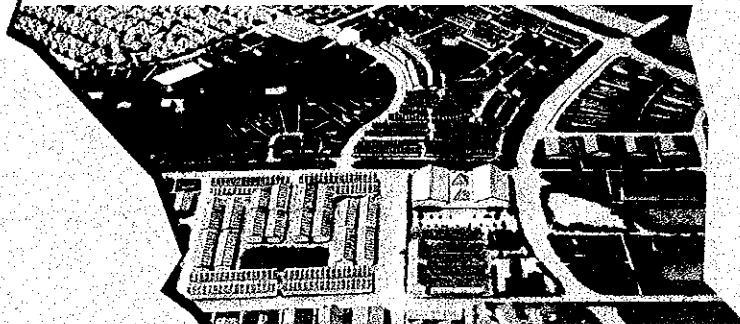


THE FEASIBILITY STUDY ON THE INTRODUCTION OF LAND READJUSTMENT IN MALAYSIA

FINAL REPORT
SUMMARY

MAY 1995



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OPERATION
LAND READJUSTMENT

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The exchange rate used in the study is

J. Yen 1.0 = Ringgit Malaysia 0.025

RM 1.0 = ¥ 40.0

(Average during 1993-1994)

PREFACE

In response to a request from the Government of Malaysia, the Government of Japan decided to conduct "The Feasibility Study on the Introduction of Land Readjustment in Malaysia" and entrusted the study to the Japan International Cooperation Agency (JICA).


JICA sent to Malaysia a study team headed by Mr. Shizuo IWATA, Managing Director of ALMEC Corporation and composed of members from ALMEC Corporation and Japan Association of Land Readjustment, between October 1993 and March 1995.

The study team held discussions with the officials concerned of the Government of Malaysia and conducted field surveys at the study area. After the study team returned to Japan, the present report was prepared.

I hope that this report will contribute to the promotion of the project and programs and to the enhancement of friendly relations between our two countries.

I wish to express my sincere appreciation to the officials concerned of the Government of Malaysia for their close cooperation extended to the study team.

May 1995



Kimio FUJITA

President

Japan International Cooperation Agency



1130177(7)

EXECUTIVE SUMMARY

1. Rapid urbanization in Malaysia is expected to continue in a more dynamic manner, exacerbating further current urban planning and development activities. Some major issues in the formulation of future urban development plans in Malaysia are summarized as follows:

- (i) how to realize statutory city plans,
- (ii) how to undertake area-wide improvement in existing or once developed area,
- (iii) how to develop major infrastructure such as roads and parks in existing urban area,
- (iv) how to respond to increasing concern on public participation in development,
- (v) how to tackle growing difficulties in acquiring lands for public facilities, and
- (vi) how to handle the constraints in public funding.

Land Readjustment (LR) has been attracting growing interest worldwide in recent years as a catalytic agent to address urbanization on a planned basis for such situations as described above. More specifically, LR concept may be applied in the following situations:

- (i) Provision of planned urban land in advance of urbanization;
- (ii) Upgrading of existing urban areas;
- (iii) Construction of large infrastructure in the existing urban area;
- (iv) Mitigating financial commitment of implementing body;
- (v) Developing existing urban areas covered by statutory city plan;
- (vi) Distributing costs and profits equitably among actors involved;
- (vii) Removing constraints to more effective development options;
- (viii) Facilitating more intensive public participation;
- (ix) Promoting more intensive private-public sectors participation; and
- (x) Consideration of existing social environments.

2. Main objectives of the Study are as follows:

- (1) To propose a Malaysian Land Readjustment System;
- (2) To conduct case studies covering the entire implementation process of land readjustment for two study areas; namely Kg. Seri Subang and Kg. Kuantan, Ulu Selangor;
- (3) To formulate a plan on how to introduce/implement the proposed Malaysian Land Readjustment System; and
- (4) To conduct adequate technology transfer schemes.

The Study has been implemented in accordance with its framework with the following three major interactive stages:

- Phase 1 : This phase formulated possible alternative LR systems based on review/assessment of practices in other countries and conduct of case studies.
- Phase 2 : As the core component of the Study, this phase assessed thoroughly the feasibility of formulating the Malaysian LR System based on the prepared Master Plans and LR Project Implementation Plans.
- Phase 3 : This phase formulated a concrete and practical plan for the implementation of the proposed system and for the development of the project area using the proposed system.

Throughout the above phases, transfer of technology has been undertaken by way of on-the-job training which focuses on a number of key areas and by holding a series of workshops to discuss major findings and outputs of the Study.

3. Land Readjustment is a land development method in which a group of adjoining land parcels is reorganised through cooperation between landowners/lessees to provide necessary economic and social infrastructures in compliance with consented layout plan and to enhance the utility/value of the land parcels. Since LR does not involve compulsory land acquisition, the landowners and lessees can stay in the project area, therefore, existing social system/neighbourhood relationship can continue. As the implementation of LR entails maximizing public interests as well as enhancing private benefits equitably, the LR system is equipped with a number of measures to address these often conflicting interests.

Contribution: Contribution in the LR context is defined as a portion of land deducted from the lands of the participants (landowners) as their share of the project cost. The contribution is composed of the lands necessary for public facilities and those for financial land which will be sold in the market to generate revenue to cover the project cost.

Financial Land: In an LR project, lands contributed by landowners are assembled in a number of locations with different purposes depending on their marketability for cost recovery. With this, the LR is called a self-financing undertaking.

Replotting: Replotting is a key technical and institutional concept sustaining LR. Replotting ensures that all rights and encumbrances attached to a land will remain untouched and carried over from the original lots to replots. Replotting makes it possible to reorganize distribution of lands in compliance with planned land use and desired physical features of lands. Replotting protects the rights of landowners, ensures equitable sharing of costs (in terms of contribution) and benefits (in terms of increase in land value) among landowners, and simplifies the troublesome administrative procedure for moving lands which are otherwise required. Replotting benefits the landowners, the implementing body, and the Government.

Public/Private Responsibilities Sharing: The principle is to shoulder the costs according to the benefits received among those who own various rights on the lands, Government and its attached agencies responsible for the development and maintenance of the area, and private utility/public service companies related to the area.

Statutory Power Granted to Implementing Body: Once an LR project is approved, the implementing body is granted certain statutory power within the delimited area of action to ensure smooth and effective implementation.

Public Participation and Consensus Building: Formal and informal mechanisms are provided for participation and consensus building among landowners. Formal methods are through public hearings and the organization of an LR committee comprising representatives of landowners who can directly negotiate and consult with the authorities, and so on. The venues for formal appeal is primarily confirmed during the period of commencement, replotting and valuation while informal public participation is spread over the entire period to resolve differences and to arrive at a decision acceptable to the majority.

4. The proposed Malaysian LR system is based on the premise of a separate law which has been concluded after a thorough assessment of existing legal and institutional framework and comparison of alternative approaches. The proposed LR system is incorporated into the statutory town planning process and, in particular, action area planning so that the LR technique could be effectively utilized to realize the plan. Although LR projects could be initiated by Local Planning Authority (LPA), statutory body, or LR cooperative, it is considered the most appropriate in Malaysia at this stage that LPA itself or with a private developer undertake LR projects. The LR process is outlined as follows:

Preparatory Stage: The Implementing Body (IB) will prepare the LR Implementation Plan which is consented by the majority of landowners (e.g., 2/3 of landowners or their lands' area). The LR Implementation Plan is then put up for public inspection. Pertinent comments may be incorporated and

plan further amended. The LR Implementation Plan is approved by the Minister in concurrence with the State Authority. The LR implementation plan is both a physical plan and a project proposal. The fact of the approval will be notified in the Federal Gazette. The land title within the Development Area will be endorsed with the provision that the land is subject to land readjustment.

Implementation Stage (Initial): Once the LR implementation plan is approved, the LR Committee is established, which is elected by the existing landowners from among themselves. Rules can be established. This is followed by the appointment of valuers. Detailed engineering plans will then have to be prepared and cleared by the relevant authorities. At the same time, detailed replotting design will commence.

Implementation Stage (Middle): Construction work can commence once clearance is obtained for the engineering plans. This will also include the removal of superstructure, relocation and compensation for landowners whose buildings are affected by the LR Project. Care is taken to see that minimum inconvenience and disruption is caused to the residents. Environmental mitigation measures will also have to be carried out in conformity to the Environmental Regulations. A final survey is also carried out for the purpose of issuing title for the replots.

Implementation Stage (Final): During this stage, the registering authority registers the new final titles for the replots to the respective landowners and the old titles are cancelled. All prior encumbrances are transferred to the new title. Social amenity land such as sites for schools and health centers will be transferred to the relevant Authorities for a premium whereas public facility land such as roads and open space will be constructed and reserved for their particular uses. After the LR scheme is completed, the IB will proceed with the collection and payment of equity. This is to compensate those who may be inadvertently deprived and to demand from those who may be over-compensated under the LRS. Once the accounts are settled the LR project is completed.

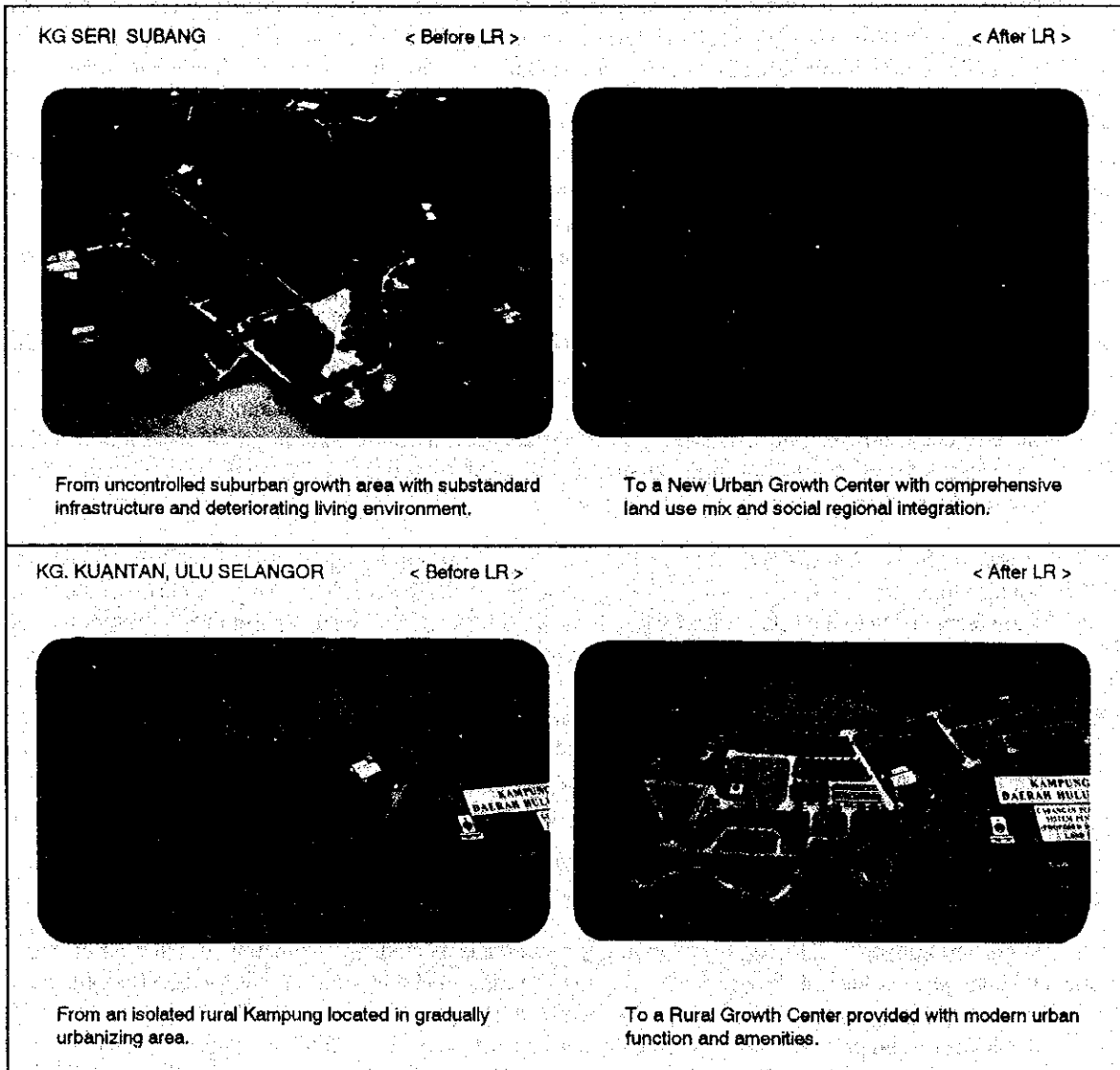
5. Case studies were conducted for two selected areas with different characteristics to test the applicability and viability of the LR:

< Kg. Seri Subang > The Kg. Seri Subang project area is located approximately 20 km west of Kuala Lumpur where urbanization has been making rapid progress and a number of developments taking place in the adjoining areas. The project area is mostly agriculture with 2,600 residents and 3,000 employment, and provided only with substandard infrastructure though many factories (mostly illegal) constructed and operated. Without proper measures, the community environment will degrade further and adversely affect the community as well as adjoining areas. With its strategic location, the area is expected to play a more important regional role as a minor urban center. A comprehensive study was conducted to formulate a development plan for which LR is applied.

< Kg. Kuantan, Ulu Selangor > The Kg. Kuantan project area is located approximately 40 km north of Kuala Lumpur, being a typical Malay kampung developed on Malay reservation. Although the region faces moderate urbanization wave along the North-South expressway, the project area is relatively isolated from the growth corridor. The project area is inhabited by about 290 people, some 30% of whom are employed in manufacturing, government services, agriculture, and so on. Agriculture is no longer a main industry. There is a government plan to develop the project area as a rural growth center which provides basic urban services in the rural areas. A comprehensive study was conducted to prepare an adequate development plan where LR is applied.

Layout plans for the case study areas were formulated based on the assessment of the needs of the residents, physical conditions of the areas, functional and physical integration with regional urban system, and in compliance with existing planning standards as shown in Figure S-1.

Figure S-1
LR Layout Plan for Case Study Project Areas



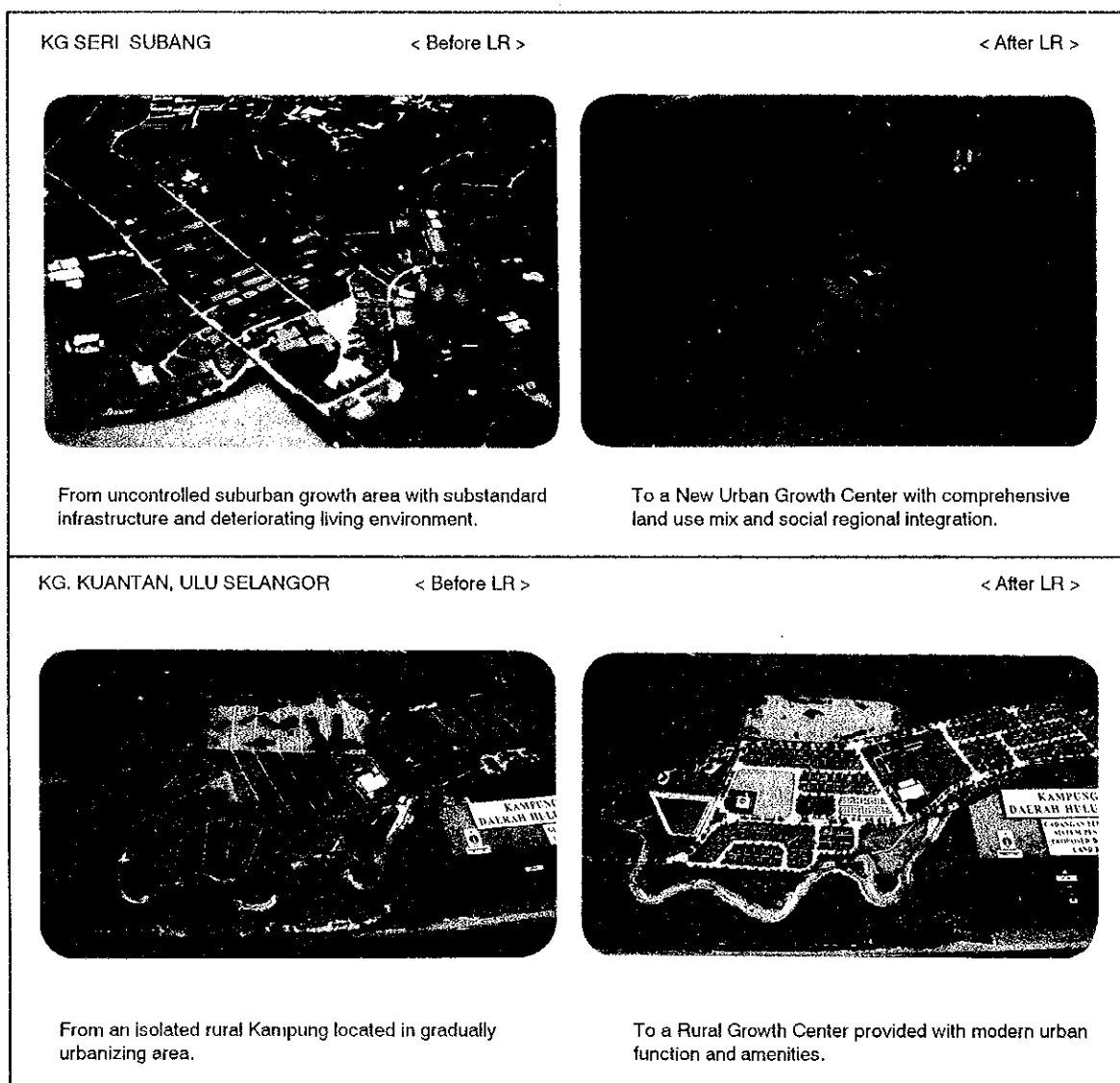
6. The LR method was applied to realize the proposed layout plans. A series of supplemental surveys were conducted to assess the process of LR and determine the viability, including those on topographic and cadastral mapping, lands and building ownership and rights, landowners' opinions, existing infrastructure and public facilities, opinions of relevant agencies, etc. The results of the case studies are summarized in Table S-1 and outlined as follows:
- (a) LR scheme is technically applicable and is considered an effective method to realize a planned development or city plan. When a city plan (e.g., local plan or action area plan) is drawn up with due consideration of LR application, it is much more effectively implemented.
 - (b) LR is socially acceptable. Preliminary opinion survey with landowners clearly shows that LR concept is acceptable. However, it also indicates that the details of the scheme should be adequately consulted with landowners which then need to be reflected in the LR project implementation plan with regard to contribution rate, replotting design, continuity of their activities during the construction period and compensation.

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2) Financial Aspect	<ul style="list-style-type: none"> • Significant viability both for Government and landowners; strong self-financing feature. 	<ul style="list-style-type: none"> • Project needs more extensive financial input of the Government. 																														
3) Social Aspect	<ul style="list-style-type: none"> • Favorable effects. • Illegal factories, squatters, and conversion of agricultural land need adequate policy attention. 	<ul style="list-style-type: none"> • Favorable effects. • High contribution rate may invite negative response of landowners. 																														
4) Environmental Aspect	<ul style="list-style-type: none"> • No serious negative impact when adequate measures are provided. • In general, living environment enhances greatly. 	<ul style="list-style-type: none"> • No serious negative impact when adequate measures are provided. • Living environment will be modernized. 																														

- (c) Economic Viability of an LR project should be assessed separately between general urban development undertaking and that based on specific development method. With regard to the former, it is widely accepted that realizing a city plan or development plan which is officially formulated within the policy framework is already considered economically justifiable. The latter is the main concern of this Study. Since LR is normally applied to already inhabited and/or once developed areas with relatively complicated landownership structure, larger disruption due to other conventional methods to the existing living and economic activities generates much larger tangible and intangible economic and social costs to the project as well as to the society. For these areas, the advantage of the LR is explicit.

Figure S-1
LR Layout Plan for Case Study Project Areas



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2) Project Revenue and Sources	<table border="0"> <tr> <td></td> <td>RM 262 million</td> </tr> <tr> <td>• Financial Land</td> <td>: 43.7%</td> </tr> <tr> <td>• Federal Gov't</td> <td>: 29.2%</td> </tr> <tr> <td>• State/LA</td> <td>: 12.5%</td> </tr> <tr> <td>• Agencies</td> <td>: 14.6%</td> </tr> </table>		RM 262 million	• Financial Land	: 43.7%	• Federal Gov't	: 29.2%	• State/LA	: 12.5%	• Agencies	: 14.6%	<table border="0"> <tr> <td></td> <td>RM 22 million</td> </tr> <tr> <td>• Financial land</td> <td>: 35.4%</td> </tr> <tr> <td>• Federal Gov't</td> <td>: 46.4%</td> </tr> <tr> <td>• State/LA</td> <td>: 3.9%</td> </tr> <tr> <td>• Agencies</td> <td>: 14.3%</td> </tr> </table>		RM 22 million	• Financial land	: 35.4%	• Federal Gov't	: 46.4%	• State/LA	: 3.9%	• Agencies	: 14.3%										
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C. Replotting Design:																																
1) Proportional Rate	3.03	1.28																														
2) Land Use Change and Ave. Contribution Rate	<table border="0"> <tr> <td>Change in Land Use</td> <td>Ave. Contri'n Rate</td> </tr> <tr> <td>• Agri. to Industry (53%)</td> <td>: 46-49%</td> </tr> <tr> <td>• Agri. to Resid'l (36.5%)</td> <td>: 29-46%</td> </tr> <tr> <td>• Bldg. to Industry (7.5%)</td> <td>: 10-33%</td> </tr> <tr> <td>• Bldg. to Resid'l (3%)</td> <td>: 22-26%</td> </tr> </table>	Change in Land Use	Ave. Contri'n Rate	• Agri. to Industry (53%)	: 46-49%	• Agri. to Resid'l (36.5%)	: 29-46%	• Bldg. to Industry (7.5%)	: 10-33%	• Bldg. to Resid'l (3%)	: 22-26%	<table border="0"> <tr> <td>Change in Land Use</td> <td>Ave. Contri'n Rate</td> </tr> <tr> <td>• Agri. to Resid'l (71.2%)</td> <td>: 71%</td> </tr> <tr> <td>• Agri. to Agri. (28.8%)</td> <td>: 24%</td> </tr> </table>	Change in Land Use	Ave. Contri'n Rate	• Agri. to Resid'l (71.2%)	: 71%	• Agri. to Agri. (28.8%)	: 24%														
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D. Project Evaluation																																
1) Economic Aspect	<ul style="list-style-type: none"> • Significant return on investment at regional/ community and landowners levels. 	<ul style="list-style-type: none"> • Insignificant return on investment. 																														
2) Financial Aspect	<ul style="list-style-type: none"> • Significant viability both for Government and landowners, strong self-financing feature. 	<ul style="list-style-type: none"> • Project needs more extensive financial input of the Government. 																														
3) Social Aspect	<ul style="list-style-type: none"> • Favorable effects. • Illegal factories, squatters, and conversion of agricultural land need adequate policy attention. 	<ul style="list-style-type: none"> • Favorable effects. • High contribution rate may invite negative response of landowners. 																														
4) Environmental Aspect	<ul style="list-style-type: none"> • No serious negative impact when adequate measures are provided. • In general, living environment enhances greatly. 	<ul style="list-style-type: none"> • No serious negative impact when adequate measures are provided. • Living environment will be modernized. 																														

- (c) Economic Viability of an LR project should be assessed separately between general urban development undertaking and that based on specific development method. With regard to the former, it is widely accepted that realizing a city plan or development plan which is officially formulated within the policy framework is already considered economically justifiable. The latter is the main concern of this Study. Since LR is normally applied to already inhabited and/or once developed areas with relatively complicated landownership structure, larger disruption due to other conventional methods to the existing living and economic activities generates much larger tangible and intangible economic and social costs to the project as well as to the society. For these areas, the advantage of the LR is explicit.

- (d) Financial viability of the projects varies between Kg. Seri Subang and Kg. Kuantan, Ulu Selangor project areas largely due to locational factor. The former, located in a fast growing area, can expect a large increase in land value due to the project, while the latter located in a slowly urbanizing rural area can expect less. This affects contribution of landowners and/or cost-share on government side. With adequate financing policy of the Government, both projects are considered financially viable. Cost to the Government to implement the projects under LR method as compared to other methods such as acquisition of the entire area or constructing public facilities alone is much less because of the built-in self-financing mechanism of LR.
- (e) Environmental improvement due to LR scheme is found significant based on comprehensive Environmental Impact Assessment for both project areas. Existing communities remain under much improved living and socio-economic environment. Negative impacts due to the projects can be avoided, without much difficulties, by ensuring adequate countermeasures.

7. It is concluded that the LR system in Malaysia can be formulated and effectively applied to various areas, particularly in conjunction with the current Government policy and movement that the entire urban area will be covered by statutory city plans and that more redevelopment types of urban development are practiced to avoid excessive urban expansion by stripping the greenery and that existing urban areas are to be upgraded. In order to establish a formal LR framework which can be applied throughout the country, the following sub-systems must be given further consideration:

- (a) Enactment of a new LR law;
- (b) Establishment of permanent LR organization at Federal, State and Local Authority levels;
- (c) Establishment of formal training institution for LR project management and technique;
- (d) Establishment of concrete administrative procedure to encourage private sector's involvement and landowners' initiatives;
- (e) Systematic publicity of LR concept and procedures to potential participants and general public; and
- (f) Provision of financial subsidy and technical support for the Local Authorities who wish to implement LR projects.

8. It is also concluded that the most practical and effective way is first to implement a pilot project within the existing legal and administrative framework. With this, not only will LR be proven successful as a development undertaking but will also showcase that it is important to promote understanding among concerned agencies, to provide a wider range of social and political consensus, to formulate a new LR law, and to strengthen LR administration through the conduct of a pilot project. It is strongly felt that adequate financial and policy support of the Federal Government is a necessary intervention.

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1. INTRODUCTION

1.1 Study Objectives and Framework

Main objectives of the Study are:

- (1) To propose a Malaysian Land Readjustment (LR) System;
- (2) To conduct case studies covering the entire implementation process of land readjustment for two study areas; namely Kg. Seri Subang and Kg. Kuantan, Ulu Selangor;
- (3) To formulate a plan on how to introduce/implement the proposed Malaysian Land Readjustment System; and
- (4) To conduct adequate technology transfer schemes.

The Study has been implemented in accordance with its framework with the following three major interactive stages:

- Phase 1 : This phase formulated possible alternative LR systems based on review/assessment of practices in other countries and conduct of case studies.
- Phase 2 : As the core component of the Study, this phase assessed thoroughly the feasibility of formulating the Malaysian LR System based on the prepared Master Plans and LR Project Implementation Plans.
- Phase 3 : This phase formulated a concrete and practical plan for the implementation of the proposed system and for the development of the project area using the proposed system.

Throughout the above phases, transfer of technology has been undertaken by way of on-the-job training which focuses on a number of key areas and by holding a series of workshops to discuss major findings and outputs of the Study.

1.2 Major Activities Undertaken

Major activities undertaken in this Study are as follows:

- (1) Conduct of Supplemental Surveys, inclusive of:
 - preparation of topographical maps for the case study areas (up to 1:1,000 scale)
 - conduct of supplemental engineering/socio-economic surveys
 - conduct of sociological survey on the social acceptance of LR
 - study on legal aspects in relation to LR
 - conduct of environment impact assessment for the case study areas
- (2) Conduct of Studies, covering:
 - formulation of LR physical plans
 - formulation of Malaysian LR System (s)
 - formulation of LR implementation plan
 - formulation of replotting design plan
 - project evaluation
- (3) Conduct of Technology Transfer Schemes, such as:
 - conduct of regular counterpart team meetings (30 meetings)
 - conduct of full-time 2-week training course on replotting design
 - conduct of the 1st, 2nd, 3rd and 4th workshops
 - training of counterparts in Japan (a total of 4 officials)

Figure 1.1
Overall Study Framework

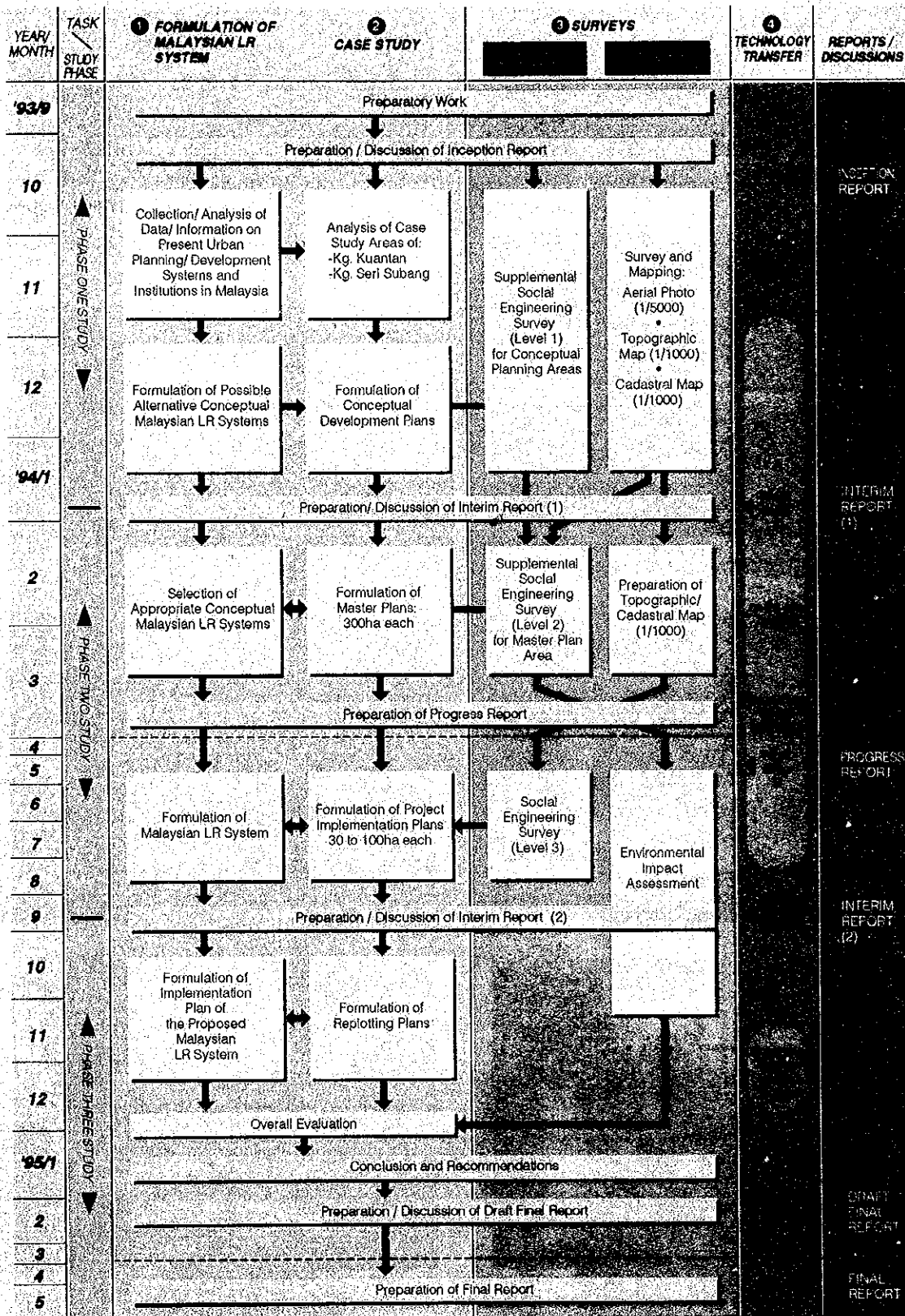
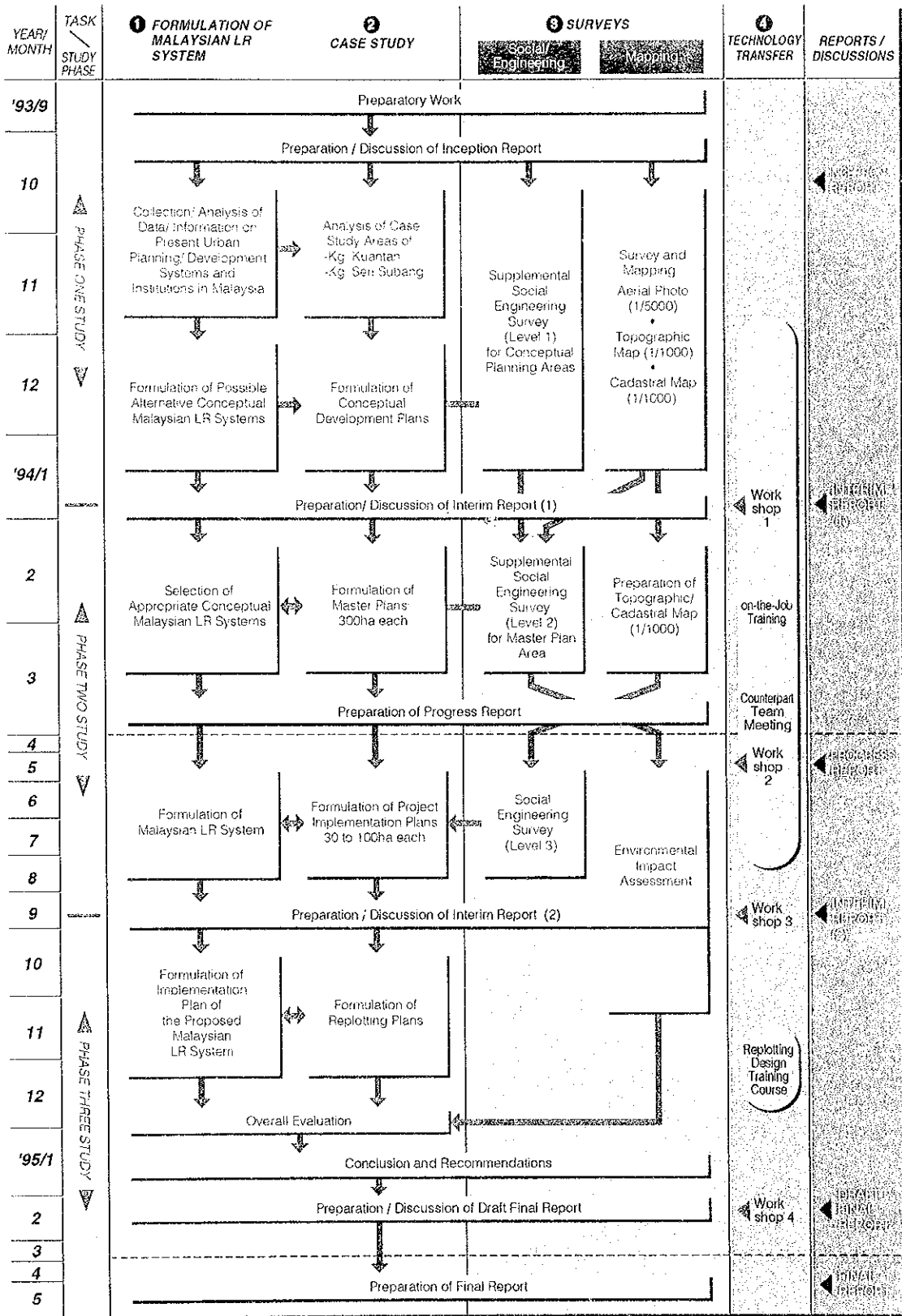
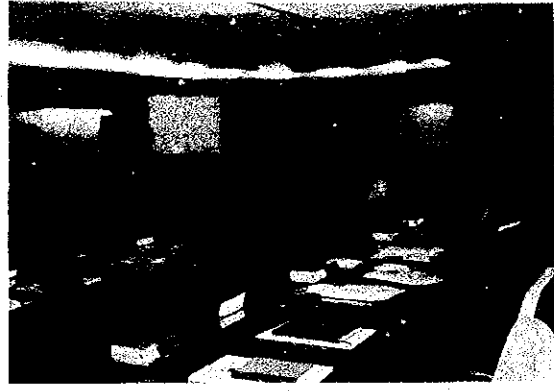


Figure 1.1
Overall Study Framework

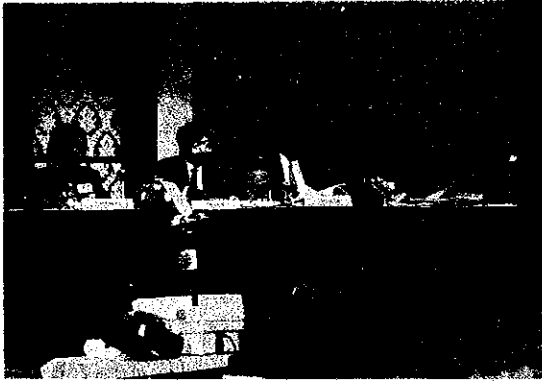




STEERING COMMITTEE

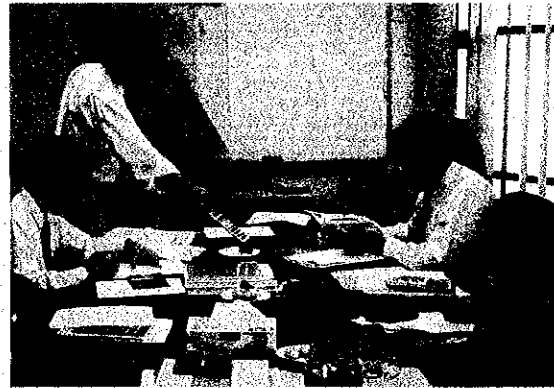


PRESENTATION OF LR PROJECT
AT PETALING DISTRICT COUNCIL



THIRD WORKSHOP

DISSEMINATION OF STUDY OUTPUTS



2-WEEK TRAINING COURSE ON REPLOTTING DESIGN



FIRST MEETING
AT KG. SERI SUBANG COMMUNITY HALL



FIRST MEETING AT KG. KUANTAN COMMUNITY HALL



SECOND MEETING FOR KG. SERI SUBANG
AND KG. MELAYU SUBANG COMMUNITY LEADERS

MEETINGS WITH
COMMUNITY LEADERS
ON LR PROJECTS



2. URBAN AREA DEVELOPMENT SYSTEM IN MALAYSIA

2.1 Urban/Infrastructure Development Administration

In recent years, more concerted efforts were given to the formulation of a national urban policy and the preparation of urban development plans (Structure and Local Plans). Urban planning and development concerns such as town and country planning, drainage and irrigation, housing, fire protection service and sport facilities have been addressed and laws made by both Federal and State Governments.

At the Federal level, there are several ministries involved in urban and infrastructure development including the Ministry of Works, Ministry of Transport, Ministry of Housing and Local Government, Ministry of Energy, Telecommunications and Posts. Urban development organizations have been also set up in the 1970s with the twin objectives of poverty elimination and the restructuring of society. Some of the key organizations included the Urban Development Authority (UDA), Majlis Amanah Rakyat (MARA or Council of Trust for the Indigenous People), Regional Development Authorities (RDA), Malaysian Industrial Development Finance (MIDF), etc.

At the State level, the principal authority for development is the State Authority (SA). In making its decision on development projects, the SA is assisted by heads of technical departments such as the Director of Lands and Mines, State Director of Town and Country Planning, State Director of Public Works, etc. With the establishment of the State Planning Committee (SPC) as required by the Town and Country Planning Act 1976, major infrastructure and urban development projects are first deliberated in this Committee. The SPC is chaired by the Chief Minister who advises the State Government on conservation, use and development of land in the State. As land is a state matter, state urban development organizations are active participants in the urban development process. These organizations include the State Economic Development Corporation (SEDC) which is a state-sponsored developer of new towns and housing schemes. New urban development organizations have also emerged with the privatization policy such as the State Secretary Incorporated which has encouraged the growth of several property development subsidiary companies.

The planning administration **at the District level** includes both the District Office and the Local Authority within the districts. Very often the District Officer also presides as the president of the Local Authority. The District Officer is principally responsible for transmitting village level concerns to the State Government and to chair the District Development Committee (DDC). This Committee is primarily responsible for project monitoring and evaluation. The secretary to the Committee is the Chief Assistant District Officer and draws its membership from district level government officials. Local government is a state responsibility and the powers are often limited. The fiscal resources and revenue generating capacities of local authorities are generally weak relying on a combination of Federal Grants, State Grants and revenues from local/district fees and licenses.

2.2 Urban Planning System

Following the federal system of government, urban and regional planning is applied at all three levels of administration, that is, federal, state and district. The plans prepared may be statutory in that they are mandated by law, or they may be non-statutory.

At the Federal level, there has been a continuous planning exercise since 1966 in drawing up the Five (5)-Year National Development Plan. The spatial planning components are generally, though ineffectively, incorporated into the National Development Plan. The underlying consistent objective of spatial planning in these Malaysia Plans was to promote balanced regional development. The Second Malaysia Plan (1971 - 1975), for example, called for the development of new growth centers in the peripheral areas, while the Fourth Malaysia Plan (1981 - 1985) attempted to define regions in the Malaysian context.

The Malaysian Constitution provides that both land and land-related areas such as forest, agriculture, water, hills, mines as well as local governments fall within the State List. This explicitly empowers the State to play a more significant role in town and country planning than the Federal Government. The State Authorities' involvement in town and country planning is provided for in the Town and Country Planning Act 1976 and the National Land Code 1965. The TCP Act 1976 s.3. empowers the State Authority to be responsible for the general policy in respect to planning and use of all lands within the local authority area and may even give directions to the State Planning Committee as well as the Local Planning Authority. Historically, town planning in West Malaysia has been primarily tied with local administration. The Town and Country Planning Act 1976 requires the Local Authority to prepare two types of plans, as follows:

- (a) **Structure Plan:** The structure plan outlines the long-term development strategies for the area taking into consideration the physical, social, economic and environmental issues. The structure plan performs seven closely-related functions as follows: (i) interpret national and regional policies; (ii) establish aims, policies and general proposals; (iii) provide a framework for the local plan; (iv) indicate action areas; (v) provide guidance for development control; (vi) provide basis for coordinating the decisions of government agencies; and (vii) bring the main planning issues and decisions before the public and the State Planning Committee.
- (b) **Local Plan:** The draft local plan may be prepared before the structure plan, consisting of maps and a detailed planning and implementation program for the development and use of land of a given area including measures for its physical environment, improvement of communication and traffic management. The local plan is prepared essentially for purposes of development control, and relates to specific parcels of land. While structure plans are to be approved by the State Planning Committee, local plans could be adopted for implementation by the local authority, subject to the condition that they conform to the structure plan.

Table 2.1
Type of Plans by Levels of Government Administration

Level of Government Administration	Type of Plans	Legislation Empowering the Preparation
A. Federal Level	National Development Plan	Article 92 Federal Constitution
	National Spatial Plan/National Urban Policy (Draft)	
	Urban Development Area	Urban Development Authority Act 1971
B. State Level	State Development/Economic Plan	(Non Statutory)
	Regional Plans	(Non Statutory)
C. Local Level	Structure Plans, Local Plans, Action Area Plans	Town and Country Planning Act 1976
		Federal Territory (Planning) Act 1982
	District Office	District Development Plan
	Rural Growth Center Plan	A New Approach in Kampung and Rural Development Policy, PM's Dept. Circular 10th July 1984 (Non Statutory)

2.3 Existing Land Development Methods

The National Land Code spells out the various development methods that a proprietor or co-proprietor of any alienated land may carry out. These include the following practises: Conversion, Amalgamation, Subdivision, Partition, Surrender and Realienation, Surrender and Alienation, and Variation of Condition and Simultaneous Application of Subdivision. These methods are briefly described below:

Conversion (Variation of Condition): All alienated land is imposed with a particular category of land use, ie., building, industry, agriculture or nil category. A proprietor of any alienated land must apply to convert the category of land use from agriculture to building in order to build housing schemes. The State Authority is the approving authority.

Amalgamation: Amalgamation takes place when a proprietor of two or more contiguous lots applies to combine them together under one title. The approving authority is the Land Administrator under Land Office Title while for those with Registry Title the Director of Lands and Mines. Amalgamation is possible only for contiguous lots located in the same mukim, town or village, and planning permission must first be obtained.

Subdivision: This is the opposite scheme for amalgamation, where a piece of land is divided into several lots each under separate titles. A layout plan for the subdivision must be approved by the planning authority. Consent of those having a beneficial interest in the land such as chargees and lien holders must also be obtained. Usually, land for public purposes such as roads and open spaces are surrendered to the government.

Partition: Co-proprietors of land may unanimously apply to partition the land under separate titles proportionate to their undivided share in the land. Generally the unanimous consent of all the coproprietors has to be obtained. However, it is also possible for the majority shareholder in the land to make the application. Planning permission must be first obtained. The approving authority for lands under Land Office Title is the Land Administrator while for Registry Title it is the Director of Lands and Mines.

Surrender and Realienation: Surrender and realienation is a novel concept introduced to overcome some of the practical problems associated with developing adjoining lots owned by the same proprietor. Previously he has to amalgamate the land and apply for subdivision. This inevitably takes a long time not to mention the redundancy of work. Surrender and realienation under S.203 only apply to lands under Land Office Title, while surrender and realienation under S.204A is the preferred method for urban development purpose. This provision applies to any two or more contiguous lots held by the same proprietor. In this case it is possible for the lands to be of different tenure or have dissimilarities as to the condition, land use and rent. The approving authority is the State Authority. Under this method, all registered interest must be discharged and consent of lien holders and caveators must be obtained before approval. Upon approval, the State Authority can determine the new land use categories and other express conditions that apply to the realienated lots.

Surrender and Alienation: This process is seldom used in practice. The proprietor surrenders the whole or part of his land to the State Authority with approval of the State Director or Land Administrator.

Variation of Condition and Simultaneous Application of Subdivision: This provision under S. 124A allows for simultaneous application for variation of condition and subdivision. Again this method requires the consent of all proprietors of the land.

2.4 Constraints of Existing Urban/Infrastructure Development System

There are several constraints to urban and infrastructure development in the country. Some of these are as follows:

- (i) **Absence of a Ministry for Urban Development:** There is currently no Ministry responsible for urban development in the country. Urban development functions are carried out by a number of government agencies in both federal and state levels, leading to the lack of an integrated and coordinated urban and infrastructure development in the country. To alleviate this deficiency/weakness, the Federal Department of Town and Country Planning has proposed the formation of a National Physical Planning Council to coordinate urban development at the federal level.
- (ii) **Absence of a Statutory Framework for National Spatial/Urban Development Plans:** Although there are several policies on urban development contained in the Five (5)-Year National Development Plan, there is no statutory framework to prepare National Spatial Plans nor Regional /State Development Plans in the country. This is partly due to the absence of a Ministry for Urban Development and to the fact that the scope of the existing Town and Country Planning Act does not extend to national spatial planning nor regional planning concerns.
- (iii) **Need for Systematic Urban and Infrastructure Development:** While the exercise to privatize infrastructure development is the Government's response for better quality of service, there is a need however to coordinate urban development planning with infrastructure development planning. Crucial to this is the federal assistance for city-planning roads (i.e., road identified in statutory development plan). There is currently no programme for the implementation of these roads.
- (iv) **Absence of Clear Guidelines on Cost Sharing for Infrastructure Development:** Large scale urban development is practised both by the government agency as well as the private sector. In the case of private sector initiative, cost is borne by private developers and passed on to the consumer. Such a development model may only be possible for large tracts of land and not for infill development within urban areas. This trend in urban development is inequitable in that some may benefit tremendously out of the development process while others lose substantially. Sharing of development costs and benefits has to be explicitly analysed and reflected in the cost sharing principles. Government financial support should be provided for land readjustment projects, city planning roads, public parks, urban drainage, sports facilities and for urban renewal projects.
- (v) **Limited Technical and Financial Resources of the Local Authority:** The Local Planning Authority is responsible for controlling and guiding development as well as developing action areas. As such, there is a need to improve the technical capacity and financial resources of local authorities. Except for large Municipal Councils which are in a better position to carry out the above functions, most District Councils do not have the required technical nor financial capacity.
- (vi) **Limitation on Existing Land Development Methods:** Generally the Malaysian land development methods as prescribed in the National Land Code seem to follow the development of single or adjoining parcels of land held under sole proprietorship or co-ownership. Co-owners of land can develop their land by themselves or by someone, through a power of attorney, on their behalf. The National Land Code in its literal interpretation does not allow for group land development akin to that in land readjustment. The lack of group land development methods poses problems in realising a contiguous urban development pattern. In many Malaysian towns there are pockets of small and fragmented land holdings within urban areas which remain undeveloped as developers prefer to develop large tracts of estate or State land in the peripheral areas. The undeveloped lands are eventually occupied by squatter settlements or unplanned developments occur.

3. CONCEPT OF LAND READJUSTMENT

Land Readjustment (LR) is a land development method where a group of adjoining land parcels is reorganised into a modified plan through cooperation between landowners/lessees to provide necessary economic and social infrastructures and enhance the utility/value of the land parcels. Since LR does not involve compulsory land acquisition, the landowners and lessees can stay in the project area, therefore, existing social system/neighbourhood relationship can continue. The general aim is clearly to promote land development for new or more efficient use of land of an urban nature which covers the following typical situations; urbanization of suburban areas in advance of urbanization, improvement of previously urbanized area, integration of large infrastructure facilities into existing urban area, and rehabilitation of disaster and war-damaged areas, etc. As the implementation of the LR entails maximizing public interests as well as equitably enhancing private benefits, the LR system must be equipped with a number of measures to address these often conflicting interests. They are briefly explained as follows:

Contribution: Contribution in the LR context is defined as a portion of land deducted from the lands of the participants (landowners) as their share of the project cost. The lands are the principal equity input to an LR project which cannot be replaced with any other resources, but the lands of landowners. As a result, an LR project does not require any land acquisition. The contribution is composed of the lands necessary for public facilities and Financial Land.

Financial Land: In an LR project, lands contributed by landowners are assembled in a number of locations with different purposes depending on their marketability and are then sold to generate revenues to cover the project cost.

Replotting: Replotting is a key technical and institutional concept sustaining LR. Replotting ensures that all rights and encumbrances attached to a land will remain untouched and carried over from the original lots to replots. Replotting makes it possible to reorganize distribution of lands in compliance with planned land use and desired physical features of lands. Replotting protects the rights of landowners, ensures equitable sharing of costs (in terms of contribution) and benefits (in terms of increase in land value) among landowners, and simplifies the troublesome administrative procedure for moving lands which are otherwise required. Replotting benefits the landowners, the implementing body, and the Government.

Public/Private Responsibilities Sharing: The principal concept of contribution here is to shoulder the costs according to the benefits received. The contribution will be made both in physical and monetary form by landowners, those who own various rights on the lands, Government and its attached agencies responsible for the development and maintenance of the area, and private utility/public service companies related to the area.

Statutory Power Granted to Implementing Body: Once an LR project is approved, the implementing body is granted certain statutory power within the delimited area of action to ensure smooth and effective implementation.

Public Participation and Consensus Building: Formal and informal mechanisms are provided for participation and consensus building among landowners. Formal methods are through public hearings and the organization of an LR committee comprising representatives of landowners who can directly negotiate and consult with the authorities, and so on. The venues for formal appeal is primarily confirmed during the period of commencement, replotting and valuation while informal public participation is spread over the entire period to resolve differences and to arrive at a decision acceptable to the majority.

Figure 3.1
Mechanism of Land Readjustment

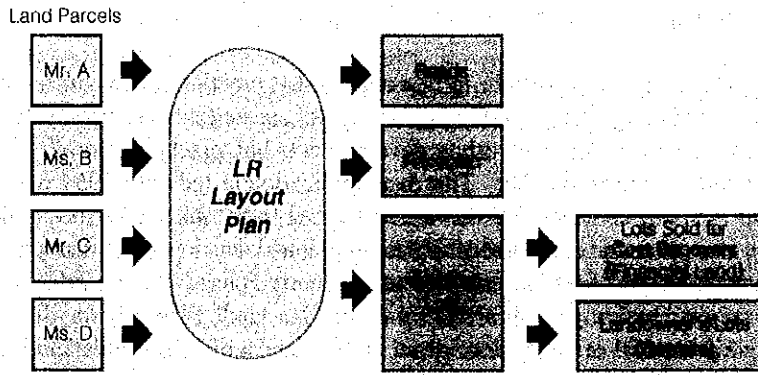


Figure 3.2
Example of LR Project Carried Out in Japan

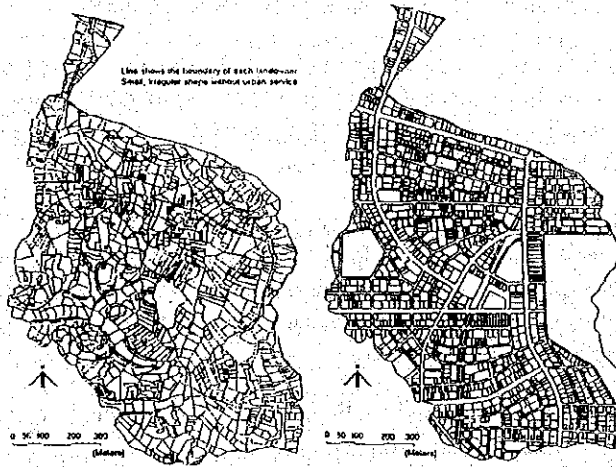


Figure 3.3
Conceptual Framework of Land Readjustment

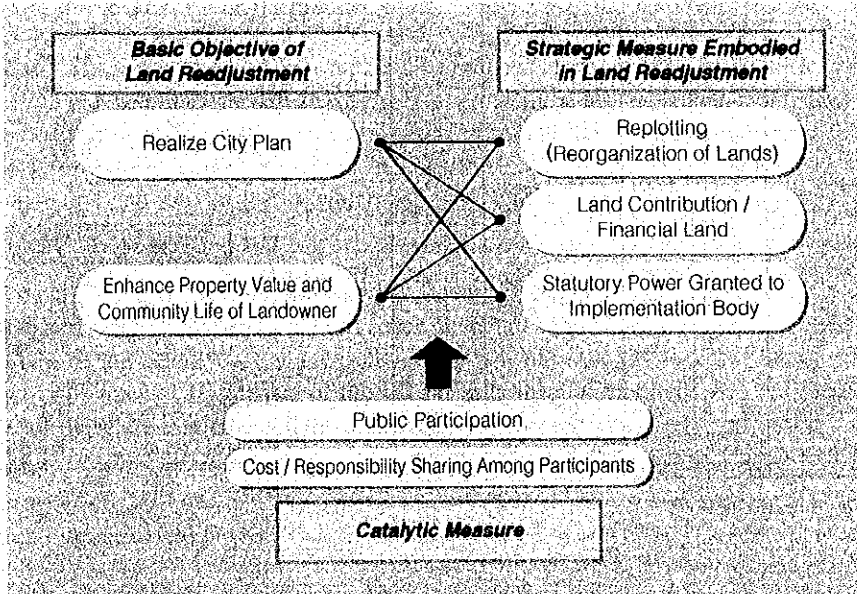


Figure 3.1
Mechanism of Land Readjustment

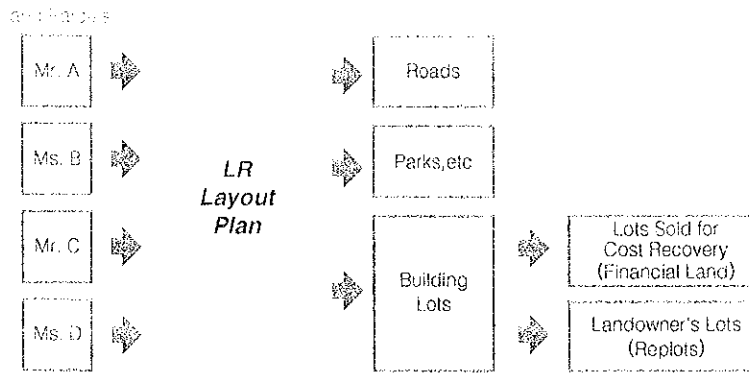


Figure 3.2
Example of LR Project Carried Out in Japan

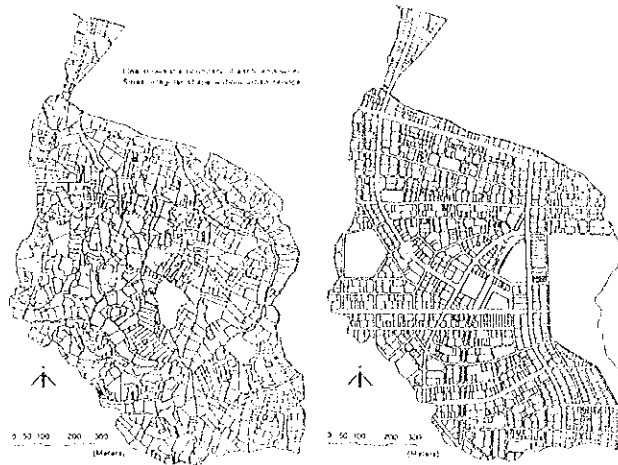
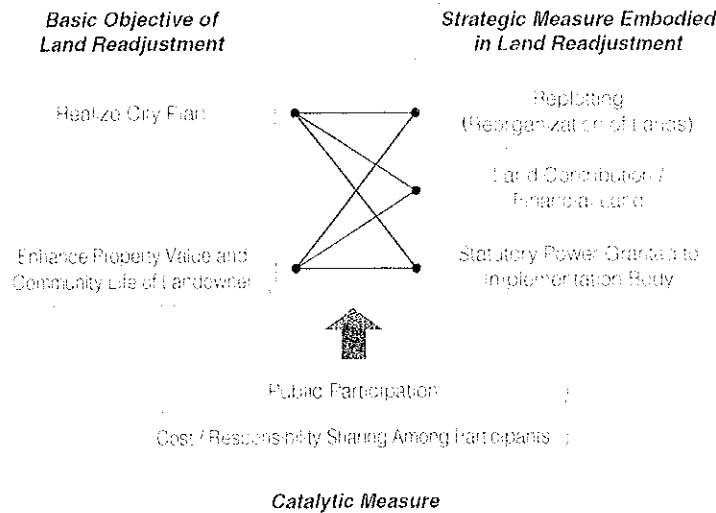


Figure 3.3
Conceptual Framework of Land Readjustment



4. LAND READJUSTMENT PRACTICES IN OTHER COUNTRIES

4.1 Japan's Experience

Japan is known as the country with the most extensive LR practice where Kukaku Seiri (KS) is called as "mother of city planning". The first City Planning Act enacted in 1919 established the legitimacy of urban KS project as a method of urban development, but practical procedures depended on the Agricultural Land Readjustment Act. This dual application lasted until 1954 when the present Land Readjustment Act was enacted. The KS does not need to be linked to a formal detailed plan but is regarded more as an alternative method of achieving planned development. The procedure deals solely with the physical layout of public facilities and property zones but, as a rule, does not include any provisions to regulate buildings and further subdivision of land. Planning and plan implementation in Japan involve a great deal of importance given to the interest of landowners and lessees.

The total area developed by KS between 1919 and 1993 reached 345,600 ha. of which 269,400 ha. were completed. At present, 1,877 projects or 76,200 ha. are still underway. The KS projects have been carried out by different bodies including local governments, cooperatives, national authorities, public corporations and individuals. Average size of the projects is 35.5 ha. which varies between a few hundred hectares of the public corporations and about 20 ha. of cooperatives. KS projects are still popularly implemented.

On the average, some 200 projects covering 5,000 to 6,000 ha. have commenced every year during the last few years. As a result, many cities were developed/improved through KS such as Tokyo (18.3% of the total area or 47.7% of the wards area), Nagoya (62.4% of the total city area), Osaka (39.9%), Yokohama (18.5%), Kawasaki (16.8%) and so on.

Objectives of the LR projects vary by public or private sector undertaking. Cooperatives (landowners association) implement KS projects mainly for the development of new urban area ahead of urbanization (87% of the total area) followed by development of public facilities (9%), while local governments are for the development of new urban area (55%) and development of public facilities (28%) as well as improvement of existing urban area (13%).

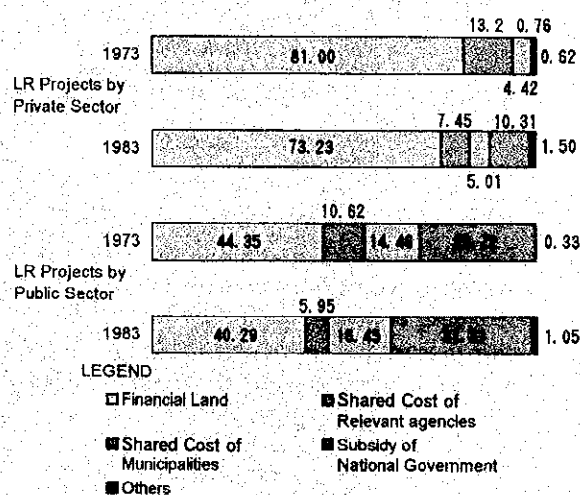
In order to promote the KS projects and facilitate effective use of lands created by these projects, a set of tax preferential measures are also provided in Japan.

Table 4.1
Land Readjustment Projects in Japan
(1919-1993)

Type of LR	No of Projects	Project Area (ha)	Area Completed		Area Project Size (ha)
			ha	(%)	
A. LR under Old City Planning Act	1,183	49,101	49,101	(100.0)	41.5
B. Under LR Act					
(1) Individuals	1,167	20,421	18,820	(92.2)	17.5
(2) Cooperatives	4,586	103,397	74,235	(71.8)	22.5
(3) Local Governments	2,325	118,207	83,453	(70.6)	50.8
(4) National Authorities	320	33,888	32,287	(95.2)	105.9
(5) Housing and Urban Develop Corp.	144	19,255	11,278	(58.6)	133.7
(6) Regional Develop Corporations	5	1,068	(0)		213.6
(7) Local Corporations	5	246	203	(82.5)	49.2
Sub Total	8,552	296,484	220,278	(74.3)	34.8
Total	9,735	345,585	269,377	(77.9)	35.5

Source : Ministry of Construction, Japan

Figure 4.1
Financing Structure of LR Projects



4.2 Experiences in Other Countries

Germany: Methods for restructuring of agriculture lands were already being used in certain German states during the first half of the 19th century. In 1903, the city of Frankfurt had acquired a special law for the re-grouping of property within its boundaries. It was in 1936 that 'Umlegungsgesetz' was passed followed in 1937 by "Reichumlegungsordnung", defining the material law for land relocation structure in the territory of the Reich. After the war, laws were set forth common to the whole West Germany for the reorganization of urban structure.

Unlike Japan, there is no stipulation of pre-planning before permission is formally granted. This is partly because readjustment in Germany is directly linked with an adopted plan. In principle, then, Umlegung is preceded by detailed planning. The implementation is the responsibility of the municipality. Umlegung is inaugurated by municipal order and without any stipulation of consent from landowners. Umlegung is now a firmly established method in Germany for the development of areas with fragmented property structures. Since fragmentation is greatest in Southern and Central Germany, this is where the procedure is applied the most. The number of such procedures recently appears to have been something like 1,000 per annum, with about 5,000 hectares.

Korea: A model closely resembling the Japanese procedure was already introduced mainly based on 1934 Town Planning Act. It was only after the Korean War that the LR came to be extensively applied for reconstruction. A series of projects were launched during the 1950s in Seoul metropolitan area which, however were quite small-scale. In 1966, the Land Readjustment Project Act was enacted. During the 1960s and 1970s especially, activity was very intensive with a large scale of projects averaging 300 to 400 ha. The overwhelming part of the planned urbanization during this period took place through LR.¹⁾

The projects were primarily conducted not by the property owners themselves (as individuals or associations) but through municipal authorities and quasi-governmental organisations. The formal initiative for a LR project comes from the Ministry of Construction, which designates the project area. The LR projects have been overwhelmingly in the hands of the public sector, partly because there is insufficient support system and there is negative response to the undertaking by association where only a group of specialized members corner the profit for themselves rather than representing those of the members as a whole. Usually 40 to 60% contribution rates are applied. This is mainly because the project area is normally selected in urban development control area which can be converted to urban use through the LR project. Therefore the difference in land value before and after the LR project becomes very large. This is further amplified by the overall sharp increase in land prices then in Korea. Another reason for the high contribution rate is to have landowners shoulder the land and costs of regional facilities such as expressway, major urban roads, regional park, etc. Since the late 1970s, policy was directed to restrain the practice of LR. Project size has also been limited to less than 50 ha.

Taiwan: The LR projects in Taiwan are also influenced by Japan. The first LR project was carried out in 1958 in Kaohsiung when there was no legal provision. The project was based on the power given by the Equalization of Urban Land Rights Act, 1954 and the city ordinance of Kaohsiung which was especially formulated for the LR project. In 1979, the Central Government enacted The Implementation Regulation on Land Readjustment, which became the main legal framework for the implementation of LR projects in Taiwan.

LR projects are generally implemented by local government, with privately initiated LR projects constituting a small proportion. In both cases, there are conditions to acquire an agreement from more than a half of the landowners and leaseholders involved in the LR Project. Between 1958 and 1993, Taiwan implemented 10,718 ha. of the LR projects through publicly initiated projects, and about a quarter of these are implemented in Kaohsiung City.

¹⁾ In the 1960s, a total of 91 LR projects with 6,176 ha. were carried out, while in 1970s 151 projects with 14,509 ha.

5. CONCEPTUALIZATION OF MALAYSIAN LR SYSTEM

5.1 Needs for Land Readjustment for Urban Development in Malaysia

Rapid urbanization in Malaysia is expected to continue in a more dynamic manner, exacerbating further current urban planning and development activities. Some major issues in the formulation of future urban development plans in Malaysia are summarized as follows:

- (i) how to realize statutory city plans,
- (ii) how to undertake area-wide improvement in existing or once developed area,
- (iii) how to develop major infrastructure such as roads and parks in existing urban area,
- (iv) how to respond to increasing concern on public participation in development,
- (v) how to tackle growing difficulties in acquiring lands for public facilities, and
- (vi) how to handle the constraints in public funding.

Land Readjustment has been attracting growing interest worldwide in recent years as a catalytic agent to address urbanization on a planned basis for such situations as described above. More specifically, LR concept may be applied in the following situations:

- (i) Provision of planned urban land in advance of urbanization;
- (ii) Upgrading of existing urban areas;
- (iii) Construction of large infrastructure in the existing urban area;
- (iv) Mitigating financial commitment of implementing body;
- (v) Developing existing urban areas covered by statutory city plan;
- (vi) Distributing costs and profits equitably among actors involved;
- (vii) Removing constraints to more effective development options;
- (viii) Facilitating more intensive public participation;
- (ix) Promoting more extensive private sector involvement in urban development; and
- (x) Consideration of existing social environments.

5.2 Legal Aspects of Land Readjustment

There are four possible approaches using the provisions of existing laws to realize Land Readjustment in West Malaysia. These are the Land Acquisition Act 1960, the Sabah Town and Country Planning Ordinance 1958, the National Land Code 1965, and Part IV of the repealed Housing Trust Act 1950. A thorough study carried out on these laws indicates that the LR framework based on the provisions of existing legislations is inadequate and fraught with difficulties like getting the consensus of the registered proprietors to participate in the LR project as in the surrender and alienation method; making arrangements with chargees, lessees and sub-lessees in respect to existing encumbrances which cannot be carried forward to the new titles of the replots; the stigma of implementing LR through the mechanism of land acquisition even though the Land Acquisition Act is used merely as a *modus operandi* for the LR project. In view of these problems, for the long term, a legal framework for LR based on a separate law has to be provided. However, in order to undertake a pilot project in the absence of a comprehensive land readjustment law, a couple of methods has been also recommended which are based on Land Acquisition Act 1964 and Surrender and Alienation of National Land Code 1965.

5.3 Land Readjustment and Statutory Planning Framework

The Town and Country Planning Act (TCPA) also provides for a hierarchy of plans/policies starting with: (a) National Policy (S.4(4)a), (b) State Authority Directives (S.3), (c) Structure Plan (S.8(1)), and (d) Local Plan (S.12). The general principle is that the lower plan will conform to the higher plan. This is to ensure consistency in plan making. As LR projects are development projects they will have to conform to the Statutory Development Plan for the area, i.e., the local plan for the area or where there is no local plan, the structure plan for the area. To incorporate land readjustment within the TCPA, it

is necessary to remove some of the practical difficulties of developing action areas. It is submitted that LR may be one of the most effective methods of realizing local plans for action areas. The proposed statutory procedure for developing action areas has been worked out.

5.4 Administrative Aspects of Land Readjustment

Land Readjustment is an integrated urban development method that requires a great deal of lateral coordination among the implementing agencies. As LR projects in Japan generally obtain financial subsidy from the Central Government, LR projects in Malaysia also need a great deal of administrative support both at Federal and Local levels, because LR project is often implemented in areas where other development methods are not feasible. In this context, it is necessary that the Ministry of Housing and Local Government (MHLG) play a more active role in urban development including LR function at Federal level. At the state level, the State Planning Committee will essentially be responsible for the overall promotion of LR; at local authority level, the authorities will be strengthened to provide LR technical guidance to Implementing Bodies, wherein further technical support may be provided by the JPBD Regional office.

5.5 Social Aspects of Land Readjustment

One of the fundamental requirements for a successful LR Project is the participation of the landowners/residents in the programme. This participation involves inspection and approval of project implementation period, community organization in the form of LR Committee or LR Cooperative, replotting design and land evaluation. The extent of participation required is certainly more than merely giving opinions and comments to plans as is currently the practice but rather an active form of participation in the project from the start to the end.

LR is a sophisticated development technique that may not be easily understood. As such social surveys had been conducted to obtain socio-economic information of the residents, followed by a series of opinion surveys to obtain landowners' and residents' response to LR project. However, a number of characteristic weaknesses have been identified at the planning phase of the LR project:

- Existing power structures were accepted as given and few attempts were made to change them.
- Responsibility for implementation of community development was administratively placed under separate ministries or agencies.
- Greater emphasis on increasing future land values than on increasing social benefits.
- Inadequate attention to dealing with social diversity, and especially with highly clustered and stratified social structures.
- Inaction to building a local information and educational organization able to solve communication problems such as access to the LR project concept.
- The question on legality of buildings such as illegal factories and squatter houses.

Previous rural and urban development programmes are by nature top-down oriented, on the presumption that the rural or urban poor or residents are for one reason or another unable to meet their own needs. The reorientation required for them to become effective in truly bottom-up development is no small undertaking. This may mean that in the future the role of government or implementing agency will be diminished with the increasing role of the residents in the LR project.

6. PROPOSED MALAYSIAN LAND READJUSTMENT SYSTEM

6.1 Overall Framework

The proposed Malaysian Land Readjustment System is based on the premise of a separate law on LR with amendment to the National Land Code (NLC) and a special study on Malay Reservations Enactments (MRE). LR consists of two major components, namely land development and land registration. The land development provisions of the LR can be within a separate law or be included in the TCPA. It is not possible to have the land alienation and land registration aspects of LR together in a separate law because they are clearly part of the NLC and MREs. As such, amendments will still have to be made to the existing legislations. A further detailed study is to be carried out on the application of LR in Malay Reserve areas.

Malay Reservations Enactments have to be reviewed to enable LR to be used effectively. One possibility is the inclusion of the powers of the Ruler in Council to alienate the replotted lands to non-Malay landowners who have surrendered their lands in exchange for the replots. Such a radical move merits a further study with regard to Malay Reserve in LR project areas.

The proposed LR System is to be incorporated into the statutory town planning process and in particular action area planning. By so doing, the land readjustment technique could be effectively utilized to realize action area plans. As required by the TCPA, the Local Planning Authority (LPA) will then prepare the Draft Local Plan for the Action Area. The Draft Local Plan will be made available for public inspection and a period of four weeks given for public objections and representation. After considering these objections, the LPA may adopt the plan as originally prepared or as modified, and publish it in the State Gazette. The LPA may then declare the area or any part of the area to be a Development Area by notification in the State Gazette.

6.2 LR Process

Preparatory Stage: The Implementing Body (IB) will prepare the LR Implementation Plan. The IB could be the Local Planning Authority, Statutory Body or the LR Cooperative. IBs such as cooperatives have to be specifically designated to implement an LR project because they execute their functions in a quasi-government capacity. The LR Implementation Plan is then put up for public inspection. Pertinent comments may be incorporated and plan further amended. The LR Implementation Plan is approved by the Minister in concurrence with the State Authority.

Implementation Stage (Initial): Upon approval of the LR implementation plan, the LR Committee, composed of elected landowners, is formed; rules are established and valuers are appointed. It is recommended that the valuers be appointed by the LPA. Detailed engineering plans are then prepared and cleared by the relevant authorities. At the same time, detailed replotting design commences.

Implementation Stage (Middle): Construction work can commence once clearance is obtained for the engineering plans. This includes the removal of superstructure, relocation and compensation for landowners whose buildings are affected by the LR Project. A final survey is also carried out for the purpose of issuing title for the replots.

Implementation Stage (Final): The issue document of title (IDT) is delivered by the holder to the Land Administrator after notification. The old titles are then cancelled after the registration of new titles for the replots to the respective landowners. All prior encumbrances are transferred to the new title. Social amenity land such as sites for schools and health centers will be transferred to the relevant Authorities for a premium whereas public facility land, e.g., roads and open space will be reserved for their particular uses. After the LR scheme is completed, the IB will proceed with the collection and payment of equity. This is to compensate those who may be inadvertently deprived and to demand from those who may be over-compensated under the LRS. Once the accounts are settled the LR project is completed.

Figure 6.1
Flowchart of the Proposed Legal Framework for Land Readjustment
in West Malaysia under the Proposed New Land Readjustment Law

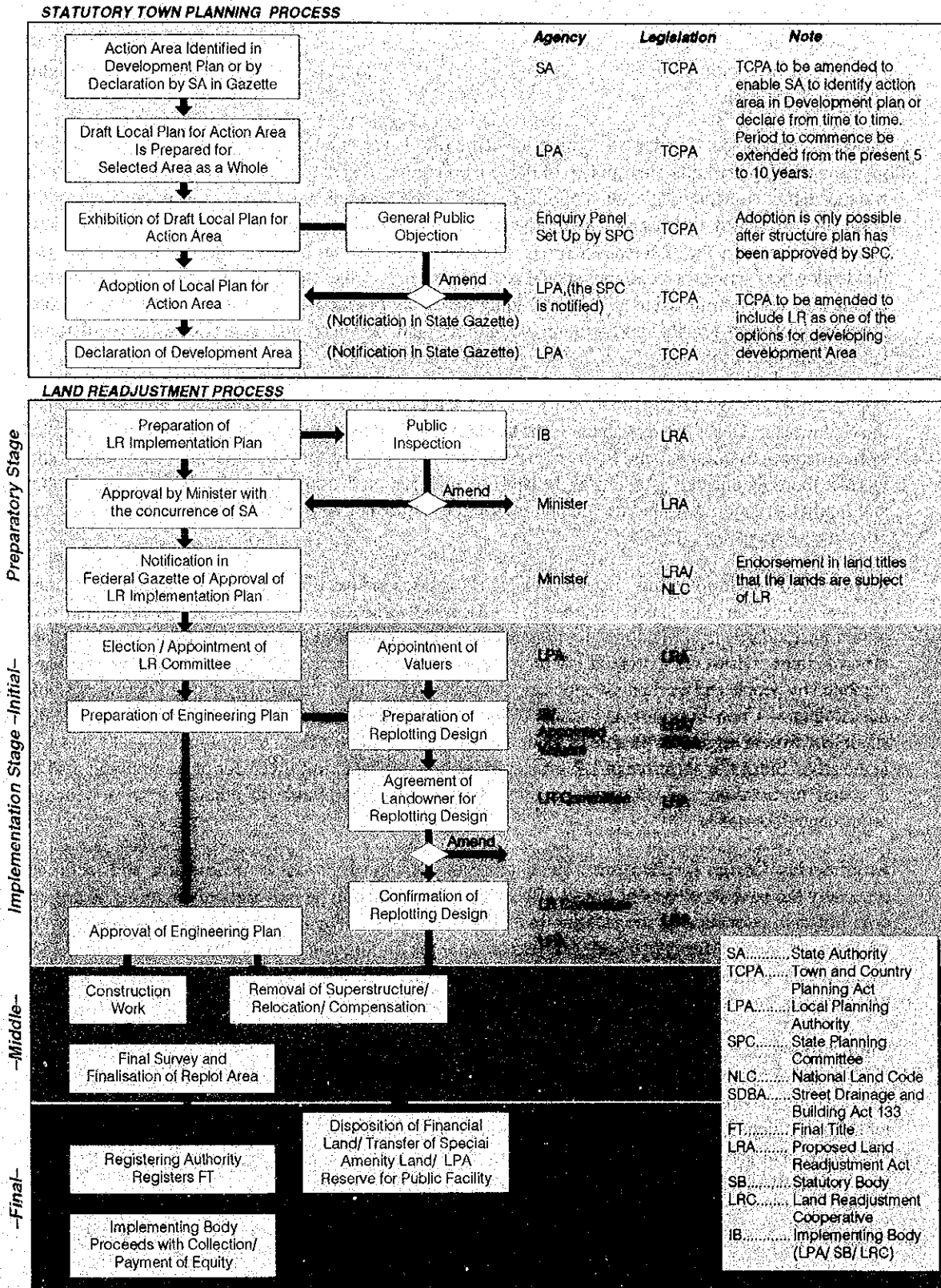
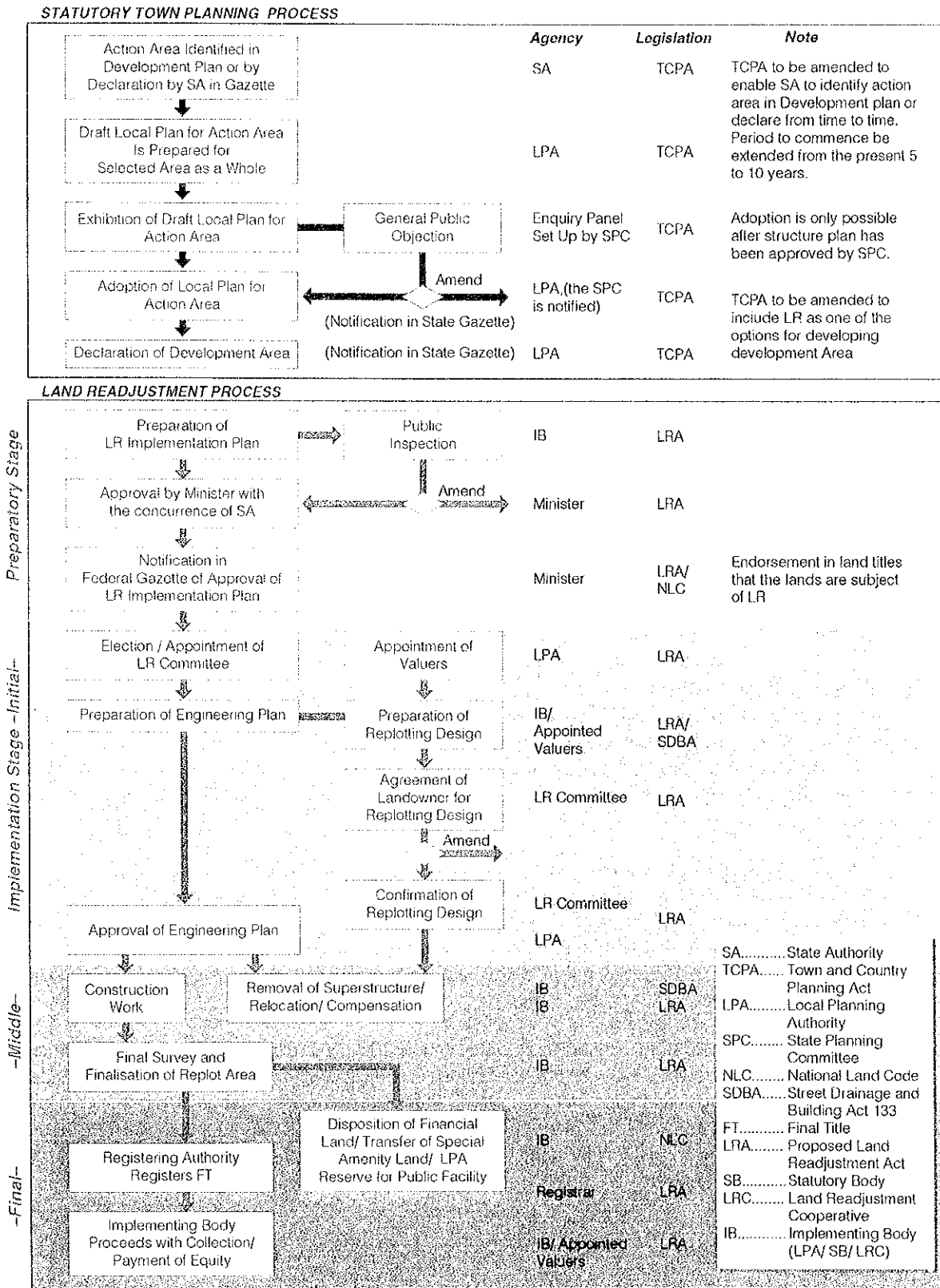


Figure 6.1
Flowchart of the Proposed Legal Framework for Land Readjustment
in West Malaysia under the Proposed New Land Readjustment Law



7.1 Physical Planning in Land Readjustment

LR physical planning covers three main aspects: land use, layout and engineering design which interact and interrelate among themselves, as well as with the higher level development policy including structure/local plan.

Land Use Implication: Land use determination in the LR plan is generally affected by effective statutory plan and development guideline/policy of the Government and specifically by the needs of landowners and the viability as regards allocation of financial lands and changes in land use. When land use zoning is already determined, there is no way for the implementing body or landowners to formulate a counter plan which considers the local realistic needs. However, in Malaysian Land Readjustment it is necessary that landowners' wishes and opinions should be heard and reflected adequately in the plan because current zoning does not allow mixed use, notwithstanding the actual practice in the previously developed areas. Strict application or straight interpretation of statutory plan, however, may give rise to the expulsion of landowners out of the area.

A successful LR project is self-financing and at the same time maximizes the benefits of the public and the landowners. This is brought about by the increased land value after the project, due partly to improved infrastructure/environment and to the conversion of land purposes. Often the latter contributes to the increase more significantly. As long as the land use modification does not conflict with higher plan/policy and market situation, LR land use planning should consider converting the existing land use for more effective urban uses.

Layout Planning Implication: Layout planning is to make land use plan concrete and functional through physical delineation of the lands and provision of necessary infrastructures. In Malaysia, a set of uniform planning standards is applied for all urban development projects to achieve a relatively high standard urban system. However, potential LR project areas are mostly either partly or wholly developed and inhabited by people and mechanical application of the uniform planning standards might not be possible nor adequate. Contribution rates become so high that landowners would not accept them. Especially small landowners might not be able to maintain sufficient lands for them to continuously stay and live in the area. Since the objective of LR project is not only physical improvement of the area but also as a social undertaking, LR physical planning aspect must be flexible to address local and actual requirements or needs.

Engineering Design Implication: The engineering design of various infrastructures and facilities, especially the land development aspect affects the LR undertaking greatly not only in terms of project cost but also relocation of the existing buildings and people. The engineering design which closely relates with layout planning should take into account the buildings and other structures and the socio-economic activities of the residents in a way that they are not excessively affected by physical development activities.

Implication with Local Plan: Preparing structure and local plans are underway in many urban areas in Malaysia. It is but logical and sound to consider that LR projects will basically be implemented under the restrictions stipulated in these statutory plans. Since LR is considered as an effective method of realizing implementation of local plans, possible application of LR has to be considered in the identification of action areas in the local plan so that eventual LR planning falls easily within the local plan's objective and interests.

Table 7.1
Planning Process of Local Plan Formulation

Stage	Tasks
Stage 1	• Analysis of existing situation and projection
Stage 2	• Formulation of development strategy
Stage 3	• Preparation of proposals map
Stage 4	• Preparation of development control guidelines
Stage 5	• Phased development implementation planning and finances
Stage 6	• Identification of action areas

Table 7.2
Standard for Community Facilities

	Type of Facility	Lot Area	Remarks
A COMMUNITY	1) Community Hall	0.1 - 0.4 ha	• 1 for every 200 - 1,000 pop. in rural area, 1 for every 1,000 - 3,000 urban pop.
	2) Community center	0.1 - 0.6 ha	• 1 for every 3,000 - 10,000 pop.
	3) Multi-Purpose Hall	0.1 ha	• 1 for every minimum population of 10,000
B EDUCATION	1) Kindergarten	740 sq.m	• 3 for every neighborhood unit (7,500 pop.)
	2) Primary school	2.4 ha	• 1 for 1 neighbourhood unit (7,500 pop.)
	3) Secondary School	3.6 ha	• 1 for every 2 or 3 neighbourhood units
C HEALTH	1) Clinic	0.2 ha	• 1 for 2,000-4,000 population
	2) Village clinic	0.1 ha	• 1 for 3,000-4,000 population in Felda scheme
	3) Health Center	2.0 ha	• 1 for 20,000 population
	4) Distict Hospital	20.2 - 24.4ha	• 1 for every district center with min. pop of 50,000
D POLICE STATION	1) District Police	1.8 ha	• 1 for every district center
	2) Police Station	1.0 ha	• 1 for 10,000 - 15,000 population
E FIRE STATION	1) 4-bay station	1.2 ha	• For 75,000-20,000 population (1-4 bay station)
	2) 2-bay station	0.8 ha	• 1-2 bay station is needed
F POST OFFICE	1) Main post office	0.3 ha	• 15,000 population
	2) Mini post office	0.1-0.2 ha	• 3,000-15,000 population
G RELIGIOUS	1) Mosque	0.5 ha	• 1 for 2,600 muslims
	2) Surau	0.25 ha	• 1 for 800 muslims
	3) Hindu Temple	-	• 1 for 2,600 Hindus
	4) Church	-	• 1 for 2,600 Cristian
	5) Buddhist Temple	-	• 1 for 2,600 Budhists
	6) Burial Ground	1.0 ha	• 1 for 5,000 population
H RECREATION FACILITIES	1) Play Lot : Play Lot for toddlers	0.06-0.4 ha	• For a threshold pop. between 500- 2,000
	2) Play field : For organized or informal games especially for children	0.8-3.2 ha	• For a threshold pop. between 2,000- 5,000 of primary school age
	3) Neighbourhood playground : For passive recreational activities, including play field, courts, picnic activities.	3.2-12.1 ha	• For a threshold pop. between 5,000-20,000
	4) Community open Space : For passive recreational and organized sports activities for local communities.	12.1-40.5 ha	• For a threshold pop. between 20,000-50,000 As a center to build up social and cultural intergration at all times.
	5) Town Park : For active and organized sports, open space, a center for seasonal recreational and sports events, a center for nature sports lover.	40.5-100 ha	• For a threshold pop. between 50,000-100,000

Source : Manual for JPBD Planning Standard (Manual Penyediaan Rancangan Tempatan JPBD Semenanjung Malaysia)