THE ENVIRONMENTAL QUALITY ACT, 1974 – A CRITIQUE

On December 6, 1973 the then Minister with Special Functions, Mr. Michael Chen, told the Dewan Rakyat (House of Representatives) that "Malaysians must face their environmental problems now . . . The alternative is to do nothing now but pay far higher economic and social costs in the years to come."[1] Mr. Chen was then moving the second reading of the Environmental Quality Bill, 1973.

Prior to the introduction of this law, environmental problems in Malaysia had been handled as and when they arose. They formed a part of the administrative responsibility of government agencies at the Federal State and local authority levels. Some of the items of legislation which deal with environmental management include the Land Conservation Act No. 3/1960, the Protection of Wild Life Act 1972 (Act 76), the Fisheries Act, 1963 (Revised 1978) (Act 210), the Local Government Act, 1976(Act 171) and the various State Mining, Forest and Waters Enactments.

Since various agencies dealt, in one way or another, with certain aspects of environmental degradation, it was inevitable that overlapping of enforcement resulted. Environmental management was thus rather haphazard.

In an attempt to formulate an integrated approach in managing the environment, an Environmental Affairs Division was set up in the General Planning Unit in the Prime Minister's Department. Discussions were held with representatives from the private sector, institutions of higher learning and governmental agencies. Studies were also made of environmental legislation formulated by other countries. The result was the Environmental Quality Bill, 1973 which was subsequently passed by Parliament in 1974. The date for commencing the enforcement of the Act was April 15, 1975. It is interesting to note that from this stage already there was no consultation with knowledgeable members of the public or environmental groups.

[1] The Straits Times, December 7, 1973.

A. *The Environmental Quality Act, 1974 (EQA)*[2]

The EQA is an enabling piece of legislation relating to the prevention, abatement, control of pollution and enhancement of the environment, and for purposes connected therewith.[3] Specific regulations are therefore required to put the EQA into full effect. These are made by the Minister of Science, Technology and the Environment after consultation with the Environmetanl Quality Council (EQC).

Section 4 of the EQA provides for the establishment of the EQC. The functions of this body are to generally advise the Minister on matters pertaining to the EQA and on any matter referred to it by the Minister.[4] The nine members are :[5]

a) a Chairman who is appointed by the Minister;
b) the Secretary-General, Ministry of Technology and Research or his authorised representative;
c) the Secretary-General, Ministry of Trade and Industry or his authorised representative
d) the Secretary-General of Labour and Manpower or his authorised representative.
e) the Director-General of Health or his authorised representative;
f) one member from East Malaysia who is appointed by the Minister after consultation with the Governments of the States of Sabah and Sarawak;
g) one member who is appointed by the Minister from among persons engaged in the petroleum industry;
h) one member who is appointed by the Minister from nominations by the Federation of Malaysian Manufacturers or if such Federation no longer exists from among persons engaged in manufacturing;
i) one member who is appointed by the Minister from among the academic staff of the Universities or Colleges in Malaysia.

[2] For an earlier analysis of the EQA, see Lee Tien Tien, *Law and the Environment*, Faculty of Law, University of Malaya, Unpublished Project Paper, 1976.

[3] Preamble to the EQA.

[4] EQA, Section 4(1)(a), (b).

[5] Ibid., Section 4(2).

It is contended that the composition of the EQC is a reflection of an administrative system which precludes public participation. The heavy Government representation will more often than not forward a case for 'development'. For instance, the representative from the Ministry of Trade and Industry may argue that too stringent environmental standards will deter foreign investment: after all, the Ministry's primary concern is to promote industrial activities, one of the main causes of environmental pollution. Furthermore, industry is represented on the EQC. This is significant because, as pointed out above, specific regulations under the EQA are made by the Minister after consultation with the EQC.[6] A sceptic would observe that seeking the advice of representatives from pollution-causing industries in matters of pollution control is not likely to result in stringent standards and requirements.

With the lack of public representation, the presence of civil servants who are likely to operate under a compromise in favour of industrialisation, and representation from the polluters themselves, there is a possibility that the EQC may not function effectively to safeguard the environment. Of course there may be members who are genuinely and sincerely concerned for the environment and the effects of pollution on communities. It would not be fair to categorically state that every member of the EQC will decide in favour of polluting industries. This paper contends that it would only be just that the majority of the population (who are also the first victims of environmental degradation) are given the opportunity to participate. Public representation, if strong enough, could even gain the support of sympathetic members who may otherwise not have voiced their views as vehemently. In any case the EQC will then be more than just another government body of questionable efficacy.

Malaysia's approach to environmental management is more of pollution control rather than the prevention of pollution, as exemplified by the EQA. The control is through the issue of licences for "prescribed premises" to regulate the occupation and use of premises.[7] At the same time, by virtue of section 21 of the EQA, "acceptable conditions" may be specified for the

[6] *Ibid.*, section 51.

[7] *Ibid.*, section 18 to 20.

emission, discharge or deposit of wastes or the emission of noise into any area, segment or element of the environment. However, standards which may be considered "acceptable" may, sometime in the future, show themselves to be anything but safe. It was found that fish, milk and a vegetable called the cluster bean which is widely sold in Bombay contain an excessively high level of toxic mercury. Other heavy metals such as lead, cadmium and copper are also present in alarming quantities in the vegetable. Apparently the source of this metal pollution is industrial effluent released into the river systems around Bombay, such discharge being *within the permissible limits.*[8]

Even though standards may be set, the fact remains that pollution of the environment is allowed. Pollutants do not simply disappear, especially since most of the industrial effluents are toxic or non-biodegradable.[9] Instead they accumulate and even interact to form more dangerous substances. Under the EQA the acceptable conditions which have been specified can be further contravened if a licence is obtained.[10]

1. *Licensing under the EQA*

Part III of the EQA deals with licences, and the licensing authority is the Director-General of Environmental Quality (D.G.).[11] The following licences are required by the EQA:—

a) a licence under section 18(1) to occupy or use prescribed premises;
b) a licence under section 22(1) to emit or discharge wastes into the atmosphere in contravention of the acceptable conditions specified under section 21;
c) a licence under section 23(1) to emit or cause or permit to be emitted any noise greater in volume, intensity, or

[8] New Scientist, June 7, 1979.

[9] A non-biodegradable substance is one which does not break down or decompose by natural biological processes; it remains in a permanent state, e.g. plastics.

[10] EQA, sections 22 to 25.

[11] *Ibid.*, section 10.

quality in contravention of the acceptable conditions specified under section 21;

d) a licence under section 24(1) to pollute or cause or permit to be polluted any soil or surface of any land in contravention of the acceptable conditions specified under section 21;

e) a licence under section 25(1) to emit, discharge or deposit any wastes into any inland waters in contravention of the acceptable conditions specified under section 21; and

f) a licence under section 29(1) to discharge wastes into Malaysian waters.

In granting any application for a licence or for a renewal or transfer thereof, the D.G. may do so either subject to conditions or unconditionally. Where there are conditions imposed on a licence such conditions are to be specified in the licence.[12]

The D.G. also has the power, during the currency of the licence, to revoke or vary any condition attached to the licence or attach new conditions thereto, whether in addition to or in substitution for existing conditions. This power is discretionary.[13] Before varying any condition or attaching new conditions, section 11(4) of the EQA requires the D.G. to take into consideration five factors:—

a) whether it would be practicable to adapt the existing equipment, control equipment or industrial plant to conform with the varied or new condition;

b) the economic life of the existing equipment, control equipment or industrial plant, having regard to the date of purchase;

c) the quantity or degree of cut-back of emission, discharge or deposit of wastes to be achieved by the varied or new condition;

d) the estimated cost to be incurred by the licensee to comply with the varied or new condition; and

e) the nature and size of the trade, process or industry being carried out on the premises.

[12] *Ibid.*, section 11(3)(a).

[13] *Ibid.*, section 11(3)(b).

Conspicuously lacking is the cost, both financial and otherwise, incurred by communities affected by the non-imposition of a varied or new condition. The provision seems to suggest that even if the environmental impact of an industrial activity is adverse, this would be subject to "practicability" and expenses on the part of the polluter.

While section 11 is general in nature, section 12(1) proceeds to list certain specific conditions which may be attached to a licence by the D.G. These include *inter alia* a requirement to install and operate control equipment in or on any premises specified in the licence, or a requirement that the licensee conducts, at his own expense, a monitoring programme designed to provide the D.G. with information concerning the characteristics, quantity or effects of the emission, discharge or deposit in respect of which the licence is issued. The attachment of such conditions is nevertheless subject to the five factors mentioned above.

In any case, any person who is aggrieved by the imposition of any condition, limitation or restriction on his licence may within such time and in such manner as may be prescribed, appeal to the Appeal Board established under the EQA.[14] With this right of appeal being given against the decision of the D.G. attaching a condition to a licence, any condition so attached has no force until the time limited for appealing against the condition has expired. Where an appeal against the condition has been duly made under the EQA, such condition has no force until the hearing of the appeal confirms the decision of the D.G. to impose the condition.[15] This provision seriously undermines the efficacy of the EQA. Thus if a polluter applies for a renewal or transfer of a licence, and the D.G. decides to impose a condition requiring control equipment to be installed to treat the effluents this right of appeal can be used as a delay tactic. So while an appeal is being made, the condition has no force, and the polluter continues with his polluting activity. This leaves the affected communities to bear the onslaught of pollution and they who suffer the consequences are not given access under the EQA to voice their grievances.

[14] *Ibid.*, section 35(1)(b).

[15] *Ibid.*, section 12(2).

Once a licence is issued, it remains in force for a period of one year from the date of its issue, unless otherwise specified in the licence or in any regulations made under the EQA.[16] Renewal of a licence is by application to the D.G., such application to be made at any time being not more than one month before the date of the expiration of the licence.[17] Any person who fails to apply for a renewal within this period has to pay a late fee of 1% of the licence fee or $10 – whichever is the greater for every day of delay.[18] Where any application for renewal is made after the expiry date the D.G. may refuse to renew the licence, or he may renew it subject to an imposition of an expiry fee not exceeding 500% of the licence fee or $10,000/– whichever is the greater.[19] This power to renew after the expiry date is discretionary. While an appeal to the Appeal Board lies against a refusal to grant a licence or transfer of a licence, the EQA does not give a licensee a right to appeal against a refusal to renew a licence.

It must be noted that the D.G. shall not grant any application for a licence in respect of any premises if the use of such premises would contravene any town planning scheme, or any law respecting the use or development of land.[20] The application for a licence under these circumstances shall be deemed to be finally determined by the refusal to grant the application.[21] Yet the EQA provision continues to state that if an appeal is made against the refusal, the application is deemed to be finally determined only upon the determination of the appeal. The industrialist thus has available to him a second opportunity to obtain a licence.

[16] *Ibid.*, section 13(1).

[17] *Ibid.*, section 13(2).

[18] *Ibid.*, section 13(3).

[19] *Ibid.*, section 13(4).

[20] *Ibid.*, section 11(3)(c).

[21] *Ibid.*, section 11(5).

The Environmental Quality (Licensing) Regulations, 1977[22]

Any application for a licence under the EQA must be made in accordance with the procedures specified under the Licensing Regulations. These Regulations were made under the powers conferred by section 51 of the EQA, and came into effect on October 1, 1977.

An application for any licence or for any renewal or transfer thereof is to be made to the D.G. in a prescribed form provided in the Schedule (Form 1).[23] If the applicant is a body corporate, the application form must be completed and signed by a person duly authorised in that behalf by the body corporate.[24] The form of licence is also provided in Form 2 in the Schedule.[25]

Section 16 of the EQA states that the holder of a licence shall comply in every respect with the terms and conditions thereof. The Licensing Regulations provide further that if the licensee fails to comply with any term or condition of the licence, the D.G. may revoke the licence or suspend it for such period as he thinks fit.[26] The suspension of a licence amounts to a revocation for the period of suspension.[27] Written notice must be given to the licensee before the revocation or suspension can take effect.[28]

Prescribed fees are payable in respect of a licence, any transfer or renewal thereof. The EQA provides that different fees may be prescribed according to any one or more of the following factors:—[29]

a) the class of premises;
b) the location of such premises;
c) the quantity of wastes discharged;
d) the pollutant or class of pollutant discharged; and
e) the existing level of pollution.

[22] P.U. (A) 198/77.

[23] Regn. 2(1).

[24] Regn. 2(2).

[25] Regn. 3.

[26] Regn. 4(1).

[27] Regn. 4(2).

[28] Regn. 4(3).

[29] EQA., section 17(2).

Where upon inspection it is ascertained that the pollutants or class of pollutants discharged, emitted or deposited is different from or the quantity of wastes discharged, emitted or deposited is greater than that declared by the occupier in his application for or renewal of licence, the D.G. may recover such fees as would have been payable in respect of that pollutant or class of pollutant or extra quantity of discharge, emission or deposit.[30] This, in effect, means that pollution is permitted if the prescribed fees are duly paid. What good can money do if environmental degradation which may be irreversible is legitimised?

2. *Prohibition and Control of Pollution*

As observed earlier, pollution control under the EQA is based on the concepts of "prescribed premises" and "acceptable conditions" of emission, discharge or deposit of wastes or the emission of noise into the environment. To date the following sets of Regulations have been drawn up:—

a) the Environmental Quality (Licensing) Regulations 1977;[31]
b) the Environmental Quality (Prescribed Premises) (Crude Palm Oil) Regulations, 1977;[32]
c) the Environmental Quality (Clean Air) Regulations, 1978;[33]
d) the Environmental Quality (Compounding of Offences) Rules, 1978;[34]
e) the Environmental Quality (Prescribed Premises) (Raw Natural Rubber) Regulations, 1978;[35]
f) the Environmental Quality (Sewage and Industrial Effluents) Regulations, 1979.[36]

[30] *Ibid.*, section 17(3).
[31] P.U. (A) 198/77.
[32] P.U. (A) 342/77.
[33] P.U. (A) 280/78.
[34] P.U. (A) 281/78.
[35] P.U. (A) 338/78.
[36] P.U. (A) 12/79

a) *Prescribed Premises*

Once any premises has been ordered to be "prescribed premises", the occupation or use thereof is an offence under the EQA unless the occupier or user is the holder of a licence issued in respect of those premises.[37] The word "premises" is defined under section 2 of the EQA to include messuages, buildings, lands, and hereditaments of every tenure and any machinery, plant, or vehicle used in connection with any trade carried on at any premises. "Prescribed" means prescribed by or under the EQA or continued in operation by the EQA. Thus various specific Regulations are made concerning various types of prescribed premises.

No person can carry out any work on any premises which would cause those premises to become prescribed premises, or construct on any land any building designed for or used for a purpose that would cause the land or building to become prescribed premises, without the prior written permission of the D.G.[38] Section 20 requires every application to carry out the said work to be submitted to the D.G. and accompanied by the plans and specifications of the proposed work, a lay-out plan of the site of the proposed work in relation to the surrounding areas, the details of the activity proposed to be carried on in such premises, descriptions of waste constituents and characteristics, and such other information which the D.G. may require. The application may be granted either bject to conditions or unconditionally and may require the licensee to provide and bear the cost of the control equipment and of a satisfactory monitoring programme. So the D.G. has the discretion whether or not to require the licensee to take steps to protect the environment. It must be noted that no such application shall be granted unless the applicant has obtained planning approval from the competent planning authority.[39]

[37] EQA, section 18.

[38] *Ibid.*, section 19.

[39] *Ibid.*, proviso to section 20(2).

i) *The Environmental Quality (Prescribed Premises) (Crude Palm Oil) Regulations, 1977*

Under these Regulations, "prescribed premises" means any premises prescribed by the Environmental Quality (Prescribed Premises) (Crude Palm Oil) Order, 1977,[40] being premises occupied or used for the processing of oil palm fruit or oil palm fresh fruit bunches into crude palm oil, whether as an intermediate or final product.[41]

An applicant for a licence or for the renewal or transfer thereof must, within seven days of the occurrence of any material change in any information furnished in his application, give the D.G. a report in writing of the change.[42] Regulation 6(1) states.—

> "An occupier of prescribed premises in respect of which there is a licence shall not make, or cause or permit to be made, any change to the premises or in the manner of running, using, maintaining, or operating the premises which change causes, or is intended or is likely to cause, *a material deterioration* in the quality characteristics, or *a material increase* in the quantity, of effluent discharged from the premises, unless prior written approval of the D.G. has been obtained for the change".[43]

Changes to prescribed premises include any change in the construction, structure, or arrangement of the premises or any building serving the premises; any change in the construction, structure, arrangement, alignment, direction, or condition of any channelling device, system, or facility serving the premises; and any change of, to, or in any plant, machine, or equipment used or installed at the premises.[44]

[40] P.U. (A) 199/77.

[41] Regn. 2.

[42] Regn. 5.

[43] Emphasis added.

[44] Regn. 6(2).

To what degree must the quality characteristics of effluent discharged from the premises deteriorate before it amounts to a "material deterioration"? How much increase in the quantity of the discharge effluent constitutes a "material increase"? The term "material" is vague and does not serve as a sufficient guide. Changes which may be regarded by polluters as slight or immaterial in fact cause some damage to the environment, and these adversely affect communities which depend on the immediate environment for their survival. Even if the changes are material, the law permits such pollution if prior written approval is obtained from the D.G. It is submitted that this type of control undermines our environmental protection policy.

Regulation 8 prohibits a person from diluting, or causing or permitting to be diluted, any effluent, whether raw or treated, at any time or point after it is produced at any premises unless prior written authorisation of the D.G. has been obtained for the dilution, and the dilution is done according to the terms and conditions of the authorisation. Dilution may seem to reduce the degree of pollution, but effluents are not discharged once only; they are released into the environment almost everyday. This means that over a period of time, increasing pollution takes place when the cumulative effects of the pollutants begin to make themselves felt. It can be seen that while the Regulations prohibit certain acts, such prohibition is not absolute, all that is needed to legitimise these acts is the prior written approval or authorisation of the D.G.

Regulation 10(2) requires every occupier of prescribed premises to submit to the D.G. a quarterly return within 14 days after the end of each quarter.[45] However, an occupier is not required to submit a return for any period during which he was not an occupier of the prescribed premises.[46] The prescribed form for the quarterly return is found in the First Schedule. It is divided into three sections dealing with identification, quarterly production data and quarterly effluent disposal respectively. The quantity and quality of the effluent must be determined at the point of discharge in accordance

[45] For the purpose of Regn. 10, a quarter means a period of three months commencing on January 1, April 1, July 1, or October 1: Regn. 10(1).

[46] Regn. 10(3).

with the procedure and standard methods laid down by the D.G.[47] The points of discharge are specified by the D.G. in every licence.[48]

The parameters[49] of effluent to be discharged from prescribed premises are limited by conditions imposed by the D.G. on a licence. There are two sets of limits, one for parameters of effluent to be discharged into a watercourse,[50] and the other for parameters of effluent to be discharged onto land.[51] The parameter limits for watercourse discharge are set out in the Second Schedule. These limits are according to annual periods of discharge from July 1, 1978 until June 30, 1982 and these are increasingly stringent.[52] Regulation 12(4) provides that the D.G. may in any particular case, if he considers it necessary to do so, impose, in respect of effluent to be discharged during any period, a more stringent limit than the applicable limit shown in the Second Schedule, for any parameter. On the other hand, he may also, under regulation 12(5), impose a less stringent limit than the applicable limit if he is satisfied that research on effluent disposal or treatment of a scale or kind that is likely to benefit the cause of environment protection is being or is to be carried out at the prescribed premises, and that such a concession is necessary for the conduct of the said research. The D.G. may also generally impose less stringent limits if he is satisfied that it would not be practicable for the limit shown in the Second Schedule to be observed at the prescribed premises.

While research relating to further environmental protection may be an accepted rationale for imposing less stringent limits, the second instance is open to criticism. The term "practicable"

[47] Form in Third Schedule, para. 6, note (a).

[48] Regn. 14.

[49] "Parameter" means any of the factors shown in the first column of the Second Schedule, reference to which the polutting potential or effluent is determined: Regn. 2. These factors are: B.O.D., C.O.D., total solids, oil and grease, ammoniacal-nitrogen, total nitrogen, pH and temperature.

[50] "Watercourse" includes any reservoir, lake, river, stream, canal, drain, spring, or well, any part of the sea abutting on the foreshore, and any other body of natural or artificial surface or sub-surface water: Regn. 2.

[51] Regn. 13.

[52] Except for the pH value and temperature which remain constant.

is not defined in the Prescribed Premises (Crude Palm Oil) Regulations. Reference may be made to its definition in section 2 of the EQA which states that "practicable" means reasonably practicable having regard, among other things, to local conditions and circumstances and to the current state of technical knowledge. The use of the term "reasonably" gives rise to further room for uncertainty. The concept of reasonableness which is the law's attempt to be objective in a given situation can then be used to evade responsibility for causing environmental deterioration. While the polluter may argue, and successfully too, that it is not practicable for him to comply with a prescribed limit, from the viewpoint of those affected by pollution, damage is caused and they are the ones to suffer the consequences. The fact that polluters have more access to the D.G. as compared to affected communities gives rise to a possibility in the D.G. exercising his discretion after having heard the representations of the polluters rather than the grievances of the communities. It is often after the damage has been done and communities protest that some consideration is given to the problem. Such a lack of consultation with all affected parties before a decision is reached only leads to more complex problems later.

As regards effluent to be discharged onto land, regulation 13(2) states that no limit shall ordinarily be imposed for any parameter other than the biological oxygen demand (B.O.D.) concentration. The limit is ordinarily 5,000 milligrammes per litre for any period for every licence issued on or after July 1, 1979.[53] However, regulation 13(5) provides that the D.G. need not impose any condition limiting the B.O.D. concentration if he is satisfied that the absence of such a condition will not cause any adverse environmental affect in any material degree. The term "material" is used again, which means that adverse effect *is* allowed to take place. Whether or not that effect is of a material degree is left to the discretion of the D.G.

On the other hand, the D,G, may also impose a more stringent limit than 5,000 milligrammes per litre "if he considers necessary so to do".[54] Thus the D.G. has the discretion to

[53] Regn. 13(4).

[54] Regn. 13(6).

decide either way. Neither the EQA nor the Regulations specify concrete considerations for the D.G. to consider in deciding these vital issues.

As in the case of watercourse discharge, an exemption may be granted for research purpose.[55] The D.G. may then impose less stringent limits.

The fee for a licence, including the renewal of a licence, is $100/— plus an effluent-related amount computed according to the method prescribed in the Third Schedule to the Regulations.[56] The latter is related to the total amount of effluent to be discharged from the prescribed premises, both into a watercourse and onto land, during the period of the licence.[57]

The D.G. with the approval of the Minister may waive, completely or partially, any effluent-related amount which is payable if the discharge of effluent is for the purpose of research for environmental protection.[58] In deciding the extent of the waiver, the D.G. is to be guided by a consideration of how much of the amount of effluent is involved in the research and of the quality characteristics of such effluent.

ii) *The Environmental Quality (Prescribed Premises) (Raw Natural Rubber) Regulations, 1978.*

The definition of "prescribed premises' under regulation 2 is any premises prescribed by the Environmental Quality (Prescribed Premises) (Raw Natural Rubber) Order, 1978,[59] being premises occupied or used for the production or processing of —

a) raw natural rubber in technically specified form, latex form including prevulcanised or the form of modified and special purpose rubber; and
b) conventional sheet, skim, crepe or any other form of raw rubber not already described in quantities of five tonnes or

[55] Regn. 13(7).

[56] Regn. 16(1).

[57] Third Schedule, para 1.

[58] Regn. 17.

[59] P.U. (A) 250/78.

more per day or with a production or processing capacity of a similar quantity.

Regulation 6 provides that an occupier of prescribed premises shall not make, or cause or permit to be made, any changes that materially and negatively alter the quantity and quality of effluent discharged from the prescribed premises, unless the D.G. has granted prior written approval for such changes. Similarly, dilution of effluent is prohibited unless the D.G. has given prior authorisation, and the dilution is done according to the terms and conditions of the authorisation.[60] These two regulations are the same as regulations 6 and 8 of the Prescribed Premises (Crude Palm Oil) Regulations. The criticisms expressed with respect to those regulations in the above section equally apply here.

Quarterly returns must also be submitted in the prescribed form.[61] Regulation 11 provides that in imposing acceptable conditions in respect of a licence for the discharge of effluent from prescribed premises, the D.G. is to be guided by regulations 12 to 18.

Regulation 12 deals with acceptable conditions for the discharge of effluent from prescribed premises occupied or used for the production of concentrated latex or its associated products into a watercourse. Every licence issued must contain a condition or conditions limiting the parameters of the effluent to be discharged. The limits are graduated on an increasingly stringent scale over different periods of time.[62] The D.G. may impose a more stringent limit than that prescribed for any parameter.

There is ordinarily no limit imposed on the above effluent if discharge is onto land.[63] However, the D.G. may, if he considers it necessary so to do, impose conditions for all or any of the parameters, and in that event, the limits are ordinarily those as shown in the Second Schedule.

[60] Regn. 8.

[61] Regn. 10.

[62] Third Schedule.

[63] Regn. 13(1).

The acceptable conditions for the discharge of effluent from the production of products other than concentrated latex or its associated products are dealt with in regulations 14 and 15. Regulation 14 is concerned with effluent discharged into a watercourse while regulation 15 states that no condition limiting any parameter shall ordinarily be imposed in respect of the discharge of such effluent onto land. Again, the D.G. may, if he considers it necessary, impose conditions.

In each case the D.G. may impose more stringent limits than those which are prescribed. It is apparent, however, that the Regulations place less concern on effluent discharged onto land. Limits on parameters are not mandatory, but are left as a matter for the discretion of the D.G. The only criterion is "if the D.G. considers it necessary" – the EQA and Regulations are silent on the circumstances which would render it necessary for limits to be imposed on parameters of effluent to be discharged onto land. It would appear that the D.G. has to decide subjectively.

A noteworthy regulation is regulation 20 which states that every occupier of prescribed shall, to the satisfaction of the D.G., install, maintain and operate a continuous effluent flow-measuring and recording device for the purpose of monitoring, at the point of discharge, the quantity of the discharge of effluent during the period of the licence.[64] Of course the "satisfaction" of the D.G. is a vague standard, and does not afford a certain and identifiable determinant. Thus we often read of statements by the D.G. that he or his Division of Environment is "satisfied" that a factory or mill is monitoring its effluent discharge but the public is not informed of the details of any monitoring programme.

The licence fee, including the fee for a renewal thereof, is $100/– plus an effluent-related amount.[65] A waiver, complete or partial, of the latter amount may be given if discharge is for research into environmental protection.

[64] This regulation is not found in the Prescribed Premises (Crude Palm Oil) Regulations, but a similar requirement may be imposed under section 12(1)(iv) of the EQA

[65] Regn. 22(1).

b) *Acceptable Conditions*

Section 21 in the EQA states:

"The Minister, after consultation with the [Environmental Quality] Council, may specify the acceptable conditions for the emission, discharge or deposit of wastes or the emission of noise into any area, segment or element of the environment and may set aside any area, segment or element of the environment within which the emission, discharge or deposit is prohibited or restricted".

This section gives the Minister two powers: one to specify acceptable conditions of pollution, and the other to *prohibit* waste discharge in any part of the environment. However, the general approach so far has been to allow pollution to take place in accordance with specified conditions rather than to strictly forbid it. The section also refers to "restricted" emission, discharge or deposit. In effect, it is not too different from discharge according to acceptable conditions: in specific areas the emission, discharge or deposit is restricted to specific limits which are slightly lower than the prescribed permissible limits of general application.[66] The fact remains that pollution is still allowed according to limits set by law.

At the time of writing, acceptable conditions for waste discharge into the atmosphere, and into waters have been drawn up by the Minister. These are the Environmental Quality (Clean Air) Regulations, 1978 and the Environmental Quality (Sewage and Industrial Effluents) Regulations, 1979, respectively.

i) *The Environmental Quality (Clean Air) Regulations, 1978.*

Under these Regulations acceptable conditions are specified for the burning of waste,[67] emission of smoke,[68] and air impurities.[69]

[66] See Regn. 31 of the Environmental Quality (Clean Air) Regulations, 1978.

[67] Regns. 7, 11.

[68] Regns. 14 to 16.

[69] Regns. 21, 24 to 32, 34, 35.

The burning of wastes covers two situations. First, no owner or occupier of industrial or trade premises can burn or cause to be burnt combustible materials, refuse and produce or waste except in an incinerator of such type and design approved by the D.G.[70] Secondly, unless covered by a written approval issued by the D.G., no person can cause, allow or permit open burning of any combustible material or refuse except as may be allowed in compliance with the following:

a) open burning of leaves, tree branches or yard trimmings originating on the premises of private residences between 8.00 a.m. and 6.00 p.m.;
b) fires purposely set to agricultural lands for disease and pest control or fires set to carcasses of diseased animals and poultry, or for other accepted agricultural practices;
c) fires set purposely for carrying out research into causes and control of fires, or for the instruction and training of public and industrial fire-fighting personnel.

In all other cases, open burning is permitted only when a licence is obtained from the D.G. who has been satisfied that open burning is the only economically practicable method of disposal and such burning is not likely to cause pollution.[71] Every application must be accompanied by a sample of the material proposed to be burnt and a combustion report certified by a qualified chemist.[72]

The permissible dark smoke limits which are set by these Regulations are according to the Ringlemann Scale for grading the density of smoke published by the British Standard BS 2742 series or the equivalent of the Ringlemann Scale. However, these limits are not applicable to the emission of smoke from an installation for an aggregate of less than five minutes in any period of one hour, provided that the total period of such emissions do not exceed an aggregate of 15 minutes in any period of 24 hours.

As for "air impurities", the term has a wide definition and includes smoke, soot, dust, ash (including flyash), cinders, grit,

[70] Regn. 7.
[71] Regn. 12.
[72] Regn. 13.

solid particles of any kind inclusive of particulates, gases, fumes, mist, odours and radioactive substances which are generated as a result of combustion of fuel and the like, or a result of synthesis, resolution or any other treatment, and any other substance which may be designated by the Minister as those which are liable to effect adversely human health or the living environment.[73]

While an extensive definition may be favourable in that it provides ample flexibility for effective control, one questions whether it might not be too ambitious an attempt to cover almost every element. For instance, the effects of radioactive substances on the environment is a highly specialised field with its own unique features. Categorising these with other forms of air pollution is unsatisfactory and inadequate, especially since Malaysia has begun her involvement in atomic research.

To date, standards have been established for solid particles concentration in the heating of metals[74] and in operations other than the heating of metals;[75] metals and metallic compounds;[76] gaseous substances;[77] dust or solid particles concentration from asphalt concrete plants, bituminous mixing plants[78] and Portland cement plants;[79] and the concentration of dust and solid particles containing asbestos or free silica.[80] Three standards are prescribed for each type of discharge of air impurities.[81] Every facility set up on or after the date of coming into force of the Regulations has to comply with Standard C which is the most stringent.[82] Facilities existing before such date were given a maximum of two years to comply with Standard A and a maximum of three years to comply with

[73] Regn. 2.

[74] Regn. 24.

[75] Regn. 25

[76] Regn. 26.

[77] Regn. 27.

[78] Regn. 28.

[79] Regn. 29.

[80] Regn. 30.

[81] Standards A, B and C in increasing stringency.

[82] The date of coming into force of these Regulations was October 1, 1978.

Standard B, from that date. Thus two levels of discharge are permitted: a stricter one for facilities established on or after October 1, 1978 and a more lenient one for those set up before that date. In other words, some factories and mills can legally pollute more than their newer counterparts.

As seen above, the term "air impurities" include odours. Regulation 32 provides that an occupier of any industrial or trade premises must use the best practicable means to prevent the emission of noxious or offensive substances and to render harmless and inoffensive those substances necessarily discharged.[83] For the purpose of this regulation, "best practicable means" include the size, design and inherent operation characteristics of the plant or purpose; the provision if necessary, and the appropriate use of suitable equipment; the use of suitable fuel or raw material; the alternative process, manner of operation or procedures within the capacity and design capability of the plant; the proper conduct and adequate supervision of operation; and regular and efficient maintenance of plant and control equipment.[84]

Under regulation 34, the best practicable means must also be used to prevent the carry over of liquid droplets from any chimney into the atmosphere. Since the Regulations do not define "best practicable means" in this instance, the EQA definition may be resorted to, i.e. "practicable means" include the provision and the efficient maintenance of plant and the proper use thereof and the supervision by and on behalf of the occupier of any process or operation.[85]

Further, regulation 35 states that no person can cause, allow or permit the emission from any incinerator of particles of unburnt waste or ash which are individually large enough to be visible while suspended in the atmosphere.

[83] Noxious and offensive substances are substances referred to in the Third Schedule to the Clean Air Regulations.

[84] Regn. 32(3).

[85] EQA, section 2.

ii) *The Environmental Quality (Sewage and Industrial Effluents) Regulations, 1979*

These Regulations apply to discharges of effluent into any inland waters,[86] other than the effluents discharged from prescribed premises or other premises specified in the First Schedule or both.[87]

The non-applicability of these Regulations to the processing of oil palm fruit and raw natural rubber may be due to the fact that the Prescribed Premises Regulations pertaining to these processes already set limits for the effluents which are discharged. However the difference in the two sets of limits is great. For instance, the maximum limit for the chemical oxygen demand (C.O.D.) concentration parameter for watercourse discharge under the Prescribed Premises (Crude Palm Oil) Regulations is presently 1,000 milligrammes per litre. However, the limit under the Sewage and Industrial Effluent Regulations is 50 milligramme per litre for discharge into inland areas within catchment areas, and 100 milligrammes per litre for discharge into any other inland waters! So even if the Sewage and Industrial Effluent Regulations are sufficiently stringent, the fact that they do not apply to crude palm oil and raw natural rubber wastes (two of the most polluting activities in Malaysia) implies that their aim to protect the environment is undermined.

These Regulations also do not apply to mining activities,[88] nor to certain categories of activities involved with the processing, manufacturing, washing or servicing of any other products or goods. For instance, operations that produce effluent of less than 13,000 imperial gallons per day are not affected. View this from the collective aspect, and we realise that many "small" industries discharging "small" amounts of waste will have a significant effect on the environment. Even one such operation

[86] Inland waters include any reservoir, pond, lake, river, stream, canal, drain, spring or well, any part of the sea abutting on the foreshore, and any other body of natural or artificial surface or subsurface water: Regn. 2.

[87] Regn. 3.

[88] When these Regulations were in a draft form, mining activities were proposed to be included, but the States of Malaya Chamber of Mines (Incorporated) successfully "urged" the Government to exclude mining activities from being covered by the Regulations: see the 1978 Report of the Chamber, at pp. 34–35.

can present an immense problem if a community is on the receiving end of the pollutants: it takes only one fertiliser plant to despoil a river and thus destroy crops, and threaten the health of villagers.[89] When environmental degradation takes place, damage and suffering are a part of the process. Pollution remains pollution, irrespective of the amount of effluents discharged.

The above exceptions are, however, subject to regulation 6 which *absolutely* prohibits the discharge of any of the following substances into any inland waters:

a) any inflammable solvent;
b) any tar or other liquids immiscible with water;
c) refuse, garbage, sawdust, timber, human or animal waste or solid matters.

In reality, it is regrettable that most of the rivers and streams in Malaysia are used as a sewage disposal system. River pollution is in fact quite critical in this country.[90]

Two sets of acceptable conditions are specified for effluents discharged into inland waters.[91] Standard A applies to discharges into any inland waters within the catchment areas specified in the Fourth Schedule, while Standard B relates to discharges into any other inland waters. Standard A is more stringent than Standard B. This means that factories which discharge effluent into inland waters not within the specified catchment areas can discharge more concentrated pollutants. So our rivers and streams, padi fields, and rural communities which are normally situated beyond catchment areas, have to bear the full force of such "permissible" pollution. There is no doubt that pollution of catchment areas would be a major disaster. But pollution of numerous waterways all over the country, destroying the livelihood and health of affected communities *is* a major disaster.

[89] See Consumers' Association of Penang, *Padi Pollution in Kuala Kedah*, a documented account of three villages which suffered from pollution caused by effluents from a fertiliser factory.

[90] Forty-two rivers in the country have been classified "grossly polluted".

In addition to the above specified conditions of discharge, the D.G. may by notice in writing specify acceptable conditions for the discharge of effluent containing *inter alia* radioactive material, pesticides, fungicides, herbicides, insecticides, rodenticides, fumigants or other biocides or any other chlorinated hydrocarbons, and a substance that either by itself or in combustion or by reaction with other waste or refuse may give rise to any gas, fume or colour or substance which causes or is likely to cause pollution.[91] The last parameter is of significance because a river or stream normally receives effluents from more than one source, especially if it flows in the vicinity of industrial estates. Different factories may discharge different types of wastes, the interaction of which could be extremely dangerous.

c) *Contravention of Acceptable Conditions*

Even though acceptable conditions are specified under the EQA these very same limits can be contravened lawfully. For instance, section 22(1) of the EQA provides for licensed pollution of the atmosphere in contravention of the specified acceptable conditions. Thus regulation 49(1) of the Clean Air Regulations provides for this. The D.G. can only grant such a licence if he is satisfied that such grant "is not likely to cause hazard to public health, safety, or welfare, or to animals, birds, wild life, fish or aquatic life, or to plants, or to affect adversely any beneficial use of the environment". He must also be satisfied that, *inter alia*:[92]

a) there is no known practicable means of control in order to comply with acceptable conditions; or
b) the estimated cost incurred to comply will be prohibitive having regard to the size of the operation; or
c) an occasion or instance whereby the imposition of the acceptable conditions as prescribed would create a condition which, in the opinion of the D.G. having regard to all the circumstances, is not reasonably practicable or is contrary to the intent and spirit of the EQA.

[91] Fifth Schedule, parameters (xvi) to (xviii).

[92] Regn. 49(3).

Similarly, the Sewage and Industrial Effluent Regulations also provide for an application for a licence to contravene the acceptable conditions specified therein.[93] Regulation 11(3) states that the D.G. may refuse to grant the application if he is satisfied that to do so is likely to cause a worsening of condition in the inland waters or cause pollution in any other segment or element of the environment.[94] Yet a licence may still be obtained if the D.G. is satisfied that inter alia the same three factors as those mentioned above in relation to the Clean Air Regulations exist.[95]

In both sets of Regulations, a licence to contravene acceptable conditions is granted to industries where, at the moment, there are no "known practicable means" of control in order to ensure compliance with such conditions. The term "practicable" does not necessarily mean "available". Thus the technology may exist but effort and money are needed to adapt the equipment to suit local requirements. Since no time limit is prescribed for compliance, such a state of non-control is hardly going to motivate the industries concerned into investing in research that would lead to the development of appropriate anti-pollution devices.

Furthermore, the question of cost of compliance is considered from the polluter's point of view. Why is the cost of non-compliance from the viewpoint of the affected communities ignored?

Then there is the general reference to circumstances which are not reasonably practicable. These are again a matter left to the discretion of the D.G. Conditions which appear to be not reasonably practicable may, on the other hand, alleviate the hardship faced by affected communities. Whose interest will be considered more important? Would human welfare be placed below economic considerations at all times?

Contravention of standards is also permitted if compliance would be "contrary to the intent and spirit" of the EQA. Since

[93] This is in accordance with section 25(1) which permits licensed contravention of acceptable conditions in the pollution of inland waters.

[94] c.f. the Clean Air Regulations: The D.G. "shall" refuse unless the requirements in Regn. 49(3) are met to this satisfaction.

[95] Regn. 11(4).

the EQA aims at preventing, abating, controlling pollution and enhancing the environment, one fails to see how compliance of set standards can be a contradiction. In fact, contravention which is licensed contradicts that intent and spirit.

The EQA also provides for contravention of acceptable conditions in other forms of pollution. Section 23 of the EQA deals with noise pollution and section 24 with soil pollution. At present no acceptable conditions have been specified for these. Noise pollution is thus uncontrolled. As for pollution of any land surface, some form of control exists in the Prescribed Premises (Crude Palm Oil) Regulations,[96] the Prescribed Premises (Raw Natural Rubber) Regulations,[97] and the Sewage and Industrial Effluents Regulations.[98] The control, however, is limited and inadequate in view of the vital importance of soil as a basic natural resouce.

Although the underlying principle of Malaysia's environmental policy is that of "controlled" pollution, the law does recognise that even acceptable conditions may be unacceptable under certain circumstances. Thus section 33(1) of the EQA provides:

> "Where several persons are licensed under [the EQA] to emit, discharge or deposit wastes into the same segment or element of the environment and it *appears to the D.G.* that each of such persons is complying with the conditions of the licence but nevertheless the collective effect of the aggregate of such wastes is likely to cause a worsening of condition in that segment or element of the environment such as to affect the health, welfare or safety of human beings, or to threaten the existence of any animals, birds, wild life, fish or other aquatic life, *the D.G. may,* by notice serve on each of the licensees, requiring each of them to abate such emission, discharge or deposit in the manner and within the period specified in the notice".[99]

[96] Regn. 13.

[97] Regns. 13, 15.

[98] Regns. 9, 10.

[99] Emphasis added.

This provision is useful where various factories within an area are discharging effluent into the same watercourse, or into the atmosphere. Since it is a discretionary power the decision is the D.G. 's.

d) *Effluent discharged into the Sea*

The EQA also prohibits oil pollution of the sea. Section 26(1) of the EQA provides that no person shall discharge or spill any oil or mixture containing oil into any part of the sea outside the territorial waters of Malaysia if such discharge or spill will result in oil or mixture containing oil being carried, spread or washed into Malaysian waters. Discharge of oil into territorial waters is also prohibited under section 27(1).

However, special defences are provided for in section 28:

> "Where any person is charged for any offence under section 26 or 27 it shall be a defence to prove that such discharge or spillage was –
>
> (a) for the purpose of securing the safety of the vessel;
> (b) for the purpose of saving human life;
> (c) the result of damage to the vessel and that all reasonable steps were taken to prevent, to stop or to reduce the spillage;
> (d) the result of a leakage, which was not due to want of care, and that all reasonable steps have been taken to stop or reduce the leakage; or
> (e) the result of an effluent produced by operation for the refining of oil, and that all reasonable steps had been taken to eliminate oil from the effluent and that it was not reasonably practicable to dispose of the effluent otherwise than by discharging or spilling it into the Malaysian waters".

Since (b) refers specifically to the saving of human life, (a) is therefore an indication of the priority placed on an object, the vessel, as against the detrimental effect of the oil discharge or spillage on the environment. As for (e), what amounts to "practicable" is again not precise. So long as the oil industry is given the 'soft' treatment it may not make serious efforts to

develop the best technology for pollution control. The defences listed above would cover nearly all instances of spillage – from collisions to deliberate discharge or spillage when it is "not reasonably practicable" to otherwise dispose of the oil effluent. No wonder the present D.G. has said that no clear responsibility exists for oil spills off the shore of Trengganu which is now plunging into oil exploitation[1]

As regards the discharge of wastes into Malaysian waters, such an act is prohibited unless licensed.[2] According to an officer from the Division of Environment, regulations pertaining to sea and beach pollution are currently being drawn up by the Ministry of Science, Technology and the Environment.[3] Whether these proposed regulations deal mainly with industrial wastes or oil remains to be seen. In any case, once a licence is obtained, the polluter can proceed to discharge wastes into the sea.

A noteworthy provision is section 47 which empowers the D.G. to take action to remove, disperse, destroy or mitigate any pollution caused by any person in contravention of the EQA. He may then recover all costs and expenses incurred in connection therewith from the polluter. All or any sum thus payable shall be a first charge on any property or interest held by the polluter. It is submitted that this provision is commendable in that it allows the D.G. to act immediately when an emergency takes place, or when the polluter refuses to act himself.

For the purpose of sections 26, 27 and 29 above, where the discharge or spillage of oil, mixture containing oil or wastes is from any ship or two or more ships, the owner of such ship shall be liable or the owners of all such ships shall be jointly and severally liable. Where the discharge or spillage is from any apparatus used in transfering oil from or to any ship (whether to or from a place on land or to or from a ship), the person in charge of the apparatus and the employer of that person shall

[1] New Straits Times, August 10, 1981 at p. 16.

[2] EQA, section 29(1).

[3] Interview on May 15, 1981.

be jointly and severally liable. If it is from any place on land, the occupier thereof shall be liable.[4]

Since section 2 of the EQA defines "ship" to include every description of vessel, or craft or *floating structure*, it is submitted that off-shore platforms for oil exploitation are also "ship".

However, the power under section 47 is discretionary. The law does empower the D.G. to respond swiftly and to prosecute those who are responsible for causing oil pollution in the sea. Whether this power will be exercised remains to be seen.

e) *Penalties*

Prosecutions of offenders under the EQA or regulations made thereunder may be conducted by the D.G. or any officer duly authorised in writing by him, or by any officer of any local authority to which any powers under the EQA have been delegated.[5]

As observed above, the discharge of effluents in contravention of acceptable conditions without a licence is an offence. The offender is liable to a fine or to imprisonment or to both, and to a further fine for every day that the offence is continued after a notice by the D.G. requiring him to cease the act specified therein has been served upon him.

For instance, any person who, without licence, contravenes the acceptable conditions specified for atmospheric pollution is guilty of an offence and is liable to a fine not exceeding $10,000 or to a term of imprisonment not exceeding two years or to both, and to a further fine not exceeding $1,000 a day for every day that the offence is continued.[6]

The imposition of a continuing liability is appropriate since each day of prolonged pollution will only worsen the situation. Perhaps a higher maximum fine would be more effective, especially if the offender is the owner or operator of a large concern to whom a maximum fine of $10,000 is negligible, and a continuing fine $1,000 per day is a small price to pay as

[4] EQA, section 47(4).

[5] EQA, section 44.

[6] *Ibid.*, section 22(3).

compared to the costs of operating control devices. In the United States, any violation of the 1972 Federal Water Pollution Act (Amendments) is punishable by a fine of not less than US$2,500 and not more that US$25,000 per day of violation and or imprisonment for one year.[7]

No continuing liability is imposed on a person who discharges wastes into the Malaysian waters without a licence. The penalty is a fine not exceeding $10,000 or imprisonment not exceeding two years or both.[8]

The offence of discharging or spilling oil into Malaysian waters or into part of the sea outside the Malaysian waters is also not subject to a continuing liability. The penalty is a fine of not less than $1,000 and not more than $25,000 or imprisonment not exceeding two years or both.[9]

The penalty for offences not otherwise provided for is a fine not exceeding $5,000 or imprisonment not exceeding one year or both.[10] This would apply, for instance, to an offence under the regulations pertaining to prescribed premises.

The EQA further provides that the D.G. or any Deputy D.G. may in his discretion compound such offences against the EQA or regulations as may be prescribed by the Minister as compoundable offences. A maximum sum of $500 may be collected from any person reasonablly suspected of having committed an offence. Exercising the powers conferred by section 45(2) of the EQA, the Minister has made the Environmental Quality (Compounding of Offences) Rules, 1978.[11]

Where an offence has been committed by a company, firm, society or other body of persons, any person who at the time of the commission of the offence was a director, manager, or other similar officer or a partner or was purporting to act in such capacity is deemed to be guilty of that offence. An exception is when he proves that the offence was committed without his consent or connivance and the he had exercised all such

[7] John E. Heer, Jr. and D. Joseph Hagerty, Environmental Assessments and Statements, New York, Van Nostrand Reinhold (1977) at p. 51.

[8] EQA, section 29(2).

[9] *Ibid.*, sections 27(2) and 26(2).

[10] *Ibid.*, section 41.

[11] P.U. (A) 281/78.

diligence as to prevent the commission of the offence as he ought to have exercised, having regard to the nature of his functions in that capacity and to all the circumstances.[12]

If the offence is committed by any clerk, servant or agent when acting in the course of his employment, the principal is also held liable unless he satisfies the court that the offence was committed without his knowledge or consent and he had exercised all such diligence as to the offence and to ensure the observance of the law.[13] Nevertheless, the clerk, servant or agent is still liable if it is proved that he had committed the offence.

B. *Conclusion*

When the Environmental Quality Bill was being debated by Parliament in 1973, the reaction of the Members of Parliament was mixed. Some feared that investors would be scared off when the Bill was implemented.[14] An Opposition member[15] spoke at length on the Bill, saying that it merely sought to control pollution and not to improve the environment.[16] He also said that the Government was "lackadaisical" in environmental control as evidenced by its acceptance of industries with high pollution index which had been rejected by other countries.[17]

Today, in addition to the numerous piecemeal laws relating to environmental issues, we have the EQA. We have regulations to deal with air pollution. There are regulations to control waste from over-polluting rivers. It is seven years since the EQA has been implemented and the Division of Environment established. Yet stories continue to surface about fish dying in noxious rivers and communities having to suffer from environmental degradation.

[12] EQA, section 43(1).

[13] *Ibid.*, section 43(2).

[14] See Straits Times, December 7, 1973.

[15] Dr. Tan Chee Koon of the Parti Keadilan Masyarakat (a political party).

[16] *I oc. cit.*

[17] *Ibid.*,

These reflect the inadequacies of existing environmental legislation and enforcement agencies which do not provide for public participation. Concern for the environment is made the responsibility of the Division of Environment under a D.G. This agency is the watch-dog and also the authority which is empowered by law to issue licences for effluent discharge. Such a situation could possibly result in a conflict of interest, more so because existing legislation do not have enough powers to protect the environment. The voice of the aggrieved polluter is given a hearing, but the voice of the public who may be the victims of pollution is left out.

The Legislature must seriously reconsider the various laws which have been passed, and in its review and evaluation, move towards environmental legislation which are more stringent.

Degradation of the environment is not a matter merely between the polluter and the enforcement agency, it almost always affects people living in the area concerned. While applications for licences and appeals are made in the city, communities have to bear the consequences of a polluted environment. They who are central to the issue are instead relegated away from environmental protection policies and procedures. Thus it is also vital that future environmental legislation be based on public representation and consultation.

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