

5. CONCEPT OF URBAN HOUSING RENEWAL IN KEMAYORAN AREA

5.1 CHARACTERISTICS OF THE STUDY AREA

According to the DKI Master Plan, this area is designated as part of "Urban Betterment Zone" to undertake gradual environment improvement programmes in the long run. The Kampung Improvement Programme (KIP) has been the dominant measure in the zone since Repelita I and most of the Study Area has been improved by this programme.

Although much improvement has been made by the programme, still many serious problems remain in the field of urban environment especially in "housing sector".

It is also noted that some of the Kampung which were improved by KIP, may still have the capability to improve into a higher level of living standard by the effort and resource of the community itself under public guidance and assistance.

Another opportunity in such dense built-up area is urban renewal which aims at partial or total renewal of housing and urban environment by demolishing the existing building structures, so as to create a planned and highly efficient urban space.

Zone 5 is in a position as the pioneer urban and housing development area in the northern part of Jakarta which has an opportunity to benefit from the economic and physical impacts from Zone 1.

5.2 DEVELOPMENT OBJECTIVES OF THE STUDY AREA

The development objectives of the Study Area can be described as follows:

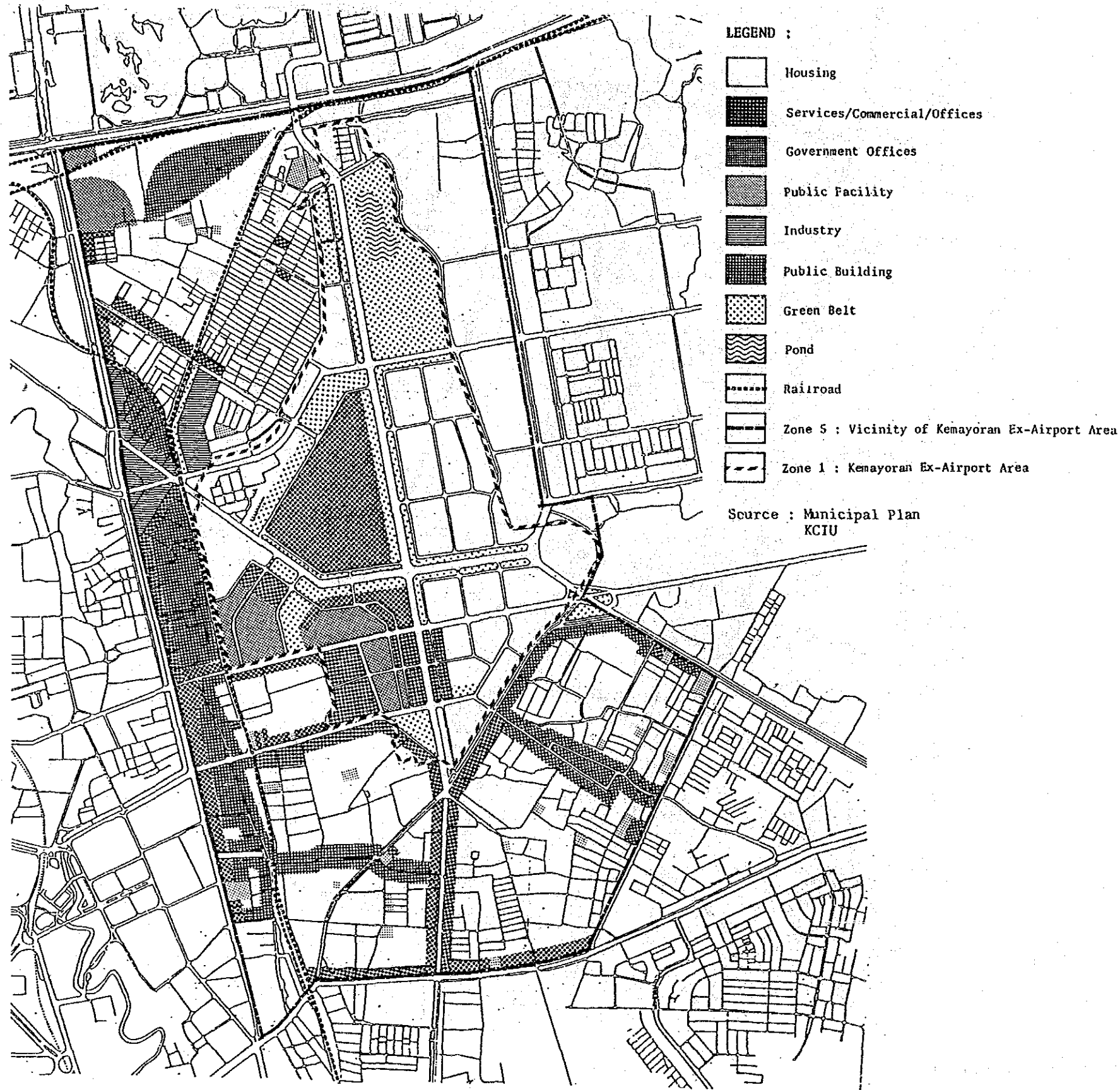
- 1) To implement the KC Development Project using the vacant area of Kemayoran ex-airport, aiming at vitalization of urban functions and improving the environment in the northern part of Jakarta, provision of numerous housing sites and buildings for various ranges of income group including Perumnas housing for low income groups, and development of an urban center as a trigger for further urban expansion to the east, and keeping an appropriate development standard of facilities and environment.

Part of the profit which will be gained by the implementation of this project will be utilized as one of the resources for urban improvement and renewal of the vicinity area especially in housing development for the low income group.

- 2) To establish and execute "urban improvement and renewal programmes" in the vicinity area where direct and/or indirect impacts of the said project will be received. The proposed programmes should be aimed for realization of a long-term urban development policy which conforms to the DKI Master Plan and Municipal plans of the area.
- 3) The development objectives of the vicinity area can be summarized as follows:

- a. To maintain and upgrade the present housing stock and living environment so as to continue to provide safe, healthy and pleasant urban living space especially for the lower income group living in urban Kampung.
 - b. To utilize land more rationally through the implementation of land use plan and zoning regulations which are issued and managed by DKI Jakarta.
 - c. To utilize land more efficiently through the implementation of renewal and land rearrangement activities to get more higher dense and multi-use of floors and grounds.
 - d. To create the land and develop neighbourhood facilities, widen residential roads and provide utilities and opens paces for the community, considering minimum and practical standard for such urban kampung area through the above development activities. The open spaces here are very essential not only for recreation but also for fire protection.
- 4) New practical development measures should be established for the realization of the above objectives taking mitigation of burdens of both public and private developers and affordability of community into consideration in addition to the encouragement of the present development measures such as housing and loan supply of the public agencies, KIP and regular investment programmes of infrastructure and public facilities.

Fig. 2.34 Land use Plan of Kemayoran Area



5.3 DEVELOPMENT POLICY AND STRATEGIES

The following describes the proposed development policy and strategies for the urban development and renewal of the Study Area (focused on Zones 4 & 5) based on the analysis of the present constraints and potential, related plans and projects and the interpretation of future perspectives of the area.

5.3.1 Municipal Plan

The landuse plan, zoning, population density, and building regulations which have been issued and managed by the local government of DKI Jakarta and the concerned agencies shall be implemented.

1) Major changes of land use in the following areas:

- a. Dumping area in the north-west will be integrally developed with government offices, public facilities and railway improvement.
- b. The ribbon area between Jl. Gunung Sahari and eastern railway line will be encouraged for use by commercial and public facilities rather than residential.
- c. Most of the areas along the major roads will be used more intensively for commercial offices.
- d. The area between Zone 1 and Sunter Agung real estate will be used for residential, and not for industrial or agricultural activities.

Fig. 2.35 Population Density Control

2) Population Density Control

The population of the Study Area was 423,860 in 1987. The future population will increase in accordance with the following two factors:

- a. Planned population in Zone 1 is approximately 96,000 or maximum 140,000.
- b. Assumed population increase in Zone 5 is 480,600*.
 - * The increase ratio 1980 - 2005: 0.7% (annual increase ratio of population in DKI Master Plan (North Region))

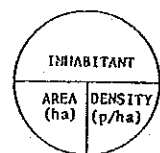
Total population of the Study Area will be 548,600 persons in the year 2005.

The population density will be high so as to cope with the increase of the above population as follows;

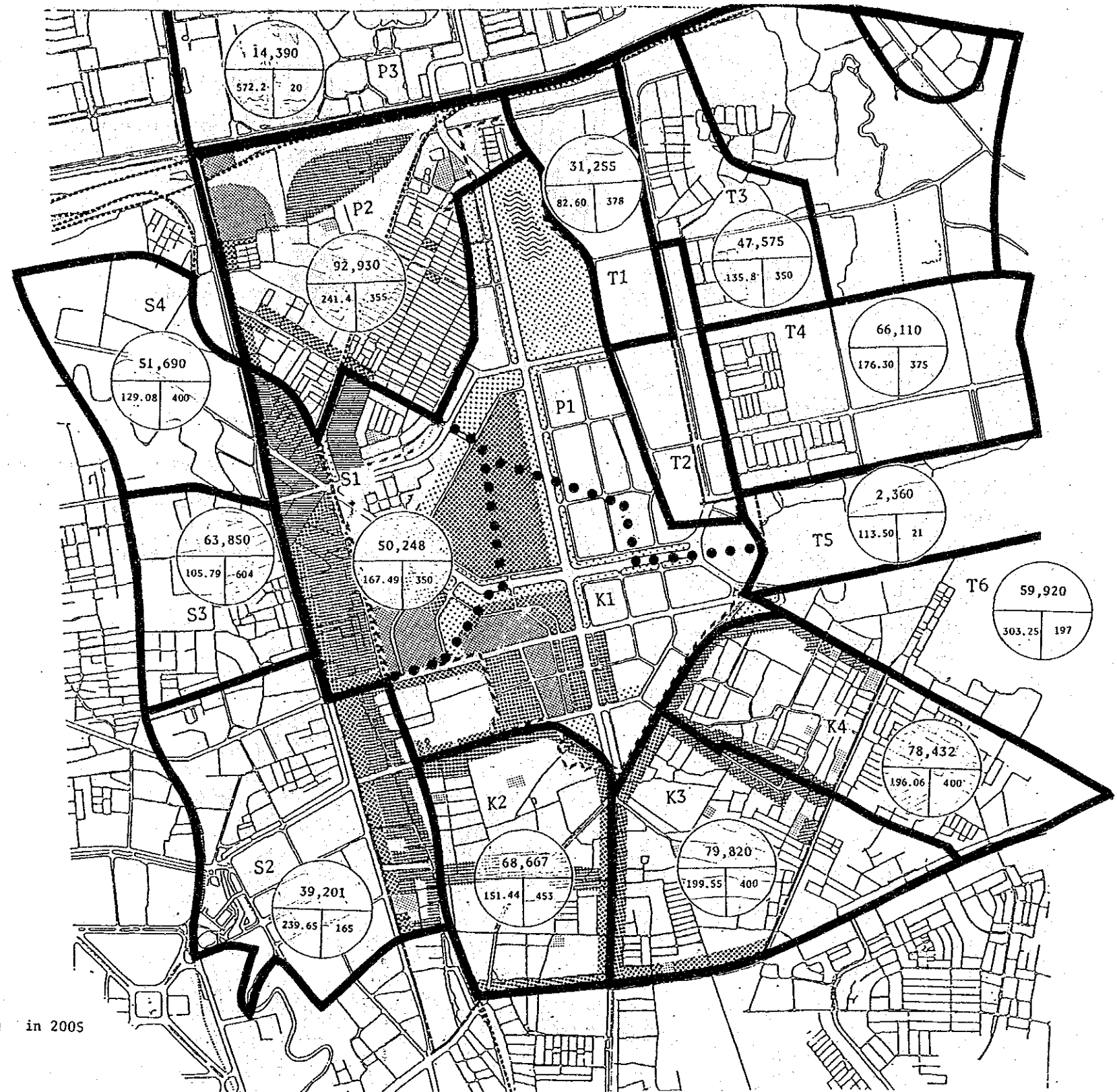
- a. Revised population density of Zone 1
 - 120-200 persons/ha. for Zone 1 (gross)
 - 550 persons/ha. for Zone 2 (net residential area)
 - 850 persons/ha. for Zone 3 (net residential area)
- b. Population density of Zone 5; 300 - 450 persons/ha. on average depending on the location and type of landuse.

Fig. 2.35 shows the population density control of the Study Area.

LEGEND:

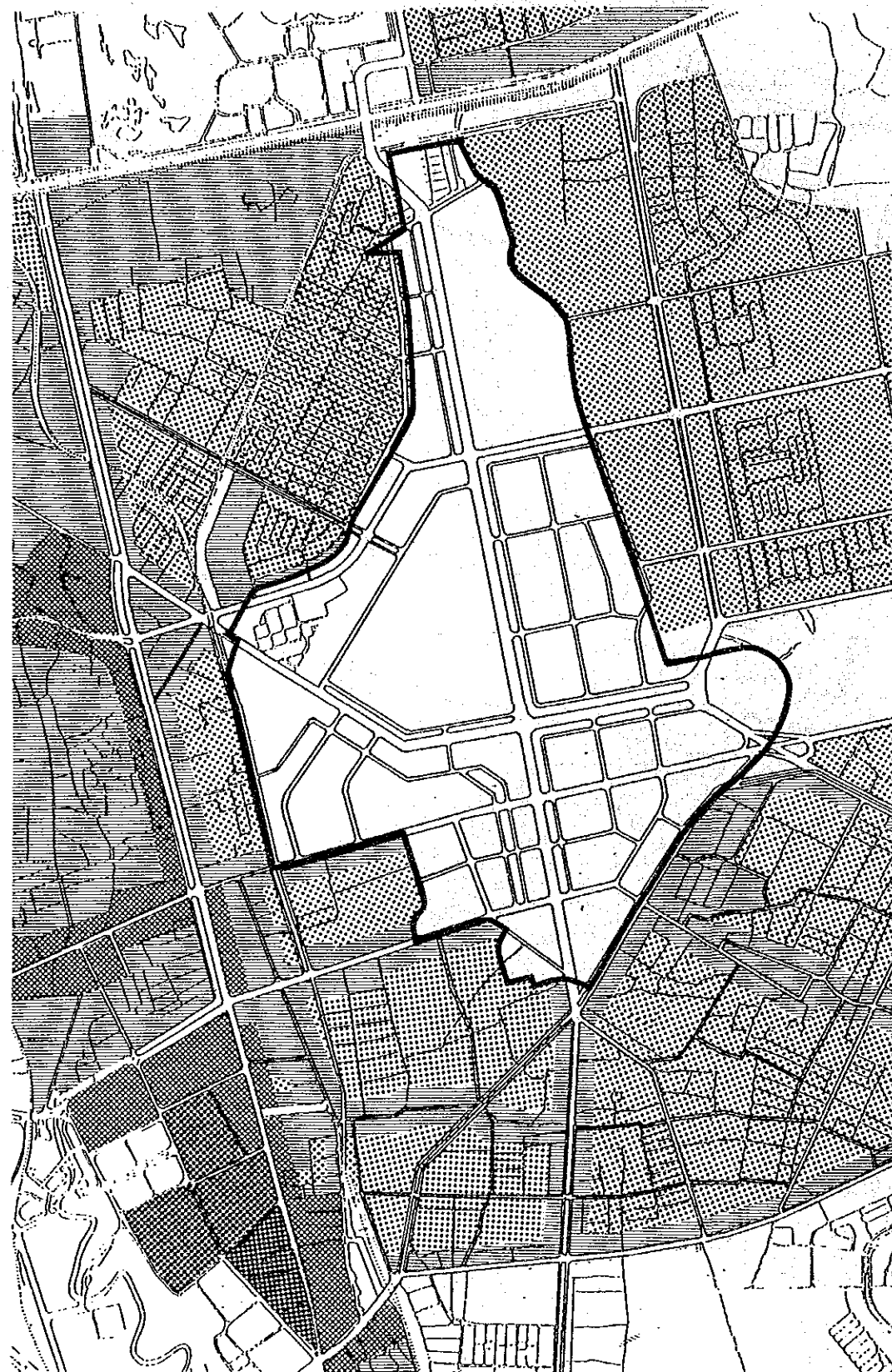


in 2005








Source : Municipal Plan




Fig. 2.36 Housing Development Plan of Kemayoran Area



LEGEND:

-  1 - 2 FLOORS , 2 FLOORS , 1 - 3 FLOORS
-  4 FLOORS (3 - 4 FLOORS)
-  8 FLOORS
-  12 FLOORS
-  BOUNDARY OF KEMAYORAN COMPLEX DEVELOPMENT AREA

RELATED REGULATION

-  1. 2 - 4 STORIES
 - 1) MINIMUM SITE 2,000 M²
 - 2) BCR = 50 % (HIGH DENSITY AREA)
 - 3) BCR < 40 % (MIDDLE DENSITY AREA)
 - 4) BCR < 20 % (LOW DENSITY AREA)
-  2. 4 - 8 STORIES
 - 1) MINIMUM SITE > 1 HA
 - 2) BCR < 20 % (ONLY IN LOW DENSITY AREA)
-  3. LESS THAN 12 STORIES
 - 1) MINIMUM > 2 HA
 - 2) BCR < 20 % (ONLY IN LOW DENSITY AREA)

Source : Municipal Plan, DKI.

3) Building Control

For the control of buildings, DKI Jakarta has issued the following municipal regulations:

- a. Building Heights
- b. BCR (Building Coverage Ratio)
- c. FAR (Floor Area Ratio)
- d. Set Back regulation

Fig. 2.36 shows the building heights control of the Study Area.

4) Building Development Measures







For the housing and building construction, DKI Jakarta undertakes the following building development measures to control and guide the development activities into a preferred direction to conform with the Master Plan (See 4.2 in this Chapter).

- a. New development
- b. Infill
- c. Density
- d. Renewal

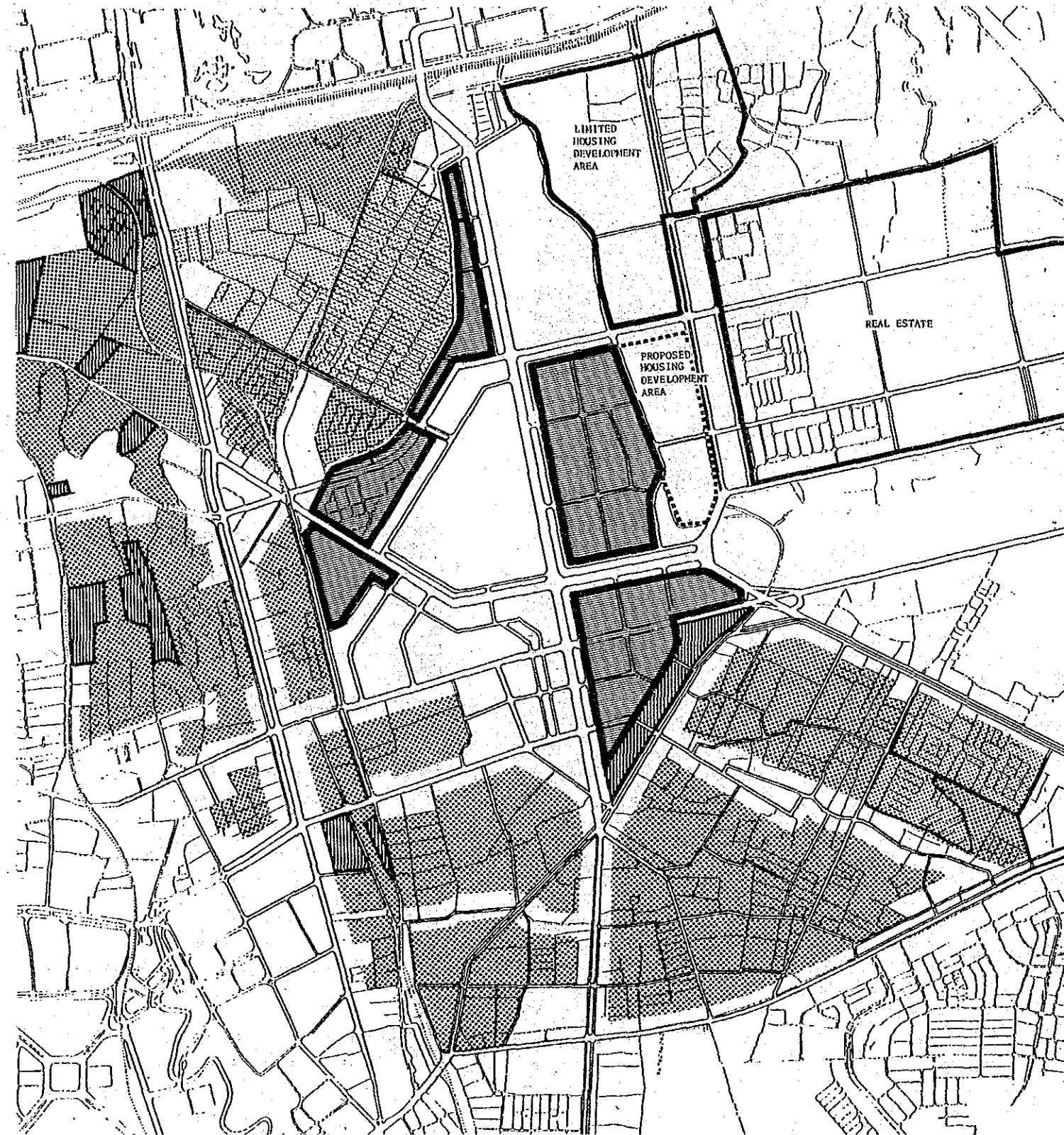
Fig. 2.37 shows the housing development plan of the Kemayoran Area.

Fig. 2.37 Housing Development Plan

LEGEND:

-  NEW DEVELOPMENT AREA
-  ENVIRONMENTAL IMPROVEMENT
-  INFILL IN LOW DENSITY AREA
-  INFILL IN HIGH DENSITY AREA
-  DENSIFY
-  RENEWAL

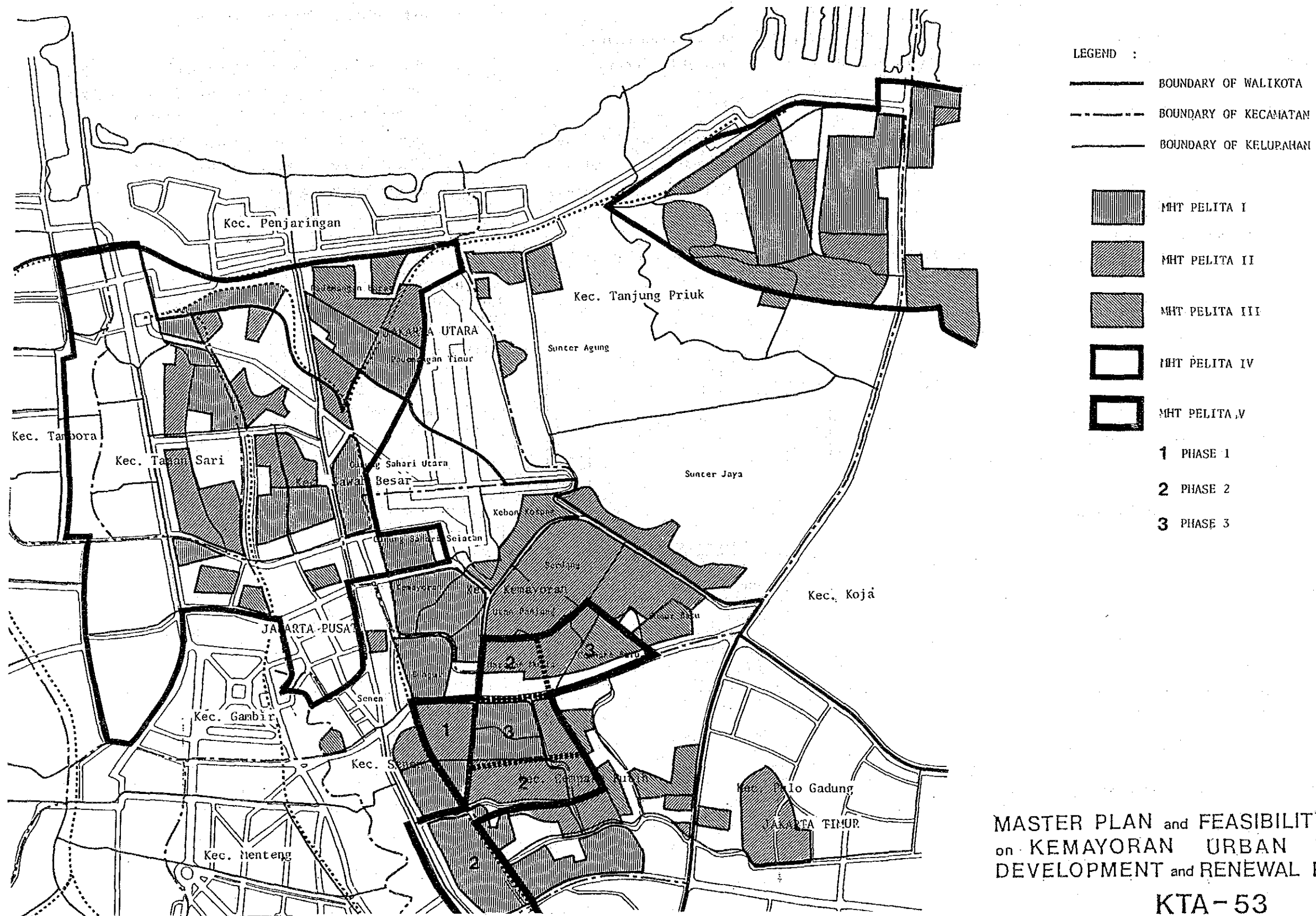
Source : Municipal Plan, DKI.
Refer to "Zone of Environmental
Quality Map"



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Fig. 2.38 KIP Programme



5.3.2 Designation of Priority Development Area/Zones

The following are the proposals for designations of priority development areas/zones in the Study Area.

1) Urban Renewal Areas/Zones Designation

The criteria for designation of the area where urban renewal will be required has three aspects:

- a. The area is seriously deteriorated in terms of housing and living environment conditions.
- b. The use of land does not conform to the land use plan and/or not fit in with the surrounding areas.
- c. The area has big potential to renew existing building structures and/or to intensify the use of land.

2) Urban Improvement Areas/Zones Designation

The criteria for designation of the area where urban improvement will be required has two aspects:

- a. Although the housing conditions are comparatively well-maintained, the standards of neighbourhood facilities and public utilities are very low and upgrading of those facilities is an authentic need.
- b. Existing KIP will be a proto-model of this type of improvement.

3) Housing Renovation Areas/Zones Designation

The criteria for designation of the area where housing renovation will be required has three aspects;

- a. The condition of building structure of houses is seriously deteriorated and/or not suitable for human settlement in terms of floor space and building utilities.

b. Access to the house or group of houses is difficult in case of fire.

c. The type of housing is not appropriate and thus it is recommendable to change the type of housing, for example from individual owned house to rental house, from deteriorated rental house to welfare house for the aged/elderly, etc.

Fig. 2.39 Analysis of Development Potentials and Constraints of Zone 5

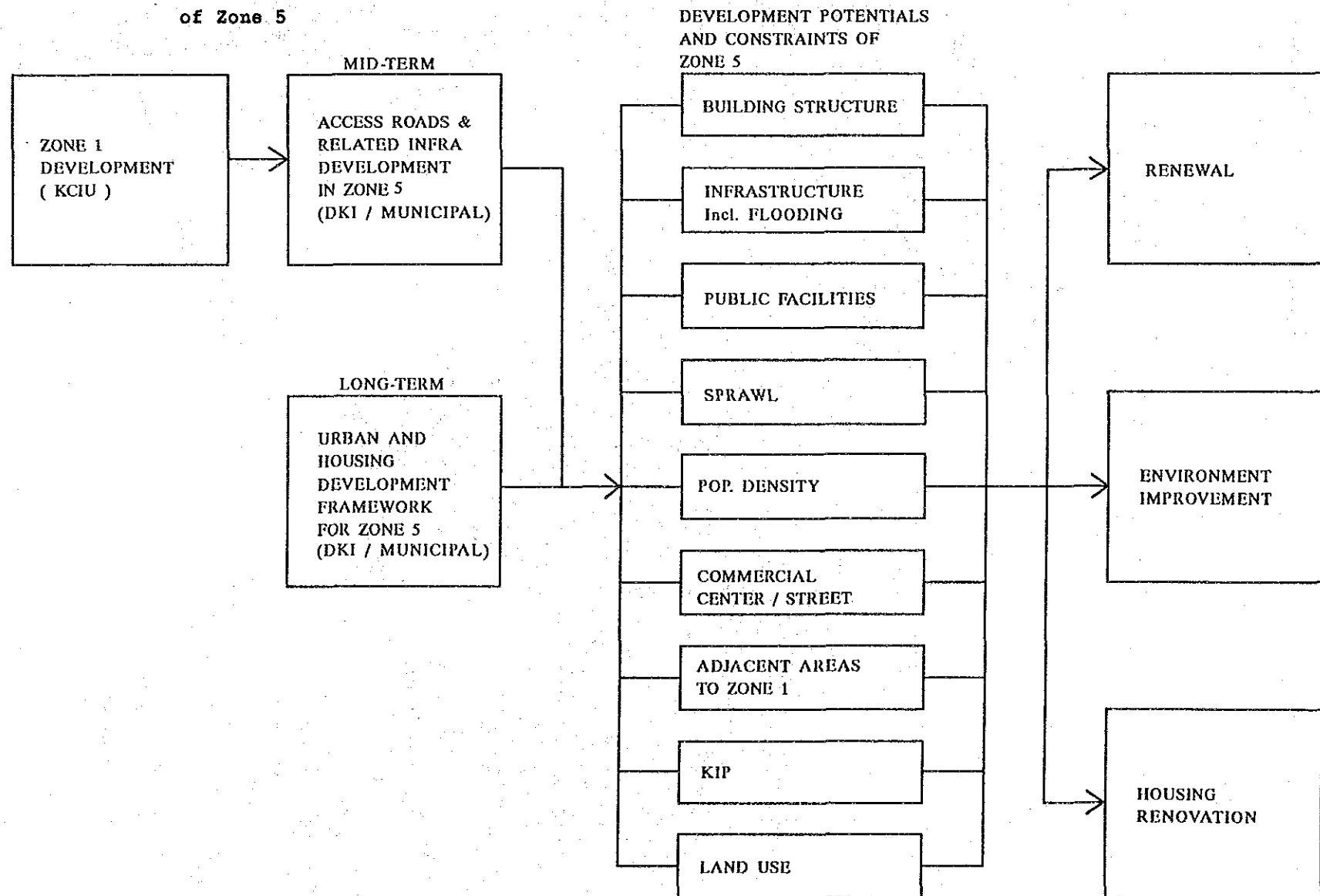
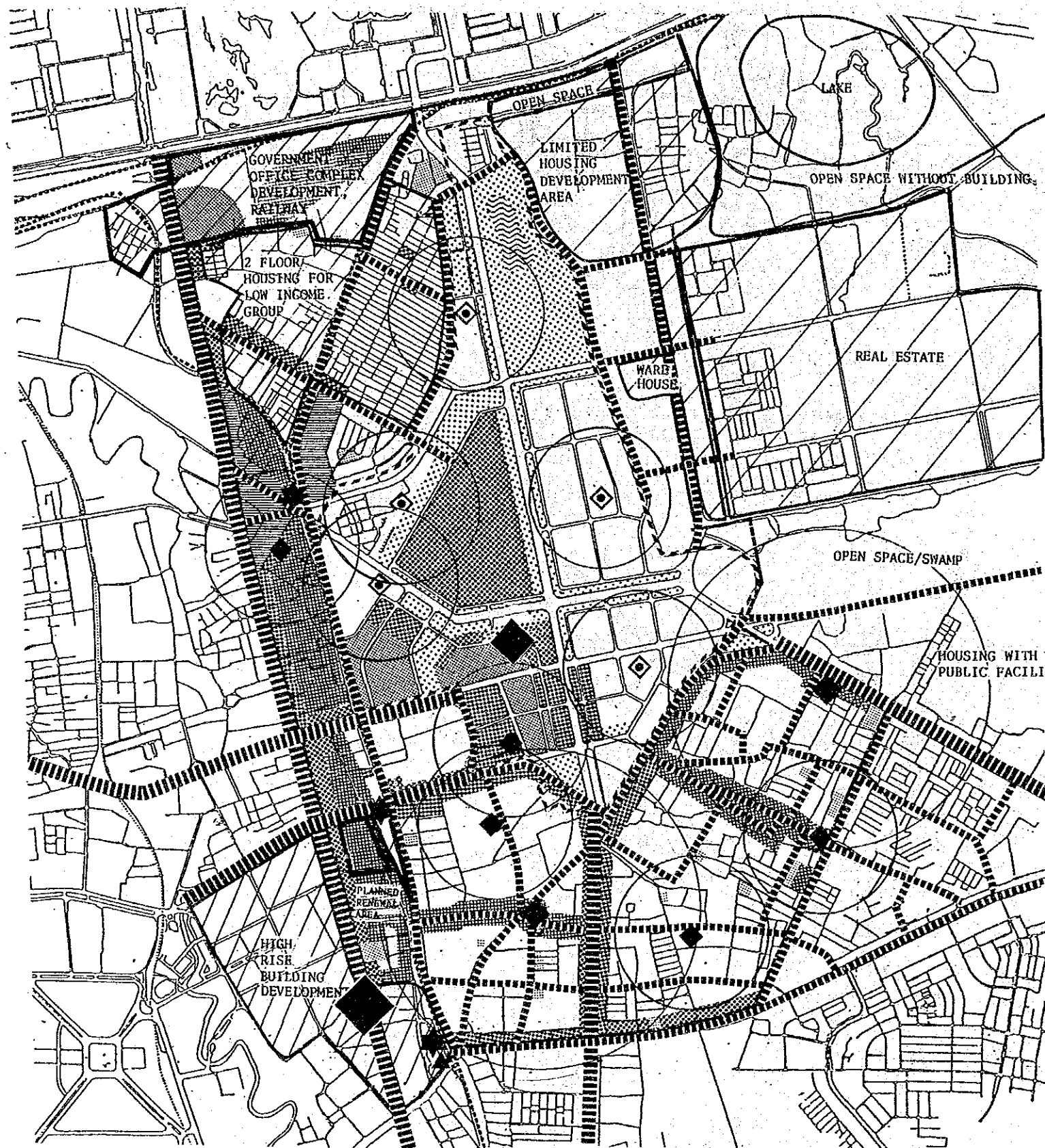


Fig. 2.40 Analysis of Potential Areas for Renewal













- LEGEND :
- Housing
 - Services/Commercial/Offices
 - Government Offices
 - Public Facility
 - Industry
 - Public Building
 - Green Belt
 - Pond
 - Railroad
 - Zone 5 : Vicinity of Kemayoran Ex-Airport Area
 - Zone 1 : Kemayoran Ex-Airport Area
- COMMERCIAL/SERVICE
- Primary Center
 - Secondary Centre
 - Tertiary Centre
 - Planned Neighbourhood Centre in KC Project
 - Railway Station
 - Bus Terminal/Pool
 - Planned Widening Road
 - Commercial Street

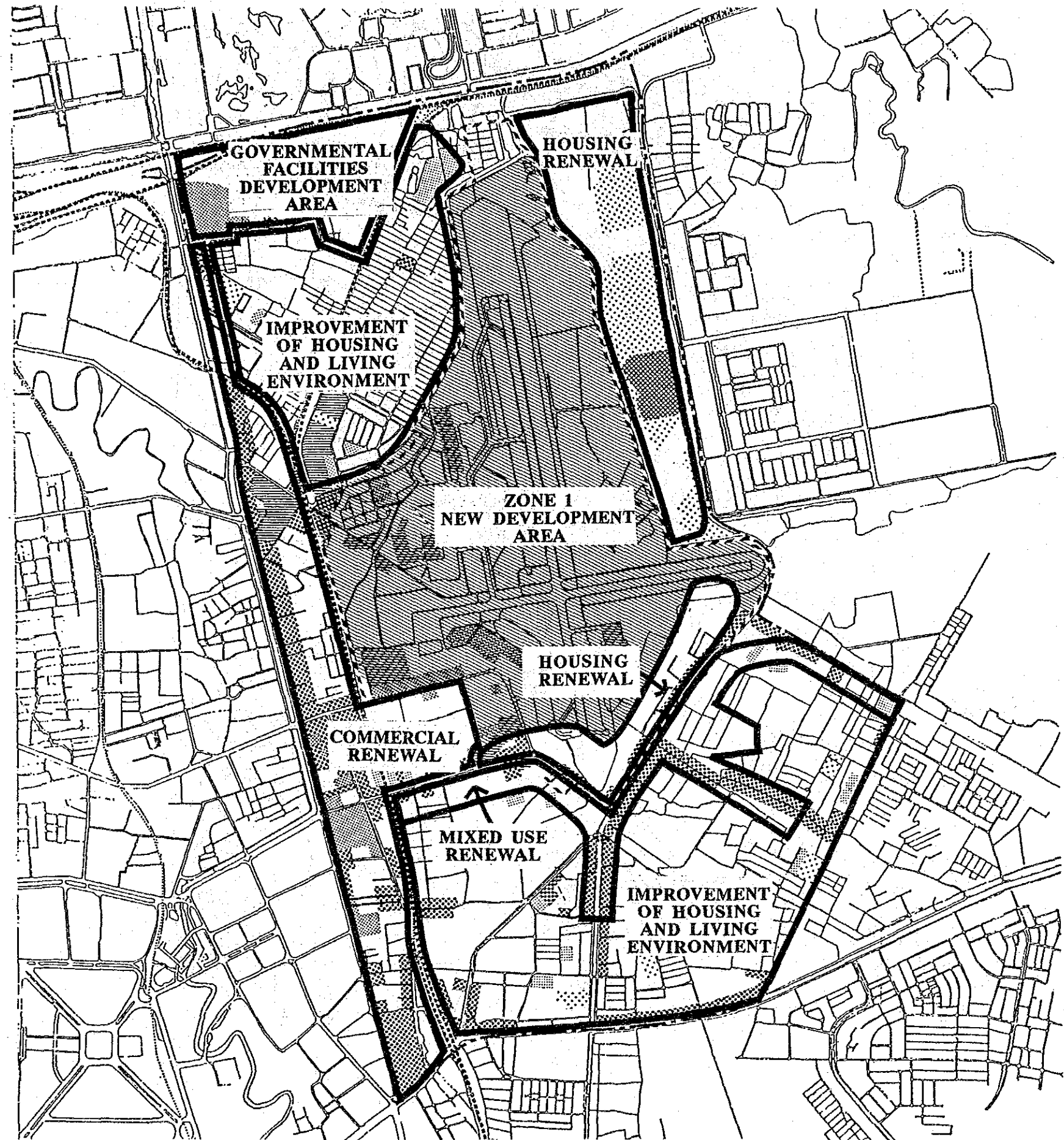
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Fig. 2.41 Proposed Development Zones of Study Area

LEGEND:

-  Housing
-  Services/Comercial/Offices
-  Government Offices
-  Public Facility
-  Warehouses
-  Industry
-  Green Belt
-  Railroad
-  Zone 5 : Vicinity of Kemayoran Ex-Airport Area
-  Zone 1 : Kemayoran Ex-Airport Area



↑ SCALE : 0 0.5 1 1.5 KM

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5.3.3 Development Goal and Methods of Urban Housing Renewal

Table 2.27 shows the summary of development goals, objectives and policies/strategies for the urban housing development and renewal.

Table 2.27 Development Measures

NAME	GOAL	OBJECTIVES	POLICIES/STRATEGIES
Improvement of Housing and Its Environment	More higher level of living standard	<ul style="list-style-type: none"> - Utilities - Public facilities - Openspace - Reallocation and housing plot 	<ul style="list-style-type: none"> - Encouragement of KIP (MHT III) - Increase of Community Funds
Housing Renovation	Maintain and develop appropriate urban housing	<ul style="list-style-type: none"> - Decrease inferior houses - Promotion of fireproof building - Upgrading housing standard - Rent/house system home ownership - New housing model 	<ul style="list-style-type: none"> - Pilot model project on housing by public sector - Cooperate in building with public assistant - Individual house guidance to renovate housing - Promotion of rental house
Urban Renewal	Urban Restructuring <ul style="list-style-type: none"> - High dense high efficient use of urban land - Transportation network system - Fireproof - Public and neighbourhood facilities - Urban utilities 	<ul style="list-style-type: none"> - Use zoning, landuse control - Road network - Refuge space structure - Openspace - Neighbourhood facilities - Renewal of commercial area - Industrial park - Tourism, recreation area 	<ul style="list-style-type: none"> - Municipal plan, district plan - Area development project (KCIU) by public sector - Green master plan - Community facilities development programme - Integrated Urban Infrastructure Development Programme - Commental subsidy and guidance to the renewal by private sector
Supporting Measures			
		<ul style="list-style-type: none"> - Legislation - Institution - Financial - Enlightenment 	

5.4 INTEGRATED DEVELOPMENT AND RENEWAL

5.4.1 General Integration

It is roughly assumed that more than a few billion US Dollars will be invested to Zone 1 development by both public and private sectors within 10 years or more. Such huge scale development will surely have a great impact on Jakarta city as well as directly on the surrounding areas of Zone 1 namely Zone 5.

There are two major plans/programmes for the urban development of Kemayoran area/the Study Area. One is the urban development Master Plan of DKI Jakarta towards the year 2005 prepared in 1987, and the other is Zone 1 KC Master Plan towards the year 2000.

Coordination between two major plans/programmes has been generally done but it is mostly from requirement of Zone 1 development on road connection. Since DKI Master Plan is not elaborated in detail as the action plan of Kemayoran area urban development, integrated urban renewal of Kemayoran area has not been well formulated.

It should be considered that the central government is to be also responsible for urban renewal of Zone 5 in coordination with DKI Jakarta local government since such large area is located in the middle of the metropolitan capital city of the Republic of Indonesia. Zone 1 and its surrounding areas are to be one package of integrated development and renewal.

5.4.2 Institutional Integration

While DKI Jakarta and its municipalities are responsible for Zone 5 development/renewal, KCMB/KCIU of the central government are responsible

for Zone 1 development. For the purpose of the integration of two organizations, it is suggested that an authority should be established to control Zone 5 renewal. To control Zone 5 renewal it is necessary to formulate impact of Zone 1 development on Zone 5 and to prevent private sectors' spontaneous disorderly urban renewal in Zone 5 which seems to be already going on.

The Ministry of Public Works is probably the appropriate agency to initiate the establishment of the authority. Another possibility is to have the Secretariat of KCMB act as a coordination organization to establish the authority.

5.4.3 Socio-economic Development

Since Zone 1 development and stimulated Zone 5 urban renewal create many business and job opportunities, socio-economic development of the local community will be much enhanced. A certain incentive should be given to the local community in order to lift up not only spatial but also economic standard of Kemayoran area as a whole. In general, socio-economic standard of Zone 5 is rather lower than other areas in the central Jakarta city.

The general image of Kemayoran area at present is not as high as the commercial and business area along Jl. Thamrin and Jl. Sudirman or Kebayoran residential area.

Even though Zone 1 development is aimed to be of similar high standard to those areas, if the surrounding areas remain as they are, the image of Zone 1 will not be so good. The key is how far the socio-economic standard will be improved at Zone 5.

The inhabitants in Zone 5 are now paying strong attention to Zone 1 development and expecting some benefit derived from the development. They should be well guided and properly involved in this integrated development and renewal of packaged Zone 1 and Zone 5.

5.4.4 Housing Renewal

Among all the aspects of integration between Zone 1 development and Zone 5 urban renewal, housing renewal is the most important aspect to be considered in this KTA-53 study. Attached to the general idea of the authority's organization, a sectorial organization for housing development and renewal should be established. This sectorial organization should include DJCK, DKI Jakarta's concerned divisions to housing, housing developers such as Perumnas, Sarana Jaya, private sectors' real estate association, Bappem KIP, BTN, Bank Pembangunan Daerah, Community's organizations, and KCIU. DJCK will act as a role initiator and especially Perumnas, Sarana Jaya and Bappem KIP will actively play important roles. Particularly, Perumnas should consider simultaneous or integrated housing development and renewal in Zone 3 and Zone 5.

5.4.5 Community Participation

One of the key points of urban housing renewal is how to involve inhabitants who are living in the renewal project sites. Public sector should enlighten inhabitants through organized communities of inhabitants on the necessity and consequence of urban renewal. Inhabitants should be encouraged until they recognize their capability to participate in urban renewal and be able to express their proper opinions and desires.

5.4.6 Conceptual Organization and Spatial Integration

The chart of Fig. 2.42 shows a concept of integrated organization for urban housing renewal. An authority or a body for project execution will be established for a project under the guidance of DKI Jakarta and coordinate with KCIU. KCIU Fund is one of the important financial aids particularly for low income group housing.

The chart of Fig. 2.43 shows a concept of spatial integration. Both Zone 1 development and Zone 5 renewal will be executed systematically. Zone 5 renewal projects will be executed in accordance with coordinated priority areas and in the manner of strategic gradual renewal on small size projects.

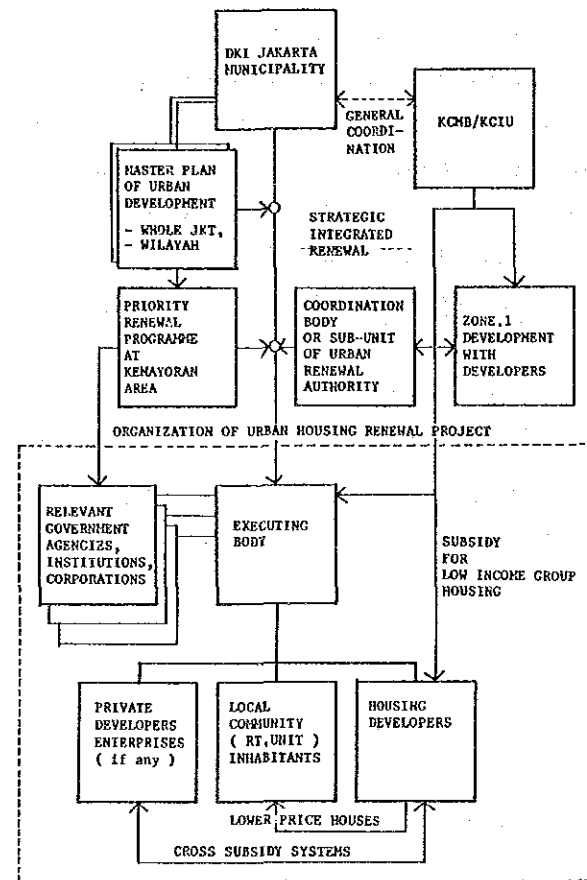


Fig. 2.42 Concept of Integrated Organization

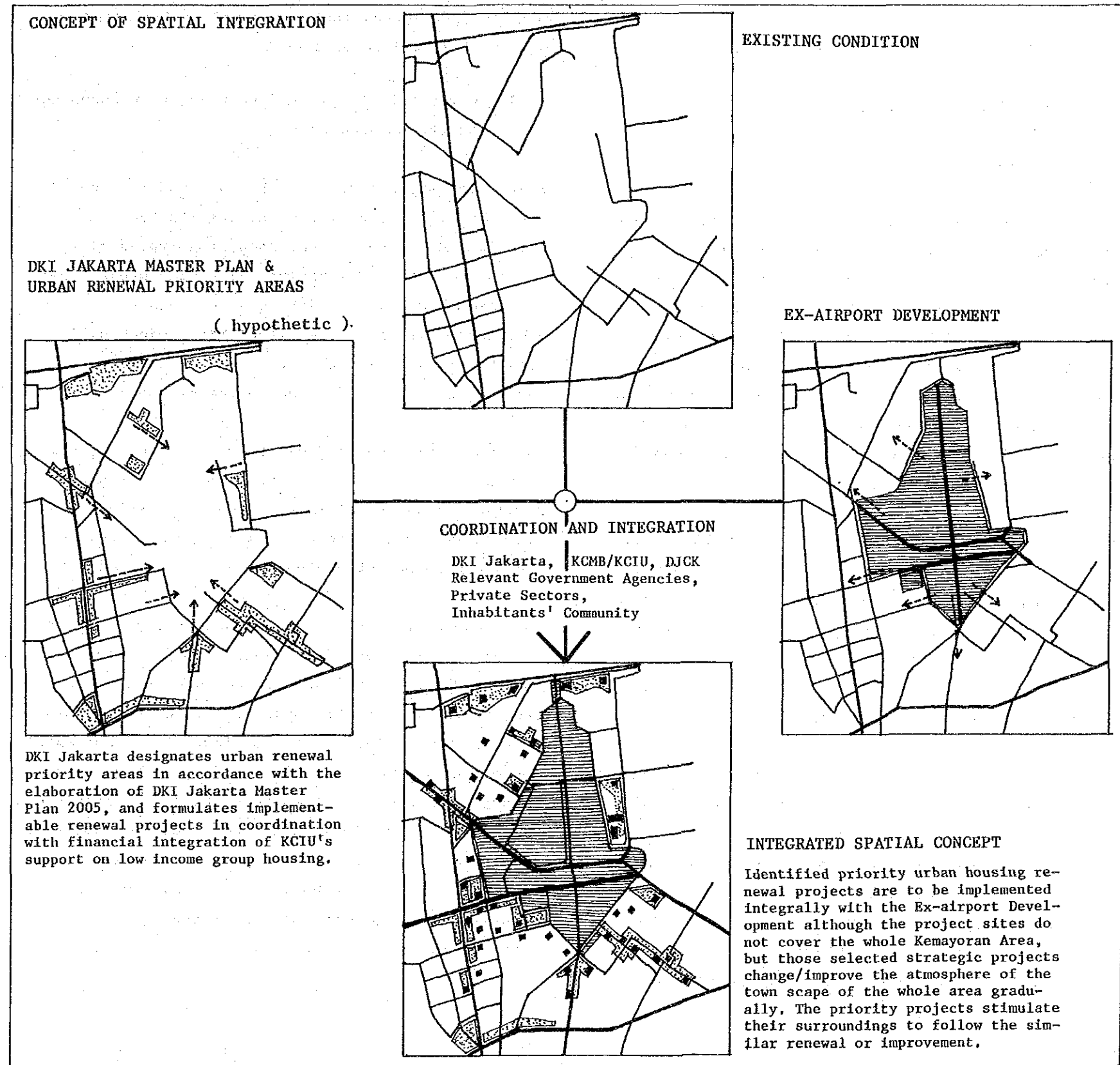


Fig. 2.43 Concept of Spatial Integration

6. METHOD OF URBAN HOUSING RENEWAL

6.1 GENERAL OPPORTUNITIES AND CONSTRAINTS

6.1.1 Opportunities and Constraints

1) Accessibility

The Kemayoran area including the Study Area provides easy accessibility to central business and commercial districts such as Kota and Monas. The housing development in the Kemayoran ex-airport complex relates with these areas. The conditions in Zone 1 are very suitable for the development of both housing and commercial/business projects. Therefore potential buyers of housing in Zone 1 purchase houses at high prices keeping in mind the favourable accessibility the area offers.

On the other hand, the immediate surrounding areas of Zone 1 are also conveniently located to enjoy easy access to the new development area. Thus, such areas have a good opportunity to upgrade their living environment as well.

2) Sufficient Infrastructure

The inhabitants of Zone 5 have a chance of obtaining various public services through the inclusion of infrastructure and public facilities into the ex-airport development. Such a favourable situation would encourage the development of many types of projects within the area. On the other hand, the inhabitants would obtain optimum amenity if the living environment surrounding their houses is

upgraded by providing sufficient public facilities such as open space, foot paths and utilities as an impact of Zone 1 development.

3) Current Development Situation of Surroundings of the Ex-airport

There are many projects in the surrounding area. Senen Triangle renewal project has started and is certainly expected to successfully serve as a secondary center. The railway elevation project has also been commenced to set up an efficient commutation means in the city. This project will effectively vitalize the surrounding area by securing the traffic stream on the ground.

The impact from those projects will be felt by the surrounding areas with the ex-airport development. Development potential in the areas is considerably high and it is therefore necessary to incorporate the surrounding activities.

Such changes can be a disadvantage to the inhabitants because of increase of burdens such as increased land value that surface when a renewal project is started. The majority of the surrounding areas are characterized as residential. Inhabitants are ordinary peoples in light of social and economic aspects but can not afford both the new housing and the commercial business buildings. When implementing the development project in the area, the executing body and municipal authority must consider ways to lighten the burdens of the inhabitants by introducing various opportunity.

4) Land Price and Construction Cost

The low land price which is one of the conditions to promote a project. The compensation to the right holder is so low that they can not afford to resettle to new development houses, because the construction cost is higher than the land price.

Consequently, this situation produces a negative attitude on the part of the inhabitants to participate in the project and forces them to dislocate to other places.

5) Land Tenure

The status of land tenure in the Study Area is as profoundly complex. The majority of land is registered as "Tanah Garapan". Naturally, compensation to the Tanah Garapan is low. The low compensation does not encourage the people to involve in the project. The Tanah Garapan means the existence of land owner, besides the illegal occupation of the land by the residents. It takes much time to consolidate the land tenure because of the absentee, and the procedures are complicated

The cadastral system is not yet sufficient to cope with the various difficulties on urban management such as confirmation of assets, taxation, and city planning.

6.2 EXISTING SITUATION AND EXPERIENCE IN INDONESIA

6.2.1 Characteristics of Urban Renewal

Based on the development programme of Cipta Karya (1984 - 1988), the urban renewal programme will be taken up in the major cities. The aim of the urban renewal programme is to rehouse the residents of the depressed areas with providing them with basic facilities and social amenities.

Most cities in Indonesia are predominantly characterized by the existence of overwhelming "kampungs" which were often rural villages that have been engulfed by rapid urbanization and incorporated within the city. Based on the Study Team survey in various cities in Indonesia, it was learned that most urban renewal projects emerge from the need of:

- housing supply and slum clearance: Kebon Kacang, Tembora in Jakarta
- housing supply caused by fire disaster in slum area: Penjaringan Jakarta, Sukaramai Medan and Palembang.
- slum clearance/rental housing pilot project: Dupak Bangunsari in Surabaya Penjaringan, Sukaramai Medan, Palembang.

The Senen Triangle urban renewal deals with slum clearance to increase the land utilization as a secondary trade and commercial centre.

6.2.2 Institution

There is no permanent executing body for the implementation of urban renewal. Agencies involved are usually: Cipta Karya, Perumnas and the local government municipality. But the projects implementation by those bodies are purely housing projects or experimentary pilot projects.

Another body recently involved in urban renewal is Sarana Jaya, a regional business enterprise (BUMD) under the local government in DKI Jakarta.

This body is participated in the development of Senen Triangle. Appointed as executing body for this development and obtaining "management rights" (hak pengelolaan), this body has the advantage of being able to negotiate directly with a third party such as developer and investor.

6.2.3 Legislation

As there are no urban renewal laws in Indonesia, implementation of urban renewal is based on effective decrees issued by the governor or ministry concerned to each project.

6.2.4 Renewal System

The provision of land is usually obtained through land acquisition methods, using the procedure issued by the Minister of Home Affairs. This method has some advantages as follows:

- Easily understandable method for inhabitant. In the implemented cases, most inhabitants who live in the area to be renewed have low level of education.
- Appropriate method for solution of entangled rights. The government can obtain unclear land rights through compensation, and give land titles to the inhabitants.

But besides that, there are also disadvantages such as:

- Limited financial resources.
- Difficulty of agreement between inhabitants, on compensation.
- Acquisition procedures may consume much time and may delay the implementation.

A new system was introduced in Bandung as a pilot project by the Dilgen Agraria named Urban Land Consolidation (ULC), partially excerpted from the Japanese land readjustment laws.

ULC is an integrated activity to rearrange areas from the irregular situation and provide infrastructure and other facilities to achieve the optimum land use by the land owners. After the completion of this pilot project, the land value proved to increase. The government also received benefit of the "cost equivalent land" that could later on be sold at market price.

COMPARISON TABLE OF EXAMPLES IN INDONESIA

No.	Name of Project	Renewal System	Purpose of Project	Project Characteristic	Executing Organ	Finance/ Subsidy	Regulation/Decreases Issued	Duration
1	TANAH KACANG Walk-up flats Jl. Kebon Kacang 9 Kel. Kebon Kacang Jakarta Pusat	Land acquisition	Housing supply	Urban housing in CBD Type No. of Unit F-36 960	Perum Perumnas	Total Investment : Rp. 4,511,684,708.43 - by Perumnas : Rp. 2,114,760,607.57 - Construction Credit : Rp. 2,397,924,100.86 (13.5 % int. annually)	* Min. of Public Works * Board of Directors of Perum Perumnas	(1980 - 1981)
2	KEBON KACANG Urban Renewal Project Jl. Kebon Kacang II Kel. Kebon Kacang Jakarta Pusat	Land acquisition and compensation	Slum clearance and housing supply (600 units).	Urban Renewal in CBD Type No. of Unit F-21 240 F-42 230 F-51 66	Perum Perumnas	Rp. 4,317,658,349.92 - Subsidy is given to ex-residents by reduction of house price (50 % in Kebon Kacang) - Priority for those who choose other Perumnas housing - Compensation to those who prefer to move	* Min. of Public Works on : - estab'lishment of technical/coordination team for flat development - Urban renewal in Kebon-Kacang * Board of Directors of Perum Perumnas : - estab'lishment of Urban Renewal Project - estab'lishment of Urban Renewal Team * Min. of Home Affairs : - Land acquisition Procedure	(1982 - 1983)
3	PENJARINGAN Jl. Jembatan Tiga Kel. Penjarigan Jakarta Utara	Land acquisition and compensation (for transfer removal)	Resettlement for ex-residents and housing supply (Pilot Project for Rental Housing)	Urban Renewal in Slum area Type No. of Unit T-18 540 T-36 146 T-54 16	Ditjen Cipta Karya Biro Pembangunan Daerah DKI	For Cipta Karya flats : DIPP 1984/85 - 1987/88 (Rp. 4,759,829,013.-) Subsidy is given to ex-residents in the form of reduction in renewal fee	* Government of DKI on : - Land acquisition - Taxation on compensation * Min. of Public Works : - Formation of Pilot Project Organization * Ministry of Home Affairs : - Land acquisition	(1985 - 1986)
4	TAMBORA	Land acquisition (ex-open space)	Housing supply	Urban Housing in crowded area	Bepeem MHI - DKI PD, Sarana Jaya for building management	Finance by DKI	- Decreases issued by the Governor of DKI Jakarta	(1986 - 1987)
5	SENIEN TRIANGLE URBAN RENEWAL Jl. Senen Raya Kel. Senen Jakarta Pusat	Land acquisition and compensation	Slum clearance Increase of land Primary center	Urban renewal in future primary center	PD, Pembangunan Sarana Jaya c/q Senen Triangle Unit	+ Rp. 120,000,000,000.- 1. Min. of Finance for land acquisition 2. Bank consortium for development by PD, Sarana Jaya 3. Developers/ Investors Previous resident receive - Compensation for land acquisition - Subsidy 40 % for land lots in Sunter - Priority to by shop owner	The Gov. of DKI for : - Appointment of PD, Pembangunan Sarana Jaya as executor of project Ministry of Home Affairs : Land acquisition procedure	(1988 - 1996)
6	DUPAK BANGUN SARI Rental Housing SURABAYA Dupak bangun sari Surabaya	Compensation	Slum clearance	Urban Renewal (Pilot Project) Type No. of Unit F-18 1-- 50 F-21 1-- 50	Rental Housing Pilot Project in East Java under PIR Project East Java	- Central government DIP 1987/1988 - Local government (APBD II) Previous house owners receive unit on ground level plus units on 2 nd or 3 rd floor according to number of units previously owned Compensation for temporary house rent (+ 6 month)	Issued by Local Government of Surabaya Municipality for - Land clearance - Compensation	(1988 - 1989)
7	URBAN LAND CONSOLIDATION Babakan Surabaya Kisaracordong Bandung	Land readjustment and compensation	To increase land value & formulate land rights	Urban Renewal (Pilot Project)	Local Government of Bandung Municipality c/q ULC Directorate General of Agraria Min. of Home Affairs	Through " Cost Equivalent Land " of Rp. 150 Million - Land owners must contribute + 26.9 % of their Land for infra-structure, facilities, and development cost - Compensation to residents who pay IPEDA in form of Land parcel with Hak Guna	- No. regulations issued - Based upon Japanese Land readjustment act. Bangunan - Land owners receive new Land titles with Hak Guna Tanah	(1985 - 1986)

6.3 NECESSITY OF METHOD DEVELOPMENT

The only renewal system being implemented in Indonesia is by the land acquisition method although projects vary in characteristics of area and project aims. The reasons that application of land acquisition method applied are as follows:

- (1) The consolidation of complex land tenure is easier.
- (2) The pecuniary compensation satisfies both the right holder and absentee, if the amount is reasonable enough.

The authorities consider that the land acquisition method speeds up the implementation and is cost-saving rather than newly developing a renewal system which can apply to various types of projects.

It is difficult to resettle the inhabitants in the new housing owing to low compensation paid out by the land acquisition method, even if the inhabitants desire to resettle there.

A agencies responsible for the urban renewal must newly design and develop an eligible renewal systems. The system to be developed shall incorporate measures for residents who have used to displace residents. It shall be applicable to various areas.

The applicable renewal system should be based on the following principles:

- (1) unstable and complex status of land tenure is consolidated and is replaced with clear and legal status;
- (2) either additional salable floor or houses is provided to support the low affordable residents to recover the project cost and executed cross subsidy.
- (3) the renewal project system linked with the certain subsidy by the authority; and finally,
- (4) the community participation in the renewal project is essential.

CHAPTER III

**INTEGRATED DEVELOPMENT PLAN
OF ZONE 2**

1. OUTLINE OF ZONE 2 DEVELOPMENT PLAN

1.1 GENERAL DESCRIPTIONS

1.1.1 Zone 1 Development

Zone 1 is the ex-Kemayoran airport site covering approximately 450 ha. of mostly vacant area with a few buildings or facilities belonging to the airport, and nearly 70 ha. in built up housing area. The Kemayoran Complex Master Plan (KC Master Plan) was prepared in 1987 by the DJCK for the development of the area. The KC Master Plan proposed the following development components in Zone 1. Fig. 3.1 shows the land use plan proposed by the Study Team which differs somewhat from that proposed in the KC Master Plan although the development components are not altered.

1) Jakarta Fair Area

An area of approximately 60.3 ha. is designated for the Jakarta Fair which will be relocated from its present site of Monas Park. The area has been handed over to DKI by KCMB and the development is scheduled to be completed by the end of 1991.

2) Commercial and Governmental Office Area

An area of approximately 51.5 ha. at the south-west corner of Zone 1 is designated for the Commercial and Governmental Office area and the developments are scheduled to be completed by the end of 1992.

3) Recreational Open Space Area

a. Urban Forest

At the north-east corner of Zone 1,

approximately 48.5 ha. of presently swamp area is designated for Urban Forest development to serve as a recreation park for Jakarta. The urban forest features an 18 ha. pond for control of stormwater drainage for the surrounding areas.

b. Sports Park

At the Eastern tip of Zone 1, a sports park will be set up on 12.3 ha. This park shall serve as a recreational outlet for Jakarta residents and may also be utilized as an extension of Senayan Sports Complex.

4) Road and Road Side Green Area

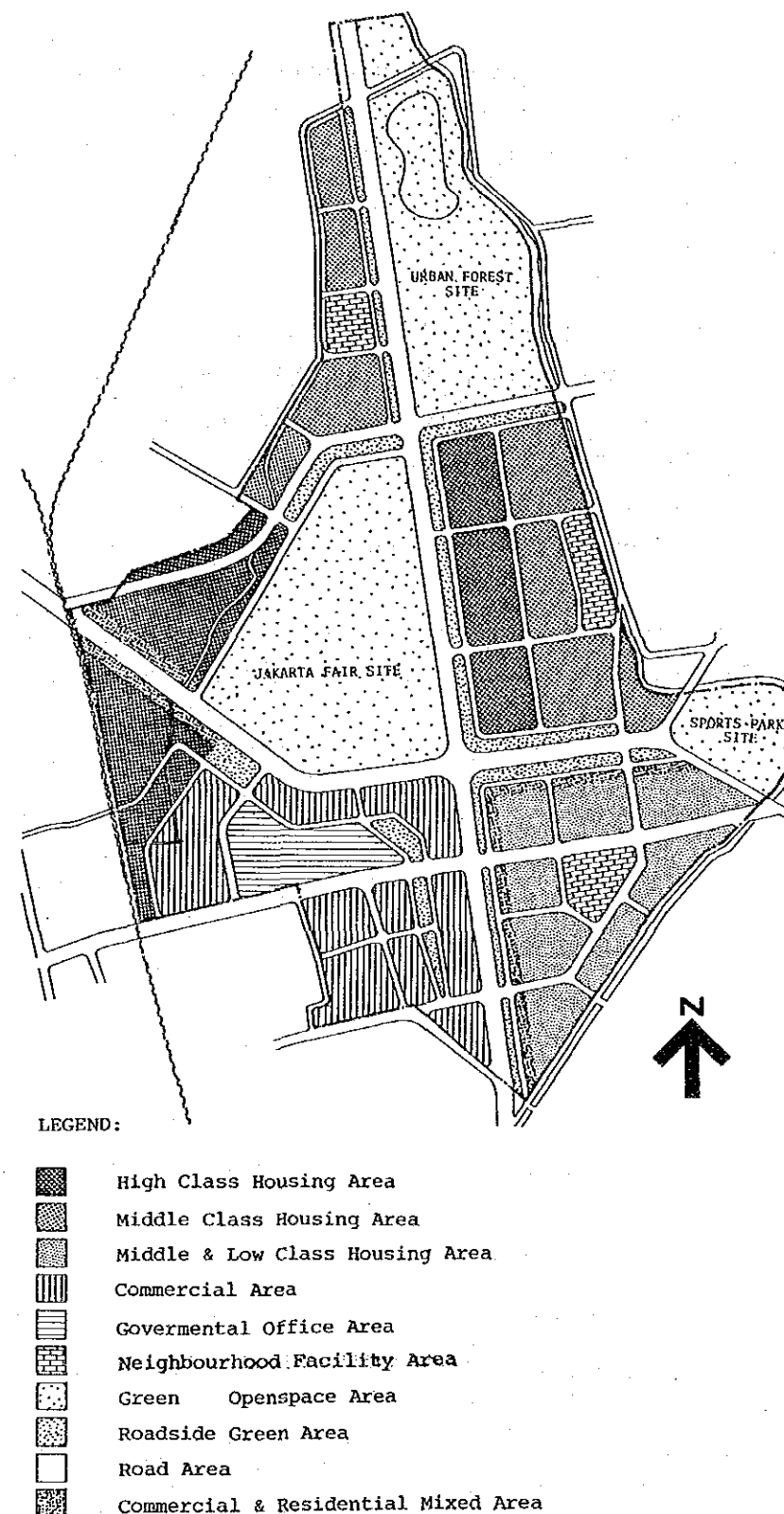
The area in Zone 1 designated for road space and roadside green area along the North-South and East-West Access roads is approximately 117 ha. in total. Of this total area the roadside green area including small green area in the commercial area is approximately 26.3 ha.

5) Residential Area

Residential areas in Zone 1 occupy around 135.7 ha. in total and their locations are broadly divided into four (4) areas. The residential areas are programmed to accommodate three types of housing for high, middle and low income groups. Within the areas around 11 ha. is set aside for neighbourhood facility areas divided among three (3) locations.

The residential areas as a whole in Zone 1 are designated as Zone 2 in this study. Then this chapter describes the study of Zone 2 as the integrated development plan.

Fig. 3.1 Proposed Layout Zone 2



1.1.2 General Framework of the Study of Zone 2 Development

The study of Housing and Neighbourhood Facility Development of Zone 2 is carried out under the following conditions;

1) Objectives

There are two major objectives of the study. One is to formulate policy, strategy and guidelines of the development taking into consideration the whole development of Zone 1, housing development in general as outlined in Chapter II, and executing body of each parcel of Zone 2, etc.

The other objective is to formulate systems for the development of Zone 2 to be related to urban renewal

projects in Zone 4 and Zone 5. This relationship is especially focused on "income from land selling" and "subsidies for urban renewal projects" or "mobilizing vacant lots in Zone 2" and "seed capital for the resettlement as well as cross subsidy".

The study proceeds firstly to formulate the development along with the first objective, and the consideration of the second objective is examined together with the concept of Zone 5 renewal (shown in Chapter II) and the renewal methodologies studied in the planning of Case Study and Priority Sites (shown in Chapter V).

2) Classification

In accordance with the KC Master Plan, land use of Zone 2 is subdivided into three categories. They are

- (1) High and Middle class housing development to be carried out by private developers, and included in the western part of the ex-airport,
- (2) Low class or interpreted as low income group housing development area namely Zone 3 which consists of the area to be developed by Perumnas and built-up area (Zone 4) and
- (3) Neighbourhood facility sites.

The study is integrally done but planning is rather separately described since each category differs according to its development characteristics.

1.1.3 Sub Zones in Zone 2

Zone 2 means all the designated residential area being divided into four (4) sub residential areas in Zone 1 as shown in Fig. 3.2, which also shows a proposed area of Sub residential area H5.

In order to clarify the identification of the residential area of Zone 2 new naming system is adopted as explained in Fig. 3.2 which also identifies basic division of Zone 1, Zone 2, Zone 3 and Zone 4.

1) Sub Zone (1)

Sub Zone (1) includes residential area in Zone 2 with the exception of that in Zone 3. Sub Zone (1) residential areas are planned for sale to private developers for high and middle class housing development. Sub Zone (1) is divided into three (3) Sub residential areas by location and character as follows:

a. Sub Residential Area H1

This area of around 45.0 ha. is the largest sub residential area in Sub Zone (1) with a neighbourhood facility area of 4.50 ha., for high and middle class housing.

This area is to be sold and developed in the initial stage due to its close proximity to

Table 3.1 Area List by Landuse of Zone 1

	ZONE 2							ZONE 1 EXCEPT ZONE 2				G TOTAL	%
	SUB ZONE (1)			ZONE 3		TOTAL	C/G	JF	RP	TOTAL			
	H1	H2	H3	SUB TOTAL	SUB ZONE (2)						SUB ZONE (3)		
1. High Class Residential	20.01	-	12.18	32.19	-	-	32.19	-	-	-	-	31.19	7.24
2. Ditto but in Built up Area	-	-	18.24	18.24	-	-	18.24	-	-	-	-	18.24	4.10
3. Middle Class Residential	24.91	16.64	-	41.55	-	-	41.55	-	-	-	-	41.55	9.34
4. Mixed Use of Mid. and Low Class Residential	-	-	-	-	30.00	0	30.00	-	-	-	-	30.00	6.74
5. Mixed Use of Mid. Class Residential and Commercial	-	-	2.16	2.16	-	-	2.16	-	-	-	-	2.16	0.49
6. Residential with Renewal	-	-	-	-	-	13.85	13.85	-	-	-	-	13.85	3.11
7. Neighbourhood Facility	4.50	3.50	-	8.00	4.58	1.65	14.23	-	-	-	-	14.23	3.20
8. Commercial	-	-	-	-	-	-	-	39.70	-	-	-	39.70	8.92
9. Government Office	-	-	-	-	-	-	-	11.35	-	-	-	11.75	2.64
10. Recreational Park	-	-	-	-	-	-	-	-	60.25	46.07	106.32	106.32	23.90
11. Roadside Green Space	8.60	5.93	1.63	16.16	5.48	-	21.64	4.61	-	-	4.61	26.25	5.90
12. Road	15.44	9.97	8.53	33.94	11.63	4.23	49.80	19.17	7.74	8.69	35.60	85.40	19.20
13. Water Surface	-	2.39	0.67	3.06	-	-	3.06	0.14	-	20.00	20.14	23.20	5.22
Total	73.46	38.43	43.41	155.30	51.69	19.73	226.72	75.37	67.99	34.76	218.12	444.84	100.00

the commercial and Jakarta Fair areas which will also be developed in the earlier stage.

b. Sub Residential Area H2

This residential area of around 16.6 ha. is rather linear in shape stretching along the northern part of of the north-west boundary of Zone 1.

A part of this area is designated as high class housing development area in the KC Master Plan. This is proposed to be changed to middle class housing which is designated for the rest of the sub area taking into consideration the environmental conditions of the adjacent areas to the west.

The KC Master Plan locates the neighbourhood facility area in between the two sub areas H2 and H3, but the characters of these Areas are clearly different, therefore it is proposed that the neighbourhood facility area is to be relocated at the centre of sub area H2. The area will be sold and developed in comparatively later stages according to the development programme of the surrounding areas of Zone 1.

c. Sub Residential Area H3

This area is the built up area of around 32.6 ha. located in the western part of Zone 1 and is divided into two parts by the East-West access road.

In the northern part some fairly good quality housing belonging to the Angkasa Pura staff exists which is considered to be maintained for the time being.

The southern part consists of Angkasa Pura staff housing, private housing, and vacant areas. All the existing houses will be kept for the time being in the same way as the northern part.

The development/expansion of the East-West

access road is scheduled in Sub Area H3. Along such development the demand for commercial activities will be generated together with development in Zone 1 especially in commercial area. Therefore, it is proposed that the land use along the East-West access road is designated as roadside commercial use.

2) Sub Zone (2)

This is the 30 ha. housing area to be developed by Perumnas consisting of vacant area of the ex-airport site and part of Zone 4 which is a built-up housing area.

The size of 30 ha. land for the Perumnas development has been determined by KCMB but the exact location and its boundary lines have not been concluded at this time, although coordination between KCIU and Perumnas is being continued.

In the KC Master Plan the area is scheduled to be developed for mixed use of low and middle class housing with commercial development.

The location of the neighbourhood facility area in Zone 3 is proposed to be relocated to the central block of 4.58 ha. since the original location is at present completely occupied by the existing houses and the development of neighbourhood facilities there would need close coordination with the evacuation of the existing houses and it might cause delay of the development of Zone 3.

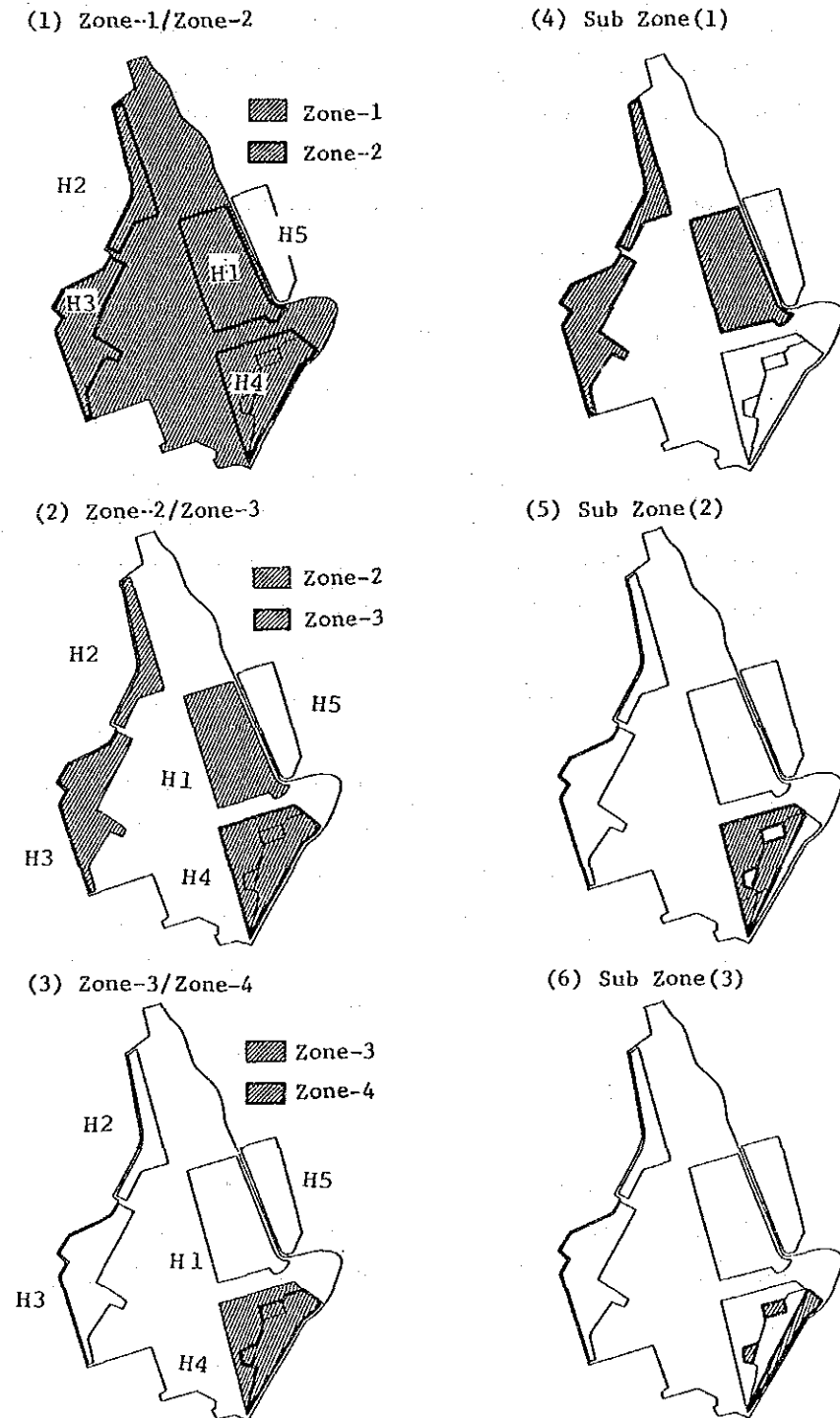
3) Sub Zone (3)

This is the remaining area in the Zone 4 built up area other than the Perumnas development area and the development areas by KCIU, such as road area, neighbourhood facility area and so on.

The area shall be considered for renewal and improvement of existing housing which consist of both privately owned land and state-own land in

which some squatted houses are built. The renewal/improvement in this Sub Zone (3) shall be considered in relation with the Perumnas development in Sub Zone (2).

Fig. 3.2 Sub Zone of Zone 2



1.2 PLANNED POPULATION IN ZONE 2

1.2.1 Population of Zone 2

The population in Zone 2 has been determined on the basis of the population in Zone 1, since DKI Master Plan designates population densities to these areas in general, but not taking into consideration the land use designated for them in the KC Master Plan.

The population densities allocated to the area in DKI Master Plan are as follows:

- 300 - 400 persons/ha. for Zone 3 area
- 200 - 300 persons/ha. for other area of Zone 1

According to the above, Zone 1 has to accommodate 96,000 - 140,000 persons in total. However, the population above is too much for Zone 1 due to no consideration on the land use in Zone 1.

In other words, Zone 1 includes the development components such as Jakarta Fair, Urban Forest, sports park and commercial and Governmental office sites which serve for DKI Jakarta and/or national levels but not for the community level of Zone 2. Total gross area of these sites is approximately 218 ha. occupying nearly 50% of Zone 1. Applying the population density of 200 - 300 persons/ha. to these areas to determine the planned population in Zone 1 as well as Zone 2 is not so proper.

Therefore, the Study adopts population density of 0 - 50 persons/ha. as night population which is designated for Monas Park etc. in the DKI Master Plan.

The populations in Zone 1 and Zone 2 are determined as shown in Table 3.2.

1.2.2 Distribution of Population in Zone 2

The population to be accommodated in Zone 2 is distributed to each residential area as shown in Table 3.3. The distribution is made taking into consideration the following:

- a. Environmental aspects
 - Population density/house density
 - Floor area ratio/building coverage ratio
 - Setback
- b. Physical aspects
 - Area of housing site
 - Type of houses
 - Number of houses

The study from environmental aspects is made using "Model Study on Housing Layout by House Type" as shown in Appendix, and the study of house type is made on the basis of the "Housing Catalogue" also shown in Appendix which compiles data in format of house types/units in the past Perumnas projects.

For the Perumnas housing area in Zone 3 of 30 ha., the population density of 1,000 persons/ha. is applied as decided by Perumnas.

For the population in the built up housing area in Sub Residential Area H3, the density is assumed as 200 persons/ha. at present, however, in the future when the houses will be rebuilt, the density shall be increased to around 400 person/ha.

For Sub Zone (3) in Zone 4, the population density is assumed to be 1,000 persons/ha. taking figures applied in Sub Zone (3) of the Perumnas development in the future when the area will be subject to complete renewal and improvement.

Table 3.2 Planned Population in Zone 1 and Zone 2

AREAS (GROSS)		SITE AREA Ha	DKI's DNSTY p/Ha	POPULATION
ZONE 2	1) ZONE 3	71.42	300-400	21,426--28,568
	2) SUB ZONE(1)	155.30	200-300	31,060--46,590
	SUB TOTAL	236.72		52,486--75,158
ZONE 1 EXCPT ZONE 2	3) C/G	75.37	50	3,779--3,779
	4) JF	67.99	50	3,400--3,400
	5) UF/SP	34.76	0-50	0--3,740
	SUB TOTAL	218.12		7,179--10,910
TOTAL		444.84		59,656--86,068

Table 3.2a Distribution of Population in Zone 2

LOCA- TION	CLASSIFICA- TION OF HOUSE	SITE AREA (Ha)	POPULATION		HOUSE		TOTAL FL AREA (M2)	FAR (%)	
			DNSTY	NOS.	DNSTY	NOS.			
SUB ZONE(1)	H-1	HIGH CLASS	20.01	220	4,400	44	876	60,000	0.30
		MID. CLASS	24.91	435	10,850	87	2,170	144,000	0.58
		SUB TOTAL	44.92	340	15,250	68	3,050	204,000	0.46
SUB ZONE(1)	H-2	MID. CLASS	16.64	705	11,750	141	2,350	147,000	0.88
	H-3	HIGH CLASS	9.88	495	4,900	99	980	112,000	1.12
		EXISTING	18.10	200	3,600	40	720	61,000	0.34
	SUB TOTAL	27.98	300	8,500	60	1,700	173,000	0.62	
H-4	SUB ZONE(2)		30.00	1,000	30,000	200	6,000	205,000	0.68
	SUB ZONE(3)		9.95	660	6,600	130	1,300	55,000	0.55
	ANGKASA PURA		3.90	180	700	36	140	12,000	0.31
	SUB TOTAL		43.85	850	37,300	170	7,440	272,000	0.75
TOTAL			133.39	545	72,000	109	14,540	796,000	0.60

2. SUB ZONE (1) DEVELOPMENT BY PRIVATE DEVELOPER

2.1 DEVELOPMENT STRATEGY

The development strategy for Sub Zone (1) is proposed hereafter with the aims of realizing smoother implementation and the provision of appropriate residential environment as a part of the urban area. However precise market analyses is further required.

1) Housing Type

In order to meet the diversified housing demands and create a dynamic and flexible residential area from the view points of social and physical aspects, various types of housing are to be programmed such as

- a. Quality: Middle class/high class
- b. Type : Multi-storied apartment houses, one or two storied individual houses with land such as (semi) detached house, row house etc.
- c. Size : 45 m² to 100 m² in floor area.

In the provision of various types of housing, it is necessary to consider limiting the mixture of the different housing classed together so as to avoid social problems.

Considering worldwide trend of family nuclearisation, also evident in Indonesia, smaller size housing targeted at younger couples and/or smaller families may be marketable in the centre of the city.

On the other hand, some luxurious apartment house types should be provided to promote the image of

Kemayoran Complex as a prestigious township and achieve the strategic development of the urban area, even though demand for such luxurious types is still considered premature.

2) Land Sale Programme

It is planned that the Commercial and Governmental Office area, Jakarta fair area and a part along major arterial roads of Perumnas area will be developed in the earlier stage following the development programme of infrastructures. The sale of land for housing shall start in the closer areas to the abovementioned areas in order to have smoother and proper integration with such related developments executed in the early stage, and upgrade the land value thereby increasing its price in the early stage.

Areas of smaller housing units for the young couples and/or smaller families shall be developed in the earlier stage to publicize the new life style possibility offered by them in the urban area in terms of closeness to the residents' working places.

Some luxurious apartment houses corresponding to the development of a national trade centre located in Jakarta Fair Site are to be developed in early stage.

Individual houses with land are fairly marketable at the commencement stage due to the premature situation of apartment houses at the time.

3) Size of Land to be Sold

The land for housing is to be sold in larger size as much as possible with the obligation to private developers to provide smaller neighbourhood

facilities for daily life in order to decrease KCIU's burden for such provision.

However, land parcel for sale is to be properly determined on the basis of the aspects below.

- Administrative unit for provision of neighbourhood facilities
- Development and maintenance unit of utility services and infrastructures
- Expected capability of private developers

4) Periodical Review of Development Plan

For larger scale and long term development, it is essential that the development plan is reviewed periodically to adjust it to physical and social condition which will alter from time to time.

For such purpose KCIU shall keep some lands as its own property in the Kemayoran area which shall be utilized strategically as supplemental financial sources to ensure the smooth implementation of Zone 1 as a whole.

5) Target of Sales

KCIU shall sell lands to developers whose development plans shall comply with the KCIU policy. Therefore, KCIU shall oblige interested developers to submit their development plans at their price tenders.

KCIU shall together with the developers find proper markets for the apartment houses, for example, companies who have intention to provide their staff housing.

2.2 DEVELOPMENT GUIDELINES

Land development and building (housing) construction Sub Zone (1) shall be made by private developers on lands sold by KCMB. In order to maintain to create a better residential area of Kemayoran Complex with certain quality of the environment. Development guidelines shall be prepared by KCIU, and adhered to by the developers. Guidelines shall cover the following:

- Maintaining environmental quality of residential area in Sub Zone (1) including maintenance of the developed site by the developer for a certain period.
- Provision by the developers of necessary certain neighbourhood facilities for inhabitants in their development sites.
- Period for completion of development shall be defined so as to ensure that private developers do not obtain profits only from price escalation of land without actually developing it. Very strict penalties should be applied in case of delays otherwise Sub Zone (1) can not be expected to be completed in due time.
- Development schemes are to be presented by developers and checked by KCIU.

2.2.1 Development Module of Housing

1) Consideration for Development Module

The development module should be determined according to the basic policy on the module/unit of land selling by KCIU on the basis of either of the following two alternatives:

- a. Larger module for smaller number of private developers,

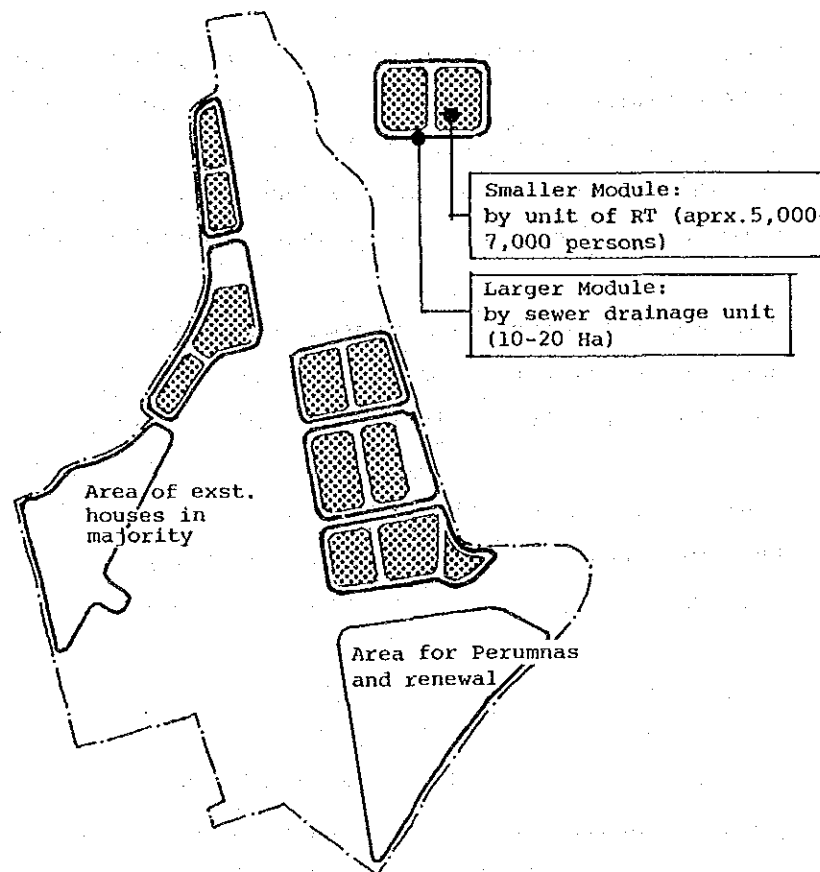
This alternative has the advantages of concentrating KCIU's management efforts and facilitate the control of development activities by the developers.

- b. Smaller module for many private developers, This alternative offers the advantage of allowing much greater number of private developers to be involved in such a prestigious project as the Kemayoran Complex development.

2) Development Module

The development module of Sub Zone (1) is shown in Fig. 3.3 according to land parcels and the following

Fig. 3.3 Recommendable Development Module



items.

a. Administrative/Social Unit

It is preferred that the development unit is in compliance with existing social/community structures or formulated in accordance with such structures, therefore, the RW level is considered as the most appropriate development module.

RW = 20 - 25 RT

1 RT = 250 persons approximately

1 RW = 5,000 - 6,250 persons

b. Unit of Sewerage System Provision

It is recommended to provide middle scale sewerage system for Kemayoran Complex (refer to Section 6. of this CHAPTER for details). The module of sewerage system is basically taken as around 2 RW units.

2.2.2 Development Guidelines

The Sub Zone (1) development is to be proceeded with some control measures for creating and maintaining the environment of the housing area in Zone (1). The control measures may be of the following four levels:

1) Level-1 National Laws

This shall be applied to the development as a basic regulation, such as National Building Code, Condominium Law and others related to constructions and development project.

2) Level-2 Provincial Ordinance of DKI

This shall also be applied to the development as a basic regulation.

3) Level-3 Development Agreement between KCIU and Developer(s)

Development agreements should be made between KCIU and the private developers and should be conditions for signing contract of land sale to cover:

- Designation of commencement and completion time of the development in order to ensure the programme of implementation of the Kemayoran Complex is on schedule.
- Prohibition of reselling of land partially or as a whole without the permission of KCIU to avoid unreasonable profit by escalation of land price without any actual development being executed.
- Provision, by the private developers in a specified quality, of some public facilities, landscape facilities, outdoor furnitures, sign/symbol as well as street lighting etc.
- Maintenance/operation of the developed areas by the developer after completion and presentation of organization as a responsible maintenance bodies.
- Particular physical development guidelines for house unit density, setback, wall distance, building height, FAR, BCR, etc. which should basically comply with the laws and ordinances. Fig. 3.4 shows proposed guidelines which may be included in the agreement.

4) Level-4 Agreement between Developer(s) and Inhabitants

Agreements between inhabitants and the developer are recommendable to be provided under the leadership of KCIU in order to maintain and promote the development of residential environment as well as the buildings through an autonomous accord regarding maintenance and operation by the inhabitants.

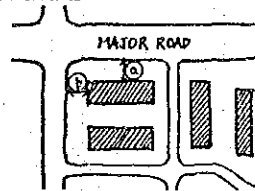
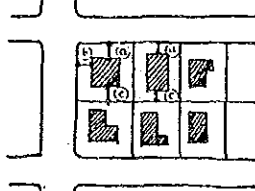
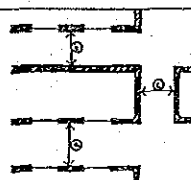
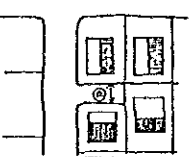
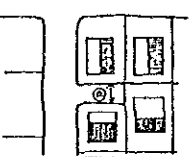
The followings are some of the main items which may be included in the agreement:

- Prohibition of changing use of housing unit from residential one to others without

agreement among inhabitants as well as the KCIU.

- Prohibition to keep pets other than birds to avoid causing nuisance to neighbours.
- Prohibition of any large modifications on a house which affect the main structures of apartment buildings.
- Prohibition of altering any external design and/or finish by the inhabitants. Such alterations must first be informed to the maintenance/operation office of the developer.

Fig. 3.4 Physical Development Guidelines Proposed

ITEMS	APARTMENT HOUSE DEVELOPMENT		INDIVIDUAL HOUSE DEVELOPMENT																																																		
1. SUB-DIVISION STANDARD	a. SETBACK	<table border="1"> <tr> <td>NO. of Stories</td> <td>4</td> <td>8</td> <td>12</td> </tr> <tr> <td>FRONTAGE- a (m)</td> <td>5.5</td> <td>7.5</td> <td>9.5</td> </tr> <tr> <td>SIDE----- b (m)</td> <td>5.0</td> <td>5.0</td> <td>5.0</td> </tr> </table> 	NO. of Stories	4	8	12	FRONTAGE- a (m)	5.5	7.5	9.5	SIDE----- b (m)	5.0	5.0	5.0	<table border="1"> <tr> <td>FRONTAGE</td> <td>MIN. SETBACK</td> </tr> <tr> <td>FRONTAGE--- a (m)</td> <td>2.0</td> </tr> <tr> <td>SIDE ----- b (m)</td> <td>1.0</td> </tr> <tr> <td>BACK ----- c (m)</td> <td>1.5</td> </tr> </table> 	FRONTAGE	MIN. SETBACK	FRONTAGE--- a (m)	2.0	SIDE ----- b (m)	1.0	BACK ----- c (m)	1.5																														
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b. FAR/BCR/BLDG. HGT	<table border="1"> <tr> <td></td> <td>F 18</td> <td>F 27</td> <td>F 36</td> <td>F 54</td> <td>F 70</td> <td>F 90</td> <td>F 120</td> <td>Story</td> </tr> <tr> <td>FLOOR AREA RATIO (F.A.R)</td> <td>0.5</td> <td>0.6</td> <td>0.7</td> <td>0.9</td> <td>1.0</td> <td>1.1</td> <td>1.2</td> <td>4</td> </tr> <tr> <td></td> <td>-</td> <td>-</td> <td>-</td> <td>1.3</td> <td>1.4</td> <td>1.6</td> <td>1.8</td> <td>8</td> </tr> <tr> <td>BUILDING COVERAGE RATIO (B.C.R) (%)</td> <td>12.5</td> <td>15.0</td> <td>17.5</td> <td>22.5</td> <td>25.0</td> <td>27.5</td> <td>30.0</td> <td>4</td> </tr> <tr> <td></td> <td>-</td> <td>-</td> <td>-</td> <td>16.25</td> <td>17.50</td> <td>20.00</td> <td>22.50</td> <td>8</td> </tr> </table>		F 18	F 27	F 36	F 54	F 70	F 90	F 120	Story	FLOOR AREA RATIO (F.A.R)	0.5	0.6	0.7	0.9	1.0	1.1	1.2	4		-	-	-	1.3	1.4	1.6	1.8	8	BUILDING COVERAGE RATIO (B.C.R) (%)	12.5	15.0	17.5	22.5	25.0	27.5	30.0	4		-	-	-	16.25	17.50	20.00	22.50	8	<table border="1"> <tr> <td></td> <td>for All Types</td> </tr> <tr> <td>FLOOR AREA RATIO</td> <td>0.6</td> </tr> <tr> <td>BUILDING COV. RATIO</td> <td>40.0 %</td> </tr> </table>		for All Types	FLOOR AREA RATIO	0.6	BUILDING COV. RATIO	40.0 %
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e. MINIMUM LOT SIZE	NO DESIGNATION	100.00 sqm.																																																			
2. ENVIRONMENTAL STANDARDS	a. PROVISION OF CAR PARKING LOTS/ GREEN AREA RATIO	<table border="1"> <tr> <td></td> <td>F 18</td> <td>F 27</td> <td>F 36</td> <td>F 54</td> <td>F 70</td> <td>F 90</td> <td>F 120</td> <td>Story</td> </tr> <tr> <td>RATIO OF CAR PARKING LOT PROVISION (%)</td> <td>18</td> <td>27</td> <td>36</td> <td>54</td> <td>70</td> <td>90</td> <td>100</td> <td>4</td> </tr> <tr> <td></td> <td>-</td> <td>-</td> <td>-</td> <td>54</td> <td>70</td> <td>90</td> <td>100</td> <td>8</td> </tr> <tr> <td>GREEN AREA RATIO (%) (to site area except Neighbourhood-Fac. Area)</td> <td>50</td> <td>50</td> <td>45</td> <td>30</td> <td>25</td> <td>25</td> <td>25</td> <td>4</td> </tr> <tr> <td></td> <td>-</td> <td>-</td> <td>-</td> <td>25</td> <td>20</td> <td>20</td> <td>20</td> <td>8</td> </tr> </table>		F 18	F 27	F 36	F 54	F 70	F 90	F 120	Story	RATIO OF CAR PARKING LOT PROVISION (%)	18	27	36	54	70	90	100	4		-	-	-	54	70	90	100	8	GREEN AREA RATIO (%) (to site area except Neighbourhood-Fac. Area)	50	50	45	30	25	25	25	4		-	-	-	25	20	20	20	8	Provision of Car Parking Lot: one (1) for each lot Green Area Ratio: NO DESIGNATION					
		F 18	F 27	F 36	F 54	F 70	F 90	F 120	Story																																												
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	-	-	-	25	20	20	20	8																																													
b. OTHERS	-Standards for provision of landscape facilities such as outdoor furnitures outdoor lighting etc. are to be set for type, number etc. -Standards of design criteria such as structure and material etc. for road and pedestrian path is to be set.																																																				

- For individual houses, Prohibition of division of site to one smaller than agreed.
- Routine and scheduled cleaning of the building and its surroundings by the inhabitants under the initiative of the developer.
- Other cooperative activities are to be well programmed under the initiative of the developer.

The agreements of levels-3 and 4 are to be authorised by the local government and treated similar to by-laws in order to make them more effective and practical.

Table 3.2b List of House Development in Sub Zone(1)

LOCATION	CLASSIFICATION CLASS	Type	HOUSE TYPE	NO. OF UNIT	UNIT DNSTY	UNIT FL AREA(Grs)	TOTAL FL AREA(Grs)	SITE AREA (ha)	F. A. R. (%)	NO. FL	B. C. R. (%)	DENSITY p/ha	TOTAL POPUL' N	
H-1	High Class	Individual House	T-120	450	30	120.00	54.000	15.00	36.00%	2	18.00%	150	2,250	
			Multi- Storied Apartment House	F-120	195	108	144.00	28.080	1.81	155.52%	12	12.96%	540	975
				S. T(1)	231	72	144.00	33.264	3.21	103.68%	8	12.96%	360	1,155
			Total(1)	876	44	408.00	115.344	20.01	57.63%			219	4,380	
	Mid. Class	Individual House	T--70	420	50	84.00	35.280	8.40	42.00%	2	21.00%	250	2,100	
			T--54	S. T(2)	380	60	64.80	24.624	6.33	38.88%	2	19.44%	300	1,900
				S. T(2)	800	54	148.80	59.904	14.73	40.66%			271	4,000
		Multi-storied Apartment House	F--70	S. T(1)	150	140	84.00	12.600	1.07	117.60%	8	14.70%	700	750
				S. T(1)	200	110	84.00	16.800	1.82	92.40%	4	23.10%	550	1,000
			F--54	S. T(1)	350	121	168.00	29.400	2.89	101.74%			606	1,750
				S. T(1)	150	170	64.80	9.720	0.88	110.16%	8	13.77%	850	750
				S. T(1)	350	130	64.80	22.680	2.69	84.24%	4	21.06%	650	1,750
			F--36	S. T(1)	500	140	129.60	32.400	3.57	90.64%			699	2,500
				S. T(2)	520	140	43.20	22.464	3.71	60.48%	4	15.12%	700	2,600
		Total(1)	1,370	135	340.80	84.264	10.18	82.79%			673	6,850		
TOTAL	3,046	87	489.60	144.168	24.91	57.87%			436	10,850				
H-2	Mid. Class	Multi- Storied Apartment House	F--70	S. T(1)	400	140	84.00	33.600	2.86	117.60%	8	14.70%	700	2,000
				S. T(1)	138	110	84.00	11.592	1.25	92.40%	4	23.10%	550	690
			F--54	S. T(1)	538	131	168.00	45.192	4.11	109.91%			654	2,690
				S. T(1)	560	170	64.80	36.288	3.30	109.96%	8	13.75%	850	2,800
			F--36	S. T(1)	530	130	64.80	34.344	4.08	84.24%	4	21.06%	650	2,650
				S. T(1)	1,090	148	129.60	70.632	7.38	95.75%			739	5,450
			Total	720	140	43.20	31.104	5.15	60.40%	4	15.10%	700	3,600	
	Total	2,348	141	340.80	146.928	16.64	88.31%			706	11,740			
H-3	High Class	Multi-Storied Apartment House in Non Built-up Areas	F-120	S. T(1)	120	72	144.00	17.280	1.67	103.68%	8	12.96%	360	600
				S. T(1)	60	48	144.00	8.640	1.25	69.12%	4	17.28%	240	300
			F--90	S. T(1)	180	62	288.00	25.920	2.92	88.87%			309	900
				S. T(1)	580	130	108.00	62.640	4.46	140.40%	8	17.55%	650	2,900
			S. T(1)	215	86	108.00	23.220	2.50	92.88%	4	23.22%	430	1,075	
	Total(1)	795	114	216.00	85.860	6.96	123.33%			571	3,975			
Exst. Houses	T--70	724	40	84.00	60.816	18.10	33.60%	2	16.80%	200	3,620			
Total	1,879	67	876.00	198.516	27.98	70.95%			336	9,395				
Grand Total	7,273	81	2,114.40	604.956	89.54	67.56%			406	36,365				

2.3 PARTICULAR RELATIONS TO SURROUNDING AREAS

Specific considerations are necessary for surrounding areas of Sub Zone (1) as well as Zone 1 so that the environment quality is to be maintained especially the adjacent area along the eastern boundary of Zone 1 which faces the Sunter Real Estate area or far east (refer to Fig. 3.5).

It is recommended to develop and/or renew these areas as residential areas in integration with the Zone 1 development and the Sunter Real Estate area although some parts are designated as Industrial Area in the DKI Master Plan.

2.3.1 Existing Conditions

The area is broadly divided into two parts of 1) the northern area and 2) the southern area by locational conditions and priority of their development.

1) Northern Area

The area is swampy land with some individual houses including sprawling squatter houses of inferior quality, occupy nearly 50% of the area and the rest are used for agriculture.

Potentiality of housing development in the area will surely increase due to completion of the Urban Forest area in Zone 1 which is facing to the area and will support its high quality living environment of the area as enhanced greenery.

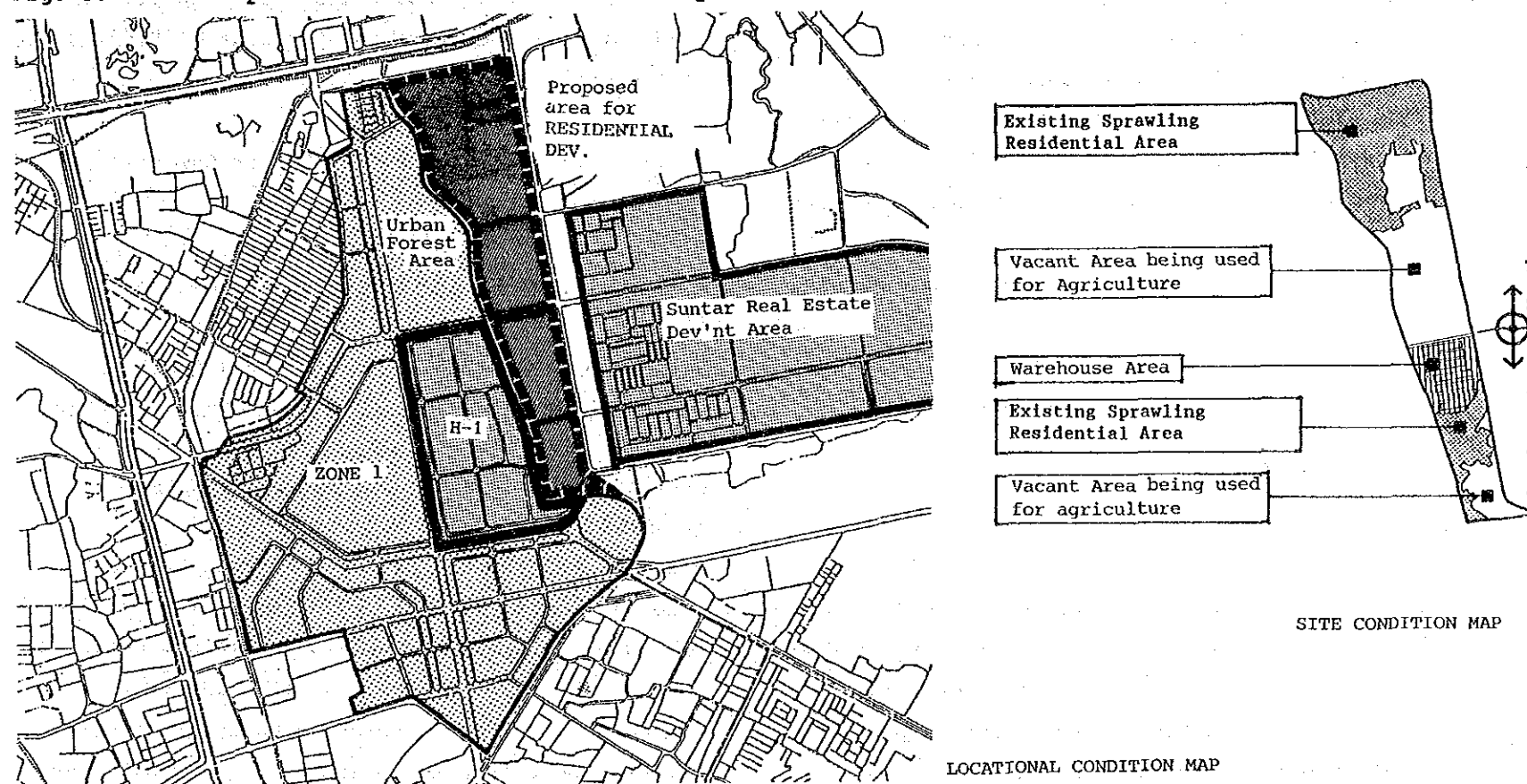
Although the priority of the development is low in the area considering the development timing of the Urban Forest area in Zone 1, control measures are to be taken from now on for limiting the sprawl of such inferior quality houses in order to keep easier procedure of the development in future.

2) Southern Area

The area is also swampy area at present and approximately 30% is still vacant area used for agriculture activities and nearly 40% is built up areas of warehouses for grain. The remainder is occupied by a considerable number of inferior sprawling houses.

The continuation of such existing conditions to sub residential area H1 will affect the new residential environment of Kemayoran Complex where high and middle class housing development is programmed due to further sprawl which invites uncontrollable environmental nuisance. The Sunter Real Estate area being developed as a rather high quality housing area will also be adversely affected. Therefore, developments or renewal in the area are recommended to be conducted as soon as possible.

Fig. 3.5 Proposed Area for Residential Development



2.3.2 Development Strategy

To realize the housing development in the area, the followings are to be taken into consideration as development strategies:

- 1) Change land use designation from Industrial Area to Residential Area by authorities.
- 2) Start coordination for relocation of the existing warehouses.
- 3) Clarification and confirmation of the existing conditions.
- 4) Establishment of countermeasures to control farther house sprawling.
- 5) For the renewal of the area, houses for resettlement in Zone 3 built by Perumnas shall be strategically utilized.

3. SUB ZONE (2) DEVELOPMENT IN ZONE 3 BY PERUMNAS

3.1 DEVELOPMENT POLICY

For the Sub Zone (2) development by Perumnas, study on development policy is made initially based on the conditions given by Perumnas such as:

- a. Development housing area is 30 ha.
- b. Average population density is 1,000 persons/ha.
- c. Population in the area is 30,000 persons
- d. Average number of persons in one house is 5

3.1.1 ALTERNATIVE POLICIES

To clarify the development policy of Perumnas on Sub Zone (2), alternative policies are studied taking into consideration the following:

- Effect of termination of governmental financial assistance extended to Perumnas developments in Sub Zone (2) except for land acquisition cost set at Rp. 2,000/m², which is much cheaper than the market prices of the surrounding areas.
- Conventional or original purposes for housing supply by Perumnas.
- Cross subsidies as much as possible to increase lower income group houses in the development.

1) Policy-1; Earning Maximum Profit

Perumnas has the intention to build and sell houses in the majority aimed at the middle and upper middle classes in order to gain more profit together with the advantageous condition of acquiring land for financial resources of future development in other

areas, since government financial assistance has been stopped.

In other words, this alternative policy-1 means getting much profit from higher income groups in the urban area and utilizing the profit for sources of subsidy to lower income groups in the next projects which may be in suburbs of Jakarta.

2) Policy-2; Continuing Conventional or Original Purpose of Perumnas Development

This policy calls for maintenance of Perumnas' original objectives which call for supplying houses mainly to the low income groups with improving the standards of houses.

Under this alternative policy, majority of house types will be F24 - F54 which are of larger sizes than units of the previous standards of F18 and F36, in the majority.

3) Policy-3; Housing Supply for Lower Income Group

This policy is to provide houses as much as possible for the lower income group, who are very difficult to obtain even ordinary low income houses, by lowering the selling price of the houses with cross subsidy by profit from larger size units as well as profits from advantageous land price of RP 2,000/m².

However, the lowered prices of houses are to be carefully determined since extremely low selling prices applying such specific conditions especially land price of Rp. 2,000/m² will be unfair for those people who will purchase houses in other Perumnas development projects which may not have such specific conditions.

3.1.2 Physical Check of the Alternative Policies

According to the above alternative policies, a study is made to check the proportion of the housing classes to be accommodated in Sub Zone (2) on the basis of the conditions which have been confirmed, as shown hereinbefore.

In addition to the conditions the following are set for the purpose of checking the alternative policies with environmental indices. The results of the study are shown in Table 3.3.

a. House Type

Representative types for house unit in each class are selected as shown below, although more various unit types in each class shall be introduced in the actual execution. Types in parenthesis show alternative types which may be included in each type.

Clarification	Type of Unit
Upper Middle Class	F70 (F60, F90, F100)
Middle Class	F36 (F45, F54)
Low Class	F18 (F21, F24, F27)

b. Number of Stories

Only buildings of 4 stories are adopted, since this ensures that better environment can be obtained than 8 storied building such as density, FAR etc.

c. Maximum Floor Area Ratio and Population Density

The figures are determined according to the "Model Study of Housing Layout by House Type" shown in Appendix.

Classification	Max. Floor Area Ratio	Population Density (persons/ha.)
Upper Middle Class	1.3	400 - 800
Middle Class	0.9	700 - 1,000
Low Class	0.7	1,100 - 1,500

3.1.3 Establish Development Policy and Strategy

1) Establish Development Policy by Perumnas

Perumnas decided the development policy for Sub Zone (2) as a combination of the alternatives.

a. Development of Upper Middle Class Housing

Perumnas clarified its intention to introduce so called upper middle class houses of multi-storied housing type on an experimental basis not only for the purpose of earning profits but also to acquaint the people with multi-storied housing types which are not so familiar by the people in general except in luxurious ones by private developers and smaller ones by the public sectors.

b. Development of Low Class Houses

Perumnas also clarified that still have the responsibility to supply houses to low income people at lower prices by cross subsidy earned from sales of more profitable housing units and/or commercial floor space.

c. Improvement of Perumnas Housing Standard

Perumnas also clarified that they will develop houses continuously with grading up their standards of houses in size and quality to meet demands of people even though the construction cost of houses becomes higher than higher in every year.

2) General Strategy for the Development

According to the policy established by Perumnas, the general strategy for the development of Sub Zone (2) is determined as follows.

- a. In the selection of house type in higher classes, the aim should be to obtain the maximum amount of profit possible.

- b. To promote a market for Perumnas housing not only among low income groups but also income groups, by the provision of variety of house types in size and quality.
- c. Some subsidies to be considered to lower income group houses which are to be continuously supplied as much as possible in line with the basic task of Perumnas.
- d. The development by Perumnas should include provision of some houses receiving resettlement people especially from Zone 4.
- e. Some parts of the Perumnas lands in Zone 4 may be of irregular shape if following existing land titles. Such irregular land shapes makes it difficult for physical planning in relation with the renewal in Zone 4. Therefore, coordination with KCIU to obtain more regular land shapes is necessary.

Table 3.3 Alternatives of Housing Units

	HOUSE TYPE	DISTRIBUT. RATIO	NO. OF UNIT	UNIT FLOOR AREA		TOTAL FLOOR AREA(GRS)	SITE AREA (ha)	F. A. R. (%)	NO. FL	B. C. R. (%)	DENSITY p/ha	TOTAL POPULATION	
				UNIT DNSTY	NET GROSS								
POLICY-1	F-70	15.0%	900	133	72	86.40	63.000	5.85	111.50%	4	27.88%	796	4,500
	F-36	25.0%	1,500	170	36	46.80	54.000	6.80	79.41%	4	19.85%	1,103	7,500
	F-18	60.0%	3,600	250	18	24.00	64.800	14.40	45.00%	4	11.25%	1,250	18,000
	TOTAL	100.0%	6,000				181,800	26.85	67.71%			1,117	30,000
POLICY-2	F-70	0.0%	0	0	72	86.40	0	0.00	0.00%	4	0.00%	0	0
	F-36	60.0%	3,600	172	36	46.80	129,600	20.89	62.04%	4	15.51%	862	18,000
	F-18	40.0%	2,400	264	18	24.00	43,200	6.83	63.22%	4	15.81%	1,756	12,000
	TOTAL	100.0%	6,000				172,800	27.72	62.33%			1,082	30,000
POLICY-3	F-70	10.0%	600	129	72	86.40	42,000	3.77	111.34%	4	27.84%	795	3,000
	F-36	30.0%	1,800	168	36	46.80	64,800	8.26	78.44%	4	19.61%	1,089	9,000
	F-18	60.0%	3,600	245	18	24.00	64,800	14.60	44.38%	4	11.10%	1,233	18,000
	TOTAL	100.0%	6,000				171,600	26.63	64.43%			1,126	30,000



3.2 HOUSING DEVELOPMENT

3.2.1 Type of Housing Unit

1) General Strategy for Type of Housing Unit

According to the policy and strategy for the development explained in the previous sections a variety of house types shall be provided to meet the diversified needs in size, price, height etc. of the house. However further detailed market surveys are to be conducted prior to the actual execution.

The following strategy is applied for determining the types of housing unit in Sub Zone (2) :

- A net floor area of 70 m² is taken as maximum for upper middle class housing due to the unit of tax exemption.
- In the upper middle class housing 8 stories apartment houses are applied in small numbers on an experimental basis for sounding markets.
- For the smallest house unit size for lower income group, 18 m² is adopted since their affordability becomes lower than lower due to high construction cost although it is considered housing units less than 18 m² are too small as a house space.
- In order to meet the various house demands of even low income groups, and for satisfying improvement of standards in house size F27 is adopted.
- House size of 36 m² is still the most typical one especially considering selling price.
- The results of the questionnaire survey conducted by the Study Team in December, 1988 in Tanah Abang housing complex which consists

of 36 m² unit only show that approximately half of the respondents wish to move to larger size of unit. Therefore, house size of 54 m² is also considered.

2) Determination of Types of Housing Unit

Table 3.4 shows the results of the study for allocation of housing unit type taking into consideration the related indices such as:

- Population density
- Floor area ratio (FAR)
- Building coverage ration (BCR)

Referring to "Model Study on Housing Layout by House Type" shown in Appendix, the following considerations are taken for the study.

- For population density, 80% of the figures of the model study is applied considering flexibility on layout at the actual execution.
- For total floor area, FAR and BCR, the calculation is made on net floor area of housing unit, therefore actual figures will become larger than in the chart.

3.2.2 Development Stage

For the staging of housing development, the

following considerations are taken into this study although they should be determined through results of a precise market survey.

- In the 1st year all types of house unit except 8 story buildings are to be developed, even in small quantities in each type to observe the tendency of market and to correspond to the various demands in house types.
- Low class and middle class houses are to be supplied constantly through the development period.
- 8 story buildings for upper middle class housing are to be developed in a later stage after the demand for such type will be well matured.

As for development staging, the number of houses by each year is also shown in Table 3.4.

3.2.3 Alternative Study for Perumnas Site

The development site area has been determined as 30 ha. and to hand over to Perumnas by KCMB. However,

Table 3.4 Schedule of Housing Development

Classification		House Size	Number of Story	Site Net Area (ha)	Population		No. Of Houses		Total Fl Area Net (sq. m)	F. A. R	B. C. R (%)	Dev. Stage (No. of Houses) year				
Class	Type				Popul' n Density	Popul' n	House Density	No. of Houses				90	91	92	93	94
Upper Middle Class	Multi-storied Apartment Houses	F-70	8	0.75	800	600	160	120	8.400	1.120	14.00	-	-	-	-	120
		F-70	4	6.24	625	3,900	125	780	54.600	0.875	21.88	150	-	250	200	180
		Sub-T		6.99	644	4,500	129	900	63.000	0.901	21.03	150	-	250	200	300
Middle Class	Multi-storied Apartment Houses	F-54	4	5.00	750	3,750	150	750	40.500	0.810	20.25	150	200	-	200	200
		F-36	4	4.67	800	3,750	803	750	27.000	0.578	14.45	150	250	200	150	-
		Sub-T		9.67	776	7,500	775	1,500	67,500	0.693	17.45	300	450	200	350	200
Low Class	Multi-storied Apartment Houses	F-27	4	4.41	1,250	5,500	250	1,100	29,700	0.673	16.84	200	250	250	150	250
		F-18	4	8.93	1,400	12,500	280	2,500	45,000	0.504	12.60	350	550	550	550	500
		Sub-T		13.34	1,350	18,000	270	3,600	74,700	0.560	14.00	550	800	700	700	750
Total				30.00	1,000	30,000	200	6,000	205,200	0.680	16.75	1,000	1,250	1,250	1,250	1,250

the actual location and its boundaries have not been decided although coordination is being continued between KCIU and Perumnas.

To determine the actual location of the site, alternative studies are made on the basis of the following conditions.

- All vacant lands in Zone 3, of which area is 19.8 ha. in total, are for Perumnas sites except the neighbourhood facility area.
- This means that the remaining area of 10.2 ha. shall be in Zone 4 built up area which has around 33 ha. in total but including Angkasa Pura Staff housing sites, new road development area and new neighbourhood facility area.
- Angkasa Pura Staff housing areas shall not be included in the Perumnas site due to the decision to maintain them as they are.

1) Alternative-1 Utilize State Own Land

- Zone 4 has two land categories of private owned and state owned.
- As shown in Fig. 3.6 (1), this alternative adopts the state owned land and the vacant lands since it is easier to evacuate the people living there than in other areas.

- The shape and size of the lands is big constraints for physical planning and design as the Perumnas development due to irregular and small.

- In this case, total land area is only around 28.6 ha.

2) Alternative-2 Land with Proper Shape and Size in Block

- This alternative is taking the land in proper size and shape using blocks surrounded by roads as much as possible, as shown in Fig. 3.6 (2).

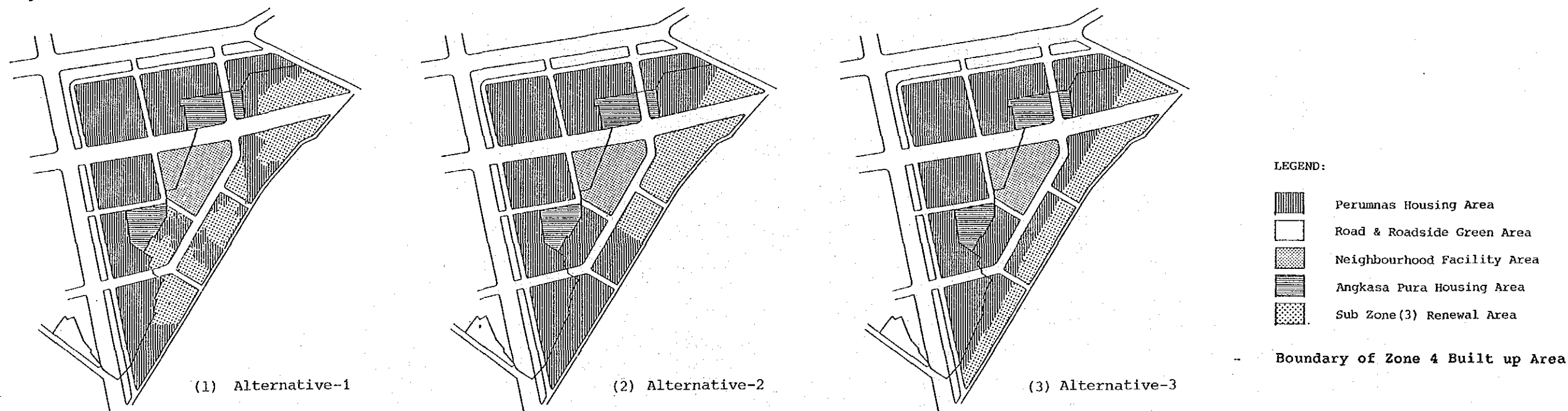
- In this case, the planning and design will be easier for the Perumnas housing development.
- However, identification of the Perumnas land as a whole is rather unclear.

3) Alternative-3 Identification of Perumnas Development

- As shown in Fig. 3.6 (3), linear shape of land is taken for the Perumnas land. It formulates clearer identification of the Perumnas land as a whole surrounding the neighbourhood facility area of Zone 3.
- The remaining Zone 4 areas where renewal or improvement shall be applied are also identified in linear shape along the south-east side of Zone 4.

In any alternative, the remaining area in Zone 4 is too small and much energy will be required by KCIU for the evacuation of the inhabitants.

Fig. 3.6 Alternative Sites for Perumas



3.2.4 Housing Development Cost

The housing development cost for Sub Zone (2) is estimated according to the calculation methods of Perumnas. The development cost consists of :

- a. Building construction cost does not include any other costs such as fees for planning and design for house buildings.
- b. Land acquisition cost includes:
 - (1) Land acquisition cost for salable area (55%)
 - (2) Land acquisition cost for non salable area (45%)
 - (3) HPL (Hak Pengerolaan) at Rp. 150/m²
- c. Fees and cost for planning and design for the development include layout of houses, networks of road and utility services, stormwater drainage and landscape design etc.
- d. Land development cost includes:
 - (1) Land development costs of grading, stormwater drainage, road and path,

utility services, landscape elements, etc.

- (2) Contingency 5% of above
- (3) Overhead 10% of total of (1)+(2)
- (4) Interest 10% of total of (1)+(2)
- (5) Insurance 1% of total of (1)+(2)

Table 3.5 shows the housing development cost by house unit type and building height. The basic conditions for the cost estimates are as follows:

1) Building Construction Cost : Unit Cost per Square Meter of Building Floor

- (1) Basic unit cost
Rp. 220,000/m² is estimated on the basis of house type F36 in cluster type building of 4 storey with flat roof and post and beam structure system filled with concrete block for wall.

- (2) Factors for Cost Variation
These factors are to be multiplied with

the basic unit cost.

- Factor (1): by building height (Number of stories)
Factor is taken from the indication in TENTANG PEDOMAN OPERASIONAL PELAKSANAAN DIP PEMBANGUNAN BANGUNAN GEDUNG PEMERINTAH DAN PERUMAHAN DINAS (1987 - 1988)
- Factor (2): by size of house
Factor of 0.2%/m², experimental standard of Housing and Urban Development Corporation, Japan is taken.
- Factor (3): by provision of external wall finish
External finish shall be provided for higher quality buildings and 8 storied buildings.
- Factor (4): by quality of building utility services
The cost of provision of utility service will vary accordingly for

Table 3.5 List of Housing development Cost

TYPE	1. BLDG. CONSTRUCTION COST: UNIT COST PER SQ.M						2. BUILDING CONSTRUCTION COST PER HOUSE				3. LAND DEV'T COST		4. TOTAL CONST. COST		5. OTHER COST			6. TOTAL DEV'T COST		
	① BASIC UNIT C.	② FACTORS FOR COST VARIATION				③ ADJUSTED UNIT COST	④ COST PER HOUSE	⑤ FACTORS		⑥ FINAL ADJ. COST	LAND COST (1) Rp. 2.000	LAND COST (2) Rp. 250.000	with LAND COST (1)	with LAND COST (2)	UTILITY CNN.COST	MAINTENANCE COST	HGB	with LAND COST (1)	with LAND COST (2)	
		FACTOR (1)	FACTOR (2)	FACTOR (3)	FACTOR (4)			ELEV. PRODU.	PILE PRODU.											
4 S	F 15	220	1.000	1.042	1.000	1.000	229	3.439	0	314	3.753	893	4.641	4.445	7.793	204	25	50	4.724	8.072
	F 18	220	1.000	1.036	1.000	1.000	228	4.103	0	358	4.461	831	4.849	5.292	9.310	204	30	50	5.576	9.593
10 R	F 21	220	1.000	1.030	1.000	1.000	227	4.759	0	488	5.167	970	5.657	6.137	10.824	204	35	50	6.425	11.113
	F 24	220	1.000	1.024	1.000	1.000	225	5.487	0	467	5.874	1.109	6.465	6.982	12.339	204	40	50	7.276	12.633
12 I	F 27	220	1.000	1.018	1.000	1.000	224	6.047	0	525	6.572	1.247	7.274	7.819	13.845	204	45	50	8.118	14.144
	F 36	220	1.000	1.000	1.000	1.000	220	7.920	0	700	8.620	1.663	9.698	10.283	18.318	204	61	50	10.597	18.632
14 E	F 42	220	1.000	0.988	1.000	1.000	217	9.129	0	760	9.889	1.940	11.314	11.829	21.203	204	71	50	12.153	21.528
	F 45	220	1.000	0.982	1.000	1.000	216	9.722	0	834	10.556	2.079	12.123	12.634	22.678	204	76	50	12.964	23.088
16 S	F 54	220	1.000	0.964	1.000	1.000	212	11.452	0	969	12.421	2.494	14.547	14.916	26.968	204	91	50	15.260	27.313
	F 63	220	1.000	0.946	1.150	1.075	257	16.209	0	1.130	17.339	2.910	16.972	20.249	34.311	360	106	50	20.765	34.827
18 O	F 70	220	1.000	0.932	1.150	1.075	253	17.744	0	1.172	18.916	3.233	18.857	22.149	37.773	360	118	50	22.677	38.301
	F 36	220	1.114	1.000	1.150	1.075	303	10.907	1.833	700	13.440	1.663	9.698	15.103	23.138	204	61	50	15.417	23.452
20 T	F 42	220	1.114	0.988	1.150	1.075	299	12.572	1.833	760	15.165	1.940	11.314	17.105	26.480	204	71	50	17.430	26.894
	F 45	220	1.114	0.982	1.150	1.075	298	13.389	1.833	834	16.056	2.079	12.123	18.134	28.178	204	76	50	18.463	28.507
22 R	F 54	220	1.114	0.964	1.200	1.100	312	16.840	1.833	969	19.642	2.494	14.547	22.137	34.189	204	91	50	22.481	34.534
	F 63	220	1.114	0.946	1.200	1.100	306	19.280	1.833	1.130	22.243	2.910	16.972	25.153	39.215	360	106	50	25.669	39.731
24 I	F 70	220	1.114	0.932	1.200	1.100	302	21.106	1.833	1.172	24.111	3.233	18.857	27.344	42.968	360	118	50	27.872	43.496
	F 90	220	1.114	0.892	1.300	1.150	327	29.414	1.833	1.588	32.835	4.157	24.245	36.992	57.880	400	152	50	37.594	57.682
26 S	F 120	220	1.114	0.832	1.300	1.150	305	36.581	1.833	2.063	40.477	5.543	32.327	46.020	72.804	400	202	50	46.671	73.455
	F 70	220	1.223	0.932	1.200	1.100	331	23.171	1.833	1.172	26.176	3.233	18.857	29.409	45.033	360	118	50	29.937	45.561
28 T	F 90	220	1.223	0.892	1.300	1.150	359	32.292	1.833	1.588	35.713	4.157	24.245	39.870	59.950	400	152	50	40.472	60.560
	F 120	220	1.223	0.832	1.300	1.150	335	40.160	1.833	2.063	44.056	5.543	32.327	49.599	76.383	400	202	50	50.251	77.035

higher quality buildings and 8 story buildings.

2) Building Construction Cost per House

(1) Cost per house

The cost is calculated by: adjusted unit cost x Net floor area.

(2) Factors

These are to be added to the cost per house above.

- Provision of elevator

It is calculated based on:

Rp. 110,000,000/Elev. x 2 Elevators/
120 units = Rp. 1,833,000/unit

- Provision of pile

It is calculated based on:

Rp. 70,000/m x 10 m / (36 m² x 1.3) =
Rp. 14,950/m²

Table 3.6 Calculation Sheet of Land Development Cost

DESCRIPTION	CASE-1	CASE-2
1) LAND ACQUISITION COST (Mil. Rp)		
a. FOR SALABLE AREA	330	44.250
b. FOR NON SALABLE AREA	270	270
c. SUB TOTAL	600	41.520
d. H. P. L (Rp. 150/M2)	45	45
e. TOTAL	645	41.565
2) FEE OF STUDY & DESIGN (Mil. Rp)	200	200
3) LAND DEVELOPMENT COST (Mil. Rp)		
a. LAND DEVELOPMENT COST (Rp. 2,000/m ²)	6,000	6,000
b. CONTINGENCY (5% of a)	300	300
c. SUB TOTAL	6,300	6,300
d. OVERHEAD (10% of c)	630	630
e. INTEREST (10% of c)	630	630
f. INSURANCE (1% of c)	63	63
g. TOTAL	7,623	7,623
4) GRAND TOTAL	8,468	49,388
A. UNIT COST/m ² OF LAND (Rp) (4÷165,000m ²)	51,321	299,321
B. UNIT COST/m ² OF FL AREA (Rp) (A x 0.9)	46,189	269,389

Note: Case-1. land acquisition cost is Rp. 2,000/m²

Case-2. land acquisition cost is Rp. 250,000/m² as assumed as market price of the area.

3) Land Development Cost

As shown in Table 3.6 calculation sheet of land development cost, the following two cases are calculated :

- Case 1

Land acquisition cost is based on Rp. 2,000/m² which is the price purchased from KCMB.

- Case 2

Land price is based on Rp. 250,000/m² which is the market price assumed according to the study shown in Section 2.5 in CHAPTER III.

4) Other Costs

- Utility connection costs

Water supply connection : Rp 100,000/unit
Electrical supply connection: Rp 230/VA x
450 VA/unit

- Maintenance costs

Rp. 1,370/m² land area x 0.9 = Rp. 1,683/m²
net floor area

- HGB Registration to Agraria office

Rp. 50,000/unit

3.2.5 Structure System for Flats (Apartment House)

1) Post Experiences in Perumnas

Perumnas has tried to introduce various construction systems for their housing developments individually or in combination such as:

a. Reinforced Concrete Post and Beam System

This is one of the conventional systems and is applied to many projects such as Klender, Penjaringan, etc.

b. Steel Post and Beam System with Concrete Slab

This also is one of the conventional system and is utilized in Kebon Kacang, Tanah Abang, etc.

c. Precast Concrete Panel System

This is also applied for many projects of Tanah Abang, Klender, etc. One representative system is called Cortina System.

d. Lift Slab Construction System

All slabs are cast on the ground and then lifted up to the locations and fixed to precast concrete columns which have been pre-installed and used for lifting devices.

2) Other Systems for Mass Production of Houses

Other than the above systems, there are some systems which are being applied for mass production of housing in the world such as:

a. Tunnel Frame Construction System

This is a system using U-shaped steel panels (molds) for wall and slab in one package. The steel panels are removed in sliding system and repeatedly utilized.

b. Breacast Concrete Panel System

This is a system for mass production of the precast concrete panels in vertical way.

3) Consideration on System in Future

Analyses on such systems introduced by Perumnas have not been concluded in order to determine most appropriate system for their housing production from the aspects of construction cost, workability, durability, maintenance, etc.

However even in the absence of such analyses, it is evident that construction costs of buildings with any systems are extremely high, that is, selling

price automatically becomes higher. This high construction cost is the biggest constraint to supply houses for low or middle income groups which is the main task of Perumnas.

It is therefore most essential at the study of the structure or construction system how to decrease construction cost. This is the most important in any criteria to select systems.

The high construction costs are caused by high costs of building materials in Indonesia especially steel materials including reinforcement bar and cement. It is considered that such costs can not be extremely decreased due to the effect of international market prices.

Therefore, decreasing construction costs concerns the means to reduce amounts of the steel materials and cement which are utilized, in majority, for columns, beams and slabs in the post and beam system and wall and slabs in bearing wall panel system. In either system reducing reinforced concrete amount in the slabs is very essential for decreasing the construction costs.

Here, some of samples of the slab construction system are shown for further consideration by Perumnas on the structure/construction system study in their future projects.

a. Joist Slab with Small T-beam Filled with Concrete Block

This can deduct amount of cement as a whole comparing with normal RC slab. For steel bar, if pre-tension system is applied for the T-beam, the amount of steel also deducted.

b. Cambered Precast Concrete Panel Slab

Amount of cement can be smaller due to thinner slab thickness and if pre-tension of reinforcement steel is applied, amount of steel can also be reduced.

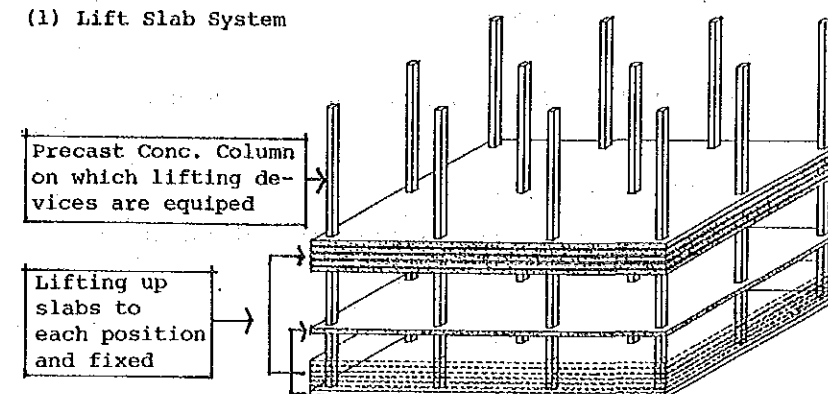
In case post tension system is applied to slab and beam, amount of steel portion can generally deducted.

In any of the above cases, investments are required for machineries, and equipment either, or both, on sites and factories. However, if they will be introduced and applied for mass production by Perumnas and furthermore, Perumnas will supply such system/materials to other developers, the investment may be feasible.

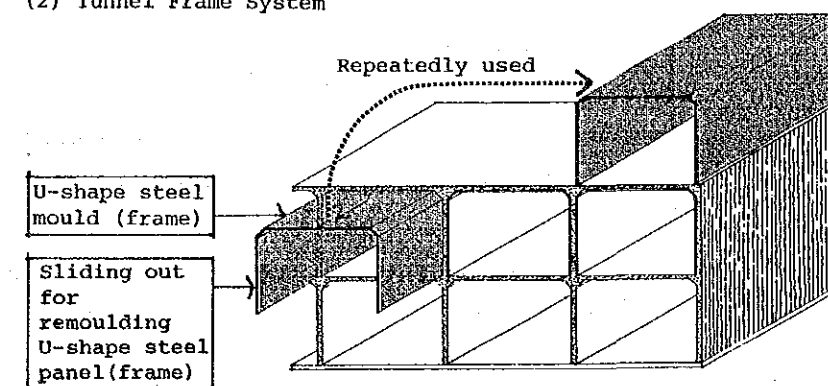
Any further detail studies are inevitable on the structure and/or construction systems to find out the most appropriate one for the Perumnas houses especially as low income housing. Therefore, it is essential to provide detail data in each project.

Fig. 3.6a Structure/Construction System

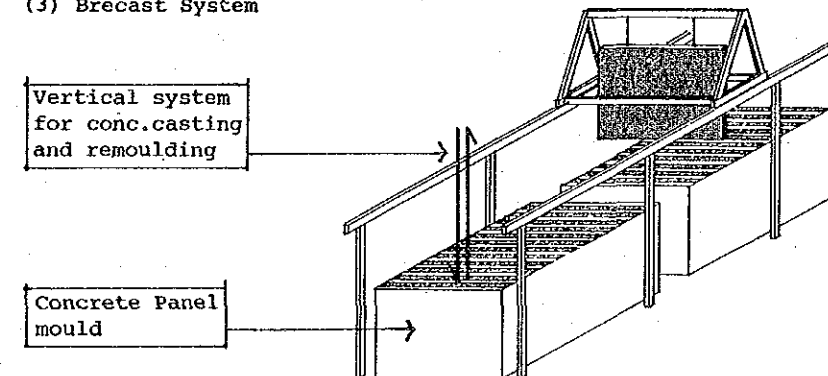
(1) Lift Slab System



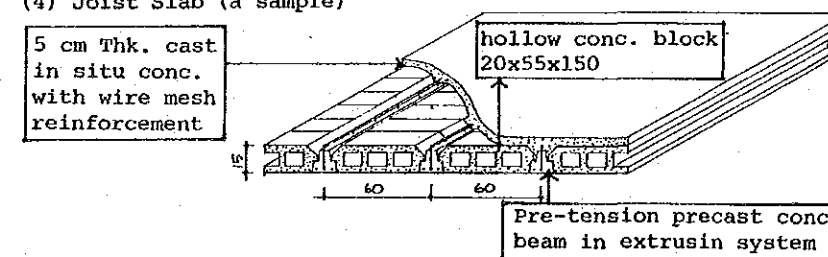
(2) Tunnel Frame System



(3) Precast System



(4) Joist Slab (a sample)



3.3 AFFORDABILITY

3.3.1 Sales Price in the Market

Concerning Perumnas housing, usually almost all selling prices apply BTN standard. BTN standard will also be applied for Perumnas housing development. Recently construction costs have increased exceeding the max. price of BTN standard that is shown in CHAPTER II. Under this situation Perumnas has not yet fixed sales price for Kemayoran housing development. Therefore, Study Team assumed sales prices after analysis on the following viewpoints:

- (1) Perumnas housing market price
- (2) construction cost estimation

There are not so many examples for the selling prices of flat by type. These can be set by referring to selling price of Perumnas flat type in past, in Kebon Kacang, Tanah Abang and Klender III shown in Table 3.7. These selling prices are set as the same level as Kebon Kacang because of its nearness and the price balance. The marketable selling price in 1988 will be as follows, after conversion by price escalation of 10% per year and transforming F18, 36 and 70 in proportion to area of houses.

- F18	Rp. 9,097,000
- F36	Rp. 15,685,000
- F70	Rp. 30,145,000

Table 3.7 Selling Price in the Past

(Rp. 1,000)

Kebon Kacang (1986)	Tanah Abang (1983)	Klender III (1984)
F21: 7,975	F36 (A) = 4,777	F36 = 5,247
F42: 13,750	F36 (B) = 4,610	F48 = 7,123
F51: 16,500		F54 = 7,928

3.3.2 Perumnas Housing and BTN Standard

According to the BTN standard up to April 1989, the max. selling price was limited to Rp. 7.0 mil. for small flat type and Rp. 11.46 mil. for large flat type. Comparing with the construction cost, it can be assumed that small flat type can be converted as max. F21 (21 m²) and large flat type can be converted as max. F27 (27 m²). Affordable income for price of Rp. 7.0 mil. is about Rp. 200,000/month and for price of Rp. 11.46 mil. is about Rp. 300,000/month.

On 20 April 1989 the conditions were changed. The new conditions were also general, and not specified to Kemayoran housing development. These conditions are summarized and compared in Table 3.8.

Table 3.8 Conditions of Housing Loan

Item	BTN #1 (up to Mar. 1989)	BTN #2 (on April 1989)	Papan Sejahtera	Private Bank
1. Income	<Rp. 300,000	<Rp. 900,000	Rp. 300,000 - Rp. 200,000	No limit
2. Max. Loan Amount	RS Small: 5.6 mil. RS Large: 8.6 mil.	RS 21 : 5.76 mil. RS 36 : 9.54 mil. RS Large: 12.6 mil.	(DJK & Sur- rounding) Rp. 90,000,000 (other cities) Rp. 75,000,000	No limit
3. Max. Price of House	RS Small: 7.0 mil. RS Large: 11.46 mil.	No definition	Nothing	Nothing
4. Downpayment	RS Small: 20% RS Large: 40%	RS 21 : 10% RS 36 : 10% RS Large: 10%		-
5. Installement	Max. 20 years Max. 30% of monthly income	Max. 20 years Max. 25% of monthly income	5-15/20 years (Nonfixed/ fixed income)	-
6. Interest	RS Small: 12% RS Large: 15%	RS 21 : 12% RS 36 : 16% RS Large: 18%	20%	24-30%
7. Max. Income	No definition	RS 21 : 400,000 RS 36 : 500,000 RS Large: 800,000	Nothing	Nothing

Note: *1. Ministry of Housing Decree

*2. Ministry of Housing Decree No. 8/KPTS/1989 - 20 April 1989

3.3.3 Selling Price and Affordability

In order to examine the sale price, the following alternative cases were set under the conditions that existed up to April 1989.

- Case 1 Construction cost by land price
Rp. 2,000
- Case 2 Present land price of KCIU
- Case 3 Monthly income Rp. 300,000 for F27
- Case 4 Original price level as Kebon Kacang
- Case 5 Price escalation on Kebon Kacang
(10%/year)
- Case 6 Usual profit ratio by Perumnas (25%)

It can be said that the income group of up to Rp. 200,000/month could buy max. F18 type, and Rp. 300,000/month could buy max. 27 type from the point of view of affordability. Also, the income group of Rp. 400,000/month could buy F36 type, Rp. 700,000/month could buy F54 type and Rp. 900,000/month could buy F70 type approximately.

Table 3.9 Sales Price and Affordability

Case Installment	(1) 25% Profit Margin		(2) Land Price Rp. 250,000	
	(A) 25%	(B) 30%	(A) 25%	(B) 30%
F18	229,000	191,000	315,000	262,000
F27	362,000	302,000	505,000	420,000
F36	473,000	394,000	668,000	557,000
F54	762,000	635,000	1,094,000	912,000
F70	906,000	755,000	1,224,000	1,020,000

- Note: 1. Unit is Rp. per month.
2. Installment ratio means monthly installment/monthly income, such as (A) 25%. (New regulation) (B) 30% (Old regulation)

3.3.4 New BTN Standard

On 20 April, 1989, Minister of Housing issued a decree on BTN standard that is shown in Table 3.9. According to this New BTN standard, the classification of Rumar Susun increases to 3 cases, interest changes to 12%, 15%, and 20%, installment per monthly income (installment ratio) changes to 25% and the max. monthly income by housing type is newly set up.

Those new conditions are introduced into Case 6 for the examination of affordability, shown in Table 3.10. In that table, there are two cases of different sales price. Case 7 reflects the max. sales price of the New BTN standard applied to Perumnas.

On the contrary, Case 8 indicates that the sales price does not have the maximum amount of limitation.

According to this result, it is difficult to obtain a house, even F18, for those of income class less than Rp. 300,000/month. Also an income of 500,000 to 600,000/month is necessary to obtain an F36 type flat.

Table 3.10 Affordability by New BTN Standard

Case-7 BTN standard is applied to F18, F27, F36

Type	Sales Price	Down payment		Interest		Instalment Mon. Paymen	Income Class (25%) (Rp.)
		(%)	(Rp.)	(%)	Year		
F-18	6,400,000	10	640,000	12	20	64,262	257,047
F-27	8,100,000	20	1,620,000	16	20	91,080	364,321
F-36	10,600,000	20	2,120,000	16	20	119,191	476,765

Case-8 BTN standard is applied to F18, F27, F36 (No max. sales price)

Type	Sales Price	Down payment		Interest		Instalment Mon. Paymen	Income Class (25%) (Rp.)
		(%)	(Rp.)	(%)	Year		
F-18	6,970,000	10	697,000	12	20	69,985	279,941
F-27	10,147,500	20	2,029,500	16	20	114,103	456,413
F-36	13,246,250	20	2,649,250	16	20	148,947	595,788

It will be roughly estimated that the classification of very low income group are those with incomes of less than Rp. 200,000/month because they cannot buy F18 flat. Low income group are those with income up to Rp. 300,000/month due to their max. affordability of F27 flat. Middle income group shall be classified in the income bracket of Rp. 400,000 - Rp. 900,000/month from their max. affordable flat type of F70. High income group are those with incomes of more than Rp. 1,000,000/month.

Table 3.11 Affordable Range (Rp. 1,000/month)

Case	1	2	3	4	5	6	7	8	Class
F18	152	262	200	187	249	191	257	278	Low
F27	241	420	300	305	406	302	364	456	
F36	318	557		350	466	894	476	595	Middle
F54	510	911		683	908	635	761	761	
F70	553	1020	600	603	802	755	905	905	

Note: Only Case 7 and Case 8 are calculated by installment ratio 25%.

3.3.5 Subsidy

Perumnas should supply houses to low income group which is one of its objectives. Therefore, generally the profit made by sale of large type of housing is shared to the small type of housing sold to low income class by means of lowering its sales price.

If the subsidized sales price should be set in the same amount as the construction cost, the max. sales price of F27 is lower than the subsidized sales price of F27. Subsidized price and affordability are shown in Table 3.12 and price setting is also explained in section 3.4.4. Subsidy will be obtained for F18 and F27. Perumnas could supply the amount of construction cost instead of the sales price for F18 and F27. The difference of both will be the subsidy.

There are so many levels to set the sales price by subsidy. How to set such level will depend on the condition of housing development. In Kemayoran case, the construction costs are assumed as the main measurement to set up the level of subsidy. Those subsidies are shown as follows:

Table 3.12 Subsidy

Unit: Rp.

	Original Sales Price	Subsidized Sales Price	Affordability of Subsidized Price
Case 1 F18	6,970,000	5,576,000	223,950
F27	10,144,500	8,118,000	410,772
Case 2 F18	9,593,000	5,576,000	223,950
F27	14,144,000	8,118,000	410,772
Case 3 F18	6,400,000	5,576,000	257,047
F27	8,100,000	8,100,000	409,861
Case 4 F18	6,400,000	5,576,000	257,047
F27	8,100,000	8,100,000	409,861

3.4. GENERAL FINANCIAL FRAMEWORK

3.4.1 Condition

Cash flow analysis is conducted under the following conditions and assumptions.

(a) Basic policy

- The basic policy of Perumnas for the Kemayoran Urban Housing Development is to obtain so-called "seed capital" for further housing development in the country.
- Perumnas takes into consideration low income people and their resettlement through the project. Cross subsidy is one of the points at issue.

(b) Cost items

Major cash outflows consist of four items.

1) The land acquisition cost

The land for this project site has been already sold by KCIU and the price of Rp. 2,000/m² HPL (registration fee) is added to this item.

2) The fees for detailed study and design.

3) The land development (infrastructure)

This cost includes site clearance, grading, storm water drainage, road and path, utility service network, landscaping and planting.

4) The housing construction cost.

(c) Housing Development and Disbursement Schedule

Disbursement Schedule is shown as follows.

Table 3.13 Total Development Cost

Unit: Rp.1,000

Items		
(1)	Land Acquisition Cost	
	(a) Land Cost	600,000
	(b) HPL (Rp 150/m ²)	45,000
	(c) Sub Total	645,000
(2)	Detailed Study and Design	200,000
(3)	Land Development Cost (Infrastructure)	
	(a) Land Development Cost	6,000,000
	(b) Contingency [(a) x 5%]	300,000
	(c) Sub Total [(a)+(b)]	6,300,000
	(d) Overhead [(c)x10%]	630,000
	(e) Interest [(c)x10%]	630,000
	(f) Insurance [(c)x1%]	63,000
	(g) Sub Total [(c)+(d)+(e)+(f)]	7,623,000
(4)	Housing Construction Cost	54,827,250
(5)	Grand Total Cost [(1)+(2)+(3)+(4)]	63,295,250

Sources: Perumnas and Study Team

(d) Housing Sales Price

Housing sales price is set up as follows.

Alternative-1. 25% profit margin to total
(Case-1) accounting cost (land price Rp.2,000/m²)

Alternative-2. land price at the actual
(Case-2) market level (Rp.250,000/m²)

Table 3.14 Disbursement Schedule

CLASS	House Type	ST	NO. OF HOUSES	COST per UNIT	1990		1991		1992		1993		1994		TOTAL CON. COST
					UNIT	AMOUNT	UNIT	AMOUNT	UNIT	AMOUNT	UNIT	AMOUNT	UNIT	AMOUNT	
UPPER	F-70	8	120	27,872	0	0	0	0	0	0	0	0	120	3,344,640	3,344,640
MIDDLE	F-70	4	780	22,677	150	3,401,550	0	0	250	5,669,250	200	4,535,400	180	4,081,860	17,688,060
MIDDLE	F-54	4	750	15,260	150	2,289,000	200	3,052,000	0	0	200	3,052,000	200	3,052,000	11,445,000
	F-36	4	750	10,597	150	1,589,550	250	2,649,250	200	2,119,400	150	1,589,550	0	0	7,947,750
LOW	F-27	4	1,100	8,118	200	1,623,600	250	2,029,500	250	2,029,500	150	1,217,700	250	2,029,500	8,929,800
	F-18	4	2,500	5,576	350	1,951,600	550	3,066,800	550	3,066,800	550	3,066,800	500	2,788,000	13,940,000
TOTAL			6,000	---	1,000	10,855,300	1,250	10,797,550	1,250	12,884,950	1,250	13,461,450	1,250	15,296,000	63,295,250

The subsidized households are 750 with monthly incomes falling between Rp.100,000 - Rp.200,000, and are about a quarter of total residents in Zone 4 according to the Socio-Economic Survey conducted in Zone 4.

These subsidized households are divided into 150 units for F27 and 600 units for F18. Since they were regarded as major potential candidates for resettlement, the sales prices to be charged to them were set up at the level of the accounting cost only with no profit.

According to Perumnas and BTN data, down payments are basically paid within the period starting three months before the completion of the housing construction to one year after the completion. BTN approves KPR (House Ownership Credit) after down payment is fully disbursed. Consequently, an installment portion through BTN comes to Perumnas one year after its completion of housing.

3.4.2 Cash Flow Charts

Cash flow charts consist of 6 cases. Basically Case 1 and Case 2 correspond to the sales prices alternatives. From the point of financing, these two cases are subdivided as follows.

TYPE-A: The deficit is fully covered by Perumnas own capital.

TYPE-B: A half of the deficit is financed by a loan from the Ministry of Finance and the other half is financed by Perumnas.

TYPE-C: This case is totally financed by the Ministry of Finance.

The loan of the Ministry of Finance is reimbursed under the terms of no grace period, interest of 8.025 % per year and five year term.

Table 3.16 Profit Alternatives for Case 1 & Case 2

CASE-1								
HOUSE TYPE	DISTRIB. RATIO	NO. OF HOUSE	SELLING PRICE(1)	TOTAL SALES	COST per UNIT	TOTAL COST	PROFIT per UNIT	TOTAL PROFIT
F70(8ST.)	2.00	120	34,840	4,181	27,872	3,345	6,968	836
F70(4ST.)	13.00	780	28,346	22,110	22,677	17,688	5,669	4,422
F54	12.50	750	19,075	14,306	15,260	11,445	3,815	2,861
F36	12.50	750	13,246	9,935	10,597	7,948	2,649	1,987
F27	15.83	950	10,148	9,640	8,118	7,712	2,030	1,928
F27(SUB.)	2.50	150	8,118	1,218	8,118	1,218	0	0
F18	31.67	1,900	6,970	13,243	5,576	10,594	1,394	2,649
F18(SUB.)	10.00	600	5,576	3,346	5,576	3,346	0	0
TOTAL	100.00	6,000	---	77,978	---	63,295	---	14,683
UNIT	(%)	(NO)	(RP1000)	(RP.MIL)	(RP1000)	(RP.MIL)	(RP1000)	(RP.MIL)

CASE-2								
HOUSE TYPE	DISTRIB. RATIO	NO. OF HOUSE	SELLING PRICE(2)	TOTAL SALES	COST per UNIT	TOTAL COST	PROFIT per UNIT	TOTAL PROFIT
F70(8ST.)	2.00	120	43,496	5,220	27,872	3,345	15,624	1,875
F70(4ST.)	13.00	780	38,301	29,875	22,677	17,688	15,624	12,187
F54	12.50	750	27,313	20,485	15,260	11,445	12,053	9,040
F36	12.50	750	18,632	13,974	10,597	7,948	8,035	6,026
F27	15.83	950	14,144	13,437	8,118	7,712	6,026	5,725
F27(SUB.)	2.50	150	8,118	1,218	8,118	1,218	0	0
F18	31.67	1,900	9,593	18,227	5,576	10,594	4,017	7,632
F18(SUB.)	10.00	600	5,576	3,346	5,576	3,346	0	0
TOTAL	100.00	6,000	---	105,780	---	63,295	---	42,485
UNIT	(%)	(NO)	(RP1000)	(RP.MIL)	(RP1000)	(RP.MIL)	(RP1000)	(RP.MIL)

3.4.3 Financial Internal Rate of Return (FIRR)

FIRR of Case-1 and Case-2 are 15.6% and 34.5% respectively. Generally the market interest rate of commercial banks is around 20% in Indonesia. Thus, the ratio of Case 1 shows slightly negative financial performance. Case 2 indicates the project is viable even with private bank loan (Common Credit).

In terms of financing, required own capital reaches amount of Rp.18,722 million in Case 1-A and Rp. 17,320 million in Case 2-A. Case 1-B and Case 2-B have half of the respective amounts mentioned above in Case 1-A and Case 2-A as a burden to be borne by Perumnas. (Details are shown in Appendix G)

Table 3.15 Summary of Financial Results

(A)		
Item	Case 1 (Rp. Million)	Case 2 (Rp. Million)
Inflow		
. Down Payment	19,910	27,042
. Interest	58,068	78,738
. Total	77,978	105,780
Outflow		
. Land Acquisition	645	645
. Detailed Design	200	200
. Infrastructure	7,623	7,623
. Construction	54,827	54,827
. Total	63,295	63,295
Balance	14,683	42,485
FIRR	12.6%	34.5%
NPV		
Discount rate : 10%	1,952	19,696
15%	-1,548	12,940
20%	-3,940	8,040

(B) Unit: Rp. Million

	Required Own Capital	Loan	Total Interest	Net Profit
Case 1-A	18,772	-----	-----	14,683
1-B	9,386	21,393	5,150	9,533
1-C	-----	45,887	11,047	3,636
Case 2-A	17,321	-----	-----	42,485
2-B	8,660	11,334	2,729	39,756
2-C	-----	23,696	5,705	36,780

3.4.4 Additional Analysis according to BTN Regulation

In the previous analysis, the maximum amount of sale price of house by BTN loan is not considered because the examples of flats are few and their sale prices are ad hoc and not set up by regulations.

However, the decree issued in April 1989 shows new limits for flats prices for BTN loan. Thus, this analysis is done according to BTN regulation. The decree only shows three categorized types of flats, that is F-21, F-36 and larger than F-36. Here, the maximum sales price for F-18 in this Study applies to that of F-21 in the regulation. This amount is Rp. 5,576 thousand. F-27's maximum price is set up at Rp. 8,100 thousand in proportion to the amount between F-21 and F-36. The price of F-36 amounts to

Rp. 10,600 thousand. Prices for F-54 and F-70 in this Study are not applied to the limits of the regulation. That is, both sales prices are assumed to be the same as before.

The results of calculation are shown in Table 3.17 . Case 3 is under the same conditions of Case 1 and Case 4 is of Case 2 except sales prices.

Compensation is planned for the removal of 150 units of F27 and 600 units of F18. Therefore, the study plans to set sales prices just equal to the amount of compensation plus the maximum repayable loan according to their income. However, these amounts become larger than prices of regulation. Thus, the sales prices are the same as the regulated prices.

Table 3.17 Profit Alternatives for Case 3 & Case 4

CASE-3

HOUSE TYPE	DISTRIB. RATIO	NO. OF HOUSE	SELLING PRICE(1)	TOTAL SALES	COST per UNIT	TOTAL COST	PROFIT per UNIT	TOTAL PROFIT
F70(8ST.)	2.00	120	34,840	4,181	27,872	3,345	6,968	836
F70(4ST.)	13.00	780	28,346	22,110	22,677	17,688	5,669	4,422
F54	12.50	750	19,075	14,306	15,260	11,445	3,815	2,861
F36	12.50	750	10,600	7,950	10,597	7,948	3	2
F27	15.83	950	8,100	7,695	8,118	7,712	-18	-17
F27(SUB.)	2.50	150	8,100	1,215	8,118	1,218	-18	-3
F18	31.67	1,900	6,400	12,160	5,576	10,594	824	1,566
F18(SUB.)	10.00	600	5,576	3,346	5,576	3,346	0	0
TOTAL	100.00	6,000	---	72,263	---	63,295	---	9,667
UNIT	(%)	(NO)	(RP1000)	(RP.MIL)	(RP1000)	(RP.MIL)	(RP1000)	(RP.MIL)

CASE-4

HOUSE TYPE	DISTRIB. RATIO	NO. OF HOUSE	SELLING PRICE(2)	TOTAL SALES	COST per UNIT	TOTAL COST	PROFIT per UNIT	TOTAL PROFIT
F70(8ST.)	2.00	120	43,496	5,220	27,872	3,345	15,624	1,875
F70(4ST.)	13.00	780	38,301	29,875	22,677	17,688	15,624	12,187
F54	12.50	750	27,313	20,485	15,260	11,445	12,053	9,040
F36	12.50	750	10,600	7,950	10,597	7,948	3	2
F27	15.83	950	8,100	7,695	8,118	7,712	-18	-17
F27(SUB.)	2.50	150	8,100	1,215	8,118	1,218	-18	-3
F18	31.67	1,900	6,400	12,160	5,576	10,594	824	1,566
F18(SUB.)	10.00	600	5,576	3,346	5,576	3,346	0	0
TOTAL	100.00	6,000	---	87,945	---	63,295	---	24,649
UNIT	(%)	(NO)	(RP1000)	(RP.MIL)	(RP1000)	(RP.MIL)	(RP1000)	(RP.MIL)