIA ENVIRONMENTAL QUALITY REPORT 1995



**Department of Environment
Ministry of Science,
Technology and the Environment
Malaysia**

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QUALITY REPORT
1995

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**Department of Environment
Ministry of Science,
Technology and the
Environment
Malaysia**

Department of Environment, Malaysia

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Foreword

The Environmental Quality Report is published in fulfilment of Section 3(1)(i) of the Environmental Quality Act, 1974 which states:

"to publish an annual report on environmental quality not later than 30th September of the following year and such other reports and information with respect to any aspect of environmental protection;"

In 1995 the overall environmental quality was generally good, with no significant change from the previous year, though development pressures continued unabated. The levels of total suspended particulates measured in major urban areas showed that the levels exceeded the Malaysian Guidelines of $90 \mu\text{g}/\text{m}^3$ in the cities of Johor Bahru and Georgetown, mainly attributable to continued rise in traffic densities and development activities, while on the other hand, the levels of lead, sulphur dioxide, nitrogen dioxide and respirable particulate (PM_{10}), were below the recommended Malaysian Guidelines of $1.5 \mu\text{g}/\text{m}^3$, 40 ppb, 40 ppb and $150 \mu\text{g}/\text{m}^3$, respectively. Burning practices at municipal waste disposal sites continued to be a problem and contributed about 4 per cent to the air pollution load from combustion.

The river water quality in 1995 had shown an improvement from that of the previous year. The number of clean rivers had increased from 38 to 48 rivers, of which 44 were upstream of water intake points. The number of slightly polluted rivers decreased from 64 to 53, while those classified as polluted remained at 14.

As for the pollution of marine environment, especially Straits of Melaka, the Department with the support of the maritime agencies, continued its unrelentless efforts against illegal discharge and waste disposal by ships. Surveillance and detention of violators were producing the desirable deterrent results brought about by improved air surveillance capability.

The consortium to establish an integrated scheduled wastes treatment and disposal plant, Kualiti Alam Sdn. Bhd. had begun construction



work in Bukit Nanas, Negri Sembilan. This plant would be expected to deal with the bulk of the scheduled wastes generated. It would commence to receive its first load of scheduled wastes in August 1996. Meanwhile, an estimated amount of 185,500 tonnes were received and treated by the 153 licensed treatment and disposal facilities in the country.

A total of 348 EIA reports were received and processed, the highest since the enforcement of the EIA Order in 1988. Reports for recreational development activities constitute the highest number. Quarrying activity had risen considerably in the last two years while those for industrial activities had decreased. The Sarawak Natural Resources and Environment (Prescribed Activities) Order 1994 was gazetted on July 5, 1994. With such provisions, approval of EIA reports on natural resources in Sarawak will be processed at the State level.

With more States preparing to shoulder greater responsibility and commitment to enhance environmental protection and prevention measures, the Department would continue to provide assistance and inputs. Twelve sets of specific guidelines on EIA preparation were completed covering a variety of activities.

The year 1995 was also ASEAN Environment Year whose primary objective was to stimulate environmental awareness among the ASEAN populace. A multitude of activities totalling 101 were carried out culminating in the successful launching of the Environment Week in Kota Kinabalu, Sabah. This total reflected the highest number of environmental activities so far conducted in the region.

Giving cognizance to the fact that environmental education and awareness must be initiated at an early age, and the need to provide more environmental reading materials to the rural and sub-urban areas, the Department launched the *ERA HIJAU*, a quarterly magazine for school children. It also

published ten volumes of short stories under the 'Know Your Environment' series. An Environmental Education and Awareness Fund was also established in 1995 to provide the catalyst for greater effort towards promotion of environmental education and increasing public awareness of the environment.

With continuing development and economic growth, the environmental challenges ahead will gain greater importance. Above all, if the success of the past in

containing pollution, environmental quality improvement and conservation of our fragile resources were to continue, integrated approach and efforts by all would be crucial. Meticulous planning is the first requisite. Chapter 19 - Environment and Sustainable Resource Management, mentioned in the 7th Malaysia Plan is the next step towards Vision 2020. Malaysia has the commitment and Malaysia can do it!



IR. TAN MENG LENG, KMN
Director General of Environmental Quality,
Malaysia
April 30, 1995

ABBREVIATIONS

ADB	Asian Development Bank
AEY	ASEAN Environment Year
AMME	ASEAN Ministerial Meeting on the Environment
APO	Asian Productivity Organisation
ASEAN	Association of South East Asian Nations
ASOEN	ASEAN Senior Officials on the Environment
AWASI	Area Watch and Sanction Inspection
BAS	Branched Alkyl Benzene Sulphonates
BIMP	Brunei-Indonesia-Malaysia-Philippines
BOD	Biochemical Oxygen Demand
CETDEM	Centre for Environment, Technology and Development Malaysia
CFC	Chlorofluorocarbon (s)
CICM	Chemical Industries Council of Malaysia
COBSEA	Co-ordinating Body on the Seas of East Asia
COD	Chemical Oxygen Demand
COP	Conference of the Parties
CPO	Crude Palm Oil
dB	decibel(s)
DOE	Department of Environment
DOKUMAS	Document Management System
DSE	German Foundation for International Development
EAGA	East ASEAN Growth Area
<i>E.coli</i>	<i>Escherichia coli</i>
EDSS	Environmental Decision Support System
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EPM	Environmental Protection Management
EPSM	Environmental Protection Society of Malaysia
EPU	Economic Planning Unit
EQA	Environmental Quality Act
EQR	Environmental Quality Report
EXCO	Executive Council
FLIR	Forward Looking Infrared Radar
FMM	Federation of Malaysian Manufacturers
FOMCA	Federation of Malaysian Consumers Association
FRTAM	Federation of the Rubber Trade Associations of Malaysia
GIS	Geographic Information System
HCFC	Hydro Chlorofluorocarbon (s)
HSU	Hartridge Smoke Unit (s)
INFOTERRA	International Referral System for Sources of Environmental Information
INTAN	National Institute of Public Administration
IPCS	International Programme on Chemical Safety
IRPTC	International Register of Potentially Toxic Chemicals
ISIS	Institute of Strategic and International Studies
JICA	Japan International Co-operation Agency
MAC	Mobile Air Conditioning
MASAAM	Motorcycles and Scooter Assemblers Association of Malaysia
MEW	Malaysia Environment Week

MEXCOE	Ministers and State Executive Councillors Responsible for Environmental Matters
MF	Multilateral Fund
MICCI	Malaysian International Chamber of Commerce and Industry
MISIF	Malaysian Iron and Steel Industry Federation
MFIC	Malaysian Furniture Industries Council
MITI	Ministry of International Trade and Industry
MMVAA	Malaysian Motor Vehicles Assemblers Association
MNS	Malaysian Nature Society
MOA	Ministry of Agriculture
MOH	Ministry of Health
MOHR	Ministry of Human Resources
MOMG	Malaysian Oleochemical Manufacturers Group
MOPGC	Malaysian Oil Palm Growers Council
MOSTE	Ministry of Science, Technology and the Environment
MOT	Ministry of Transport
MOU	Memorandum of Understanding
MRPC	Malaysian Rubber Producers Council
MSJCE	Malaysia-Singapore Joint Committee on the Environment
NAQMP	National Air Quality Monitoring Programme
NFP	National Focal Point
NGO	Non-Governmental Organisation
NH ₃ N	Ammoniacal Nitrogen
NPOE	National Policy on the Environment
NREB	Natural Resource and Environment Board
ODS	Ozone-Depleting Substance (s)
OECD	Organisation for Economic Co-operation and Development
OEWG	Open-Ended Working Group
PIC	Prior Informed Consent
PM	Particulate Matter
POMA	Palm Oil Millers Association
PORIM	Palm Oil Research Institute of Malaysia
RAC	Refrigerant Air Conditioning
RM	Ringgit Malaysia
RNR	Raw Natural Rubber
RRIM	Rubber Research Institute of Malaysia
SEAP	South East Asia Pacific
SMI	Small and Medium Industry
SOM	Senior Officials Meeting
SS	Suspended Solids
TSP	Total Suspended Particulate
UIA	Universiti Islam Antarabangsa (International Islamic University)
UKM	Universiti Kebangsaan Malaysia
ULG	Unleaded Gasoline
UM	Universiti Malaya
UNCED	United Nations Conference on Environment and Development
UNEP	United Nations Environment Programme
UPM	Universiti Pertanian Malaysia
USM	Universiti Sains Malaysia
UTM	Universiti Teknologi Malaysia
UUM	Universiti Utara Malaysia
WHO	World Health Organisation
WQI	Water Quality Index
WWF	World Wide Fund for Nature



EXECUTIVE SUMMARY

Chapter

1





Throughout 1995 emphasis was given to preventing environmental problems rather than providing end-of-pipe solutions. The decentralization of reviewing preliminary environmental impact assessment reports to the state level was completed in 1995. Detailed EIA reports were reviewed at the Head Office. Twelve sets of specific environmental guidelines were published to supplement the Handbook of EIA Guidelines as well as to provide suggestions for project planning, implementation, operation and abandonment. A total of 348 reports were received in 1995, an increase of 16 per cent compared to 1994. The average time taken for review was significantly reduced to 1.6 months. By the end of 1995, 55 companies and 176 individuals had registered with DOE for EIA consultancy services.

In tandem with the pace of development and the changing circumstances, greater effort was expanded to strengthen the legal and regulatory framework for environmental protection and management. A Bill to amend the 1974 Environmental Quality Act was finalised incorporating new provisions such as environmental audit, environmental management system, prohibition order, environmental fund and other clarifications to the original Act. Specific environmental issues such as inland water pollution from the use of detergents, disposal of tanker sludges and air pollution contributed by petrol and diesel-powered sources were also examined.

Environmental quality monitoring and enforcement remained the punchline activity of DOE to monitor the state of the environment and compliance with environmental regulations. A network of 35 air monitoring stations for total suspended particulates and respirable particulates (PM_{10}) were in operation. The automated stations in the Klang Valley, Seberang Jaya (Penang) and Pasir Gudang (Johor) were linked telemetrically to the Head Office. In April 1995, an agreement was signed between the Government of Malaysia and Alam Sekitar Malaysia Sdn. Bhd. for the privatisation of air quality monitoring and environmental data collection and dissemination. Within a period of 5 years, 50 new automated air quality stations would be established in addition to the use of

conventional means. As for water quality, a total of 107 stations were monitored in 119 waterways under the Annual River Water Quality Monitoring Programme. Marine monitoring was also conducted at 186 stations off the coast. In December 1995, a telemetry wavescan system for marine monitoring to provide instantaneous readings was installed at Tg. Piai, off the west coast of Johor. Data would be transmitted via satellite to an on-shore station by means of telemetry.

The overall air quality was generally good. The levels of total suspended particulates (TSP), respirable particulates (PM_{10}) and other gaseous pollutants were below the Malaysian Recommended Guidelines of $90 \mu\text{g}/\text{m}^3$, $150 \mu\text{g}/\text{m}^3$ and 40 ppb respectively. Ambient lead levels measured at the kerbside had decreased compared to the previous years. As for river pollution, the major contributors were silt due to soil erosion as well as organic pollution from sewage and animal waste. The number of clean rivers based on the Water Quality Index (BOD, COD, SS, $\text{NH}_3\text{-N}$, pH) had increased from 38 in 1994 to 48 in 1995. Similarly, the marine water quality had improved, though oil and grease, total suspended solids and *E. coli* were the main contaminants of the coastal water. Except for some beaches in Johor and Pahang, other beaches were free from tar ball pollution. Ninety two oil pollution sighting at seas were reported, of which ten vessels were detained for desludging activities. Noise monitoring showed that rapid urbanisation activities, traffic volume increase and construction activities were the main sources of noise pollution. A survey of 18 schools throughout the country indicated that all of them were subjected to noise levels exceeding 55 dB (A) Leq, the level recommended by the World Health Organisation.

The Technical Working Group established under the DOE completed the Draft National Policy on the Environment (NPOE) for consideration by various Ministries and State Governments. Review of the Federal-State Relationships with regard to Environmental Management was initiated with the assistance of ISIS. Detailed preparatory work and input were undertaken to ensure that environmental considerations would be incorporated in the Seventh Malaysia Development Plan (1996-2000).



On December 18, 1995, approval was granted to Kualiti Alam Sdn. Bhd. to establish an integrated scheduled waste treatment and disposal facility at Bukit Nanas, Negri Sembilan, expected to be fully operational by June 1998. A total of 153 licences for the setting up of scheduled waste facilities and for transportation were also issued prior to December 1995, accounting for a waste volume of 185,500 tonnes. As a signatory to the Basel Convention, Malaysia played an active role in its implementation with regard to import, export and transboundary movement of hazardous wastes.

An enforcement programme for dark smoke emission from diesel vehicles, codenamed AWASI, was launched in Kuala Lumpur during the last quarter of the year. Vehicles found emitting excessive smoke were taken off the road and were allowed back only after repair was done and the smoke level retested. Enforcement was greatly enhanced by aerial surveillance conducted by the Police Air Wing. Samples of petrol randomly collected were found to comply with the level of 0.15 g/l, while the sale of unleaded gasoline had exceeded 68 per cent. The average compliance level for other non-prescribed industries namely, the food and beverage, paper and metal finishing activities was less than 75 per cent, while the textile industry could only achieve 56 per cent compliance under the Environmental Quality (Sewage and Industrial Effluents) Regulations 1979. Under the Environmental Quality (Clean Air) Regulations 1978, the cement industry could only meet a compliance level of 64 per cent.

The promotion of environmental awareness and environmental education was intensified, whereby a total of 101 activities were organised which included environmental exhibitions, awareness campaigns, seminars/workshops, competitions, and environmental awareness camps. The national level Malaysia Environment Week was launched on October 21, 1995 in Kota Kinabalu, Sabah. Similar celebrations were also held at other States. A total of 32,013 DOE publications were distributed locally and internationally, a 140 per cent increase over the previous year. On August 22, 1995, the Honourable Datuk Law Hieng

Ding, Minister of Science, Technology and the Environment and the Honourable Dato' Seri Mohd. Najib Tun Razak, Minister of Education, jointly launched the *ERA HIJAU*, a DOE quarterly enviro-magazine for students, and the 'Know Your Environment' series for year 1-3 primary pupils comprising publications pertaining to Water, Air, Habitat, Food, Plants, Rivers, Industry, Town, Transportation and Wastes. A book entitled 'A Compilation of Short Stories based on Environmental Themes' was published. A total of 3,130 public requests for environmental information were received, a 7 per cent increase from 1994. Local news media provided very active coverage on environmental issues and their own environmental projects, a 10 per cent increase in 1995. The participation and contributions of NGOs and the private sector were significant in complementing the government's efforts to promote environmental awareness.

In the international environmental arena, Malaysia actively participated at various international forum such as a leading role in negotiating for the amendment to the Basel Convention to ban the movement of hazardous wastes to non- OECD countries, and promotion of a practical approach to phase out CFC under the Montreal Protocol. Malaysia was conferred the UNEP Global Ozone Award for its outstanding work in CFC phase-out. Under the Malaysia- Denmark-Sweden Initiatives on Environmentally Sound Management of Toxic Chemicals, Malaysia strongly felt the need to promote the formation of an international agreement to restrict export of domestically-banned dangerous chemicals.

Malaysia contributed significantly in the formulation of the ASEAN Strategic Plan on the Environment geared to implement post-UNCED activities. Bilateral co-operation on environmental matters was greatly enhanced. The Malaysia-Singapore Joint Committee on the Environment met regularly to discuss environmental issues of mutual interest. Malaysia also became a favoured destination for environmental officials and decision-makers of developing countries in the region for short-term attachment to study and exchange experiences on environmental management.

ADMINISTRATION

Chapter 2



ORGANISATIONAL STRUCTURE

The Department of Environment is headed by a Director General who is appointed under Section 3(1) of the Environmental Quality Act, 1974. Prior to 1995, the Department consisted of 4 divisions at the Head Office namely, Administration Division, Control Division, Development Division and Prevention Division as well as 10 other State Offices located at Kedah, Pulau Pinang, Perak, Selangor, Melaka, Johor, Pahang, Terengganu, Sabah and Sarawak. In 1995, the Department's organisational structure both at the Head Office as well as at the State Offices was changed as shown in Figure 2.1. Three new State Offices were established namely, in Seremban, Negri Sembilan, the Federal Territory of Kuala Lumpur and Kota Bharu, Kelantan. In view of

the rapid development in the Islands of Langkawi, a Branch Office was also set up under the Kedah State Office.

With effect from July 1, 1995 the 5 divisions at the Head Office were: Administration and Finance, Information System, Control, Environmental Assessment and Development Planning.

HUMAN RESOURCES

The total staff strength of DOE was 512 as of January 1, 1995, comprising 116 officers in the management and professional group and 396 in the supportive group. Efforts to fill up the positions approved under the new organisational structure were intensified, both for the Head Office as well as at the State Offices to recruit staff with different educational background and experience.

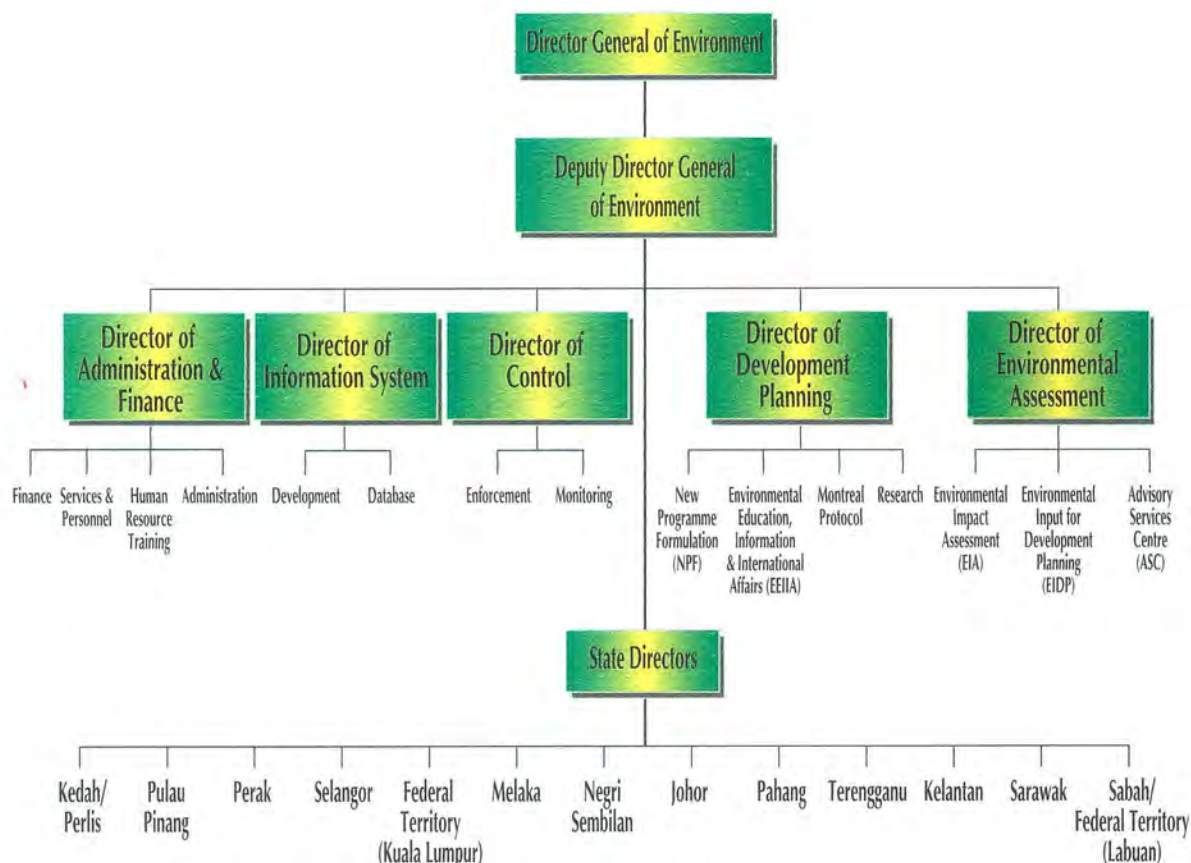


Figure 2.1 Department of Environment Organisational Structure, 1995

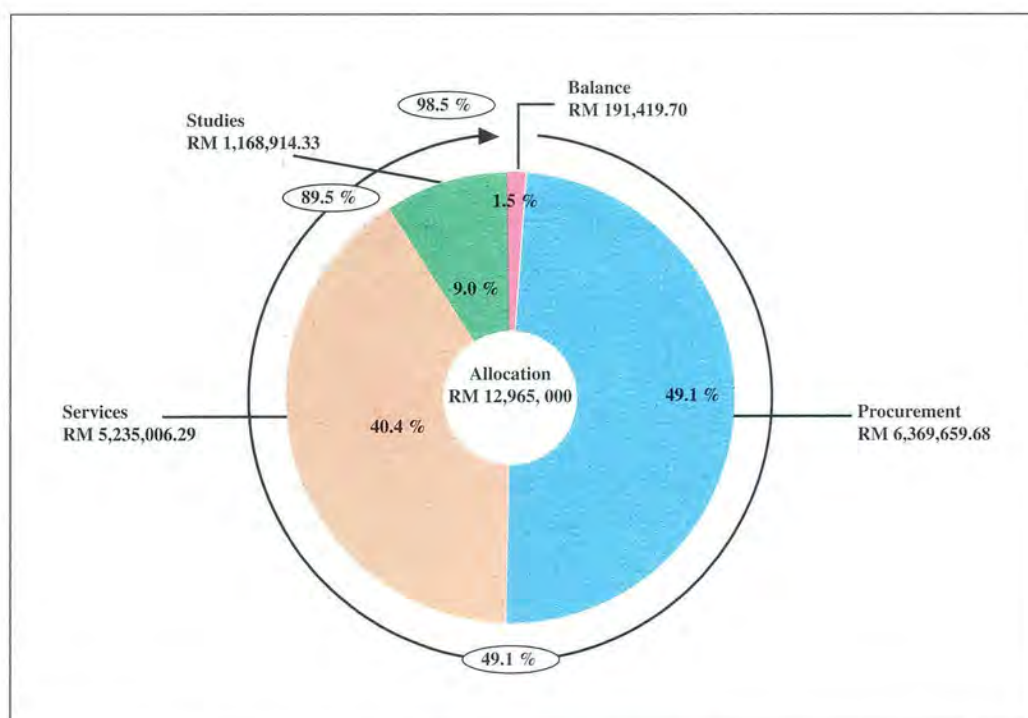


Figure 2.2 Department of Environment: Expenditure of Development Projects under the Sixth Malaysia Plan, 1995

FINANCE

Operational Expenditure

In 1995, a sum of RM17,681,480.00 was allocated for operational expenditure, an increase of 12% over the previous year. A total of RM 17,215,725.57 (97.4%) was spent during the year.

Development Expenditure

The total allocation for implementing development projects amounted to RM12,965,000.00. A total of 45 more development projects were implemented under the Sixth Malaysia Plan (6th MP), categorised under 3 major categories namely, procurement, studies and services as follows:

Category	Number	Allocation (RM)
Procurement	11	7,254,520.00 (55.36%)
Studies	12	1,276,810.00 (9.74%)
Services	22	4,573,670.00 (34.90%)

Of the 45 projects implemented, 27 were those carried over from the previous year while 18 were new projects. Out of these 18 new projects, 16 will be continued in the Seventh Malaysia Plan (7th MP). Figure 2.2 shows the expenditure of development projects under the Sixth Malaysia Plan for 1995.

Revenue

The total revenue collected in 1995 amounted to RM 2,721,476.36. Effluent-related fees accounted for 37.9 per cent of the total revenue, while compounds and fines collected under the Environmental Quality (Clean Air) Regulations 1978 amounted to 43.6 per cent. Amount received in respect of trust accounts was 14.6 per cent and refund of salaries, allowances and car/computer loans by the staff accounted for 2.8 per cent. Other sources of revenue, including the sale of Environmental Quality Reports, guidelines, documents and EIA consultants' registration fees accounted for another 1.1 per cent of the revenue.

TRAINING

In line with the Department's policy of upgrading the skills of its staff, training programmes in various fields of environmental management were continued in 1995.

Long-Term Training

Throughout the year, a total of 21 long-term training courses were attended by DOE officers. These courses were those of more than 3 months duration. The courses covered

various aspects of environmental management and engineering including environmental planning, environmental impact assessment, geographic information system as well as chemical, electrical or civil engineering. These attendances were made possible mainly through sponsorship by the Public Services Department, British Council and the universities concerned.

Short-Term Training

Short-term training programmes were mainly those of less than three months duration. These included courses, seminars, workshops and conferences offered both within the country and abroad. Attendances for these training programmes abroad were made possible largely through foreign sponsorship from agencies like UNEP, ADB, APO, JICA and foreign

governments via bilateral co-operation namely, Canada (SAFE Programme).

ENVIRONMENTAL QUALITY COUNCIL

The Environmental Quality Council is established in fulfilment of Section 4(1) of the Environmental Quality Act, 1974. Its functions are as follows:

- (a) generally to advise the Minister on matters pertaining to the Act; and
- (b) to advise the Minister on any matter referred to it by the Minister.

The 1995 Council members appointed according to Section 4(2) of the Act, consisted of the following:

(a) Y. Bhg. Prof. Dato' Dr. Mohd. Sham Mohd. Sani	Chairman	Section 4(2) (a)
(b) Y.Bhg. Encik V. Danabalan	Ministry of Science, Technology and the Environment	Section 4(2) (b)
(c) Y.Bhg. Encik Asmat Kamaludin	Ministry of International Trade and Industry	Section 4(2) (c)
(d) Y.Bhg. Tan Sri Ir. Tuan Haji Shahrizaila bin Abdullah (till September 30, 1995) Ir. Neo Tong Lee	Ministry of Agriculture	Section 4(2) (cc)
(e) Ir. Zakaria bin Nanyan	Ministry of Human Resources	Section 4(2) (d)
(f) Encik Ahmad Pharmy bin Abdul Rahman	Ministry of Transport	Section 4(2) (dd)
(g) Ir. Dr. Mukundan Pillay	Ministry of Health	Section 4(2) (e)
(h) Y.Bhg. Datuk Chin Kui Bee	Ministry of Tourism and Environmental Development, Sabah	Section 4(2) (f)
(i) Y. Bhg. Abang Helmi bin Tan Sri Ikhwan	Ministry of Resource Planning, Sarawak	Section 4(2) (f)
(j) Ir. Hussein bin Rahmat	PETRONAS	Section 4(2) (g)
(k) Dr. Gurmit Singh	Malaysian Oil Palm Growers Council (MOPGC)	Section 4(2) (gg)
(l) Tuan Haji Mohamed Saufi bin Haji Abdullah	Federation of Malaysian Manufacturers (FMM)	Section 4(2) (h)
(m) Ir. Yeo Siow Poh	Malaysian Rubber Producers Council (MRPC)	Section 4(2) (hh)
(n) Assoc. Prof. Dr. Muhamad Awang	Universiti Pertanian Malaysia	Section 4(2) (i)
(o) Y.Bhg. Dato' Dr. Salleh b. Mohd. Nor	Malaysian Nature Society (MNS)	Section 4(2) (j)
(p) Ir. Gurmit Singh K.S	Environmental Protection Society of Malaysia (EPSM)	Section 4(2)(j)



60th EQC Meeting on October 19, 1995

The Council met four times during 1995, i.e. on March 9, April 3, July 28 and October 19. The first three meetings were held in Kuala Lumpur, while the fourth was held in Kota Kinabalu, Sabah during the Malaysia Environment Week (MEW) 1995 celebration in Kota Kinabalu.

The Council deliberated, supported and agreed upon a number of issues. These include:

- Issues relating to the enhancement of the role and co-operation in environmental management and control at national and state levels, as well as the enhancement of the co-ordination and implementation of activities of Federal and State agencies, and Local Authorities
- Waste Management and Compliance with the Environmental Quality Act, 1974
- New Procedures in Earthworks and Construction Activities as well as its Schedule of Payment
- Prohibition on the Use of Surfactants-Branched Alkyl Benzene Sulphonates (BAS)
- Proposed Environmental Quality (Tanker Cleaning) Regulations 1995
- Disposal of Scheduled Wastes at the Local Authorities Disposal Sites
- The National Environmental Policy
- Procedures and Guidelines on the Enforcement of Marine Pollution
- Proposed Amendments to the Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 1987
- Development of the ISO 14000 Series International Standards at national and international levels, as well as the implication arising from the implementation of this standard which was accepted by Malaysia in December 1995;
- Malaysia's participation in the ISO 14000 Meetings to be brought to the attention of the Honourable Minister of Science, Technology and the Environment and the Cabinet;
- Implementation of the Environmental Quality (Control of Emission from Diesel Engine) Regulations 1995, after the repeal of the Road Traffic Ordinance 1958;
- Progress in the preparation of the EIA specific guidelines;
- Establishment of the National Environment Fund to aid in environmental awareness campaigns as well as to carry out prevention and control activities.



STATE OF THE ENVIRONMENT

Chapter 3



AIR QUALITY

Monitoring

The National Air Quality Monitoring Programme (NAQMP) was carried out using semi-automatic equipment (high volume samplers) for the measurement of both total suspended particulates (TSP) and respirable particulates (PM_{10}) through a network of 35 monitoring stations. Ambient lead level was also monitored at sites close to main roads with heavy traffic.

The present number of automated air quality monitoring network in Klang Valley was expanded to include Seberang Jaya, Pulau Pinang and Pasir Gudang, Johor with the use of two mobile stations. These new automated stations were mobilized in preparation for any occurrence of drastic air quality changes due to transboundary movement. The station at Pasir Gudang, Johor is jointly maintained and operated by the Department of Environment and the Agriculture University of Malaysia (UPM). All the automated stations are linked to the Head Office via the newly set-up telemetrized system.

In April 1995, an agreement was signed between the Government of Malaysia and Alam

Sekitar Malaysia Sdn. Bhd. (ASMA) for the privatization of air quality monitoring and environmental data collection and dissemination within Malaysia. ASMA will set up and manage 50 new fully automated air quality monitoring stations within a period of 5 years besides the usage of conventional samplers. The first automated station was set up and operated in June this year at Pasir Gudang, Johor.

Status

The overall air quality in the country for 1995 was generally good and no cases of serious haze were registered. The levels of pollutants monitored are as shown in Figures 3.1 to 3.3. The levels of respirable particulates (PM_{10}) and gaseous pollutants were below the Malaysian Recommended Guidelines of $150 \mu\text{g}/\text{m}^3$ and 40 ppb, respectively. However, total suspended particulates (TSP) levels at Johor Bahru and Georgetown exceeded the Malaysian Guideline of $90 \mu\text{g}/\text{m}^3$ for the fourth consecutive year. Uncontrolled development activities and increase in traffic volume were the major factors that could have contributed towards this trend. Ambient lead level was lower compared to the previous year, as indicated in Figure 3.3.



Signing Ceremony of Agreement between the Government of Malaysia and Alam Sekitar Malaysia Sdn. Bhd. (ASMA) on April 14, 1995, in Sarikei, Sarawak

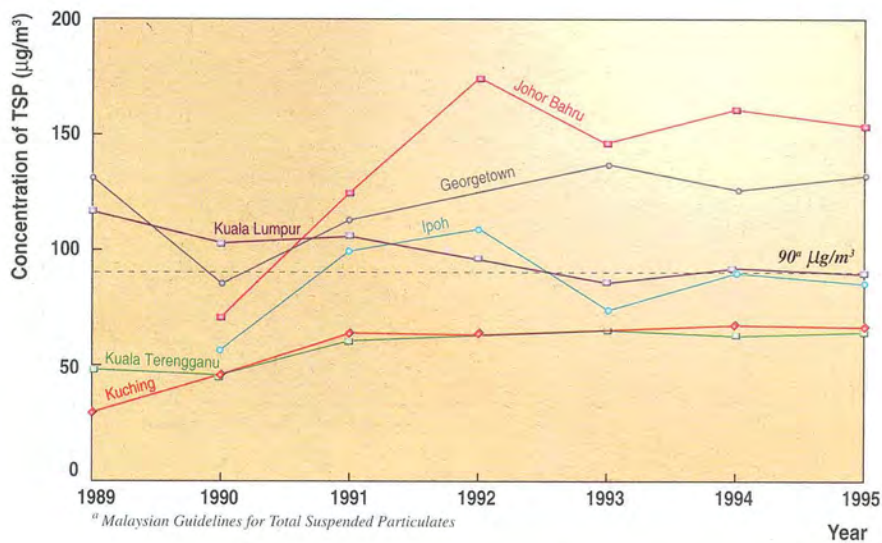
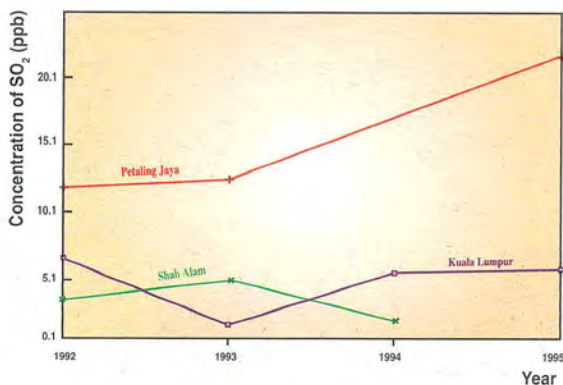
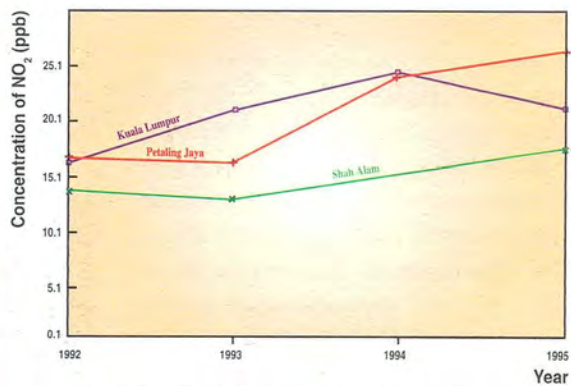


Figure 3.1 Malaysia: Average Concentration of Total Suspended Particulates (TSP), 1989-1995



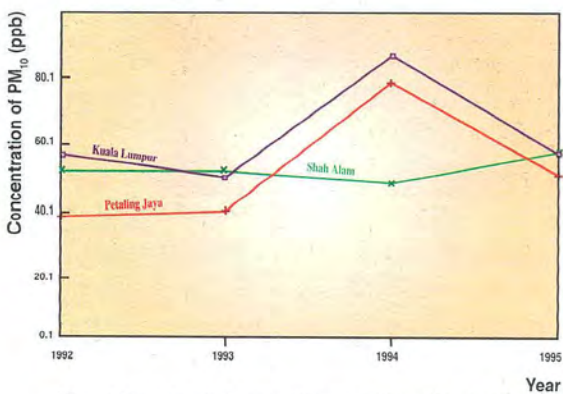
Klang Valley: Yearly Average Concentration of Sulphur Dioxide (SO₂), 1992-1995

Note:
Recommended Malaysian Guideline for SO₂=40 ppb



Klang Valley: Yearly Average Concentration of Nitrogen Dioxide (NO₂), 1992-1995

Note:
Recommended Malaysian Guideline for NO₂=40 ppb



Klang Valley: Yearly Average Concentration of Respirable Particles (PM₁₀), 1992-1995

Note:
Recommended Malaysian Guideline for PM₁₀=150 µg/m³

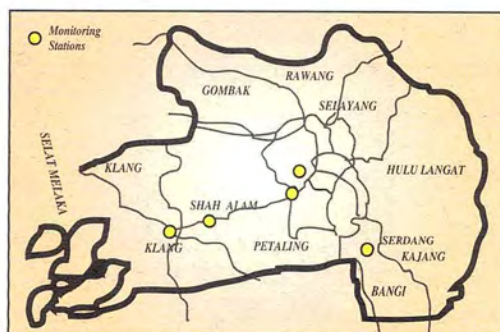


Figure 3.2 Klang Valley: Yearly Average Concentration of Gases and Particulates, 1992-1995

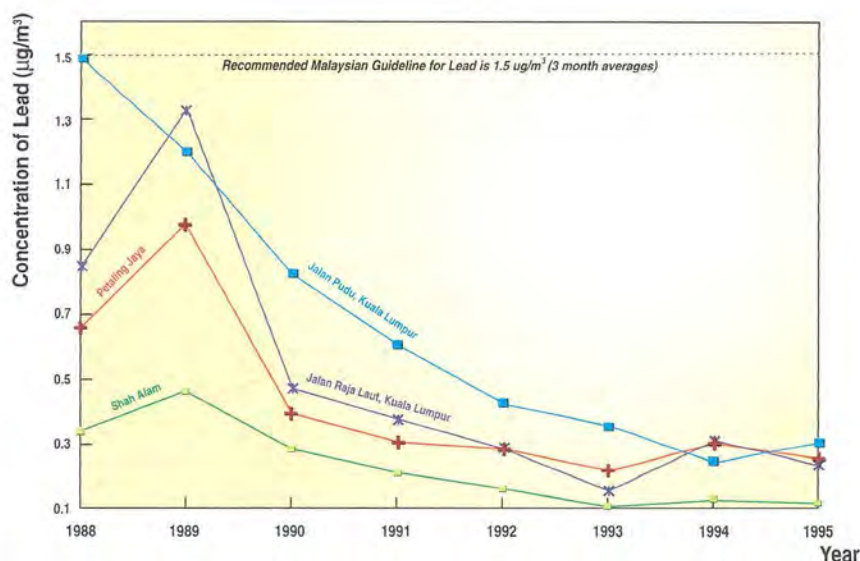


Figure 3.3 Kuala Lumpur & Selangor: Annual Average Concentration of Lead, 1988-1995

NOISE

Monitoring

In 1995, noise monitoring was focussed around airports and schools. Measurements were carried out to identify noise sources that could cause disturbance to students, particularly in the urban areas. Results of these monitoring showed that rapid urbanisation activities resulted in increase in noise pollution. Nuisance arising from noise has grown from a localized problem to one of nationwide concern. The schools selected for this monitoring purpose were those located in busy urban areas.

Status

The list of schools selected for this study is as shown in Table 3.1, while the results of the monitoring is shown in Figure 3.4. It was found that all the schools monitored were exposed to a maximum noise level exceeding 55dB (A) Leq, the level recommended by the World Health Organisation (WHO), which could affect the students' learning concentration. This problem could be solved by relocating the



Permanent Noise Monitoring Terminal at vicinity of airport

affected schools to more conducive areas free from noise pollution, or by constructing noise barriers that could absorb noise.

Noise measurements conducted in the vicinity of airports showed that the noise levels were very much higher than the acceptable standards of 65dB (A) Leq (day-time) and 55 dB (A) Leq (night-time). Results of the monitoring are as shown in Table 3.2.

Table 3.1 Malaysia : List of Schools Selected for Noise Monitoring Programme, 1995

STATE	SCHOOL
Federal Territory of Kuala Lumpur	S.M. Victoria S.M.St John S.M.Convent Bukit Nanas S.K.St. John 1 & 2
Negri Sembilan	S.M King George V
Melaka	S.M.St. Francis S.R.K.St Francis S.M. Tinggi Melaka
Johor	S.M. (P) Sultan Ibrahim Maktab Sultan Abu Bakar
Kedah	Kolej Sultan Abdul Hamid
Pulau Pinang	S.M. Penang Free
Perak	S.M. Anderson, Ipoh
Pahang	S.M. Sultan Abu Bakar
Terengganu	S.M. Sultan Sulaiman
Kelantan	S.R.K. Zainab 1 S.R.K. Zainab 2 Maktab Sultan Ismail

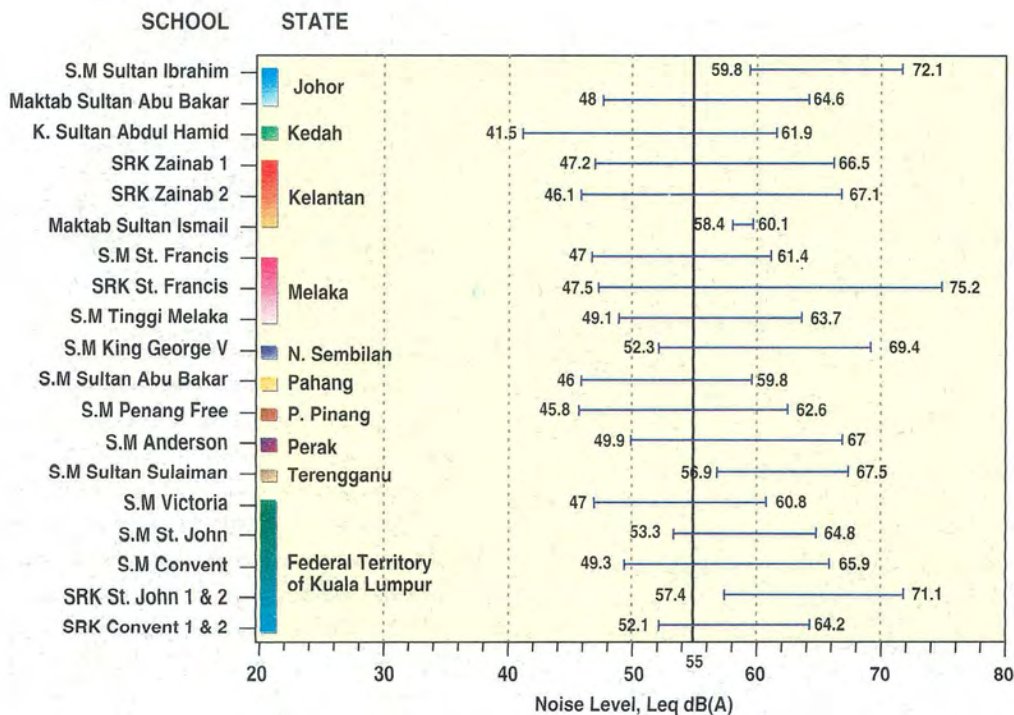


Figure 3.4 Malaysia: Range of Noise Levels around School Communities, 1995

Table 3.2 Malaysia: Airport Noise Levels, 1995

Airport	Landing (L_{min} - L_{max})	Departure (L_{min} - L_{max})	Background
Kepala Batas, Kedah	50.5-64.3	45.5-77.8	48.6
Langkawi, Kedah	70.7-78.0	58.8-76.5	54.8
Pengkalan Chepa, Kelantan	50.0-60.6	49.2-62.4	35.6
Kuala Terengganu, Terengganu	41.4-83.7	47.6-87.6	35.8
Batu Berendam, Melaka	40.5-72.3	48.5-79.8	59.8
Senai, Johor	46.5-78.0	52.5-91.2	51.3

RIVER WATER QUALITY

Monitoring

A total of 119 major rivers were monitored under the Annual River Water Quality Monitoring Programme. Out of these, 106 stations were located above while 1 station was below water intake points. A total of 3,230 samples from 821 monitoring stations were taken, a decrease of about 13 per cent compared to the number of samples collected in 1994.

Status

Though the overall river water quality in 1995 had deteriorated at a rate of 0.55 per cent, it was still a slight improvement from the previous year. The appraisal of water quality was based on the Water Quality Index (WQI) for five parameters namely, Biochemical Oxygen Demand (BOD_5), Chemical Oxygen Demand (COD), Ammoniacal Nitrogen (NH_3 -N), Suspended Solids (SS) and pH. The number of clean rivers had increased from 38 (33 per cent) in 1994 to 48 (40 per cent) in 1995. Out of these 48, 25 rivers were in Peninsular Malaysia, 11 in Sabah and 12 in Sarawak. The number of polluted rivers remained at 14, while the number of slightly polluted rivers had decreased from 64 in 1994 to 53 in 1995. The polluted rivers were Sg. Dondang, Sg. Juru and Sg. Jejawi in Pulau Pinang; Sg. Deralik and Sg. Raja Hitam in Perak; Sg. Kelang, Sg. Buloh and Sg. Sepang in Selangor; Sg. Tukang Batu, Sg. Pasir Gudang, Sg. Sedili Kecil, Sg. Kempas, Sg. Pontian Kechil and Sg. Rambah in Johor.

Figure 3.5 shows that major contributors to river pollution were silt due to soil erosion and organic pollution from sewage and animal

waste as indicated by SS and NH_3 -N.

Eleven types of heavy metals were monitored throughout Malaysia namely, nickel, lead, manganese, chromium, cadmium, zinc, iron, aluminium, mercury, copper and arsenic. It was found that copper levels exceeded the Malaysian Interim National Water Quality Standards for Class III Water Use (fishery, water supply with extensive treatment and livestock drinking) in all the rivers monitored, while mercury levels exceeded the Interim Standards in all the rivers monitored except in Sg. Perai, Pulau Pinang. In terms of lead, it was found that the rivers in Kelantan and Terengganu did not exceed the Class III Standard for lead i.e. 0.01 mg/l, while Sg. Perai (Pulau Pinang), Sg. Sepang and Sg. Buloh (Selangor), Sg. Muar (Johor) and Sg. Kuantan (Pahang) also complied with this Standard for lead. In terms of iron, only 5 rivers were within the Class III Standard for iron i.e. 1 mg/l. These were Sg. Pontian Besar, Sg. Tukang Batu and Sg. Skudai (Johor); Sg. Batang Kemena (Sarawak); and Sg. Padas (Sabah). As for cadmium, Sg. Sepetang and Sg. Perak (Perak); Sg. Buloh and Sg. Sepang (Selangor) did not exceed the Class III Standard for cadmium, i.e. 0.001 mg/l.

However, nickel levels in all the rivers monitored were within the Class III Standard of 0.9 mg/l. So was the case for arsenic. Only Sg. Kempas in Johor exceeded the Class III Standard for zinc, i.e. 0.35 mg/l.

Faecal coliform is another indicator of human or animal wastes especially from partially treated and untreated wastes. Out of the 119 rivers monitored, 34 rivers exceeded the standards for *Escherichia coli* and total coliform; out of which 9 were in Johor, 7 in Selangor, 6 in Sarawak, 3 in Terengganu, 2 each in Melaka, Pahang, Perak and Sabah, and 1 in Negri Sembilan.

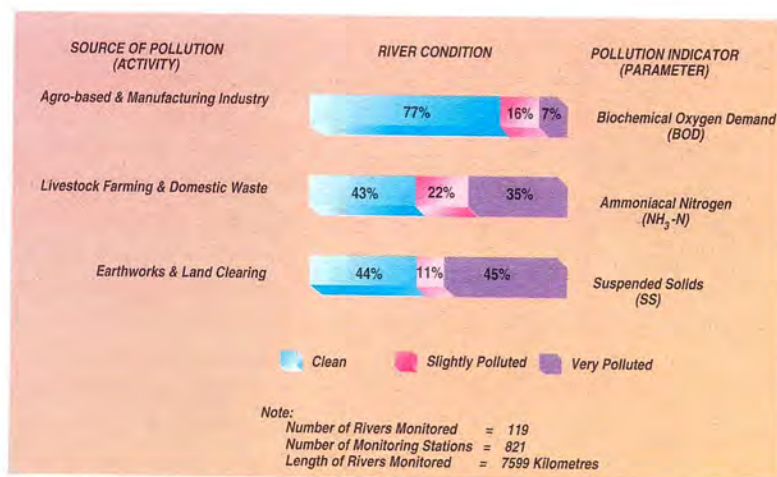


Figure 3.5 Malaysia: Status of River Water Quality Based on Activity, 1995

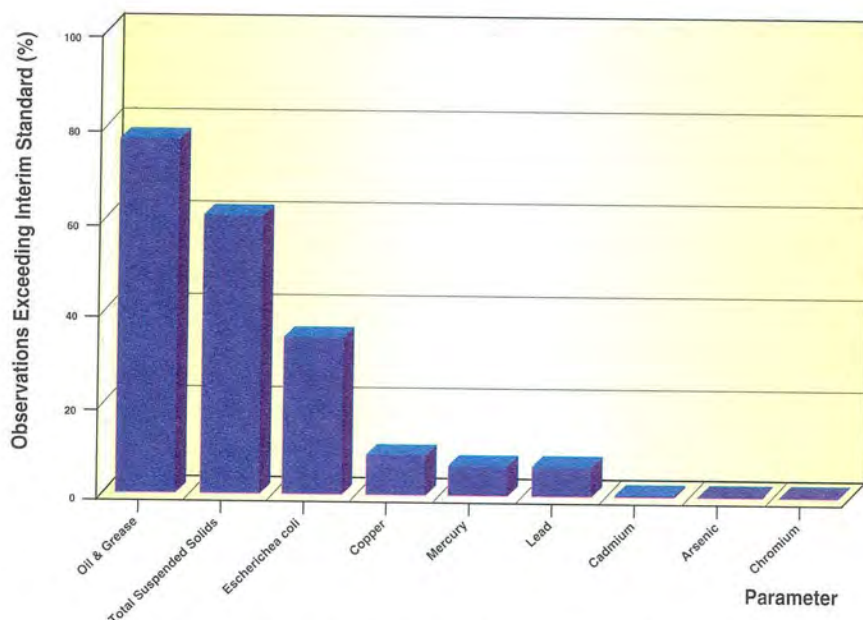


Figure 3.6 Malaysia: Status of Marine Environmental Quality, 1995

MARINE ENVIRONMENTAL QUALITY

Monitoring

The marine environmental quality monitoring continued to be one of the major activities of the Department of Environment. During the year, a total of 557 samples were collected from 186 marine stations compared to a total of 681 samples taken from 208 marine stations in 1994.

A sophisticated telemetry wavescan system of monitoring to give instantaneous results of marine environmental quality was deployed at Tanjung Piai, Johor on December 10, 1995. The wavescan system has three vital components

namely, a wavescan buoy, telemetry and the shore-station. The main advantage of using this system is that it enables data from a marine station to be readily transmitted via satellite to an on-shore station by means of telemetry. The processes of collecting, monitoring and presenting the data transmitted from the wavescan buoy are based on continuous real time readings.

Status

The marine environmental quality in 1995 had slightly improved compared to 1994. As in previous years, oil and grease, total suspended solids (TSS) and *Escherichia coli* (*E. coli*) were the main contaminants of the coastal waters in all States. About 84 per cent of the total number of monitoring stations were polluted by oil and





Wavescan Buoy and Telemetry System at Tanjung Piai, Johor

grease, 65 per cent by TSS and 37 per cent by *E. coli*. Majority of beaches were found to be free from tarballs, except for some beaches in Johor and Pahang. The tarballs were found in some beaches in these States between the months of February and July that could only be due to intentional or accidental discharges of oil sludges or oily wastes from vessels, fishermen boats or oil platforms. However, compared to previous years, the impact was not so serious and could be removed manually.

In terms of *E. coli*, readings exceeding the Proposed Interim Standard of 100 MPN/100 ml were observed in the states of Melaka and

Selangor between March and May, whereas in the coastal waters off Sabah, Perak and Johor the levels were fairly low. Overall, the prevalence of *E. coli* in coastal waters due to the discharges of partially treated or untreated domestic sewage and animal wastes had yet to improve.

The contamination by TSS remained evident in the coastal waters off Pahang, Perak, Pulau Pinang, Kelantan, Melaka, Terengganu and Selangor. These states recorded higher percentages of readings exceeding the Proposed Interim Standard of 50 mg/l

Lead levels exceeding the Proposed Interim Standard of 0.1 mg/l were recorded in the coastal waters off Perak, Pulau Pinang and Sabah. As for mercury, levels exceeding the Proposed Interim Standard of 0.001 mg/l were most frequently observed in the coastal waters off Melaka, Selangor, Pulau Pinang and Perak. In the coastal waters off Terengganu, Pulau Pinang, Kelantan and Sarawak the levels of copper exceeded the Proposed Interim Standard of 0.1 mg/l.

Levels of other heavy metals monitored such as cadmium, chromium and arsenic were within the interim standards as shown in Figure 3.6.

The assessment of heavy metals throughout the country revealed that the overall quality of marine waters is still very much influenced by the degree of the discharge of partially treated or untreated industrial wastes and other land-based sources. Priority would be given to the enhancement of environmental awareness programmes and strategies for marine pollution prevention, control and management.

POLLUTION ABATEMENT

Chapter **4**



CONTROL OF AGRO-BASED PRESCRIBED PREMISES

Status of Compliance with the Environmental Quality (Prescribed Premises) (Crude Palm Oil) Regulations, 1977

In 1995, a total of 281 crude palm oil processing mills were licensed under Section 18(1) of the Environmental Quality Act, 1974 to comply with the stipulated standards of effluent discharge specified under the Environmental Quality (Prescribed Premises) (Crude Palm Oil) Regulations, 1977.

Figure 4.1 shows that CPO mills in Kedah, Kelantan, Melaka and Pulau Pinang achieved the highest compliance rate, while those in Terengganu and Sarawak were the lowest. Mills found to be lax in complying with the legal requirements were given warnings and sufficient time to improve their performance. Legal actions were taken for repeated violations of the standard. Out of the 281 CPO mills licensed, 111 were compounded for offences under the Environmental Quality (Clean Air) Regulations, 1978 and 12 were taken to court for various offences under Sections 16, 18 and 25 of the EQA, 1974, as shown in Figure 4.2.

To intensify enforcement programmes, the Department of Environment held a dialogue session with the Palm Oil Millers Association (POMA) on July 21, 1995. The industries were informed of the government's concern on air pollution caused by palm oil mills and non-compliance to the stipulated effluent discharge standards. A workshop on Environmental Quality Management in Plantations which was held at PORIM Headquarters, Bangi on July 24, 1995 discussed issues on watercourse discharge by the plantation industries. One of the resolutions of the workshop was that, a Joint Working Group comprising DOE, PORIM, RRIM, MOPGC, MRPC and POMA be formed to review and monitor, on a co-operative basis, a new generation of watercourse discharge standards for the plantation industry. The revision should be subjected to the availability of proven and cost-effective effluent treatment technology. Another issue discussed was the proposed waiver on the effluent-related fee for land application or partly treated effluent. DOE



Effluent sampling at final discharge point of a raw natural rubber factory during an enforcement visit

could consider to waive the effluent-related fee for land application if the industry could prepare specific guidelines on land application method including the Contingency Plan. These guidelines should be complied with at all times by mills and be effective even during monsoon seasons.

Status of Compliance with the Environmental Quality (Prescribed Premises) (Raw Natural Rubber) Regulations, 1978

A total of 156 rubber processing factories were issued licences in 1995 under the Environmental Quality Act, 1974 to comply with the standards of discharge specified under the Environmental Quality (Prescribed Premises) (Raw Natural Rubber) Regulations, 1978.

Figure 4.3 shows that rubber factories in Melaka, Sabah and Terengganu achieved the highest compliance rate, while those in Pahang and Sarawak were the lowest. As a result of high demand, many mills have expanded their production without corresponding increase in the capacity of their treatment plants, hence resulting in effluent discharge exceeding the prescribed standards. After repeated warnings, a total of 8 RNR factories were taken to court for various offences under the Environmental Quality Act, 1974 as shown in Figure 4.4.

In the dialogue session held between the Department and the Federation of the Rubber Trade Associations of Malaysia (FRTAM) on June 23, 1995, issues relating to odour control,

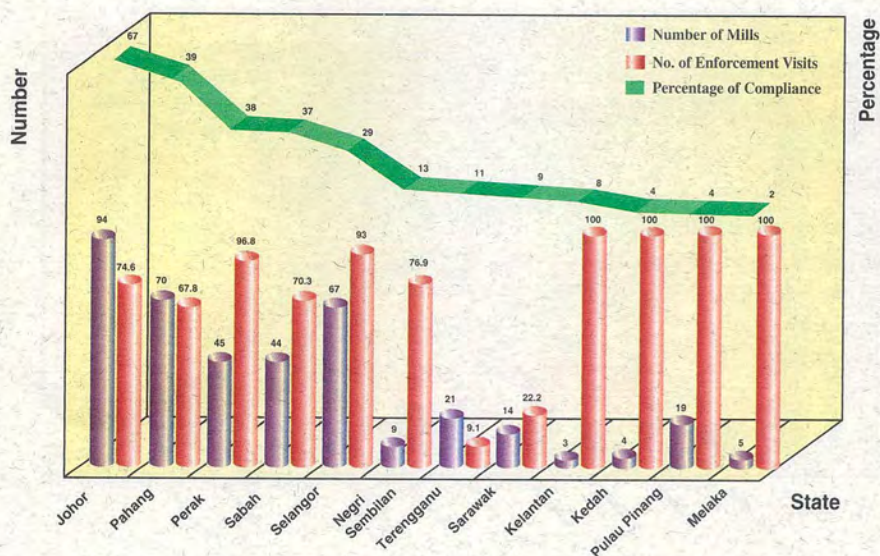


Figure 4.1 Malaysia : Status of Compliance of Palm Oil Mills, 1995

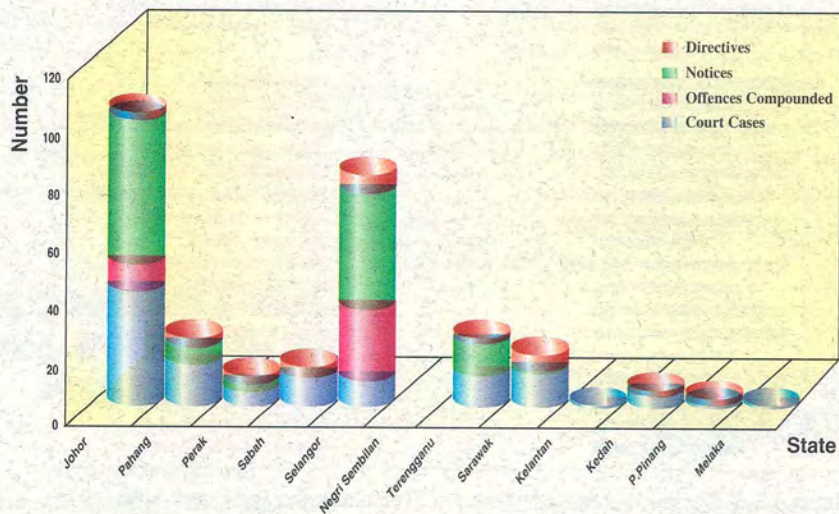


Figure 4.2 Malaysia : Number of Legal Action Cases Against Palm Oil Mills, 1995

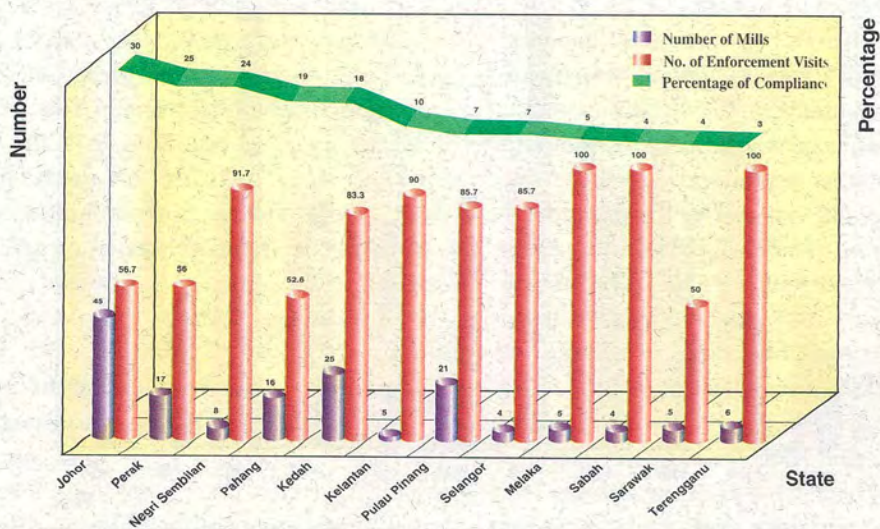


Figure 4.3 Malaysia : Status of Compliance of Raw Natural Rubber Factories, 1995

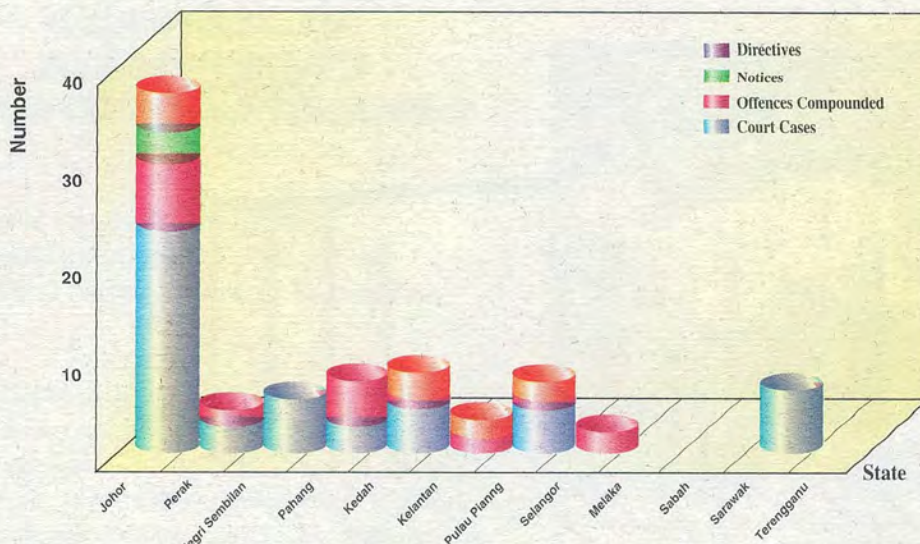


Figure 4.4 Malaysia : Number of Legal Action Cases Against Raw Natural Rubber Factories, 1995

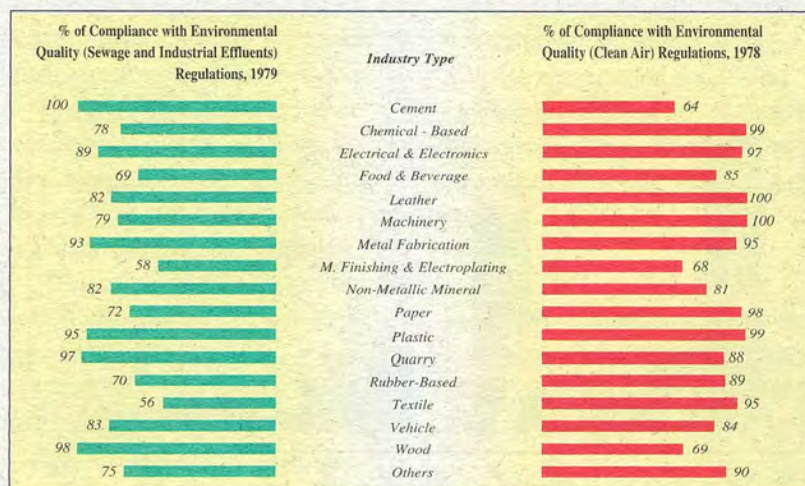


Figure 4.5 Malaysia: Compliance Status of Manufacturing Industries, 1995

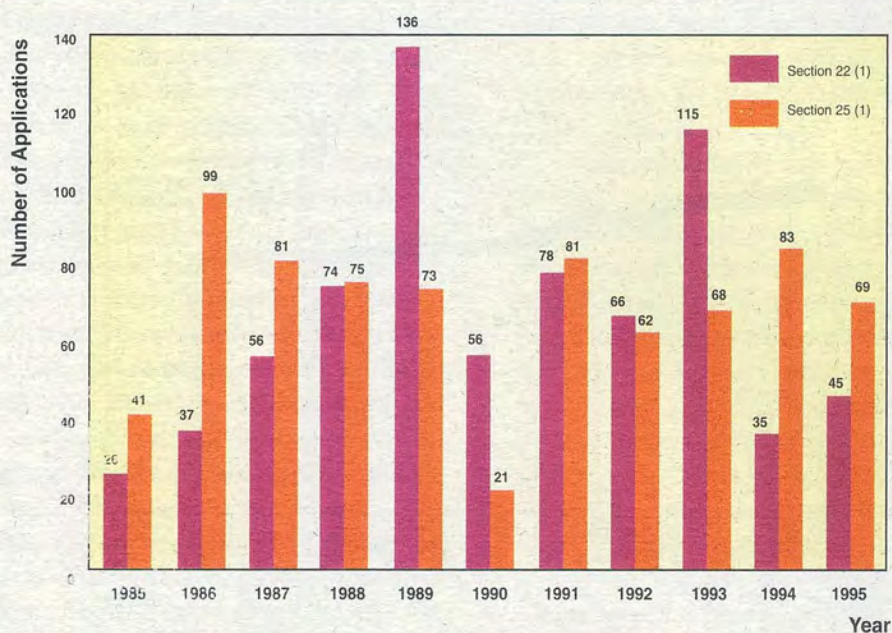


Figure 4.6 Malaysia : Number of Applications for Contravention Licence under Sections 22(1) and 25 (1), Environmental Quality Act, 1974, 1985-1995

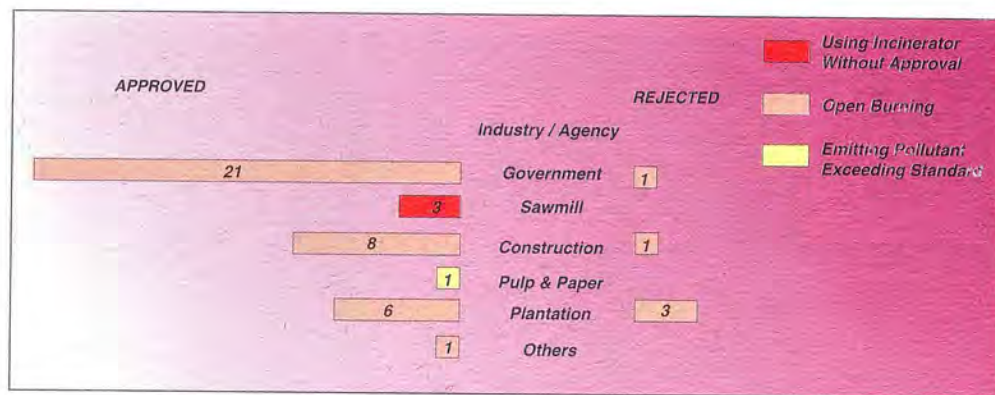


Figure 4.7 Malaysia : Status of Application for Contravention Licence under Section 22(1), Environmental Quality Act, 1974, by Industry, 1995

improper siting and the need for relocation of some smelly factories were discussed. Industries were allowed to send effluent samples for analysis at laboratories not accredited with the Malaysian Laboratories Accreditation Scheme (SAMM) until the number of laboratories under SAMM is significantly adequate to meet the demand.

CONTROL OF NON-PRESCRIBED PREMISES

Status of Compliance with the Environmental Quality (Sewage and Industrial Effluents) Regulations, 1979

Figure 4.5 shows that cement industry achieved compliance of 100 per cent to the Environmental Quality (Sewage and Industrial Effluents) Regulations, 1979. However, food and beverage, paper, textile, rubber-based as well as metal finishing and electroplating industries still had difficulty to comply with the requirements of the regulations and compliance was less than 75 per cent. The textile industry had the lowest compliance of only 56 per cent.

Status of Compliance with the Environmental Quality (Clean Air) Regulations, 1978

The overall compliance by industries to the Environmental Quality (Clean Air) Regulations, 1978 was generally satisfactory

as shown in Figure 4.5. However, metal finishing and electroplating, cement and wood industries were identified as industries which had problems to comply with the regulations, with compliance of less than 75 per cent. The highest compliance rate was achieved by the leather and machinery industries with a compliance of 100 per cent while the lowest was the cement industry with compliance of only 64 per cent.

CONTRAVENTION LICENCES

The Environmental Quality Act, 1974, provides for contravention licences to be issued to industries having difficulties in complying with discharge standards and other stipulated conditions of the Act.

Figure 4.6 shows the total number of applications for contravention licences received since 1985 under Sections 22(1) and 25(1) of the Act to emit air pollutants and discharge effluents exceeding prescribed standards, respectively. The number of licences applied for contravening Section 22(1) had slightly increased from 35 in 1994 to 45 in 1995, while that for Section 25(1) had decreased from 83 in 1994 to 69 in 1995.

Figure 4.7 shows the status of application for contravention licences under Section 22(1) by industry. Ninety one (91) per cent of the applications were for open burning of wastes. The figure also shows that in 1995, 39 out of 45 applications were approved.

Figure 4.8 shows the status of application for contravention licences under Section 25(1)

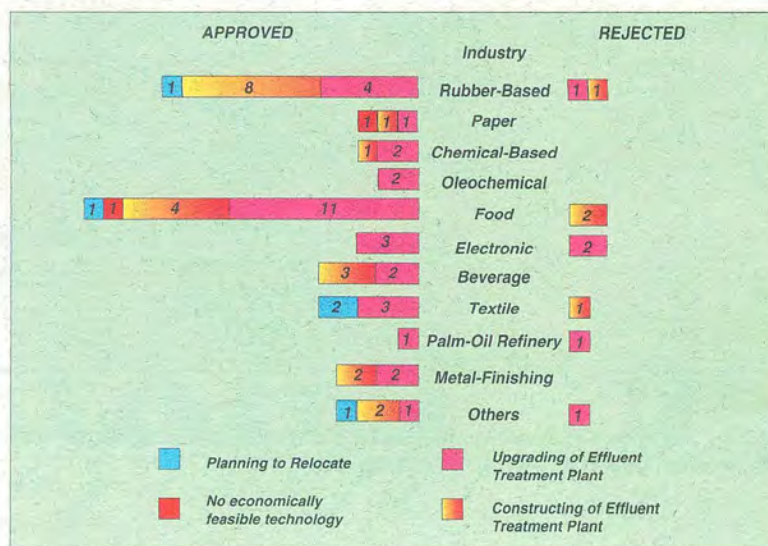


Figure 4.8 Malaysia : Status of Application for Contravention Licence under Section 25(1), Environmental Quality Act, 1974, by Industry, 1995

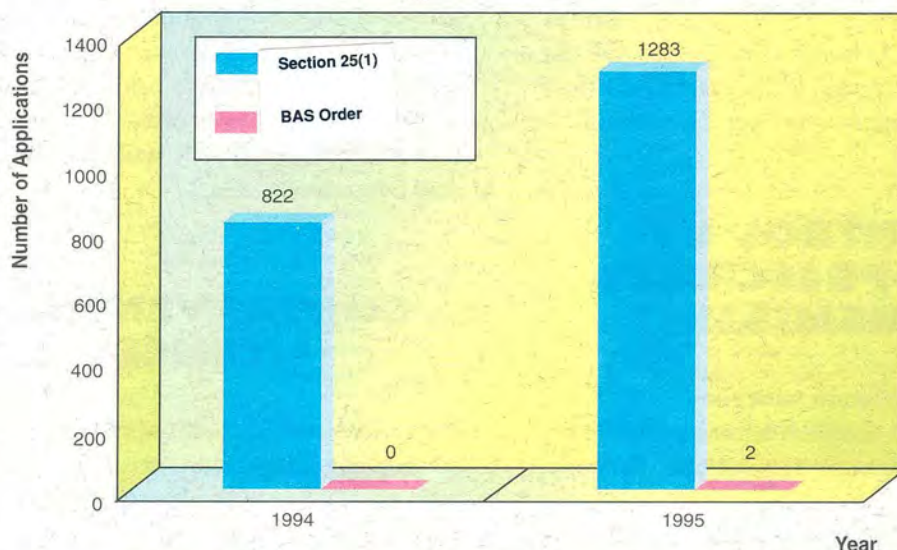


Figure 4.9 Malaysia : Number of Applications for Contravention Licences under Section 25(1) and BAS Order, Environmental Quality Act, 1974, 1994-1995

according to the type of industry. It shows that 60 licences were approved under Section 25(1) of the Act, while 9 such applications were rejected due to inadequate information. Of these licences approved, 53 per cent were to enable industries to upgrade their effluent treatment plants, 35 per cent to construct effluent treatment plants, while the remaining 12 per cent were issued to industries that were still unable to obtain appropriate treatment technology or in the process of relocation. Food and rubber-based industries recorded the highest number of licences approved in 1995.

The DOE had also received application for contravention licences under Section 25(1) from Indah Water Konsortium Sdn. Bhd.

(IWK), the Consortium responsible in operating sewerage treatment facilities throughout the country. A total of 1,283 licences were issued to IWK to enable the company to upgrade existing facilities.

In 1995, DOE promulgated the Environmental Quality (Prohibition on the Use of Controlled Substances in Soap, Synthetic Detergent and Other Cleaning Agents) Order, 1995. Figure 4.9 shows that two contravention licences under this Order were issued to industries to enable them to clear the stock of cleaning agents containing Branched Alkyl Benzene Sulphonates, until November 30, 1995.



A typical aerial shot taken during the DOE-Royal Malaysian Police (Air Wing) airborne surveillance

AIRBORNE SURVEILLANCE

The Joint Airborne Surveillance Programme between the Department of Environment and the Police Air Wing was continued in 1995. The programme continued to provide useful and speedy surveillance information on activities in violation of the EQA and a special programme to investigate the occurrence of forest fire which caused serious deterioration of air quality was conducted from September 30 - October 4, 1995 in Peninsular Malaysia, Sarawak and Sabah. The programme was also carried out during the forest fire at Bukit Tunggul, Batang Berjuntai, Selangor from October 3 - 6, 1995. The Forward Looking Infrared Radar (FLIR) was used for night flight.

Surveillance on land activities were carried out on industrial estates at Tasek in Perak, Mak Mandin in Penang, Batu Pahat in Johor, Kedah, as well as Sabah and Sarawak. The observations were effective in detecting excessive smoke emission and open burning.

On illegal activities at seas, the Police Air Wing and the aircrafts of the Ministry of Defence were most effective in detecting illegal discharge of oil in the Straits of Melaka and South China Sea.

A proposal to extend this coverage on a more regular basis has been submitted and awaiting for approval for operation in 1996. If sufficient allocation is given, a dedicated private sector aircraft may be utilised.

A Feasibility Study on Aerial Surveillance for the DOE began in August 1995. The study concluded that an effective aerial surveillance

service was urgently needed through a privatisation programme. The proposal would be further examined by the Economic Planning Unit (EPU).

SCHEDULED WASTES MANAGEMENT

Scheduled Wastes Integrated Treatment and Disposal Facility

On December 18, 1995 Kualiti Alam Sdn. Bhd. was given approval to establish an integrated scheduled wastes treatment and disposal plant at Bukit Nanas, Negri Sembilan. The project was to be implemented according to a schedule as shown in Table 4.1. This marked an important milestone for the management of wastes in Malaysia as an effort towards promoting systematic and environmentally sound wastes management.

In consideration of the investment put in and to ensure the long term viability of the project, Kualiti Alam Sdn. Bhd. was given the exclusive right to establish and operate an integrated scheduled wastes treatment and disposal facilities for 15 years. The facilities are designed to cope with all categories of hazardous wastes except radioactive, explosive and clinical wastes. It shall include an incineration plant, physical/chemical treatment plant, stabilization plant and a secure landfill. Kualiti Alam will also be responsible for collection and transportation from the sites of



Exchange of Agreements at the Signing Ceremony of Agreement between the Government of Malaysia and Kualiti Alam Sdn. Bhd. on December 18, 1995



waste generators to the facility.

The Government, however, will continue to allow the operation of:

i. on-site facilities for the environmentally sound treatment of scheduled wastes by physical and chemical treatment, solidification, pre-treatment, recovery and recycling, incineration and other thermal processes;

ii. existing on-site and off-site secure landfills already licensed by the DOE as at the date of this agreement;

iii. centralised wastewater treatment plant, to be constructed at industrial parks approved by the Government for the purposes of treating wastewaters of the factories located within a particular industrial park;

iv. off-site facilities for the pre-treatment, recovery or recycling of scheduled wastes; and

v. collection and transportation of wastes for the purpose of treatment on-site or at centralised wastewater treatment plant within industrial parks, disposal at existing licensed secure landfills, and for recovery.

According to the agreement, Kualiti Alam would start receiving wastes by August 1996 and the facilities should be fully operational by mid 1998. The establishment of the facility

will facilitate waste generators to treat and dispose of their scheduled wastes in an environmentally sound manner, thus complying with the Department of Environment's standards and requirements under the Environmental Quality Act, 1974 and the relevant regulations made thereunder for the management and disposal of such wastes.

As of the end of December 1995, Kualiti Alam Sdn. Bhd. had already completed land clearing and earth works at the site. In addition, access road from the junction of Jalan Port Dickson and Sepang was 25% completed. Construction works would be continued in 1996.

Written Permission/Enquiries/Licences to Handle Scheduled Wastes

A total of 153 licences for the setting up of scheduled waste facilities and transportation were issued by the Department. The breakdown of facilities approved in 1995 compared to 1994 and 1993 is as shown in Figure 4.10. Figure 4.11 indicates the distribution of licences for hazardous waste treatment and disposal facilities issued according to State. An estimated amount of 185,500 tonnes of scheduled wastes were received by these facilities.

Table 4.1 Malaysia : Schedule for Construction, Completion and Operation of Bukit Nanas Waste Management Centre

Activity	Commence	Complete	Duration (weeks)
Package T1 Clearing, earthwork, drainage, silt trap, access road	July 15, 1995	Dec. 10, 1995	22
Package T2(A) Administration building, intermediate waste storage facilities	Nov. 3, 1995	Aug. 3, 1996	40
Package T2(B) Secure landfill (one cell)	Nov. 3, 1995	Aug. 3, 1996	40
Package T3 Physical/chemical and solidification	May 25, 1996	Dec. 31, 1997	84
Incinerator	May 25, 1996	June 15, 1998	108
Transfer Station at Bukit Minyak, Penang	Mar. 1, 1996	Dec. 31, 1997	

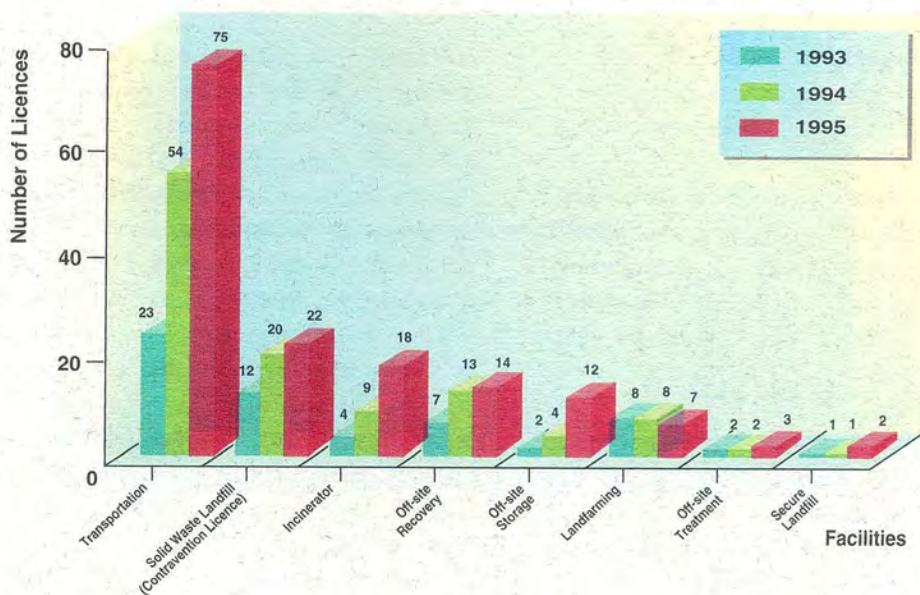


Figure 4.10 Malaysia : Comparison of Licences of Hazardous Waste Treatment and Disposal Facilities issued by the Department of Environment, 1993-1995

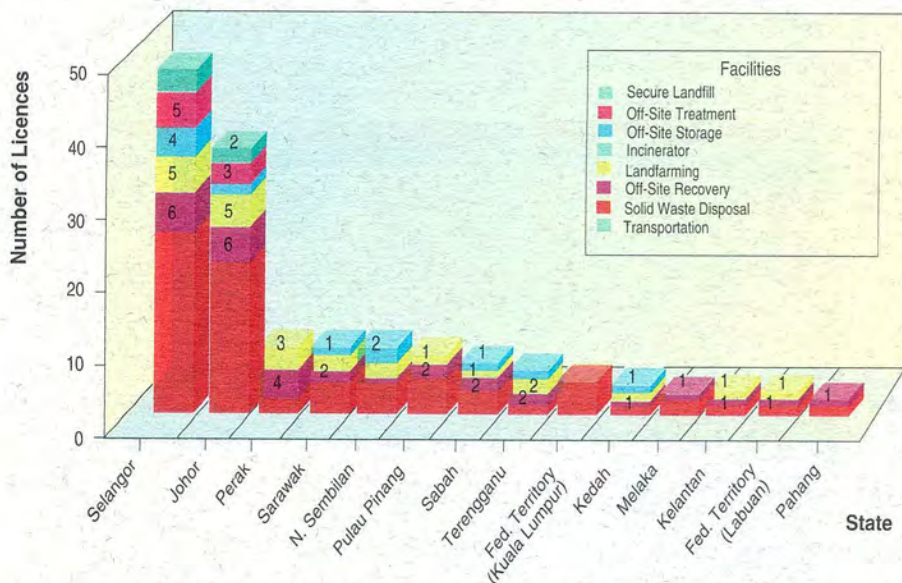


Figure 4.11 Malaysia : Distribution of Licences for Hazardous Waste Treatment and Disposal Facilities issued by the Department of Environment according to State, 1995

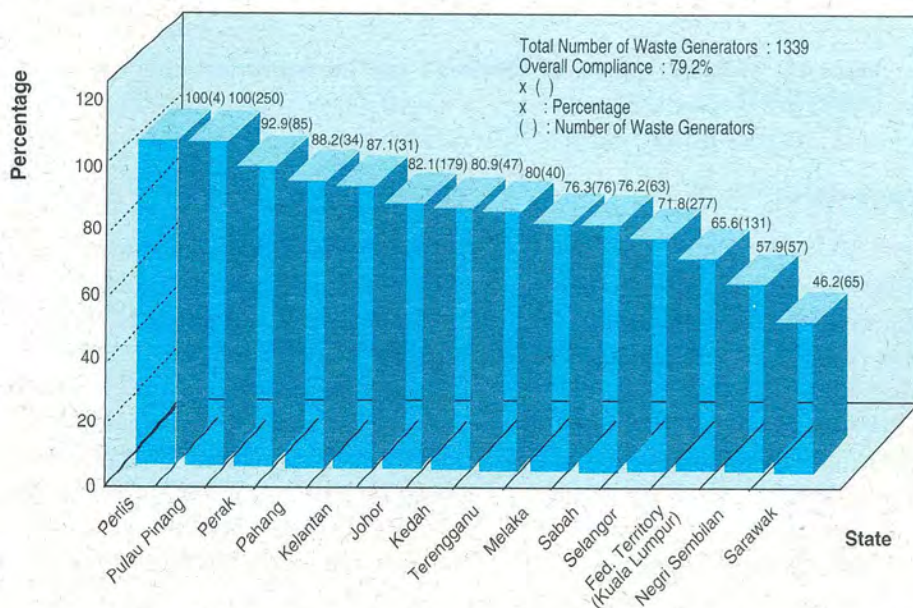


Figure 4.12 Malaysia : Status of Compliance to Notification of Scheduled Waste, by State, 1995

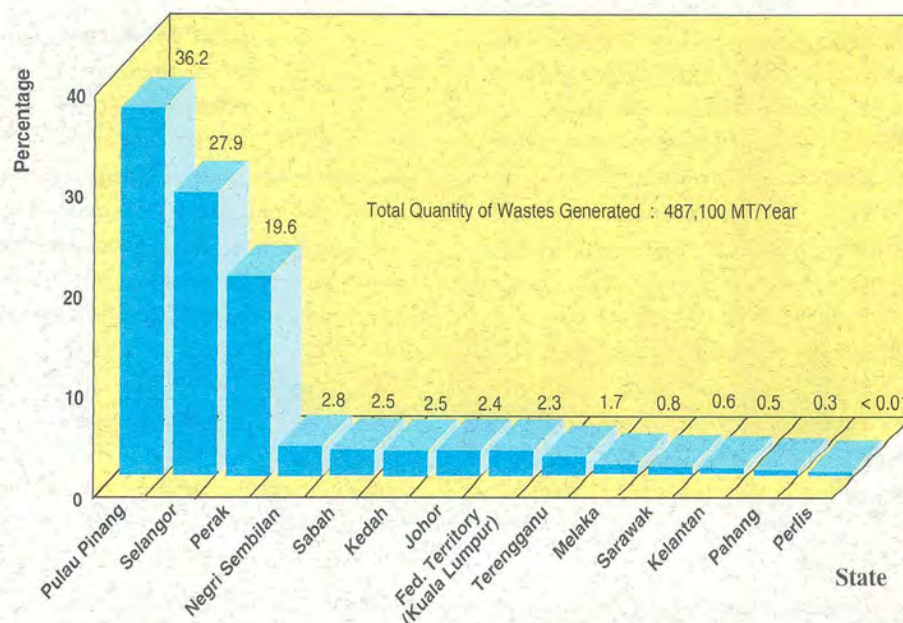


Figure 4.13 Malaysia : Distribution of Scheduled Waste Generated according to State, 1995

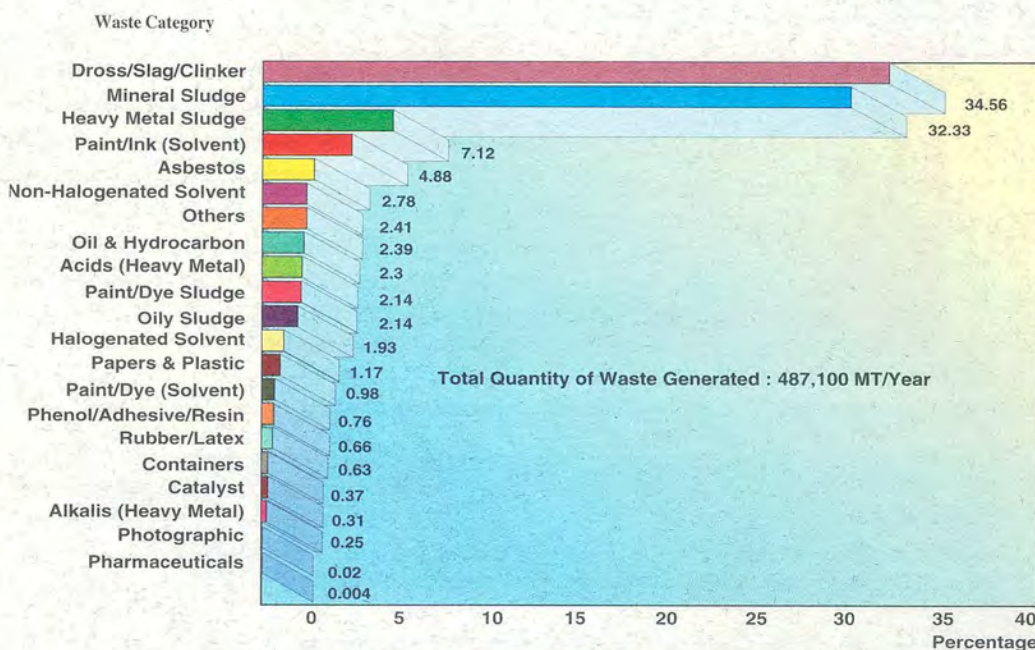


Figure 4.14 Malaysia : Quantity of Scheduled Waste Generated according to Waste Category, 1995

Notification of Scheduled Waste Generation

The number of waste generators that complied with the notification requirement as mandated under regulation 3 of the Environmental Quality (Scheduled Wastes) Regulations, 1989, increased from 960 in 1994 to 1061 in 1995. Figure 4.12 shows the overall compliance of industries in terms of notification of waste generation. Figures 4.13 and 4.14 show the distribution of waste categories, respectively.

Implementation of the Basel Convention

In 1995, Malaysia continued to take an active role in the implementation of the Basel Convention. At the domestic level, export permits were issued by the DOE to 43 applicants mostly in the form of sludges for recovery purposes, to countries such as the United States of America (USA) and Japan. On March 10, 1995, Malaysia and the USA, which was yet to be a party to the Convention, concluded an agreement as required under

Article 11 of the Convention. With this agreement, while waiting for the integrated facility for the treatment and disposal of scheduled wastes to be operational, Malaysian industries proven to be having acute storage problem for their scheduled wastes, were permitted to export these wastes to the USA for recovery and final disposal. Figure 4.15 shows the quantity of scheduled wastes exported to various countries from 1985 to 1995.

In 1995, Malaysia continued to prohibit the import of scheduled wastes as per Customs (Prohibition of Import) (Amendment) (No. 3) Order 1993. In cases where such wastes were proven to be non-hazardous and toxic, specific approvals might be given. For example, in 1995 the importation of copper slag to be used as blasting material by industries, as well as metal and aluminium scraps for recovery were allowed as shown in Figure 4.16.

Malaysia also participated actively in the following meetings organised by the Basel Convention Secretariat:

(i) Eighth Session of the Legal and Technical Working Group to Draft a Protocol on Liability and Compensation, Geneva, February 20-24, 1995.

(ii) Eighth Session of the Technical Working Group on Guidelines of the Basel Convention, Geneva, June 22-23, 1995.

(iii) Third Intersessional Meeting of the Extended Bureau of the Basel Convention, Geneva, June 26-28, 1995.

(iv) Fourth Intersessional Meeting of the Extended Bureau of the Basel Convention, Geneva, September 14-15, 1995.

(v) Ninth Session of the Technical Working Group on Guidelines of the Basel Convention, Bonn, Germany, December 11-13, 1995.

The Legal and Technical Working Group's efforts towards drafting a protocol on liability and compensation progressed rather slowly. Amid strong resistance from the developed countries, no agreement was reached as to whether a special funding mechanism needs to be established to cater for emergencies involving transboundary movements of hazardous wastes. Generally, the work of the Bureau and the Secretariat was hampered by the lack of funds available to carry out the planned activities because of the delay in the payment of the agreed contribution by the parties and donor countries.

The Technical Working Group (TWG), however, made some progress in terms of drafting new guidelines for the implementation of the Convention and on waste characterisation and definition. Malaysia contributed constructively in the special expert group meeting to define wastes subject to the Convention held at Snekkersten, Denmark, on May 22-24, 1995. While agreeing that the definition of wastes must be more definite to facilitate trade, Malaysia had also maintained that environmental interests of developing countries were not to be overlooked. The Third Meeting of the Conference of the Parties (COP) also urged the TWG to continue its work on the waste definition issue.

Informal consultations were held with Australia, United Kingdom, Norway, Canada and the United States concerning the major issues of Basel Convention. A series of meetings and dialogues were initiated with the Malaysian industrial groups such as the Federation of Malaysian Manufacturers (FMM), Malaysian Oleochemical Manufacturers Group (MOMG) and the Malaysian Iron and Steel Industry Federation (MISIF). These dialogue sessions contributed significantly towards assisting the affected industries to resolve their problems. In addition, these sessions had promoted greater understanding and support of the industry for a national stand at international meetings as well as imparting to them the important role of the Convention towards global environmental protection. The National Steering Committee, consisting of industries and key Ministries such as MITI, Ministry of Foreign Affairs and Ministry of Finance, on July 28, 1995, adopted a national stand for the Convention.

Third Meeting of the Conference of the Parties (Third COP)

As in the previous year, the Honourable Minister of Science, Technology and the Environment headed a 7-member Malaysian delegation to the Third COP which was held in Geneva from September 18-22, 1995. For the first time, the delegation co-opted two representatives from the Malaysian industries. Among the most important decisions adopted at the Third COP were the following:

(i) amending the Convention to ban the export



of hazardous wastes from OECD to non-OECD countries for final disposal and for recovery purposes as of December 31, 1997;

- (ii) urging the Technical Working Groups to continue work to define wastes to be subjected to the Convention with the view to effective implementation;
- (iii) urging the Working Group on Liability and Compensation to speed up its work on the Protocol on Liability and Compensation; and
- (iv) the setting up of regional centres for training and technology transfer in Indonesia and China for Asia and the Pacific region.

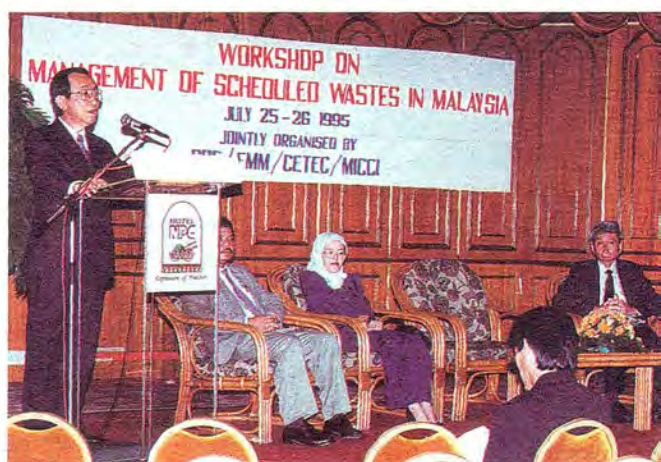
Malaysia played an instrumental and leading role in the Group of 77 and China in reaching a consensus in the Basel Convention amendment proposal that would ensure protection of vulnerable developing countries from threats of illegal transboundary movements of hazardous wastes. The Malaysian delegation, to further its efforts towards a more effective control especially in defining wastes subject to the Convention, offered to host one of the meetings of the Technical Working Group in Kuala Lumpur.

In recognition of its contributions, Malaysia was elected the Vice-President for the Third COP and thus become a member of the Extended Bureau of the Convention.

Aware of the increasing threat posed by illegal disposal of toxic and hazardous wastes in the marine environment of developing countries, Malaysia reiterated its warning that any ship or oil tanker that carries out desludging activity in its water or that may lead to pollution of its marine environment would be dealt with sternly according to its national laws.

At the Workshop on the Management of Scheduled Wastes in Malaysia held from July 25-26, 1995, the implementation of the Convention was given due emphasis. Equal emphasis was also given at the workshops organised by DOE in the formulation of the Marine Enforcement Procedure.

At the regional level, discussions under the auspices of ASOEN, AMME as well as the MSJCE concerning transboundary movements of hazardous wastes were also held, with the aim of establishing a more effective control regime for the ASEAN region.



Official Opening of the Workshop on Management of Scheduled Wastes in Malaysia by the Director General of Environment on July 25 - 26, 1995



Delegates at the Third Meeting of the COP of the Basel Convention listening attentively to the discussion

CONTROL OF MOBILE SOURCES

The vehicle population increased by 9 per cent from 1994 to 1995. The distribution according to States showed that Federal Territory of Kuala Lumpur has the highest number of vehicles, totalling 1,293,558. According to emission load inventories, motor vehicles still account for the major pollution in terms of carbon monoxide emission (2.6 million metric tonnes), hydrocarbons (555,000 metric tonnes), oxides of nitrogen (147,000 metric tonnes) and particulate matter (22,000 metric tonnes).

Black Smoke Emissions

The Department of Environment with the co-operation of the Royal Malaysian Police (Traffic Division) carried out continued kerbside enforcement campaigns to check

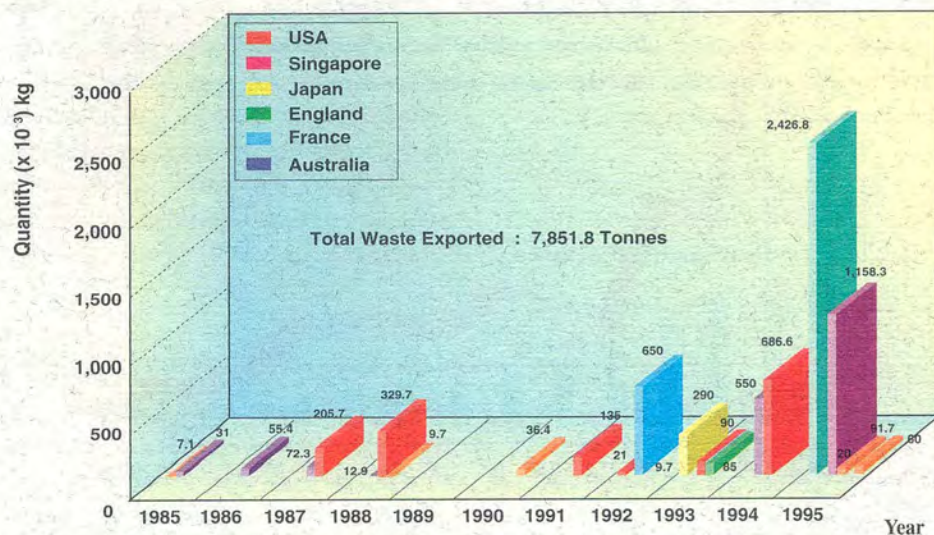


Figure 4.15 Malaysia : Quantity of Scheduled Waste Exported to Various Countries according to Year, 1985-1995

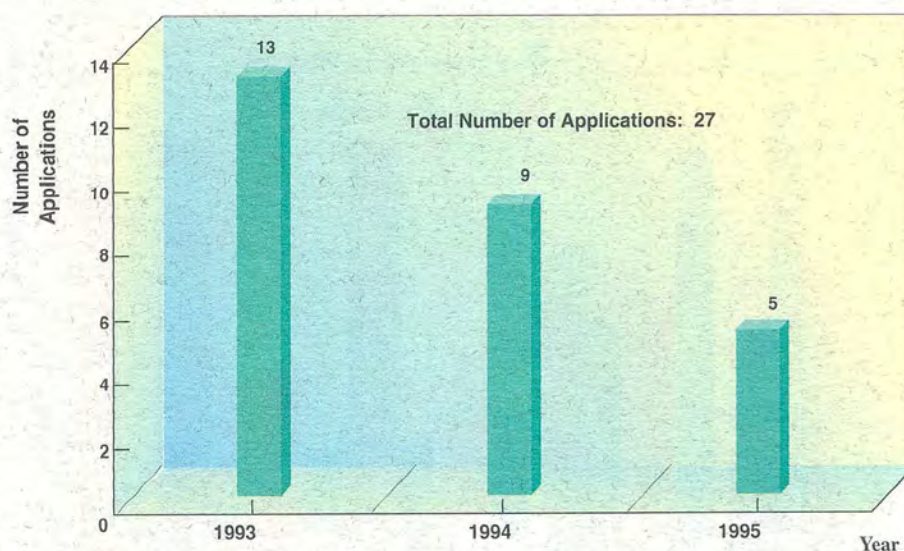


Figure 4.16 Malaysia : Number of Applications to Import Scheduled Waste into Malaysia according to Year, 1993-1995

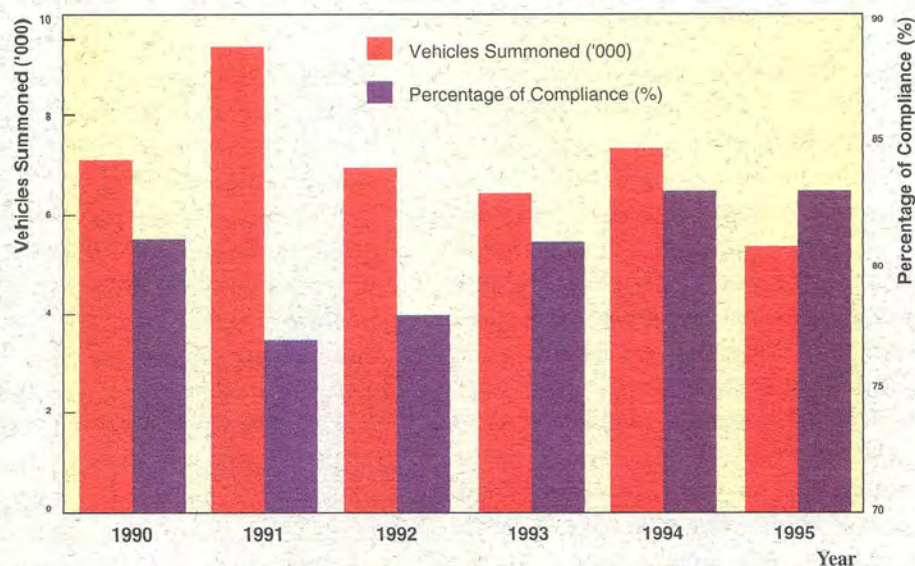


Figure 4.17 Malaysia: Enforcement of Motor Vehicles (Control of Smoke and Gas Emission) Rules, 1977, by Department of Environment and the Royal Malaysian Police, 1990-1995

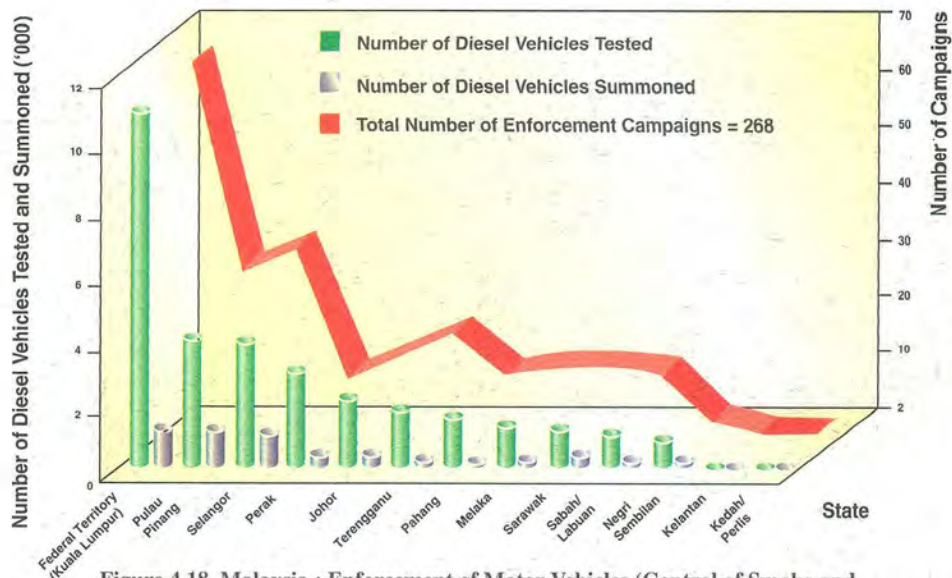


Figure 4.18 Malaysia : Enforcement of Motor Vehicles (Control of Smoke and Gas Emission) Rules, 1977, by Department of Environment and the Royal Malaysian Police, by State, 1995

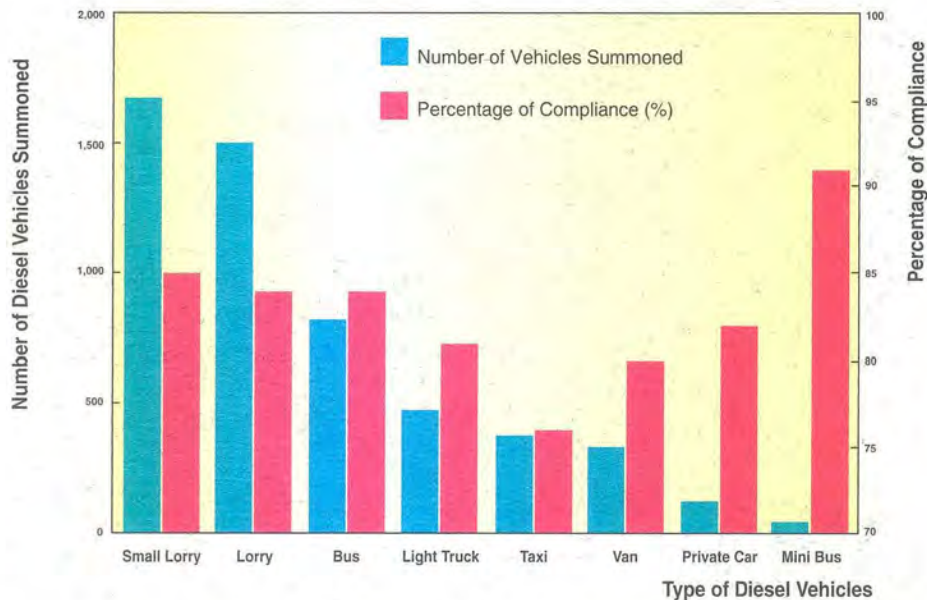


Figure 4.19 Malaysia : Enforcement of Motor Vehicles (Control of Smoke and Gas Emission) Rules, 1977. Vehicles Summoned and Percentage of Compliance according to Type of Vehicles, 1995

against excessive smoke emissions from diesel-powered vehicles. Compared to the past years as shown in Figure 4.17, the number of enforcement campaigns in 1995 had reduced as a result of a priority shift in enforcement activities. From a total of 218 enforcement campaigns conducted, 31, 214 vehicles were tested where 5,404 were summoned compared to 7,392 in 1994, for violating the permissible limit of 50 HSU specified under the Motor Vehicles (Control of Smoke and Gas Emission) Rules 1977 (Figure 4.18). Analysis of enforcement data in 1995 showed that the percentage of compliance to the above Rules had increased to 83 per cent compared to 80 per cent for the previous year. The Federal Territory of Kuala Lumpur issued the highest

number of summons (1,130), followed by Pulau Pinang (1,062) and Selangor (1,048). The breakdown according to compliance is as shown in Figure 4.19.

In the last quarter of 1995, as a renewed effort to curb smoke emission from diesel-powered vehicles in urban centres where pollution level was rapidly rising, an enforcement programme code named AWASI (Area Watch and Sanction Inspection) was launched in Kuala Lumpur to focus attention on high mileage vehicles. The campaign was both educational as well as deterrent. In this programme, excessively smoky vehicles were summoned and given detention order as well as prohibited from further operation until they were repaired and rectified with the technical

assistance of selected co-operating workshops. The order will only be removed after the vehicle has passed the smoke test by DOE. Initial feedback showed that all the affected vehicles came back for re-testing and confirmed compliance with the permissible smoke level. The programme once refined, will be extended to other major towns in 1996.

Lead in Motor Gasoline

All samples of leaded petrol randomly collected nationwide from petrol kiosks were found to comply with the current lead level of 0.15 g/l as specified under the Environmental Quality (Control of Lead Concentration in Motor Gasoline) Regulations, 1985, while all samples of unleaded petrol also complied with the MS

Specifications. Compared to 1994, the nationwide retail sale of unleaded gasoline (ULG) had increased by 20 per cent, from 48.2 to 68.2 per cent in 1995 as shown in Figure 4.20.

Motor Vehicle Noise

During the year in review, 77 enforcement campaigns were conducted by DOE State Offices with the co-operation of the Royal Malaysian Police. Out of 4,782 motorcycles tested, 1,535 vehicles or 17 per cent were summoned for violating the permissible noise limits as prescribed under the Environmental Quality (Motor Vehicle Noise) Regulations, 1987. Figure 4.21 shows that Pulau Pinang had the highest number of violations followed by Terengganu and Pahang.

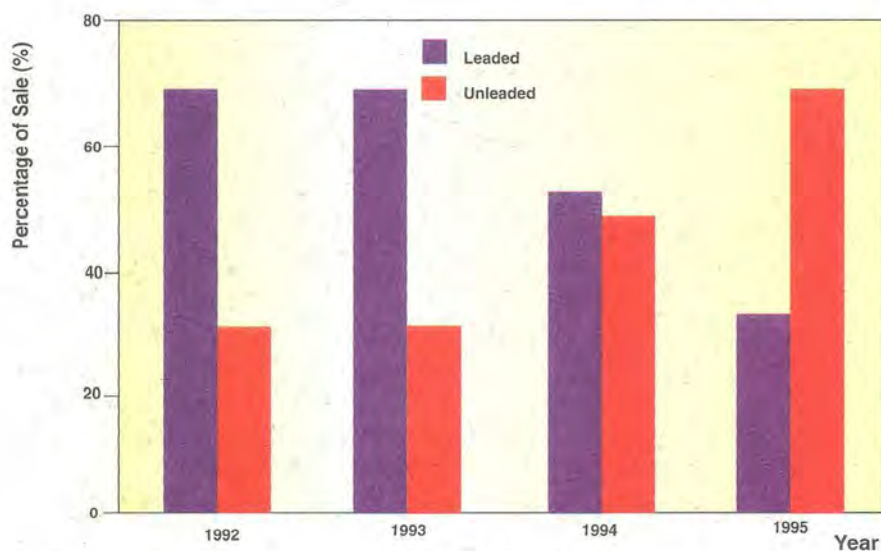
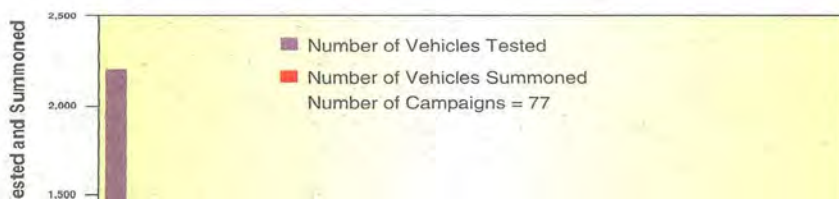


Figure 4.20 Malaysia : Percentage of Sale of Leaded and Unleaded Gasoline, 1992-1995



Benzene in Gasoline

In 1995, 154 fuel samples were randomly collected from petrol kiosks in Kedah, Pulau Pinang, Pahang, Terengganu, Kelantan and Kuala Lumpur. The results showed that all samples had benzene level below 5.0 per cent. However, 9 samples from the west coast of Peninsular Malaysia were found to exceed the current benzene level. PETRONAS has carried out a study on ambient benzene level at its Pasir Gudang Depot and Bintulu Depot. The results showed that benzene level in the ambient air was 0 in the range of 0.16 ppm to 0.55 ppm. Another study by ESSO found that benzene level in the ambient air along a busy street in Kuala Lumpur was between 26 to 37 ppb while the level at residential areas away from traffic was 8 ppb.

New Regulations

After lengthy consultation over the past years, the draft of the Environmental Quality (Control of Emission from Diesel Engine) Regulations was finally approved by the Attorney-General's Chambers on July 14, 1995. The draft is targetted for gazettment as soon as arrangement for the repeal of the Motor Vehicles (Control of Smoke and Gas Emission) Rules, 1977, is agreed upon to avoid duplication of law as advised by the Attorney General. Since September 1995, the DOE had also conducted four meetings with the Malaysian Motor Traders Association (MMTA) and other relevant government agencies to

resume consultation on the control of emissions from petrol vehicles.

With regard to the control of emission from motorcycles, the DOE had resumed consultations with motorcycle industries on the proposed standards. Since September 1995, the motorcycle industries, quoting cost factor, had indicated their unwillingness to follow DOE recommendation to follow current best practice as proven in countries having high motorcycle population. The Department has targeted finalisation of the standards by the second quarter of 1996.

RESPONSE TO PUBLIC COMPLAINTS

The number of pollution complaints received by the Department of Environment rose sharply in 1995 to a total of 2,758 cases, an increase of 40 per cent over 1994. The yearly trend of complaints since 1986 is illustrated in Figure 4.22.

The State of Selangor recorded the highest number of complaints with 24 per cent of the total, followed by Pulau Pinang, 12 per cent. The least number of complaints were received from Perlis (0.25 per cent); followed by Sabah (3 per cent). Figure 4.23 illustrates the distribution of complaints throughout Malaysia.

As in previous years, the number of air pollution complaints far exceeded other complaint cases (69 per cent) as shown in Figure 4.24. The highest number of air pollution complaints were due to wood-based

industries, numbering 355 out of 1912 accounting for 19 per cent; followed by non-industrial sources (17 per cent) as illustrated in Figure 4.25. Meanwhile, Figure 4.26 shows the nature of water pollution complaints by sources whereby the non-industrial sources contributed 22 per cent, followed by other industries (20 per cent).



Charcoal-making (wood-based industry) - one of the major contributors of air pollution

LEGAL ACTION

Prosecution

A total of 324 new cases were filed in court in 1995, out of which 149

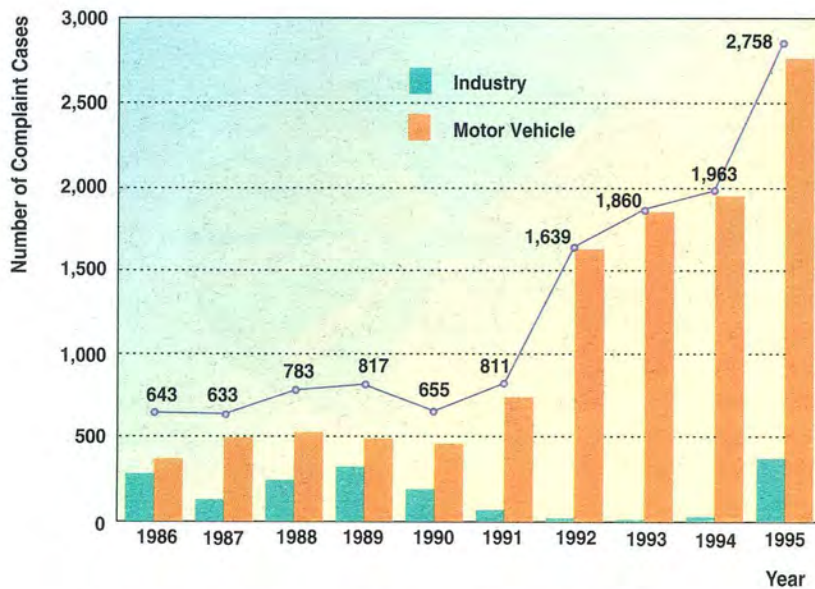


Figure 4.22 Malaysia : Trend in the Number of Complaint Cases Received by the Department of Environment, 1986-1995

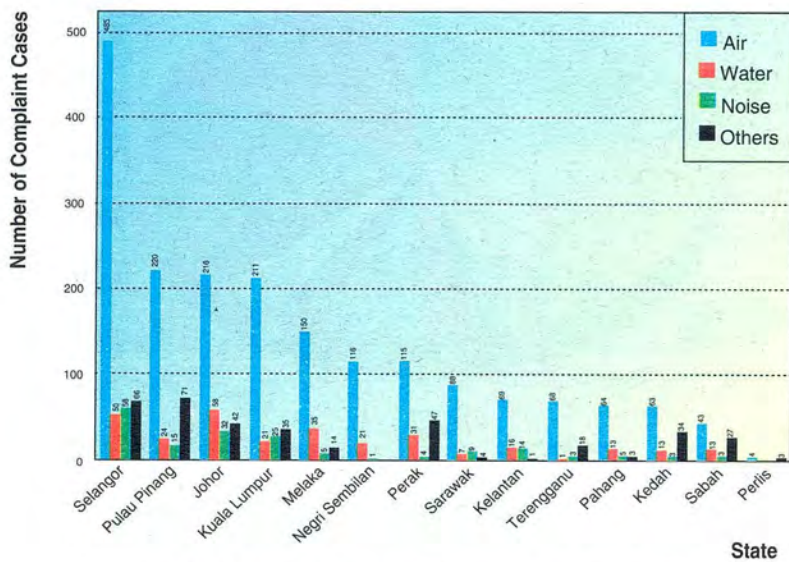


Figure 4.23 Malaysia : Nature of Pollution Complaints by State, 1995

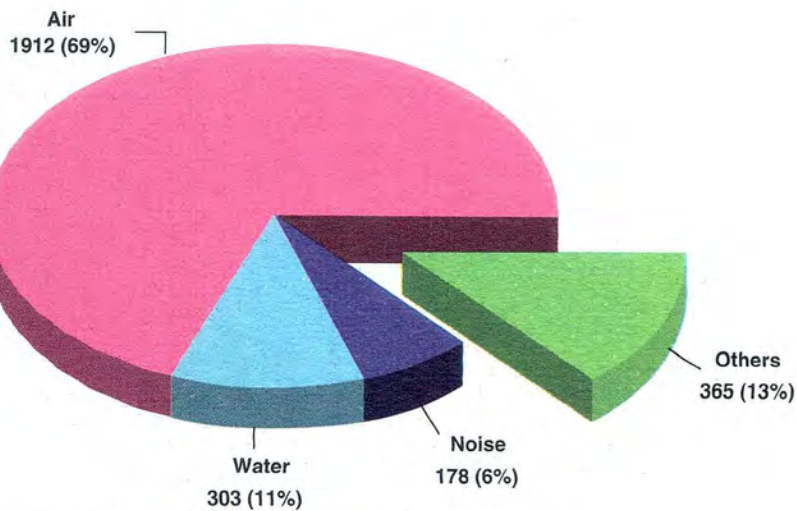


Figure 4.24 Malaysia : Nature of Complaints Received by the Department of Environment, 1995



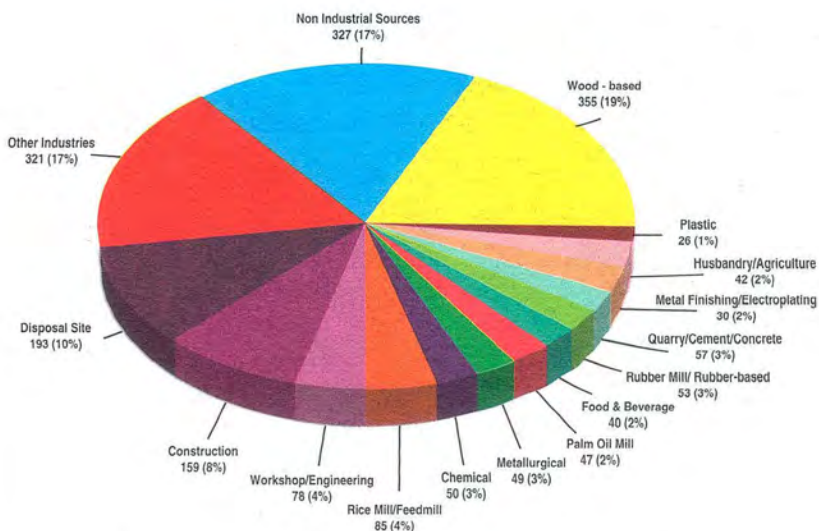


Figure 4.25 Malaysia : Sources of Air Pollution Complaints, 1995

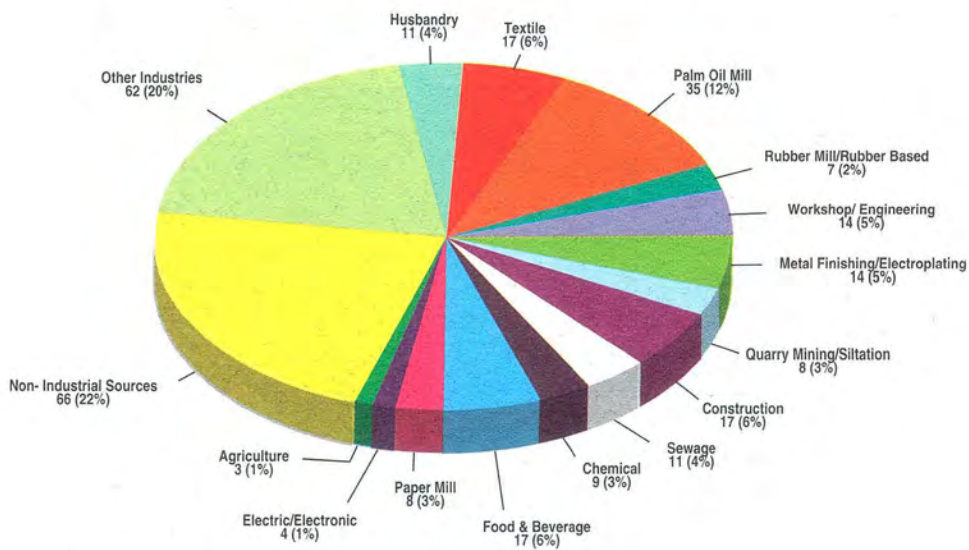


Figure 4.26 Malaysia: Sources of Water Pollution Complaints, 1995

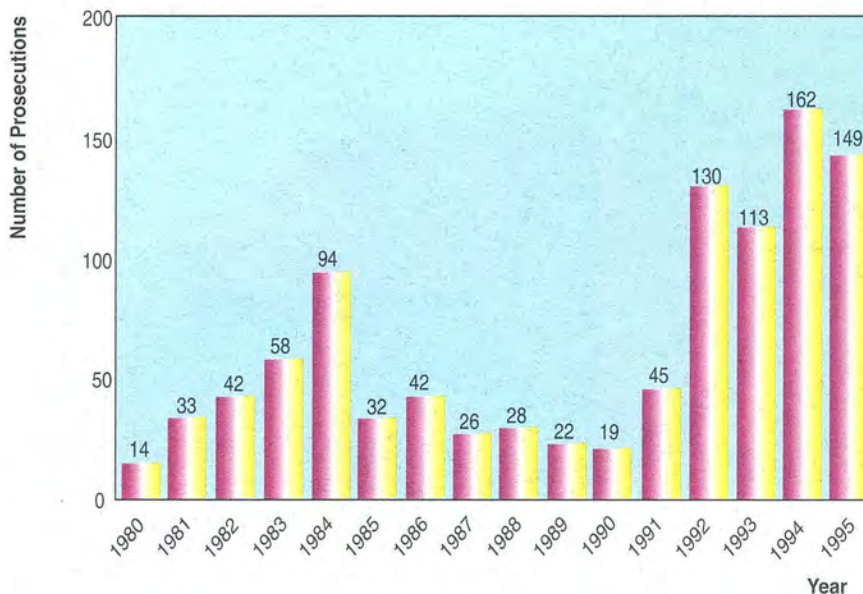


Figure 4.27 Malaysia: Offences Prosecuted under the Environmental Quality Act, 1974, and Regulations made thereunder. Numbers by Year, 1980-1995

cases were prosecuted under the Environmental Quality Act, 1974 and regulations made thereunder, as shown in Figure 4.27. Figure 4.28 shows the breakdown of prosecution cases according to States, over the period of 1980-1995. About 56 per cent of the offences committed in 1995 were cases involving the discharge of effluent exceeding the stipulated standards contrary to Section 25 of the Environmental Quality Act, 1974, while the rest were offences under other provisions of the Act and Regulations as indicated in Figure 4.29.

Fines imposed by courts from the 149 cases

prosecuted amounted to RM510,850.00, a decrease of 10 per cent from 1994 as illustrated in Figure 4.30.

Compounds

Violations of certain provisions of the Environmental Quality (Clean Air) Regulations, 1978 and the Environmental Quality (Scheduled Wastes) Regulations, 1989 are compoundable. In 1995, a total of 2,149 compounds were issued for various offences, an increase of 78 per cent from the previous year. From this total, 69 per cent of the

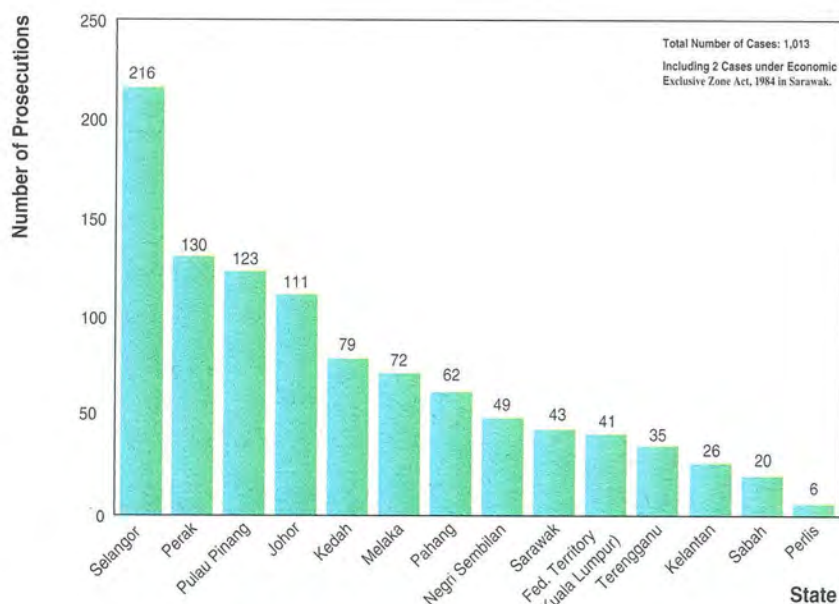


Figure 4.28 Malaysia: Prosecution Cases under the Environmental Quality Act, 1974, and Regulations made thereunder. Numbers by State, 1980-1995

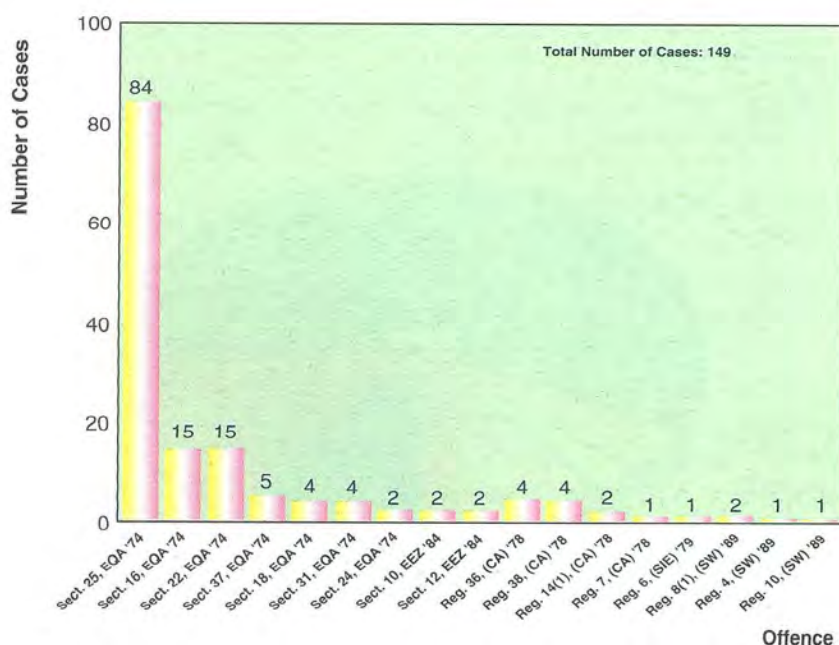


Figure 4.29 Malaysia: Number of Cases by Type of Offences, 1995

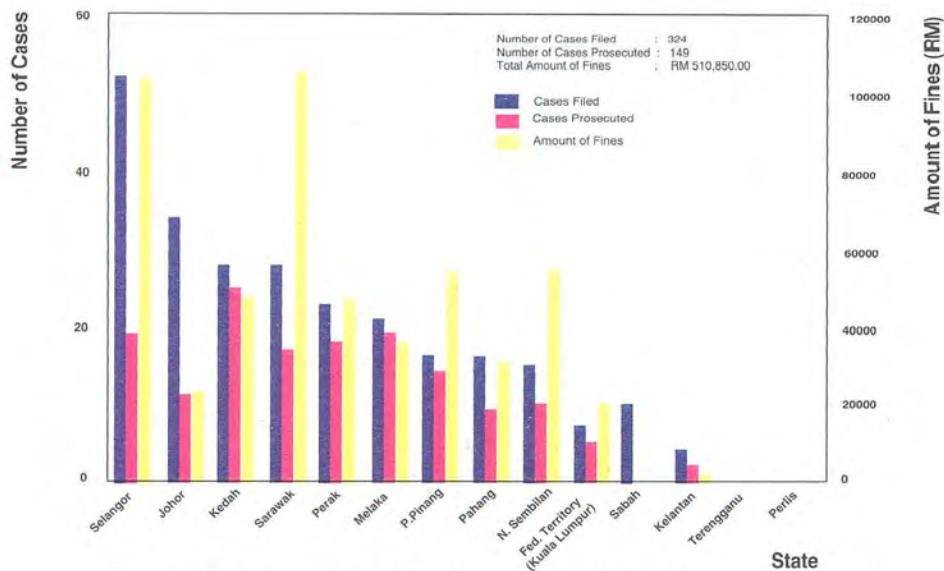


Figure 4.30 Malaysia : Cases Filed, Prosecuted and Fines Imposed by State, 1995

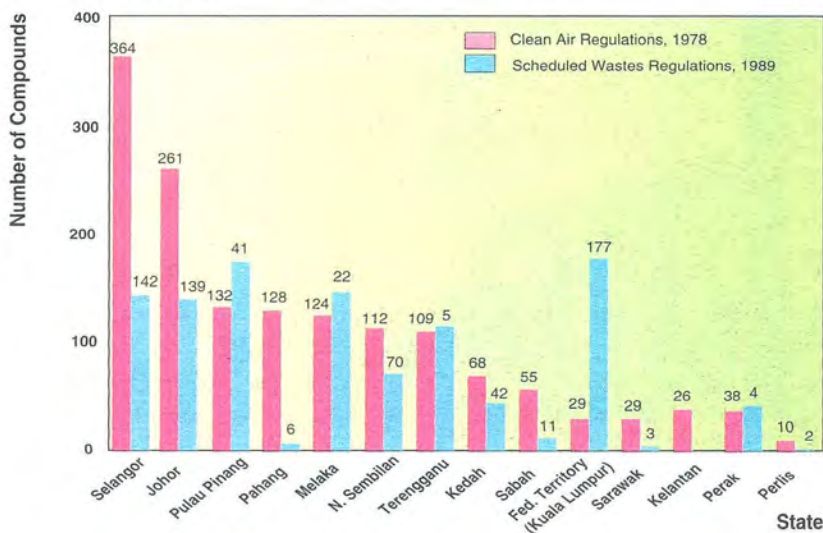


Figure 4.31 Malaysia : Number of Compounds issued by State and Type of Offence, 1995

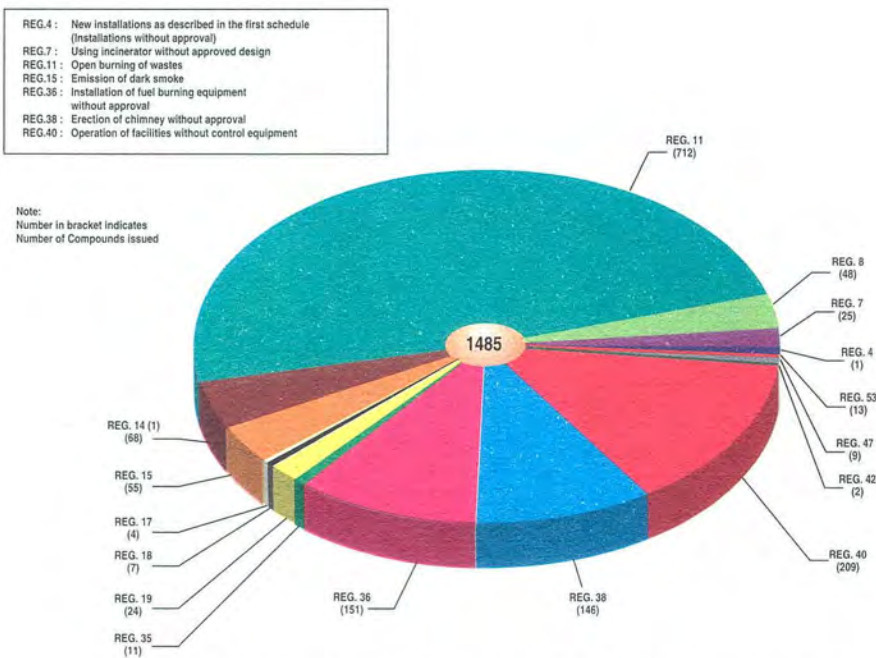


Figure 4.32 Malaysia : Cases Compounded under the Environmental Quality (Clean Air) Regulations, 1978. Numbers by Type, 1995

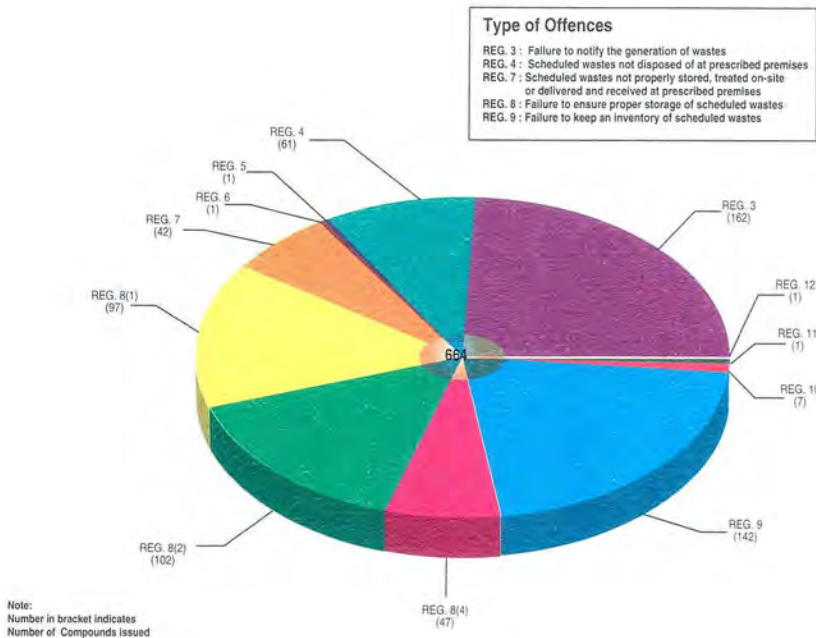


Figure 4.33 Malaysia : Cases Compounded under the Environmental Quality (Scheduled Wastes) Regulations, 1989. Numbers by Type, 1995

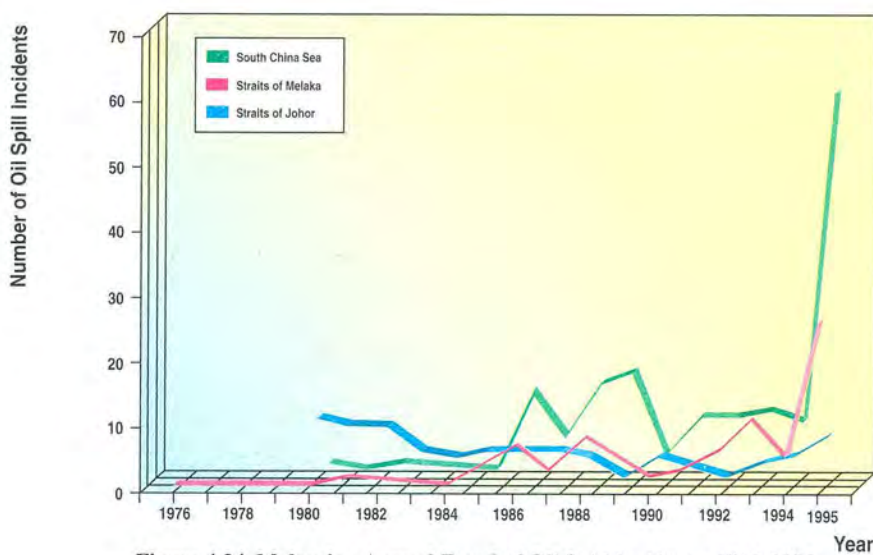


Figure 4.34 Malaysia : Annual Trend of Oil Spill Incidents, 1976-1995

compound cases involved offences under the Environmental Quality (Clean Air) Regulations, 1978, while the remaining 31 per cent for offences involving scheduled waste handling.

Figure 4.31 shows the number of cases violating the Environmental Quality (Clean Air) Regulations, 1978 and those involving scheduled waste handling.

Figures 4.32 and 4.33 give a breakdown of cases compounded under the two sets of regulations. A total of RM1,305,450.00 of fines were collected during the year under review, an increase of 128 per cent compared to the year before.

OIL SPILL RESPONSE

The Government continues to place high priority on the preservation of marine resources and environment.

With regard to desludging activities in Malaysian waters, the Honourable Minister of Science, Technology and the Environment again reiterated Malaysia's stand that desludging by ships is against Malaysian laws on toxic wastes and any such act would be severely dealt with. With the co-operation of other maritime agencies namely, Marine Department, Marine Police, Police Air Wing, Royal Malaysian Navy, Maritime Enforcement



Table 4.2 Malaysia : Number of Vessels Convicted under the Environmental Quality Act, 1974 and Exclusive Economic Zone Act, 1984

NAME OF VESSEL	DATE OF OFFENCE	OFFENCE	SECTION OF EQA, 1974	SECTION OF EEZ ACT, 1984	PENALTY (RM)
M.T ELITE LEADER	3.2.95	Discharge of oily wastes into Exclusive Economic Zone Fail to immediately report occurrence of the discharge to the Director General of Environmental Quality	- -	Section 10 Section 12	30,000.00 2,000.00
S.S SONG SAN	24.2.95	Escape from detention No inventory of waste generated Waste not clearly labelled Transfer of waste without approval from Department of Environment	Section 48 (2) Regulation 9, Scheduled Wastes Regulations, 1989 Regulation 8(2), Scheduled Wastes Regulations, 1989 Regulation 10(1), Scheduled Wastes Regulations, 1989	- - - -	50,000.00 5,000.00 5,000.00 5,000.00
M.V SOLO	24.2.95	Escape from detention No inventory of waste generated Waste not clearly labelled Transfer of waste without approval from Department of Environment	Section 48 (2) Regulation 9, Scheduled Wastes Regulations, 1989 Regulation 8(2), Scheduled Wastes Regulations, 1989 Regulation 10(1), Scheduled Wastes Regulations, 1989	- - - -	50,000.00 5,000.00 5,000.00 5,000.00
M.T REDWOOD	24.2.95	No inventory of waste generated Waste not clearly labelled Do not notify waste to the Director General of Environmental Quality	Regulation 9, Scheduled Wastes Regulations, 1989 Regulation 8(2), Scheduled Wastes Regulations, 1989 Regulation 3, Scheduled Wastes Regulations, 1989	- - -	5,000.00 5,000.00 5,000.00
M.V XING HAI I	28.10.95	Discharge of oily wastes into Exclusive Economic Zone Fail to immediately report occurrence of the discharge to the Director General of Environmental Quality	- -	Section 10 Section 12	31,000.00 2,500.00

Co-ordinating Centre, surveillance activities were intensified. Ten (10) vessels were detained for such violations in 1995. Applications for transboundary movements of wastes were approved after full PIC procedures from the importing country had been obtained.

A Marine Enforcement Procedure book was compiled to provide better co-ordination in surveillance against marine pollution in Malaysian waters. A training course was also conducted in October, 1995.

The proposed Standard Operating Procedure for Joint Oil Spill Combat in the South China Sea and Brunei Bay received approval from Brunei Darussalam and a Memorandum of Understanding was signed on November 7, 1995 in Kuala Lumpur. With this initiative and co-operative effort, the National Oil Spill Response Contingency Plan was complete and would form a major element in the ASEAN Oil Spill Response Plan.

To further strengthen efforts in improving the Oil Spill Response Procedure, a policy paper was presented at the 11th MEXCOE Meeting on October 21, 1995, proposing the establishment of Oil Spill Beach Clean-up Committees at the State level and the establishment of a Beach Clean-Up Fund.

Oil Spill Incidents

In 1995, 92 incidents were reported as shown in Figure 4.34. Four (4) were oil spills and 88 were other discharges. Most of the incidents reported were due to minor collision, oil/oily water discharges, and leakages during transfer.

Oil Discharge Surveillance

Ten (10) vessels were detained and 5 were charged under the Environmental Quality Act (EQA), 1974 and Exclusive Economic Zone Act, 1984. M.T. Elite Leader was the first environmental offence charged under the Exclusive Economic Zone Act. Four (4) others were charged under the EQA, 1974 as shown in Table 4.2.

Approval of Dispersants

In 1995, in accordance with the establishment of the Dispersant Testing Protocol, three more dispersants were approved namely,

- Azan Osca Colloidals
- D'Bond Oil Spill Dispersant
- Bio-Solve



ENVIRONMENTAL ASSESSMENT

Chapter 5



INTRODUCTION

The process of decentralisation was completed in 1995, with all 13 DOE State Offices reviewing EIA reports. Only reports of projects that transcend more than one state and detailed EIA reports were processed at DOE Head Office.

Measures to enhance the EIA procedure continued to be given emphasis. The EIA Handbook was revised and published in August 1995. Twelve sets of specific guidelines were also published. These were for groundwater and surface water supply, power generation and transmission lines, drainage and irrigation, fishing harbour and land-based aquaculture, dam and reservoir, mines and quarries, hill station resorts, tourist facilities in national parks, tourist facilities on island in surrounding waters gazetted as marine parks, industries, municipal waste treatment and disposal, and toxic and hazardous waste treatment and disposal. In addition, the guidelines for road and highway project was published by the Public Works Department with the co-operation and input from the Department.

EIA PROCEDURE

Notification

As a proactive step, the Department continued to register projects subject to EIA on being notified by the proponents or through reports

and announcements in the mass media despite the absence of requirement for notification. In 1995, a total of 1,705 proposed projects subject to EIA were monitored compared to only 344 in 1994. Among these the highest number were related to resorts and recreational development (19 per cent), followed by quarry (18 per cent), infrastructure (12 per cent), housing (10 per cent) and industry (9 per cent).

Review

The year 1995 saw an increase of 16 per cent in the number of EIA reports received as compared to that in 1994. Out of a total of 348 reports received, 339 were preliminary EIA reports; 1 was a detailed EIA and 8 were risk analyses associated with hazardous installations (see Figure 5.1).

Since the enforcement of EIA on April 1, 1988 until December 31, 1995, the number of EIA reports received by the Department totalled 1,444, of which 1,363 (94 per cent) comprise preliminary EIA, 62 (4 per cent) risk analyses, 8 detailed EIA reports and the remaining 11 reports were studies carried out on development proposals in the Exclusive Economic Zone (EEZ).

Prescribed Activities and Project Categorisation

To date, the highest number of reports received since the enforcement of the EIA Order 1987 were for resorts and recreational development (17 per cent) followed by infrastructure-related

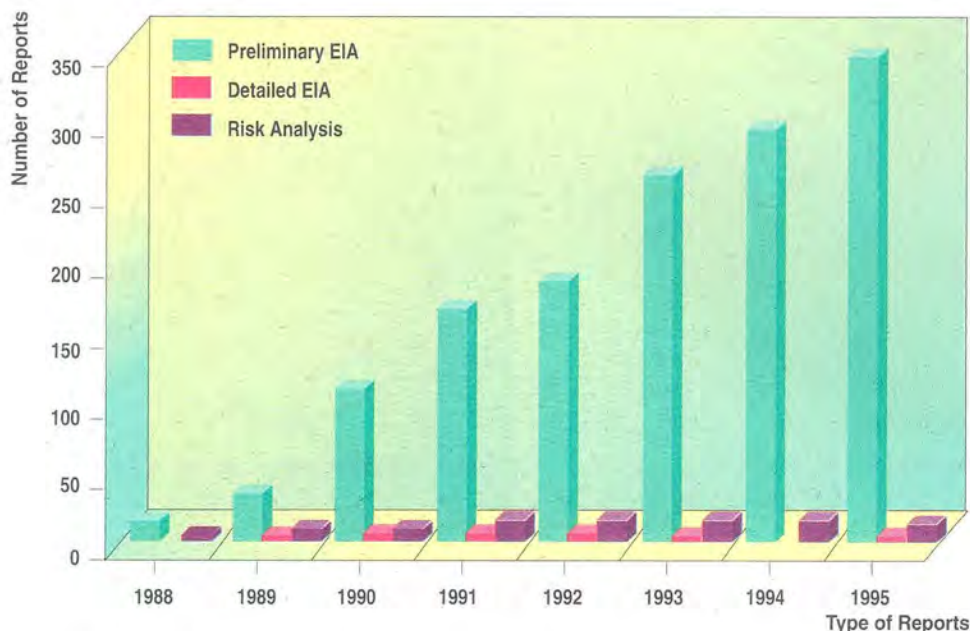


Figure 5.1 Department of Environment: Type of EIA Reports Submitted, 1988-1995

development (16 per cent), and housing and quarrying (14 per cent) each. It is interesting to note that the number of reports related to quarrying activity had risen considerably in 1994 and 1995. On the other hand, the number related to industry had gone down in 1994 and 1995 after remaining steady between 1991-1993. The first detailed EIA report on power generation, that is the Bakun Hydroelectric Power Project in Sarawak was referred to the DOE for comments. This activity is under the purview of the Sarawak Natural Resource and Environment Board (NREB). Figure 5.2 compares the distribution of reports according to the category of activities both for 1995 and

the period 1988-1995. As of December 31 1995, a total of 353 reports (86 per cent) had been reviewed. These included 61 reports brought forward from 1994. The remaining 56 reports were either still being reviewed or decision deferred pending the submission of supplementary information. Figure 5.3 shows the number of EIA reports reviewed each year throughout the period 1988-1995.

Of the 348 reports received in 1995, 238 reports were approved, 38 rejected, 16 withdrawn by the project proponents and the remaining 56 reports brought forward to 1996. Thus, by the end of the year, the number of

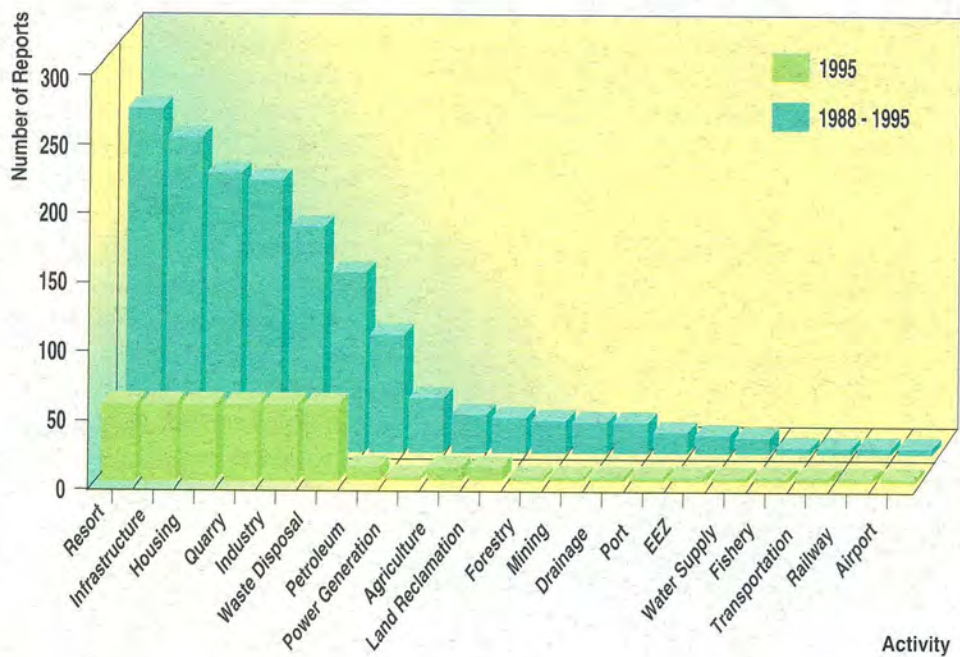


Figure 5.2 Department of Environment: Number of EIA Reports Submitted by Category of Activity, 1988-1995

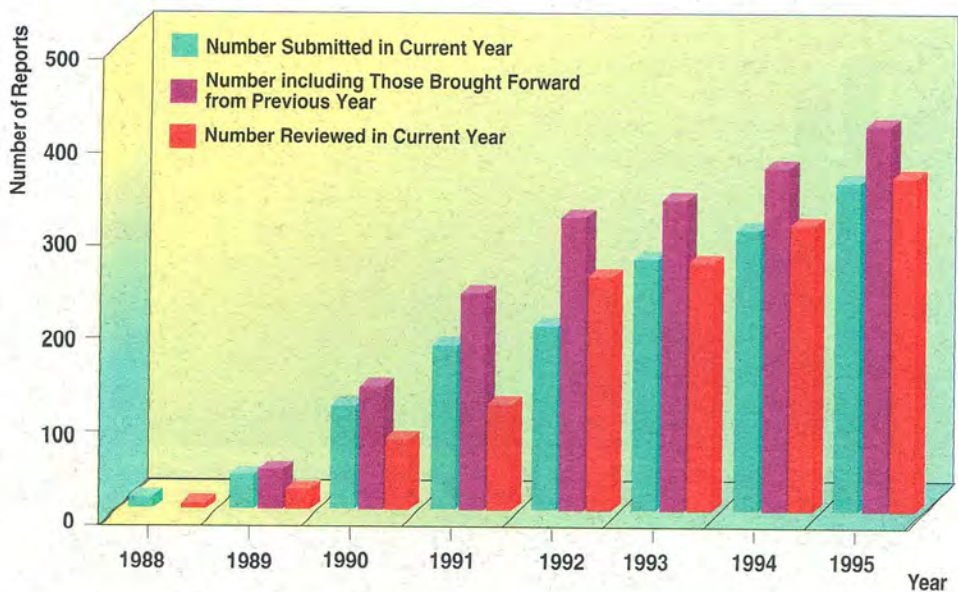


Figure 5.3 Department of Environment: Number of EIA Reports Submitted and Reviewed, 1988-1995

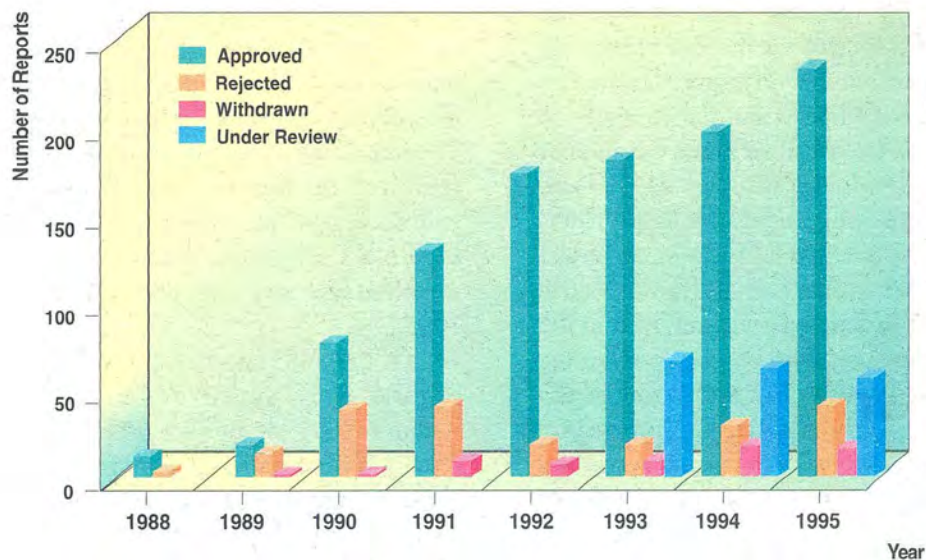


Figure 5.4 Department of Environment : Number of EIA Reports Processed, 1988-1995

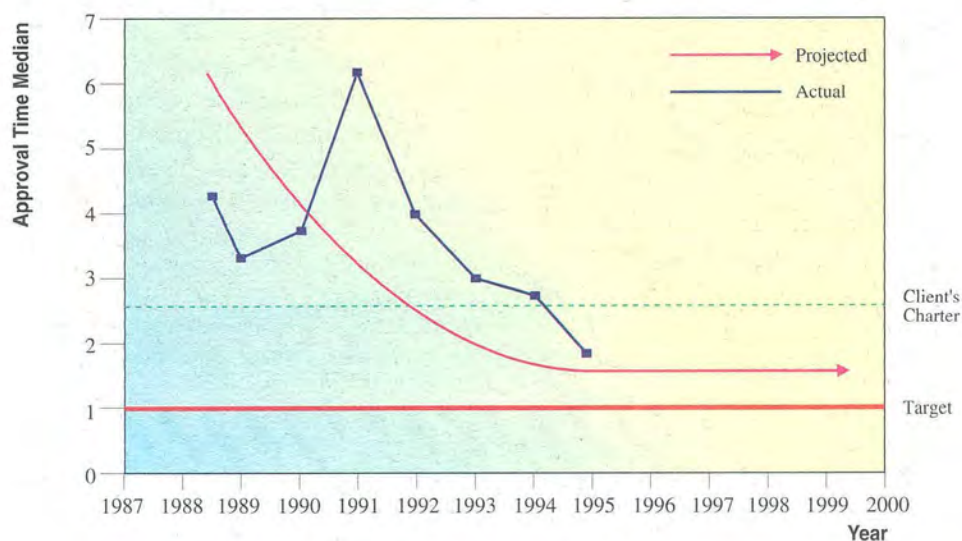


Figure 5.5 Department of Environment: Time Taken for EIA Reports Approval

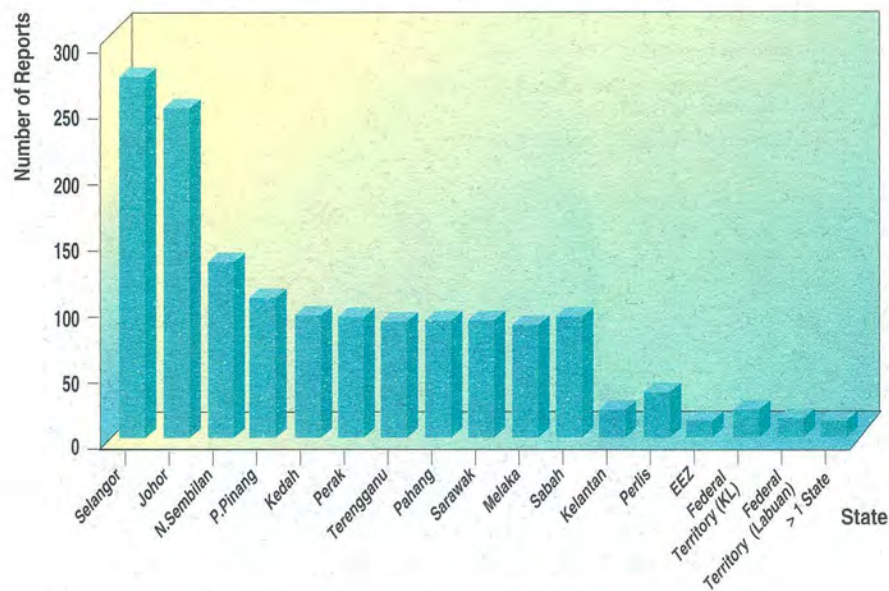


Figure 5.6 Department of Environment: Distribution of EIA Reports Submitted by State, 1988-1995

EIA reports approved since April 1, 1988 was 1,081 (75 per cent), 194 reports (13 per cent) rejected, and 52 reports (3 per cent) were withdrawn by the proponents. Figure 5.4 compares the status of EIA reports processed annually over the period 1988-1995.

Figure 5.5 indicates an improvement in processing time of EIA reports. The average time taken was 1.6 months, well below the specified time of 3 months in the Client's Charter. Based on this achievement, beginning March 1, 1995 the EIA Client's Charter was further improved where commitment on processing time was reduced to 2.5 months.

Analysis of the distribution of EIA reports by State over the period of EIA implementation indicates a similar trend to 1994, with Selangor and Johor far outnumbering the other states, accounting for 38 per cent of the total number of reports submitted. Perlis and Kelantan were the states with the least number of reports followed by the Federal Territories of Kuala Lumpur and Labuan. Figure 5.6 illustrates the distribution of EIA reports in the states for the period 1988-1995.

Progress in the Implementation of the Recommendations on EIA Procedure

Specific Guidelines

Follow-up actions recommended to improve the effectiveness of the EIA Procedure which were endorsed by the Cabinet on December 9, 1992 were continued this year. In 1995, another 12 sets of specific guidelines were published. These were for groundwater and surface water supply, power generation and transmission lines, drainage and irrigation, fishing harbour and land-based aquaculture, dam and reservoir, mines and quarries, hill station resorts, tourist facilities in national parks, tourist facilities on islands in surrounding waters gazetted as marine parks, industries, municipal waste treatment and disposal, and toxic and hazardous waste treatment and disposal. Four workshops relating to the development of the above guidelines were held.

Participants of the workshops were from various groups such as related Government agencies both at the State and Federal level, project proponents, consultants, professional organisations and non-governmental organisations (NGOs).



Workshop on EIA Guidelines for Industrial as well as Toxic and Hazardous Waste Treatment and Disposal Projects on October 9-10, 1995



Meeting between DOE and Registered EIA Consultants on July 10, 1995

Registration of EIA Consultants

In January 1995, the list of Registered EIA Consultants was announced by the Honourable Minister of Science, Technology and the Environment. As at December 31, 1995, 55 companies and 176 individual EIA consultants were registered with the DOE. A meeting with the registered EIA consultants was held in July 1995 to discuss on the criteria of registration and issues on the quality of EIA reports submitted to the DOE. Among the recommendations of the meeting were: the setting up of the EIA Consultants 'Pro tem' Committee to look into matters relating to certification of the EIA consultants; and formation of a Board of EIA Consultants.



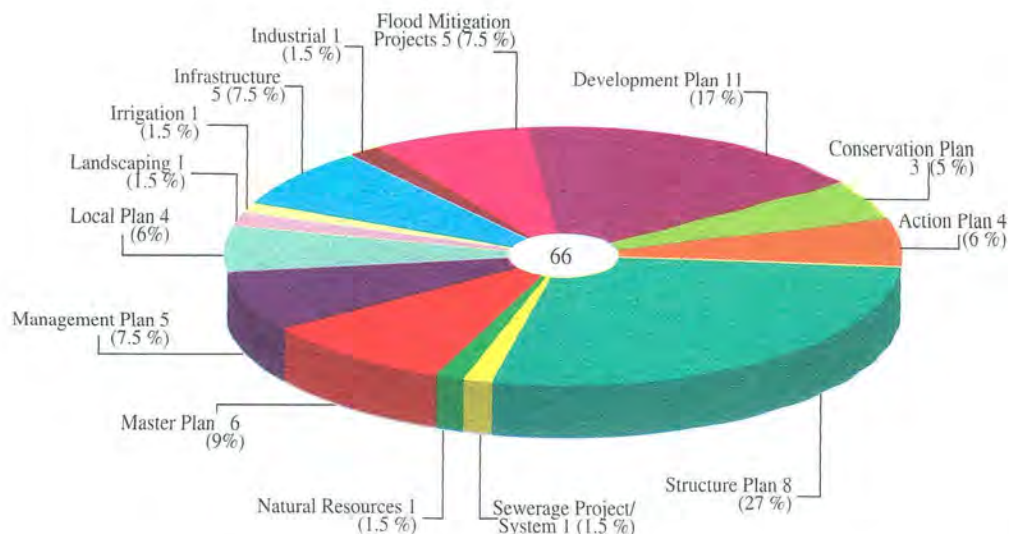


Figure 5.7 Department of Environment : Environmental Input to Project Development Planning, 1995

Promotion of EIA

The awareness programme was stepped up through numerous presentations and better DOE-Client consultation. During the year, a total of 15 working papers related to EIA were presented in various conferences and seminars both locally and abroad. The EIA newsletter, IMPAK was published quarterly focussing on issues related to highland development, 7th Anniversary of EIA Procedures and update, illegal dumping of toxic waste and environmental auditing.

ENVIRONMENTAL INPUT TO DEVELOPMENT PLANNING

The Department continued to promote the incorporation of environmental dimensions in the planning of projects. In 1995, the Department provided environmental input to a total of 66 development and natural resources development projects as shown in Figure 5.7. The number of projects remained the same compared to the previous year.

These projects were mainly government initiated projects that include the formulation of action plans (6 per cent), conservation plans (5 per cent), development plans (17 per cent),

local plans (6 per cent), management plans (7.5 per cent), master plans (9 per cent) and structure plans (27 per cent). Other projects that were also addressed include flood mitigation projects (7.5 per cent), industrial (1.5 per cent), infrastructure (7.5 per cent), irrigation (1.5 per cent), landscaping (1.5 per cent), natural resources (1.5 per cent) and sewerage projects (1.5 per cent). The list of projects provided with environmental input is as shown in Table 5.1.

Geographic Information System (GIS)

The GIS software and hardware were upgraded to support three users to use the system simultaneously via the existing Local Area Network (LAN).

The GIS thematic maps produced continue to play the role in providing information to assist in decision making. Among the projects undertaken in 1995 were:

- ☐ Mapping of development project in Lojing, Kelantan
- ☐ EIA projects in Mimaland
- ☐ Land clearing activities around Subang International Airport
- ☐ Land development around Genting Highlands
- ☐ Landuse map (1990) for the States of Selangor, Pahang, Terengganu, Negri Sembilan and Perlis

An interface programme between the GIS and the DOE application system, Inventory of

Table 5.1 Department of Environment: List of Environmental Input to Project Development Planning, 1995

Type	Project
Action Plan	☐ Aquaculture Action Plan ☐ Jalan Haji Abdul Rahman (Kuantan) ☐ Strategic Development Action Plan for Melaka ☐ Sungai Kuantan
Conservation Plan	☐ Coastal and Offshore Study for the Study of Kuala Terengganu, Besut and Setiu Structure Plans ☐ Development of Coastal Zone for Guidelines on Coastal Erosion Protection ☐ National Conservation Strategy
Development Plan	☐ Aquaculture Development ☐ Besut ☐ Feasibility Study and Development of Hot Springs for Tourism in Malaysia ☐ Hulu Terengganu ☐ Kuala Terengganu ☐ Kuala Lumpur International Airport Development ☐ Paya Peda Dam Project: Feasibility Studies ☐ Privatisation of Centralised Piggery Farming in Bidor ☐ Review of Johor Long Term Economic Development: 1995-2010 ☐ Setiu ☐ Kenyir Lake Development Plan
Flood Mitigation Project	☐ Comprehensive Management Plan for Muda River Basin ☐ Feasibility Study and Specific Design for River Systems -Sungai Perai, Sungai Juru, Sungai Jejawi ☐ Feasibility Study on Multi-purpose Dams and River Improvement Works for Kelantan River ☐ Klang River Basin ☐ Lemal and Rantau Panjang
Industrial Project	☐ Small-Medium Industrial Development
Infrastructure Project	☐ Feasibility and Preliminary Engineering Studies on Sungai Dinding Bridge, Lumut, Perak ☐ Feasibility Study and Detailed Design of Coastal Protection Works at Pengkalan Datu, Kuala Besar, Kampung Buntal, Sarawak and Tanjung Aru, Sungai Kinarut, Sabah ☐ Hydrological Study of the Sungai Sarawak Kiri Catchment and Feasibility Study of a Proposed Submersible Weir Across Sungai Sarawak ☐ Proposed Tanjung Pelepas Port, Johor ☐ Technical Assistance in Regulation and Irrigation Policy
Irrigation Project	☐ Feasibility Study on Small Reservoir Development
Landscaping Project	☐ Putrajaya Federal Administrative Centre
Local Plan	☐ Bukit Jalil ☐ Pinggir Pantai Kuantan (Kuantan Coastline) ☐ Kuantan Town Centre ☐ Seberang Kuantan
Management Plan	☐ Coastal Management Plan of South Johor ☐ Comprehensive Management Plan for Muda River Basin ☐ Seventh Malaysia Plan for Environment Working Group ☐ Sub - Committee on Environmental Standards - Terms and Definitions ☐ Endau-Rompin National Park





Type	Project
Master Plan	☐ Johor ☐ Study on Operational Master Plan for Jengka Region ☐ Tioman Island ☐ Proposed Master Plan for Botanical Garden at Sungai Buloh ☐ Seri Iskandar, Perak ☐ Tourism in Mersing Town
Natural Resources	☐ Terms of Reference for Comprehensive Water Resources Management Study in Malaysia
Sewerage Project/System	☐ Sungai Sarawak Environmental Control and River Management Study : Summary of Sewerage Feasibility Study
Structure Plan	☐ Alor Gajah and Jasin ☐ Bentung ☐ Bera ☐ Besut ☐ Cameron Highlands ☐ Districts of Kuala Kangsar, Kinta and Hulu Perak ☐ Manjung District and Central Perak ☐ Hulu Terengganu ☐ Jerantut ☐ Kuala Terengganu ☐ Lipis ☐ Pulau Pinang and Seberang Perai Municipal Councils ☐ Maran ☐ Pekan ☐ Raub ☐ Rompin ☐ Setiu ☐ Temerloh

Pollution Sources System (SIPP) was developed. This GIS/SIPP interface provides the linkages between the text-based application system with the GIS. To prepare for the 7th Malaysia Plan, a pilot project on Environmental Decision Support System (EDSS) was undertaken.

Project Pre-Siting Evaluation

Project pre-siting evaluation ensures adequate attention is given to environmental considerations for those projects not subjected to the EIA requirements. The siting of proposed development projects were assessed vis-a-vis their surrounding landuse. Plans are examined to ensure that environmentally sensitive areas such as residential areas, schools, water catchment areas, forest reserves and national parks are adequately buffered to avoid adverse environmental impacts due to the development activities.

Project proponents are required to take appropriate measures to control and abate pollution at the planning stage of the project. The State offices of the Department play a major role here by conducting site investigations and forwarding views and recommendations to the relevant planning authorities.

In 1995, a total of 6,565 applications for pre-siting evaluation of projects were received by the Department as shown in Figure 5.8. Compared to the number received the previous year, there was an increase of 12 per cent. Figure 5.9 shows the breakdown in the number of applications received according to the State Office of the Department.

Approval of Equipment/Facility

As required under the Environmental Quality Act, 1974 and Regulations made thereunder,

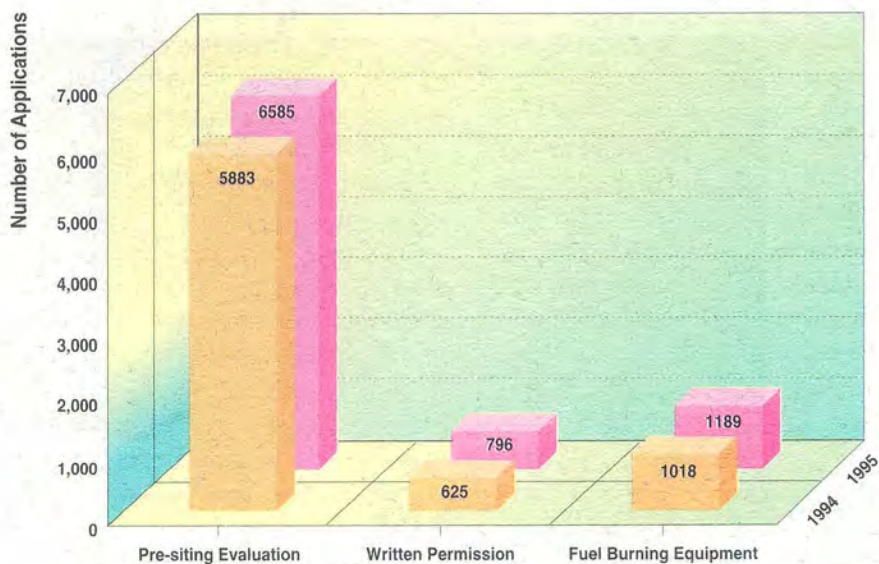


Figure 5.8 Malaysia: Total Number of Applications for Pre-siting Evaluation, Written Permission and Installation of Fuel Burning Equipment, 1994-1995

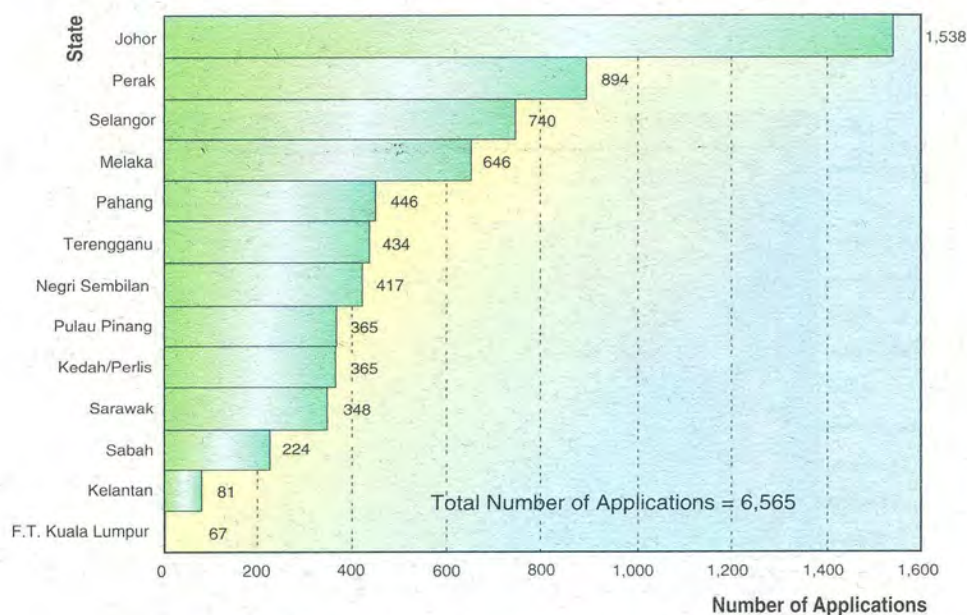


Figure 5.9 Malaysia: Applications for Pre-siting Evaluation of Development Projects, by State, 1995

approval in the forms of written permission and written approval from the Director General of Environmental Quality must be obtained before the construction of any facility that is likely to result in the discharge and emission of pollutants to the environment. This is to ensure that adequate pollution control measures are incorporated to meet the emission and effluent discharge standards stipulated under the Environmental Quality (Prescribed Premises) (Crude Palm Oil) Regulations 1977, Environmental Quality (Prescribed Premises) (Raw Natural Rubber) Regulations 1978, Environmental Quality (Clean Air) Regulations 1978 and the Environmental Quality (Sewage and Industrial Effluents) Regulations 1979.

(i) Water Pollution Control

A total of 796 applications for written permission of water pollution control installation were received by the State Offices of the Department, showing a 27 per cent increase over the preceeding year. Figure 5.10 shows that the largest number of applications were received from the State of Johor (42 per cent), followed by Selangor (15 per cent). The total number of approvals given in 1995 resulted in an additional 4,468,473 meter cube/day of waste water being treated.

(ii) Air Pollution Control

During the year, the total number of



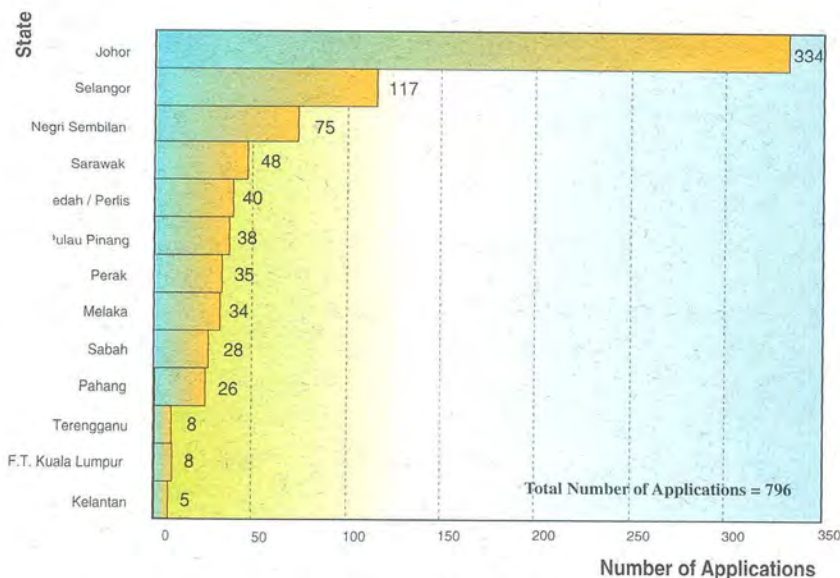


Figure 5.10 Malaysia: Applications for Written Permission for Construction of Effluent Treatment Facilities, by State, 1995

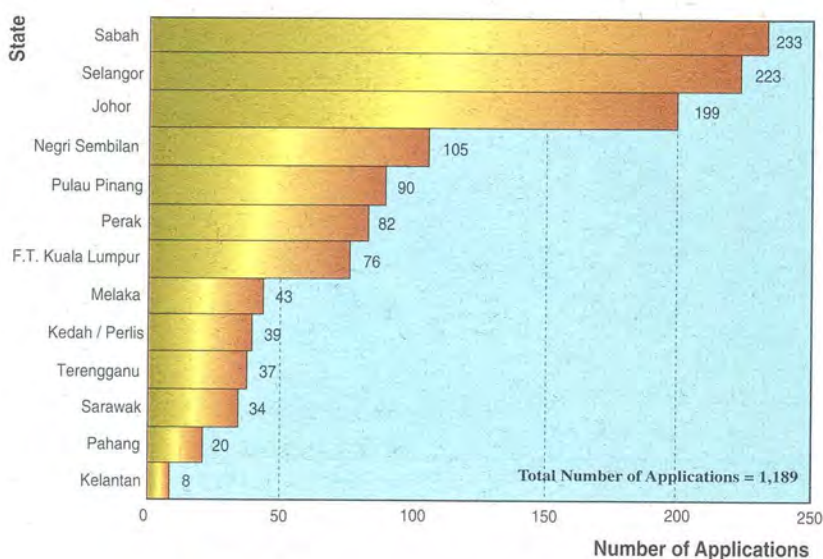


Figure 5.11 Malaysia: Applications for Installation of Fuel Burning Equipment, by State, 1995

applications for written approval of fuel burning equipment installation received was 1,189, a 17 per cent increase from 1994. The largest number of applications were received from the State of Sabah (20 per cent), followed by Selangor (19 per cent) and Johor (17 per cent) as shown in Figure 5.11. The total fuel consumption were 268,562 tons/day of liquid fuel and gases, and 12,516 tons/day of solid fuel.

DOE ADVISORY SERVICES CENTRE AT MIDA

The Advisory Services Centre at MIDA continued to play its advisory role on matters pertaining to environment not only to investors but also to the general public. In 1995, a total of 35 investors, both local and foreign and 40 from the general public came forward to seek

advice and information from the Centre. Environment-related matters commonly asked or referred to include: identification of projects subject to the Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 1987; site suitability for proposed projects; requirements under the Environmental Quality Act, 1974 and regulations made thereunder; incentives for the installation of pollution control equipment; EIA procedure and requirements; opportunities for providing environmental services which include consultancy and technology to existing industries; and role of privatisation in the government's long term plan for the environment and environmental policy that has an impact on the industrial sector.

The DOE is also a member of the Action Committee on Industries which gives approval

for manufacturing licences and incentives. In 1995, a total of 80 applications were referred to DOE for advice and comments. MIDA received a total of 1,075 applications for establishment of manufacturing projects as opposed to 1,018 in 1994, out of which 554 were for the establishment of new projects and 521 were for the expansion and diversification of projects. A total of 894 projects were granted approval compared to only 870 in 1994. Of the 894 approvals, 516 were for the establishment of new projects while 378 were for the expansion and diversification of projects. The number of approved projects that were subjected to EIA amounted to 41. These were mainly chemical and petrochemical industries, recycling of scheduled waste, non metallic products namely, cement and lime, paper mills and coastal resorts.

