

7.2 LR Project Implementation Planning

The implementation planning process integrates all the internal and external requirements and needs to achieve an effective implementation plan for all parties concerned. The main objectives are to assess the viability of the LR project and formulate workable project implementation framework, and to prepare the necessary detailed information to serve as a legal document for public objection and/or subsequent approval by the concerned authority. The overall framework of LR project implementation planning is as follows:

- (a) **Delimitation of the Project Area:** The LR project area identified in Local Plan must be delimited in the presence of relevant landowners.
- (b) **Conduct of Supplemental Surveys:** The surveys will cover the following items:
 - Physical information for infrastructure planning/design and construction cost estimate;
 - Legal information for adjusting property rights, particularly those on lands and buildings;
 - Social information on the profile and needs of landowners and residents;
 - Policy information which will govern or affect the development of the community; and
 - Market information with regard to adequate planning of financial lands.
- (c) **Determination of Implementing Body:** Type of implementing organization which will carry out the project development framework will be adequately determined.
- (d) **Preparation of LR Layout Plan and Engineering Plans:** This work is an important process not only for project cost estimation but also more for achieving the desired community plan in conformity with public interests and landowners desires.
- (e) **Land Valuation and Preliminary Replotting:** The shares of landowners in terms of replots are to be adequately calculated to determine the size and location. This process is often reiterated to satisfy as much as possible the requirements and equity among the landowners themselves.
- (f) **Project Cost Estimate and Cost-Sharing:** Cost of an LR project comprises the construction cost, compensation cost and project management cost. Cost-sharing between the implementing body (landowners) and the Government as well as relevant utilities/public facilities agencies will significantly affect the contribution of landowners as well as financial viability of the project.
- (g) **Estimate of Financial Lands:** Financial lands are to be estimated with due consideration of marketability and compliance with LR layout plan to avoid unnecessary increase in contribution rate.
- (h) **Viability Assessment of LR Project:** Assessment of LR project from the financial viewpoint is a critical aspect not only for the implementing body but also for landowners. Landowners' interests are the contribution rate and location/size/shape/use of the replot. Assessment criteria are to be worked out with consideration of project objective and Government responsibility.
- (i) **Formulation of LR Project Implementation Plan:** After the consensus of landowners is obtained and viability of the project determined, a set of documents will be prepared for submission and approval of the authority.

For dissemination and assessment of LR projects, contents of the LR project implementation plan in Malaysia should be standardized as is practised in structure plan/local plan formulation.

Figure 7.1
Overall Framework of LR Project Implementation Planning

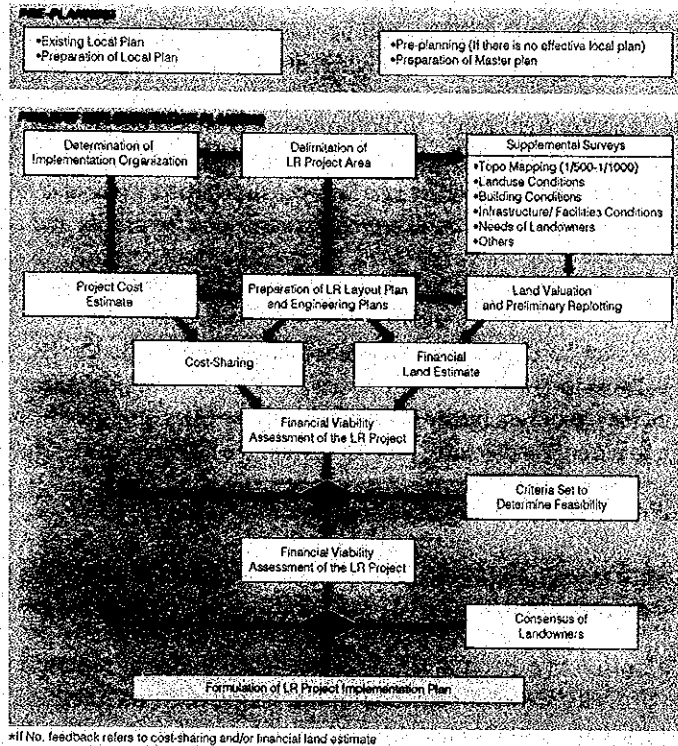


Table 7.3
Proposed Contents of LR Project Implementation Plan

Item	Specification
1. Name of LR Project	
2. Name of Implementing Body	
3. Project Area 3.1 Location 3.2 Address 3.3 Boundary	<ul style="list-style-type: none"> Description together with map showing the locational relationship with mother town/nearby major communities Official address of the project area Coordinated map overlaid with topo-map and cadastral map on showing project area boundary (ies).
4. Objective of the Project	<ul style="list-style-type: none"> Objective and reason of selecting the project area.
5. Existing Condition of the Project Area 5.1 General Characteristics 5.2 Population 5.3 Land use 5.4 Roads 5.5 Rivers/Drainage 5.6 Utilities 5.7 Buildings 5.8 Other Public Facilities 5.9 Living Environment 5.10 Topo-map	<ul style="list-style-type: none"> Overall development condition and characteristics of the area. Demographic feature including nighttime and daytime population, employment, racial and age composition etc. Registered land purpose and actual land use Geometric features and maintenance of existing roads Road traffic characteristics and problems Existing conditions and problems of water supply, sewerage, energy, telecommunication systems. Uses, structures, floor areas of existing buildings. Existing conditions of other community facilities. Assessment of existing living environment Topo-map showing the existing condition, with scale of 1/1000- 1/2000
6. LR Plan 6.1 Planning Policy 6.2 Public Facilities Plan 6.3 Land Use Transformation Plan 6.4 LR Plan	<ul style="list-style-type: none"> Description of planning policy/direction on land use, population distribution plan, public facilities plan, layout plan. Plan and description of public facilities which will be developed in the project. Land use changes due to the project Land use and layout plan drawn on topo-map with scale of 1/1000 - 1/2000.
7. Project Implementation Period	
8. Financial Plan 8.1 Expenditure Plan 8.2 Revenue Plan 8.3 Land Valuation 8.4 Financial Land Plan	<ul style="list-style-type: none"> Estimated construction cost, relocation/compensation cost, survey cost, project management cost etc. Estimated defrayment of relevant agencies, subsidies, sale of financial land etc. Estimate of land value before and after the project. Estimate of financial land * Plan of financial land disposition
9. Calculation of Contribution Rate	<ul style="list-style-type: none"> Average contribution rate
10. Other References	<ul style="list-style-type: none"> Plans and drawings on layout, land development, drainage, utilities, relocation etc.

Figure 7.1
Overall Framework of LR Project Implementation Planning

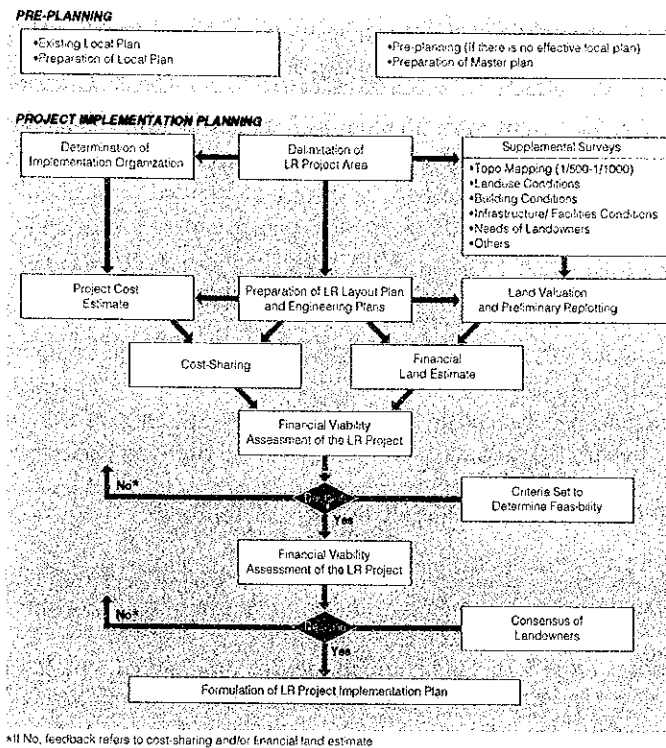


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7.3 Replotting Design and Planning

Replotting Concept: Replotting is a method to reorganize original land parcels in such a manner that planned infrastructure and public facilities can be constructed and, at the same time, the utility of land parcels will be increased equitably by exchanging, amalgamating and/or subdividing the parcels.

- (i) **Technical Aspect of Replotting:** Replotting work is supported by a set of technical methods of calculating values of lands before and after the project, determining the entitled value, locating the replots, and adjusting the difference between the entitled value and final value of the replots. The basic aim is to distribute the shares and contribution (or profits and costs due to the project) equitably among landowners.
- (ii) **Legal Aspect of Replotting:** Land Readjustment touches only the physical aspects of the lands. This means that all changes and encumbrances imposed on the lands will be carried over automatically to the replots. Legal status of the lands will not change throughout the project period until the replots are finally designated and new titles are issued. With this, implementing bodies are free from cumbersome procedures and the rights of landowners are totally protected.

Overall process of replotting planning is summarized as follows:

Replotting Planning Process: Replotting planning is composed of four work components such as land valuation, replotting design, replotting plan, and enforcement of replotting plan.

Land Valuation in LR: It is an important integral part of replotting design. The LR land valuation provides a detailed method of evaluating individual lots and replots objectively in terms of value index which become the basis of replotting design work. Land valuation in LR project has its own purposes and methods that are different from valuation for land transaction or tax assessment. Primary purpose of LR land valuation is to distribute costs and profits of the project or calculate contribution and shares among landowners equitably. To meet this objective, the LR land valuation is based on the Street Value Method which is equipped to handle the following situations:

- Land parcels with different features in the project area can be assessed according to the uniform rule agreeable to concerned parties;
- Land parcels can be assessed on a comparable basis for "before" and "after" project; and
- Valuation method has to be practical so that it can be completed within a reasonable time period.

Replotting Design Process: Replotting design determines specifically the size/shape/location/rights of the lands in compliance with consented layout plan. Since this process holds the most concern to landowners and affects the entire project implementation planning, it is desirable that preliminary replotting work be conducted even before the project implementation plan is officially approved. This is a reiterating process to ensure that landowners are contented.

Replotting Plan Preparation: Replotting plan determines replotting design, details of individual replots including value, equity, and correspondence of individual lots before and after the project, and details of lands requiring specific arrangements such as financial lands.

Replotting Plan Enforcement: Finally, the replotting plan will be enforced. The concept of provisional replotting may be considered.

Figure 7.2
Overall Process of Replotting Planning

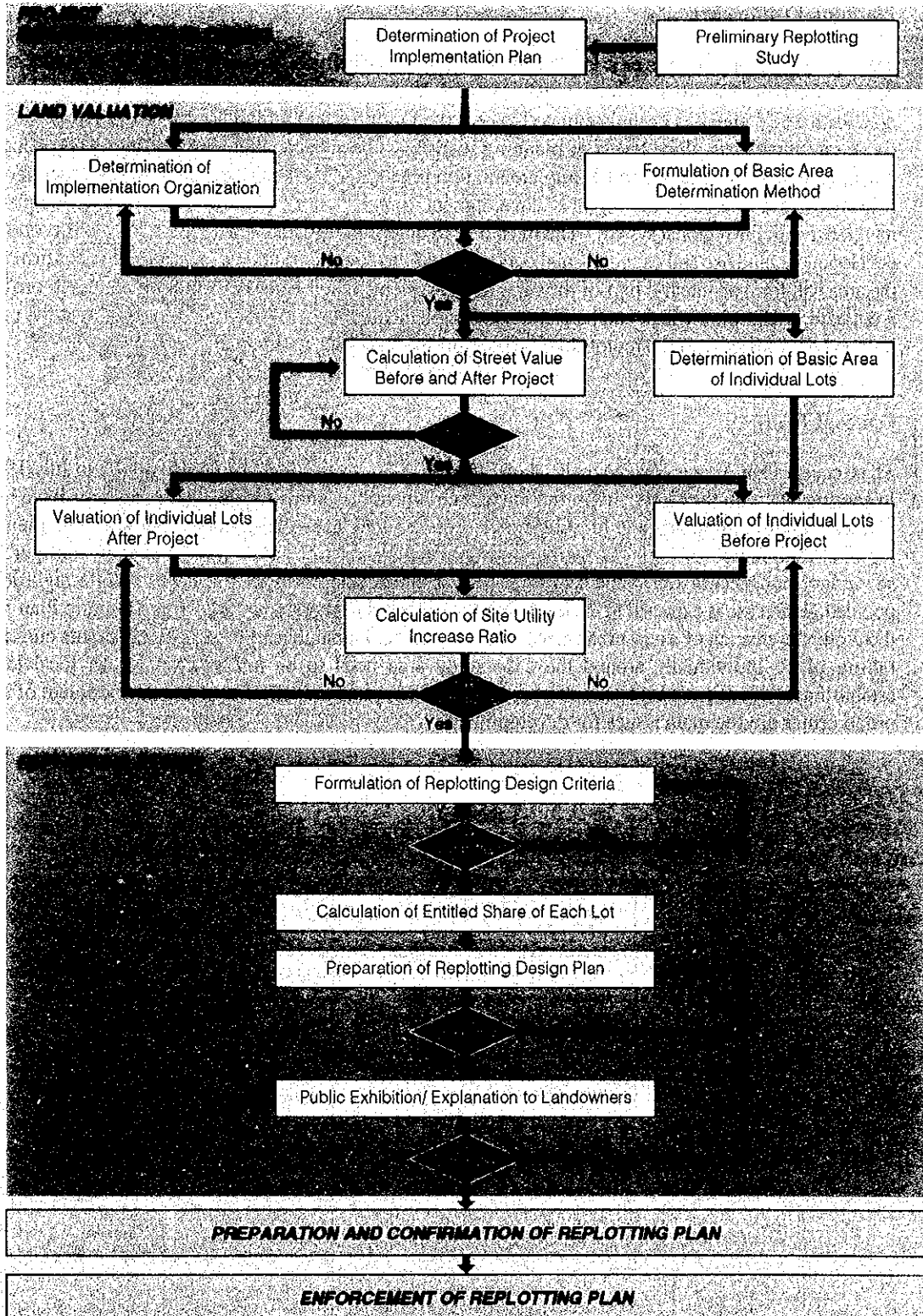
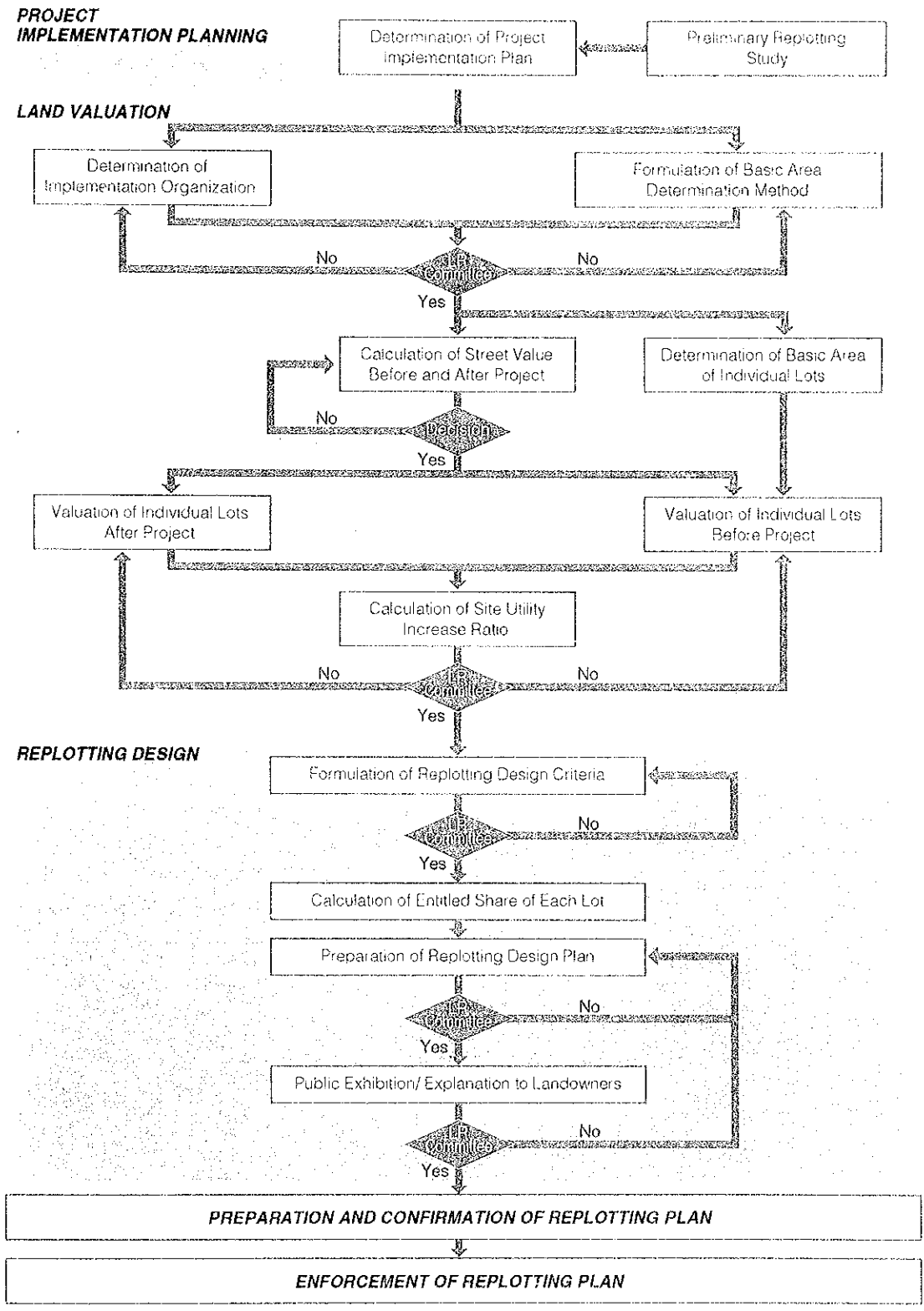


Figure 7.2
Overall Process of Replotting Planning



8 CASE STUDY FOR KG. SERI SUBANG

8.1 Planning Framework

The Kg. Seri Subang study area is located about 20 km west of Kuala Lumpur. While the area has lately been a focal point for urbanization sprawl, and with a large number of developments of different scale, no effective city plan has been formulated except the Draft Structure Plan for Petaling District. Under these circumstances, three levels of planning work have been carried out for the study area; concept planning, master planning, and LR implementation planning. The concept plan intends to identify the role of the study area in the regional development context and confirm that the area is adequately integrated with the regional system. The master plan determines the physical structure, socio-economic development, land use and environmental conditions of the study area and at the same time confirm that the area will form an integral part of the total urban system. The LR implementation plan is to provide a detailed layout plan which can be effectively implemented, provide accurate inputs, and at the same time avoid conflict with the replotting plan and project implementation plan.

8.2 Concept Plan

The Concept Plan Area is covered by Petaling Structure Plan, which has been made public in July 1994. In compliance with the Draft Structure Plan, development directions for the case study area have been delineated both at regional and local levels. At the regional level, the recently completed and planned regional road network should be further strengthened by a set of additional adequately configured secondary and access roads to meet expected urban development of the area. While significant population increase is expected in the area, no urban center is designated in the Draft Structure Plan and, therefore, the creation of a new urban center is proposed, and a number of urban developments currently taking place individually around the case study area need to be integrated. At the local level, establishment of adequate land use policy, provision of adequate industrial area and development of new urban center are the main issues for development.

Table 8.1
Planning Framework for Kg. Seri Subang Study Area

PLANNING PHASE	STUDY AREA COVERAGE	OBJECTIVE	BASE MAP	SUPPLEMENTAL SURVEY CONDUCTED
CONCEPT PLAN	Area : 1,000 ha Kg. Seri Subang Kg. Melayu Subang and adjoining areas	<ul style="list-style-type: none"> to identify development potentials and constraints at regional / local levels to propose development concept and structure 	Topographic Map (Scale 1:5,000)	<ul style="list-style-type: none"> Social and Engineering Survey (Level 1)
MASTER PLAN	Area : 332 ha a part of Kg. Seri Subang	<ul style="list-style-type: none"> to identify existing problems, issues and improvement needs to prepare landuse and public facilities layout plans 	Topographic Map (Scale 1:2,500)	<ul style="list-style-type: none"> Social and Engineering Survey (Level 2)
IMPLEMENTATION PLAN	Area : 319 ha a part of Kg. Seri Subang	<ul style="list-style-type: none"> to prepare LR design covering all necessary physical design of public facilities to formulate project implementation plan to evaluate project viability from financial, environmental, social aspects 	Overlaid Topographic and Cadastral Map (Scale 1:2,500 and 1:1,000)	<ul style="list-style-type: none"> Social and Engineering Survey (Level 3) Environmental Impact Assessment Survey Opinion Survey on LR Acceptability
REPLOTTING PLAN	Area : 319 ha a part of Kg. Seri Subang	<ul style="list-style-type: none"> to prepare replotting plan based on the LR design and layout plan 	Overlaid Topographic and Cadastral Map (Scale 1:2,500 and 1:1,000)	<ul style="list-style-type: none"> Supplemental lots / building survey

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Figure 8.1
Draft Structure Plan for Petaling District

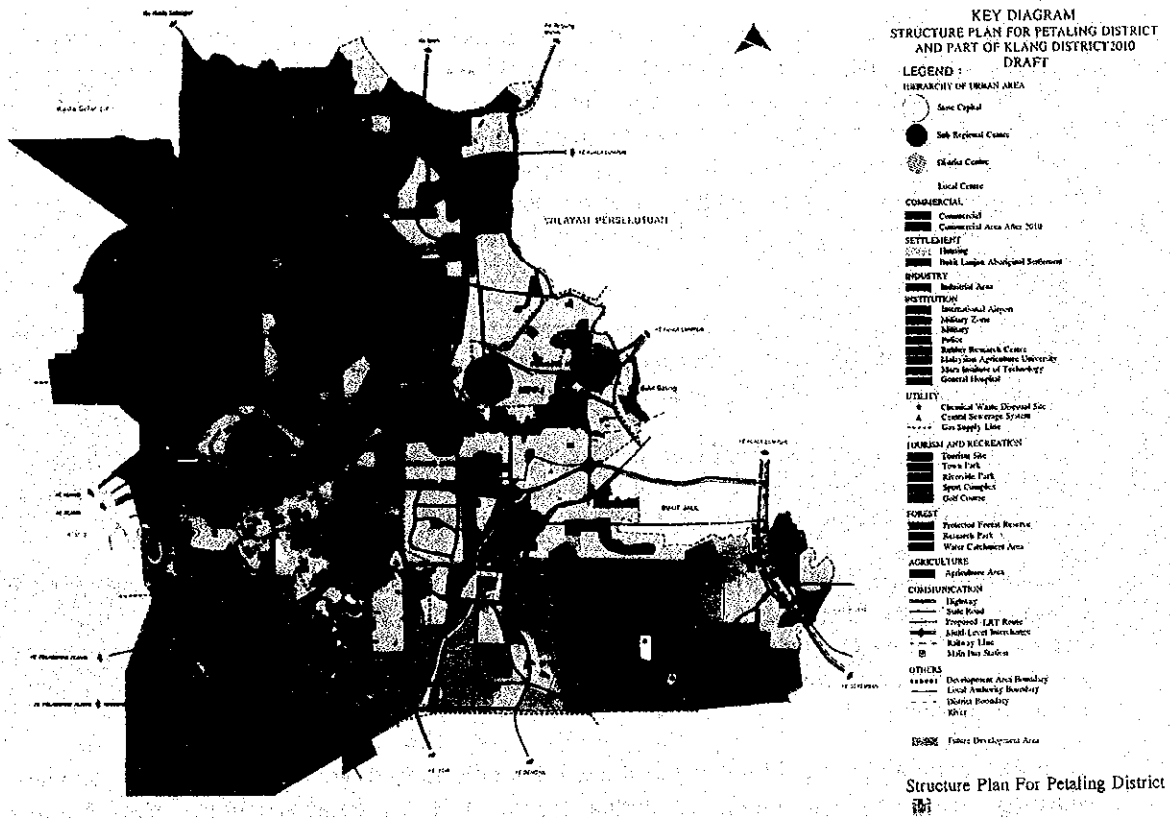


Figure 8.2
Proposed Regional Development Structure

Figure 8.3
Development Structure of Concept Plan Area

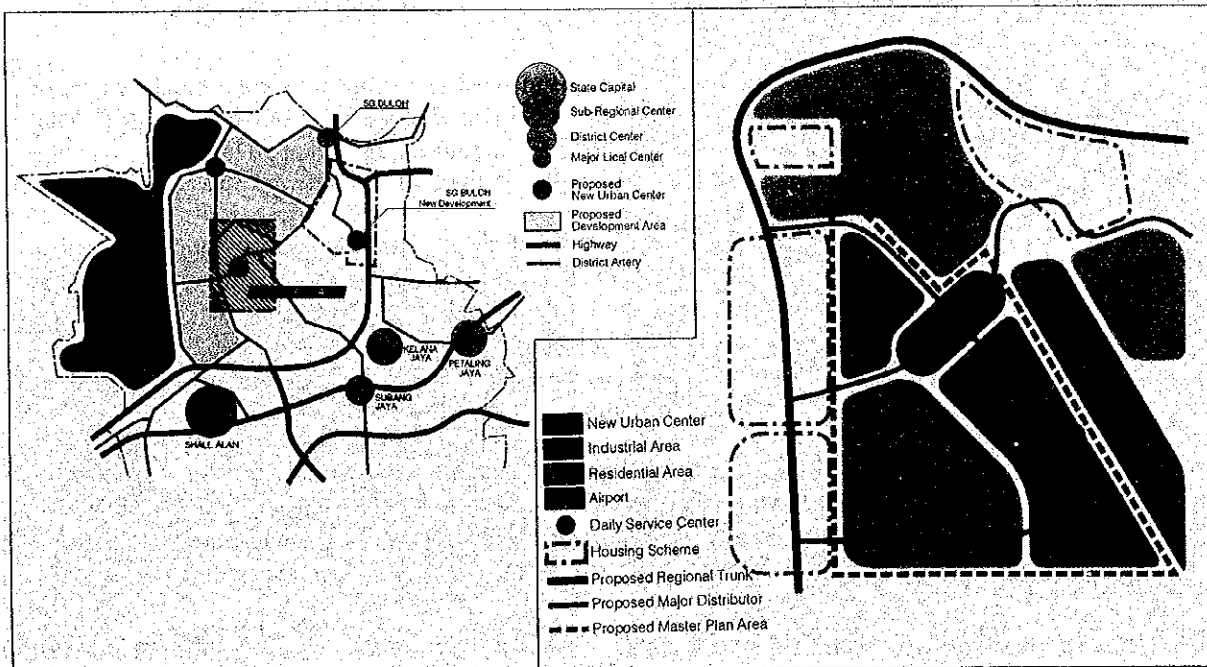
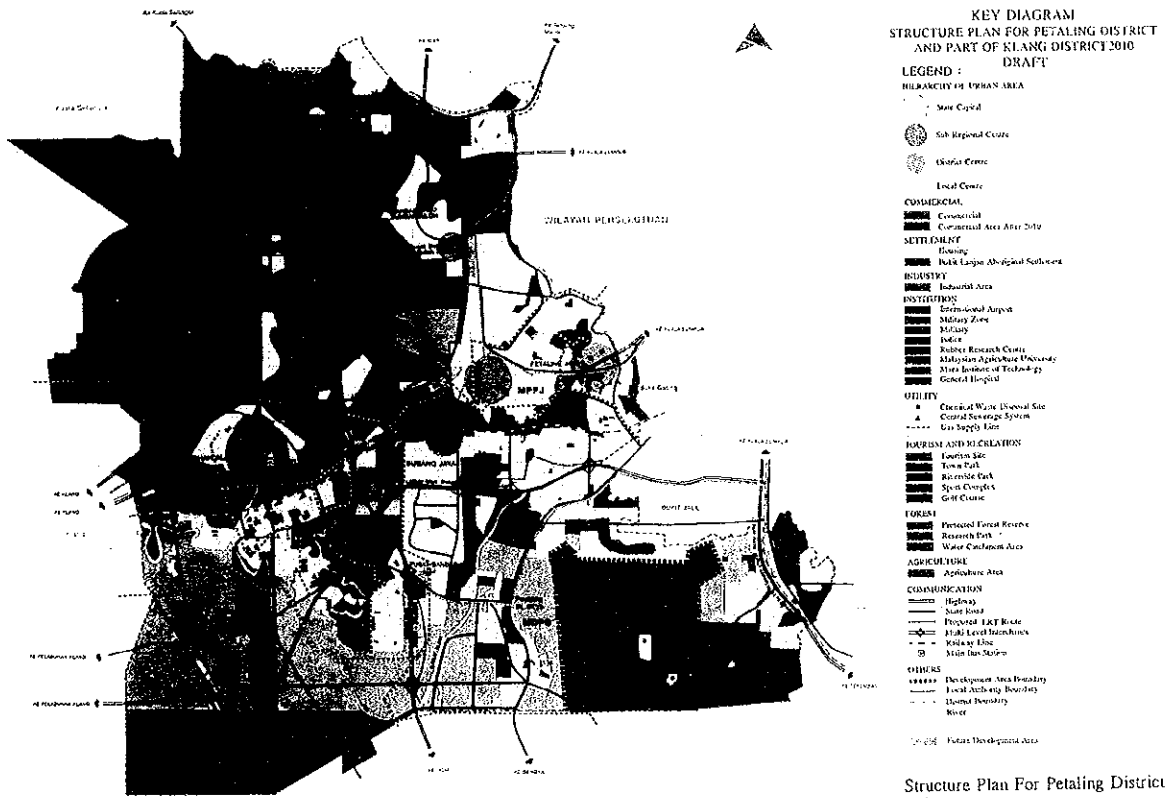


Figure 8.1
Draft Structure Plan for Petaling District



Structure Plan For Petaling District
297

Figure 8.2
Proposed Regional Development Structure

Figure 8.3
Development Structure of Concept Plan Area

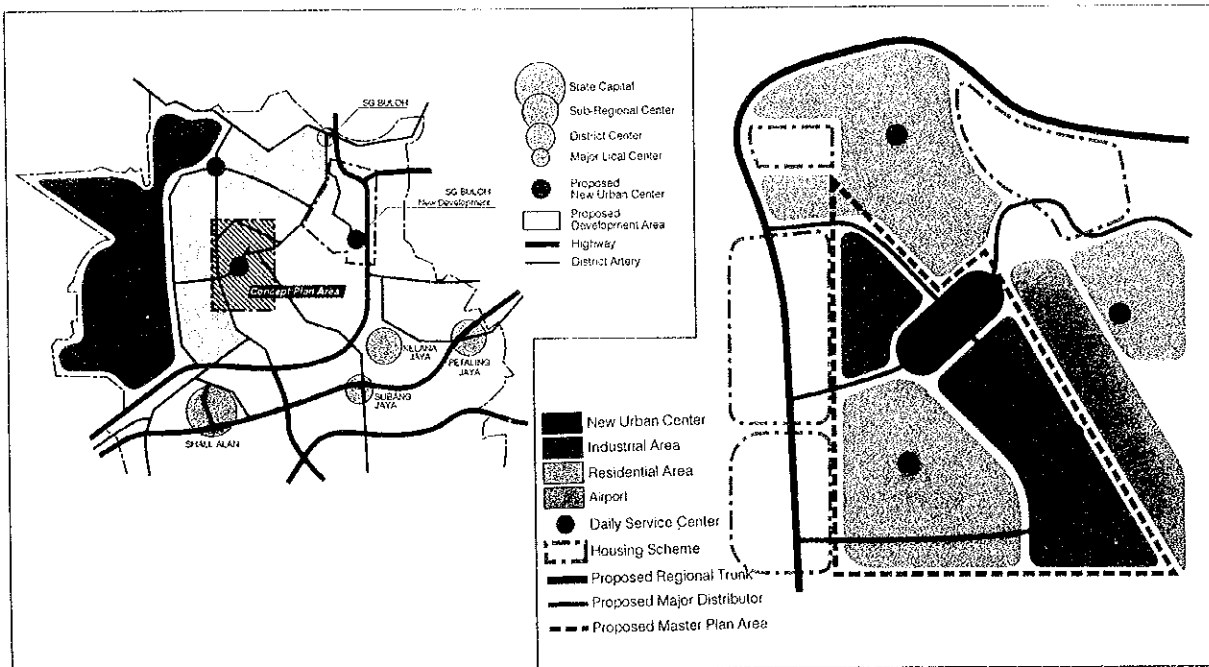


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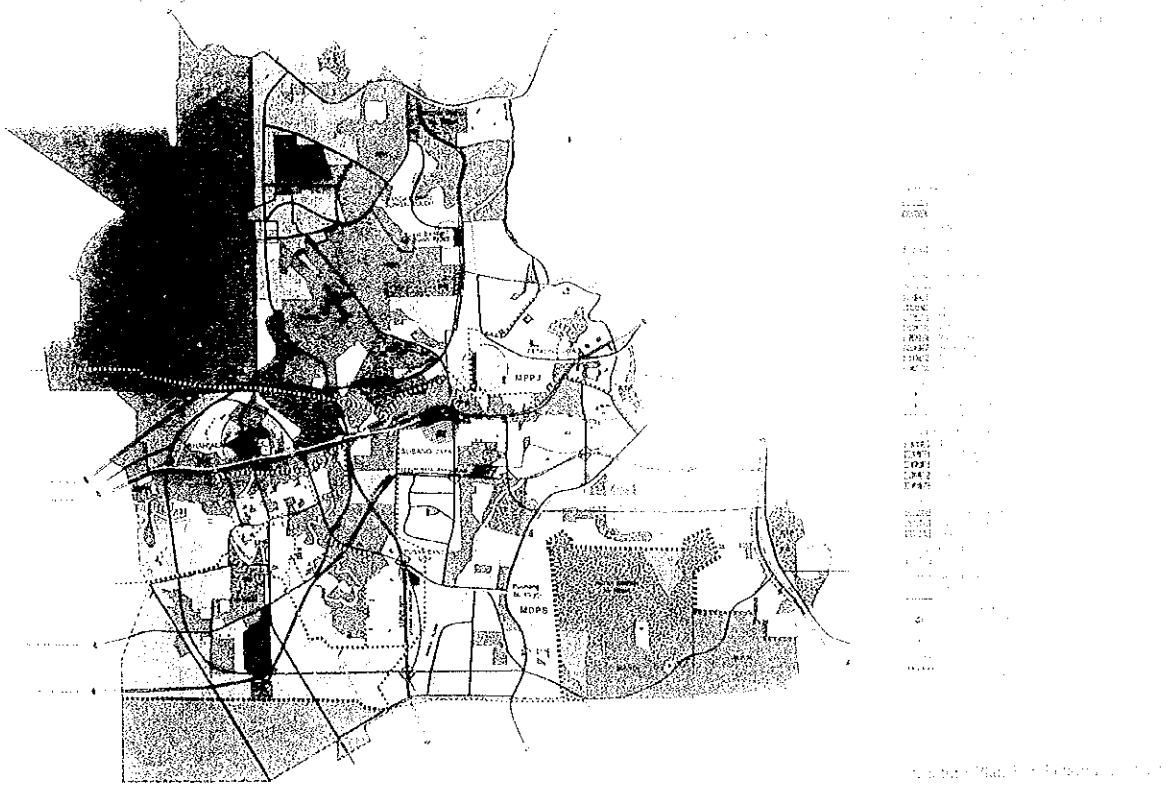


Figure 8.2
Proposed Regional Development Structure

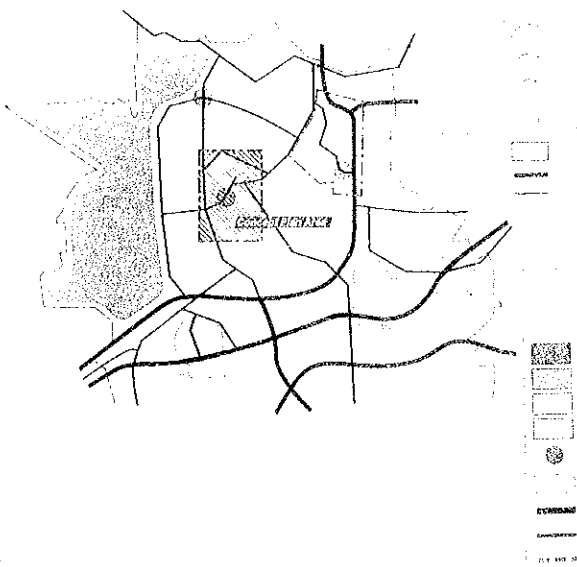
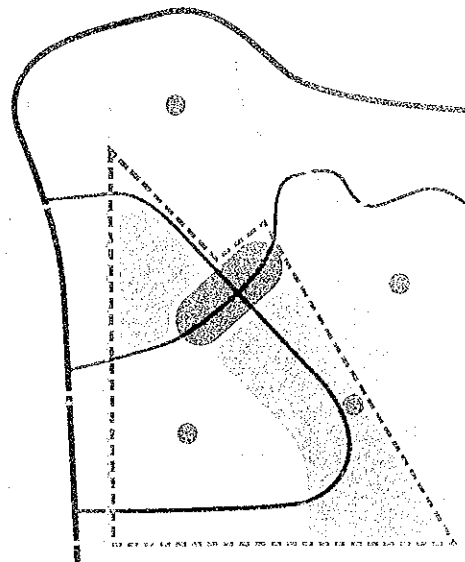


Figure 8.3
Development Structure of Concept Plan Area



8.3 Master Plan

A. Profile of the Master Plan Area

Geographical Characteristics: The Master Plan Area encompasses 332.7 ha, where 529 households or 2,332 persons reside. The area is broadly classified into three; Zone 1 (East), the area adjoining the airport and Jl. Saraf is characterized as commercial and industrial use with many settlements mixed with factories; Zone 2 (North), the area located in the north of Jalan 3D is dominantly for industrial use, though mixture of industrial, residential and agricultural uses is also seen, Zone 3 (South West), has not been densely populated yet due to hilly terrain and poor road network, though there are some factories mixed with housing and agricultural activities prevail with forest area still remaining in relatively large scale.

The highest altitude is 91.5 m where the airport radar tower stands while the lowest is 15.0 m at the southeast corner of the area. As for terrain conditions, the northern and eastern parts of the area are flat with a gradient of 2 - 3% while the southwest is hilly and steep.

There are two rivers in the Master Plan Area, Sg. Pelumut and Sg. Air Kuning, both of them meet Sg. Damansara and eventually join Sg. Kelang. The waste water from homes and factories is discharged directly into gutters along the streets and flows into the rivers.

Infrastructure: The area is served by three types of roads; those that are more than 12 meters wide around Pekan Subang, those 6-12 meter wide including Jl. Subang, Jl. 3D and Jl. Saraf, and minor road that are less than 6 meters. Public roads are all paved but they are not adequately maintained and existing pavements are not suitable for large vehicles. Private roads such as short access roads to factories area are mostly unpaved.

About 88% of the area is provided with piped water, but only 13 wells are in use. The area is provided with proper sewerage system and 70% use flushing system, the rest use filtration of privy system. Seventy percent (70%) of the households have private telephones and 12 coin operated public phones are available. Postal services are mostly provided. Garbage collection seems poorly provided; 70% of the area has only less than a week service and 18% has no service at all.

Socio-economic Characteristics: The area's population is composed of Chinese (84.3%), Indian (8.1%), Malay (6.8%) and others (0.8%). The houses are mostly detached (81.5%), followed by semi-detached (8.5%) and terrace houses (7.0%). Sizes of houses vary from one room (8.4%) to five rooms and more (26.5%) of which the most popular one is three rooms (27.0%).

The survey results imply that the area is rather of the independent community. Approximately 83% of the residents are employed within the area while the remaining commute to Shah Alam/Kelang (5.8%), Petaling Jaya (5.2%), Kuala Lumpur (4.7%) etc. 98% of the student population go to school within the area. Daily shopping by residents is done mostly within the area (97%).

There are 149 factories, 82 shop buildings and 43 small stall shops. The factories are composed of timber processing and furniture (39), metal and metal firm (35), workshop and junkshops (34), machinery (13) and others (food, fibre glass, soap, concrete, etc.). Shop buildings are concentrated in Pekan Subang (69) and in Kg. Seri Subang (13), while open air markets and small stall shops are found distributed here and there in the area. Most of these establishments have not been operating for long, not more than 10 years in operation. This indicates that urbanization in the area had started just recently.

Improvement Needs of the Residents: A set of questions was asked of the residents on their assessment on current living environment and public services as well as the establishments on their business environment. On the whole, the identified areas for improvement are roads, drainage, fire service, street lighting, hospital, bus transport, schools, garbage disposal, recreational facilities, parking space, etc.

Figure 8.4
Physical Condition in the Master Plan Area

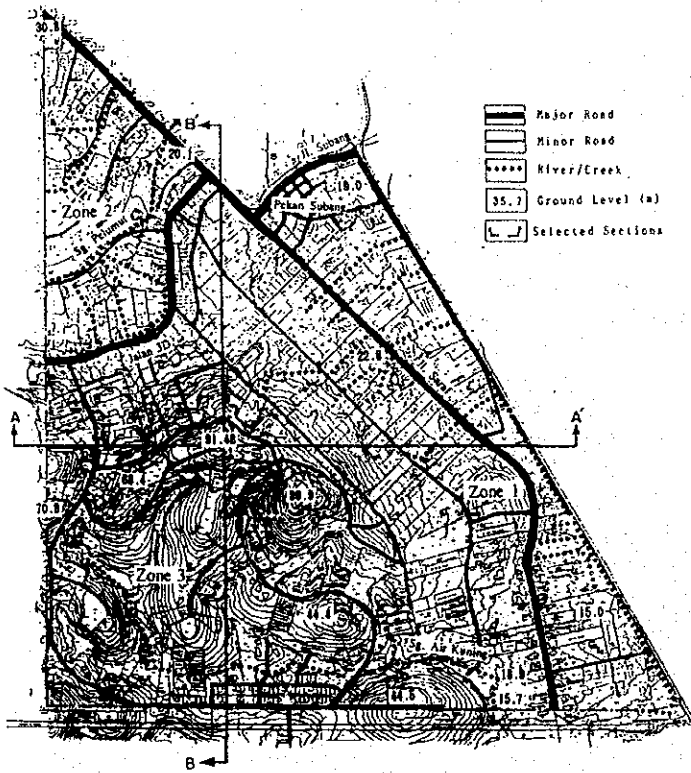


Figure 8.5
Assessment of Living Environment by Residents

CATEGORY	ITEM	ZONE 1			ZONE 2			ZONE 3			ZONE 4		
		GOOD	FAIR	BAD	GOOD	FAIR	BAD	GOOD	FAIR	BAD	GOOD	FAIR	BAD
INFRA-STRUCTURE AND PUBLIC SERVICE	Roads and Bridges												
	Parks and Playgrounds												
	Water Supply												
	Sewerage												
	Drainage												
	Public Transport												
	Health Care												
	Nursery and Kindergarten												
	Primary Education												
	High Education												
	Postal Service												
ENVIRONMENT CONDITION	Electricity												
	Garbage Collection												
	Natural Environment												
	Noise Pollution												
	Air Pollution												
	Water Pollution												
OTHER SERVICES	Sanitary Problems												
	Safety												
	Daily Shopping												
	Parating Service												
	Entertainment, Amusement, Social Recreation												
HOUSING LOT	Religious Facilities												
	Clubs and Facilities												
	Lot Space												
	House Space												
ECONOMY	No. of Rooms												
	Structural Building Materials												
	Lot Plant, Driveway and Lanes												
NEIGHBOURHOOD	Price of Daily Goods												
	Job Opportunity												
ACCESSIBILITY TO AND FROM	For Children												
	For Housewives												
OVERALL LIVING ENVIRONMENT	For Aged												
	Workplaces												
	School												
	Shopping												
	Sports/Clubs and Recreation												

GOOD: Good or Sufficient or No Problem at all
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 BAD: Bad or Insufficient Problematic

Cross-section

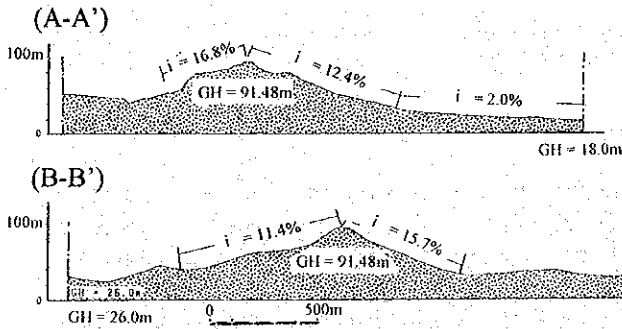


Figure 8.6
Aerial View of Kg. Seri Subang Project Area



B. Master Plan Formulation

Land Use Zoning: Land use zoning of the area is broadly composed of the following:

- i) **New Urban Center:** A new urban center will be composed of existing shopping complex, new commercial and recreational complex, parking, open space for open air events, civic center with multi-purpose hall, hospital, primary school and cemetery in order to meet comprehensive needs of residents as well as those in the adjoining influence area.
- ii) **Planned Industrial Area:** Effective industrial area will be developed with infrastructure improvement and resettlement scheme. Due to restriction of the airport, factories emitting smoke and micro waves are unsuitable. Its locational advantage will encourage the locations of cargo distribution centers and warehouses related to the airport.
- iii) **Organised Residential Area:** Residential area should meet two major types of demand: one from workers of various establishments and the other of upper-middle income class. The former's demand is met by terrace house while that of the latter by detached houses to be located in spacious lots in the hilly terrain.
- iv) **Reserved Forests:** Massive forests with considerable slopes will be preserved. In the first place, they will be utilised as open spaces. Only within the negligible range of adverse environmental effects, developments in low density will be allowed.

Planning Policies: To support these developments and future urban activities on the developed area, infrastructure and utilities will be planned based on the following planning policies :

- organize a hierarchical road network
- prevent through traffic from entering internal residential area
- segregate pedestrian from vehicular traffic
- encourage walking by providing comfortable environment
- enhance traffic safety and provide enough parking space
- allocate a network of open space to meet recreational, sports, children's play ground, and forest and slope preservation
- improve drainage and construct flood control reservoirs
- provide adequate sewerage system
- distribute sufficient piped water and electricity
- provide sufficient telecommunication lines

Proposed Land use: The area is planned to accommodate 10,700 population and 9,500 workers in three broadly categorized land use. Of the 333 ha. land in total, 144 ha. or 43.3% are allocated for public use land comprising road and road transport facilities (23.5%), parks and open space (9.8%) and rivers and retention ponds (3.5%). 189 ha. of private use land comprises residential (20.9%), industrial (30.8%), commercial/business (3.8%). Under this tabulation, the back lanes and side lanes requisite for terrace houses are considered to be part of the terrace house area.



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Figure 8.7
Layout Plan for Kg. Seri Subang Area Master Plan

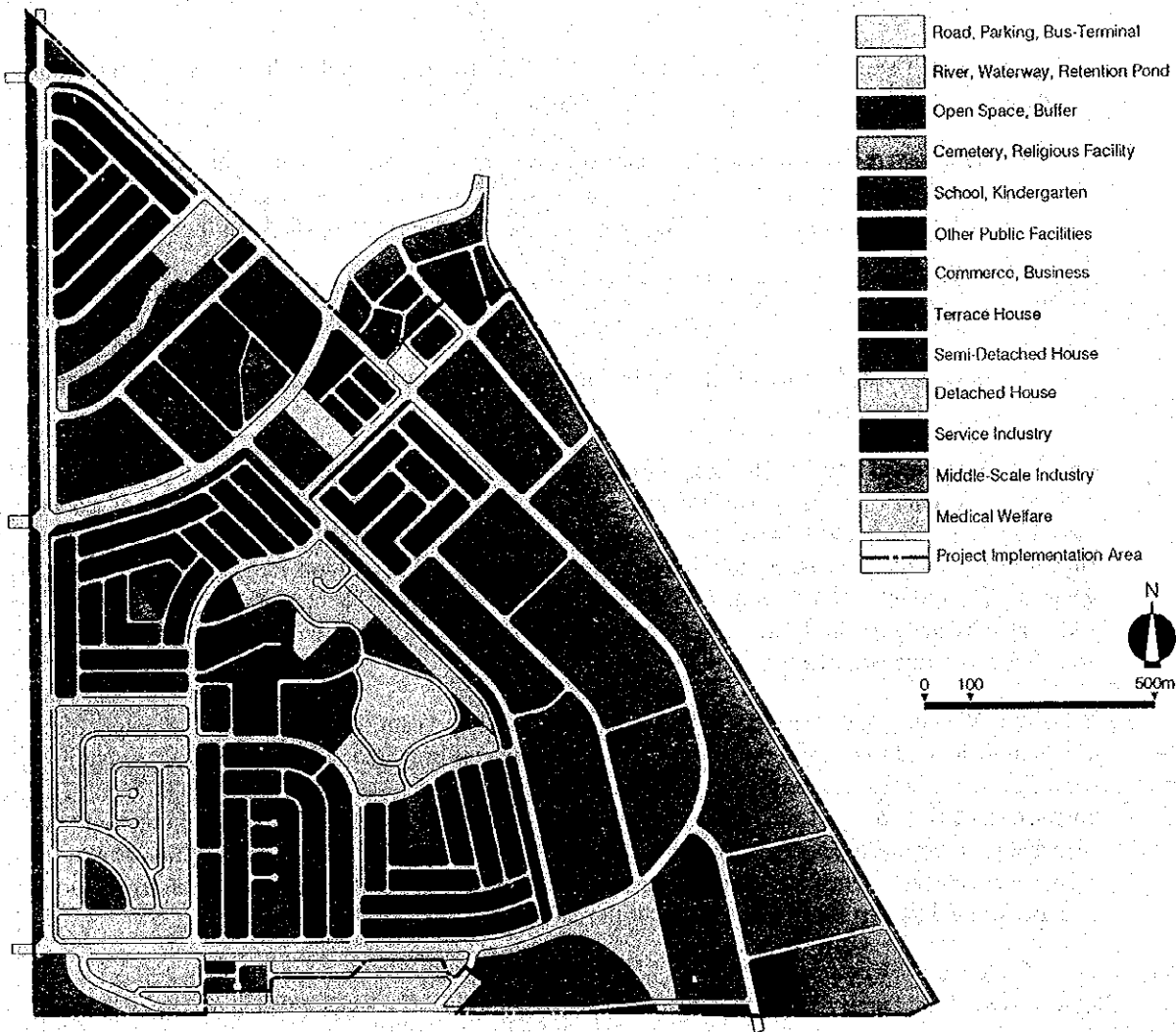


Table 8.2
Area Allocation by Land Use

Land Use		Area	
		ha	(%)
Public Land Use	Basic Infrastructure	Road, Public Parking, Bus Terminal	76.2 (23.5)
		Park, Reserved Forest, Buffer	32.5 (9.8)
		River, Waterway, Retention Pond	11.6 (3.5)
	Others	School, Kindergarten	6.7 (2.0)
		Cemetery, Religious Facility	2.7 (0.8)
		Other Public Facilities	10.3 (3.1)
SUB-TOTAL		144.2 (43.3)	
Private Land Use	Residential	Terrace House (1,540)*	24.3 (7.3)
		Semi-Detached (940)*	13.5 (4.1)
		Detached (250)*	31.0 (9.5)
	Industry	Small-Scale (470)*	13.9 (4.2)
		Medium-Scale (130)*	87.9 (26.4)
	Others	Medical Welfare	4.8 (1.4)
		Commerce, Business (300)*	12.5 (3.8)
SUB-TOTAL		188.5 (56.7)	
TOTAL		332.7 (100.0)	

*: no of lots or units

Overall Land Use Composition of the Master Plan Area

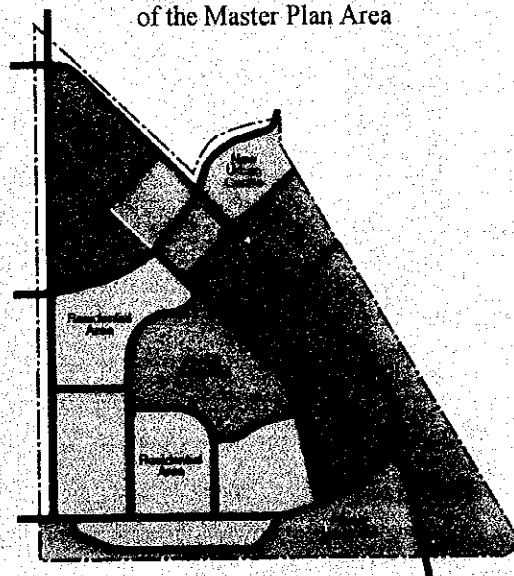


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Layout Plan for Kg. Seri Subang Area Master Plan

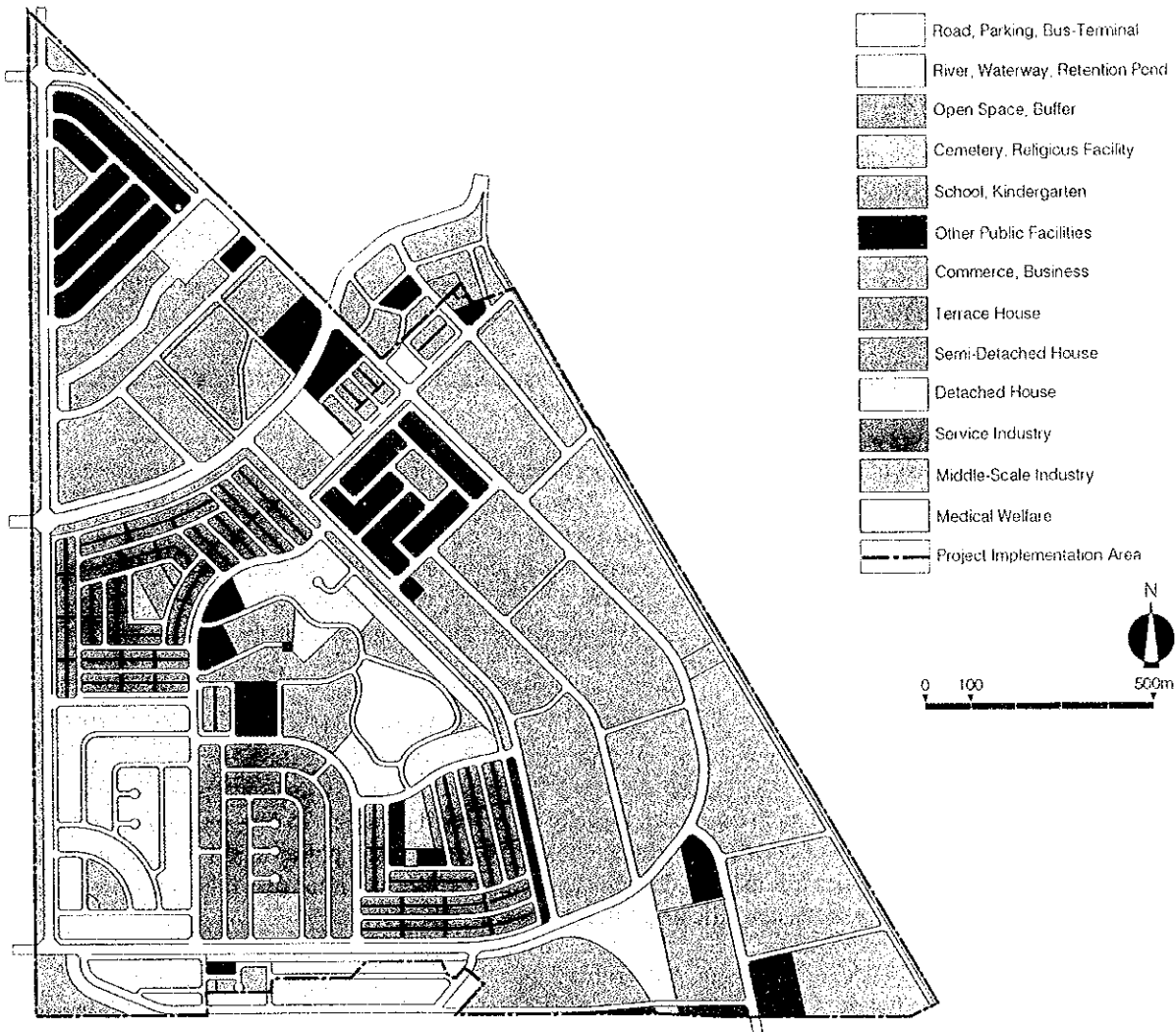
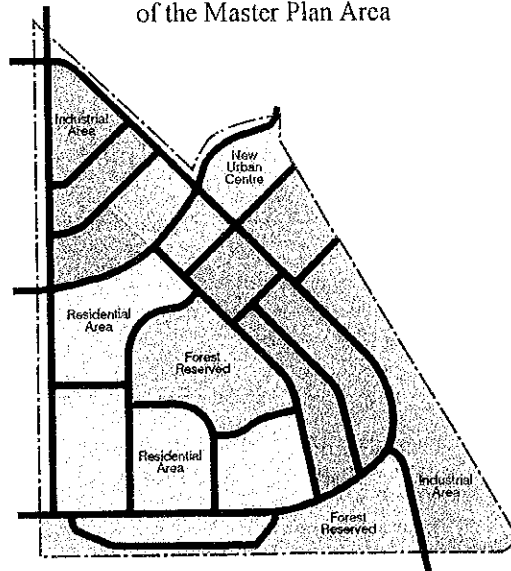


Table 8.2
Area Allocation by Land Use

Land Use		Area	
		ha	(%)
Public Land Use	Basic Infra-structure	Road, Public Parking, Bus Terminal	78.2 (23.5)
		Park, Reserved Forest, Buffer	32.5 (9.8)
		River, Waterway, Retention Pond	11.8 (3.5)
	Others	School, Kindergarten	8.7 (2.6)
		Cemetery, Religious Facility	2.7 (0.8)
		Other Public Facilities	10.3 (3.1)
	SUB-TOTAL		144.2 (43.3)
Private Land Use	Residential	Terrace House (1,540)*	24.3 (7.3)
		Semi-Detached (340)*	13.5 (4.1)
		Detached (250)*	31.6 (9.5)
	Industry	Small-Scale (470)*	13.9 (4.2)
		Medium-Scale (130)*	87.9 (26.4)
	Others	Medical Welfare	4.8 (1.4)
		Commerce, Business (300)*	12.5 (3.6)
SUB-TOTAL		188.5 (56.7)	
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* : no of lots or units

Overall Land Use Composition of the Master Plan Area



8.4 LR Layout Plan and Engineering Plan

A. Land Characteristics

Existing Land Use: The existing land use (actual is extremely mixed with residential, industrial, commercial, agricultural, etc.) characteristics are as follows:

- Although industrial land (124 lots with 86 ha.) and residential land (89 lots with 48 ha.) are main land use, it is feared the existence of large amount of agriculture, cleared and undeveloped land (218 lots with 138 ha.) would accelerate the uncontrolled developments farther.
- Average size of lots is considerably large for all land use types, ranging between 5,400 m² and 6,900 m².
- Some lots include different types of building use : e.g, a factory and a restaurant, a factory and several houses, etc.

Existing Condition of Lands: The Project Area includes three types of lands ; state land¹⁾, reserve land and alienated land. An intensive title survey was conducted by Study Team with help of a local consulting firm. One of the difficulties confronted is to identify if some public facilities lands are of state land or reserved land²⁾. Lease Period of the private land alienated in 440 lots ranges from 30 years to 99 years. Of 440 lots, 36 lots with 24.6 ha. involve "charge", while 24 lots with 16.3 ha. "caveat"³⁾. Although the details are not known, compulsory land acquisition was gazetted in the early 1980s for 40 lots. However, this was lifted later.

Building: According to the Building Survey conducted by Study Team, 1,515 structures were identified of which their conditions were surveyed and an inventory was prepared. Of the total, 1,080 buildings were considered worth for careful examination. On 120 lots or 81 hectare of lands under agriculture purpose, factories and workshop have been illegally constructed of which 75 lots are on the flat land adjoining the airport where leasehold period is mostly 30 years. Past policy of the State Authority against these illegal factories was to either demolish existing structure and issue new title under previous category of land use, or issue new title under the category of "industry".

Table 8.3
Classification of the Lands

Classification		Area		No. of Lot
		sq.m	(%)	
State Land	Road	310,285	9.5	-
	River	7,801	0.2	-
	Other	107,401	3.3	-
	Sub-Total	425,487	13	0
Reserve Land	School	17,019	0.5	1
	Police Station	13,825	0.4	1
	Cemetery	8,934	0.3	1
	Road Site	400	0.1	1
	Sub-Total	40,178	1.3	4
Alienated Land	Agriculture	2,315,723	71.3	342
	Agri/Build	231,870	7.2	40
	Building	190,911	5.9	52
	Industry	45,278	1.4	8
	Sub-Total	2,783,782	85.7	440
Total		3,249,447	100	942

Source : Study Team Land Title Survey

Table 8.4
Existing Buildings by Use

Use	No.	Floor Area (sq.m.)	
		Total	Average
Residence	555	130,166	235
Rebal Shop	2	177	89
Restaurant	18	4,600	256
Office	23	13,582	591
Factory	187	197,626	1,057
Workshop	42	14,007	334
Warehouse	46	21,061	439
Animal Shed	131	51,508	317
Garage	74	17,391	235
Total	1080	440,138	3,562

Source: Study Team Building Survey

Table 8.5
Lease Period of Alienated Lands

Lease Period Years	No. of Lots		Registered Area	
	No.	(%)	sq.m.	(%)
30	155	(35.2)	881,208	(31.7)
50	1	(0.2)	4,047	(0.1)
80	110	(25.1)	428,716	(15.4)
99	174	(39.5)	1,469,811	(52.8)
Total	440	(100.0)	2,783,782	(100.0)

Source : Study Team Land Title Survey, 1994

1) "State Land" is defined in NLC Sec.5 as all lands located in the state other than a) alienated land, b) reserve land, c) mining land, and d) reserved forest.

2) In this case, these lands are classified in this Study as reserved land.

3) There are two types of caveat : Registrar's caveat and private caveat. Once a caveat takes effect land transaction is prohibited.

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Source : Study Team Land Title Survey

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Figure 8.8
Distribution of State Land and Reserve Land

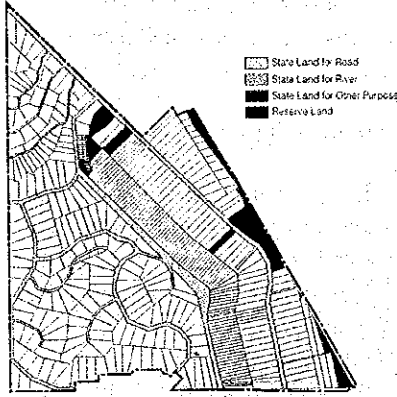


Figure 8.9
Lease Period of Alienated Land

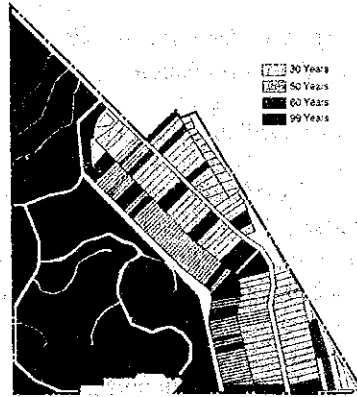


Figure 8.10
Land Title with Encumbrances

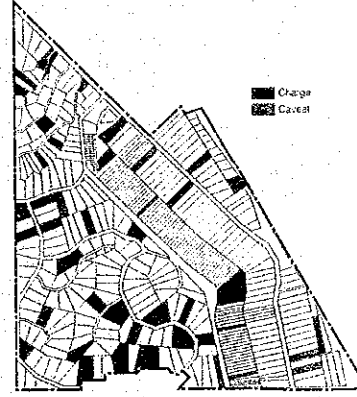


Figure 8.11
Designated Use of Alienated Land

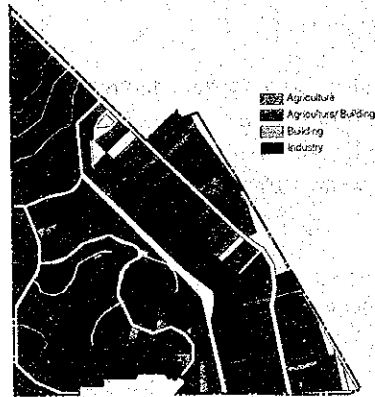


Figure 8.12
Remaining Lease Period

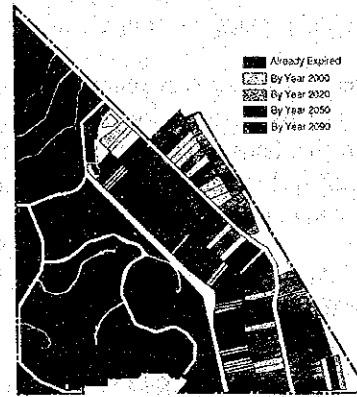


Figure 8.13
Land Surrender and Alienation was Practiced

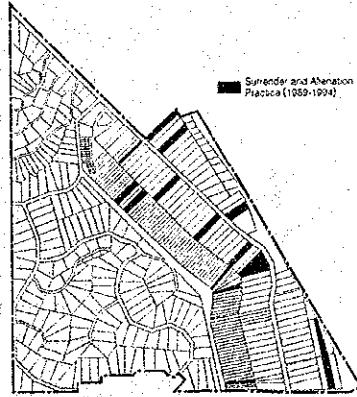


Figure 8.14
Land Once Covered by Compulsory Acquisition

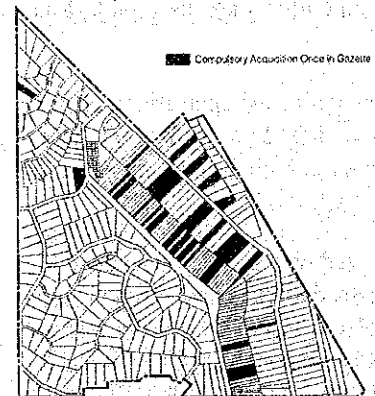


Figure 8.16
Existing Land Use in Kg. Seri Subang Project Area

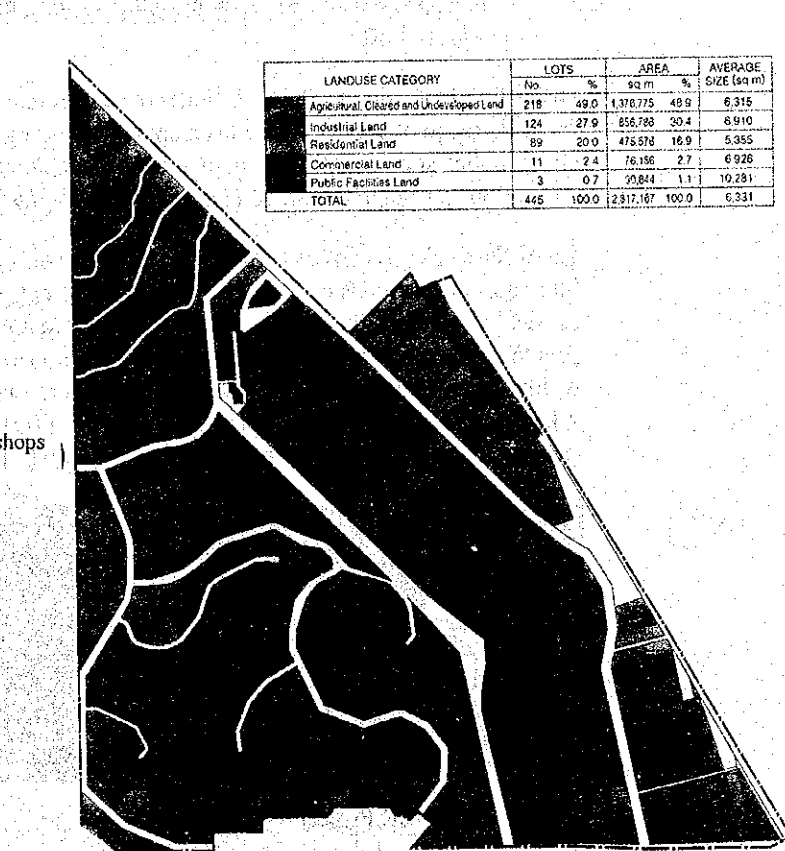


Figure 8.15
Distribution of Illegally Erected Factories/Workshops

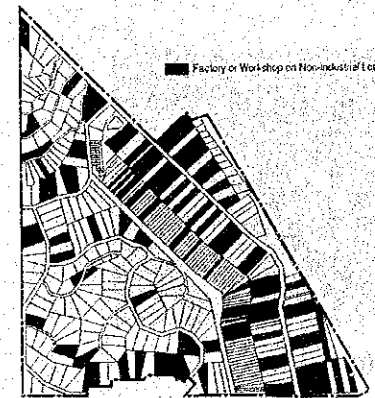


Figure 8.8
Distribution of State Land and Reserve Land

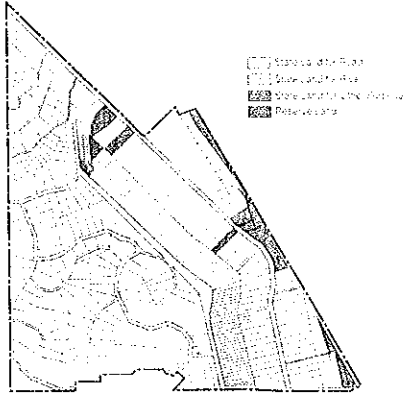


Figure 8.9
Lease Period of Alienated Land

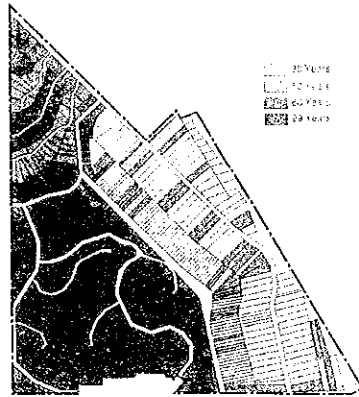


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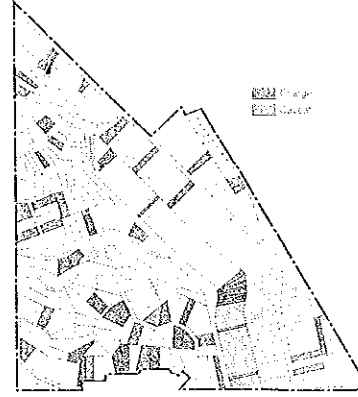


Figure 8.11
Designated Use of Alienated Land

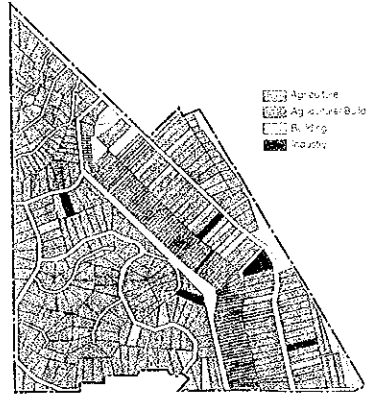


Figure 8.12
Remaining Lease Period

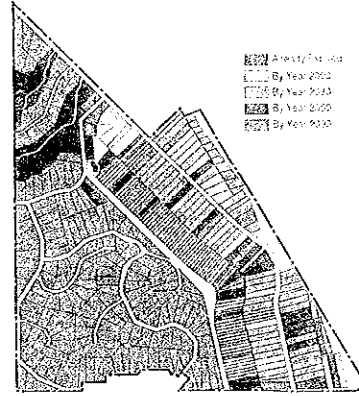


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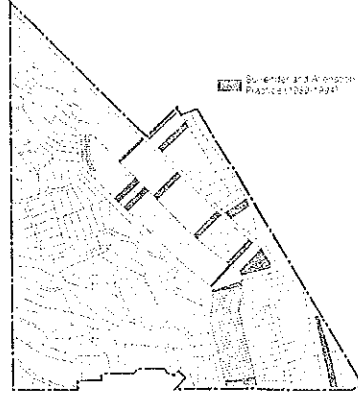


Figure 8.14
Land Once Covered by Compulsory Acquisition

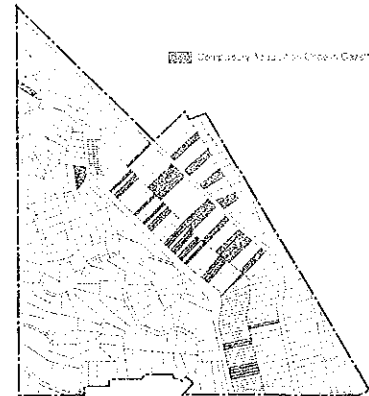
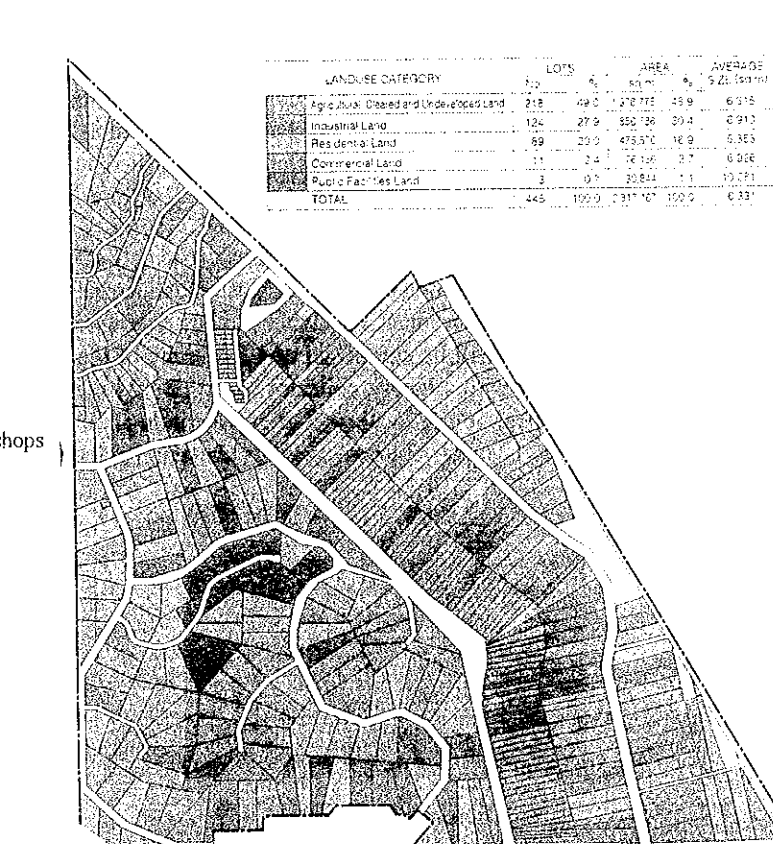


Figure 8.16
Existing Land Use in Kg. Seri Subang Project Area



LANDUSE CATEGORY	LOTS		AREA		AVERAGE \$/sq. foot
	No.	%	sq.m	%	
Agriculture Cleared and Undeveloped Land	218	49.0	1,278,775	49.9	6,315
Industrial Land	124	27.9	850,136	33.4	6,912
Residential Land	69	15.0	473,570	18.0	6,863
Commercial Land	11	2.4	74,136	2.7	6,906
Public Facilities Land	3	0.7	20,824	0.8	10,081
TOTAL	445	100.0	2,517,431	100.0	6,337

Figure 8.15
Distribution of Illegally Erected Factories/Workshops



B. LR Layout Plan Formulation

LR layout plan has been formulated for the selected Project area of 319 ha. which is more or less the area for Master Plan formulation.

Land Use Allocation: The allocated land use is composed of the following:

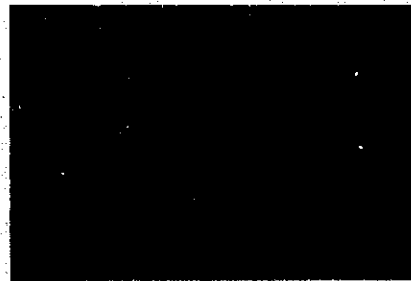
- i) **Residential Area:** Residential areas comprise terrace house, semi-detached house and detached house areas. For terrace house area, accessibility was given priority, while for the rest more of tranquility. Semi-detached house area will be located on flat or gentle slope, while detached house area on undulating to hilly terrain with less noise impact of the airport.
- ii) **Industrial Area:** Industrial development in this area is one of the major moves in urban development. It was found out that approximately 70% of the establishments excluding retail shops have less than 10 employees. With this common trend in the region, two types of lots will be provided: medium-scale lots and small-scale lots.
- iii) **Commercial Area:** Existing Pekan Subang will be expanded and modernized to meet the demands of the increasing population of the project area as well as the adjoining area by providing more shophouses, a site for shopping complex and transport facilities. In addition, two small-scale commercial areas in the residential area and one in the industrial area will be located to satisfy daily needs.
- iv) **Medical Welfare Area:** Considering that there are, at present, an old people's home and a sanatorium for the mentally diseased, the area is found adequate for additional similar facilities.
- v) **Open Space:** In order to prevent environmental degradation as well as natural disaster and to enhance the environment of communities, the area will be provided with a network of rich open spaces and parks including a sports park, community parks, reserved forests and green buffer.

Other Public Facilities: Public facilities other than roads, rivers, parks and open spaces, lands for wide range of services have been spared including educational facilities, community hall, clinic, police station, fire station, post office, telephone exchange station, water tank, electric substation, sewerage treatment plant and religious facility.

Road Network: The Project Area's road network will be integrated with the regional network. Since the existing roads in the Master Plan Area are entirely substandard in terms of road width as well as pavement, they will be totally redesigned to meet the planned land use. The new road system will be composed of a hierarchy of the following roads : major road (U4 : 30 meter width, with 4 lanes), collector road (U3 : 24 meter, 4 lanes), major local road (U2 : 20 meter, 2 lanes), minor local road of service industry area (U1 : 15 meter, 2 lanes), minor local road (U1 : 12 meter, 2 lanes), and backlane and sidlane (6 meter).



Before LR Project



After LR Project

B. LR Layout Plan Formulation

LR layout plan has been formulated for the selected Project area of 319 ha. which is more or less the area for Master Plan formulation.

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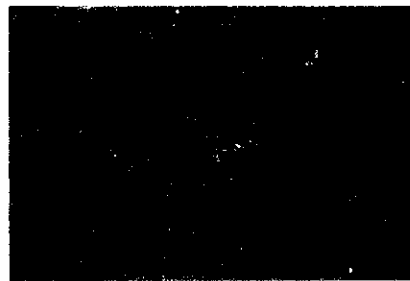
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Before LR Project



After LR Project

Figure 8.17
Layout Plan for Housing Areas, Open Space
and Commercial/Community Facilities

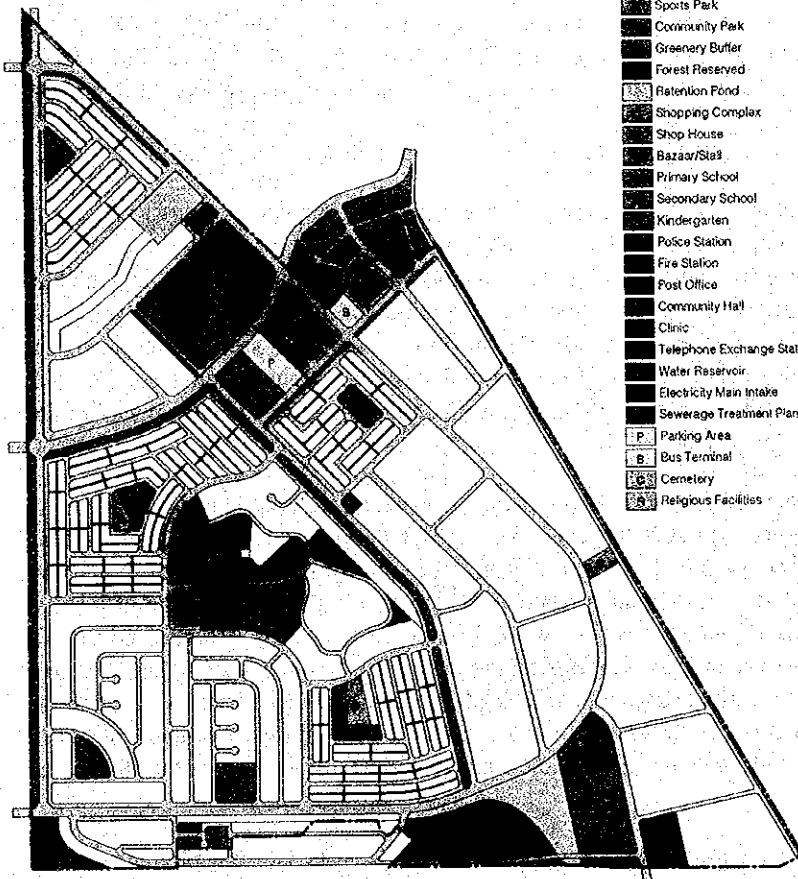


Figure 8.18
Standard Block Design for Housing,
Industry and Shop House

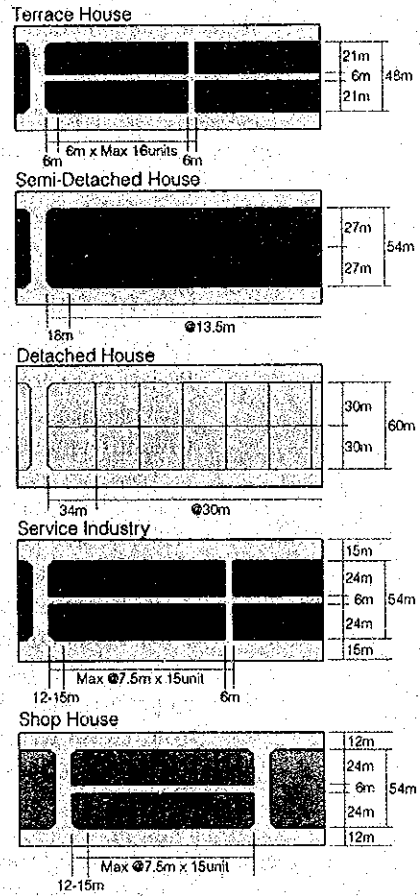


Table 8.6
Public Facilities Provided in the Project Area

Type	No.	Area
1) Educational		
- kindergarten	5 (new)	1,000 - 2,000 m ² /place
- primary school	1 (new)	2.6 ha
- secondary school	1 (new)	expansion (1.1ha to 2.3ha)
- secondary school	1 (new)	3.7 ha
2) Community Hall		
- multi-purpose	1 (new)	0.9 ha
- community halls	2 (new)	0.2 ha and 0.3 ha
3) Clinic	2 (new)	0.3 ha each
4) Police Station	1	existing (1.1 ha)
5) Fire Station	1 (new)	0.7 ha
6) Post Office	1 (new)	1,400 m ²
7) Tel. Exchange Station	1 (new)	8,300 m ²
8) Water Tank	1 (new)	7,500 m ²
9) Electric Substation		
- transmission phase	1 (new)	2.0 ha
- distribution phase	2 (new)	6,200 m ² , 2,600 m ²
10) Sewerage Treatment Plant	2 (new)	4,700 m ² , 11,100 m ²
11) Religious Facility		
- Cemetery	1	existing (13,300 m ²)
- temple	1	existing (5,000 m ²)
- religious facility	1 (new)	5,000 m ²

Figure 8.19
Road Plan

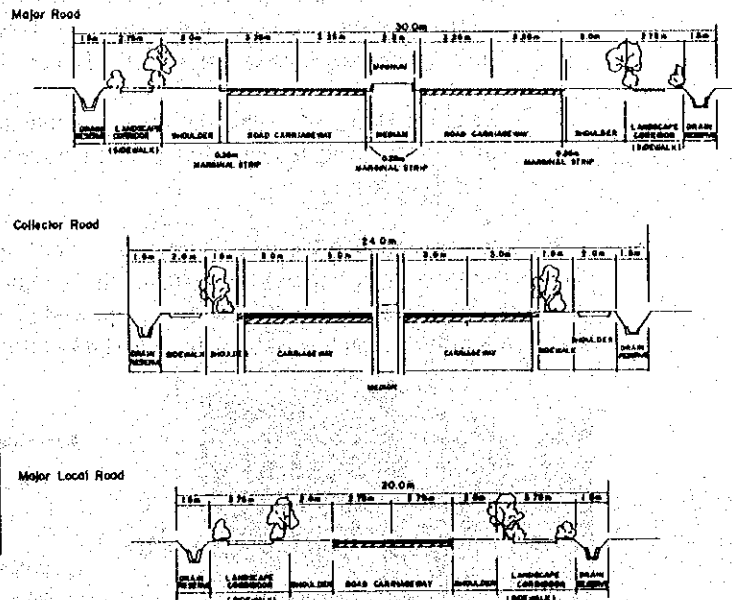


Figure 8.17
Layout Plan for Housing Areas, Open Space
and Commercial/Community Facilities

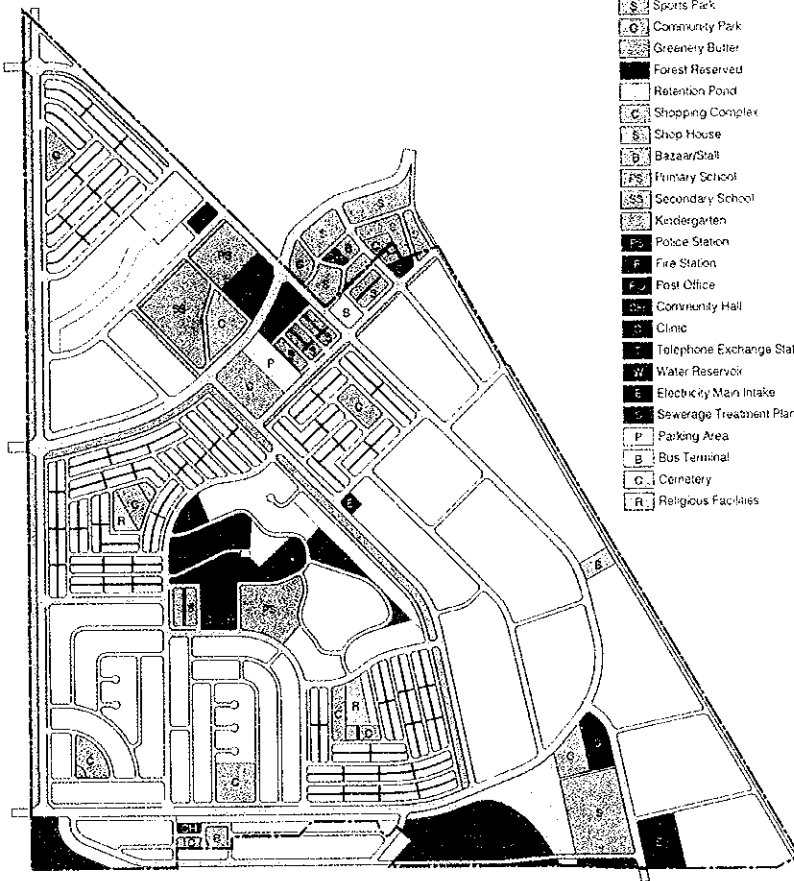


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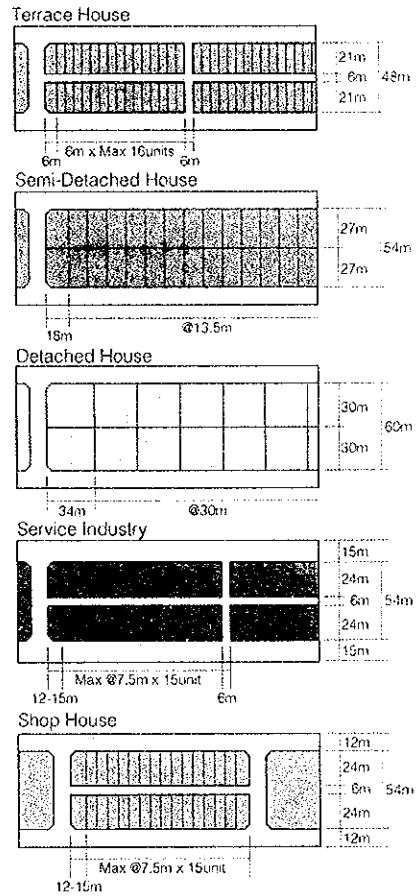
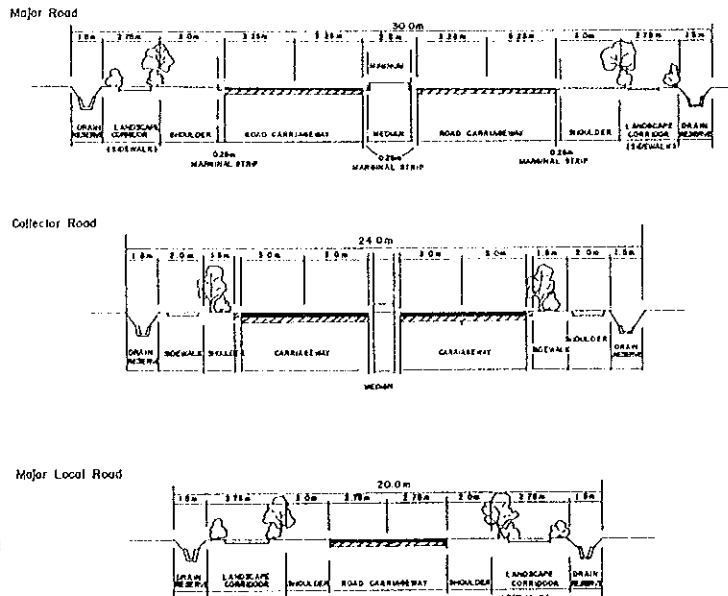


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	1	expansion(1.1ha to 2.3ha)
- secondary school	1 (new)	3.7 ha
2) Community Hall		
- multi-purpose	1 (new)	0.9 ha
- community halls	2 (new)	0.2 ha and 0.3 ha
3) Clinic	2 (new)	0.3 ha each
4) Police Station	1	existing (1.1 ha)
5) Fire Station	1 (new)	0.7 ha
6) Post Office	1 (new)	1,400 m ²
7) Tel. Exchange Station	1 (new)	8,300 m ²
8) Water Tank	1 (new)	7,500 m ²
9) Electric Substation		
- transmission intake	1 (new)	2.0 ha
- distribution intake	2 (new)	6,200 m ² , 2,600 m ²
10)Sewerage Treatment Plant	2 (new)	4,700 m ² , 11,100 m ²
11)Religious Facility		
- Cemetery	1	existing (13,300 m ²)
- temple	1	existing (5,000 m ²)
- religious facility	1 (new)	5,000 m ²

Figure 8.19
Road Plan



C. LR Design for Infrastructure and Public Facilities

LR Design Considerations: Primary objective of the LR design is to work out engineering plans for construction of the needed infrastructure/public facilities, the materialization of the proposed layout plan and the implementation of the LR scheme. Consideration were given to the compliance with existing planning standards and guidelines of relevant agencies such as JPBD, JKR, JBA, JPS (DID), Tenaga Nasional, Telekom Malaysia, etc., as well as facilitation of effective construction work and LR scheme.

Infrastructure Development Plans: Plans were prepared for the following:

- (i) **Flood Protection System:** For the management of storm water, plans were prepared for river improvement, retention pond development and drainage system improvement. River improvement curves were considered for Sg. Pelumut and Sg. Air Kuning with catchment areas of 603 ha. and 526 ha., respectively. Adequate structure and river reserve were provided. Retention pond has been designed to control the outflow of additional storm water due to the Project so as not to adversely affect the flood in the downstream areas. Drainage system has been planned to cope with the rainfall of 5-year return period intensity. Three types of drains with different size are provided.
- (ii) **Water Supply and Disposal System:** The Project area is provided with piped water by Selangor Water Works Department (TBA Selangor). Existing water supply system in the area should be entirely renovated so as to meet increasing demand due to the development of the Project Area. Septic tank is the most popular system for domestic waste water. The effluent is discharged into surface drainage or waterways and finally flow into Sg. Pelumut and Sg. Air Kuning. Many factories and animal farms discharge their effluents in the same manner without proper treatment. This practise causes foul-smell and uncleanliness. Sanitary sewer separated from storm water disposal is necessary in urban area. Two sewerage treatment plants of oxidation ditch system will be provided. Concrete sewer will be installed under the streets and alleys.
- (iii) **Electricity:** Electricity is supplied by Tenaga Nasional Berhad (TNB). It is obvious that the existing system would no longer be able to satisfy future demand. Thorough improvement is necessary.
- (iv) **Telecommunication:** The telecommunication service is provided by Telekom Malaysia through the telephone exchange station at the airport. Although the current exchange station has a capacity of more than ten thousand lines, Telekom Malaysia plans to develop in a few years time a new exchange station near the Project Area to meet the rapidly growing demand.
- (v) **Land Development:** The Project requires considerable earthwork of approximately 2.5 million m³ cutting and equivalent fillings. Various considerations were given to avoid adverse effects of the earthwork.

Estimated Construction Cost: Construction cost of the Project was estimated based on the available data on similar construction work undertaken in the region as well as the experiences and knowledge of an experienced local consulting engineer employed by the Study Team. The total construction cost is RM 116.8 million which is equivalent to RM 431,000/ha., RM 43/sq.m. or RM 4.0/sq.ft.



Major Road
(left)

Minor Road
(right)



Figure 8.20
Concept of Electricity Supply System

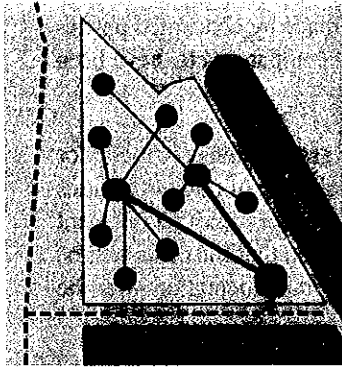


Figure 8.22
River Improvement

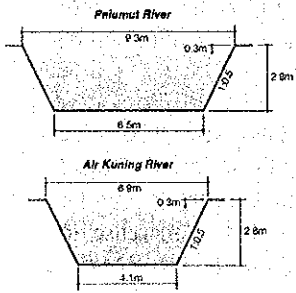


Figure 8.23
Cross Section of Retention Pond

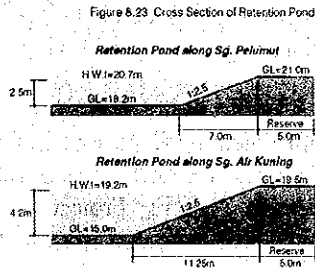


Figure 8.21
Sewerage System Plan

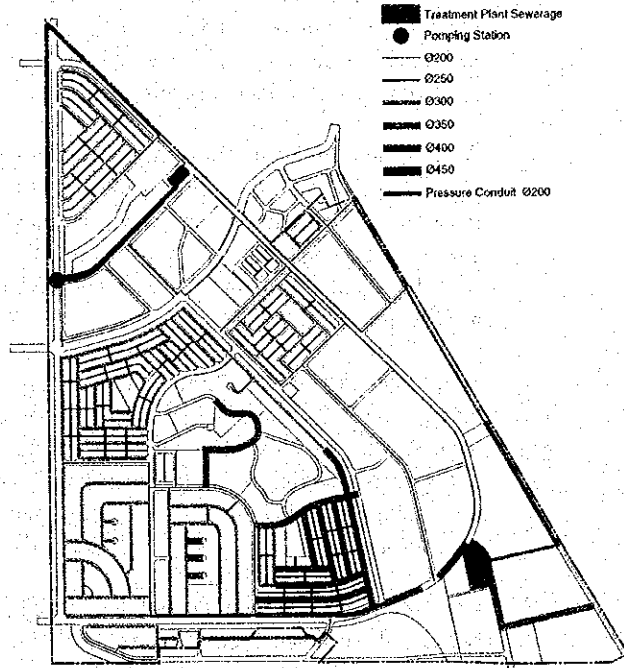


Figure 8.24
Flood Protection System Plan

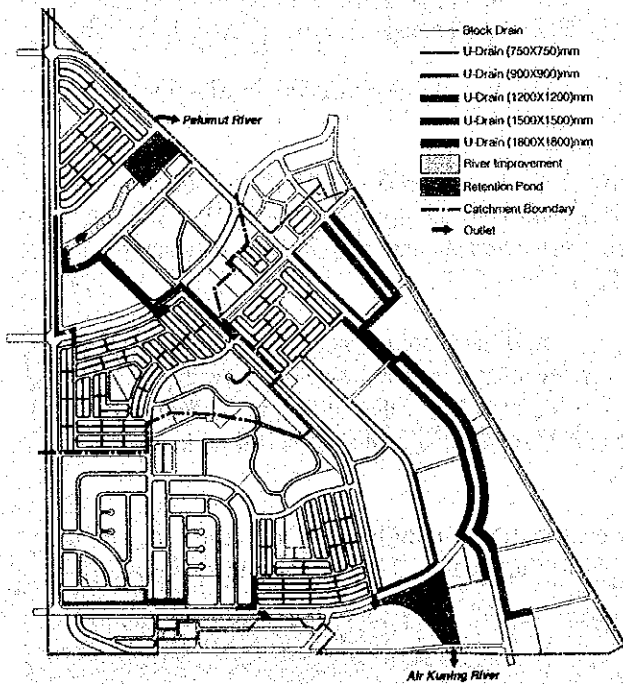
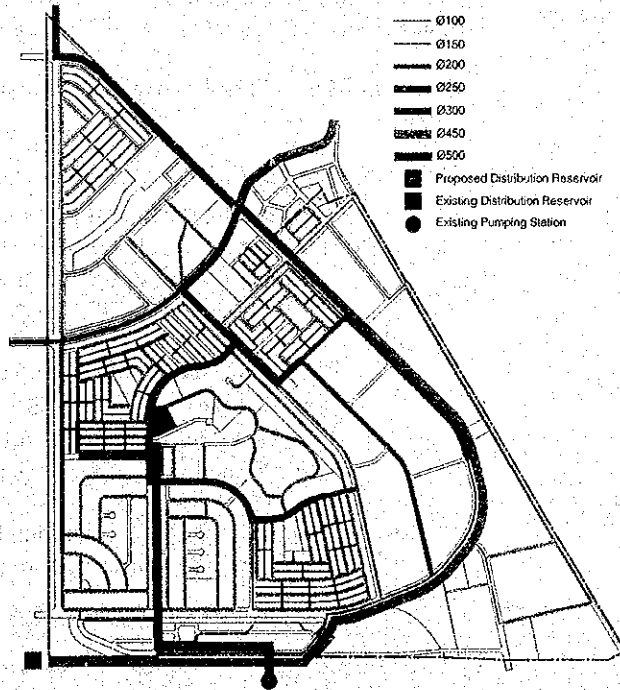


Figure 8.25
Water Supply System Plan



8.5 Project Implementation Plan

The LR project implementation planning provides detailed framework of the proposed LR project, on the basis of a series of planning work previously done. Various requirements made by concerned parties including landowners, implementing body, government bodies, other relevant companies etc. have been coordinated and reflected in the plan.

Assumption: In formulating project implementation plan, a couple of major assumptions are made for cost sharing of public facilities and project implementation schedule. Cost sharing of public facilities between Implementing Body and Government agencies/organizations concerned is a critical element which affects contribution rate of landowners and public funding. It is assumed that the costs will be shared adequately among the participants and the Project will require six years implementation after the approval of the project.

Land Transformation Plan: Lands for basic infrastructures will increase substantially from the existing 42.6 ha. (13.3% of the total area) to 118 ha. (37.1%). Lands for various community services will also increase from 4.0 ha. (1.3% of the total land) to 22.4 ha. (7.0%) to accommodate a set of comprehensive public service facilities. On the other hand, lands for private use will decrease from 278 ha. (87.2% of the total area) to 178 ha. (55.9%). However, land use which was largely agricultural in nature will be transformed to industry (102 ha.), residential (66 ha.) and commercial/others (11 ha.).

Land Valuation: Lands "before" and "after" the LR Project were evaluated by land use type. The value "before" Project was determined in consultation with Valuation Department, while those "after" Project were estimated by comparing the quality of the Project with similar developments under similar conditions. The average land value of RM83/sq.m. "before" Project is expected to increase to RM436/sq.m. "after" Project. Thus the total land value increased from RM227 million to RM777 million.

Financial Land Estimate: Financial land planning is an important element of project planning because the sale of the financial lands directly affect the financial viability of the project. It takes into account the marketing aspect, planning aspect, size of financial lands, and replotting design. The financial lands planned in this study are mostly distributed to the lands with higher potential market value to reduce the contribution rates. A total of 20,300 sq.m. of financial lands are expected to generate RM114.6 million.

Financial Plan: The plan quantified the project cost, revenue, and landowners' contribution rate as follows:

- (i) **Project Cost:** The estimated project cost is RM262 million of which the construction cost accounts for the largest portion (44.6%) followed by compensation cost (21.5%), project management cost (13.0%) etc. Land conversion and alienation premiums share significant portion of the cost: 9.4% and 7.8%, respectively.
- (ii) **Project Revenue:** The revenue sources include the shared costs of Federal Government, State Government, Local Authority and relevant agencies, and sale of financial land. The total revenue is expected to be RM262 million of which sale of financial land contributes 43.7% of the total followed by federal share (29.2%), state and local authority share (12.5%) and various agencies (14.6%).
- (iii) **Contribution Rate:** Accordingly, the contribution rate for landowners is calculated to be 34.5% for basic infrastructure and 7.5% for financial land. The aggregate rate is 42.0%.

Figure 8.26
Land Use Transformation through LR Project

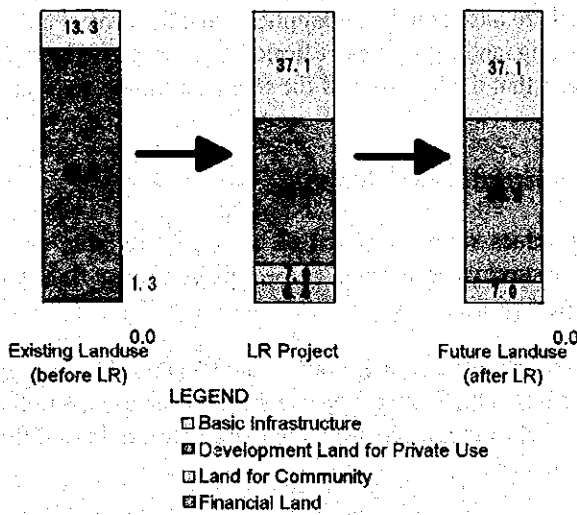


Table 8.9
Assumed Cost-Sharing in Providing Related Public Facilities

Category	Facility Type	Cost Sharing		Operation and Maintenance	
		Land	Facilities		
1. Basic Infra-Structures	Road	Major Road (U4)	JKR	JKR	JKR
		Collector Road (U3)	JKR	JKR	JKR
		Major Local Road (U2)	JKR/IB	JKR/IB	LA
		Minor Local Road (U1)	IB	IB	LA
		Back Lane/Side Lane	Landowners	Landowners	LA
	Road Transport	Public Carpark	LA	LA	LA
	Bus Terminal	LA	LA	LA	
River/Waterway/Drainage	River, Waterway	JPS	JPS	JPS	
	Drainage	JPS	JPS	JPS	
	Retention Pond	JPS	JPS	JPS	
Park and Open Space		LA	LA	LA	
2. Community Service	Sewage	Sewage Network	IWK	IWK	IWK
		Treatment Facilities	IWK*	IWK	IWK
	Water Supply	Distribution Reservoir	JBA	JBA	JBA
		Distribution Network	JBA	JBA	JBA
	Electricity	Distribution/Main Intake	Tenaga/B	Tenaga/B	Tenaga
		Distribution Substation	Tenaga/B	Tenaga/B	Tenaga
	Education	Secondary School	MOE	MOE	MOE
		Primary School	MOE	MOE	MOE
		Kindergarten/Nursery	KEMAS	KEMAS	KEMAS
	Other CMI Services	Community Hall	SG	SG	SG
Clinic		MOH	MOH	MOH	
Fire Brigade Station		FSD	FSD	FSD	
Post Office		PM	PM	PM	
Police Station		(already exists)		Police	
Telephone Exchange		TM	TM	TM	
Cemetery		(already exists)		SG	
Religious Facility		SG/PRV	SG/PRV	SG/PRV	

Note: * Purchased at Nominal Value
 Acronyms: IB: Implementing Body; MOE: Ministry of Education; IWK: Indah Water Consortium; FSD: Fire Service Department; MOH: Ministry of Health; TM: Telekom Malaysia; PM: Post Malaysia; SG: State Government; LA: Local Authority; PRV: Private Sector

Table 8.7
Estimate of Land Value

Land Use / Alienated Land	Before LR			After LR		
	Unit Price (RM/sqm)	Area (sqm)	Amount (RM'000)	Unit Price (RM/sqm)	Area (sqm)	Amount (RM'000)
Private Use						
Agriculture	60.00	2,547,593	203,807	100.00	0	0
Building: Commercial		0	0	800.00	57,101	45,681
Building: Medical, Welfare		0	0	500.00	46,119	24,060
Building: Residential	107.00	190,911	20,427	300.00	660,567	198,170
Industry: Medium Scale	160.00	30,000	4,800	500.00	879,317	439,659
Industry: Service	160.00	15,278	2,444	500.00	139,291	69,646
Private Use Total		2,783,782	231,478		1,784,395	777,216
Other Community Service						
Other Community Service Total		0	0		0	0
Assessed Land Total		2,783,782	231,478		1,784,395	777,216
Area Alienated (Actual Registered)	83.15	58,880	4,894			
Total / Average	83.15	2,724,902	226,584	435.56	1,784,395	777,216

Table 8.8
Estimate of Land (Replot) Value and Site Utility Increase Ratio

Item	Before LR	After LR
Registered Area: sqm	2,783,782	
Actual Area: sqm	2,724,994	1,784,395
Average Unit Value: RM/sqm	83.15	435.56
Total Value: RM'000	226,584 (A)	777,216 (B)
Site Utility Increase Ratio: (B)/(A)		3.24

Table 8.10
Planned Financial Lands and Estimated Value

Use	Area (sqm)	Average Price (RM/sqm)	Amount (RM'000)
Commercial	57,101	800	45,681
Residential	20,000	300	6,060
Industry (Medium)	32,780	500	16,390
Industry (Service)	45,000	500	22,500
Medical/Welfare	48,119	500	24,060
Total	203,000		114,631

Table 8.11
Project Cost Estimates

Item	RM'000	(%)
Construction Cost	116,767	(44.6)
Compensation Cost	56,456	(21.5)
Survey Cost	1,376	(0.5)
Project Management Cost	39,397	(13.0)
Land Conversion Premium	24,668	(9.4)
Land Alienation Premium	20,463	(7.8)
Interest	8,267	(3.2)
Total	261,994	(100.0)

Table 8.12
Revenue Estimates

Revenue	RM'000	(%)
Federal Share	76,438	(29.2)
State & Local Authority Share	32,777	(12.5)
Agency Share	38,148	(14.6)
Disposition of Financial Land	114,631	(43.7)
Total	261,994	(100.0)

Figure 8.26
Land Use Transformation through LR Project

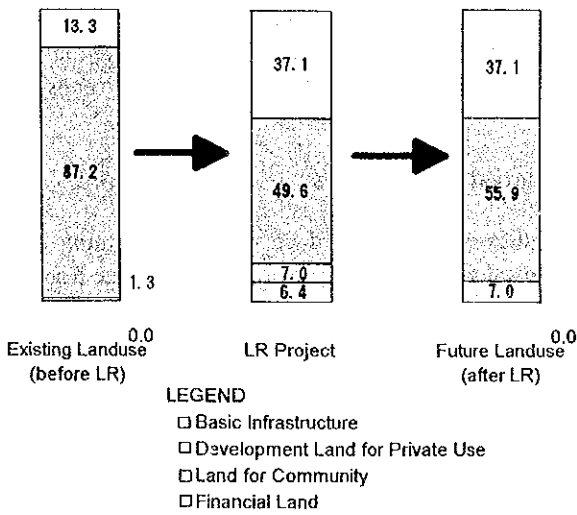


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Category	Facility Type	Cost Sharing		Operation and Maintenance	
		Land	Facilities		
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		Collector Road (U3)	JKR	JKR	JKR
		Major Local Road (U2)	JKR/IB	JKR/IB	LA
		Minor Local Road (U1)	IB	IB	LA
		Back Lane/Side Lane	Landowners	Landowners	LA
	Road Transport	Public Carpark	LA	LA	LA
	Bus Terminal	LA	LA	LA	
River/Waterway/ Drainage	River, Waterway	JPS	JPS	JPS	
	Drainage	JPS	JPS	JPS	
	Retention Pond	JPS	JPS	JPS	
Park and Open Space		LA	LA	LA	
2. Community Service	Sewage	Sewage Network	IWK	IWK	IWK
		Treatment Facilities	IWK	IWK	IWK
	Water Supply	Distribution Reservoir	JBA*	JBA	JBA
		Distribution Network	JBA	JBA	JBA
	Electricity	Distribution Main Intake	Tanaga/IB	Tanaga/IB	Tanaga
		Distribution Substation	Tanaga/IB	Tanaga/IB	Tanaga
	Education	Secondary School	MOE	MOE	MOE
		Primary School	MOE	MOE	MOE
		Kindergarten/Nursery	KEMAS	KEMAS	KEMAS
	Other Civil Services	Community Hall	SG	SG	SG
Clinic		MOH	MOH	MOH	
Fire Brigade Station		FSD	FSD	FSD	
Post Office		PM	PM	PM	
Police Station		(already exists)	(already exists)	Police	
Telephone Exchange		TM	TM	TM	
Cemetery		(already exists)	(already exists)	SG	
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Note 1 * Purchased at Nominal Value

Acronyms
 IB : Implementing Body
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Private Use						
Agriculture	80.00	2,547,593	203,807	100.00	0	0
Building : Commercial	-	0	0	800.00	57,101	45,681
Building : Medical, Welfare	-	0	0	500.00	48,119	24,060
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Industry : Service	160.00	15,278	2,444	500.00	139,291	69,646
Private Use Total		2,783,782	231,478		1,784,395	777,216
Other Community Service						
Other Community Service Total	-	0	0	-	0	0
Alienated Land Total		2,783,782	231,478		1,784,395	777,216
Area Difference (Actual - Registered)	83.15	-58,860	-4,894			
Total / Average	83.15	2,724,922	226,584	435.56	1,784,395	777,216

Table 8.8
Estimate of Land (Replot) Value and Site Utility Increase Ratio

Item	Before LR	After LR
Registered Area : sqm	2,783,782	-
Actual Area : sqm	2,724,994	1,784,395
Average Unit Value : RM/sqm	83.15	435.56
Total Value : RM000	226,584 (A)	777,216 (B)
Site Utility Increase Ratio : (B)/(A)		5.24

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Planned Financial Lands and Estimated Value

Use	Area (sqm)	Average Price (RM/sqm)	Amount (RM 000)
Commercial	57,101	800	45,681
Residential	20,000	300	6,000
Industry (Medium)	32,780	500	16,390
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Total	261,994	(100.0)

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Revenue Estimates

Revenue	RM 000	(%)
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State & Local Authority Share	32,777	(12.5)
Agency Share	38,148	(14.6)
Disposition of Financial Land	114,631	(43.7)
Total	261,994	(100.0)

8.6 Replotting Design Plan

Assumptions: Normal replotting design work involves intensive consultations with landowners and other participants. However, in this Study no direct contacts with landowners or their representatives were made possible before preparing the plan or the objective of this case study. Therefore, the replotting design work carried are based on the assumptions that the project area is covered under gazetted local plan, that existing land rights are confirmed, that proposed land use under local plan will not allow mixed use, and that the locations of the replots have the consent of landowners.

Land Valuation: Land valuation has been carried out as follows:

- (i) Calculation of Street Value: Street values were calculated on a specific formula where adjustment factors were considered. The street value indexes "before" project range from 550 to 1,000 and from 2,320 to 2,750 "after" project.
- (ii) Calibration of Street Value: To calibrate the calculated street values, the Valuation Department was consulted on the land values at nine lots in the Project Area which were evaluated according to the prevailing method in Malaysia. When the results were compared, they indicated that the proposed street value method is applicable.
- (iii) Preparation of Valuation Conditions: Individual lots have been valued by further adjusting street values with adjustment factors which are unique to lots. The adjustment factors and their coefficient values have been applied to individual lots in comparison with standard lot.
- (iv) Individual Lot Valuation "Before" Project: The existing individual lots have been valued according to the prepared factors and coefficient values. The average lot value is at 603 index while seven lots are appreciated more than 1,000 indexes due to the current designated land use of industry and building. The low valued lots less than the 600 index are distributed on hilly area due to poor land utilization.
- (v) Block Valuation "After" Project: The future blocks have been also valued except the blocks for public facilities. The average block value is estimated at 3,189 index. The block values can be grouped into land use types as follows: terrace house (2,300 ~ 2,500), semi-detached, detached house (2,500 ~ 3,000), service industry (3,000 ~ 3,500), middle industry (3,500 ~ 4,000), and commerce (more than 4,500).

Replotting Design: Replotting design has been carried out as follows:

- (i) Replotting Principle: Replotting design was carried out to locate the replot of which value index becomes equivalent to the entitled share of a lot based on calculated street value method. Based on the project implementation plan, commercial and medical welfare areas are first fixed as financial land; replottings of the private land are then carried out. The replots will be provided with sufficient frontage with rectangular shape, and "one lot to one replot" principle is basically applied.
- (ii) Results of Replotting Design: The replotting design plan has been worked out. The results show the following characteristics :
 - Contribution rates of individual lots vary considerably depending upon relative changes in land use and location due to the project.
 - The most popular case in this project is from agriculture to industry which share approximately 46% in the area. Average contribution rate for this category is 48.7% ranging between 32.1% and 54.8%.
 - The second and third popular cases are from agriculture to detached house and terrace house with average contribution rates of 37.1% and 29.0%, respectively.

Figure 8.29
LR Reploting Design

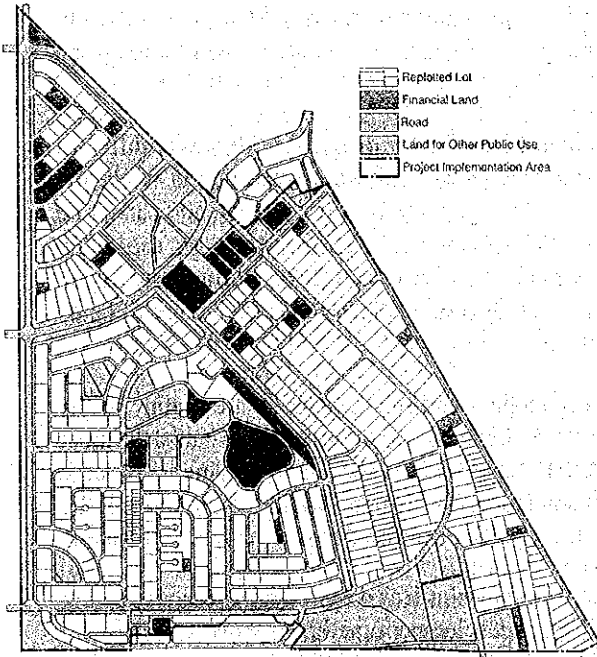


Table 8.13
Contribution Ratio by Land Use Transformation "After" Project

Before the Project			After the Project		
Land use	Basic Area (m ²)	No of Lots	Landuse	Basic Area (m ²)	Contribution Ratio (%)
Agriculture	287,030.10 (10.5%)	43 (9.8)	Terrace House	203,723.66 (12.6%)	-5.4 - 40.0 Average 29.0
Agriculture	165,012.66 (6.1%)	20 (4.6)	Semi-Detached	97,906.96 (6.2%)	-0.3 - 55.4 Average 40.7
Agriculture	347,542.37 (12.8%)	42 (9.5)	Detached House	218,561.30 (13.8%)	9.4 - 54.9 Average 37.1
Agriculture	152,066.33 (5.6%)	32 (7.3)	Service Industry	80,845.20 (5.1%)	26.9 - 55.1 Average 46.8
Agriculture	1,404,566.18 (51.5%)	228 (51.8)	Middle Industry	719,953.85 (45.6%)	29.0 - 63.2 Average 48.7
Agriculture	81,626.09 (3.0%)	10 (2.3)	Two Residential Types	56,873.24 (3.6%)	11.6 - 54.8 Average 30.6
Agriculture	66,266.06 (2.4%)	8 (1.8)	Residence Industry	36,048.90 (2.3%)	32.4 - 59.1 Average 45.6
Building	31,777.01 (1.2%)	5 (1.1)	Terrace House	23,437.79 (1.5%)	2.0 - 39.1 Average 20.2
Building	19,372.13 (0.7%)	26 (5.9)	Semi-Detached	15,164.26 (1.0%)	3.1 - 39.5 Average 21.7
Building	10,851.34 (0.4%)	1 (0.2)	Detached House	8,430.00 (0.5%)	22.3 Average 22.3
Building	19,185.24 (0.7%)	5 (1.1)	Service Industry	14,748.46 (0.9%)	6.5 - 39.3 Average 23.1
Building	95,825.26 (3.5%)	14 (3.2)	Middle Industry	64,516.46 (4.1%)	26.4 - 48.8 Average 32.6
Industry	43,996.91 (1.6%)	14 (3.2)	Middle Industry	39,659.80 (2.5%)	2.8 - 19.9 Average 9.8
Total	2,734,822.86 (100.0%)	446 (100)	Total	1,579,721.16 (100.0%)	-0.3 - 93.2 Average 42.0

Figure 8.28
Block Valuation "After" Project

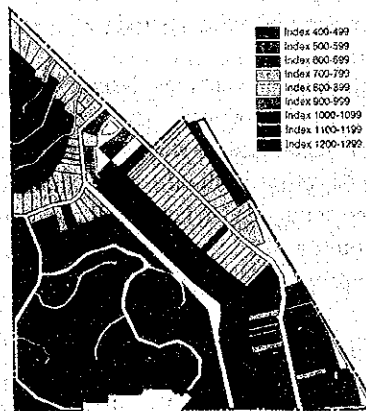


Figure 8.27
Individual Valuation "Before" Project

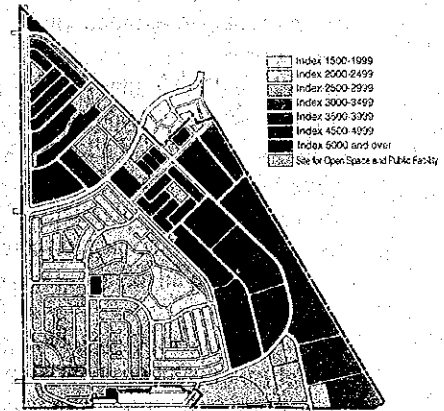


Figure 8.30
Location of Replots and Original Lots

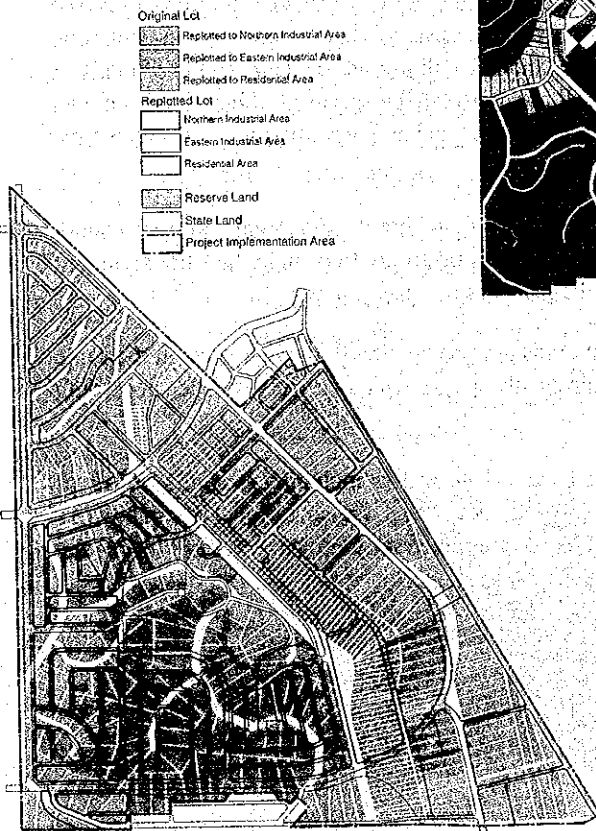


Figure 8.31
Comparison Between Assessed Value by Valuation Dept and Calculated Street Value

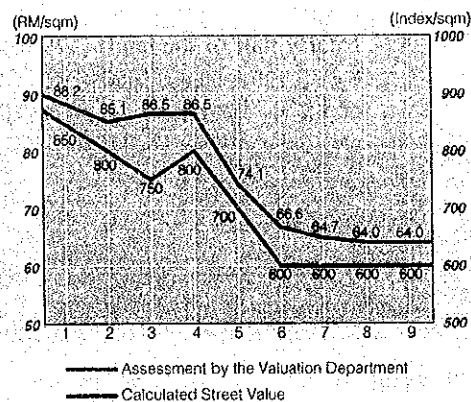


Figure 8.29
LR Reploting Design

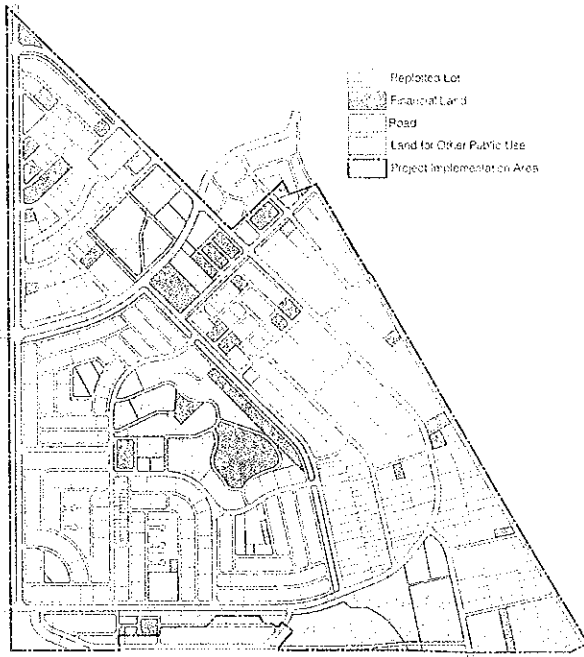


Table 8.13
Contribution Ratio by Land Use Transformation "After" Project

Land use	Before the Project		After the Project		
	Basic Area (m ²)	No of Lots	Landuse	Basic Area (m ²)	Contribution Ratio (%)
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Agriculture	165,012.98 (6.1%)	20 (4.6)	Semi-Detached	97,806.96 (6.2%)	-6.3 - 55.4 Average 40.7
Agriculture	347,512.37 (12.8%)	42 (9.5)	Detached House	218,581.30 (13.8%)	9.4 - 54.9 Average 37.1
Agriculture	152,066.33 (5.6%)	32 (7.3)	Service Industry	80,845.29 (5.1%)	26.9 - 55.1 Average 46.8
Agriculture	1,404,569.16 (51.5%)	228 (51.8)	Middle Industry	719,953.68 (45.6%)	29.0 - 63.2 Average 46.7
Agriculture	81,628.09 (3.0%)	10 (2.3)	Two Residential Types	56,673.24 (3.6%)	11.6 - 54.8 Average 30.6
Agriculture	68,266.06 (2.4%)	8 (1.8)	Residence + Industry	38,049.90 (2.3%)	32.4 - 59.1 Average 45.6
Building	31,777.01 (1.2%)	5 (1.1)	Terrace House	23,437.79 (1.5%)	2.0 - 39.1 Average 26.2
Building	19,372.13 (0.7%)	26 (5.9)	Semi-Detached	15,164.28 (1.0%)	3.1 - 39.5 Average 21.7
Building	10,851.34 (0.4%)	1 (0.2)	Detached House	8,430.00 (0.5%)	22.3 Average 22.3
Building	19,185.24 (0.7%)	5 (1.1)	Service Industry	14,748.48 (0.9%)	6.5 - 39.3 Average 23.1
Building	95,825.28 (3.5%)	14 (3.2)	Middle Industry	64,516.48 (4.1%)	26.4 - 49.8 Average 32.5
Industry	43,898.91 (1.6%)	1.4 (2.5)	Middle Industry	39,689.80 (2.5%)	2.8 - 19.9 Average 9.8
Total	2,724,922.00 (100.0%)	440 (100)	Total	1,579,721.16 (100.0%)	-6.3 - 63.2 Average 42.0

Figure 8.28
Block Valuation "After" Project

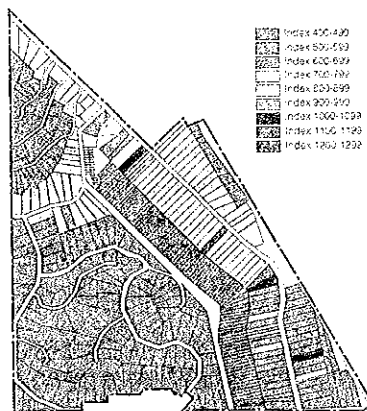


Figure 8.27
Individual Valuation "Before" Project

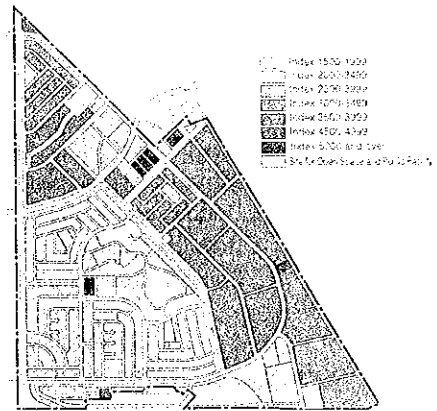


Figure 8.30
Location of Replots and Original Lots

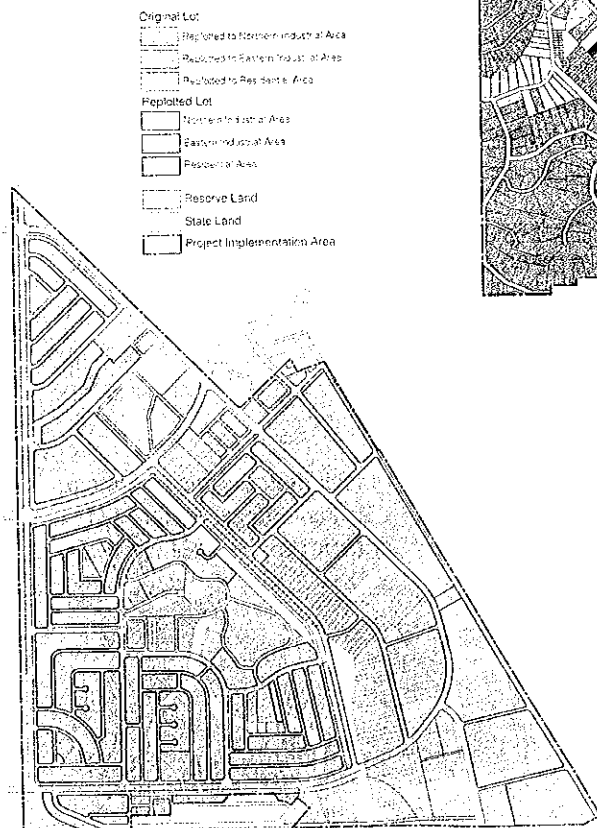
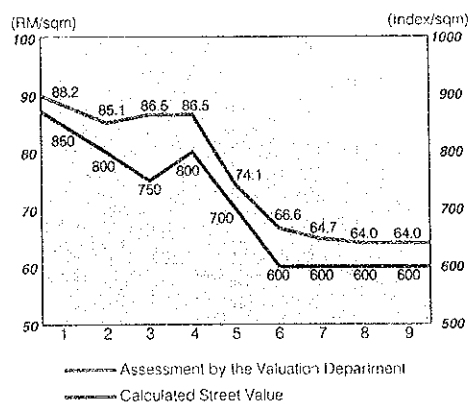


Figure 8.31
Comparison Between Assessed Value by Valuation Dept and Calculated Street Value



8.7 Assessment of the Project

Economic Aspect: Economic assessment of the LR project has to be analyzed from two different viewpoints; first, as an urban development undertaking, and second, in comparison with other urban development methods.

The project is expected to bring about different economic benefits for different bodies over different periods of time. Aside from the short-term benefits brought about by the construction work, the expected benefits from the project would be extensive. Although these benefits overlap and cannot be explicitly defined and quantified, they are normally considered much larger than the costs especially when the project conforms to a well-prepared statutory plan or master plan. This is particularly true in the case of Kg. Seri Subang where urbanization has been rapidly taking place and effective use of lands is desired at the local and regional levels.

The differences in economic impact between the LR method and other methods are mainly in the distribution of the benefits and maximization process of the benefits. The former is probably the most significant aspect of the LR project as it will concurrently contribute to the latter. Buying up of large inhabited lands is practically impossible, and gradual adjustment to the plan would require too lengthy time as well as a strong enforcement machinery and most likely the plan would not be realized effectively.

The significance of LR project is that secondary economic activities such as constructing or reconstructing houses/buildings will be encouraged as compared to other development methods. This is because all lands are reorganized and equally improved with readily available necessary infrastructure and utilities.

Financial Aspect: The project is considered financially viable. The project enhances the land values of landowners significantly, while Government shoulders reasonable share of the project cost. Cost to the Government under the LR method as compared to the acquisition method is significantly less.

Social Aspect: In LR project/s, landowners and lessees are not only consulted but also participate in decision making. LR is a joint undertaking of the landowners and the government to maximize the benefits. LR allows landowners and lessees to stay in the project area and their existing socio-economic activities can be continued unless they wish otherwise, and LR will protect the legal rights of lands of landowners throughout the project period. No lands will compulsorily be acquired. These key elements from the social viewpoint are built in the LR procedure through legal and administrative arrangements. Some adverse impacts of the project are as follows:

- Due to new land use zoning those who have been residing and involved in legal activities cannot continue their activities. However, this will be a timely opportunity to change their life style, but for those who want to maintain the same life, the plan has no ready answer.
- Many factories illegally operating on agricultural lands are provided with the residence in the same lots. Upon legalizing the land use, they have to physically separate factory and residence according to the existing zoning ordinance.
- Nearly half of the lands (529 lots) are resided by non-landowners including tenants (43 lots or 8.1%), sub-tenants (30 lots or 5.7%), TOL holders (150 lots or 28.4%) and illegal occupants (31 or 5.9%). The formal LR process does not provide any guarantee for their activities but leaves the arrangements between their landowners and themselves.

Environmental Aspect: The assessment was made following the EIA guideline of the Department of Environment. After a pre-scoping was conducted, main issues for the project areas include hydrology, soil erosion and sedimentation, water, air and noise quality, and traffic.

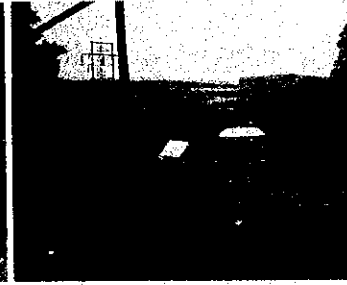
- (i) **Hydrology:** Implementation can exert significant impact on the hydrology of the project area. In order to mitigate the adverse impact on the downstream of the Project site, two retention ponds have been proposed to control the outflow of additional storm runoff. Within the Project site itself, it is anticipated that there will be no localized floods due to the efficiency of the designed drainage system to convey storm runoff.
- (ii) **Soil Erosion and Sedimentation:** The estimated average annual soil erosion during the land clearing/construction period under the worst case scenario is within acceptable limit, that is, 355 tonnes/ha/yr. With mitigating measures, soil erosion in the project site is expected to be minimized.
- (iii) **Water Quality:** Sewage flow from the Project has been estimated to be 4.7 million liters per day and the sewage treatment systems to be installed are of the oxidation ditch system. The effluent will be treated to Standard A, as required by Environmental Quality (Sewage and Industrial Effluents) Regulations, 1979, "before" being discharged into Sg. Pelumut and Sg. Air Kuning. In view of this, negative impact on the river water quality caused by the discharge is expected to be minimal provided that the wastewater treatment plant is operational and properly maintained. At present, the water quality of Sg. Pelumut and Sg. Air Kuning were observed to be poor, with high levels of suspended solids, coliform and E. Coli. The drains were also badly maintained. With the planned drainage system, water quality in the Project site is expected to improve significantly.
- (iv) **Air and Noise Quality:** Some deterioration of the air quality may occur during the construction phase due mainly to the movement of construction vehicles. At present, there is no serious air pollution observed in the area. The main sources of noise will be from human activities and from vehicles passing to and from the industrial and commercial centers. It is expected that typical noise levels will range from between 50 to 70 dB(A). The existing airport operations contribute to noise pollution. In this respect, the 70 dB(A) contour forming the critical noise cone the airport cuts across the site to the east. Areas within the east of the line would be subjected to levels exceeding 70 dB(A). The planning for the new Kg. Seri Subang has taken this into consideration and only non-residential areas are proposed for the affected area. As such, adverse impacts as a result of noise from the airport operations, would not be serious.
- (v) **Road Traffic:** Traffic demand will increase and traffic flow pattern will change due to the LR project. The existing traffic volume along Jalan Subang-Jalan 3D of 8,000 to 15,000 vehicles a day would increase to 10,000 to 40,000 pcu a day. The most critical point is the intersection near Pekan Subang where Jalan Subang/Jalan 3D and circumferential road intersect. The total traffic volume at this intersection will be doubled to approximately 44,000 pcu a day. However, to meet this level of traffic demand, at-grade intersection with adequate traffic engineering design and management will be sufficient.



Land Clearing Activity



Water Sampling Point



Air Monitoring Point