CHAPTER 7
ENVIRONMENTAL PLANNING AND DEVELOPMENT

ENVIRONMENTAL PLANNING AND DEVELOPMENT

Introduction

The application of environmental impact assessment in planning, the development of specific guidelines for various activities to minimise adverse environmental impacts and the incorporation of environmental considerations into development planning are the main strategies adopted by the Department towards achieving the objectives of sound and sustainable development. These activities complement the on-going programmes of pollution control through the enforcement of the Environmental Quality Act, 1974 and the various Regulations made thereunder.

Environmental Impact Assessment (EIA)

Environmental impact assessment or EIA is a mandatory requirement under section 34A of the Environmental Quality (Amendment) Act, 1985. The section provides powers to the Minister, to prescribe any activity which is likely to have significant impacts on the environment, as prescribed activity. In line with the provisions, the Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 1987 was gazetted on 5 November, 1987. The Order was enforced from 1 April, 1988.

Administration of EIA

The Department of Environment is the main agency administering the EIA requirements in the country. The Department's role in the administration of the procedure include:

a) Providing information and advice to project initiators, consultants, project approving and supervising agencies as well as the public;

b) Providing necessary guidelines to project initiators and assessors for carrying out EIA studies;

c) Reviewing and/or facilitate the review of EIA Reports and providing recommendations to project approving authorities and project initiators; and

d) Providing training on EIA on its own and in collaboration with other training institutions, government agencies and private organisations.

In 1989, the enforcement of section 34A of the Act and the review of EIA Reports submitted to the Department by project proponents were stepped up. EIA Reports were reviewed by an EIA Technical Committee chaired by the Deputy Director General of Planning, and members comprising officers in the EIA Unit. Additional review and comments were also obtained from other government agencies or experts from the private sector whenever this is necessary. The EIA Technical Committee met 28 times throughout the year during which 34 EIA Reports were tabled and reviewed. Detailed EIA Reports were reviewed by ad-hoc independent Review Panels appointed by the Director General of Environment. Besides full involvement in reviewing EIA Reports, and enforcement of legislation pertaining to EIA, staff of the EIA Unit were also actively involved in giving talks and presenting papers on the subject of EIA at various seminars and forums. A description of these activities is given in Table 7.1.

Other activities initiated in the year included the preparation of the EIA Question and Answer Handbook, assessment and compilation of the cost and length of time taken for EIA studies, and preparation of specific EIA guidelines for specific types of activities as listed in the

EIA Order. Work is also continuing on updating a list of experts for the review panel and a list of consultants capable of undertaking EIA studies.

Projects Subjected to Environmental Assessment

During the year, a total of 106 EIA cases were notified and monitored by the Department. The numbers and categories of projects subjected to EIA are shown in Table 7.2. Of the 106 EIA cases notified and monitored, 37 (35 per cent) submitted reports for review. The number and types of EIA Reports received by the Department during the year is shown in Table 7.3. Out of the total 37 reports received, one report was for detailed EIA and another specifically on risk assessment.

Although EIA was made mandatory on all prescribed activities listed in the EIA Order of 1987, it was noted that EIA Reports were often submitted in the late stages of project planning. In some cases time for reviewing the reports was limited. However, in order to minimise such problems, staff of the EIA Unit were 'pro-active' in monitoring proposed projects that would likely be subjected to EIA. Action was taken to ensure that the EIA studies were initiated at the earliest stage of project planning.

Assessment of EIA Studies

The timing of submission of EIA Reports, their review and approval in relation to schedule of project planning is important to ensure that the recommendations of the EIA are incorporated into the final project plan. The integration of environmental considerations as early as possible in project planning is essential to maximise the benefits from an EIA and to avoid project delay. The stage at which EIA is carried out in the project planning cycle determines to a certain extent the benefits that will be derived from an EIA. For this purpose the Department of Environment has determined a classification system for projects based on the stage of the project cycle at which EIA Reports wer submitted. The classification system is shown i Table 7.4.

Of the 34 projects assessed more than 50 pe cent of them undertook to incorporate enviror mental considerations during or prior to the fea sibility study stage of project planning (Figur 7.1). Four projects failed to submit EIA Report for approval prior to project construction.

Analysis of time and cost for the carrying ou of EIA studies showed that these varied fo different categories of projects. Information o these were obtained by questionnaire survey The results from 21 respondents, summarise in Table 7.5, showed that for preliminary EI studies, the cost of these studies constituted les than 0.2 per cent of total project cost. In man cases this was less than 0.01 per cent of tota project cost.

Environmental Inputs to Developmen Planning

The incorporation of environmental dimen sions in project planning is actively promote by the Department of Environment in lin with the concept of sustainable development The Department has been playing a catalyti role through its participation in the planning o projects by various government agencies. It ha also supported this through the supply of envi ronmental data and information.

To this end the Department was actively in volved in the planning and preparation o various plans and projects (Figure 7.2). These included the preparation of structure or deve lopment plans, the Tropical Forestry Actio Plan (TFAP), various infrastructure project such as sewerage, and others for nature conser vation, agriculture and urban development. I addition, Malaysia in collaboration with Indone sia and Thailand, was actively involved in a project to assess the socio-economic impacts an policy responses resulting from a predicted change

n climate as a result of the "greenhouse" effect.

)ome of the major projects or plans in which the Department of Environment was involved are lescribed below.

Tropical Forestry Action Plan (TFAP)

TFAP is an action programme endorsed by the FAO Committee on Forest Development in the Tropics to face challenging issue on tropical orest. It is a follow-up from two documents prepared in 1985 i.e. Tropical Forestry Action Plan (FAO) and Tropical Forest: A Call for Action (World Resources Institute/World Bank/ UNDP). The main focuses of the Action Plan re:

(i) Forestry in Land Use

(ii) Forest-Based Industrial Development

(iii) Fuelwood and Energy

(iv) Conservation of Tropical Forest Ecosystem

(v) Institutions

A task force headed by the Ministry of Primary ndustry, was established to formulate the TFAP or Malaysia. The task force consisted of various gencies including the Department of Environment. The Department assisted in the assessment of the environmental sections of the TFAP. The draft of the Malaysian Tropical orestry Action Plan was completed in 1989.

UNEP Project on Socio-Economic Impacts and Policy Responses Resulting from Climate Change

This project was conceived as a result of a decision (14/20) made at the 14th session of the UNEP Governing Council in June 1987. The decision was based on the recommendation of the 1985 Villach Conference that support for the analysis of policy and economic options required for a response to climate change be increased by governments and funding agencies. It was felt that in these assessments, the widest possible range of social responses aimed at preventing or adapting to climate change should be identified, analysed and evaluated.

The project which is sponsored by the United Nations Environment Programme or UNEP, is a regional project jointly undertaken by Malaysia, Indonesia and Thailand. The objectives of the project are both short-term and long-term. The short-term objectives of the project are:

(i) To understand and characterise regional variability and adaptability to climate change in the context of South-east Asia; and

(ii) To categorize the impact of climate change on a number of economic and social systems in Indonesia, Malaysia and Thailand in order to facilitate the taking of appropriate measures to mitigate those impacts.

The long-term objectives of the project are:

(i) To prepare the governments of Indonesia, Malaysia and Thailand to adopt appropriate policies and strategies to respond to future climate change, in particular policies relating to long-term planning in agriculture and food production, water resources management, energy supply, coastal structures and coastal defence and human settlements; and

(ii) To sensitize global opinion on the possible adverse impacts of global climate change.

The Malaysian component of the study commenced in 1989. For this purpose a National Study Group (NSG) was formed to undertake the study.

The study covers three major sectors, namely:

- agriculture, covering the impacts to rice cultivation and other agricultural crops;
- water resources, covering the impacts to flooding and other water uses; and
- coastal resources, concerning the impacts due to sea level rise.

The project completed its first phase in 1979 in which the bio-physical impacts of climate change were identified. The second phase of the project scheduled to start next year will "translate" the bio-physical impacts of the study into socio-economic impacts. Policy responses to the effects of climate change will be identified subsequently.

Regional and Urban Planning and Development

The Department of Environment was involved in providing environmental inputs towards the development of urban plans for the cities of Ipoh, Kelang and Johor Bahru; and eight structure plans for Pulau Pinang; Kota Setar; Tanah Merah, Pasir Putih, Machang and Jeli, all in the state of Kelantan; Petaling and Shah Alam; West Johor; Dungun/Marang; Kuantan and Pulau Langkawi. The preparation was jointly carried out with the Department of Town and Country Planning. In addition, the Department provided inputs in the preparation of the Resource/Agricultural Development Plans for Malaysia, and the Development Plans for the state of Negri Sembilan and Hulu Langat District.

Natural Resources Planning and Development

Environmental inputs were provided for five conservation projects and six natural resources planning and development plans.

Infrastructure Planning and Development

In addition, the Department of Environment also examined and provided views for 13 projects on infrastructure, four projects on flood mitigation, two on sewerage, two on agriculture and the remaining four of various development projects.

Project Evaluation

Presiting Evaluation

One of the continued efforts towards preventing pollution at its source is to ensure that the siting of a project is compatible with its surrounding environment. The Department receives applications for proposed development projects and assesses the siting vis-a-vis their surrounding land-use. Any environmentally sensitive areas such as residential areas, schools, water catchment areas, forest reserves, national parks, etc that exist or are proposed within a certain radius are examined to establish whether they are adequately buffered to avoid any adverse environmental impacts due to the development activities. In the assessment, the Department also ensures that the potential project operator has taken appropriate measures to control and abate pollution at this planning stage of the project.

Regional Offices of the Department conduct site investigations as well as providing the views and recommendations to the relevant planning authority. Problematic cases, however, are referred to the Headquarters for final decision. Based on site evaluation reports, appropriate comments on site suitability as well as environmental control requirements are submitted to project planning authorities at state level prior to a final decision being made on the application.

In 1989, a total of 2563 applications for Presiting Evaluation were received by the Department (Figure 7.3). Compared with the number received the preceding year, there was a

71 per cent increase in the number of applications for 1989. From the total number of applications received, 20 per cent were from the state of Selangor, 17 per cent from Perak, 16 per cent from Johor and 47 per cent from the other states of Malaysia.

Figure 7.4 shows that by type of development projects, the biggest number of applications were for the building, metal and wood-based industries.

Approval of Equipment/ Facility

In accordance with the Environmental Quality Act, 1974 and Regulations thereunder , approval in the form of written permission from the Director General must be obtained prior to the construction of any facility that is likely to result in the discharge or emission of pollutants into 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. This requirement also enables the Department to compile a comprehensive database for inventory and monitoring purposes.

i) Water Pollution Control

A total of 171 applications for written permission of water pollution control installations were received by the Regional Offices of the Department, showing a 90 per cent increase over the preceding year. Figure 7.5 shows the number of applications received under this category by state whereby 37 per cent of the total number of applications received were from the state of Johor, 29 per cent from Selangor and 34 per cent from the other states in Malaysia. Figure 7.6 indicates that by type of projects, the largest number of applications were for rubber-based industries, electronic industries and metal products industries.

ii) Air Pollution Control

Under the Environmental Quality (Clean Air) Regulations 1978, any erection, installation, resiting or alteration of fuel burning equipment requires prior written approval from the Director General. This is a preventive strategy taken by the Department to screen the impact of every installation on the air quality and to incorporate appropriate control measures at the planning stage.

All applications for fuel burning equipment are processed by the Regional Offices of the Department. For the year, the total number of applications received were 291 (Figure 7.7). The largest number of applications were from the state of Selangor (29 per cent) and Johor (10 per cent).

From the total number of applications received, 71 per cent were for boiler installation, 15 per cent for generators, 4 per cent for incinerators and 10 per cent for other fuel burning equipment (Figure 7.8).

Environmental Pollution Control Technology Documentation

This unit, being part of the Development Section of the Planning and Development Division, carries out its supportive function via the following activities:

(a) assessment and documentation of selected industrial environmental technology;

(b) co-ordination of the dissemination of environmental technology through talks/colloquia;

(c) development and updating of an informal register of environmental consultants and suppliers of pollution control equipment; and

(d) incorporation of environmental considerations to selected project working committees established by other agencies.

In 1989, seven documents were prepared and distributed to the Regional Offices in order to assist processing of applications for new industrial development. Table 7.6 lists the documents prepared.

Three colloquia were organised during the year on air pollution control, wastewater treatment facilities for pig farms and magnetic flowmeter.

With regard to the development of an informal register of environmental consultants and suppliers of pollution control equipment, 83 such companies were listed by the end of the year. The main purpose of this register is to assist both local industries and foreign investors seeking expertise in environmental pollution control. Fifteen requests for the register were received from this group.

Further, environmental inputs were provided to the Technical and Steering Committees for the Melaka, Seremban, Port Dickson and Pulau Pinang Sewerage Projects set up by the Ministry of Health, the National Committee for the Development of a Code of Practice for Sewerage System headed by the Standards and Industrial Research Institute of Malaysia (SIRIM) as well as the National Committee for the Treatment and Disposal of Wastes formed by the Ministry of Housing and Local Government.

New Programme Development

Toxic and Hazardous Waste Management

Development of Regulations

The proposed regulations to control the gener tion, storage, treatment, transportation ar disposal of toxic and hazardous waste wei finally approved by the Attorney General office in February, 1989 and signed by th Honourable Minister of Science, Technolo and the Environment on the 31 March, 198 They are:

- Environmental Quality (Schedule Wastes) Regulations 1989;
- Environmental Quality (Prescribe Premises) (Scheduled Wastes Trea ment and Disposal Facilities) Regul tions 1989; and
- Environmental Quality (Prescribe Premises) (Scheduled Wastes Trea ment and Disposal Facilities) Orde 1989.

The two sets of Regulations and the Order wer gazetted on 27 April, 1989 and came into forc on the 1 May, 1989.

The Environmental Quality (Scheduled Waste Regulations 1989 require waste generators t notify the Director General of the quantity an type of wastes generated regularly and to dis pose of wastes only at prescribed premise Generators of scheduled wastes are responsibl for the proper management of their wastes a specified in the Regulations. The schedule wastes are listed in Appendix 7.1.

The Environmental Quality (Prescribed Pre mises) (Scheduled Wastes Treatment and Dis posal Facilities) Regulations 1989 control th

operation and licensing procedures of facilities used for the recovery, treatment, storage and disposal of scheduled wastes.

Such facilities are prescribed in the Environmental Quality (Prescribed Premises) (Scheduled Wastes Treatment and Disposal Facilities) Order 1989 as:

a) off-site storage facilities;

b) off-site treatment facilities;

c) off-site recovery facilities;

d) scheduled waste incinerators;

e) land treatment facilities; and

f) secure landfills.

Activities relating to the enforcement of these Regulations are described in Chapter 6.

Development of Toxic and Hazardous Waste Treatment and Disposal Facilities

Following the Government of Malaysia's decision that the proposed toxic and hazardous waste treatment and disposal facilities should be implemented on a private investment basis, the Minister of Science, Technology and the Environment on 21 April, 1989 announced at a press conference the issuance of a set of "Guidelines for Private Investment in Toxic and Hazardous Waste Disposal Facilities (Secure Landfills)" on 1 May, 1989.

Including three firms who submitted their investment proposals earlier, a total of 15 proposals were received. The Department, after evaluating the proposals decided to promote two firms, who have illustrated that they were capable of offering a comprehensive toxic and hazardous waste treatment and disposal system.

Ambient Air Quality Guidelines

A study commissioned in 1988, to develop a set of criteria and standards for ambient air quality and a quality assurance programme for air quality monitoring, was completed in 1989. The study proposed a set of air quality guidelines for the following pollutants to protect human health:

- total suspended particulate matter (TSP)
- particulate less than 10 micrometers (PM_{10})
- dustfall
- lead
- sulphur dioxide
- nitrogen dioxide
- carbon dioxide
- carbon monoxide
- ozone

The guidelines were proposed using currently available health criteria on the basis that exposure of the general population to these levels would not cause ill effects. It was recommended that a uniform guidelines be adopted for the whole country. The proposed air quality guidelines are given in Table 7.7.

The study also established an air quality assurance programme and compiled an air quality assurance manual.

Water Quality Criteria and Standards - River Classification

Upon completion of the phase I study in 1988, the Department decided to proceed with the following two projects as Phase II of its work on water quality criteria and standards:

a) Quality Assurance Programme for Environmental Water Quality Monitoring; and

b) Classification of Rivers in Malaysia according to Various Beneficial Uses.

The study which was completed in February, 1989 was undertaken by a local consultant, Syed Muhammad, Hooi and Binnie Sdn. Bhd. (SMHB). In the study, six river basins namely Sungai Muda, Sungai Perak, Sungai Kelang, Sungai Linggi, Sungai Muar and Sungai Pahang were classified into classes of the Interim National Water Quality Standards. The study also developed the following three lists of parameters that were used to classify the rivers according to their existing water quality:

List 1:pH, dissolved oxygen (DO), chemical oxygen demand (COD), biochemical oxygen demand (BOD_5), suspended solid (SS) and ammonia-nitrogen (NH_3-N);

List 2: colour, oil and grease, detergents (MBAS), salinity, conductivity, total coliforms, faecal coliforms, cadmium, arsenic, mercury, chromium (total), lead, manganese, aluminium, copper, sulphide, cyanide, nitrate nitrogen, phosphate (as phosphorus), pesticides and phenolics;

List 3: sodium, boron, chloride and selenium.

The lists were developed in the order of importance to select parameters required to define river water quality. In determining the overall class, greater weight was given to List 1 parameters. Two types of Water Quality Index (WQI), namely the DOE-WQI and the WQI Harkins Index were used together with the direct assessment method in the classification exercise.

The study also established a water quality assurance programme and compiled a water quality assurance manual. The manual describes the quality assurance procedures related to the sampling work carried out by the Department as well as the analytical quality control programme for water quality monitoring testing laboratories.

Environmental Research and Development Projects

In response to the industrial pollution problem and the growing concern of the public toward environmental pollution, the Department ha planned several research and development pro jects to be conducted every year, mainly to solv these existing environmental problems. Some o the projects were conducted for the purpose o developing new programmes and to support th existing programmes for pollution control. I 1989, a total of four research and developmen projects with an allocation of M$0.5 millio have been approved. Invitations to submi project proposals were carried out by the De partment. However, since the technical an financial proposals submitted were not quite i accordance with the scope of the propose studies, none of the proposals were accepted fo implementation. The consultants involved wer called to re-submit their proposals.

Formulation of Water Quality Criteria and Standards Phase III

The aim of the study was to review the existin effluent discharge standards so as to complemen the Interim National Water Quality Standard that has been formulated during the phase I an II studies. The study will deal specifically on th improvement, modification and strengthenin the provisions of the Environmental Qualit (Sewage and Industrial Effluents) Regulation 1979. The work would also cover the inclusio of new parameters in the effluent discharg standards which would be based on the cost benefit consideration.

The following scope of work has been identifie for the study:

a) assessment of the compliance of existin effluent discharge standards to interi water quality standards;

b) inclusion of new parameters;

c) development of river water quality models for river basin management and planning; and

d) visit to selected industries.

The study was expected to complete before September, 1990.

Study on the Disposal of Toxic and Hazardous Waste

The aim of the study was to identify and investigate potential sites for the development of a master plan for toxic and hazardous waste disposal. The study was in line with the Department's effort to solve the problem of improper dumping of toxic and hazardous waste due to inadequate or inavailability of suitable disposal site.

The following scope of work has been identified for the study:

a) selection of sites;

b) conduct preliminary geological study on the potential sites, select and rank the suitable sites; and

c) conduct detailed geological and hydrogeological study on the selected site(s).

Study on Small Electroplating Industries

The aim of the study was to identify the most practical technique for waste reduction at source for small scale electroplating industries. The study was to develop a detailed engineering design of the recommended system/technique and establish a "pilot plant" based on the recommended design. For this purpose a number of small scale electroplating industries situated in the Klang Valley region would be visited under this study.

The following scope of work has been identified for the study:

a) analysis of electroplating waste stream data;

b) development of a detailed engineering design of the system recommended for waste reduction;

c) cost estimation for waste reduction at source; and

d) establishment of a pilot plant at a selected electroplating industry.

The study is expected to complete before September, 1990.

Identification and Registration Scheme for Hazardous Chemicals-Malaysian Inventory of Chemicals and Chemical Substances

A questionnaire survey to establish a Malaysian Inventory of Chemicals and Chemical Substances initiated in 1986 and discontinued in 1987, was revived in 1989. Questionnaires were sent once again to those industries and establishments that did not respond earlier. 48 per cent responses were received. Preliminary analysis indicates that a total of 2,200 chemicals are currently being used in Malaysia.

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WASTE DISPOSAL PRACTICES

Trenching

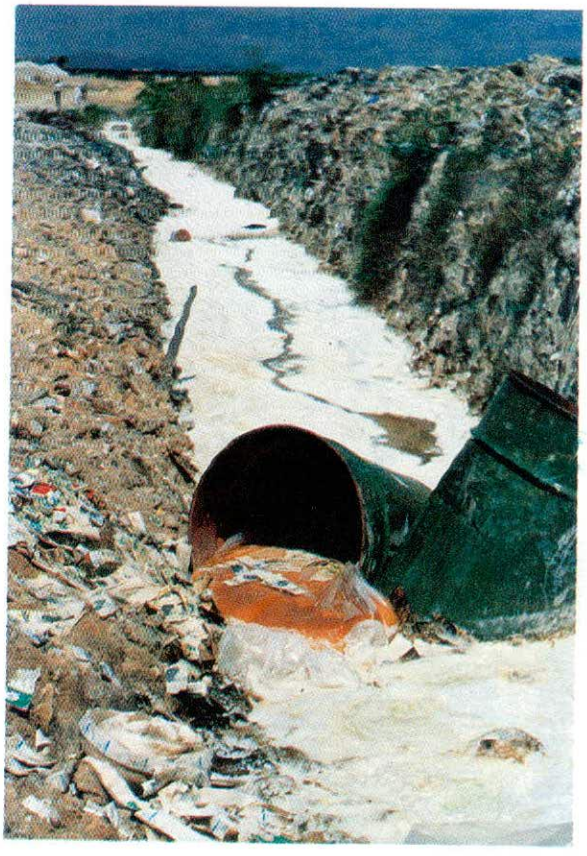
Photographs by:
Johan

Open Dumping

A Used Disposal Site Transformed into a Golf Course

CYAN

TOXIC AND HAZARDOUS WASTES



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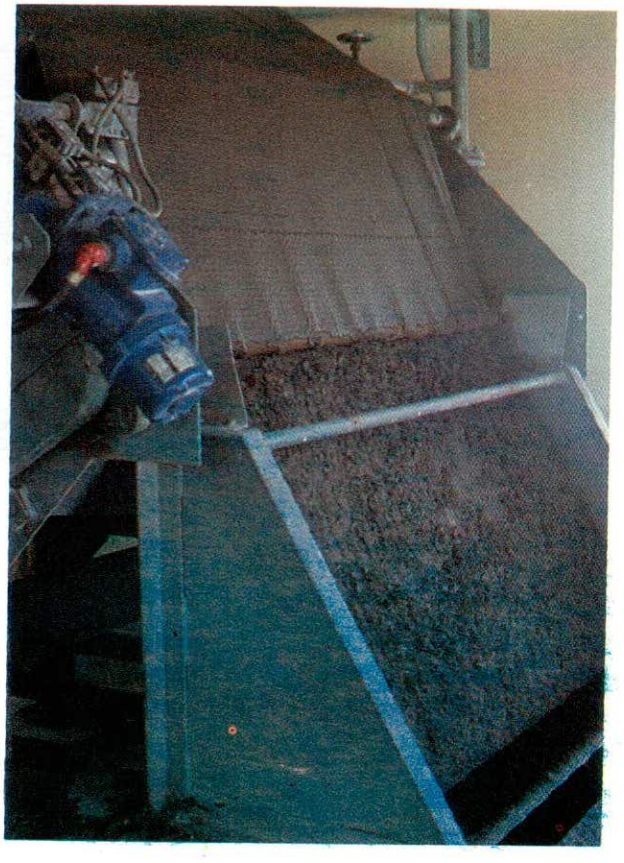

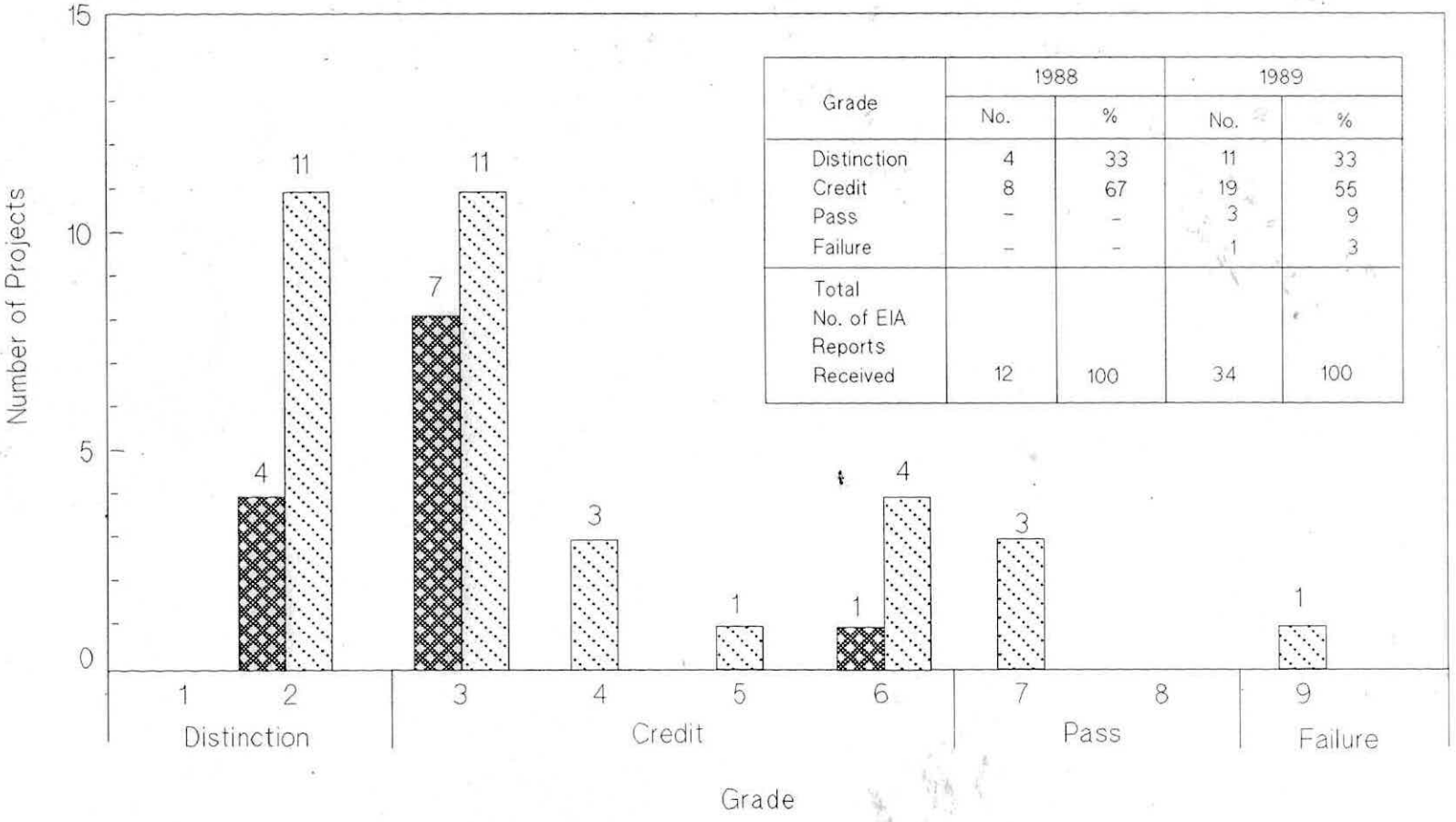

Grade	1988		1989	
	No.	%	No.	%
Distinction	4	33	11	33
Credit	8	67	19	55
Pass	-	-	3	9
Failure	-	-	1	3
Total No. of EIA Reports Received	12	100	34	100

Figure 7.1 Classification of Projects Subjected to Environmental Impact Assessment (EIA), 1988 - 1989

(Note: The Classification is based on the timing of EIA Reports submitted to the Department of Environment vis-a-vis the planning or implementation stage of the Projects concerned.)

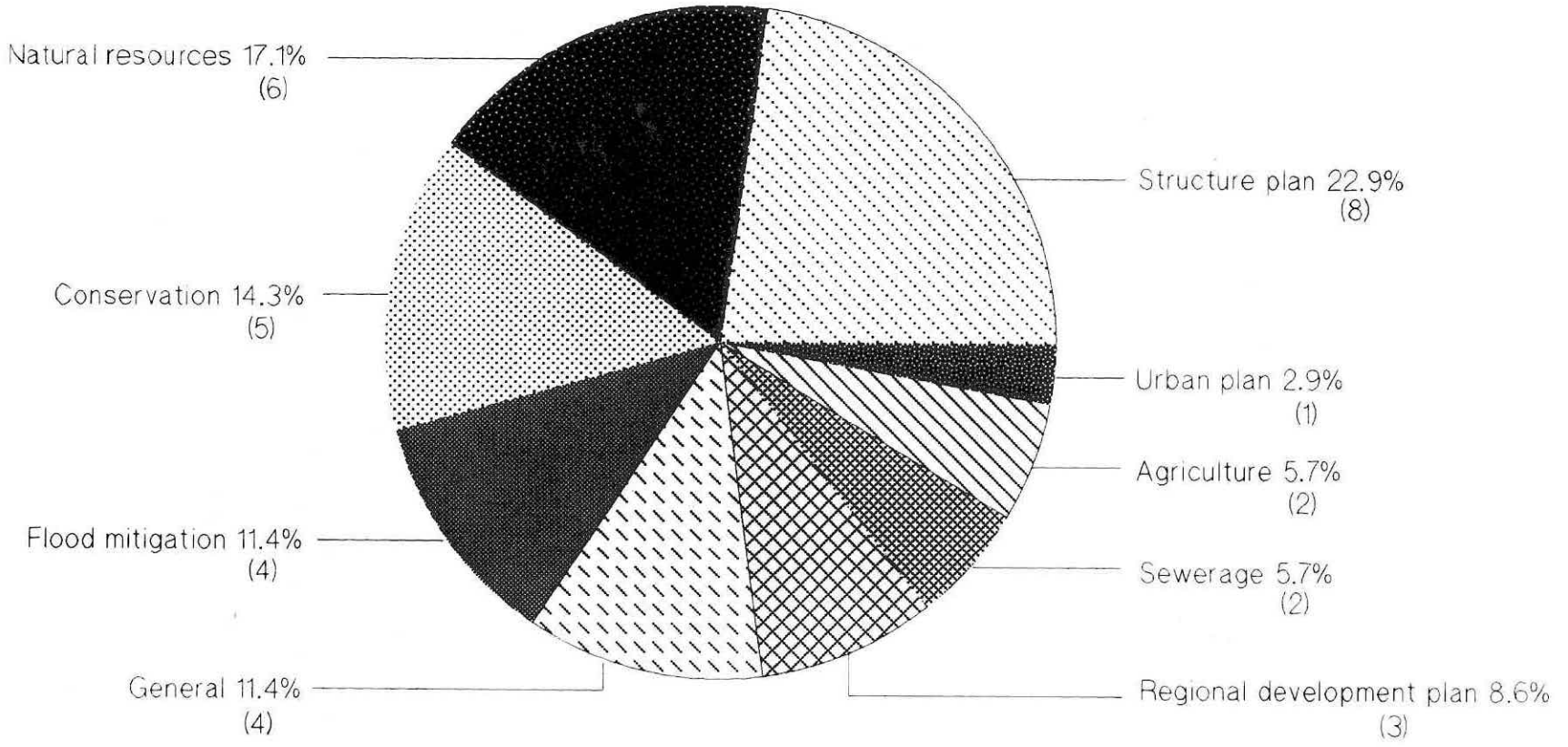

Figure 7.2 Department of Environment: Environmental Inputs to Project Development/Planning, 1989

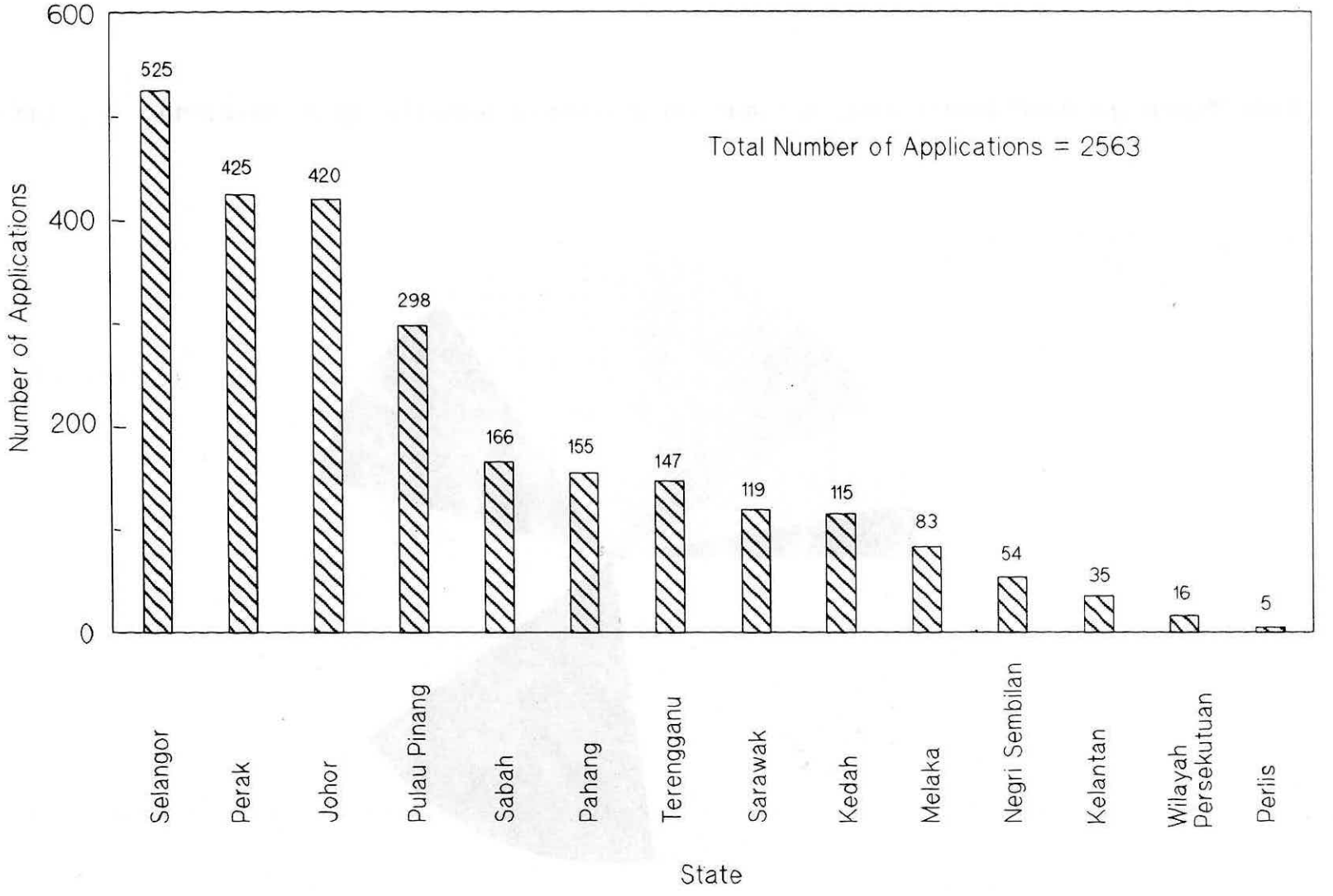

Figure 7.3 Malaysia: Application for Presiting Evaluation of Development Projects by State, 1989

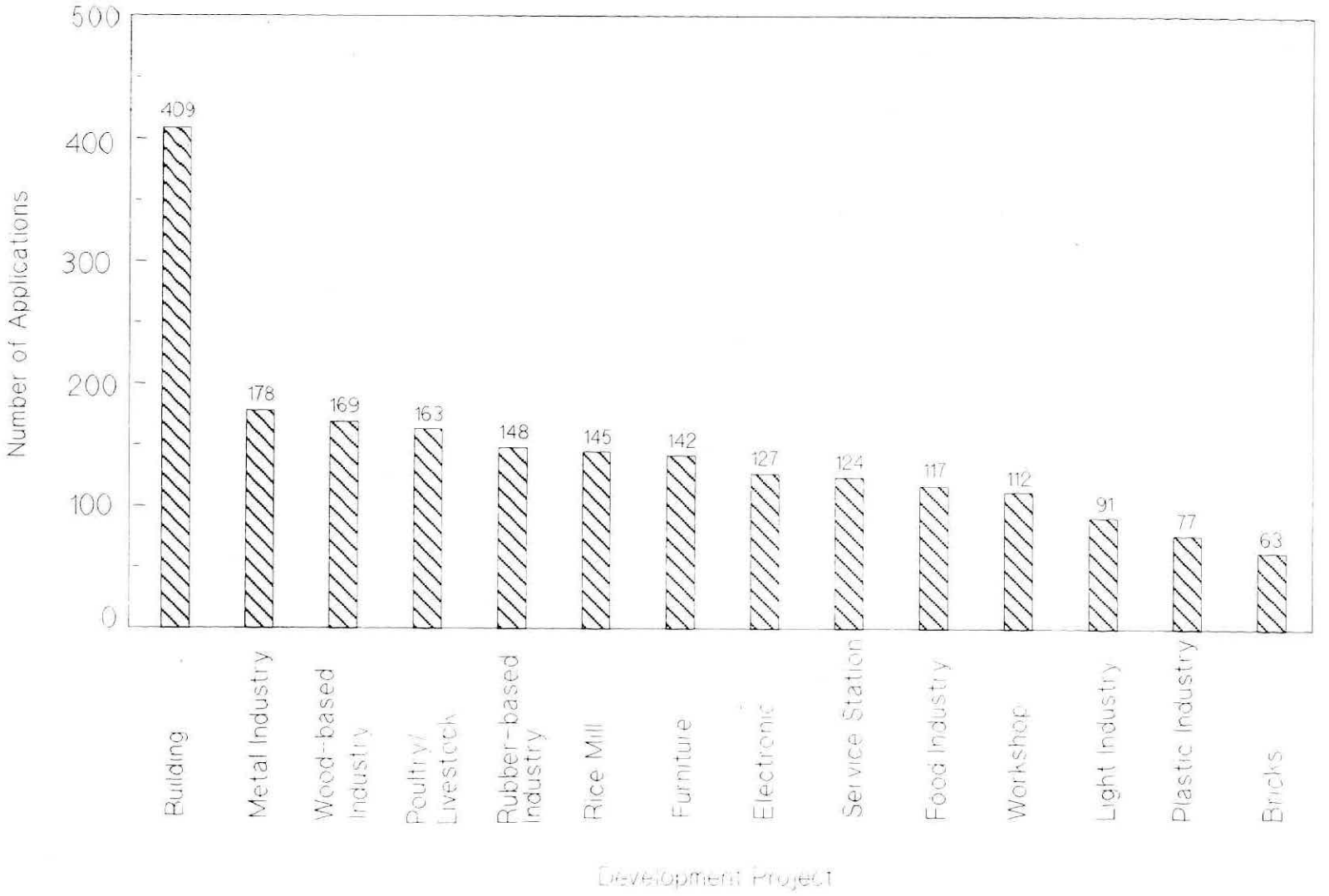

Figure 7.4 Malaysia: Application for Presiting Evaluation by Type of Development Projects, 1989

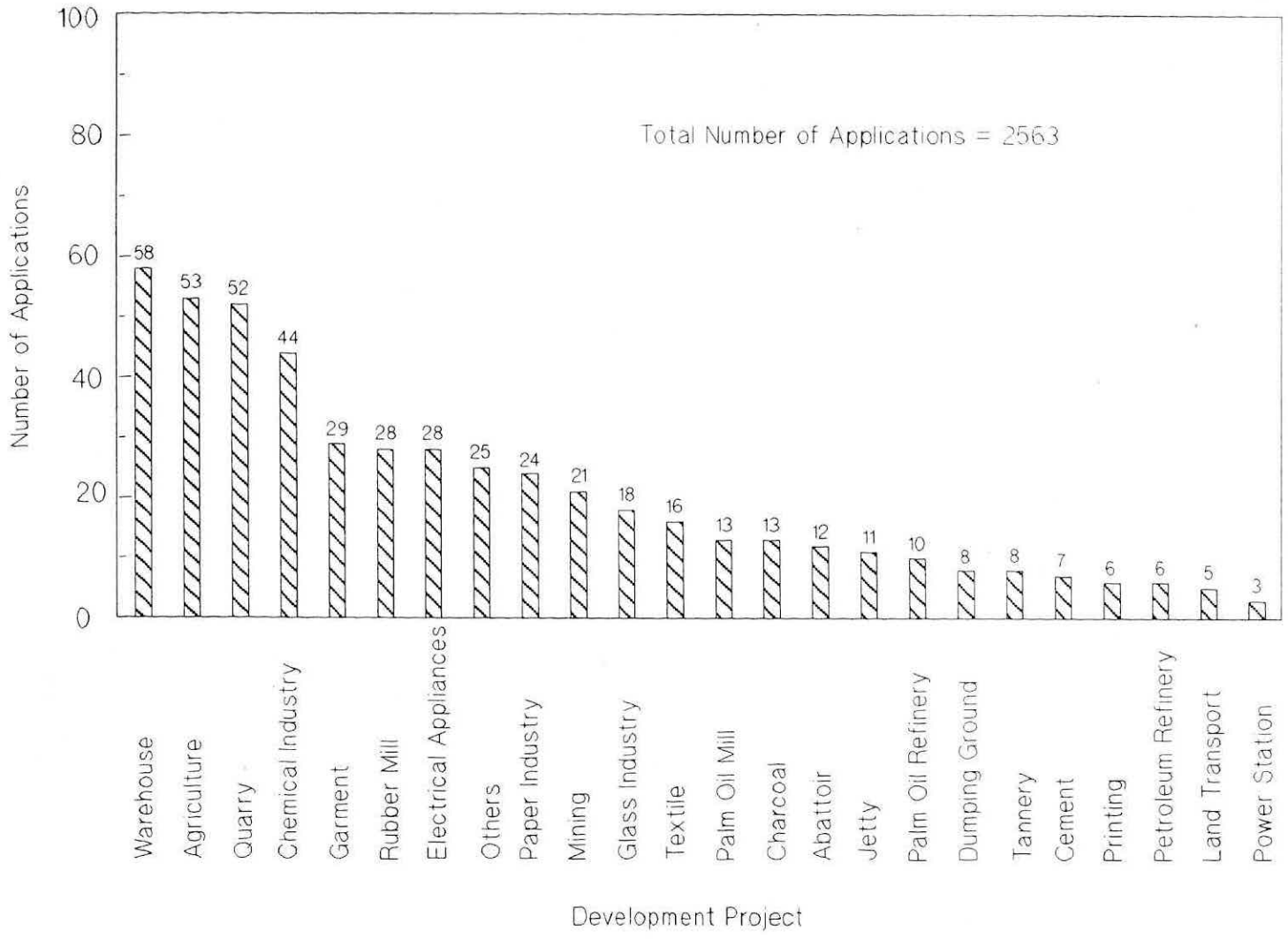

Figure 7.4 Malaysia: Application for Presiting Evaluation by Type of Development Projects, 1989

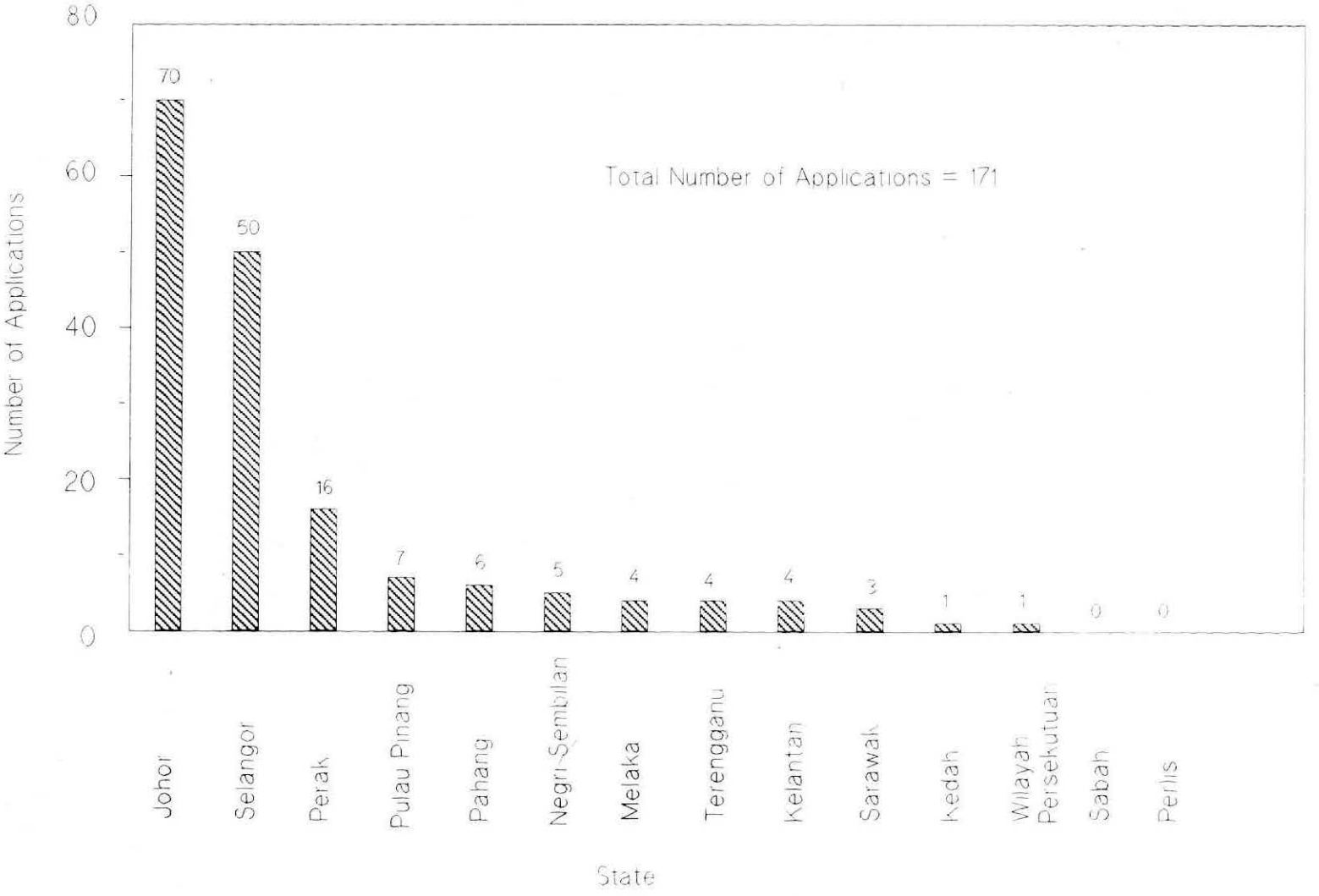

Figure 7.5 Malaysia: Application of Written Permission for Construction of Effluent Treatment Facilities by State, 1989

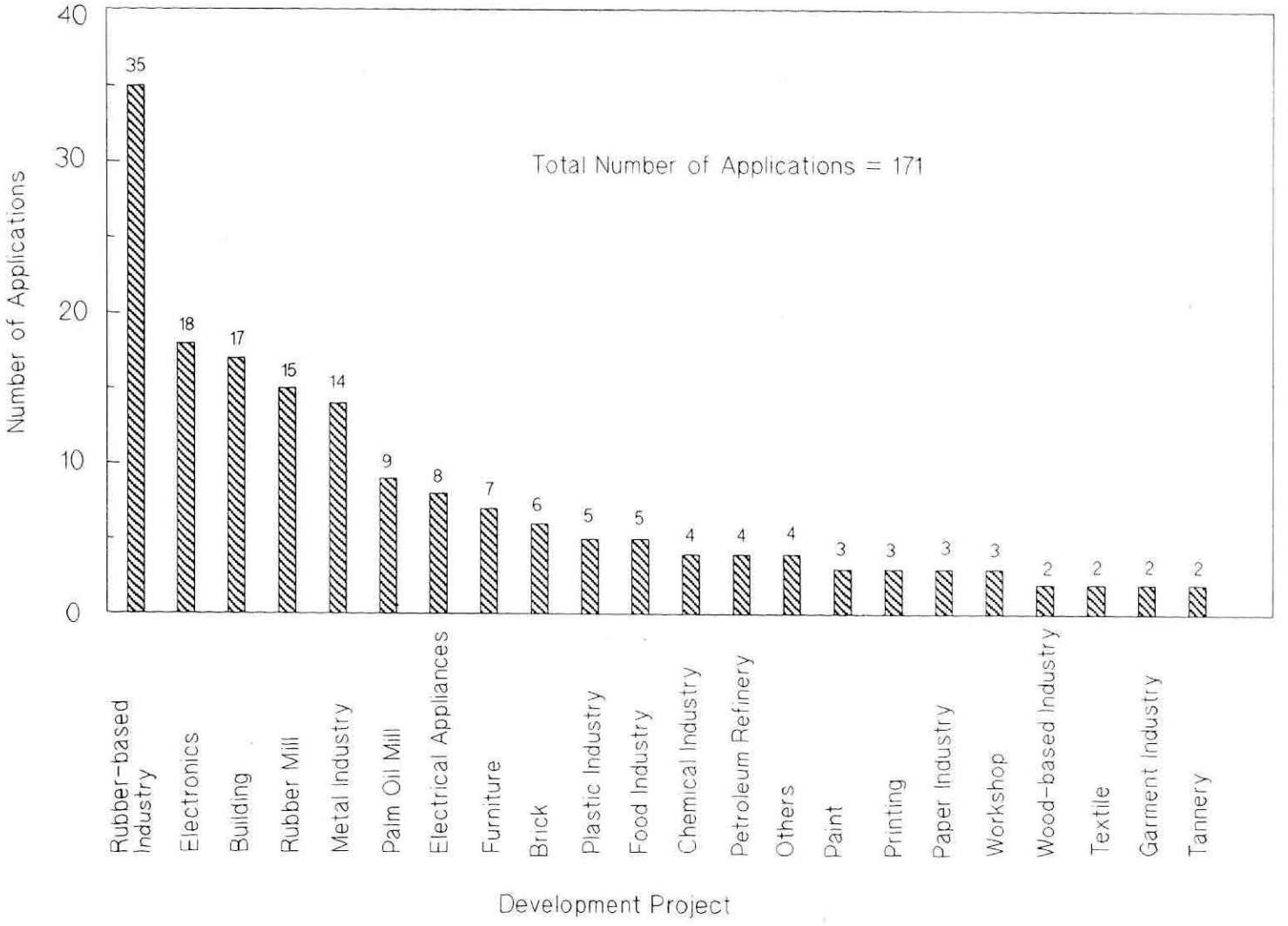

Figure 7.6 Malaysia: Application of Written Permission for Construction of Effluent Treatment Facilities by Development Project, 1989

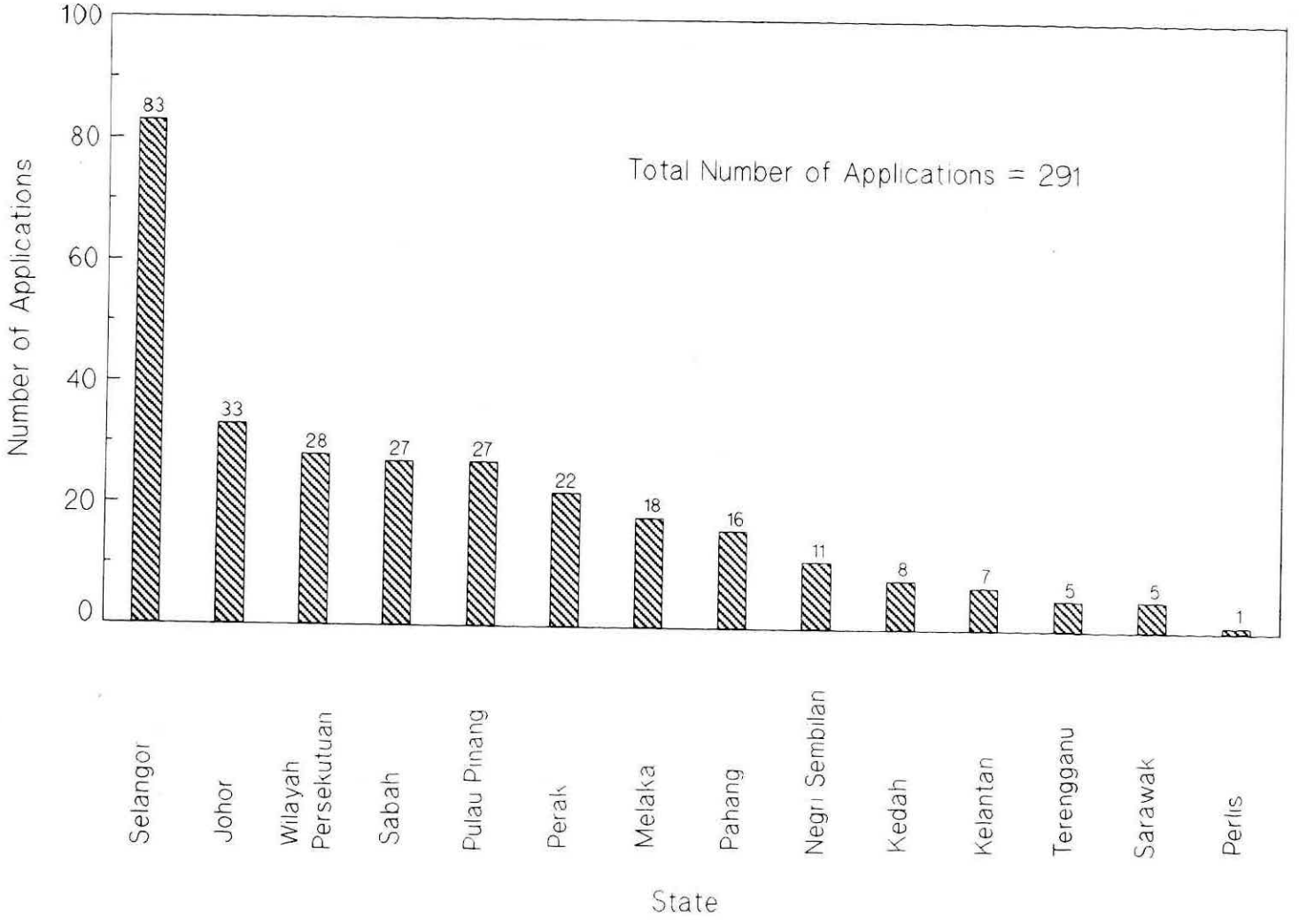

Figure 7.7 Malaysia: Application for Installation of Fuel Burning Equipment by State, 1989

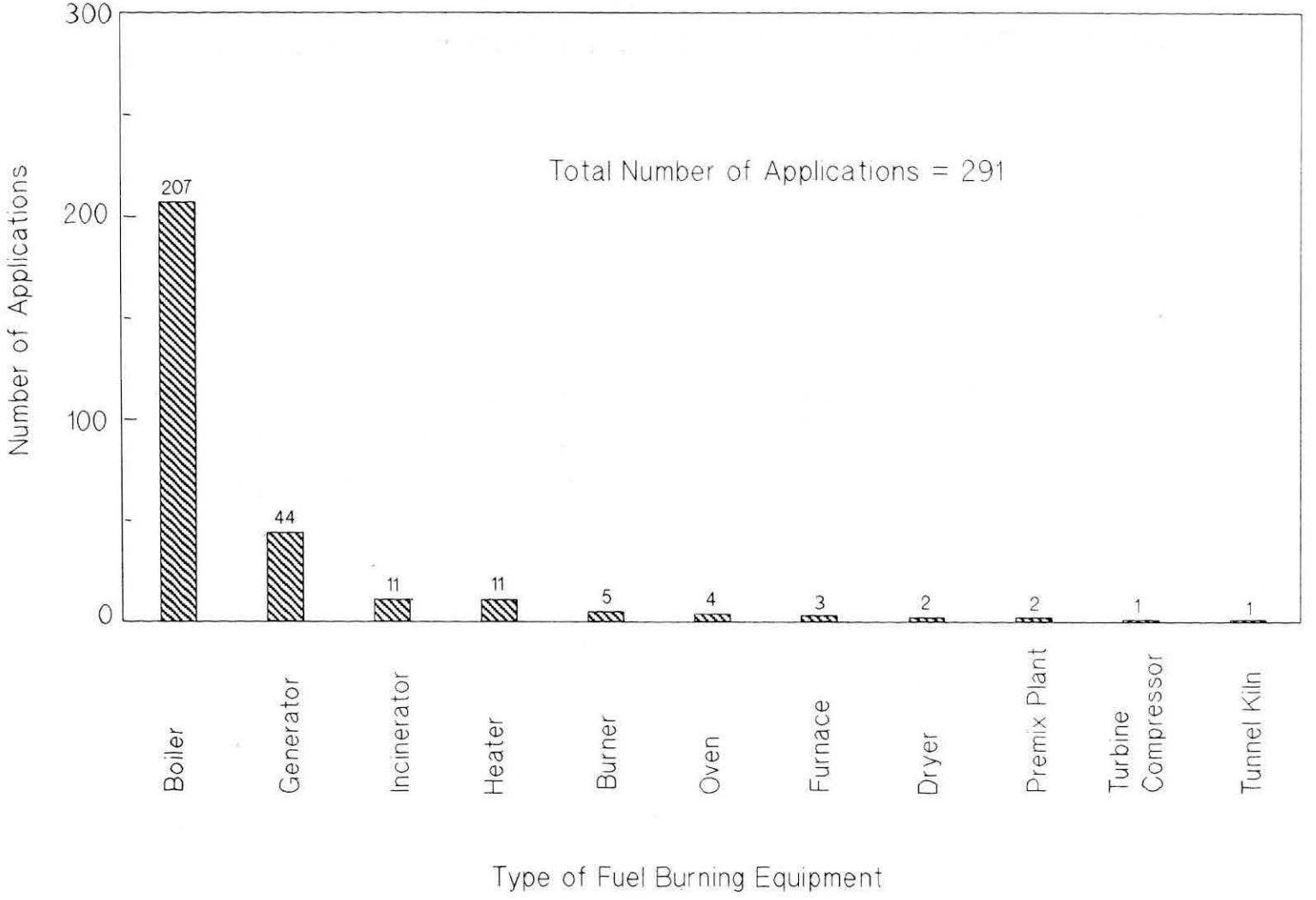

Figure 7.8 Malaysia: Application for Installation of Fuel Burning Equipment by Type of Equipment, 1989

Table 7.1

Department of Environment: EIA Talks and Papers Presented, 1989

Name of Course/Seminar/ Workshop	Place and Date	Organisation/Sponsoring Agency	Subject
Environmental Planning and Management Course	INTAN, Bukit Kiara 24/1/89	INTAN	Environmental Impact Assessment
Environmental Impact Assessment Course	Department of Environment, Kuala Lumpur 27/2/89-4/3/89	DOE/WHO/PEPAS	EIA Procedures in Malaysia
Environmental Impact Assessment Course	Mining Training Institute, Ipoh 19-22/7/89	INTAN/Mines Department,	EIA Procedures and Legal Requirement in Malaysia
Course on Environmental Impact Assessment for Development Projects	INTAN, Kemaman 12/8/89	INTAN	Legal Aspects of EIA
Environmental Impact Assessment Course 1989	Grand Continental Hotel, Kuala Lumpur 25/9/89	Centre for Environment Technology & Development, Malaysia (CETDEM)	The EIA Order 1987 and Recommended EIA Procedures
Environmental Impact Assessment Course	Grand Continental Hotel, Kuala Lumpur 25/9/89	Centre for Environmental Technology and Development, Malaysia (CETDEM)	Using the EIA Guidelines
Infrastructure Management Course	INTAN, Bukit Kiara 4/10/89	INTAN	EIA Procedures for Development Projects and its Practice in Malaysia
Planning and Management of Sanitary Landfill Course	INTAN, Sungai Petani 22/10/89	INTAN/Division of Local Government, Housing and Local Government	Environmental Impact Assessment (EIA) Related to Waste Disposal Activities
Fourth International Symposium on River Sedimentation (ISRS)	Beijing, China 1-5/11/89	International Research and Training Centre on Erosion and Sedimentation (IRTCES), Beijing, China	Country Report on Soil Erosion and Sedimentation Problems in Malaysia
Coastal Engineering Process and EIA	Universiti Kebangsaan Malaysia, Kuala Lumpur 6-10/11/89	Universiti Kebangsaan Malaysia	EIA Requirement and Procedures in Malaysia
International Training Workshop on Risk Assessment and Management: Principles and Application	Bangkok, Thailand 4-8/12/89	Chulabhorn Research Institute/ UNEP Bangkok	Toxicological and Environmental Problems in Malaysia
Forum on Port Planning and Development	Equatorial Hotel, Kuala Lumpur 11-13/12/89	Ministry of Transport,Malaysia/ The Overseas Coastal Area Development Intitute of Japan (OCDI)	EIA Requirement and Practice in Malaysia

Abbreviation:

INTAN - National Institute for Public Administration
PEPAS - Regional Centre for the Promotion of Environmental Planning and Applied Studies
WHO - World Health Organisation

Table 7.2

Department of Environment: Number of Projects by Category Subjected to Environmental Impact Assessment Procedure and Mandatory Requirement, 1 April, 1988-31 December, 1989

No.	Category [1]	Number of Projects Notified and Monitored		Total
		1988 [3]	1989	
1	Agriculture	2	7	9
2	Airport	0	0	0
3	Drainage and Irrigation	2	3	5
4	Land Reclamation	0	5	5
5	Fishery	0	4	4
6	Forestry	1	7	8
7	Housing	3	5	8
8	Industry	7	10	17
9	Infrastructure	4	14	18
10	Port	1	2	3
11	Mining	9	2	11
12	Petroleum	9	5	14
13	Power Generation	6	2	8
14	Quarry	3	18	21
15	Railway	0	1	1
16	Transportation	0	0	0
17	Resort and Recreational Development	2	10	12
18	Waste Treatment	5	8	13
19	Water Supply	2	2	4
	[2]			0
20	EEZ	1	1	2
	Total	57	106	163

Note:

1
Category of Projects According to EIA Order, 1987

2
Projects within Exclusive Economic Zone: Laying of Cables and Pipelines, other than that of Petroleum

3
The EIA Order of 1987 came into force on April 1, 1988

Table 7.3

Department of Environment: Number of Environmental Impact Assessment (EIA) Reports Received, 1987-1989

No	Category [1]	Number and Type of EIA Reports Received								
		1987			1988 [3]			1989		
		P.A	D.A	R.A	P.A	D.A	R.A	P.A	D.A	R.A
1	Agriculture	1	-		1		-	1	-	-
2	Airport	-	-		-		-	-	-	-
3	Drainage and Irrigation	-	-		1		-	1	-	-
4	Land Reclamation	-	1	N	-	N	-	3	-	-
5	Fishery	-	-	O	-	O	-	-	-	-
6	Forestry	-	-		1		-	-	-	-
7	Housing	-	-	R	1	R	-	3	-	-
8	Industry	1	-	E	2	E	1	7	1	1
9	Infrastucture	2	-	P	2	P	-	1	-	-
10	Port	-	-	O	-	O	-	1	-	-
11	Mining	-	-	R	2	R	-	1	-	-
12	Petroleum	2	1	T	3	T	-	3	-	2
13	Power Generation	4	-		3		-	3	-	-
14	Quarry	1	-		-		-	3	-	-
15	Railway	-	-		-		-	-	-	-
16	Transportation	-	-		-		-	-	-	-
17	Resort and Recreational Development	2	-		2		-	-	-	-
18	Waste Treatment	-	1		-		-	3	-	-
19	Water Supply	-	-		-		-	1	-	-
20	EEZ [2]	-	-		-		-	1	-	-
	Total	13	3	-	18	-	1	32	1	2

Abbreviation:

P.A: Preliminary Assessment
D.A: Detailed Assessment (involving Panel Review)
R.A: Risks Analysis

Note:

1
Category of Projects According to EIA Order 1987

2
Projects within Exclusive Economic Zone: Laying of Cables and Pipelines, other than that of Petroleum

Table 7.4

Department of Environment: Classification of Projects by Timing of Submission of EIA Reports (Project Planning Cycle), 1989

Project Planning Cycle	Project Classification	EIA Issue	Environmental Planning Cycle	Project Approval
Project Identification	0	Is the project environmentally sound?	Exploring environmentally sound projects	Own approval or Memorandum of Understanding
Sourcing for Technology or Licence	1	Is the technology most advanced and clean?	Assessment for environmentally sound technology	Business transactions, technology transfer, and licence agreement
Pre-feasibility/Siting Decision	2	Is the proposed site environmentally least sensitive?	Baseline study and submission of preliminary assessment report	Department of Environment clearance
Feasibility/Project Design	3	Does the project design incorporate all the required pollution control and other environmental mitigating measures?	Extended cost benefit analysis and submission of complete or detailed EIA Report	EIA Report to be approved by the Director General of Environment, prior to licence being granted by relevant government agencies, or lease to be given, land conversion or change of ownership approval by State Government
Contract	4	Are sufficient environmental specifications and safeguard incorporated in contract documents and agreements?	-	Budget approval
Detailed Design	5	Is the design complying with all the specifications?	Submission of plans on pollution control and other environmental mitigating measures	Written permission
Tendering	6	Is sufficient budget provided for environmental control and other environmental mitigating measures in the tender exercise and award?	-	-
Development and Construction	7	Are project development and construction closely supervised?	Environmental monitoring	Approval by land, resources, safety, health, environmental and local authorities
Commissioning	8	Does the project meeting all set standards and conditions?	Continuation of monitoring and project auditing	Certification by safety, health, environmental, and local authorities
Operation and Maintenance	9	Is the project fully complying with the imposed standards all the time?	Source and environmental monitoring	-
Abandonment/ End of Project Life	X	Are there significant residual environmental impacts?	Continued environmental monitoring	Approval by the relevant Federal, State and Environmental Authorities

Classification: 1 - High Distinction
2 - Distinction
3 - High Credit
4 - Credit
5 - Simple Credit
6 - Low Credit
7 - Low Pass
8 - Just Pass
9 - Fail

Table 7.5

Department of Environment: Man-Months Involved and Cost of Carrying Out Preliminary EIA Studies According to Project Type, 1988-1989

Type of Project	Basis of Estimates (Number of Projects)	Cost of EIA to Total Project Cost(%)	Expert Input (Man-Months)	Cost of Preparing EIA Report ($)
Agriculture	1	0.027	9.60	158000
Drainage and Irrigation	1	0.058	7.50	50000
Forestry	2	N.A.	0.03 - 8.75	72000
Housing	2	0.007 - 0.020	3.50 - 3.60	28000-39000
Industry	4	0.101 - 0.120	2.00 - 20.00	100000-2500000
Petroleum	1	N.A.	21.50	112000
Power Generation and Transmission	3	0.009 - 0.161	3.00 - 4.80	10000
Resort and Recreational Development	1	N.A.	4.00	10000-12000
Water Supply	6	0.019 - 0.165	9.80 - 18.50	175000-495000

Note:

N.A. Not made available

Table 7.6

Department of Environment: Documentation of Environmental Pollution Control Technology, 1989

Type of Industry	Title of Document
Metal Finishing	Metal Finishing Industry and the Environment in Malaysia
Rubber-based	Rubber Gloves Manufacturing Industry and the Environment in Malaysia
Glass	Glass Manufacturing Industry and the Environment in Malaysia
Agro-based	Rice Milling and the Environment in Malaysia
Agro-based	Coconut Processing Industry and the Environment in Malaysia
General	Guidelines for Assessing New Industry and Wastewater Treatment Systems
General	Guidelines for Assessing New Industry and Fuel Burning Equipment

Table 7.7

Malaysia: Recommended Air Quality Guidelines
(at 25°Celsius and 101.13 kPa)

Pollutant and Method	Averaging Time	Malaysian Guidelines	
		(ppm)	(ug/m3)
Ozone AS 2524	1 hour 8 hour	0.10 0.06	200 120
Carbon Monoxide AS 2695	1 hour 8 hour	30 9	35 # 10 #
Nitrogen Dioxide AS 2447	1 hour	0.17	320
Sulphur Dioxide AS 2523	10 minute 1 hour 24 hour	0.19 0.13 0.04	500 350 105
Particles TSP AS 2724.3	24 hour 1 year		260 90
PM10 AS 2724.6	24 hour 1 year		150 50
Lead AS 2800	3 month		1.5
Dustfall AS 2724.1	1 year	133 *	

mg/m^3

* $mg/m^2/day$

CHAPTER 8
ENVIRONMENTAL EDUCATION AND INFORMATION

ENVIRONMENTAL EDUCATION AND INFORMATION

Introduction

Environmental education and dissemination of environmental information continue to play a major role in environmental management as long as the 'preventive' as opposed to the 'curative' approach, is still adhered to.

The Education and Information Unit of the Department implements programmes, aimed at informing and educating not only the general public but the policy makers and implementors at the helm of state and federal government agencies responsible for development.

Programmes for 1989 thus included both scheduled (e.g. World Environment Day Celebrations) and unscheduled (e.g. ad-hoc talks to schools, societies, exhibitions) activities, as described in the following sub-sections.

Environmental Education

World Environment Day

The national celebration for the World Environment Day (WED) was held on the 12 August, 1989 at Kuching, the capital of Sarawak. The theme for this year's celebration was "Sustainable Development : A Peoples' Commitment " with the message being "Let us together make our beloved country clean and beautiful."

The celebration ceremony was launched by the Honourable Chief Minister of Sarawak, Datuk Patinggi Haji Abdul Taib bin Mahmud, who was represented by the Sarawak State Minister of the Environment and Tourism, with attendance by the Honourable Minister of Science, Technology and the Environment, Ministers and State Executive Councillors in charge of environmental matters, senior government officers, school children and the public.

Activities organised after the launching ceremony included the following:

- Pledge reading in reaffirming the public support for sustaining and enhancing environmental quality by balancing national development with environmental protection, through the implementation of sustainable development principles.

- A choir backed up by a brass band playing three environmental songs namely, 'Alam' (the Universe), The Shades of Mother Earth and 'Tasik Permai' (Peaceful Lake).

- Prize-giving ceremony for various competitions held earlier on essay writing, drawing among school children, environmentally best kept factories and public toilet cleanliness.

- Planting of casuarina trees at the edge of Padang Central by the Ministers and EXCOs in charge of environmental affairs.

Concurrent activities organised in conjunction with the WED celebration were as follows:

- Public toilets cleanliness competition at Kuching City (3 July, 1989), Bintulu Town (13 August, 1989) and Miri (13 August, 1989).

- A dialogue between the Federal Minister of Science, Technology and the Environment and the industrialists from Pending Industrial Estate near Kuching on 10 July, 1989 with the objectives of alleviating some air pollution problems originating from wood-based industries within the area.

The second meeting of Ministers and EXCOs in charge of environmental affairs from the 14 states in Malaysia, held on 10 August, 1989 at Kuching. A keynote address on the concept of Sustainable Development was delivered by Dr. Nay Htun, Director of UNEP for the Asia and the Pacific Region.

Visit by Ministers and State EXCOs to the Bintulu Regional Development Authority, Bintulu Timber Complex, Recreational Parks in Serian, Pepper Plantation, Rancang Water Fall, Kampung Mujat, Niah and the Mulu Caves.

Environmental Films/Videos

A video on the World Environment Day Celebration in Kuching, Sarawak was produced with the assistance of a local studio company in Kuching. The 30-minute video was shot on a VHS format and produced in both English and Bahasa Malaysia versions.

Works on script evaluation for three video productions that cover the topics on 'Water Pollution', 'Air Pollution' and 'You and the Environment' were also carried out. The production of the three videos is expected to commence in 1990.

The Department also assisted RTM in providing technical input and location hunting during the production of a documentary film entitled "Sejernih Embun Pagi".

Envirocamp

The Department of Environment together with the Biology Department of Universiti Pertanian Malaysia organised an envirocamp for 50 primary schoolchildren between the ages of 7 to 12 which was held at Port Dickson, Negri Sembilan on 6-8 October, 1989. The envirocamp was sponsored by ESSO Malaysia Berhad.

The Department also facilitated the organisation of another envirocamp in Pantai Rombang, Tanjung Keling, Melaka on 31 October - 1 November, 1989, held in conjunction with the World Environment Day Celebration at Melaka state level. 220 participants comprising secondary schoolchildren, youths and trainees from the Teachers Training College in Melaka took part in the envirocamp.

Talks to Students and Other Target Groups

Environmental talks under the International Hydrological Programme (IHP), were continued in 1989. The number of students as well as the other target groups attending the talks are summarised in Tables 8.1 and 8.2.

Environmental Exhibitions

The Department was involved in organising exhibitions as well as participating in environmental exhibitions organised by other institutes and agencies. A total of 16 exhibitions were held in 1989 as shown in Table 8.3.

Environmental Information

Dissemination of Environmental Publications

During the year, environmental publications such as the Environmental Quality Annual Report, SEKITAR magazines, pamphlets and posters continued to be distributed to about 20 target groups. A newly published document entitled "Investment Guide (Environmental Requirements)" was added to the list of departmental publications to meet the needs of local and foreign investors in Malaysia.

Environmental information kits comprising the SEKITAR magazines, pamphlets and posters were also made available to the general public during exhibitions and World Environment Day celebrations.

To date, the department's mailing list has grown to 497 addresses as summarised in Figure 8.1.

Query-Response Services

The demand for environmental information has increased by 505 or 96 per cent over the 1988's figure of 525. Figures 8.2 and 8.3 respectively reflect major channels of information and categories of users for the queries received in 1989. It was noted that a high percentage of queries came through the usage of the Department's library, followed by requests through letters and INFOTERRA services. Students were found to be the major users of the library, forwarding the most number of requests through letters. Requests from government officers made up almost 60 per cent of the INFOTERRA services.

Figure 8.4 details the number of queries received for various subject matters, through the three major channels of information mentioned above.

Library Services

To date, information sources available in the library comprise more than 12 663 books, reports and papers; 432 titles of magazines, journals, and brochures; 43 titles of newspaper cuttings; 30 titles of video films and a modest collection of slides. Two bibliographies entitled "List of Department's Working Papers/Reports/Publications" and "Ozone/Greenhouse Effect/Climate Change" were published and circulated to universities and public libraries.

Development of an Integrated and Computerised Environmental Information System

The Department of Environment has moved a step further towards improving the management of environmental planning and control when it undertook a project to develop an integrated and computerised environmental information system. On 15 November, 1988 an agreement was signed between the Department of Environment and Sepakat Computer Consultant to install and commission the system.

The system consists of a super-mini computer, HP9000, model 825S which runs on UNIX operating system or HP-UX. The system has an 8 Mb main memory, a total of 608 Mb disk storage, two high-speed tape drives, a dot-matrix system printer, a HP-draftmaster I plotter and four local area networks (LAN). Installation of the hardware was completed at the end of 1988. The development of software applications soon followed and was expected to complete within 18 months.

Initially, nine application softwares would be developed using HP/ALLBASE (database management system). These include office administration, environmental quality monitoring data management, pollution sources inventory and database, pollution sources licensing and controlling, monitoring and assessment of development projects, database on natural resources and environmentally sensitive areas, tracking and monitoring of toxic and hazardous waste movement, and database for Intensification Research in Priority Areas (IRPA).

The system will also provide micro-to-main system link facilities that allow users to take full advantage of today's personal computers capabilities as well as giving access to the main database.

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ENVIRONMENTAL EDUCATION AND INFORMATION

Launching of the World Environment Day Celebration, Kuching, Sarawak

Photographs by:
Suhaimi

Art Competition for School Children

Environmental Talk to Students

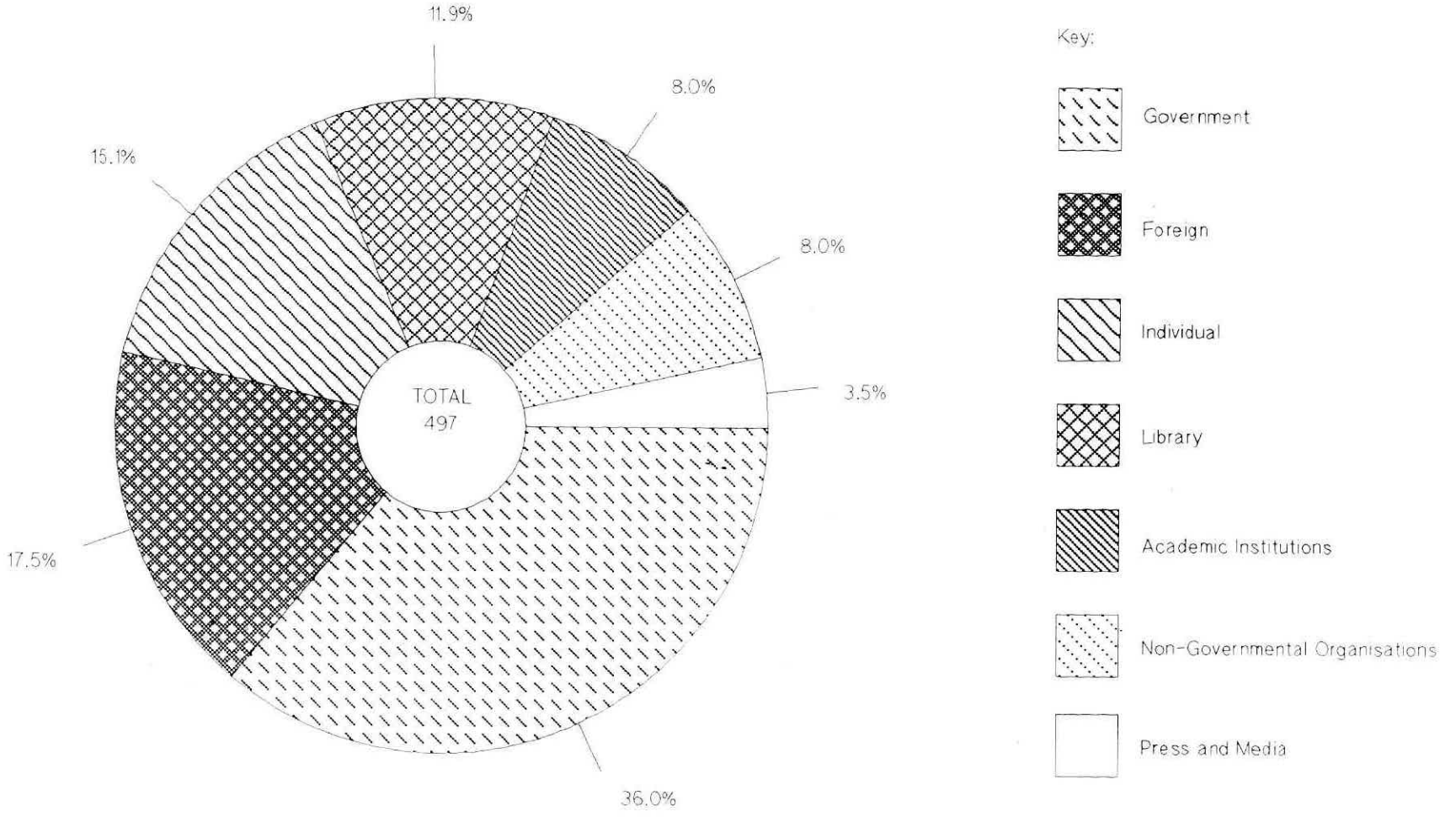

Figure 8.1 Department of Environment: Dissemination of Environmental Publications, 1989

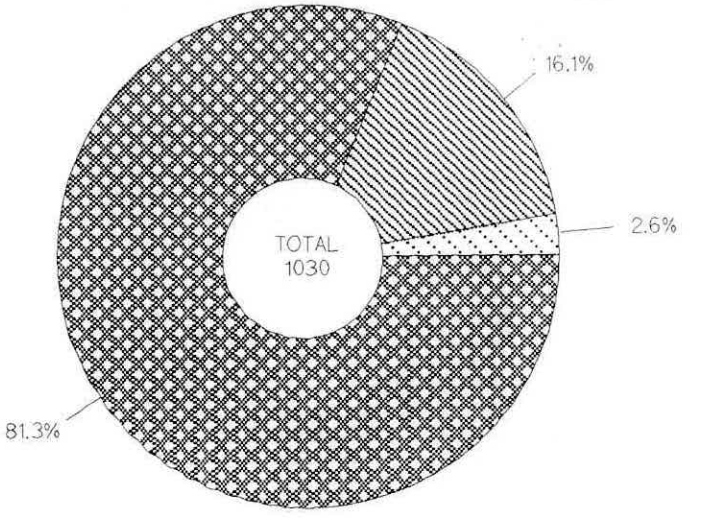

Figure 8.2 Department of Environment: Channels of Information Queries, 1989

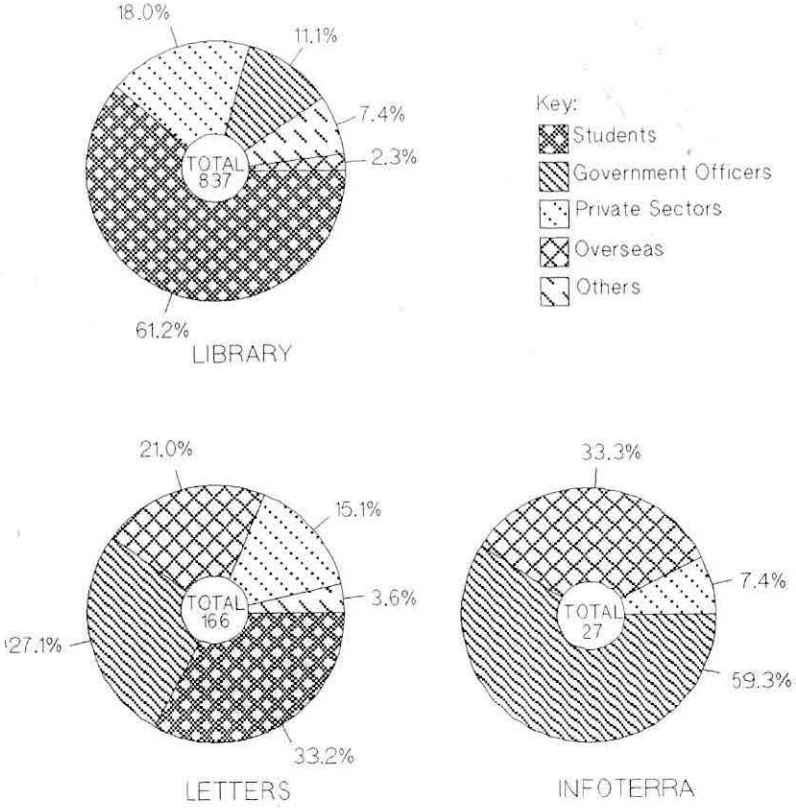

Figure 8.3 Department of Environment: Category of Information Users, 1989

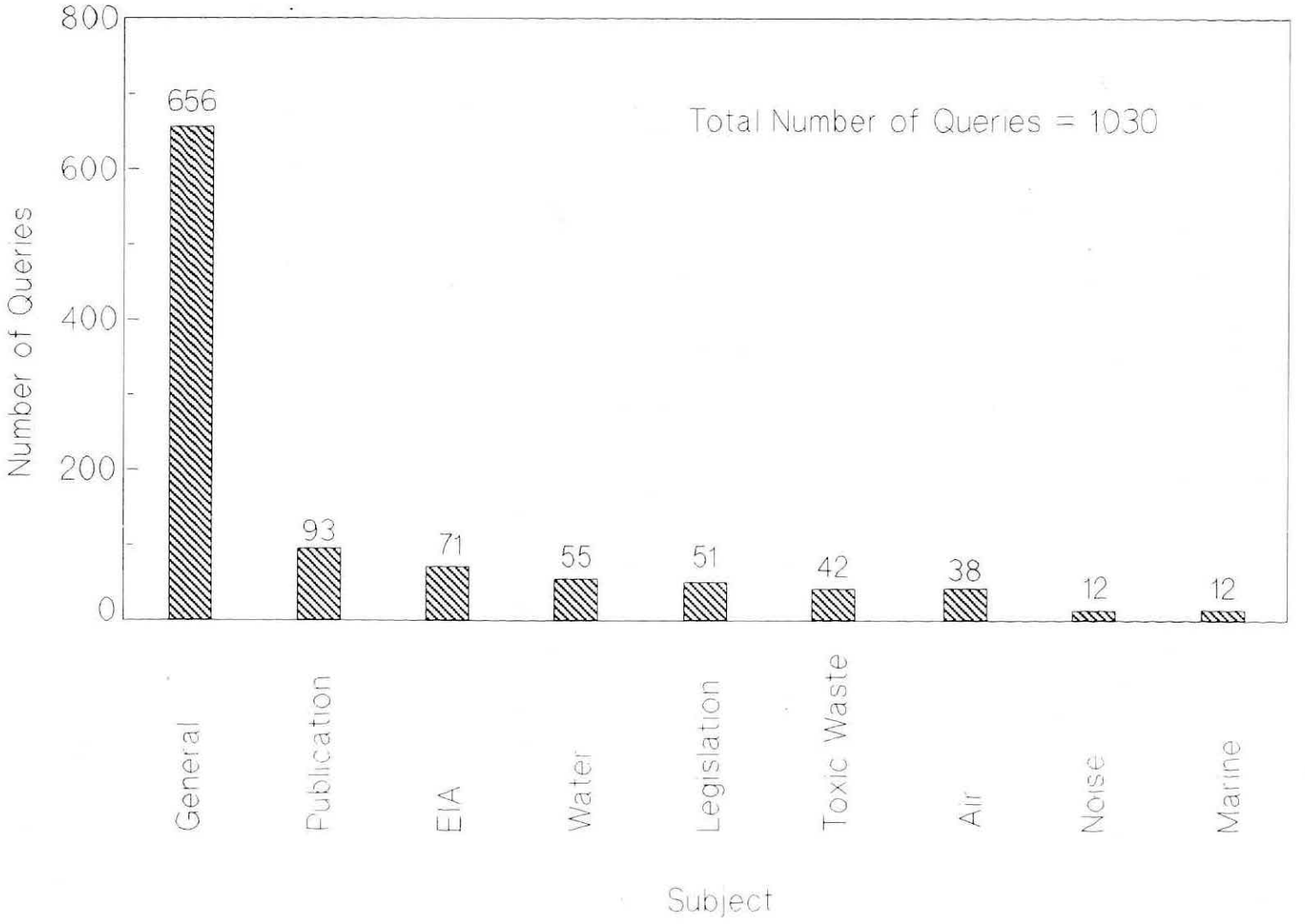

Figure 8.4 Department of Environment: Subject Distribution of Queries, 1989

Table 8.1

Department of Environment: Environmental Talks to Secondary Schools under the International Hydrological Programme (IHP), 1989

Region	State	Number of Schools	Number of Students
Northern	Kedah	1	50
	Perlis	1	60
	Pulau Pinang	-	-
Perak	Perak	10	1,135
Central	Melaka	6	2,180
	Negri Sembilan	-	-
	Selangor	5	360
	Wilayah Persekutuan	3	500
Southern	Johor	3	844
North-Eastern	Kelantan	-	-
	Terengganu	5	220
Eastern	Pahang	7	1,015
Sabah	Sabah	4	547
Sarawak	Sarawak	8	550
Total		53	7,461

Table 8.2

Department of Environment: Environmental Talks to Other Target Groups, 1989

Date	Institute /Agency	Target Group	Number of Attendees
2 January	Universiti Sains Malaysia, Pulau Pinang	Medical Students	200
18 January	INTAN, Kluang, Johor	Members of Local Authorities	18
19 January	Public Works Department, Kuala Lumpur	Engineers	120
25 & 28 January	MARA Institute of Technology, Shah Alam	Industrial Chemistry Students	30
18 February	Teachers Training College, Sarawak	Teacher Trainees	550
4 April	Public Health Institute, Kuala Lumpur	Nurses	30
29 May	State Secretariat Office, Melaka	Government Officers	30
31 May	Public Health Institute, Kuala Lumpur	Health Inspectors	116
14 June	Ministry of Finance, Malaysia	Senior Officers	30
4 July	Public Health Institute, Kuala Lumpur	Training Nurses	40
5 July	State Development Office, Kuantan	Members of Environmental Quality Council	40
18 July	INTAN, Bukit Kiara, Kuala Lumpur	Teachers	23
7 August	Curriculum Development Centre, Ministry of Education	Teachers	12
8 August	Zoological Department, Universiti Kebangsaan Malaysia, Bangi	First Year Undergraduates	40
16 August	INTAN, Sungai Petani	Administrative and Diplomatic Officers	35
23 August	Ministry of Health, Johor Bahru	Health Inspectors	50
29 September	INTAN, Bukit Kiara, Kuala Lumpur	Participants of the Environmental Planning and Management Course	10
4 October	INTAN, Bukit Kiara, Kuala Lumpur	Technical Officers	25
21 October	MARA Institute of Technology, Shah Alam	Mass Communication Students	40
29 October	District Information Department, Ulu Terengganu	Community Leaders	100
31 October	Camping Site, Tanjung Keling	School Students	220
9 November	Universiti Kebangsaan Malaysia, Bangi	Participants of CEPEIA Course	30
11 November	Agricultural Department, Alor Setar	Participants of Basic Landscaping	30
18 November	State Economic and Development Corporation (SEDC), Johor Bahru	SEDC Officers	30
19 November	INTAN, Sungai Petani	Administrative Officers	33

Abbreviation:

CEPEIA - Coastal Engineering Processes and Environmental Impact Assessment

Table 8.3

Department of Environment: Environmental Exhibitions, 1989

Date	Venue	Occasion	Organiser
20-22 January	Kundasang, Sabah	Meeting between the Ministers and State Government Councils Responsible for the Environment	Department of Environment
24-26 January	Universiti Kebangsaan Malaysia, Bangi	Geographical Expo 1989	Geography Department, Universiti Kebangsaan Malaysia, Bangi
22 February	Ipoh, Perak	The 39th Meeting of the Environmental Quality Council	Department of Environment
25 February-5 March	Komtar, Pulau Pinang	Exhibition on Improving the Visual Environment of Pulau Pinang	Penang State Development Corporation
20-22 March	Hotel Merlin, Kuala Lumpur	Seminar on Water Cleanliness and Environment	Drainage and Irrigation Department
24-25 May	Kuala Berang, Terengganu	World Health Day Exhibition, Terengganu State Level	Terengganu State Health Department
30 May-5 June	Department of Environment, Kuala Lumpur	Open Week ,Department of Environment	Department of Environment
5 June	Kota Belud, Sabah	World Environment Day Exhibition, Sabah State Level	Ministry of Environment, Development and Tourism
5-6 July	Kuantan, Pahang	The 40th Meeting of the Environmental Quality Council	Department of Environment
15-17 July	Komtar, Pulau Pinang	Expo AIESEC Global Seminar Series (Universiti Sains Malaysia)	AIESEC, Universiti Sains Malaysia
15 July	Sekolah Menengah Iskandar Shah, Parit, Perak	Exhibition on the 40th School Anniversary	Sekolah Menengah Iskandar Shah
22-23 July	Melawati Country Club, Kuala Lumpur	Exhibition on Heritage	Melawati Country Club
12-20 August	Kuching, Sarawak	World Environment Day Exhibition 1989	Sarawak State Museum
20 August	Bukit Mertajam, Pulau Pinang	World Health Day Exhibition, Pulau Pinang State Level	Seberang Perai State Health Department
16 October	Kuala Kedah, Kedah	World Food Day Exhibition, Kedah State Level	Kedah State Health Department
29 November-3 December	Universiti Malaya, Kuala Lumpur	Menara Budi (2nd) College Open Day	Menara Budi College, Universiti Malaya

Abbreviation:

AIESEC - International Association of Students in Economics and Management

CHAPTER 9
HUMAN RESOURCE DEVELOPMENT

HUMAN RESOURCE DEVELOPMENT

Introduction

As in the past years and 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 1989. The training was divided into long-term (more than three months duration) and short-term programmes (less than three months durations).

Long-Term Training

Long-term training courses offered to the Department were mainly those ranging from three months to two years. These included courses abroad and in the country. Courses included those for Masters and Bachelor degrees, diplomas including post-graduate, advanced and basic diploma, fellowship programmes and several attachment programmes in collaboration with agencies like Colombo Plan, JICA, CDG, BMITA and Public Services Department (PSD). Most courses were subject specific aimed at improving the skills and expertise of officers. The list of officers attending long-term training courses in 1989 is shown in Appendix 9.1.

Short-Term Training

Besides organising in-house training which included courses, lectures and colloquium sessions, the Department sent officers to seminars, workshops and conferences both within the country and abroad. A list of these are given in Appendices 9.2, 9.3, 9.4, 9.5, 9.6 and 9.7. Tables 9.1 and 9.2 summarise the various categories of the short-term training programmes conducted and attended by the Department in 1989.

Attendance for short-term training programmes abroad was made possible mainly through foreign sponsorships. In 1989 United Nations Environment Programme (UNEP) was the main sponsoring agency expending an estimated M$ 23 222.00 for officers attending overseas training programmes. This was followed by The Japan International Co-operation Agency (JICA) together with other Japanese Agencies, spending an estimated expenditure of M$12 152.00 for several programmes. The other contributing agencies were the USSR Government, Canada International Development Agency (CIDA), Commonwealth Science Council Fund for Technical Co-operation (CFTC), Government of Netherlands, International Ocean Institute (IOI), The British Council, Asian Development Bank (ADB), IOMAC-IOC, CDG-SEAPO, UNESCO, UNDP, UNIDO, etc.

Training Courses

In 1989 the Department was represented at several local training courses in the field of environmental management organised by government, semi-government and private agencies. During the year, 45 officers attended 27 such courses. The Department also took advantage of the training programmes organised and sponsored by agencies under the aegis of the United Nations Organization and other international bodies. In 1989, 21 officers of the Department attended 16 short-term training courses overseas.

Workshops

The Department in 1989 was represented in 9 workshops organised locally and 7 workshops overseas in which 12 and 8 officers attended respectively.

Conferences and Seminars

In order to upgrade knowledge and to expose officers especially to new issues related to environmental management, the Department

took advantage of the several invitations received to send officers to participate in the conferences and seminars both locally and abroad. In 1989, 64 officers attended 30 local conferences/seminars and 13 officers attended 13 conferences/seminars overseas.

Figures 9.1 and 9.2 show the distribution of major environment related topics of training programmes attended both locally and overseas.

In-Service Technical Training

In 1989 there was an increase in the number of in-service technical training programmes organised solely by the Department or in conjunction with other agencies. Details of those training programmes which were attended by a total of 285 officers are shown in Tables 9.3 and 9.4.

Guest Lectures

In addition to the training programmes the Department has also invited guest lecturers to give lectures in their fields of expertise that were related to environmental management. In 1989 lectures presented were as listed in Table 9.5.

Weekly Colloquium

Apart from talks and lectures, the Technical Training Unit also organised a total of 21 colloquium sessions presented by officers who had attended training courses, workshops, seminars and conferences outside the Department. The areas covered during the year were as follows:

- Air Pollution
- Ecosystem
- Environmental Law
- Health
- Information
- Management
- Marine Pollution
- Personnel Development
- Science and Technology
- Socio Economy
- Waste Disposal
- Water Pollution

The colloquium sessions were made open to other agencies and interested parties including universities and the private sector.

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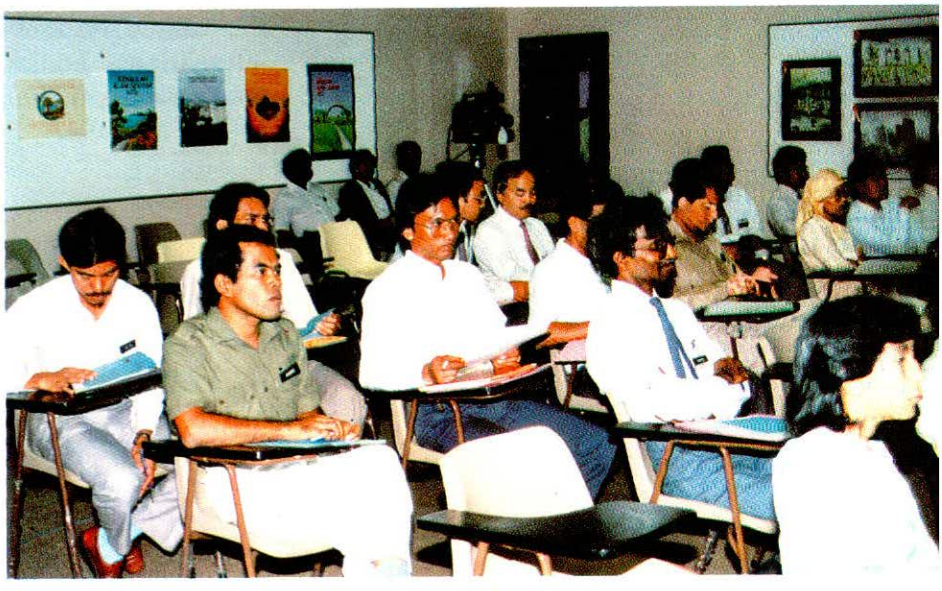

Department of Environment's Officers Attending Training

Photograph by: Suhaimi

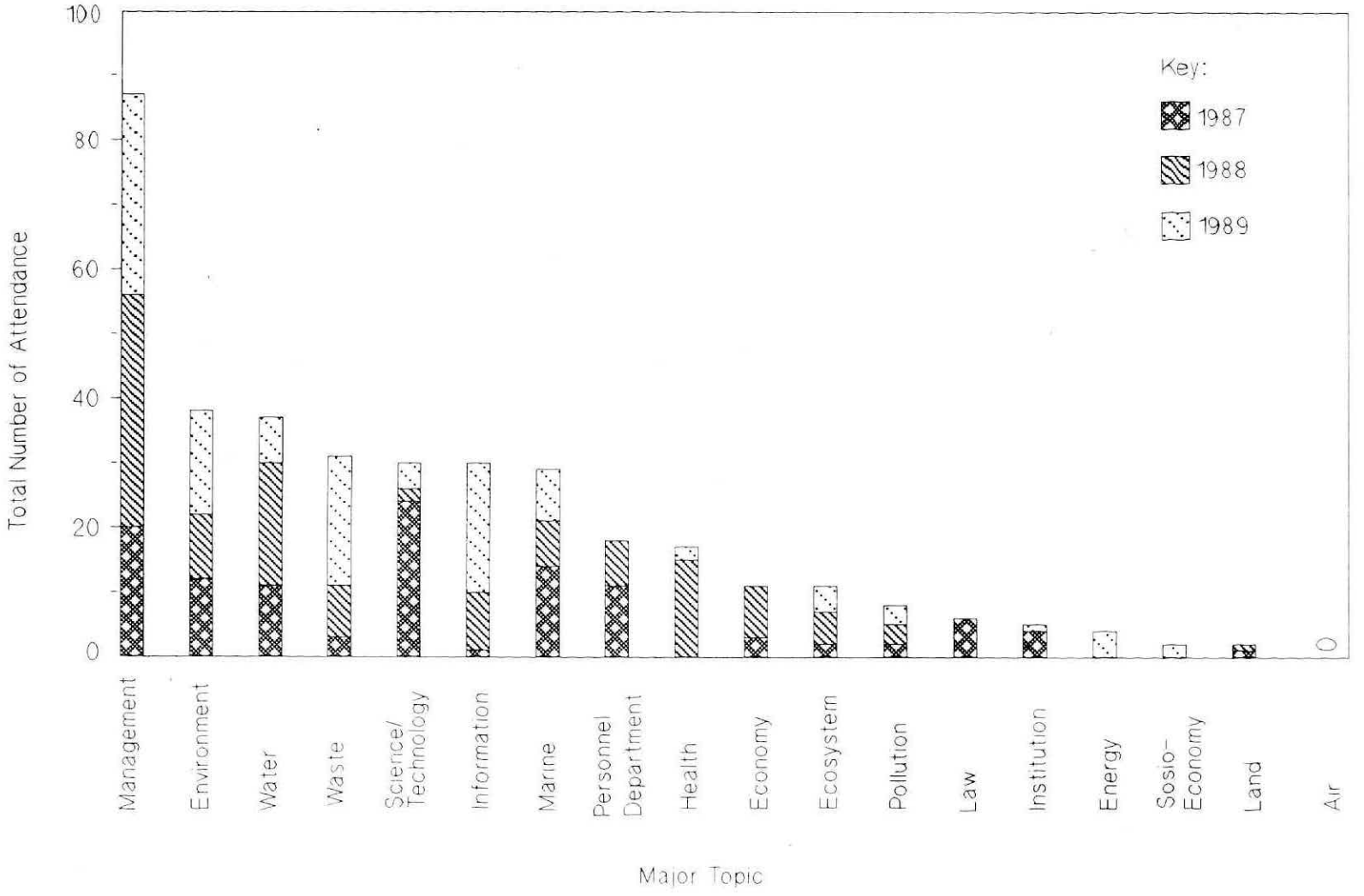

Figure 9.1 Department of Environment: Staff Attendance at Training Programmes Organised by Local Agencies, 1989

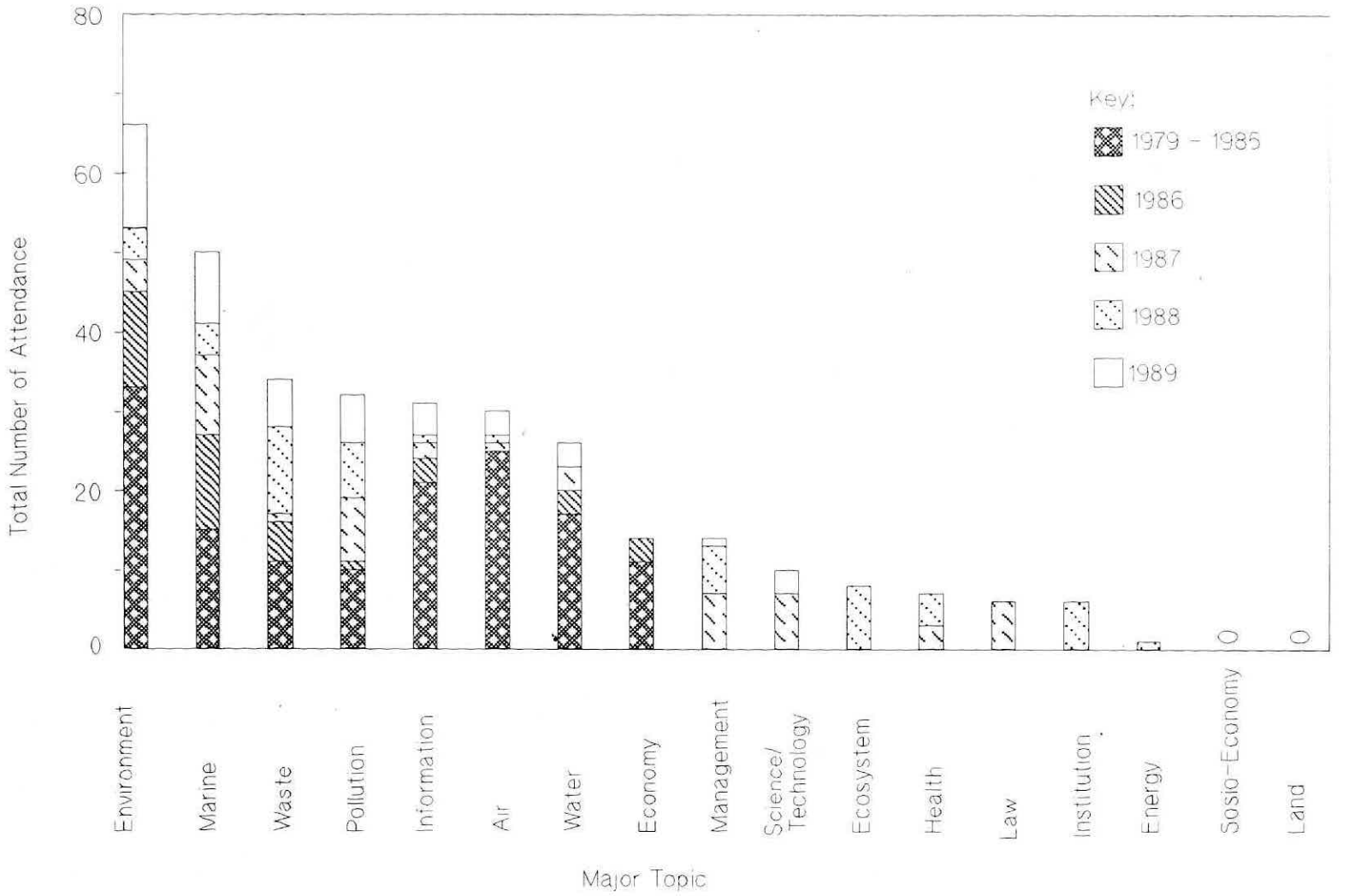

Figure 9.2 Department of Environment: Staff Attendance at Training Programmes Overseas, 1979–1989

Table 9.1

Department of Environment: Local Training Programmes, 1989

Type	Programmes (Number)	Attendance (Number)
In-Service Technical Training	17	285
Conference/Seminar/ Convention/Symposium	30	64
Short-Term Courses	27	45
Workshop	9	12
Degree/Diploma/Certificate Courses	1	1
Total	84	407

Table 9.2

Department of Environment: Overseas Training Programmes, 1989

Type	Programmes (Number)	Attendance (Number)
Short-Term Courses	16	21
Conference/Seminar/ Convention/Symposium	13	13
Degree/Diploma Courses	4	5
Workshop	7	8
Total	40	47

Table 9.3

In-Service Technical Training Programmes Organised by Department of Environment, 1989

Title	Major Topic	Date/Venue
1. Workshop on Protection of Ozone Layer & User of CFC/ Halon Material in Malaysia	Air	19 April, 1989 Department of Environment, (Headquarters) Kuala Lumpur
2. Workshop on Techniques of Water and Marine Monitoring	Water/Marine	29 - 31 May, 1989 Department of Environment, (Headquarters) Kuala Lumpur
3. Introductory Course on Toxic and Hazardous Waste Management	Waste	26-29 June, 1989 Department of Environment, (Headquarters) Kuala Lumpur
4. Enforcement Preparatory Meeting	Management	30 June, 1989 Department of Environment, (Headquarters) Kuala Lumpur
5. Workshop on Stack Sampling	Air	7-8 August, 1989 Department of Environment, (Headquarters) Kuala Lumpur
6. Course on Enforcement of Black Smoke and Noise Control	Air	9 August, 1989 Department of Environment, (Headquarters) Kuala Lumpur
7. Training on Flow Meter Handling	Water	7 December, 1989 Department of Environment, Central Regional Office, Kuala Lumpur
8. Training on Flow Meter Handling	Water	11 December, 1989 Department of Environment, Northern Regional Office, Butterworth
9. Workshop on Oil Spill	Marine	12 December, 1989 Department of Environment, (Headquarters) Kuala Lumpur
10. Training on Flow Meter Handling	Water	12 December, 1989 Department of Environment, Perak Regional Office, Ipoh
11. Training on Flow Meter Handling	Water	18 December, 1989 Department of Environment, Southern Regional Office, Johor Bahru

Table 9.4

Training Programmes Jointly Organised by the Department of Environment, 1989

Title	Major Topic	Counterpart Agency	Date/Venue
1. Seminar and Demonstration on Water Quality Data Management and Coliphage Test as a Bacteriological Indicator	Water	Universiti Malaya (UM)	26 January 1989 Department of Environment, Kuala Lumpur
2. Course on Environmental Impact Assessment	Environment	WHO/PEPAS	27 February - 4 March 1989 Department of Environment, Kuala Lumpur
3. Workshop on Effective Presentation	Management	INTAN	14 - 17 March 1989 Department of Environment, Kuala Lumpur
4. Training Course on Communication Equipment Operation	Communication	MOFTEK SDN.BHD.	4 - 6 April 1989 Department of Environment, Kuala Lumpur
5. 3rd Training Course on Industrial Waste Water Monitoring	Water	UPM	22 - 27 May 1989 Universiti Pertanian Malaysia, Serdang, Selangor
6. Seminar on Science, Technology and Quality of Life	Science and Technology	Malaysian Association of Engineers (MAE)	15 August, 1989 Putra World Trade Centre, Kuala Lumpur
7. Course on Environmental Impact Assessment (EIA)	Environment	CETDEM	25 - 28 September, 1989 Grand Continental Hotel, Kuala Lumpur
8. Workshop on Disciplinary Action	Information	Public Services Department	18 - 21 December 1989 Air Keroh Country Resort, Melaka

Abbreviation:

CETDEM - Centre for Environment, Technology and Development, Malaysia

INTAN - National Institute for Public Administration

PEPAS - Western Pacific Regional Centre for the Promotion of Environmental Planning and Applied Studies

UPM - Universiti Pertanian Malaysia

WHO - World Health Organisation

Table 9.5

Department of Environment: Lectures by Guest Lecturers, 1989

Title	Lecturer	Date
1. Nuclear Tracer Application in Ground Water Pollution	Dr. W.Drost	25 February, 1989
2. Emergency Planning for Chemical Industries in Malaysia	Mr. Peter Yates	8 April, 1989
3. Time Value of Money	Ir. Chan Boon Teik	24 June, 1989
4. Oil Pollution Control Equipment	Mr. Steven Hobkinson	9 August, 1989
5. Toxic and Hazardous Waste Management	Messrs. I.Kruger	21 October, 1989

CHAPTER 10
INTERNATIONAL AND REGIONAL AFFAIRS

INTERNATIONAL AND REGIONAL AFFAIRS

Introduction

With growing prominence of environmental issues on the global front, the functions of this unit have correspondingly increased, making it one of the most active units of the Development and Planning Section.

The tasks of the International and Regional Affairs Unit encompass interaction with international/regional bodies, the foremost being UNEP, ASEAN and bilateral/dialogue partners co-operating in different areas, eg. marine environment. In addition, worldwide networks such as INFOTERRA, IRPTC and GEMS continued to be participated in throughout 1989.

International Co-operation

United Nations Environment Programme (UNEP)

As a focal point of UNEP, the Department of Environment was involved in the following activities:

i) Implementing a project on Socio-Economic Impacts and Policy Responses Resulting from Climate Change. A second meeting of the Project Steering Committee was held in Kuala Lumpur on 24-26 January, 1989 to discuss the progress and problems faced by the project team. Another meeting was then held on 14-15 April, 1989 in Bangkok, Thailand to review the consultancy services for the project.

ii) Attending meetings on global issues including:

a) Ad Hoc Working Group on Legal and Technical Experts with a Mandate to Prepare a Global Convention on the Control of Transboundary Movement of Hazardous Wastes, 30 January - 3 February, 1989, Luxembourg;

b) lst Meeting on Montreal Protocol and Vienna Convention, 25 April - 5 May, 1989, Helsinki;

c) 15th Session of Governing Council of UNEP, 15-19 May, 1989, Nairobi, Kenya;

d) Ad Hoc Working Group on Montreal Protocol, 18-22 September, 1989, Geneva.

As a result of the meetings on the Montreal Protocol and Vienna Convention mentioned above, the Secretary-General of the United Nations had confirmed on 4 September, 1989 the deposit, on 29 August, 1989 of the instruments of accession by the Government of Malaysia to the following Convention and Protocol:

Vienna Convention for the Protection of the Ozone Layer, concluded at Vienna on 22 March, 1985.

Montreal Protocol on Substances that Deplete the Ozone Layer, concluded at Montreal on 16 September, 1987.

In accordance with their respective articles 17(3) and 16(3), the Convention and the Protocol will enter into force for Malaysia on 27 November, 1989, i.e. the ninetieth day after the date of the deposit of the above-mentioned instruments.

iii) Continuing to provide INFOTERRA services. During the year, the number of INFOTERRA queries processed has increased from 14 in 1988 to 27.

The National Focal Point has received queries from Australia, Federal Republic of Germany, Canada, Nepal, Thailand and INFOTERRA PAC in Nairobi. For domestic queries, the users came largely from the department staff and a small number from other government departments and institutions. The diagrammatical breakdown of INFOTERRA services in terms of user and subject distribution are as illustrated in Figures 8.3 & 8.4 of Chapter 8 on Environmental Education and Information.

To publicise the services of INFOTERRA, brochures were widely circulated to agencies, universities, institutions, libraries, schools and non-governmental organisations. A presentation on INFOTERRA was held as part of the department's weekly colloquium programme to inform and to increase the awareness of this worldwide information network.

Through 1989, the information services provided by INFOTERRA have assisted in the reviewing of several EIA Reports, namely on Reformate Plant and Chloro-Alkali Plant, formulation of marine quality criteria and standards, and in groundwater monitoring, data collection and interpretation.

The Malaysian NFP for INFOTERRA participated in the world-wide conference on environmental information exchange in the 1990s - INFOTERRA 3 which was held in Moscow, USSR on 13-18 March, 1989.

It was attended by 120 participants from INFOTERRA NFPs, officials from INFOTERRA PAC in Nairobi and representatives from various international bodies. The main objectives of this meeting were to discuss the strategies for further development of environmental information exchange - INFOTERRA in the 1990s to the year 2000. The NFP from New Zealand, on behalf of the Regional Service Centre for South-eastern Region gave a brief account of the development of INFOTERRA in Malaysia. About 32 recommendations were formulated and adopted at the concluding session of this meeting.

iv) Continuing to develop and disseminate information under the International Register of Potentially Toxic Chemicals (IRPTC). The National Correspondent operates a query-response service and provides on request information on chemicals using information available from documentations and data profiles from UNEP/IRPTC, and other international organisations.

In 1989, 32 requests for information on chemicals were received and processed. The National Correspondent also established a reference section on chemicals to assist the query-response activity. These references were made available to all interested users and are placed in the Department's library. A bibliographic listing of the references were also circulated to relevant departments and agencies including universities and research institutions.

The Department is also the national authority for co-ordinating the implementation of the London Guidelines for the Exchange of Information on Chemicals in International Trade. In 1989, 15 notifications on control actions on chemicals were received from five countries. 26 notifications of export of chemicals restricted in the country of origin were also received by the Department. Appendix 10.1 details the notification of control action received by the Department in 1989.

The Ad Hoc Working Group of Experts on Prior-Informed-Consent (PIC) and

Other Modalities to Supplement the London Guidelines held its second meeting in New York, from 13-17 February, 1989 to consider and agree upon recommendations for incorporating the PIC modality into the London Guidelines.

Subsequently, at the UNEP Governing Council in May 1989, the London Guidelines were amended to incorporate PIC for the continued importation/exportation of chemicals which have been banned or severely restricted.

United Nations Educational, Scientific and Cultural Organisation (UNESCO)

In Malaysia, the focal point of UNESCO is the Ministry of Education. However, the following courses organised by UNESCO were attended by officers from the Department of Environment:

i) Regional Training Course on Microcomputer-Based Application of Statistical Programme and Packages for Environmental Scientists, 17 April - 15 May, 1989, Indonesia;

ii) Advanced Training Course in Mesocosm, 1-21 December, 1989, Xiamen, China.

Intergovernmental Oceanographic Organisations (IOC)/WESTPAC

The Intergovernmental Oceanographic Organisation (IOC) was founded in 1960, established as a body with functional autonomy within the United Nations Educational, Scientific and Cultural Organisation (UNESCO). In 1989, the Department received sponsorship to attend the following courses organised by IOC:

i) IOC Advanced Training Course on Continental Shelf Structure, Sediments and Resources, 1-15 October, 1989, Manila, Philippines;

ii) IOMAC-IOC Training Programme in Marine Affairs, 15 October - 21 December, 1989, Cairo, Egypt.

International Maritime Organisation (IMO)

In an effort to draw up a national Master Plan for Marine Environmental Protection, the work required had been identified by the Department of Environment and technical assistance sought from the IMO, to which the latter had agreed in principle to despatch the requested personnel. On works to ratify the Civil Liability Convention (CLC) by the Ministry of Transport, the Department participated by providing the necessary input during the year. As for the International Oil Pollution Compensation (IOPC) Fund, the Department had solicited responses from the petroleum and insurance industries, from whom the feedback has been rather slow.

***Commonwealth Heads of Government Meeting* (CHOGM)**

The Department of Environment was actively involved during the preparations of the Commonwealth Heads of Government Meeting (CHOGM), held in Kuala Lumpur from 18-24 October, 1989 in particular during the drafting of the Langkawi Declaration. The meeting was attended by the Heads of Government or their representatives from 47 commonwealth countries. The meeting emphasised the need for a balanced perspective where responsibility for a sound environment is equitably shared, between the rich and the poor nations. The ability of poor countries to make changes was also taken into account. The Langkawi Declaration on the Environment was adopted during the delegates retreat in Langkawi on 21 October, 1989.

Commonwealth Science Council (CSC)

The Commonwealth Science Council through its Secretariat's Science Management and Organisation (SMO) Programme, convened a Meeting of Experts from Commonwealth Countries including the United Kingdom, Ghana, Guyana, India, Malaysia, Mauritius, Nigeria and Zimbabwe in London on 9-13

January, 1989. The meeting was sponsored by the Commonwealth Project on Strategic Management and Planning of Science and Technology (COMMANSAT) and the initial funding of the project came from the UK Overseas Development Administration (ODA).

Under this CSC/COMMANSAT/UK/ODA Project on Institutional Development for Environmental Action (IDEA), Malaysia proposed a case study entitled "An Innovative Co-operative Arrangement for the Establishment of Common Wastewater Treatment Facilities for Small Metal Finishing Industries".

A meeting was organised in February 1989, to seek responses from 54 operators of metal finishing industries and other government agencies, namely MIDA, Klang Valley Planning Secretariat, DBKL, Selangor State Secretariat as well as SIRIM. This was followed by a wastewater survey conducted in the premises of identified metal finishing facilities in the Klang Valley.

Malaysia hosted the second Project Meeting which was convened in September 1989 in Kuala Lumpur. Project leaders from other participating countries were present to review the tasks carried out during Phase I of the project to identify priority tasks for Phase 2 of the project.

Regional Co-operation

ASEAN Experts Group on Environment (AEGE)

An ASEAN Experts Group on Environment was established in 1978 under the ASEAN Committee on Science and Technology as a forum to deal with environmental matters of the region. The Department of Environment as the Malaysian focal point of AEGE was involved in the following:

i) The 12th meeting of AEGE, 17-20 June, 1989, Brunei Darussalam;

ii) Project on Anti-Pollution Technology Development of an Anti-Pollution Woodwaste Burner, a Malaysian Project;

iii) A project on Technology Transfer in the Treatment of Effluent from Rubber and Palm Oil Industries, also a Malaysian project;

iv) A workshop on Control of Vehicular Emission in the ASEAN Region, 4-8 December, 1989, Singapore.

ASEAN-Co-operative Programmes on Marine Science

The ASEAN Subcommittee on Marine Science (formerly known as ASEAN Working Group on Marine Science), established in 1978, is co-ordinating and implementing three major co-operative programmes, namely: ASEAN-Australia Project on Tides and Tidal Phenomena (TTP) (Phase II referred to as Regional Ocean Dynamics) and Coastal Living Resources; ASEAN-Canada Programme on The Establishment of Environmental Criteria for the Development and Management of Marine Living Resources and Human Health Protection, and the ASEAN-US Coastal Resource Management Project (CRMP).

The main objectives of these regional programmes are, amongst others, to establish a co-operative, collaborative and co-ordinative research effort in the utilisation and management of marine and coastal resources; to strengthen ASEAN capabilities in terms of manpower and research facilities and to exchange and disseminate information within the region. These objectives concur with our national objectives for science and technology as outlined in the Fifth Malaysia Plan 1986-1990, inter alia to improve research and development planning co-ordination and implementation to enhance the capability of science, technology, and manpower, and to extend the results of research and development for national and international development.

In 1989, the Department of Environment continued being the secretariat of the National ASEAN Subcommittee on Marine Science that is responsible for the co-ordination of the three on-going co-operative programmes. These programmes are in turn being

implemented by the relevant agencies in the country as follows:

Programme	Lead Country	National Implementing Agency
1. ASEAN-Australia		
a) Regional Ocean Dynamics (Phase II of TTP)	**Singapore**	**Royal Malaysia Navy**
b) Coastal Living Resource	**Thailand**	**National Environment Board**
2. ASEAN-Canada	**Malaysia**	**Department of Environment**
3. ASEAN-USAID	**Philippines**	**Department of Fisheries**

1. ASEAN-Australia Co-operative Programme on Marine Science (AACPMS)

(i) Project I: Tides and Tidal Phenomena/ Regional Ocean Dynamics:

The main objective of this project is to develop regional co-operative studies involving observation and research of tides and tidal characteristics in the ASEAN region. Output of this activity will benefit maritime interests including navigation, oil-slick prediction and coastal infrastructure development.

Phase I of the project, initiated in 1984 was completed in June 1989. Phase II of the Project (referred to as Regional Ocean Dynamics), started in July 1989 and continues for the next three years to observe and collect tidal data at 23 tide gauges previously installed during Phase I in five participating ASEAN countries. Of these 24 tide gauges, five were allocated to Malaysia, i.e. at Pulau Lakei (Sarawak), Sandakan, Labuan, and Terumbu Layang-Layang (Sabah), and Tapis Alpha (off Terengganu). In addition, tidal data were also collected at 12 other existing stations located around Peninsular Malaysia.

ii) Project II: Coastal Living Resources:

The main objective of this project is to develop scientific and technical expertise within the ASEAN region in the understanding of coastal ecosystems so as to ensure the development of effective and long-term coastal resource management policies and capabilities.

As in Regional Ocean Dynamics project, Phase I of the Coastal Living Resources also started in July 1989; however, the duration is 5 years. The project comprises three components, conducted by the following institutions:

1. Mangrove Survey :	**Universiti Malaya and Universiti Sains Malaysia**
2. Coral Reef/Remote Sensing :	**Universiti Pertanian Malaysia**
3. Soft Bottom Communities Study :	**Universiti Kebangsaan Malaysia**

The main emphasis of Phase II of this project is to address the element of ecosystem stability and connectedness, remote sensing applications, utilising data and information gathered in Phase I.

2. ASEAN - Canada Co-operative Programme on Marine Science, Phase II.

The Phase II of the programme which is entitled 'Establishment of Environmental Criteria for the Development and Management of Living Marine Re-

sources and Human Health Protection' is intended to optimise the management and development of coastal resources while formulating criteria for the marine environment so as to provide environmental protection and to promote sosio-economic upliftment of the ASEAN community.

The project has been in the planning and management stage and is due for implementation in 1990. Three major areas of studies have been identified arising from the development of Phase I programmes. These are: 1) Marine Pollution and Baseline Studies; 2) Development of Tropical Marine Environmental Criteria; and 3) Investigation of Toxic Red Tides Leading to Toxicity of Shellfish and Marine Fauna Kills in the ASEAN region.

3. ASEAN-USAID Coastal Resource Management Project (CRMP)

This project which aims to assist ASEAN member countries in strengthening their capabilities to utilise their renewable resources on a sustainable basis, comprises two major components:

i) **Component I : Resources Assessment and Planning**

ii) **Component II : Training and Information Dissemination**

For the past three years, the project has shown significant achievement in terms of completion of most scheduled activities, training and information dissemination.

In Malaysia, the key component i.e the Resource Assessment Planning and Research in South Johor, a pilot site, had been completed with a detailed study on the various aspects of coastal elements, and has successfully drawn up Draft Management Plans for South Johor to cover the following:

- Coastal Forest
- Mangrove Forest
- Water Quality Management Scheme
- Coastal Erosion
- Sandmining
- Aquaculture
- Tourism Development, and
- Fisheries

Another major achievement for Malaysia with regard to this Project is the use of 'Geographical Information System' (GIS) as a tool in obtaining information on land-use pattern, to aid in developing a management plan.

Throughout 1989, Malaysia had participated in various activities under the co-operative Programme on Marine Science, as shown in Table 10.1

The Tripartite Technical Experts Group (TTEG) on the Safety of Navigation in the Straits of Malacca and Singapore/Revolving Fund Committee (RFC)

The TTEG which comprises technical expertise from three coastal states of Indonesia, Malaysia and Singapore, has the task of ensuring navigation safety in the Straits of Malacca. In association with the TTEG, a Revolving Fund Committee was set up in February 1981 to enable the three Governments to jointly or independently take immediate remedial action against oil pollution caused by ships in the Straits of Malacca. The fund which is administered on a 5-year rotational basis is currently being co-ordinated by Malaysia (1986-1990).

In 1989, the 10th Annual Meeting of RFC was held on 30 June-1 July, 1989 in Pulau Langkawi, Kedah. The meeting discussed the annual administrative and operational budget of 1989/90 and also endorsed the Proposed Joint Oil Spill Combating Exercises in the Straits of Malacca and Singapore, prior submission to the Malacca Straits Council of Japan for approval.

The Co-ordinating Body on the Seas of East Asia (COBSEA)

The Co-ordinating Body on the Seas of East Asia (COBSEA) comprising the ASEAN member countries was established at The Intergovernmental Meeting on the East Asian Seas in 1981. The Body has its general objectives in the assessment of the state of the marine environment and the protection, management and use of marine resources in the ASEAN region. In 1982, COBSEA in collaboration with UNEP, drew up the East Asian Seas Action Plan, a scientific programme involving research, prevention and control of marine pollution and monitoring in the regional seas surrounding the ASEAN region.

Since the establishment of the programme, Malaysia has participated in all the projects that had been implemented under this programme. Table 10.2 lists the status of the on-going projects. Malaysia had also taken the lead in implementing one of the on-going projects i.e: Project EAS 19: Development of Management Plan for Endangered Coastal and Marine Living Resources.

The UNEP/COBSEA Project EAS 19, implemented by the Department of Fisheries, Malaysia, had its first regional meeting of senior marine park managers from the ASEAN countries in Kuala Terengganu, 23 October -3 November, 1989. The meeting was to review and revise the training modules developed by the consultant to be subsequently tested by individual countries.

The Eighth COBSEA Meeting was held in Bandar Seri Begawan, Brunei Darussalam from 14-16 June, 1989. The meeting, besides reviewing the progress of the on-going projects, also agreed to reappraise and revise the existing East Asian Seas Action Plan in view of the many developments in the past decade on matters pertaining to the environment.

During the year, Malaysia had also participated in the following related activities:

i) Third Meeting of Experts on the East Asian Seas Action Plan, 7-10 February, 1989, Manila, Philippines;

ii) Workshop on the Methodologies of Assessment of Pollution from Land-Based Sources, 25-27 January, 1989, Singapore;

iii) UNEP/ASEAN-US Management & Training Workshop on Pyrodinium Red Tides, 23-30 May, 1989, Bandar Seri Begawan, Brunei Darussalam;

iv) UNEP/COBSEA Project EAS 16: National Training Workshop on Trace Metal Analysis, 4-8 July, 1989, Kuala Lumpur.

The Department of Environment continues to monitor and co-ordinate as well as to review the progress of all the projects implemented under the Action Plan.

Bilateral Co-operation and Assistance

The Department of Environment received technical assistance from foreign countries under the various bilateral co-operation and assistance programmes. The following countries rendered the technical assistance in the form of sponsorships to attend workshops/seminars/courses, study tours as follows:

Belgium

Training Course on Environmental Assessment and Management Aspects of Air and Water Pollution from Industry, 7 August - 15 September, 1989, Belgium.

Canada

Training Course in Remote Sensing, 15 February - 15 March, 1989, Vancouver; and

Seminar on Environmental Management Needs and the New Resource

Mapping Technologies, 13-17 December, 1989, Ottawa.

Japan

Environmental Engineering Course (Air Pollution Control), 26 January - 16 March, 1989, Japan;

Training Course on Recycle Technology of Industrial Waste and Waste Water, 27 November 1989 - 16 February, 1990, Japan; and

Training Course on Industrial Pollution Control, 29 May - 23 June, 1989, Japan.

Netherlands

Environmental Technology Exhibition, 6-8 March, 1989, Taiwan.

United Kingdom

The 3rd Intensive Training Course on Environmental Impact Assessment, 2 July - 22 September, 1989, Aberdeen, Scotland.

USSR

International Training Course on Environment Management for Industrial Managers and Engineers, 11 October - 15 November, 1989, Moscow.

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Participants of the Second National Workshop on Tides and Tidal Phenomena, under the ASEAN-Australia Co-operative Programme on Marine Science, 12 June, 1989

INTERNATIONAL MEETINGS

Table 10.1

Malaysia: Activities under the ASEAN Co-operative Programmes on Marine Science, 1989

Date	Title	Venue
4-6 January, 1989	The National Workshop on ASEAN-Australia Project on Coastal Living Resources	Genting Highlands, Malaysia
23-24 January, 1989	The 6th Meeting of Project Management Committee (PMC) of ASEAN-Australia Project on Tides and Tidal Phenomena	Manila, Philippines
23-24 January, 1989	The 6th Meeting of Project Management Committee of ASEAN-Australia Project on Coastal Living Resources	Manila, Philippines
25-27 January, 1989	The 5th Project Steering Committee Meeting of ASEAN-USAID CRMP	Manila, Philippines
30 Jan-1 Feb, 1989	The ASEAN-Australia Regional Workshop on Data Compilation for Coastal Living Resources	Manila, Philippines
2-4 February, 1989	The ASEAN-Australia Symposium on Coastal Living Resources	Manila, Philippines
28 Feb-2 Mar,1989	The 3rd In-Country Workshop on ASEAN-USAID Coastal Resource Management Project	Genting Highlands, Malaysia
23-30 May, 1989	The ASEAN-US Management and Training Workshop on Pyrodinium Red Tides	Bandar Seri Begawan, Brunei Darussalam
31 May-2 June, 1989	The Planning and Management Meeting of ASEAN-Canada CPMS Phase II	Melaka, Malaysia
12-13 June, 1989	The Second National Workshop on Tides and Tidal Phenomena	Kuala Terengganu, Malaysia
14-16 June, 1989	The 7th Meeting of PMC of ASEAN-Australia Project on Tides and Tidal Phenomena	Kuala Terengganu, Malaysia
23-25 July, 1989	Special PMC Meeting of ASEAN-Australia Project on Coastal Living Resources	Singapore
25-26 July, 1989	Special PMC Meeting of ASEAN-Australia Project on Tides and Tidal Phenomena	Singapore
28-30 Nov, 1989	The Planning and Management Meeting of ASEAN-Australia Project on Tides and Tidal Phenomena (Regional Ocean Dynamics) Phase II	Pattaya, Thailand

Table 10.2

Malaysia: Status of Activities Implemented under the Co-ordinating Body on the Seas of East Asia (COBSEA), 1989

Activity	Status	Malaysia's Responsibility
1. EAS 16: Assessment of Concentration Levels and Trends of Non-Oil Pollutants and Their Effects on the Marine Environment in the East Asian Region	Completed	Implementing Agency: * Fisheries Research Institute, Penang * Chemistry Department
2. EAS 19: Development of Management Plan for Endangered Coastal and Marine Living Resources: Training Phase	On-going and expected to complete in June, 1990	Implementing Agency: * Fisheries Department
3. EAS 21: Assessment of Land-based, Urban, Industrial and Agricultural Sources of Pollution, Their Environmental Impact and Development of Recommendations for Possible Control Measures	Completed in 1989	Implementing Agency: * Department of Environment
4. EAS 20: Establishment and Management of Marine Database and Information	Continuing until 1990	Implementing Agency: * Department of Environment
5. EAS 23: Oil Pollution Control in the East Asian Seas Region: "Umbrella" Project; consisting of the following components: i) Oceanographic Features of the EAS (Phase I Development of Oil Spill) ii) Survey and Monitoring of Oil Pollution in the EAS Region (Phase I Tar Ball Monitoring) iii) Oil Spill Contingency Planning	Planned for implementation in 1989-1990	Implementing Agency: * Meteorological Services Department * Universiti Pertanian Malaysia (UPM) * Universiti Teknologi Malaysia (UTM)

APPENDIX

APPENDIX 6.1

LIST OF REGULATIONS AND ORDERS ENFORCED BY THE DEPARTMENT OF ENVIRONMENT

No.	Regulations/Order	P.U.(A)	Effective Date of Enforcement
1.	Environmental Quality (Prescribed Premises)(Crude Palm Oil) Order 1977	199	1 July, 1978
2.	Environmental Quality (Prescribed Premises)(Crude Palm Oil) Regulations 1977 Amendment (1982)	342	4 November, 1977
3.	Environmental Quality (Licensing) Regulations 1977	198	1 October, 1977
4.	Motor Vehicle (Control of Smoke and Gas Emissions) Rules 1977 (made under the Road Traffic Ordinance, 1958)	414	22 December, 1977
5.	Environmental Quality (Prescribed Premises)(Raw Natural Rubber) (Amendment) Order 1978	337	1 April, 1979
6.	Environmental Quality (Prescribed Premises)(Raw Natural Rubber) Regulations 1978 Amendment (1980)	338	1 December, 1978
7.	Environmental Quality (Clean Air) Regulations 1978	280	1 October, 1978
8.	Environmental Quality (Compounding of Offences) Regulations 1978	281	1 October, 1978
9.	Environmental Quality (Sewage and Industrial Effluents) Regulations, 1979	12	1 January, 1979
10.	Environmental Quality (Control of Lead Concentration in Motor Gasoline) Regulations 1985	296	11 July, 1985
11.	Environmental Quality (Motor Vehicle Noise) Regulations 1987	244	16 July, 1987

No.	Regulation/Order	P.U.(A)	Effective Date of Enforcement
12.	Environmental Quality (Prescribed Activities)(Environmental Impact Assessment) Order 1987.	362	1 April, 1988
13.	Environmental Quality (Scheduled Wastes) Regulations 1989.	139	1 May, 1989
14.	Environmental Quality (Prescribed Premises)(Scheduled Wastes Treatment and Disposal Facilities) Order 1989	140	1 May, 1989
15.	Environmental Quality (Prescribed Premises)(Scheduled Wastes Treatment and Disposal Facilities) Regulations 1989.	141	1 May, 1989

Appendix 7.1

LISTS OF SCHEDULED WASTES UNDER THE ENVIRONMENTAL QUALITY (SCHEDULED WASTES) REGULATIONS 1989

SCHEDULED WASTES FROM NON SPECIFIC SOURCES

1. Mineral oil and oil contaminated waste

   NO11 Spent oil or grease used for lubricating industrial machines

   NO12 Spent hydraulic oil from machines, including plastic injection moulding machines, turbines and die-casting machines

   NO13 Spent oil-water emulsion used as coolants

   NO14 Oil tanker sludges

   NO15 Oil-water mixture such as ballast water

   NO16 Sludge from oil storage tank

2. Waste containing polychlorinated biphenyls (PCB) or polychlorinated triphenyls (PCT)

   NO21 Spent oil contaminated with PCB or PCT

   NO22 Discarded electrical equipment or parts containing or contaminated with PCB or PCT

   NO23 Containers contaminated with PCB or PCT

3. Spent organic solvents containing halogen or sulphur, including methylene chloride, 1,1,1, trichloroethane, perchloroethylene and dimethyl sulphide

   NO31 Spent halogenated solvents from cleaning and degreasing processes

4. Spent aromatic organic solvents without containing compounds of organic halogen or sulphur, including toluene, xylene, turpentine and kerosene

   NO41 Spent aromatic organic solvents from washing, cleaning or degreasing processes

5. Spent non-aromatic organic solvents without containing compounds of organic halogen or sulphur, including acetone, ketones, alcohols, cleansing-benzene and dimethyl formamide

   NO51 Spent non-aromatic organic solvents from washing, cleaning or degreasing processes

6. Residues from recovery of halogenated solvents, may contain oil, fat and solvents

NO61 Residues from recovery of halogenated solvents

7. Residues from recovery of non-halogenated solvents, may contain oil, fat and solvents

NO71 Residues from recovery of non-halogenated solvents

8. Spent organometallic compounds may be mixed with benzene excluding mercury compounds

NO81 Residues of organometallic compounds, including tetraethyl lead, tetramethyl lead and organotin compounds from mixing process of anti-knock compound with gasoline

9. Flux wastes, may contain mixture of organic acids, solvents or compounds of ammonium chloride

NO91 Flux wastes from fluxing bath of metal treatment processes

10. Spent aqueous alkaline solutions not containing cyanide, may contain heavy metals

N101 Spent aqueous alkaline solutions from treatment process of metal or plastic surfaces

N102 Spent aqueous alkaline solutions from bleaching process of textile materials

11. Spent aqueous alkaline solutions containing cyanide, may contain heavy metals

N111 Spent aqueous alkaline solution containing cyanide from treatment process of metal or plastic surfaces

12. Spent aqueous chromic acid solutions

N121 Spent aqueous chromic acid solutions from treatment process of metal or plastic surfaces

N122 Spent aqueous chromic acid solution from leather tannery processes

13. Spent aqueous inorganic acid solutions other than spent chromic acid solutions, may contain heavy metals

N131 Spent aqueous acid solutions from treatment process of metal or plastic surfaces

N132 Spent aqueous inorganic acid solutions from industrial equipment cleaning

14. Spent aqueous or discarded photographic waste from film processing or plates making

N141 Spent aqueous or discarded photographic waste from film processing or plates making

15. Metal hydroxide sludges containing one or several metals, including chromium, copper, nickel, zinc, lead, cadmium, aluminium and tin

N151 Metal hydroxide sludges from wastewater treatment system

16. Plating bath sludges containing cyanide

N161 Plating bath sludges containing cyanide from metal finishing processes

17. Spent salt containing cyanide

N171 Spent salt containing cyanide from heat treatment process

18. Sludges of inks, paints, pigments, lacquer with or without organic solvent

N181 Paint sludges from solvent recovery of solvent-based paint waste

N182 Ink sludges from solvent recovery of solvent-based ink waste

N183 Lacquer sludges from solvent recovery of solvent-based lacquer waste

N184 Paint sludges from paint wastewater treatment system

N185 Ink sludges from ink wastewater treatment system

N186 Pigment sludges from pigment wastewater treatment system

19. Wastes of printing ink, paint, pigment, lacquer or varnish containing organic solvents

N191 Discarded or off specification ink, pigment and paint products

20. Sludges, dust, slag, dross and ashes, may contain oxides or sulphate of one or several metals, including lead, cadmium, copper, zinc, chromium, nickel, iron, vanadium and aluminium

N201 Dross, slag, ash, dust from metal smelting process or dust emission control system

N202 Dross from soldering process

N203 Residues from recovery of acid pickling liquor

N204 Oxide or sulphate sludges from wastewater treatment system

21. Spent or discarded strong acids or alkalis

N211 Spent or discarded acid of pH less or equal to 2

N212 Spent or discarded alkali of pH greater or equal to 12.5

22. Spent oxidizing agents

N221 Spent oxidizing agent

23. Contaminated soil, water, debris or matter resulting from clean-up of a spill of chemical or scheduled waste

N231 Contaminated soil, water debris or matter resulting from clean-up of a spill of chemical or scheduled waste

24. Immobilized scheduled wastes, including chemically fixed or encapsulated sludges

N241 Immobilized scheduled wastes

25. Discarded drugs except living vaccines and euphoric compounds

N251 Discarded drugs except living vaccines and euphoric compounds

26. Pathogenic and clinical wastes and quarantined materials

N261 Pathogenic and clinical wastes and quarantined materials

27. Containers and bags containing hazardous residues

N271 Used containers or bags contaminated with cyanide, arsenic, chromium or lead compound or salts

28. Mixtures of scheduled wastes

N281 A mixture of scheduled wastes

N282 A mixture of scheduled and non-scheduled wastes

SCHEDULED WASTES FROM SPECIFIC SOURCES

1. Mineral oil and oil contaminated waste

   SO11 Waste oil or oily sludge from wastewater treatment plant of oil refinery or crude oil terminal

   SO12 Oily residue from automotive workshop or service station oil or grease interceptor

   SO13 Oil contaminated earth from re-refining of used lubricating oil

   SO14 Oil or sludge from oil refinery maintenance operation

2. Tar or tarry residues from oil refinery or petrochemical plant

   SO21 Tar or tarry residues from oil refinery or petrochemical plant

3. Wastes of printing ink, paint, pigment, lacquer, varnish or wood preservative containing organic solvents

   SO31 Ink waste from washing of reaction tank or container of ink manufacturing plant

   SO32 Paint waste from washing of reaction tank or container of paint manufacturing plant

   SO33 Pigment waste from washing of reaction tank or container of pigment manufacturing plant

   SO34 Lacquer or varnish waste from washing of reaction tank or container of lacquer or varnish manufacturing plant

4. Clinker, slag and ashes from scheduled wastes incinerator

   SO41 Clinker, slag and ashes from scheduled wastes incinerator

5. Waste of printing ink, pigment, paint, or lacquer without containing solvents

   SO51 Water-based paint waste from the washing of reaction tank or container of paint manufacturing plant

   SO52 Water-based ink waste from the washing of reaction tank or container of ink manufacturing plant

   SO53 Water-based pigment waste from the washing of reaction tank or container of pigment manufacturing plant

   SO54 Ink waste from the washing or cleansing of printing machine of printing works

SO55 Pigment waste from tile works and hat manufacturing plant

SO56 Paint waste from the paint spraying or dipping process of metal works, motor vehicle assembly plant or electrical appliances manufacturing plant

6. Spent tars or anticorrosion oils

SO61 Anticorrosion oil or tar residue from the sealing or spraying or coating processes of motor vehicle assembly plant or automotive workshop

7. Spent ethylene glycol

SO71 Contaminated ethylene glycol from gas processing plant

SO72 Unhardened ethylene glycol from polyester manufacturing plant

8. Wastes containing phenol or formaldehyde

SO81 Phenol or formaldehyde waste from the washing of reaction or mixing tank of adhesive or glue or resin manufacturing plant

SO82 Sludges containing phenol or formaldehyde from the wastewater treatment system of adhesive or glue or resin manufacturing plant

9. Residues of isocyanate compounds, excluding solid polymeric materials

SO91 Residues of isocyanate compounds from foam manufacturing process

10. Adhesive or glue waste may contain organic solvents, excluding solid polymeric materials

S101 Off-specification adhesive or glue products from adhesive or glue manufacturing plant

S102 Effluent from washing of the reaction or processing tank of adhesive or glue manufacturing plant

11. Uncured resin waste, may contain organic solvents or heavy metals including epoxy resin, phenolic resin

S111 Uncured resin residues from electronic or semiconductor, electrical appliances, fibreglass manufacturing plants and metal works

S112 Effluent from washing of reactor of resin manufacturing plant

S113 Resin sludge from wastewater treatment system of resin manufacturing plant

12. Latex effluent, rubber or latex sludges containing organic solvents or heavy metals

S121 Rubber or latex sludge containing heavy metals from the wastewater treatment system of rubber products manufacturing plant

S122 Rubber or latex sludge containing organic solvents from rubber products manufacturing plant

S123 Latex effluent from rubber products manufacturing plants

13. Sludges from the re-refining of used oil products including oily sludges containing acid or lead compound

S131 Acid sludge from the re-refining of used lubricating oil

14. Sludges containing fluoride

S141 Sludges containing fluoride from the wastewater treatment system of electronic or semiconductor manufacturing plant

15. Mineral sludges, including calcium hydroxide sludges, phosphating sludges, calcium sulphite and carbonates sludges

S151 Sludges from phosphating process of motor vehicle assembly, air-conditioning, electrical appliances and electronic or semiconductor plants

S152 Sludges from wastewater treatment system of plant producing ceramic or tiles, industrial gas and bleaching earth

16. Asbestos wastes

S161 Asbestos sludges from wastewater treatment system of asbestos/cement products manufacturing plant

S162 Asbestos dusts or loose asbestos fibre wastes from asbestos/cement products manufacturing plant

S163 Empty bags or sack containing loose asbestos fibres from asbestos/cement products manufacturing plant

17. Wastes from the production, formulation and trade of pesticides; including herbicides, insecticides, rodenticides and fungicides

S171 Dust from air emission control equipment of pesticides formulation plant

S172 Sludges from wastewater treatment system of pesticides formulation plant

S173 Residues from filtering process of intermediate products at pesticides formulation plant

S174 Waste from washing of reaction tank or mixing tank and spillages at pesticides formulation plant

S175 Solid residues resulting from stamping process of mosquito coil production plant

S176 Off-specification products from pesticides formulation plant and trade of pesticides

S177 Waste from the production of pesticides

18. Press cake from pretreatment of glycerol soap lye

S181 Press cake from pretreatment of glycerol soap lye from detergent or soap or toiletries plants

19. Wastes containing dye

S191 Wastewater containing dye from textile manufacturing plant

20. Wastes from wood preserving operation using inorganic salts containing copper, chromium as well as arsenic of fluoride compounds or using compound containing chlorinated phenol or creosote

S201 Wastes from wood preserving operation using inorganic salts containing copper, chromium and arsenic of fluoride compounds or using compound containing chlorinated phenol or creosote

21. Mercury wastes, containing metallic mercury, organic and inorganic mercury compounds

S211 Mercury waste containing metallic mercury from manufacturing of fluorescent lamps

S212 Activated carbon waste containing mercury from hydrogen gas purification process

S213 Mercury bearing sludges from brine treatment and mercury bearing brine purification muds from chlorine production plant

22. Arsenic wastes from the purification process of phosphoric acid

S221 Arsenic waste from the purification process of phosphoric acid plant

23. Spent catalysts

S231 Spent industrial catalysts from chemical plant and plant manufacturing detergent or soap or toiletries

24. Leachate from scheduled waste landfills

S241 Leachate from scheduled waste landfill

25. Rags, papers, plastics, or filters contaminated with organic solvents

S251 Rags, plastics, papers or filters contaminated with paint or ink or organic solvent from motor vehicle assembly plants, metal works, electronic or semiconductor plants and printing or packaging plants

26. Containers and bags containing hazardous residues

S261 Used containers or bags contaminated with residues of raw materials and products of pesticides formulation plant

27. Discarded or off-specification batteries containing lead, mercury, nickel and lithium

S271 Discarded or off-specification batteries from battery manufacturing plant

28. Pharmaceutical wastes

S281 Wastewater from washing of reaction vessels and floors of pharmaceutical products manufacturing plant

29. Spent aqueous inorganic acid solution

S291 Wastewater from acid and battery manufacturing plant

30. Waste from manufacturing or processing or use of explosives

S301 Waste from manufacturing or processing or use of explosives

APPENDIX 9.1
LIST OF OFFICERS ATTENDING LONG-TERM COURSES, 1989

Name	Title of Course	Venue	Date	Sponsor
Abu Hassan Mohd. Isa	Post Graduate Diploma Course (Environmental Science and Technology)	Netherlands	19/10/89-9/9/90	GOVT. OF NETHERLAND PSD
Dalilah Dali	Industrial Pollution Control Practice	Japan	2/10/89-2/2/90	COLOMBO PLAN/JICA/ PSD
Hanili Ghazali	Air Pollution Control	Japan	13/11/89-26/2/90	COLOMBO PLAN/JICA/ PSD
Hashim Daud	Master of Science (Environmental Management)	United Kingdom	19/9/89-18/9/90	COLOMBO PLAN/U.K./ PSD
Muslina Sulaiman	Remote Sensing Training Course for Environmental Resources Development and Management	Thailand	4/9-15/12/89	CDG/AIT/PSD
Norhayati Mustapha	Attachment Training	Malaysian Oxygen Bhd.	5/6-18/11/89	BRITISH MALAYSIAN INDUSTRY & TRADE ASSOCIATION (BMITA)/PSD
Saari Che Lah	Air Pollution Control	Japan	13/11/89-26/2/90	COLOMBO PLAN/JICA/ PSD

APPENDIX 9.2
LIST OF OVERSEAS SEMINARS ATTENDED BY THE DEPARTMENT OF ENVIRONMENT OFFICERS, 1989

Name	Title of Seminar	Venue	Date	Sponsor
Ahmad Kamarulnajuib Che Ibrahim	Fourth International Symposium on River Sedimentation	China	1-8/11/89	UNDP
Ainon Zakiah Zakaria	IATSS Forum Oct-Dec 1989	Japan	3/10-17/12/89	IATSS
Ajis Hamjah	Second Regional Seminar on the Application of Environmental Impact Analysis in Appraisal of Development Projects	Bandung	21/11-1/12/89	UNEP
Charanpal Singh K.S.	Second Regional Seminar on the Application of Environmental Impact Analysis in Appraisal of Development Projects	Bandung	21/11-1/12/89	UNEP
Halimah Hassan	Ad Hoc Working Group of Experts on Prior-Informed-Consent and Other Modalities to Supplement the London Guidelines for the Exchange of Information on Chemicals in International Trade	New York	13-17/2/89	UNEP
Mohamad Ishak Thani	Environmental Technology Exhibition	Taiwan	6-8/3/89	NETHERLAND GOVT.
Norlin Jaafar	World Conference on Environmental Information Exchange in the 1990's (INFOTERRA)	Moscow	13-18/3/89	UNEP
Peter Ho Yueh Chuen	Symposium on Environmental Perspectives Towards the Year 2000 & Beyond and Workshop on Clean Technology	Bangkok	6-10/11/89	CDG-SEAPO/ AIT
Rahani Husin	Pacific Basin Conference on Hazardous Waste	Singapore	2-7/4/89	APPLIED RESEARCH CO.
Tan Meng Leng	Conference on Transboundary Movements of Hazardous Waste	Basel	12-24/3/89	UNEP
Tan Meng Leng	Senior Level Asia and Pacific Seminar for the Protection of Ozone Layer	Tokyo	31/5-2/6/89	UNEP
T.Bakry Shah T.Johan	Seminar on Water Quality Data Management	Chiangmai	11-13/12/89	IDRC
W. Ramlah W. Ibrahim	Seminar on New Resource Mapping Technology	Ottawa	13-17/2/89	CANADIAN GOVT.

APPENDIX 9.3
LIST OF OVERSEAS WORKSHOPS
ATTENDED BY THE DEPARTMENT OF ENVIRONMENT
OFFICERS, 1989

Name	Title of Workshop	Venue	Date	Sponsor
Abdul Rahman Shukor	Workshop on Treatment and Storage of Hazardous Wastes	Thailand	24-28/4/89	UNEP
Abu Bakar Jaafar (Dr)	United Nations Workshop on Oceanographic/Marine Space Information Systems	Pakistan	2-6/7/89	UNEP
Aminuddin Ishak	Workshop on Control of Vehicular Emission in the ASEAN Region	Singapore	4-8/12/89	SINGAPORE/ JICA
Ibrahim Abd. Majid	Workshop on Animal By-products Utilization for Developing Countries	Madras	6-20/3/89	CFTC
Mohamad Jaafar	The International Training Workshop on Risk Assessment & Management Principles and Application	Bangkok	4-8/12/89	UNDP
Mohd. Saru Hashim	Workshop on Control of Vehicular Emission in the ASEAN Region	Singapore	4-8/12/89	SINGAPORE/ JICA
Peter Ho Yueh Chuen	The Second Expert Group Workshop on River/Lake Basin, Approaches to Environmentally Sound Management of Water Resources	Bangkok	16-25/1/89	UNEP
Zulkifli Abdul Rahman	SEAPOL Workshop on Marine Pollution	Bangkok	7-10/5/89	SEAPOL

LIST OF OFFICERS ATTENDING OVERSEAS TRAINING COURSES, 1989

Name	Title of Training Course	Venue	Date	Sponsor
Abd. Hafiz Hj. Samad	International Training Course on Environment Management for Industrial Managers and Engineers	Moscow, USSR	11/10-15/11/89	USSR GOVT.
Abdul Rahim Shahid	Training Course on Disaster Management	Bangkok	16-24/10/89	AIT
Ab. Rahman Awang	Training Aspects of the Toxic Waste Programme	France	13/3-7/4/89	FRANCE GOVT.
Abu Hassan Isa	Course on Environmental Engineering (Air Pollution Control)	Japan	26/1-16/3/89	JICA
Ahmad Bakri Jamaluddin	Training Course on Industrial Pollution Control	Japan	29/5-23/6/89	APO/JICA
Ahmad Ibrahim Mohamad	Regional Training Course on Microcomputer Based Application of Statistical Programme and Packages for Environmental Scientist	Indonesia	17/4-5/5/89	UNESCO
Akbar Suratmat	Training Course on Industrial Pollution Control	Japan	29/5-23/6/89	APO/JICA
Choong Mei Chun	International Training Course on Environment Management for Industrial Managers and Engineers	Moscow, USSR	11/10-15/11/89	USSR GOVT.
Ismail Ithnin	Assessment of Land-Based Urban, Agricultural & Industrial Sources of Pollution, Environmental Impact & Development of Recommendation for Possible Control Measures	Singapore	25-27/1/89	COBSEA
Jamaludin Mahmud Abu Bakar	The Third Intensive Training Course on Environmental Impact Assessment	Aberdeen, U.K.	2/7-22/9/89	BRITISH COUNCIL
Jimat Bolhassan	Advanced Training Course in Mesocosm	Xiamen	1-21/12/89	UNESCO/IOC
Mahadi Nordin	Course on Recycle Technology of Industrial Waste & Waste Water	Japan	27/11-16/2/90	JICA

Appendix 9.4 (Continuation)

Name	Title of Training Course	Venue	Date	Sponsor
Mohamad Ishak Thani	Course on Environmental Management	Bangkok	18/9-6/10/89	ADB
Mohd. Radzuan Yusof	Assessment of Land-Based Urban, Agricultural & Industrial Sources of Pollution, Environmental Impact & Development of Recommendation for Possible Control Measures	Singapore	25-27/1/89	COBSEA
Mohd. Radzuan Yusof	Advanced Training Course on Continental Shelf Structures, Sediments & Resources	Manila	1-15/10/89	IOC
Mohd. Saberi Abdul Hamid	IOMAC-IOC Training Programme in Marine Affairs	Cairo	15/10-21/12/89	IOMAC-IOC
Noor Alshurdin Md. Salleh	Course on Environmental Assessment and Management Aspects of Air and Water Pollution from Industry	Belgium	7/8-15/9/89	UNIDO
Rahmah Mohd. Tahir	Training on Remote Sensing	Vancouver	15/2-15/3/89	CIDA
Raja Rokiah Raja Saigon	International Training Course on Environment Management for Industrial Managers and Engineers	Moscow, USSR	11/10-15/11/89	USSR GOVT.
Siti Rugayah Dugel	Assessment of Land-Based Urban, Agricultural & Industrial Sources of Pollution, Environmental Impact & Development of Recommendation for Possible Control Measures	Singapore	25-27/1/89	COBSEA
Zulkifli Abdul Rahman	Assessment of Land-Based Urban, Agricultural & Industrial Sources of Pollution, Environmental Impact & Development of Recommendation for Possible Control Measures	Singapore	25-27/1/89	COBSEA

LIST OF LOCAL SEMINARS ATTENDED BY THE DEPARTMENT OF ENVIRONMENT OFFICERS, 1989

Name	Title of Seminar	Venue	Date	Sponsor
Abdul Rahman Shukor	Seminar on Environmental and Water Treatment	Kuala Lumpur	20-23/3/89	DID
Abdul Rahman Shukor	Seminar on Solid Waste Management Implementation and Master Plan	Pulau Pinang	3/7/89	MIN. OF HOUSING & LOCAL GOVT.
Abd. Rahman Awang	Seminar on Geotextiles & Waste Dump Pit Design	Kuala Lumpur	23/1/89	ACEMERIT S.BHD
Abd. Rahman Awang	Seminar on PCB Disposal Management	Kuala Lumpur	15/8/89	SFe SDN. BHD.
Abd. Razak Manap	Seminar on Port Planning and Development	Kuala Lumpur	1-21/12/89	OCDI/MOT
Abu Bakar Jaafar (Dr.)	Seminar on Respective Roles of Government, Universities & Industry in Fostering Science & Technology in a National Context	Kuala Lumpur	11/7/89	SHELL MALAYSIA
Ahmad Kamarulnajuib Che Ibrahim	Seminar on Rehabilitation of Dams and Associated Electro-Mechanical Equipment	Kuala Lumpur	22/2/89	DID
Aminuddin Ishak	Seminar on Exhaust Emission of Motor Vehicles	Shah Alam	13/3/89	SIRIM
Che Asmah Ibrahim	Seminar on Geotextiles & Waste Dump Pit Design	Kuala Lumpur	23/1/89	ACEMERIT SDN.BHD.
Che Asmah Ibrahim	Symposium for Chemical Engineer	Kuala Lumpur	27-28/6/89	CHEMISTRY DEPT.
Choong Mei Chun	Seminar on PCB Disposal Management	Kuala Lumpur	15/8/89	SFe SDN. BHD.
Dalilah Dali	Demonstration Seminar on Environmental Noise Model Software	Kuala Lumpur	27/3/89	NOISE CONTROL ENGINEERING

Appendix 9.5 (Continuation)

Name	Title of Seminar	Venue	Date	Sponsor
Dalilah Dali	Seminar on Exhaust Emission of Motor Vehicle	Shah Alam	13/6/89	SIRIM
Fadhilah Kassim	Islamic Missionary Seminar I	Kuala Lumpur	29-30/12/89	UTM
Fuziah Abd. Rahim	Islamic Missionary Seminar I	Kuala Lumpur	29-30/12/89	UTM
Goh Kiam Seng	ENSEARCH Annual Seminar on Environmental Hazards	Subang Jaya	28-29/3/89	ENSEARCH
Haliza Abd. Aziz	Islamic Missionary Seminar I	Kuala Lumpur	29-30/12/89	UTM
Hajah Rosnani Ibarahim	Seminar on Islamic Thinking	Kuala Lumpur	9-11/10/89	PM'S DEPT./UM
Halimah Hassan	First Malaysian/Asian Internation Meeting on Prevention & Management of Poisoning by Toxic Substances	Kuala Lumpur	27-28/11/89	UNEP
Hassan Mat	Executive Seminar Programme	Pulau Pinang	21-23/2/89	HEWLETT PACKARD
Ibrahim Abdul Majid	Seminar on Solid Waste Management and Implementation Master Plan	Pulau Pinang	3/7/89	MIN. OF HOUSING & LOCAL GOVT.
Ismail Ithnin	World Meteorological Organisation Regional Association Training Seminar on Urban Climatology	Kuala Lumpur	13-17/3/89	METEO-ROLOGICAL DEPT.
Jimat Bolhassan	Executive Seminar Programme	Pulau Pinang	21-23/2/89	HEWLETT PACKARD
Jimat Bolhassan	HP Advancenet '89-'Linking People with Information'	Kuala Lumpur	8/3/89	H. PACKARD
Jimat Bolhassan	Seminar on Computer Performance Evaluation	INTAN	3-6/7/89	INTAN

Appendix 9.5 (Continuation)

Name	Title of Seminar	Venue	Date	Sponsor
Kalsom Abd. Ghani	Seminar on Geotextiles & Waste Dump Pit Design	Kuala Lumpur	23/1/89	ACEMERIT SDN. BHD.
Maketab Mohamad	Seminar on Water Quality Testing System-Paqualab	Petaling Jaya	15/6/89	MOTION SMITH
Mariana Mohd. Nor	Seminar on Geotextiles & Waste Dump Pit Design	Kuala Lumpur	23/1/89	ACEMERIT SDN. BHD.
Mariana Mohd. Nor	Seminar on the Latest Development in Filtration Technology	Kuala Lumpur	30/8/89	UTM
Mohd. Hashim Malek	Seminar on Geotextiles & Waste Dump Pit Design	Kuala Lumpur	23/1/89	ACEMERIT SDN. BHD.
Mohd. Hashim Malek	Seminar on Solid Waste Management and Implimentation Master Plan	Pulau Pinang	3/7/89	MIN. OF HOUSING & LOCAL GOVT.
Mohd. Hashim Malek	Seminar on PCB Disposal Management	Kuala Lumpur	15/8/89	SFe SDN. BHD.
Mohd. Izzuddin Abdul Ghani	Seminar on Exhaust Emission of Motor Vehicles	Shah Alam	13/6/89	SIRIM
Muhd. Rashid Wan Chik	Water Resources Prospects and Challenges in the Coming Decade	Kuching	19-20/9/89	IEM
Norazian Abdul Hamid	Seminar on Industrial Ceramic Energy Management	Kuala Lumpur	9/3/89	MIN. OF ENERGY, TELECOMM.& POSTS
Norlin Jaafar	Presentation on Toxicology Exposure and Environmental Fate of Glyphosate	Kuala Lumpur	4/9/89	MONSAN SDN.BHD.

Appendix 9.5 (Continuation)

Name	Title of Seminar	Venue	Date	Sponsor
Pauziah Hanum Abd. Ghani	Asian Conference on Remote Sensing	Kuala Lumpur	23-29/11/89	MIN. OF SCIENCE, TECH. & ENV.
Peter Ho Yueh Chuen	Symposium on Managing Technological Change: Policies and Strategies	Kuala Lumpur	22-25/5/89	MIN. OF SCIENCE, TECH. & ENV.
Peter Ho Yueh Chuen	Presentation on Toxicology Exposure and Environmental Fate of Glyphosate	Kuala Lumpur	4/9/89	MONSAN SDN. BHD.
Rahani Hussin	Seminar on Geotextiles & Waste Dump Pit Design	Kuala Lumpur	23/1/89	ACEMERIT SDN. BHD.
Rahani Hussin	Seminar on PCB Disposal Management	Kuala Lumpur	15/8/89	SFe SDN. BHD
Rahani Hussin	Seminar on the International Statistical Standards & Methods of Data Collection on Scientific & Technological Activities	Kuala Lumpur	2-6/10/89	UNESCO/MIN. OF SCIENCE, TECH. & ENV.
Rahmah Mohd. Tahir	Spans Seminar in Kuala Lumpur	Kuala Lumpur	17/10/89	UNIDATA SDN. BHD.
Rahmah Mohd. Tahir	Asian Conference on National Parks and Protected Areas	Kuala Lumpur	23-29/11/89	MIN. OF SCIENCE, TECH. & ENV.
Robert Lim Hock Kee	Seminar on Urban Green	Kuala Lumpur	7-8/8/89	UM
Roslina Abd. Rahim	Seminar on Industrial Ceramic Energy Management	Kuala Lumpur	9/3/89	MIN. OF ENERGY, TELECOMM. & POSTS

Name	Title of Seminar	Venue	Date	Sponsor
Rosmah Mohd. Yusof	Presentation on Toxicology Exposure and Environmental Fate of Glyphosate	Kuala Lumpur	4/9/89	MONSAN SDN. BHD.
Shamsiah Hj. Daud	Seminar on Islamic Thinking	Kuala Lumpur	9-11/10/89	PM'S DEPT./UM
Shamsuddin Abdul Latif	Seminar on Solid Waste Management and Implementation Master Plan	Pulau Pinang	3/7/89	MIN. OF HOUSING & LOCAL GOVT.
Sharifah Mahani Syed Abdullah	Seminar on Islamic Thinking	Kuala Lumpur	9-11/10/89	PM'S DEPT./UM
Siti Rugayah Dugel	Seminar on Islamic Thinking	Kuala Lumpur	9-11/10/89	PM'S DEPT./UM
Siti Rugayah Dugel	Islamic Missionary Seminar I	Kuala Lumpur	29-30/12/89	UTM
Siti Rugayah Mokhtar	Seminar on Islamic Thinking	Kuala Lumpur	9-11/10/89	PM' DEPT./UM
T.Bakry Shah T.Johan	Executive Seminar Programme	Pulau Pinang	21-23/2/89	HEWLETT PACKARD
T.Bakry Shah T.Johan	HP Advancenet '89, "Linking People with Information"	Kuala Lumpur	8/3/89	HEWLETT PACKARD
T.Bakry Shah T.Johan	Seminar on Advanced Interactive Executive	Kuala Lumpur	12/9/89	MESINIAGA SDN. BHD.
W. Noraini W. Hamzah	Seminar on Industrial Ceramic Energy Management	Kuala Lumpur	9/3/89	MIN. OF ENERGY, TELECOMM.& POSTS

Appendix 9.5 (Continuation)

Name	Title of Seminar	Venue	Date	Sponsor
W. Ramlah W. Ibrahim	Seminar on Geotextiles & Waste Dump Pit Design	Kuala Lumpur	24-27/1/89	ACEMERIT SDN. BHD.
W. Ramlah W. Ibrahim	Seminar on PCB Disposal Management	Kuala Lumpur	15/8/89	SFe SDN. BHD.
W. Rosmina W. Mohamad	Seminar on Industrial Ceramic Energy Management	Kuala Lumpur	9/3/89	MIN. OF ENERGY, TELECOMM.& POSTS
Zainuldin Yacob	Seminar on Environmental and Water Treatment	Kuala Lumpur	20-23/3/89	DID
Zalilah Nordin	Seminar on Environmental and Water Treatment	Kuala Lumpur	20-23/3/89	DID
Zamrudah Yeop	Islamic Missionary Seminar I	Kuala Lumpur	29-30/12/89	UTM

APPENDIX 9.6
LIST OF LOCAL WORKSHOPS
ATTENDED BY THE DEPARTMENT OF ENVIRONMENT
OFFICERS, 1989

Name	Title of Workshop	Venue	Date	Sponsor
Ahmad Ibrahim Mohamad	Workshop on Storage Function Method	Kuala Lumpur	8-13/6/89	DID
Fadhilah Kassim	Workshop on Remote Sensing	Skudai	13-15/6/89	UTM
Hajah Rosnani Ibarahim	National Workshop on Health and Housing	Kuala Lumpur	7-8/12/89	MIN.OF HEALTH
Jamilan Janah	Workshop on Revenue Accounting	INTAN	20-24/3/89	INTAN
Mazlan Omar	National Workshop on Tides and Tidal Phenomena	Kuala Terengganu	12-13/6/89	ASEAN-AUSTRALIA
Mohd. Sharif Mustaffa	Workshop on Drug Prevention/Educational Approach	Kuala Lumpur	5/3/89	PEMADAM
Noor Alshurdin Md. Salleh	Workshop on Drug Prevention/Educational Approach	Kuala Lumpur	5/3/89	PEMADAM
Peter Ho Yueh Chuen	National Workshop on Coastal Living Resources	Genting Highland	4-6/1/89	ASEAN-AUSTRALIA
Ruslan Mohamad	National Workshop on Tides and Tidal Phenomena	Kuala Terengganu	12-13/6/89	ASEAN-AUSTRALIA
Soo Ah Kan	National Workshop on Health and Housing	Kuala Lumpur	7-8/12/89	MIN. OF HEALTH
T.Bakry Shah T.Johan	Workshop on Unix III - Session I	Bangi	6-10/11/89	UKM
Zaharah Sulaiman	Workshop on Unix III - Session II	Bangi	13-17/11/89	UKM

APPENDIX 9.7
LIST OF LOCAL TRAINING COURSES
ATTENDED BY THE DEPARTMENT OF ENVIRONMENT
OFFICERS, 1989

Name	Title of Training Course	Venue	Date	Sponsor
Abdul Razak Ahmad	Course on Environmental Planning and Management	INTAN	24-27/1/89	INTAN
Abdul Razak Saad	Course on Environmental Planning and Management	INTAN	24-27/1/89	INTAN
Ahmad Apandi	Course on Environmental Planning and Management	INTAN	24-27/1/89	INTAN
Ahmad Pauzi Ali	Course on Environmental Planning and Management	INTAN	24-27/1/89	INTAN
Ahmad Pauzi Ali	Course on Store Management	INTAN	13-24/11/89	INTAN
Ali Thamby	Coastal Engineering Processes and Environmental Impact Assessment	Bangi	6-10/11/89	UKM
Aminah Ali	Basic Course on Protection/Security for Semi Professional Officers	Kuala Lumpur	14-16/11/89	PM'S DEPT.
Aminuddin Ishak	Course on Environmental Planning and Management	INTAN	24-27/1/89	INTAN
Azizah Abu Bakar	Course for Upgrading Library Assistants Skill	Kuala Lumpur	4-15/9/89	PNM
Hashim Awang	Course on Environmental Planning and Management	INTAN	24-27/1/89	INTAN
Hunaizah Che Mat	Course on Departmental Record Filing Clerk	Kuala Lumpur	6-11/3/89	NATIONAL ARCHIVES
Indon Mhd. Rashid	Course on Departmental Accounting Management	INTAN	11-23/9/89	INTAN
Jamaludin Zainol	Basic Course on Protection/Security	Kuala Lumpur	23-25/5/89	PM'S DEPT.
Jamilan Janah	Course on Administration	INTAN	13-25/2/89	INTAN

Appendix 9.7 (Continuation)

Name	Title of Training Course	Venue	Date	Sponsor
Jamilan Janah	Revenue Accounting Course	INTAN	20-24/3/89	INTAN
Kamalakaran a/l Nadason	Course on Environmental Planning and Management	INTAN	24-27/1/89	INTAN
Maketab Mohamad	Course on Survey Research	INTAN	19-28/6/89	INTAN
Maulud Hashim	Coastal Engineering Processes and Environmental Impact Assessment	Bangi	6-10/11/89	UKM
Mohd. Radzuan Yunus	Course on Environmental Planning and Management	INTAN	24-27/1/89	INTAN
Mohd Radzuan Yunus	Course on Oil Spill Control	Port Dickson	18-20/12/89	ESSO MALAYSIA
Mohd.Shukri Ahmad Marzuki	Course on Oil Spill Control	Port Dickson	18-20/12/89	ESSO MALAYSIA
Mohd. Subki Abd. Hamid	Course on Environmental Planning and Management	INTAN	24-27/1/89	INTAN
Mohd. Zamir Yusof	Course on Environmental Planning and Management	INTAN	24-27/1/89	INTAN
Nadzri Jamaluddin	Course on Environmental Planning and Management	INTAN	24-27/1/89	INTAN
Norhisah Md. Nor	Course on Departmental Record Filing Clerk	Kuala Lumpur	22-27/5/89	NATIONAL ARCHIVES
Norhisah Md. Nor	Course on Condemnation/Write Off	INTAN	14-18/8/89	INTAN
Noor Alshurdin Md. Salleh	Course on Protection/Security for Technical Officers	Kuala Lumpur	2-4/10/89	PM'S DEPT.
Noor Alshurdin Md. Salleh	Course on Integrated Office System	INTAN	5-8/12/89	INTAN

Appendix 9.7 (Continuation)

Name	Title of Training Course	Venue	Date	Sponsor
Nor Hissam Zaimarzuki	Course on Environmental Planning and Management	INTAN	24-27/1/89	INTAN
Norizan Abu Bakar	Course on Environmental Planning and Management	INTAN	24-27/1/89	INTAN
Normadiah Husien	English Intensive Course 1/1989	INTAN	24/1-8/4/89	INTAN
Pauzi Jantan	Course on Protection/Security	Kuala Lumpur	9-10/10/89	PM'S DEPT.
R.C. Mohan	Part Time Language Course - Chinese	INTAN	7/3-30/11/89	INTAN
Rokiah Bakrun	Basic Course on Protection/Security	Kuala Lumpur	14-16/2/89	PM'S DEPT.
Roslina Abdul Rahim	Course on Presentation Method	INTAN	3-8/7/89	INTAN
Tan Meng Leng	Basic Course on Protection/Security	Kuala Lumpur	4-6/12/89	PM'S DEPT.
Wan Abdullah Wan Salleh	Course on Electronic Process Control Instrumentation	K. Terengganu	19/6-7/7/89	CIAST
Wan Noraini Wan Hamzah	Course on Environmental Planning and Management	INTAN	24-27/1/89	INTAN
W. Mohd. Yunus W. Mohd. Yusof	Course on Maintenance Management	Sabah	27/2-10/3/89	MANPOWER DEPT.
Yahya Atan	Course on Environmental Planning and Management	INTAN	24-27/1/89	INTAN
Zaharah Sulaiman	Course on Minisis Software	Kuala Lumpur	6-17/3/89	PNM
Zainora Nordin	English Intensive Course 2/1989	INTAN	26/9-9/12/89	INTAN
Zamri Jusoh	Course on Environmental Planning and Management	INTAN	24-27/1/89	INTAN
Zamrudah Yeop	Course on Lotus 1-2-3, Macro & Advanced	Skudai	13-16/11/89	UTM

APPENDIX 10.1
NOTIFICATION OF CONTROL ACTION ON CHEMICALS RECEIVED BY THE DEPARTMENT OF ENVIRONMENT, 1989

Name of Chemical	Country	Type of Control Action
AGRICULTURE		
1. Bifentrin	1. The Netherlands	Use restricted to glasshouse -cultures, minimum emission of effluents to the surface water. Not allowed in open field (orchard)
2. Captafol	1. Cyprus	Banned for use as pesticide
	2. The Netherlands	Prohibited to sell, stock, store or use all pesticides containing captafol as an active ingredient
	3. Hungary	Total ban to use as pesticide
3. Chloralhydrate	1. The Netherlands	Prohibited to sell, stock, store or use all pesticides containing chloralhydrate as an active ingredient
4. Cyhexatine	1. United Kingdom	All approvals for agriculture and horticulture uses of cyhexatine revoked
	2. Hungary	Total ban to use as pesticide
5. DBB	1. The Netherlands	The manufacture, importation into Netherlands, putting into circulation and use of DBB is prohibited, except to conduct research in laboratories or conversion into end products in which the substance as such no longer occurs.
6. DBBT	1. The Netherlands	The manufacture, importation into Netherlands, putting into circulation and use of DBBT is prohibited, except to conduct research in laboratories or conversion into end products in which the substance as such no longer occurs.

Name of Chemical	Country	Type of Control Action
7. Dinoseb	1. The Netherlands	Prohibited to sell, stock, store or use all pesticides containing dinoseb as an active ingredient
	2. Hungary	Total ban to use as pesticide
8. Dinoseb Acetate	1. Hungary	Total ban to use as pesticide
9. TCA	1. The Netherlands	The use of TCA is restricted to the culture of grass seed
INDUSTRIAL		
1. Ugilec 121	1. The Netherlands	The manufacture, importation into Netherlands, putting into circulation and use of ugilec 121 is prohibited, except to conduct research in laboratories or conversion into end products in which the substance as such no longer occurs.
2. Ugilec 141	1. The Netherlands	The manufacture, importation into Netherlands, putting into circulation and use of ugilec 141 is prohibited, except to conduct research in laboratories or conversion into end products in which the substance as such no longer occurs.
PHARMACEUTICAL		
1. Chloramphenicol	1. Hungary	Total ban to use as drug for therapeutical purposes in domestic animals producing milk or eggs.

Appendix 10.2

LIST OF OVERSEAS' MEETINGS ATTENDED BY SENIOR DEPARTMENT OF ENVIRONMENT OFFICIALS, 1989

Official	Date	Venue	Subject of Meeting
Ir. Goh Kiam Seng Acting Director General of Environment	24-26 January	Kuala Lumpur	Socio-Economic Impacts and Policy Responses Resulting from Climate Change
	5-7 March	London	Chlorofluorocarbon and Ozone Layer (Ministerial Level)
	14-15 April	Bangkok	Socio-Economic Impact of Climate Change
	26-28 April	Helsinki	Vienna Convention for the Protection of the Ozone Layer
	2-5 May	Helsinki	Montreal Protocol on Substances that Deplete the Ozone Layer
	15-19 May	Nairobi	15th Session of Governing Council of UNEP
	6-8 June	Tokyo	Sustainable Development
	14-16 June	Bandar Seri Begawan	Co-ordinating Body on the Seas of East Asia (COBSEA)
	17-20 June	Bandar Seri Begawan	ASEAN Experts Group on the Environment (AEGE)
	11-13 September	Honolulu	Hazardous Wastes Management
	2-7 November	Noordwijk, Netherlands	Atmospheric Pollution and Climate Change
Dr. Abu Bakar Jaafar, KMN Deputy Director General of Environment (Planning and Development Division)	10-13 January	London	Commonwealth Science Council
	23-24 January	Manila	ASEAN-Australia on Coastal Living Resources
	25-27 January	Manila	ASEAN-USAID on Coastal Resources Management

Appendix 10.2 (Continuation)...

	30 January - 1 February	Manila	ASEAN-Australia Symposium on Coastal Living Resources
	2-4 February	Manila	ASEAN-Australia Data Compilation on Coastal Living Resources
	7-10 February	Manila	UNEP Experts on COBSEA Action Plan
	2-7 April	Singapore	Pacific Basin Conference for Hazardous Waste Research
	20-23 June	Yogjakarta	ASEAN-Australia Co-operative Programme on Marine Science: Coastal Living Resources
	2-6 July	Karachi	Oceanographic/Marine Space Information Systems
	24-25 July	Singapore	ASEAN-Australia Co-operative Programme on Marine Science Project I: Coastal Living Resources
	4-11 September	Sweden and Denmark	Official Visit by the Honourable Minister of Science, Technology and the Environment to Sweden, Denmark and France
	9-10 October	Japan	Sustainable Development between Developed and Developing Countries
	10-13 October	Alberta, Canada	Hazardous Wastes Management in the '90's.
	6-8 December	Denpasar, Bali	ASEAN-US Co-operative Programme on Marine Science
Ir. Tan Meng Leng, KMN Deputy Director General of Environment (Operation Division)	30 January - 3 February	Luxembourg	Control of Transboundary Movement of Hazardous Wastes
	12-24 March	Bassel	Transboundary Movement of Hazardous Wastes
	31 May-2 June	Tokyo	Protection of the Ozone Layer (Asia and Pacific)

Appendix 10.2 (Continuation)...

Mr. Peter Ho Yueh Chuen Assistant Director General of Environment (Planning Section)	16-25 January 21-27 June 2-6 October	Thailand Honolulu Geneva	River/Lake Basin Approaches to Environmentally Sound Management of Water Resources Global Warning: Options for the Pacific of Asia Response Strategies Workshop Working Group-IPCC
Ms. Hajah Rosnani bt. Ibarahim Assistant Director General of Environment (Monitoring Section)	10-14 April	Singapore	Planning for Chemical Emergencies
Mr. Soo Ah Kan Director (Central Region)	6-10 November	Bangkok	Symposium on Environmental Perspectives Towards the Year 2000 and Beyond and Workshop on Clean Technology
Mr. Lee Choong Min Director (Sarawak Region)	3-7 October	Goa, India	Environmental Education
Mr. Mohd. Ishak Thani Acting Assistant Director General of Environment (Planning Section)	14-16 June 17-20 June	Bandar Seri Begawan Bandar Seri Begawam	Co-ordinating Body on the Seas of East Asia (COBSEA) ASEAN Experts Group on the Environment (AEGE)
Ms. Rahani Hussin Acting Assistant Director General of Environment (Planning Section)	2-7 April	Singapore	Pacific Basin Conference for Hazardous Waste Research
Ms. Halimah Hassan Environmental Control Officer	13-17 February	New York	Prior-Informed-Consent (PIC) and Other Modalities to Supplement the London Guidelines for the Exchange of Information on Chemicals in International Trade.

Appendix 10.2 (Continuation)...

Mr. Ismail Ithnin Environmental Control Officer	18-22 September	New York	Montreal Protocol
Ms. Norlin Jaafar Environmental Control Officer	13-18 March	Moscow	Environmental Information Exchange in the 1990's (INFOTERRA III)
Mr. Mohd Radzuan Yusof Senior Assistant Environmental Control Officer	23-24 January 14-16 June	Manila Kuala Terengganu	ASEAN-Australia Tides and Tidal Phenomena Project ASEAN-Australia Tides and Tidal Phenomena Project

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