

CHAPTER 7

MANAGING THE URBAN ENVIRONMENT

MANAGEMENT RESPONSE AND OUTSTANDING ISSUES

The brief overviews of the state of the urban environment in Kuala Lumpur and the Klang Valley area in the preceding chapters illustrate the kind of problems (perhaps to a lesser degree) faced by many urban areas in Malaysia. They also demonstrate the dilemma of balancing between urban development which is supportive of economic progress on the one hand, and environmental degradation which that development creates in the process on the other.

The management of the environment in urban areas is obviously related to and very much influenced by the environmental management policies at the national level. At this level, the Environmental Quality Act 1974 contains about 20 pieces of regulations promulgated under it (Table 7.1) that are available for the purpose of environmental management. In addition, there are other pieces of environment-related legislation, by-laws and guidelines that are administered by the different government agencies and local governments. In the Klang Valley, the DBKL, the Petaling Jaya Municipality, the Klang Municipality and other local councils all have their own by-laws enacted under the Local Government Act of 1976. Despite these regulatory measures many outstanding issues remain to be solved.

Many observers both from within and outside the country have indicated that while Malaysia has one of the best sets of environmental legislation, comparable even with those of some developed countries, the effective implementation of such legislation is still unimpressive. The institutional and legal structures of local governments are generally not equipped for effective environmental management work despite their direct involvement with the environment. The lack of access to an adequate financial base is a major weakness. Most local governments have difficulties getting sufficient revenues to cover their operating expenses, let alone making new investments to extend services and facilities.

Table 7.1: Environmental Pollution Control Regulations Gazetted under the EQA 1974

Regulation/Order	Effective Enforcement Date
1. Environmental Quality (Prescribed Premises) (Crude Palm Oil) Regulations 1977 Amendment (1982), P.U. (A) 342	November 4, 1977
2. Environmental Quality (Licensing) Regulations 1977, P.U.(A) 198.	October 1, 1977
3. Motor Vehicle (Control of Smoke and Gas Emissions) Rules 1977 (made under the Road Traffic Ordinance, 1958), P.U.(A) 414	December 22, 1977
4. Environmental Quality (Prescribed Premises) (Crude Palm Oil) Order 1977, P.U. (A) 199.	July 1, 1978
5. Environmental Quality (Prescribed Premises) (Raw Natural Rubber) (Amendment) Order 1978, P.U. (A) 337	April 1, 1978
6. Environmental Quality (Prescribed Premises) (Raw Natural Rubber) Regulations 1978 (Amendment 1980), P.U. (A) 338.	December 1, 1978
7. Environmental Quality (Clean Air) Regulations 1978, P.U. (A) 280.	October 1, 1978
8. Environmental Quality (Compounding of Offences) Regulations 1978, P.U.(A) 281.	October 1, 1978
9. Environmental Quality (Sewage and Industrial Effluents) Regulations 1979, P.U. (A) 12.	January 1, 1979
10. Environmental Quality (Control of Lead Concentration in Motor Gasoline) Regulations 1985, P.U. (A) 296.	July 11, 1985
11. Environmental Quality (Motor Vehicle Noise) Regulations 1987, P.U.(A) 244.	July 16, 1987
12. Environmental Quality (Prescribed Activities) Environmental Impact Assessment Order 1987, P.U. (A) 362.	April 1, 1988
13. Environmental Quality (Scheduled Wastes) Regulations 1989, P.U.(A)139.	May 1, 1989
14. Environmental Quality (Prescribed Premises) (Scheduled Wastes Treatment and Disposal Facilities) Order 1989 P.U.(A) 140.	May 1, 1989
15. Environmental Quality (Prescribed Premises) (Scheduled Wastes Treatment and Disposal Facilities) Regulations 1989, P.U.(A) 141.	May 1, 1989
16. Environmental Quality (Delegation of Powers on Marine Pollution Control) Order 1993, P.U. (A) 276.	September 23, 1993
17. Environmental Quality (Prohibition on the use of Chlorofluorocarbons and other gases as Propellants and Blowing Agent) Order 193, P.U. (A) 434.	October 25, 1993
18. Environmental Quality (Delegation of Powers on Marine Pollution Control) (Amendment) Order 1994, P.U. (A) 536.	December 29, 1994
19. Environmental Quality (Delegation of Powers on Marine Pollution Control) Order 1994, P.U. (A) 537.	December 29, 1994
20. Environmental Quality (Prohibition on the use of Controlled Substance in soap, Synthetic Detergent and other Agents) Order 1995, P.U. (A) 115.	April 15, 1995

To become effective agents of development, local governments and municipalities need enhanced political, institutional and financial capacity, notably access to financial facilities and support. State governments obviously will need to play a more active role in conservation efforts as many of the present day environmental problems are closely related to activities which are directly under the state jurisdiction, including forestry, mining and water resources. In the Klang Valley, all levels of governments are involved -- federal, state, municipalities and other smaller local government authorities. Here, the efforts and contribution from each of the players must be properly defined and coordinated. There must also be adequate funds to undertake such an enormous task.

The issues pertaining to the various environmental components are discussed in the following sections.

LAND DEGRADATION

The management of land degradation is directly related to urban landuse planning. This is because the most effective means of preventing land degradation lies in planning for land use. For Kuala Lumpur, the Kuala Lumpur Draft Structure Plan (1984) outlines the plan for development of the city up to 2002. In this plan DBKL has stated several policies to contain land degradation as outlined in the chapter on Policy Implications. These form the basis for a set of strategies to minimise and control land degradation. In addition, the Federal Territory Planning Act 1982 makes reference to the control of use of land while the Building (Federal Territory of Kuala Lumpur) By-Laws 1985 deals with building site, drainage of subsoil and protection against soil erosion etc.

Despite the planning for land use contained in these guidelines and regulations, problems of land degradation persist. Poor land use practice leads to geohazard events which need to be managed.

Perspective on Geohazard Management

There has been no serious effort to look into the total management of hazards by the relevant authorities in Kuala Lumpur, and in Malaysia in general, because it has been assumed that we are free from such threats. Part of this is due to the fact that only volcanic eruptions, earthquakes, and tornadoes are regarded as natural disasters and it is true that these are not major threats to us. Furthermore, understanding and awareness of geohazards are still at a low level among planners, policy makers, developers and city dwellers (Ibrahim 1996a). However, recent events in the like of the Highland Tower tragedy, Hurricane Greg, and the Pos Dipang tragedy have brought greater awareness among decision-makers and triggered alarm amongst the public.

Hazards, by definition, include landslides, floods, subsidence, soil and coastal erosion, drought and haze episodes. These hazards are commonplace in Malaysia and each requires intensive and extensive

planning and management processes because they are cross-sectoral and multi-disciplinary in nature. In addition, the prevention and control processes involve scientific, economic and social considerations. Geohazards are either natural or man-induced but in recent years man-induced hazards have increased dramatically and in the case of Kuala Lumpur it appears that man-induced hazards have brought about greater property damage and loss of lives.

The government presently recognises soil erosion and floods as major threats and the basic infrastructure to handle these disasters are already in place. A brief description of the current management practice is given in the ensuing discussions.

Managing Floods and Flash-flood

River flooding and more recently flash-floods have been major land degradation issues in Kuala Lumpur. About 122 square kilometre (9.5%) of the land surface in Federal Territory has experienced flooding in the past, and the problem still persists until today. In addition to the heavy monsoonal rain, the effective catchment areas of Sungai Klang and its tributaries which drain the Kuala Lumpur area are relatively small. As a result, even without much development activities taking place, extreme high flows can be experienced at any time during the rainy season and during the thunderstorms. Careful long-term planning and a comprehensive management scheme are needed to prevent and control floods and flash-flood in the Kuala Lumpur area.

Large-scale flood mitigating measures have been carried out in the Kuala Lumpur area as a reaction to the 1971 flood. Some of the works included channelization of the Sungai Klang, Sungai Gombak and Sungai Batu, and the construction of Klang Gates and Sungai Batu Dam. Continuous river improvement activities and channelization are being carried out until today. DBKL has its own ongoing flood prevention programme, and has spent about RM100 million for the infrastructure improvement work through the Comprehensive Drainage Infrastructure System (CDIS) for the period between 1982 to 1994 (DBKL 1994). Several other activities, including the River Cleaning Programme, Main Drainage Infrastructure Monitoring System and Drainage Maintenance System, have been undertaken by DBKL for the prevention and control of floods and flash-floods in the Kuala Lumpur area.

The Department of Irrigation and Drainage (DID) has been given the task to develop the system for monitoring, prediction and warning of flood events, particularly in the Kuala Lumpur area. The system was initiated immediately after the 1971 Flood, and in 1976 the Kuala Lumpur Flood Prediction System was installed (DID 1994). Continuous improvements, especially on the modelling of flash-flood, flood warning system, hydrological station network and flood monitoring system (rainfall system and telemetric water level recording), have been carried out and are still in progress until today.

Managing Erosion and Siltation

Perhaps the most problematic issue with respect to the rapid development of Kuala Lumpur is severe erosion and siltation. Erosion problems arise from extensive housing and infrastructure development activities. The sediment generated from erosion is transported into the river system, affecting water quality and in some instances inducing flash-flood. Realising this problem, in 1978 the DOE issued a document entitled 'Guidelines for Prevention and Control of Erosion and Siltation' (DOE 1978). However, soil erosion and siltation continued to be a land degradation problem of significant proportion, particularly in the urban centres.

In 1992 twenty-six government departments and agencies and academic institutions were called upon to identify activities that could cause substantial erosion and sedimentation. The outcome was a publication of new revised guidelines entitled 'Guidelines for the Prevention and Control of Soil Erosion and Siltation 1996' (DOE 1996). This guideline aims at providing a checklist of existing information pertaining to soil erosion and sedimentation so that urban development activities can be planned and executed in a judicious manner with minimum land degradation. This document offers a management guide to Local Councils, Municipalities and District Agencies, especially at the construction phase which entails major disturbances of the soil surface resulting in the rates of erosion many times greater than that of natural conditions.

This attempt to manage soil erosion problems, however, has very limited success because the DOE does not have complete jurisdiction over a substantial portion of the urban development activities, except when implementing the preparation and monitoring of EIA for about 19 prescribed activities listed in the Environmental Quality Order 1987. Many urban development activities do not fall under these prescribed activities, therefore, managing and controlling soil erosion and siltation issues in the Kuala Lumpur area remain unintegrated. Local Councils with their powers over state land matters will be in a better position to ensure adherence to the Guidelines.

Integrated Approach in Managing Urban Geohazard Problem

All the approaches described above are actions for handling hazards which are compartmentalised and the task of dealing with them is left to individual agencies with minimum interaction between them. Because, as stated earlier, hazard management is cross-sectoral and multi-disciplinary, this approach has met with limited success. As such, whenever a hazard which is not flood or soil erosion occurs, the government does not have a clear plan for management and mitigation. A holistic, long-term and high-level plan is urgently needed.

Several strategies for integrated geohazard management have been discussed by Ibrahim and Pereira

(1997). The most important one involves the establishment of a Geohazard Management entity that provides full-time leadership in geohazard prevention and control measures and is able to operate effectively at the highest level. It must have jurisdiction over all related agencies such as JKR, GSM, DID, Meteorological Service and DOE. At the state level the local councils should also be mobilised into action whenever needed. The main objective of the entity is to establish a comprehensive geohazard database and to carry out long-term integrated research on planning and development for sound geohazard preventive and control measures. This entity should, in fact, be part of a larger national hazard policy which will be outlined in the chapter on Policy Implications.

MANAGING KUALA LUMPUR AS A GARDEN CITY

A systematic greening of Kuala Lumpur began in 1973 with the establishment of the Beautification Unit under DBKL whose responsibilities include planting trees and maintaining green areas, including ordinary and theme parks, in the city. The Unit was elevated to a Departmental status in 1989 (Ayoub 1989).

As part of the effort to make Kuala Lumpur a garden city many more parks and open spaces need to be created, especially in housing and industrial estates. Barren or idle areas in the housing and industrial estates should be rehabilitated. On a positive note, it is now mandatory for all housing and industrial estates in the city to have recreational areas which also function as green playgrounds for the young. Whether or not such green areas can be maintained for the future is uncertain because as property becomes more expensive and scarce, they are usually the first to be sacrificed.

By 1989 a total of 257,400 individual plants had been planted around Kuala Lumpur. Other than trees for shade, flowers and aroma, many shrubs and herbs were also introduced as ornamental plants. They were classified according to their functions such as species for road dividers, traffic islands and buildings. Tree characteristics and aesthetics are very important consideration for tree planting in Kuala Lumpur. The range includes single trees for specimen, to groups of trees for utility purpose in parks, greenbelts and along roadside, to forests. There are several basic types of landscapes that are affected by the colour, tone, texture, shape and size of trees and how they are managed. A clear policy on what type of trees to plant, where to plant them and how to plant them (singly or groups) are vital in ensuring the continued survival of the trees.

Due to lack of funds and land area, the greening project has been limited to and very much associated with the city beautification programme for Kuala Lumpur. Other urban centres within the Klang Valley do not appear to give as much emphasis on the greening programme. However, in order to make a difference climatically (and therefore energy savings), the greening programme should aim for the larger urban forest. The term "urban forest" refers to the more natural, lower maintenance, less cared for and self-sustaining woodlands that are characteristic of the green tropical forest. This is in contrast to the more formal layout of

shrubs and flowers and the more maintained green areas that are usually associated with the term "garden city". Perhaps for Kuala Lumpur, and indeed, for many tropical cities, the "garden city" concept may need to be tempered with "urban forests".

One possible area in which the urban forest programme can be usefully applied is in the new housing area or new towns. Here forest strips in the form of nature parks may be created and linked to the surrounding undeveloped area. Several overseas studies (e.g. Akbari *et al* 1989; Bretz and Rosenfeld 1992) have shown that when combined with high-albedo surfaces, shade trees contribute significantly to urban heat island reduction.

MANAGEMENT OF AIR POLLUTION

Management of air pollution in an urban area can be divided into three main classes:

- i) abatement and control technology
- ii) legal and administrative measures
- iii) urban planning.

Abatement and control refer to use of technology to minimise emissions. Much research has been done to come up with the best practicable measures to achieve standards, both for the automobile, the major contributor to air pollution in a city, and industry. The adoption of any of these technologies eventually depend on economics and public acceptability. So far the government has been reluctant to impose emission standards on cars because of the increased cost to the consumer. However, this has to be reviewed because as the situation worsens the cost of cleaning up the air will be greater than the cost of reducing vehicle emissions, both of which will eventually be borne by the consumers.

In Malaysia, legal and administrative measures to reduce air pollution include vehicle and industrial emission standards (Table 7.1), ambient air quality guidelines (Table 7.2), and enforcement, penalties, permits and licences as well as registration as contained in the various instruments.

Table 7.2: Recommended Malaysian Guidelines for Air Pollutants
(at 25°C and 101.13 kPa)

Pollutant	Average Time	Malaysian Guidelines	
		(ppm)	(ug/m ³)
Ozone AS 2524	1 Hour	0.10	200
	8 Hour	0.06	120
Carbon Monoxide AS 2695	1 Hour	30	35
	8 Hour	9	10
Nitrogen Dioxide AS 2447	1 Hour	0.17	320

Sulphur Dioxide AS 2523	10 Minutes	0.19	500
	1 Hour	0.13	350
	24 Hour	0.04	105
Particles TSP AS 2724.3	24 Hour		260
	1 Year		90
PM ₁₀ AS 2724.6	24 Hour		150
	1 Year		50
Lead AS 2800	3 Month		1.5

Source: Che Asmah 1997

Urban planning leading to the containment of air pollution needs to consider public acceptability, economics, aesthetics and practicality. Perhaps the most fundamental of these considerations concern the siting of new development. The natural ventilation characteristics of a proposed site are just as important to consider as other factors such as availability of labour, transport facilities and so on. Hence it may be necessary to delineate particular areas as air quality control zones (Suess and Craxford 1976). As Kuala Lumpur is situated in a valley the dispersive potential of its atmosphere is limited (Sham 1987) and this is exactly the reason why the city is suffering severe air pollution episodes.

Since the major contributor to air pollution and a host of other problems in Kuala Lumpur is the automobile a detailed discussion on its management is warranted.

The Automobile

The automobile has brought many advantages to many people and will continue to do so on a growing scale. Unfortunately the benefits produced by motor vehicles are accompanied by costly and undesirable side effects, the magnitude of which is not a fixed proportion of the associated benefits. Hence, while the use of motor vehicles in general represents a great social gain, their use in particular circumstance may represent a social loss.

The undesirable effects of the motor vehicle are well known and are specially marked in an urban area such as Kuala Lumpur. They may be classified into four categories:

1. the cost and social impact of providing roads and parking space;
2. the nuisance caused by traffic in terms of noise, air pollution, accidents, danger, ugliness, etc.
3. the adverse impact on other forms of urban transport, i.e. public transport by road or rail, cycling and walking;

4. the adverse impact on the spatial form or structure of the urban area.

These undesirable consequences of urban motorisation are all related to the volume of traffic. Therefore there are two possible approaches to the problem: to reduce the side effects directly or to reduce the volumes of traffic that cause them.

The former approach is the more appealing because if we can eliminate noisy, polluting engines, control land use and find ways of maintaining good public transport side by side with good private transport, devise ways of getting better value for money out of roads and parking space, in principle all air pollution problems can be solved, or at least nearly solved, by technological or administrative advances, or by unlimited expenditure. Towards this end a major inventive effort supported by a generous budget must be applied to the whole problem of urban motorisation. But often these measures are inadequate and one has to turn to the second approach, i.e. of looking for ways of reducing, or retarding the growth of traffic volumes. This requires a traffic limitation policy which has advantages and disadvantages both in the long and short term (Table 7.3). Such a policy has five possible functions (Gakenheimer 1978):

1. to limit the volume of traffic in particular streets, either permanently or at certain times. The objectives might be to aid pedestrian movement, to improve the amenity aspects, to reduce noise and fumes, etc.
2. to limit the volume of traffic in particular areas of the town, e.g. environmental areas or the town centre. The objectives might be to create quiet residential precincts or to stimulate the competitiveness of the town centre. It might be desirable to limit traffic in high density inner areas without necessarily doing so in outer suburban areas.
3. to limit the volume of traffic in the urban area as a whole. The objectives could be to reduce smog, to conserve natural resources, to ease the general pressure for more roads, to maintain a balanced use of public and private transport, etc.
4. to limit the use of certain types of vehicle, e.g. large cars, noisy motorcycles, lorries with low power-weight ratios. The objectives are self-evident.
5. to limit the use of vehicles for certain purposes. The commonest discrimination of this sort is against car commuters, the objectives being to relieve peak hour congestion and release parking space. Other examples are the limitation of through-traffic in favour of terminating traffic, and the limitation of long-term parkers in favour of short-term

parkers; in each case the objective may be to encourage shoppers.

The idea of trying to limit the volume of traffic is likely to arouse fears of loss of freedom and choice, of not being allowed to use one's car as one pleases, of being forced to stand in crowded buses and walk tedious distances in the rain. It is therefore important to realise that there are three general ways of limiting traffic, and they have different consequences for the individual's freedom of choice.

First there is *traffic restriction*, which includes all methods of preventing vehicles by physical obstruction or act of law from going where they would otherwise go. Its methods involve road closure, prohibitions, traffic management, vehicle regulation and restriction of driver licences.

Secondly there is *traffic restraint*, which includes all methods designed, not to deny people their desires, but to influence their choice. A parking charge, for instance, does not prevent people from using their cars; it merely dissuades. A free bus service does not compel people to travel by bus; it merely encourages. Traffic restraint also covers a number of ways of making private motor vehicles more expensive to own or to run. Toll-gates, daily licences and vehicle metering are all forms of road pricing. In practice, the most common methods of deliberate traffic restraint are concerned with parking and include parking restrictions, control and charges. A more popular, though less effective, method of making cars relatively expensive to use is that of subsidising public transport fares.

Table 7.3: Possible Advantages and Disadvantages of Traffic Limitation

POSSIBLE ADVANTAGES	POSSIBLE DISADVANTAGES
Short-term less congestion less noise less air pollution fewer accidents higher revenue for public transport lower demand for parking space easier conditions for pedestrians saving in vehicle operation costs	inconvenience of using less desirable modes adoption of less desirable destination adoption of less desirable activities more congestion on public transport
Long-term less roadbuilding less road maintenance less provision of parking space better public transport less environmental deterioration less crime* less social divisiveness	tendency to higher housing densities higher investment in public transport fewer economies of scale

less depletion of irreplaceable natural resources	
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*the suggestion that motorization breeds crime is based on the breakup of urban communities and the social divisiveness which are accentuated by the use of cars.

Source: Thomson 1978

The third mechanism for traffic limitation is *traffic avoidance* which is a longer term way of limiting traffic: it relies upon planning control of land use and transport infrastructure. A city can be planned in such a way so as to minimise the need for travel, especially travel by private motor vehicles. Improvements to the structure of public transport (by means of subsidised investment) and restrictions on road building in order to avoid traffic generation, are major aspects of traffic avoidance.

In the long run one may look increasingly to traffic avoidance as the solution. In the short run one must rely more on traffic restraint and restriction. Restraint and restriction will themselves lead to traffic avoidance in the long run if people adjust their life patterns so as to avoid the restrictions and minimise the restraints. People can be expected to optimise their situations within the constraints imposed upon them.

There are several strategies which can be adopted for traffic limitation, most of which are applicable to Kuala Lumpur. These are presented in Table 7.4. The suitability of these strategies should be weighed in the context of culture, economics and practicability. The ultimate ideal objective of traffic limitation, is to create a city in which people on their own accord no longer have a strong desire, nor feel it essential, to make such use of motor vehicles that they constitute a social problem.

Table 7.4: Methods of Traffic Limitation and Their Functions

METHOD	GENERAL	AREA	STREET	VEHICLE TYPE	VEHICLE PURPOSE
Traffic restriction					
road closure			X		
partial road closure		X	X		
prohibition		X	X	X	
area permits		X			X
vehicle regulations				X	
route restriction	X	X		X	
driver licensing	X			X	
Traffic restraint					
congestion		X			
planned congestion		X			
low design speeds	X	X	X		
bus priorities	X	X	X		
cycle lines	X	X	X		
pedestrian facilities	X	X	X		
environmental management	X	X	X		
fuel tax	X				
mileage taxes	X				
area licensing	X			X	
tolls		X		X	
vehicle metering	X	X		X	
restriction of parking space	X	X	X	X	
parking controls		X		X	X
parking charges		X		X	
structure of parking charges		X		X	X
vehicle registration fees					
concessionary registration fees	X				
import tax on vehicles	X			X	
purchase tax on vehicle hire	X				
purchase restrictions	X				
subsidised fares	X				
two part tariffs	X				
community transport centres	X				
Traffic avoidance					
strategic land use planning		X			
local land use planning	X	X			
restricted roadbuilding			X		
subsidised investment in public transport	X				

Source: Thomson 1978

MANAGEMENT OF NOISE POLLUTION

Noise pollution arises from a variety of sources: the traffic, machinery and appliances both at work and the home, the jet boat at the beach, the neighbour's stereo or the disco across the road. These occupational, domestic and leisure noise sources have a profound effect on the people engaged in the activities as well as upon those outside. In Kuala Lumpur the major complaint against noise is that derived from traffic and, therefore, discussion on management issues pertaining to noise will be confined to the noise generated by traffic.

While the noise emitted by a single vehicle depends on its own characteristics (vehicle type, engine, etc.), the noise climate experienced by an individual resulting from traffic is influenced by several independent parameters which may be classified as follows: i) Traffic parameters, ii) Road parameters, iii) Environmental parameters, iv) Weather parameters and, v) Dwelling parameters.

These different parameters are not of equal importance as some affect the noise emission significantly while others only negligibly. Details of each parameter are listed in Table 7.5. The urban manager must, therefore, give weighting to these factors when planning land use and infrastructure in order to minimise noise pollution.

Table 7.5: Factors Influencing Levels of Traffic Noise

<p>1. Traffic Parameter</p> <ul style="list-style-type: none"> • speed and flow rate • composition • traffic fluidity (traffic lights, one-way streets) • driver behaviour
<p>2. Road Parameters</p> <ul style="list-style-type: none"> • road design (tunnels, cutting or embankments) • gradient and degree of curvature • type of road surface • width
<p>3. Environmental Parameters</p> <ul style="list-style-type: none"> • distance and height with respect to the roads of the point at which the noise is heard • existence of natural or artificial screens between road and point of perception • state of the ground between the road and point of perception • reflection of noise from buildings at each side of the road
<p>4. Weather Parameters</p> <ul style="list-style-type: none"> • rain, snow or dry conditions • wind (direction and speed)
<p>5. Dwelling Parameters</p> <ul style="list-style-type: none"> • orientation of living areas • attenuation of noise through windows • size of window openings

Source: OECD 1978

Control strategies to deal with noise pollution and with air pollution from automobiles appear at first appearance to diverge. Yet control of air pollution which is possible only by improved technology is not at all incompatible with noise-pollution control. Indeed, they may be mutually reinforcing. For example, while converting noxious fumes into innocuous gases, a catalytic muffler, by filtering the exhaust, will at the same time assist the regular muffler. Depending on the alternative selected, noise reduction might still be a by-product even if alternatives to the internal combustion engine are developed or required for the purpose of satisfactory air pollution control.

An automobile that is powered by an electric engine, for example, will be low-polluting - with respect to both air and noise. A gas turbine engine, on the other hand, may help reduce pollution, but add to the noise level. Some, but not all, less radical engine redesigns would also be less quiet than the conventional internal combustion engine.

Indeed, control of mobile sources of air pollution need not conflict with noise-reduction goals. Technological mobile noise-control efforts can concentrate on the development of more durable and, if possible, less expensive exhaust mufflers. Complementary to this effort should be a systematic attempt to reduce the noise emissions from cars that have become, or that have deliberately been made, noisier. Deterioration of or tampering with the noise-control system, particularly the muffler, could be monitored by the authorities as part of their periodic safety inspection procedures. To the extent that inspection programmes also test for exhaust emissions, it would be relatively simple and inexpensive to incorporate within the same procedure noise-level tests in order to more efficiently and more accurately identify those cars which violate the noise performance standards. In addition to defective or missing mufflers, body rattles and similar types of noise resulting from improper maintenance could be readily identified in such an integrated testing programme.

The struggle against noise excess in the environment is frequently considered to be a matter of education and of science, but it is only the law which has the means to oppose effectively the lack of consideration of the employer, the developer, the neighbour or the 'uncivilised' hobby maker.

Fighting against noise is an essential part of the policy of natural environment protection and therefore it should be effectively introduced into the general concept of environmental protection. Co-ordination of means employed by various state, regional and

local institutions responsible for controlling noise could be improved by general rules, orders of the administration, as well as comprehensive central programmes of appropriate actions.

MANAGEMENT OF WATER QUALITY

There is an increasing demand for improving the quality of the water in the Sungai Klang with particular emphasis on the wastewater discharged into it. Together with this improvement is the call for the beautification of the river. Such improvements entail the removal of squatters from river banks, and the control of littering, refuse dumping as well as waste treatment in order to maintain a baseline river quality commensurate with improved water quality objectives. As mentioned in the earlier sections, there is minimal dilution capacity available in the Sungai Klang system. Therefore, maintaining water quality is difficult and the management of the river should thus be based on non-water contact activities. This concept is gaining acceptance and a number of preliminary ideas have recently been proposed for river beautification within the urban area which at the same time improves water quality.

Athiyathavaratnam(1986) suggests the following management measures to improve the water quality of the river systems in the Klang Valley:

- i) The function and uses of the drainage reserves in the Federal Territory need to be extended in view of their potential as recreation areas and utility corridors.
- ii) In view of the rapid developments in both the Federal Territory and Selangor, there is a need for greater co-ordination between the authorities in undertaking development projects and improvements to the river system.
- iii) The central sewage treatment system should be expanded and extended to serve the entire city in order to ensure that effluent of approved quality only is discharged into the rivers. All industries should be equipped with anti-pollution systems so that only treated effluents are discharged into the river system. All bucket latrines and over-hanging latrines along the river reserves should be removed and provided with water-borne system. The issue of waste management as it pertains to the quality of Klang Valley's surface water is dealt with in the ensuing section on waste management.

- iv) Proper environmental planning should be incorporated in all development activities, particularly in the siting and zoning of industries and housing developments. There shall be proper controls enforced to preserve the natural landscapes and prohibit indiscriminate cutting of hills which leads to siltation.
- v) There must be greater emphasis on environmental education and public awareness programme through campaigns at schools and through the mass-media for the appreciation and proper use of the river system and what it can contribute to a better quality of life.

MANAGEMENT OF WASTE

The management of waste in Kuala Lumpur is a very much publicised issue as DBKL is only just coming to grips with the entire spectrum of waste disposal problem. Outdated management schemes and policies are being phased out and new regulatory functions are expected.

Solid Waste Disposal

There are presently no specific regulations to control the collection, treatment and disposal of municipal waste and no national policy exists to address municipal solid waste disposal in Kuala Lumpur. However, a Solid Waste Management Bill is currently being drafted to facilitate the privatisation of solid waste disposal services. Further regulatory developments are expected in the coming year, to address municipal solid waste management and policy, after the completion of ongoing strategic studies (DOE 1995a).

At present, the responsibility for refuse collection, removal and disposal services in Kuala Lumpur lies with DBKL as defined under the Local Government Act 1976. Subsidiary by-laws include the Anti-Litter By-Laws 1983 and Refuse Collection, Removal and Disposal By-Laws 1983. Municipal waste from Kuala Lumpur is presently disposed at the open dump in Jinjang North, operated by DBKL (DBKL 1993).

The practice of recycling solid waste is presently undertaken by private concerns on an informal basis and there are limited incentives provided for private developers wishing to set-up recycling facilities (DOE 1995a). Calls have been made for a comprehensive recycling programme to reduce municipal waste and encourage at source separation (Nasir *et al.* 1995, Ibrahim 1996b). However, recycling has never really taken off as an effective means of waste management in Kuala Lumpur due to economic reasons (Ibrahim 1996b). Apparently, contractors were not able to source sufficient material to make their

operations profitable. This situation is prevalent in the absence of a national policy with respect to recycling by the public, and insufficient incentives to promote the recycling industry.

In 1996 it was announced that the waste disposal services would be privatised in an attempt to integrate the solid waste management system and incorporate recycling, composting and safe environmental management considerations. On a national scale, the privatisation would eventually be undertaken by four consortiums. To support this initiative, the Government plans to streamline laws and regulations at Federal, State and local levels to ensure proper solid waste management, including making recycling of household waste mandatory (GOM 1996).

At the moment, a Solid Waste Management Bill is being drafted and the method of payment for the waste disposal services is being studied (NST 1997a). The target date for privatisation is July 1, 1998. In the meantime the four consortiums are in the process of submitting proposals on the combination of technologies that they plan to utilise to ensure sound waste management.

Solid waste management in the Klang Valley is to be undertaken by Alam Flora Sdn. Bhd. (Alam Flora), a subsidiary of DRB-Hicom Bhd. DBKL will now play a less active role but they will be expected to monitor the improved designs and operational standards of waste management sites (GOM 1996). Alam Flora plans to invest RM 5 billion over the next two decades to build new landfills and transfer stations, purchase collection and haulage vehicles and incinerators as well as upgrade existing landfills. Two more new landfills, about 25-50 hectares in size, are being planned for the Klang Valley alone.

In 1997, Alam Flora signed a one-year interim agreement with DBKL, taking over rubbish collection, road sweeping and drain cleaning. This was considered a running-in period prior to the actual privatisation. During this period, the most serious problem was found to be illegal dumps which were difficult to control (NST 1998a). The illegal dumps sometimes appeared overnight, making efficient garbage collection difficult and more costly. During the interim operations, there were 193 illegal dumps and this was reduced to less than 90 by the end of 1997.

Sewerage Services

In Malaysia, the sewerage issue is already well covered by urban managers and Kuala Lumpur has an extensive sewerage system which serves the domestic users. These systems

however are designed to collect transfer, treat and dispose of human waste and wastewater, but not industrial effluent containing toxic waste and manufacturing waste. Industrial and manufacturing wastes are not allowed to be discharged into Malaysia's sewerage system and are treated separately by on-site industrial waste treatment plants. Municipal sewage is also treated in a wastewater treatment plant or sewerage works in accordance to the Sewerage Services Act 508 1993.

Other legislation which govern the treatment of wastewater in sewerage systems are the Local Government Act 1976, the Streets, Drainage and Building Act 1974, in addition to the Environmental Quality Act 1974. There are several activities prescribed in the category of Waste Treatment and Disposal, which are subject to an Environmental Impact Assessment (EIA) under the EIA Order 1987. In the case of municipal sewage, the prescribed activities are wastewater treatment plant and marine out-fall. Treatment facilities have to comply with standards set for effluent discharge under the Environmental Quality (Sewage and Industrial Effluents) Regulations 1979.

Sewerage management and operations in Malaysia was privatised at the national level on 9 December 1993, thus reducing the responsibility of DBKL. The concession was granted for a period of 28 years to Indah Water Konsortium Sdn. Bhd. (Indah Water), a subsidiary of Prime Utilities Berhad. By the end of the concession period, Indah Water is committed to provide 85% of customers with connected sewerage services and the remaining 15% with septic tank services (Indah Water 1997).

Among the services provided by Indah Water include scheduled desludging services for septic tanks, refurbishing and upgrading of over 2,800 public sewage treatment plants, connecting individual septic tanks to connected sewerage services, treatment and disposal of septic tank sludge and monitoring of effluent from public sewage treatment plants. In addition, Indah Water is committed to invest RM 7 billion in new sewerage infrastructure projects to improve sewerage services in Malaysia, through the construction of new multipoint sewerage systems in several phases. Thus, organic pollution from domestic sources, which is presently the main cause of river pollution, is expected to decline.

However, the national sewerage privatisation project has encountered many problems. Upon commencement of the concession, there was a controversy regarding sewerage charges and the billing process. To overcome this problem, a tariff review exercise was initiated by the government involving consumer associations, the business community and members of the public. Based on this review, Indah Water had to write-off billed revenue

amounting to RM 256 million, incurring a loss of RM 246.2 million for the financial year ending 30 April 1997 (PUB 1997).

In accordance with the review exercise, Indah Water commenced new sewerage charges and billing from 1 January 1997 for connected services and for customers whose septic tanks have been discharged. Unfortunately, 50% of the 800,000 bills issued by Indah Water have not been settled. This is threatening to derail the refurbishment of public sewerage treatment plants, and disrupt plans to improve sewerage management nation-wide (NST 1998b).

Up to the end of 1997, Indah Water has invested RM 73 million in upgrading 350 waster treatment plants while another 733 are in various stages of refurbishment (NST 1998b). It is anticipated that the RM 357 million budget allocated for the refurbishment exercise will have to be increased due to the current economic crisis and the depreciation of the ringgit as most of the equipment required has to be imported.

Apart from its financial dilemma, Indah Water has also had problems with environmental management. On 15 January 1998, Indah Water was charged in court for discharging effluents above the prescribed level allowed in its licence under the Environmental Quality (Sewage and Industrial Effluents) Regulations 1979 (NST 1998c). The alleged offence was supposedly committed at a sewage treatment plant in Kuala Lumpur on 11 October 1997 and the case has since been fixed for mention on 5 March 1998. Thus, the issue of whether privatisation actually results in improved environmental management is still debatable.

Toxic and Hazardous Waste Disposal

A set of regulatory provisions have been developed for the management of toxic and hazardous waste, based on the cradle to grave principle, whereby the responsibility for the waste during the entire disposal process lies with the waste generator. There are three regulations under the Environmental Quality Act 1974 (Amended 1996) that have to be complied with when a facility generates, stores, transports, treats or disposes of scheduled wastes. These are Environmental Quality (Scheduled Wastes) Regulations 1989, Environmental Quality (Prescribed Premises)(Scheduled Wastes Treatment and Disposal Facilities) Order 1989, and Environmental Quality (Prescribed Premises)(Scheduled Wastes Treatment and Disposal Facilities) Regulations 1989. In addition to this, the facilities are also subject to two other regulations i.e. Customs (Prohibition of Export)

Order (Amendment) (No. 2) 1993 and Customs (Prohibition of Import) Order (Amendment) (No. 2) 1993. Radioactive wastes is controlled by the Atomic Energy Licensing Act 1984.

Prior to the onset of operations, prescribed premises require the written permission and a license from the Department of Environment (DOE). The prescribed premises include prescribed activities such as an incineration plant, off-site recovery plant, off-site wastewater treatment plant, secure landfill facility, off-site storage facility and land treatment facilities such as sludge farming of oily wastes or sludge (DOE 1995b). On-site recovery of scheduled wastes by an industry does not require separate licensing from the DOE. The application for a license involves the fulfilment of a list of requirements pertaining to record keeping of waste generated, handled and disposed, which covers the elements of up-to-date inventories, proper labelling and identification of all storage/bin areas, conformation to the *Consignment Note System* during transportation of wastes, and safety procedures in the event of an accident (DOE 1995b).

In order to improve the management of waste, the Ministry of Science Technology and the Environment is planning to impose levies on polluting industries using the provisions existing under the Environmental Quality Act 1974 (Amended 1996) (NST 1997b). The Act empowers the government to impose levies as a form of pollution tax on industries which are known to contribute to pollution. Another move towards improving waste management in industries is the payment of cess to encourage waste reduction. At present, only the gas, petroleum, battery and tyre industries are subject to such payment.

In the case of legal operations, the DBKL policy since the early 1980's has been to remove wood, brickwork and chemical factories out of the city (Ibrahim 1996b). Although the main purpose of this action was to reduce air pollution, it also serves to lessen the generation of toxic and hazardous waste in the city. However, the presence of a significant number of illegal small-scale industries in Kuala Lumpur and the surrounding areas, many of which discharge toxic and hazardous waste, needs to be seriously looked into and controlled. It is highly unlikely that these illegal industries manage their waste in a proper manner. In the absence of accurate data on the type, quantity and disposal methods of the toxic and hazardous wastes generated from these industries, its impact on the environment is subject to conjecture. A thorough inventory, therefore needs to be carried out.

What is obvious in the issue of toxic and hazardous waste disposal is that while there are instruments regulating it the industry does not have the facility to dispose of this kind of waste. In order to strengthen

toxic and hazardous waste management in Malaysia, a privatised facility for the storage, treatment and disposal of toxic and hazardous waste has been set up at Bukit Nanas, Negeri Sembilan by Kualiti Alam Sdn. Bhd. This facility has the capacity to handle 400,000 tonnes of waste, which amounts to 90% of the expected discharge from industrial activities (GOM 1996).

More than 300 companies have signed on for this facility to-date, with some 20% of this number sending waste for direct landfill and solidification (NST 1998d). Kualiti Alam's other facilities, which include the treatment plant for inorganic wastes and incinerator for organic wastes, are expected to be operational by mid-1998.

Transfer stations will be built at three localities in the country to support and facilitate the collection and storage of waste (GOM 1996). Specialised and safe transport vehicles will be used to remove the toxic and hazardous waste from Kuala Lumpur. In addition, comprehensive legislation to control the use, storage, handling, transport, labelling and disposal of toxic and hazardous chemicals is being developed to support this initiative.

The management and safe disposal of radioactive waste are another area of concern that needs to be addressed as the country moves towards industrialisation. There have been reported incidents of environmental health problems caused by exposure to radioactivity. In order to address this problem, techniques to reduce, stabilise and immobilise radioactive waste for their long term storage or permanent disposal have been developed (GOM 1996). Under the Seventh Malaysia Plan, the Government plans to identify potential repository sites for radioactive waste management.

SOCIO-ECONOMIC ISSUES

Managing the socio-economic impacts of urbanisation and environmental degradation in the city is an extremely complicated process as human issues involve politics, economics and culture, all of which have their own complexities. The coverage of the facets of management are by no means complete and only a snapshot of the major issues involved is attempted.

Public Health

Legal provisions related to the prevention of communicable diseases are contained in the Local Government Act 1976. Under Section 73 of the Act, local governments have the responsibility to ensure that the health of its residents is maintained and to prevent the outbreak and spread of diseases. In 1994, 4920 premises were compounded for failing to clear breeding places for mosquitoes (DBKL 1994). Diseases such as tuberculosis, leprosy and syphilis are covered under the activities undertaken by the Department of Health.

The Ministry of Health has carried out several health programmes in order to create awareness among the public on the health risks of living in the city. Programmes are carried out under its Public Health Services. In relation to health in the squatter areas, the Ministry carries out its environmental health and sanitation programme, which is aimed at ensuring the supply of safe water to squatter areas to prevent the outbreak of water borne diseases. DBKL's Department of Health further intensified efforts in reducing the amount of disease incidences particularly for dengue and tuberculosis. Apart from checking up on premises for potential breeding sites for mosquitoes and the quality of the water supply in squatter areas, DBKL conducts seminars, talks, *gotong royong* and distributes information leaflets to inform the general public on the risks of communicable diseases (DBKL 1994). These efforts have reduced the number of dengue cases from 1,706 in 1993 to 429 in 1994.

As yet, DBKL has no specific policies on non-communicable diseases. However, the Ministry of Health has realised the need to focus on this as the pattern of diseases changed with the occurrence on non-communicable diseases. With the changing lifestyles and behaviour as well as the effect of demographic transition, heart and pulmonary diseases have been the main causes of death between 1991-1995 (GOM 1996). The Ministry carried out health education programmes to educate the public on issues concerning, among others, alcohol and substance abuse, sexually transmitted diseases and to instil the need to live a healthy lifestyle. Programmes such as Promotion of Child Health in 1994 and Prevention of Cancer in 1995 has been implemented through the mass media, schools and community groups.

DBKL's NADI programme has always been proactive in addressing the issue of health, particularly among the lower income group, with an emphasis on squatter areas. Under NADI, a programme called the Sang Kancil project was initiated to improve the health and socio-economic status of children and mothers of the urban poor. Services delivered under the project include immunisations, antenatal care, child health care, health education and family planning. The project has helped in improving early childhood health and strengthening mother/child relationship, which has substantially mitigated degradation of family relations (Noordin 1996). A total of RM 1.69 million was spent in 1994 to carry out a variety of health programmes under NADI. The number of children involved in Sang Kancil projects has reduced from 304 in 1993 to 245 in 1994 due to the successful relocation scheme for a group of squatter families to new low cost houses (DBKL 1994).

To maintain problems pertaining to occupational health and safety the Occupational Safety and Health Act was enforced in 1994. In 1992 the government established the National Institute for Occupational Safety and Health (NIOSH) whose role is to provide training in occupational health and safety, disseminate information on preventive measures, promote healthy and safe practices at work, conduct research and

provide consultancy services to industries (GOM 1996). Nationally, it has conducted 63 courses on employers' responsibility and workers safety measures for about 1600 participants. A recent report indicates that occupational accidents rose from 1991 to 1993 but fell slightly in 1994. The reason for this drop was credited to the efforts of the government and its agencies which hold programmes and activities to prevent accidents at the workplace. These programmes include an awareness campaign, enforcement of the law (OSHA) and training. The Factories and Machinery Department also carried out activities under its safety and health programme.

Where mental health is concerned, there have been inadequate efforts carried out either by the Ministry or the Institute of Public Health because it is not regarded as critical as other health issues. The establishment of the Mental Health Foundation in November 1997 is a commendable effort by non-governmental organisations in trying to highlight the issues related to mental illness but no funds were allocated for this under the Seventh Malaysia Plan. Mental illness continues to be ignored in health programmes, as the focus tends to be on the physical illness such as cancer, malaria, coronary diseases and tuberculosis. Presently, DBKL does not have a counselling unit or psychologists under its Health Unit to provide services to those who are mentally ill. Under the Seventh Malaysia Plan 1996-2000, mental illness was not addressed and thus, funds were not allocated to establish a comprehensive mental health programme. The government and DBKL must initiate moves to set up a counselling centre with trained personnel to prevent an increase in the rate of people who are mentally ill and provide counselling services for those who cannot cope with living and working in the city.

Squatters

Under the Local Government Act 196, there are provisions under Section 72 Part IX for local governments to build low cost housing unit for the poor, create job opportunities in trade and industries, develop industrial and commercial areas. The by-laws under Section 101 of the Act relate to health, and the provision of basic amenities for the safety and comfort of its residents. DBKL has been quite successful in carrying out their responsibilities under these provisions. Since 1970, DBKL has built not less than 60,000 units of low cost houses for sale or rental. The rental rates for the houses are RM 124 a month for a two-bedroom unit with an area of between 550-650 sq. feet. Low cost units are sold at RM 25,000 for those not earning more than RM 750 a month. The lack of finance and support from other sectors is reducing the amount of houses built to relocate squatters. In 1994, the government set up a Housing Fund for the Poor (*Skim Tabung Perumahan Rakyat Termiskin*) which aims to relocate squatters and the urban poor earning less than RM 500 a month. Under this scheme, DBKL has built 5273 low cost flats rented out at RM 124 a month (Malay Mail 1997).

DBKL has taken serious efforts in reducing the amount of illegal settlements in Kuala Lumpur and the Kuala Lumpur Structure Plan 1984 outlines the policies and initiatives for squatter areas. There are two

types of approaches taken by DBKL on squatter relocation. Firstly, when a squatter area has been earmarked for immediate development, squatter residents are given priority to rent or purchase new houses, or relocated temporarily to flats or long houses. Second, where an area is not effected by development plans within the next three years, plans or projects to improve the quality of living must be carried out. Facilities such as paved roads, water and electricity supply, streetlights, waste disposal and sanitation facilities are provided. In the meantime, community amenities, such as community halls and clinics, are built to ensure comfort, health and welfare of the squatters. Up to now, about 255 squatter areas in Kuala Lumpur have been provided with these facilities as shown in Table 7.6 (Noordin 1996).

Table 7.6: Public Amenities for 255 Squatter Areas under DBKL jurisdiction 1996

Amenities	Nos.
Surau	82
Public Hall	70
Markets	4
Nurseries	40
Playground	12
Clinics	5
Public Telephones	135

Source: Noordin 1996

Housing is still a priority and in the recent DBKL budget for 1998, 10.1% or RM62.41 million of its RM 614.56 million allocated for development has been assigned to the development of public housing and housing for the poor scheme. This roughly translates into the development of 65,000 low and medium cost flats by the year 2005. Other programmes include the construction of 3327 units of low and medium cost flats and houses under the Low Cost Housing Revolving Fund at a cost of RM 270.8 million.

NADI, DBKL's Squatter Upgrading Programme, was established in 1980 to provide assistance to the urban poor and raise their quality of life where the level of socio-economic, health and infrastructure are relatively low. Government and non-governmental organisations jointly carry out various projects and activities. Under NADI, a programme called the Sang Kancil programme, has been very successful in achieving NADI's overall aim. Health provisions, pre-school education for children and a maternal and child health clinic have been established throughout the squatter areas in the city. The programme has successfully solved some of the health and socio-economic problems of squatter residents (Mohd. Razali 1997).

Under NADI, a programme called 'Privatisation of Housing for the Poor' was initiated in 1980 to encourage private developers to transform squatter settlements into a planned township with sound infrastructure and social amenities. One of the most successful case study is the Desa Pandan project where 1,700 families, or 8500 people, lived in dilapidated conditions. The land was transferred to a private developer who is solely responsible for the implementation, sales and maintenance of the project. Every squatter was offered a housing unit at a subsidised price. The environment and quality of urban living in Desa Pandan have greatly improved through this programme, and this has enhanced social interactions among the residents through common facilities such as a sports complex, playground, schools and commercial facilities.

Culture and Lifestyle

Cultural programmes were identified in the Sixth Malaysia Plan as an instrument to improve the quality of life. Among the efforts and initiatives carried out during the Sixth Malaysia Plan and extended into the Seventh Malaysia Plan are the establishment of the National Arts Academy which conducts courses to perform and appreciate the performing arts and other artistic activities, as well as the construction of the National Theatre Complex and the National Art Gallery in 1997 to promote local culture.

The Antiquity Act 1976 which is for the preservation of cultural and heritage buildings in Kuala Lumpur has been encouraged under Sixth and Seventh Malaysia Plans. However, under the Kuala Lumpur Structure Plan 1984 old buildings are not conserved as it has to make way for development. This policy should be changed to maintain the essence of Kuala Lumpur and its historical heritage.

The National Cultural Policy, which was established in 1971, encompasses the way of life and lifestyle to conserve the nation's identity. The aim of the Policy is to create a more matured and cultured society to counter the spread of negative social aspects. The three principles underlying this Policy are the emphasis on the culture of Asian values, the inclusion of other suitable cultural elements such as Chinese, Indian, Arab and the West, and the use of Islam as the thrust in developing culture in Malaysia. This Policy interrelates with the National Welfare Policy which is aimed to "enhance the lifestyle of the Malaysians". Its three objectives are to develop optimum human potential to face everyday challenges, to create amenities and services to increase individual development, and to develop community networking to prevent individualism.

The Family Development Programme also addresses the problems related to the changing lifestyles of those living in urban areas. Community relations are strained due to urbanisation. Thus, to encourage community development, in the light that urban lifestyle does not encourage community networking and promote individualism, *Rukun Tetangga* Committees have been revitalised in Kuala Lumpur under DBKL's Social Development, Culture and Sports Programme (DBKL 1994). Apart from promoting community well-being, it also serves to reduce the rate of crime and foster community participation. Other programmes such as *Gotong royong*, *Jiran Muda*, *Jiran Wanita*, work camps and sports activities within the community are also encouraged.

Youth Development

Social programmes to develop youths in Kuala Lumpur are vital to ensure that they do not become involved in unwanted activities such as crime, prostitution and drug related offences. Under the National Youth Policy, programmes have been developed through youth organisations, private and government agencies. The policy

has been very successful in encouraging government agencies to introduce programmes, such as *Rakan Muda* and Young Entrepreneurship programmes, and encouraging private agencies to award scholarships for youths to further their studies. The majority of the programmes come under the Ministry of Youth and Sports. A Youth Co-operative (KOBENA) was also set up under the umbrella of the Ministry to encourage youth participation in economic and social activities. The programmes have been supported by activities of NADI, which has been successful in carrying out activities for youths. The Malaysian Youth Council which was set up in 1971 provides a platform to voice their concerns at the national level.

The lack of open spaces and recreational facilities for the youths has pushed youths into unhealthy social activities. As the rate of crime increases among youths in Kuala Lumpur and the incidences of loafing, *bohsia* and *bohjan* have become a growing concern, DBKL has taken steps to alleviate some of these problems. In order to promote the quality of social and leisure activities, DBKL has recently allocated RM88.7 million in its 1998 budget to create more public parks, construct sports complexes, halls and libraries (Malay Mail 1997).

The Family Development Programme, which was initiated in 1991 under the Sixth Malaysia Plan, addresses the issues pertaining to family health, parenting, development of human potential and the family. The aim of the programme is to establish strong and resilient families and develop the potential of individuals particularly among youths (GOM 1996). Programmes such as this are useful as it takes into account the changing lifestyles and negative influences that give rise to the increase in social problems such as prostitution, child abuse and teenage pregnancies.

NADI had also allocated RM 150,000 to carry out its tuition programme and guidance centres (*Pusat Bimbingan Pelajar*) for children and youths in the lower income group. Since its inception in 1989, the number of youths attending tuition programmes has gone up from 335 to 2099 in 1994 (DBKL 1994).

CONCLUDING REMARKS

In managing the urban environment a host of difficult issues need to be handled and almost all of them are inter-related. The waste disposal issue, for instance, is influenced by the squatter problem and is closely connected to the land degradation issue. Mitigating measures for air and noise pollution require long-term land use planning as well as administrative instruments related to traffic, both of which involve human dimensions not completely controllable by planning and regulations alone. However, the tools used for managing are often carried out in isolation because of constraints which force separate administrative and legal instruments to be enacted to solve specific problems. Hence, what the city needs now are policies for sustainable urban growth which are able to view each problem as it relates to all other urban issues thereby creating a habitat which makes city living attractive to all groups.

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