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ENVIRONMENTAL CONCERN IN LOCAL PLANNING PRACTICE

Foziah Johar

*Faculty of Built Environment
UNIVERSITI TEKNOLOGI MALAYSIA
Email: ugisp_bip@yahoo.com*

Abstract

The town and country planning system has been identified to be one of the key instruments in delivering land use and development objectives that are compatible with the aims of sustainable development. Several areas of actions should therefore be considered in the local planning strategy to achieve a more radical approach to environmental sustainability. These include conservation, shaping the locational pattern of development and accommodating environmentally desirable qualities in all development. This paper considers how far local planning authorities through their development control powers are likely to fulfil this role. Drawing on the content analysis of local plans, this paper identifies the framework for development control particularly on environmental matters. It also examines the conditions that accompanied a planning approval to determine the extent of control pertaining to environmental aspects. The results indicate the lack of consideration given to environmental related matters compared to the traditional concerns of land use planning. Finally the paper discusses the constraint of the present system and prospects to facilitate better management.

Keywords: Environmental Sustainability, Local Planning Strategy, Development Control

INTRODUCTION

Environmental priorities have assumed an increasingly important place on the development agendas in many parts of the world. Although many planners would claim that the environment has always occupied a prominent place on their list of priorities (Miller, 1990), recent awakening of widespread and public concern for quality of life offers both a challenge and much needed support. It is a challenge because, while the environmental concerns of citizen coincide in general terms with many of the aims of planning, such concerns also encompass aspects of environmental management that are generally considered peripheral to the traditional boundaries of planning practice. The challenge to

planners is to grasp the opportunity to support the demand for enhanced environmental quality and translate it into clearly defined and realisable programmes of action. The recent amendment to the Malaysian planning legislation indicates the growing concern for better environmental management both at development plan and development control levels. This article examines the significance of the recent environmental policy agenda which fall within the remit of the planning system, and then explore how it is practised. Drawing on the content analysis carried out on selected local plans, it identifies the framework for development control particularly on environmental matters. It also examines the conditions which accompany a planning approval to determine the scope of planning control pertaining to environmental aspects.

ENVIRONMENT AND THE PLANNING SYSTEM

The term *environment* in planning has always been questionable. On the one hand it is commonly employed to imply the economic, socio-cultural and physical attributes of the scenario in which daily activities take place. It is also used to mean specifically the built and natural environment. The term *amenity* is another related concept albeit elusive, and was broadly used in the early planning legislation to signify pleasant surrounding. Consequently the environment in this physical sense becomes a central preoccupation of the planning system. The contemporary environmental agenda however raised considerable challenge to the planning community about how best sustainable concepts can be developed in the system. In the context of environment, it may be understood as the maintenance of environmental capacities, or critical natural capital, over time. These capacities and the environmental factors which contribute to them are, in principle, measurable by recognised indicators such as resource stocks, pollution levels and habitat types. The difficulty with sustainability as a concept and practice is that measuring environmental capacities is not straightforward (Blowers 1992). Several approaches have been developed to operationalize the concept. The following areas of action should be considered in formulating the local planning strategy to achieve a more radical approach to environmental sustainability (Healey and Shaw 1993):

1. Conservation (of resources and functional/cultural amenities)
 - of sites
 - of environmental qualities
 - of building qualities;
2. Location of development
 - to conserve energy/reduce pollution
 - to promote pollution reduction

- to provide amenities
 - to provide diversity
 - to limit development within capacity thresholds;
3. Definition of the spatial areas within which capacities are to be limited and targets met;
 4. Identification of sites for environmentally desirable development;
 5. Promotion of environment-enhancing qualities in all development;
 6. Compensation for the distributional effects of strategies which are environmentally beneficial in other respect.

Some of these areas have long been established in the planning system in this country. These areas include conservation, shaping the locational pattern of development, promoting particular types of development and enhancing certain qualities in development. Other areas such as pollution control targets and compensation for environmental damage are less familiar. Some of these requirements have also contributed to the changes to the Malaysian planning statute which indicate a strengthening tendency to contribute to a more responsible development with regard to environment.

THE MALAYSIAN STATUTORY PLANNING SYSTEM

The land use planning system in Peninsular Malaysia is governed by the Town and Country Planning Act 1976 (1976 Act). It was introduced to replace the Town Board Enactment which was deemed to be limited in its scope and flexibility as a planning regulation for a country experiencing rapid development. The Act advocates the planning control system and a comprehensive development plan system of structure and local plans. The act seeks to have a uniform planning legislation and policies and to perform as a principal act regulating the planning and control of development within the framework of national policy in local authorities' area in Peninsular Malaysia. The system consists of a set of procedures for formulating plans and determining applications for development. The objectives and scope of the systems are determined by government policy and local interpretation. As a result, very little is specified as to the scope and content of planning policy, other than that its regulatory focus be on the use and development of land. Exactly what this means, and how it could relate to the social and environmental processes which generate land use and development, has always been a matter of controversy. At its minimum interpretation, the system is mainly concerned with the location of development and with its characteristics, with what goes where and on what terms.

ENVIRONMENTAL ASPECTS IN STATUTORY PLANNING SYSTEM

The planning system uses regulatory power to contribute to the management of environmental change in localities. There is however, no discrete body of control within the planning system relating to *environment*. The following briefly describes the considerations given to environmental components in the development plans and the control system.

The Development Plan

The structure plans which form the policy basis of local authority development programmes are legally required to include measures for the improvement of the physical environment. The open ended requirement have over the years, been translated in various manner. The contents of the structure plan is translated by the local plan which is considered to be the cornerstone of the development plan system as it will form the basis of development control. The natures of the local plans produced vary according to circumstances prevailing in different local authority area. The amendment to the 1976 Act in 1995 has changed the scope of environmental aspects of the local plan quite considerably. Other than detailed proposals concerning the development and the use of land, the plan must also contained environment-related measures as follows:

- the protection and improvement of the physical environment;
- the preservation of the natural topography;
- the improvement of the landscape;
- the preservation and planting of trees;
- the making up of open spaces; and
- the preservation and enhancement of character and appearance of buildings.

Such requirements is further complemented and enhanced at the development control stage.

The control of development

The general rule of the 1976 Act is the prohibition on the use of land building otherwise than in conformity with the local plan. A breach of the rule is an offence. The prohibition however leaves several things outside the control of the local planning authority. In particular, there remains the need for the control of actual development of land and building which, although in general conformity with the plan, must take place in a regulated shape or form. Therefore, in addition to the rule, a second layer of control is required, whereby, a person who wants to carry out a development, must have a planning permission from the local planning authority. The latter rules thus enable the

planning authority to control the development in a more detailed manner, for example, by the imposition of conditions. The theory is that conditions are the mechanism by which the development that is generally acceptable in terms of land use can be made specifically acceptable (Booth 1983).

The procedure of obtaining a planning permission has been considerably altered by the 1995 amendment to the Act. Prior to the amendment, an applicant has to provide information relating to the physical dimensions of a building. The current provision requires, in addition, a development proposal report which contains the development concept, land use analysis and the development's impact on surrounding land. The plan must also show:

- measures for the protection and improvement of its physical environment;
- measures for the preservation of its natural topography;
- measures for the improvement of its landscape;
- measures for the preservation and planting of trees thereon;
- the location and species of trees with a girth exceeding 0.8 meter and other vegetation thereon;
- the proposed earthwork.

Local planning authorities have a wide power to impose conditions on a grant of planning permission (1976 Act, s. 22(3)). It is well established that conditions must serve a planning purpose, be fairly and reasonably related to the subject matter of the application and must not be unreasonable in the administrative law sense (Rowan-Robinson et al. 1995). Theoretically, conditions can be employed to achieve environmental safeguards and could thereby contribute to ensuring that development does not have negative impact on the environment. The 1995 amendment has widened this control to enable local authorities to impose conditions pertaining to the above requirements.

In order to assess land use planning's contribution to environmental management, a more systematic study of planning practice is discussed next. Studies of the operation of the development control system have emphasized the importance of development plan to planning decision. The framework provided by the plan particularly on environmental aspects was examined using 24 local plans. The plans were surveyed using the method of content analysis which is concerned with ensuring a systematic and objective inspection of varied documents (Bruff & Wood 2000). In this study, the environmental content of local plans is identified based on the guidelines of the Manual of Local Plan Preparation (JPBD 1993, 2001). The study concentrates on the policy direction and the guidelines which primarily form the basis for determining planning applications. Content analysis is also used to survey 100 planning permissions

selected on the purposive sampling method to represent planning applications which essentially involved environmental related issues.

ENVIRONMENTAL ASPECTS IN LOCAL PLANS

Table 1 shows the main environmental issues faced by the local authorities as outlined by the local plans. Policy statements by the local plans to address those issues ranged from general policy such as “industries are encouraged to recycle” to detailed statement such as “using interlocking bricks as impervious surface material”. It is however possible to generally categorise them into three groups based on their purpose i.e. forward planning or promotional policies, control and monitoring. Table 1 shows the recommendations of the environmental chapter according to those categories outlined by local plans prepared prior to the 1995 amendment. It is apparent that the environmental chapter concentrates on issues relating to pollution and solid waste disposal. This was in line with the theme of environmental discourse in most structure plans prepared during the late 1980s and early 1990s which emphasised an active environmental care and management (Foziah 2000). The main concern for these plans is to reduce environmental degradation resulting from rapid economic development which has taken place during that period. These structure plans set out the policy framework for 85% of the local plans in this study. It should be noted that other environmental related issues are covered by other chapters of the local plans. The majority of local plans concentrate on measures to improve water quality as this forms a major issue faced by most local authority areas. 70% of the plans recommended that both industrial and domestic waste be treated first before being released to open stream or drains. Other recommendations include provision of silt traps during construction. Table 2 also indicates that policy statements are still broad to enable them to be really useful at the control level. This study further identified guidelines that can be applied at the development control stage and they are shown in Table 3. It can be seen that the scope of guidelines varies from one local plan to another.

The local plans prepared in accordance with the 1995 amendment are more focused, having less written statement and more graphic presentation to illustrate the proposals. The written statements are also accompanied by the development guidelines, often in separate volumes.

TABLE 1:
Environmental related issues in local authority areas

	<i>Environmental issues</i>	<i>% of local plan</i>
1	Water/river pollution	83
2	Inadequate sewerage system	50
3	Encroachment of environmentally sensitive areas	37
4	Inadequate drainage system/flood	37
5	Inadequate and poorly maintained recreational facilities and open space	37
6	Conflicting land uses, obsolete buildings and abandoned land	37
7	Poor solid waste management	37
8	Traffic congestion	30
9	Air pollution	30
10	Inadequate and poorly managed urban landscape	30
11	Noise pollution	24

TABLE 2:
Main proposals on environmental aspects in local plans

Forward planning	Control	Monitoring
Water quality		
<ul style="list-style-type: none"> - River beautification for recreational (8%) - Preserving river banks and beach front as ecological area. (25%) - Implementing the Road, Drainage and Building Act 1974 (12%) - Protecting open canals from domestic and industrial waste (8%) - Widen river reserve and putting up dykes to prevent water spill. (29%) 	<ul style="list-style-type: none"> - Treat domestic and industrial waste before being released to river/drain (75%) - Improve drainage system to prevent flooding (20%) - Install rubbish trap or boom along rivers (33%) - Widen and distribute drains in flood prone area. (8%) - Using 'biodegradable' pesticide (8%) 	<ul style="list-style-type: none"> - Increase number of sampling stations (4%)

Air quality		
<ul style="list-style-type: none"> - Cooperate with other local authorities on air pollution control (4%) - Plant trees and paved road to reduce pollution (46%) - Prevent and control open burning (6%) - Locate polluted industries in appropriate area (12%) 	<ul style="list-style-type: none"> - Ensure industries install dust trap mechanism (20%) - Control industrial activities (20%) - Ensure smooth traffic movement especially on busy roads and junctions (12%) 	<ul style="list-style-type: none"> - Increase number of sampling stations (29%) - Levy compound on polluted industries (4%) - Cooperate with Road & Transport Department to test on smoke from vehicles (20%)
Noise quality		
<ul style="list-style-type: none"> - Cooperate with Department of Environment and Road & Transport Department in providing buffer zones (12%) - Control level of noise below 55 dBA (16%) - Disperse traffic (8%) - Encourage use of public transport to reduce number of private vehicles (4%) 	<ul style="list-style-type: none"> - Tree planting to reduce high frequency noise (29%) - Enforce related laws 1978 (16%) - Using noise barrier if noise level cannot be controlled (16%) 	<ul style="list-style-type: none"> - Give warnings to vehicles to install noise reducing mechanism (4%) - Carry out noise monitoring test (8%)

Waste disposal		
<ul style="list-style-type: none"> - Provide appropriate waste disposal sites (12%) - Waste disposal management carry out according to Department of Environment's standard and guidelines (16%) - Encourage recycling (25%) - Provide site for 'composting' organic waste (16%) 	<ul style="list-style-type: none"> - Enforce related law relating to solid waste management (4%) - Prohibiting waste disposal on river reserve, open area, river/drain and housing areas (12%) - Increase number of rubbish bins in public areas (20%) 	<ul style="list-style-type: none"> - Monitor open burning (20%) - Carry out cleanliness and beauty programs (42%)

Note: () Percentage of local plans.

TABLE 3:
 Guidelines on environmental aspects provided by selected local plans which are applicable at development control stage.

Aspects	Guidelines	Local plans
Air quality	- Every factory to install dust control mechanism	Taiping, Bukit Mertajam, Kota Setar
	- Tree planting (high density in buffer zone and road side)	Kota Setar, Seremban, Alor Gajah, Padang Lalang, Tampoi-Larkin-Kempas, Bangi-Semenyih-Beranang.
	- To pave road, silt trap during construction and ground cover	Kota Bharu, Bandar Maharani, Kota Setar, Bukit Mertajam, Alor Gajah
	- Provide buffer zone between conflicting land use.	Kulim-Junjung, Padang Lalang, Kota Bharu, Tampoi-Larkin-Kempas, Melaka, Bangi, Alor Gajah, Kota Tinggi.
	- Every manufacturing factory to have treatment system.	Bukit Mertajam, Bandar Maharani
	- Carry out EIA for potentially polluted projects and projects more than 50 hectares..	Kota Setar, Bukit Mertajam, Kota Bharu, Tampoi-Larkin-Kempas, Bangi-Semenyih-Beranang.

Aspects	Guidelines	Local plans
Water quality	– Constructions to be carried out during appropriate season.	Seremban, Bangi-Semenyih-Beranang, Batu Burok-Chendering
	– Install silt trap during construction.	Bandar Maharani, Padang Lalang
	– Provide treatment system for surface water runoff.	Melaka, Padang Lalang
	– Provide retention pond	Seremban, Alor Gajah
	– Development in accordance with guidelines of Dept. of Drainage and Dept. of Town & Country Planning	Alor Gajah, Bangi-Semenyih-Beranang, Batu Burok-Chendering
Noise control	– Provide buffer zone	Kota Setar, Bukit Mertajam, Kota Bharu, Alor Gajah, Skudai
	– Tree planting with dense texture.	Kota Bharu, Alor Gajah, Parit Buntar-Bagan Serai, Padang Lalang
Solid waste Environmentally sensitive area	– Every settlement to provide waste disposal site.	Kota Bharu
	– Prohibit tree felling	Taiping
	– Preserve building/area having significant interest.	Kangar
	– Development in hilly areas and river reserve to follow guidelines of Dept. of Drainage and Dept. of Town & Country Planning)	Seremban, Batu Burok-Chendering
	– Housing density in accordance with slope capacities.	Kulim-Junjung, Batu Burok-Chendering
	– Development not allowed on slope of more than 25 degree.	Kulim-Junjung, Alor Gajah, Tampoi-Larkin-Kempas, Batu Burok-Chendering
	– Hydraulic study for development near water bodies.	Padang Lalang, Bangi-Semenyih-Beranang.

In response to the growing awareness to the environmental issues, many government agencies involved in land development have produced their own guidelines according to their area of control and such guidelines have also been included in these local plans. As regards to environmental aspects, these plans generally emphasised the preservation of natural resources and environmentally sensitive area in addition to environmental control. Since the exact areas to be preserved or maintained are not identified, questions can still be raised as to its applicability to the development control stage.

ENVIRONMENTAL QUALITY AND DEVELOPMENT CONTROL

In order to determine whether a proposed development is viable, it is necessary to weigh up the consequences of what is proposed for the environment in addition to other factors such as economic and social impacts. In many cases, it will be possible to determine the environmental consequences of a proposal with a reasonable degree of confidence. Under Malaysian law, the mechanism to evaluate the potential impact of development on the environment is environmental impact assessment (EIA) which is governed by the Environmental Quality Act (1985 Amendment) and administered by the Department of Environment. The development control system is however carried out by the local planning authority and may not involve the EIA. As mentioned earlier, the amendment to the 1976 Act required that certain environmental aspects of development should be enhanced and powers given to the local authority to control them accordingly through the imposition of conditions. The sampled planning permission shows that planning conditions can generally be categorised into four main groups according to their purpose. These include i) conditions to improve the physical environment; ii) conditions relating to the design and layout of the development; iii) conditions relating to provision of infrastructure and amenities; iv) conditions to improve the quality of the environment (Table 4). Among the conditions used to improve the physical environment, the most frequently used is the requirement to provide open space and tree planting. More than 70% of the planning permissions in the sample carried these conditions in the "very clear" category compared to other conditions in the same category which are imposed to about 20% of the sample. A large proportion of conditions other than provision of open space are not site specific.

It is interesting to note that more than fifty percent of the permissions do not mention the tree felling prohibition whereas only 5% of them do not carry condition relating to open space. One third of the samples do not carry any

condition relating to preservation of the natural topography or restricting any form of disturbance to the natural resources. Conditions related to measures to improve the quality of environment include: i) Measures to prevent and control water/air/noise pollution; ii) Waste disposal management; iii) Citing and zoning of industries; iv) Traffic management; and v) provision of footpath. All these aspects are generally considered in determining the planning application. However, the detail for these conditions particularly as regards to clarity and coverage is still questionable. The average of planning permissions which carry these conditions in a clear manner is 22.5%, i.e. less than one per cent from those that do not have these conditions at all while another 22% of the samples have these conditions worded in a general manner.

Two possible interpretations emerge from these findings. They could suggest that local authority regard these issues as important and view conditions as powerful means for controlling the physical environment. The highly generalised conditions might suggest, then, a level of understanding of the intention in imposing conditions for the developers, which would ensure implementation. Alternatively, it would be possible to imply that the use of generalised conditions and concern for detail as a reflection of the belief that environmental aspects was only peripherally important in the development control process. This would be consistent with the findings on the provision of local plans which lack clear guidelines. This differs from provisions on design and layout of buildings and guidelines on social facilities which are more site and performance specific. It is also consistent with the performance of conditions related to these matters which generally have a higher frequency than environmental related conditions.

TABLE 4:
 Planning conditions according to categories of clarity

Conditions	Categories (%)			
	Site and performance specific	Site or performance specific	General	Not mention
<i>Conditions to improve the physical environment</i>				
Prohibit damage to the land, its physical environment, natural topography and landscape	18.0	29.0	21.0	32.0
Prohibit the removal or alteration of any natural features of the land	19.0	24.0	24.0	33.0
Prohibit the felling of trees of certain characteristics	11.0	24.0	12.0	53.0
Planting or replanting of trees with certain characteristics.	23.0	52.0	17.0	8.0
Making up of open space	39.0	42.0	14.0	5.0
<i>Condition to improve the quality of environment</i>				
Prevent water/air/noise pollution during construction	19.0	23.0	39.0	19.0
Control pollution after construction is completed	16.0	20.0	26.0	38.0
Adherence to guidelines on siting and zoning of industries	27.0	38.0	18.0	17.0
Provide comprehensive footpath system	12.0	24.0	28.0	36.0
Conditions related to traffic management	16.0	22.0	32.0	30.0
<i>Conditions related to layout and amenities</i>				
Conditions related to design and layout	32	21	23	24
Provision of infrastructure and social amenities	42.0	33.0	12.0	12.0

CONCLUSION

There is no doubt that land use planning control contributes to better environmental management. It plays significant role in improving the overall amenity especially in the urban areas. This is in line with the traditional concerns of land use planning which is to ensure maximum convenience and beauty while facilitating economic and social well-being (Keeble 1969). However, the achievement of sustainable development requires that planning be environmental-led. In general terms, planning powers are wide enough and the tools of control are sufficiently versatile to ensure that land use and development objectives are compatible with sustainable development, if local planning authorities can be persuaded to use them. There are however several areas of the process where difficulties could arise. First, the general approach to the operation of development control does not fit with the precautionary approach which is very much a part of the approach to sustainable development. The attitude and practice of development control is one where applications should be allowed unless they would cause conflicts to interests of acknowledged importance. Although they may be circumstances in which the development plan can support a precautionary approach, such circumstances will be limited. If sustainable development is to be an important factor in development control, it is necessary to review the extent of the presumption in favour of development. The second difficulty arises from the "once and for all" nature of development control. There is no effective way in which a local planning authority can review the adequacy of control in the light of changing circumstances and advance technology. Consideration needs to be given to providing authorities with effective tools for extending the scope and process to encompass monitoring and review.

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