

Environmental Management in the Urban and Regional Planning Process: The Challenges in the 1990s

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ABSTRACT

The paper presents an overview of the Malaysian land use planning system in relation to environmental management. Its capabilities and weaknesses are elucidated. Some suggestions to accommodate the future needs which include institutional changes pertaining to the issues of consolidation of various relevant laws and planning education are proposed.

ABSTRAK

Kertas ini membentangkan ulasan mengenai sistem perancangan guna tanah di Malaysia berkait dengan pengurusan alam sekitar. Kemampuan dan kelemahannya dibincangkan. Beberapa cadangan bagi memenuhi keperluan masa depan termasuk perubahan institusi mengenai isu-isu berkaitan dengan konsolidasi undang-undang yang terbabit dan pendidikan perancangan dikemukakan.

INTRODUCTION

The aim of the planning system (land use, physical or urban and regional planning) is to regulate the development and use of land in the public interest. Specifically, planning emphasis has been on the efficient use of land and infrastructure, and on the quality of the urban and rural environments. It is done through the introduction of planning procedures, plans to guide development and the concept of zoning or other development control devices. Hence, it is recognized that land use planning is a long-standing tool for environmental policy and planning (Editorial 1992).

Nevertheless, after several decades of statutory planning in this country, the real achievement especially in safe-guarding our finite resources is still elusive. This paper presents a review of the current practices of the land use planning system in environmental management. Its strengths and weaknesses

are discussed. Implementation and institutional problems as well as model suggestions for improvement of the present systems are presented.

PRESENT PLANNING SYSTEM

The Town and Country Planning Act, 1976 (Act 172) is for the first time separated from the legislation governing the local authorities. The Act enables the local authorities to plan on a more strategic basis by adopting the development plan approach whereby two sets of plans are prepared. First, the structure plan is a broad statement of strategic long term objectives and second, the local plan is a detailed plan based on the structure plan's broad objectives. The development plan provides for a planning process whereby the national, social, economic and physical development objectives can be translated into a development strategy for the states or part of the states. It also provides a framework for the preparation of more detailed local land use plan and development programmes to guide the agencies concerned with implementation.

In order to ensure that the plans are workable, the Act introduces three elements: (a) A system of statutory plans indicating what development is intended to meet the needs of the planning area over a given period and where development is to be permitted, refused or otherwise subject to special conditions; (b) A system of development control to ensure that development is carried out in accordance with the policies set out in the plans; and (c) A system of administrative agencies to secure the planning and development control functions.

The statutory power is essential for the planners to incorporate environmental aspects in the planning process (Figure 1). The system gives the planner powers to determine the nature as well as the location of new development; a statutory responsibility to consult and co-ordinate (with pollution control agencies, *inter alia*) in plan-making and development control; and an ability, through positive planning (strategic plans), to co-ordinate environmental improvement on a broad scale (Hebbert 1992).

As a positive planning tool, the development plan adopts a continuous and cyclical system approach based on the identification of needs, formulation of goals, the identification and evaluation of alternative course of action and the monitoring and readjustment of adopted programmes (Figure 2). Unlike the old master planning system, the development plans are not an end by itself. The strategic policies will be reviewed from time to time to suit the requirements of the new environment. Thus, although there are limits beyond which growth and development become unsustainable, land-use planning might be one way of making such limits more elastic (Editorial 1992).

The planning system also provides the opportunities for public participation and enables, not only persons directly affected, but also bodies

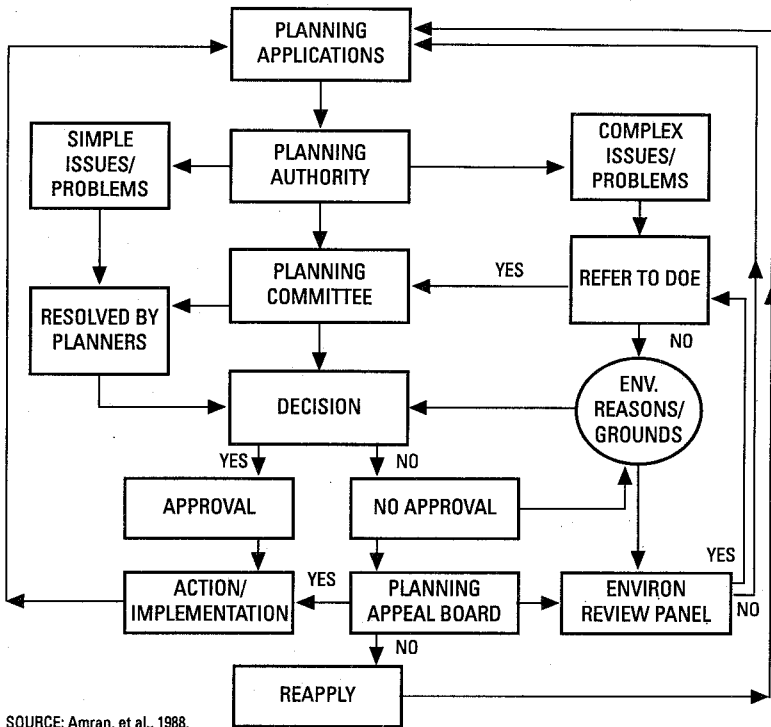


FIGURE 1. Pollution control implementation process

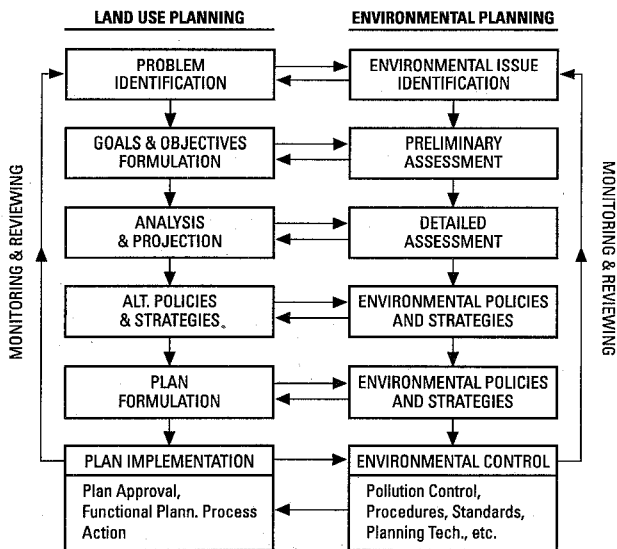


FIGURE 2. Land use and environmental planning process.

representing public interest, to have an input into the preparation of the development plans (Figures 3 and 4). Here, the local planning authority is subjected to a public scrutiny. During the implementation process, a judicial system of appeal can check on the discretionary powers which local authorities exercise. Thus, any planning application at whatever level has to be justified in accordance with established criteria. Specific examples on how land use planning can deal with environmental managements issues (administrative, institutional, jurisdictional) in practice have been highlighted by the authors in their earlier papers (Mansor & Tajuddin 1987; Mansor et al. 1988, 1990a, 1990b; Amran et al. 1988; Wood 1976, 1979, 1990, Miller & Wood 1983); (See also Figures 1-4).

WEAKNESSES IN THE PLANNING SYSTEM

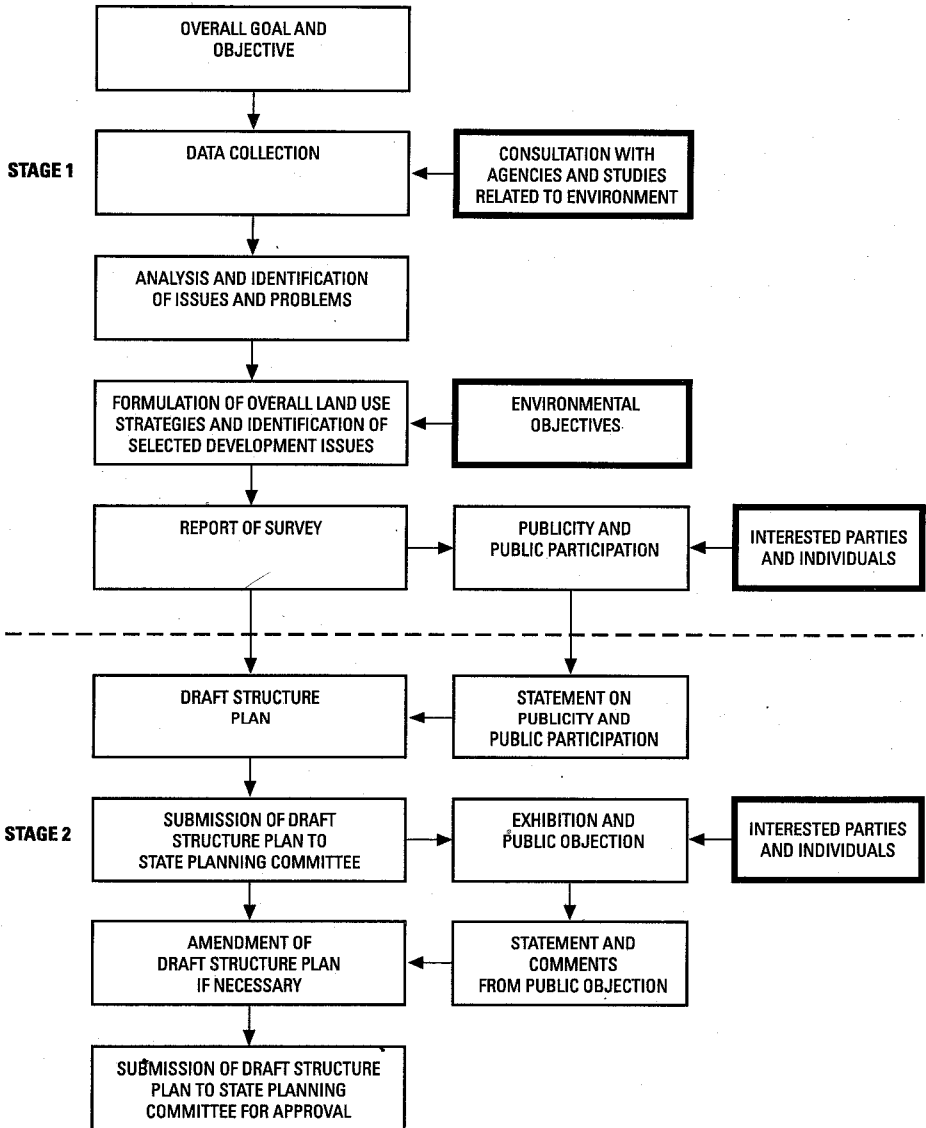
Although the planning system has an all-embracing character, flexibility and scale (national direction and co-ordination, local implementation) which support the implementation of a National Environmental Policy, the system's ability is limited due to implementation and institutional problems.

IMPLEMENTATION PROBLEMS

Hebbert (1992) argues that planning, once established as a regular branch of government at central and local levels, can become narrow and routine. The main function of planning then, is merely to regulate so that pre-determined land uses can be preserved. For instance, the planning authorities are willing to approve a proposed intensive housing project next to a school compound of environmentally sensitive area like mangrove reserves simply because the areas are zoned for housing development. Similarly, the planning system was never an active force against noxious industrial emissions and wastes or against noise pollution within or outside industrial zone.

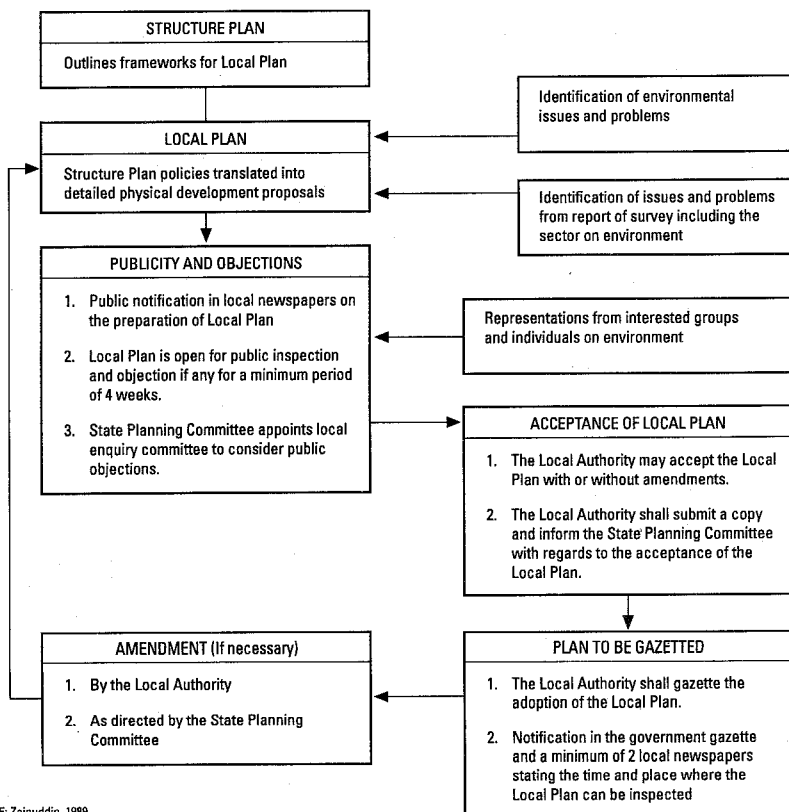
Ineffective planning control on environmental pollution can be due to inadequate training, poor information, lack of central guidance, professional jealousies and the fear of local economic disadvantages (Wood 1976). In developing countries like Malaysia, economic reason can be an overriding factor particularly when the very nature of planning itself is politically motivated. As Wood and Pendleton (1979) contended, when a local authority was its own developer, there might arise significant political restraints on the part of the authority to fully use a given power.

The incompetencies among planners in dealing with environmental issues reflect the inadequacy of planning education at tertiary level to train environmentally conscious planners. It is not surprising therefore, that planners see their role more as collative than actively regulatory when faced with environmental issues. The planners rely extensively upon inputs from



SOURCE: Zainuddin, 1989.

FIGURE 3. Structure plan preparation process



SOURCE: Zainuddin, 1989.

FIGURE 4. Local plan preparation process.

other departments, notably the Department of Environment. The planners' ignorance is clearly reflected in development plan documents prepared by either the public sector planners or private planning consulting firms. All the structure and local plans prepared so far gave a special chapter on the environment without treating it as a whole part of the plan. Generally, the study was undertaken by environmental specialists and the planners acted merely as coordinators.

Given the sectoral approach treatment on environmental issues in the development plans, it is not surprising that most of them contain proposals in the nature of city or municipal-wide beautification and recreation programmes rather than conservation efforts and ways to overcome or mitigate localised pollution problems (Amran et al. 1988). Most of the

structure plans do not mention the need for an EIA in considering development proposals, let alone the environmental impact of each sector of the individual plan or the impact of the overall comprehensive plan. Thus, despite great concern about environmental management, there has been no attempt to integrate the EIA procedure into the land use planning process.

INSTITUTIONAL PROBLEMS

By and large, the agencies directly responsible for environmental management and pollution control are the Department of Environment (federal level), the Town and Country Planning Department (State or regional) and the Local Planning Authorities (municipal or district council). Besides, there are also other agencies involved indirectly in environmental management (Table 5). These agencies are equipped with their respective legislative and administrative instruments to perform a range of duties and responsibilities in environmental management. Thus, the interested parties in environmental management are many and varied. For instance, in the planning and development of water resources, there are eleven agencies listed as having direct interest (Hamzah 1986). This can be a problem within the three-tier system of government which requires and presupposes willing cooperation and coordination among land use planning and environmental management agencies (Mansor & Tajuddin 1987). Our concern is not that environmental problems are not given priority, but that they are often dealt with inadequately and sometimes forgotten altogether in the planning process.

While development plans may give some treatments to the environment, most of these are not binding to be implemented by the local authorities concerned. This is due to the fact that only one-third of the states adopts the entire Town and Country Planning Act, 1976. Other states accept only Part I (Preliminary), Part II (Policy and Administration) and Part III (Development Plan) of the nine parts. The reluctance to adopt the Act in full is due to the unwillingness of the state authorities to accept a radical change from the previous practice of planning (Foziah 1989). Impartial adoption of the Act cannot provide a full statutory basis for the state to plan, control, and execute the development proposals. Thus, the very notion of positive planning process as profounded becomes largely academic.

THE FUTURE OF LAND USE PLANNING

In our earlier works, we suggested three broad categories of strategies viz., short, medium and long terms which reflected the degree of urgency in its implementation (Mansor & Tajuddin 1987). The short term strategy stresses on consultation between controlling agencies, the medium term strategy considers an upgrading of the role and responsibility of land use planning

which are beginning to gain recognition among planners. Through discussions among various committees at state level such as the State Planning Committee and the State Environment Committee, the planners can play an important role in influencing politicians and other government officials to include environmental aspects in the development planning process. The requirement for an EIA on the prescribed activities imposed by the Department of Environment is a good example. However, due to institutional and implementation problems mentioned earlier, the strategies are not sufficiently followed in order to meet the present and future environmental needs.

The third strategy, i.e. the long term strategy, calls for radical action and brings about changes in the legislative and institutional frameworks for environmental management. This is necessary if we are really serious about meeting the targets of "Agenda 21" as agreed in Rio. In this connection, the New Zealand's Resource Management Act, 1991 was one step ahead of other nations in consolidating land use planning and environmental management. Although, the results are yet to be seen, this bold attempt is certainly commendable.

Realizing that the existing processes were not working, and that there was an increasing awareness about global environmental issues and the concern for the future generation, the New Zealand's Government called for a major overhaul in all of her legislation affecting the resources. The Act consolidated more than twenty different laws governing land, water, air and mineral resources to become one Act (Leikis 1992; Oc 1992). New Zealand has chosen the concept of sustainable management which recognizes the need for a biological bottom line to be maintained while allowing resources to be used in a manner and at a rate allowable for future generations. The concept demands development that integrates environmental, social and economic objectives.

In Malaysia, the planning legislation relates only to land use, and the emphasis is merely on controlling the activities rather than assessing the effects of development. The implementation of planning is seen as being too complex, legalistic, bureaucratic and involving considerable overlaps. The multiplicity of legislative requirements that apply to a single development very often confuses the decision makers who find it difficult to recognize the potential impact an activity may have on the environment.

The proposed new structure of the planning system must be all-embracing and relates to the use, development and protection of environmental resources. These include all aspects of positive or adverse effects, temporary or permanent effects, any past, present or future effects, any cumulative effects, high probability potential effects, and potential effects with a low probability but has a high potential impact. By assessing such effects, all aspects of a development proposal is reviewed in an integrated manner and in relation to the total environment (Leikis 1992).

Perhaps, the basis of the proposal is already in place in Malaysia. The requirement of an EIA for certain "prescribed activities" in the project planning, for example, came into force in 1988 under the Environmental Quality (Prescribed Activity) Order, 1987. However, as a federal law, its implementation in the various states faces many problems. For certain "prescribed activities" such as logging the implementation has been slow. In addition, the EIA requirement does not embrace all project activities (Table 6). A single federal act that covers all aspects of resources is essential for Malaysia.

CONCLUSION

The paper argues that land use planning as a tool does have a special role in environmental management. Unfortunately due to institutional and implementation problems, the planners are unable to play their role effectively. An overhaul of the existing legislation pertaining to land use and environmental management is suggested, which should include, among others, a fuller coverage of the subject matter at all levels of education so that a responsible attitude towards the environment may be inculcated among the citizens.

TABLE 5. List of Regulations Issued Under the Environmental Quality Act, 1974 and Other Environmentally-Related Legislations

1. INTRODUCTION

The purpose of this appendix is to direct project initiators and assessors to existing regulations issued under the Environmental Quality Act, 1974 and other environmentally-related legislations in Malaysia.

2. LIST OF LEGISLATIONS

1. The Environmental Quality Act, 1974, Act 127 Laws of Malaysia His Majesty's Gazette, 14th March, 1974.
 2. Destruction of Disease Bearing Insects Act, 1975 Act 154, Laws of Malaysia
 3. Land Conservation Act, 1960 (No. 3 of 1960)
 4. Local Government Act, 1976
Act 171/76, Laws of Malaysia
 5. National Land Code 1965
 6. Municipal and Town Boards (Amendment) Act 1973
 7. City of Kuala Lumpur (Planning) Act 1973
 8. Housing Development (Central and Licensing) Act 1965
 9. Forest Enactments 1934
 10. Mining Enactment 1929
 11. The Waters Enactment 1929
 12. Drainage Works Ordinance 1954
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TABLE 5. (*Continuation*)

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13. Fisheries Act 1963
 14. Petroleum Development Act 1974
 15. The National Parks Act 1980
 16. Protection of Wildlife Act 1972
 17. Factories and Machinery Act, 1967
 18. The Road Traffic Ordinance 1958
 19. Poisons Ordinance 1952
 20. Explosives Ordinance 1957
 21. Dangerous Drugs Ordinance 1952
 22. Federation Port Rules 1953
 23. The Aboriginal Peoples Act, 1954
 24. Sale of Food and Drug Ordinance 1952
 25. Medicine (Advertisement & Sale) Ordinance 1956
 26. Trade Description Act 1972
 27. Continental Shelf Act 1966
 28. Malaria Eradication Act, 1971
Act 52, Laws of Malaysia
 29. Pesticides Act, 1974
Act 149, Laws of Malaysia
 30. Radioactive Substance Act, 1968
(No. 17 of 1968)
 31. Streets, Drainage and Building Act, 1974
Act 133, Laws of Malaysia
 32. Antiquities Act, 1976 Act 168/76
Laws of Malaysia
 33. Town and Country Planning Act 172/76,
Laws of Malaysia
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Source: Department of Environment, 1988.

TABLE 6. Environmental Quality Act 1974 Environmental Quality
(Prescribed Activities) (Environmental Impact Assessment) Order 1987

In exercise of the powers conferred by section 34A of the Environmental Quality Act 1974, the Minister, after consultation with the Environmental Quality Council, makes the following order:

1. This Order may be cited as the *Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 1987* and shall come into force on the 1st April 1988.
2. The activities specified in the schedule are prescribed to be prescribed activities.

SCHEDULE

1. AGRICULTURE
 - (a) Land development schemes covering an area of 500 hectares or more to bring forest land into agricultural production.
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TABLE 6. (Continuation)

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- (b) Agricultural programmes necessitating the resettlement of 100 families or more.
 - (c) Development of agricultural estates covering an area of 500 hectares or more involving changes in type of agricultural use.
2. AIRPORT
- (a) Construction of airports (having an airstrip of 2,500 metres or longer).
 - (b) Airstrip development in state and national parks.
3. DRAINAGE AND IRRIGATION
- (a) Construction of dams and man-made lakes and artificial enlargement of lakes with surface areas of 200 hectares or more.
 - (b) Drainage of wetland, wild-life habitat or of virgin forest covering an area of 100 hectares or more.
 - (c) Irrigation schemes covering an area of 5,000 hectares or more.
4. LAND RECLAMATION
- Coastal reclamation involving an area of 50 hectares or more.
5. FISHERIES
- (a) Construction of fishing harbours.
 - (b) Harbour expansion involving an increase of 50 percent or more in fish landing capacity per annum.
 - (c) Land based aquaculture projects accompanied by clearing of mangrove swamp forests covering an area of 50 hectares or more.
6. FORESTRY
- (a) Conversion of hill forest land to other land use covering an area of 50 hectares or more.
 - (b) Logging or conversion of forest land to other land use within the catchment area of reservoirs used for municipal water supply, irrigation or hydro power generation or in areas adjacent to state and national parks and national marine parks.
 - (c) Logging covering an area of 500 hectares or more.
 - (d) Conversion of mangrove swamps for industrial, housing or agricultural use covering an area of 50 hectares or more.
 - (e) Clearing of mangrove swamps on islands adjacent to national marine parks.
7. HOUSING
- Housing development covering an area of 50 hectares or more.
8. INDUSTRY
- (a) Chemical - Where production capacity of each product or of combined products is greater than 100 tonnes/day
 - (b) Petrochemicals - All sizes
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TABLE 6. (Continuation)

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- (c) Non-ferrous - Primary smelting:
 - Aluminium - all sizes
 - Copper - all sizes
 - Others - producing 50 tonnes/day and above of product.
 - (d) Non-metallic - Cement - for clinker throughput of 30 tonnes/hour and above
 - Lime - 100 tonnes/day and above burnt lime rotary kiln or 50 tonnes/day and above for vertical kiln.
 - (e) Iron and steel - Require iron ore as raw materials for production greater than 100 tonnes/day; or
 - Using scrap iron as raw materials for production greater than 200 tonnes/day.
 - (f) Shipyards - Dead Weight Tonnage greater than 5000 tonnes.
 - (g) Pulp and paper industry - Production capacity greater than 50 tonnes/day
9. INFRASTRUCTURE
- (a) Construction of hospitals with outfall into beachfronts used for recreational purposes.
 - (b) Industrial estate development for medium and heavy industries covering an area of 50 hectares or more.
 - (c) Construction of expressways.
 - (d) Construction of national highways.
 - (e) Construction of new townships.
10. PORTS
- (a) Construction of ports.
 - (b) Port expansion involving an increase of 50 percent or more in handling capacity per annum.
11. MINING
- (a) Mining of minerals in new areas where the mining lease covers a total area in excess of 250 hectares.
 - (b) Ore processing, including concentrating for aluminium, copper, gold or tantalum.
 - (c) Sand dredging involving an area of 50 hectares or more.
12. PETROLEUM
- (a) Oil and gas fields development.
 - (b) Construction of off-shore and on-shore pipelines in excess of 50 kilometres in length.
 - (c) Construction of oil and gas separation, processing, handling, and storage facilities.
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TABLE 6. (Continuation)

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- (d) Construction of product depots for the storage of petrol, gas or diesel (excluding service stations) which are located within 3 kilometres of any commercial, industrial or residential areas and which have a combined storage capacity of 60,000 barrels or more.
13. POWER GENERATION AND TRANSMISSION
- (a) Construction of steam generated power stations burning fossil fuels and having a capacity of more than 10 megawatts.
- (b) Dams and hydroelectric power schemes with either or both of the following:
- (i) dams over 15 metres high and ancillary structures covering a total area in excess of 40 hectares.
- (ii) reservoirs with a surface area in excess of 400 hectares.
- (c) Construction of combined cycle power stations.
- (d) Construction of nuclear-fueled power stations.
14. QUARRIES
- Proposed quarrying of aggregate, limestone, silica, quartzite, sandstone, marble and decorative building stone within 3 kilometres of any existing residential commercial or industrial areas, or any area for which a licence, permit of approval has been granted for residential, commercial or industrial development.
15. RAILWAYS
- (a) Construction of new routes.
- (b) Construction of branch lines.
16. TRANSPORTATION
- Construction of Mass Rapid Transport projects.
17. RESORT AND RECREATIONAL DEVELOPMENT
- (a) Construction of coastal resort families or hotels with more than 80 rooms.
- (b) Hill station resort or hotel development covering an area of 50 hectares or more.
- (c) Development of tourist or recreational facilities in national parks.
- (d) Development of tourist or recreational facilities on islands in surrounding waters which are gazetted as national marine parks.
18. WASTE TREATMENT AND DISPOSAL
- (a) Toxic and Hazardous Waste
- (i) Construction of incineration plant.
- (ii) Construction of recovery plant (off-site).
- (iii) Construction of wastewater treatment plant (off-site).
- (iv) Construction of secure landfill facility.
- (v) Construction of storage facility (off-site).
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TABLE 6. (Continuation)

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- (b) Municipal Solid Waste
 - (i) Construction of incineration plant.
 - (ii) Construction of composting plant.
 - (iii) Construction of recovery/recycling plant.
 - (iv) Construction of municipal solid waste landfill facility.
 - (c) Municipal Sewage
 - (i) Construction of wastewater treatment plant.
 - (ii) Construction of marine outfall.
19. WATER SUPPLY
- (a) Construction of dams, impounding reservoirs with a surface area of 200 hectares or more.
 - (b) Groundwater development for industrial, agricultural or urban water supply of greater than 4,500 cubic metres per day.

30th. September, 1987

[KST & AS(U) 902/JAS/4(2); PN. (PU2) 280/111.]

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