

CHAPTER

4

**PRESENT CONDITIONS AND IDENTIFICATION
OF PROBLEMS IN THE PROJECT SITE**

4.1 PRESENT CONDITIONS

4.1.1 General

As shown in Fig. 4-1, the project site is situated to the north of the Western Line and the Banjir Canal, and is bounded by Jl. K.H. Mas Mansyur in the west and the Kebon Melati pond in the east. Near the site is a public cemetery located to the southwest of the site. The site is about 3.9 Ha in total, where about 2,000 inhabitants live at present.

The site is characterised as the predominant urban residential area having the small neighbourhood commercial area along Jl. K.H. Mas Mansyur. It is observed that the residential area occupies about 65 percent of the site. As to KIP, it has been almost completed over the site and has contributed towards the improvement of environmental conditions. However, more environmental improvement is needed due to lack of public facilities and unsound housing and land use.

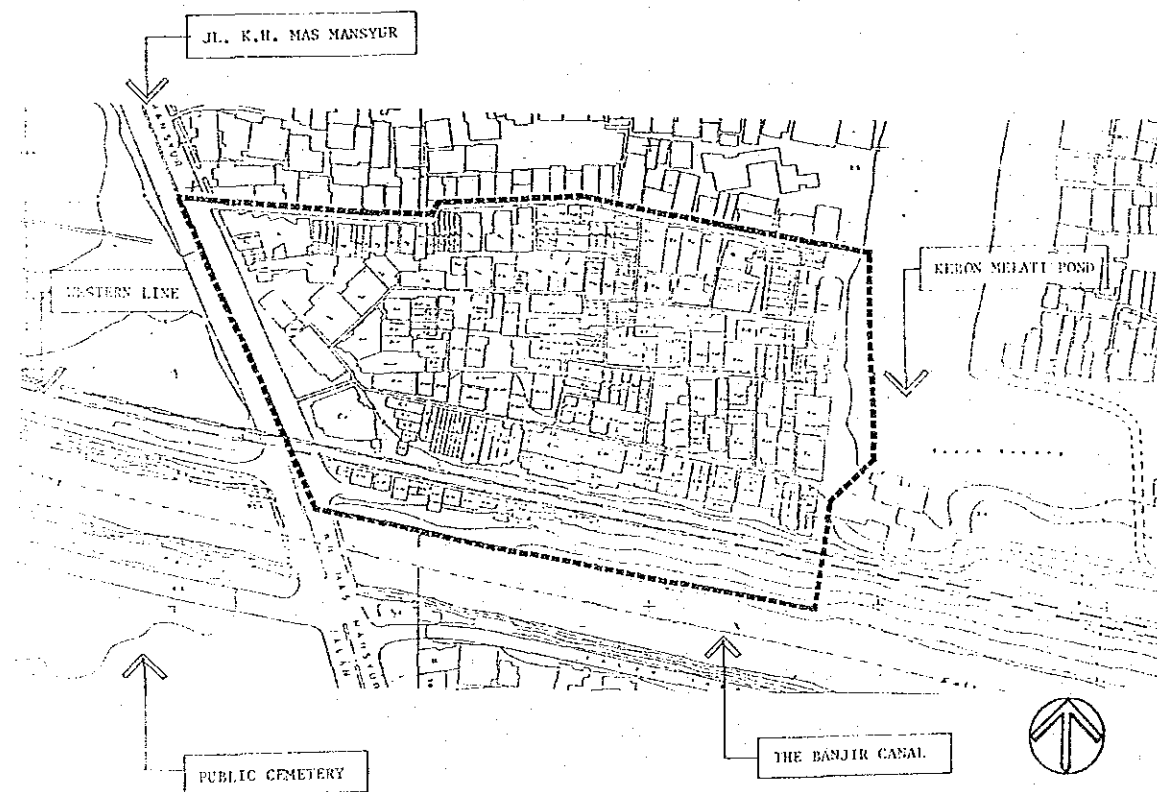


Fig. 4-1 PRESENT SITUATION IN THE PROJECT SITE

4.1.2 Population

Total population	Total No. of households	Average household size	Population density
2,000 person	350 families	5.7 person/house hold	510 person/Ha

4.1.3 Land Use and Building Conditions

Land Use

Unit : m²

Roads		Open Area Railway, River, Bus, Terminal	Community Facility Area	Residen- tial Area	Home Industrial Area	Commercial Area (Shops/ Houses)	Total
Major roads	Neigh. roads						
1,700	2,100	6,600	2,050	24,500	1,050	600	38,600
4%	5%	17%	5%	64%	3%	2%	100%

Building Use (Ref. Fig. 4-2)

Unit : m²

Houses	Shops/Houses	Home Industry	Community Facilities	Total
17,900	600	1,200	400	20,100
89%	3%	6%	2%	100%

Building Structure (Ref. Fig. 4-3)

Unit : m²

Permanent	Semi-permanent	Temporary	Total
10,300	6,400	3,400	20,100
51 %	32 %	17 %	100 %

Building Age (Ref. Fig. 4-4)

Unit : m²

1 - 5 years	6 - 15 years	16 - 30 years	over 31 years	Total
1,200	6,600	10,100	2,200	20,100
6 %	33 %	50 %	11 %	100 %

Number of Building Storeys (Ref. Fig. 4-5)

Unit: Bldgs.

One Storey	Two Storeys	Above Three Storeys	Total
108 bldgs	23 bldgs	1 building	132 bldgs
82 %	17 %	1 %	100 %

No. of Household by Floor Area

Unit : No. of Household

Less 20 m ²	21-30 m ²	31-42 m ²	43-64 m ²	65-80 m ²	over 81 m ²	Total
60	63	42	84	28	73	350
17%	18%	12%	24%	8%	21%	100%

Note: The facts mentioned above were derived from the physical inventory survey carried out in the beginning of state II.

4.1.4 Road Network and KIP

Road network and KIP in and around the project site are shown in Fig. 2-10 and Fig. 2-11. As explained previously, KIP has been almost completed over the site.

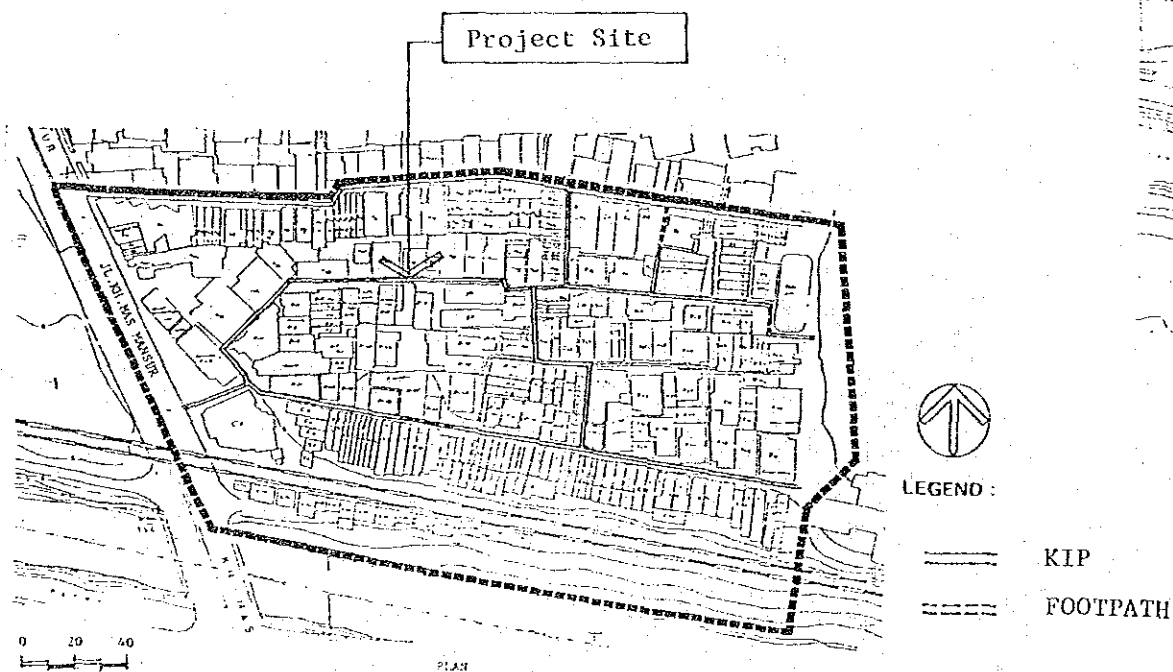


Fig. 4-6 KIP (Kampungs Improvement Programme)

4.1.5 Community Facilities and Public Utilities

Community Facilities

Community facilities such as religious, educational and health facilities in and around the project site are shown in Fig. 4-7. The data was obtained from Kelurahan Kebon Melati in Stage I and the physical inventory survey in Stage II.

Public Utilities

Public utilities such as piped water (PAM), city gas pipe and other utilities are shown in Fig. 2-4. Although a main water pipe is running along Jalan K.H. Mas Mansyur adjacent to the project site, only ten families are using piped water, and the remaining families take water from wells.

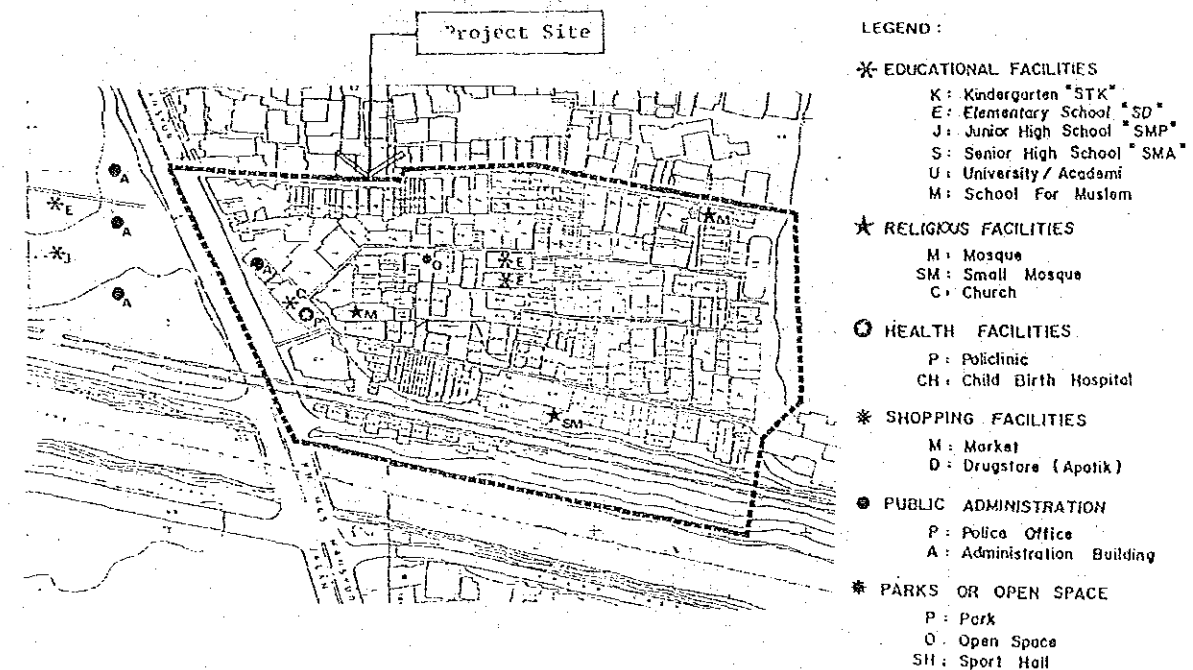


Fig. 4-7 COMMUNITY FACILITIES

4.1.5 Socio-Economic Conditions

Age Structure

The population distribution in Kebon Melati is shown in Fig. 4-8. There is a predominance of the younger generation and more than half of the population are less than 17 years old.

BLDG. CONDITIONS

KEBON MELATI

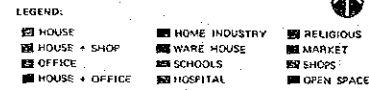


Fig. 4-2 BLDG. USE

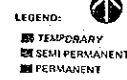


Fig. 4-3 BLDG. STRUCTURE

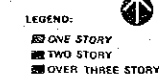


Fig. 4-4 NUMBER OF BLDG. STOREYS



Fig. 4-5 BLDG. AGE

OWNERSHIP ON LAND AND BLDGS

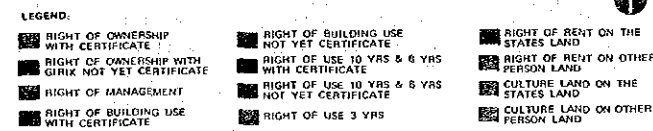
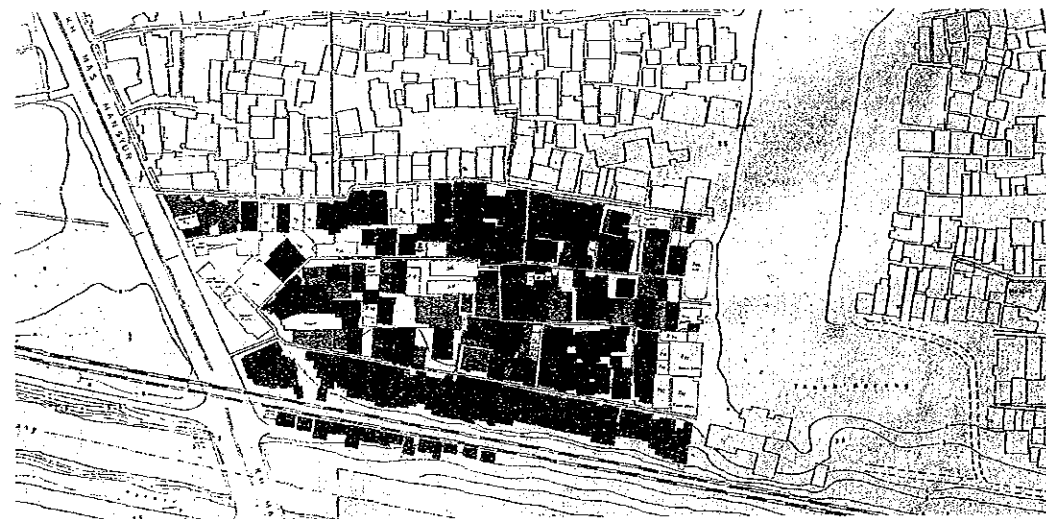


Fig. 4-10 LAND OWNERSHIP

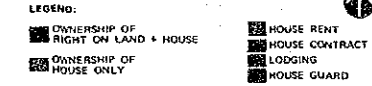
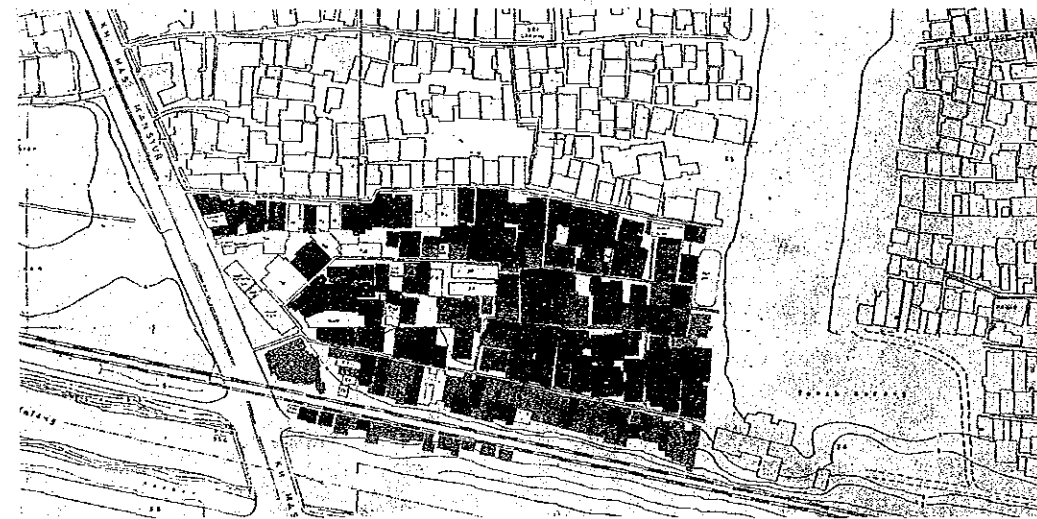


Fig. 4-11 BLDG. OWNERSHIP

Population Ratio by Age Group and Sex

Age Group	0 - 5	6 - 11	12-17	18-23	24-30	31-40	41-55	56-	Total
Male	8.1	8.2	7.4	6.8	8.1	5.2	3.3	2.0	49.2
Female	9.4	9.6	8.1	8.0	6.4	4.5	3.1	1.7	50.8
Total	17.5	17.8	15.5	14.8	14.5	9.7	6.4	3.7	100.0

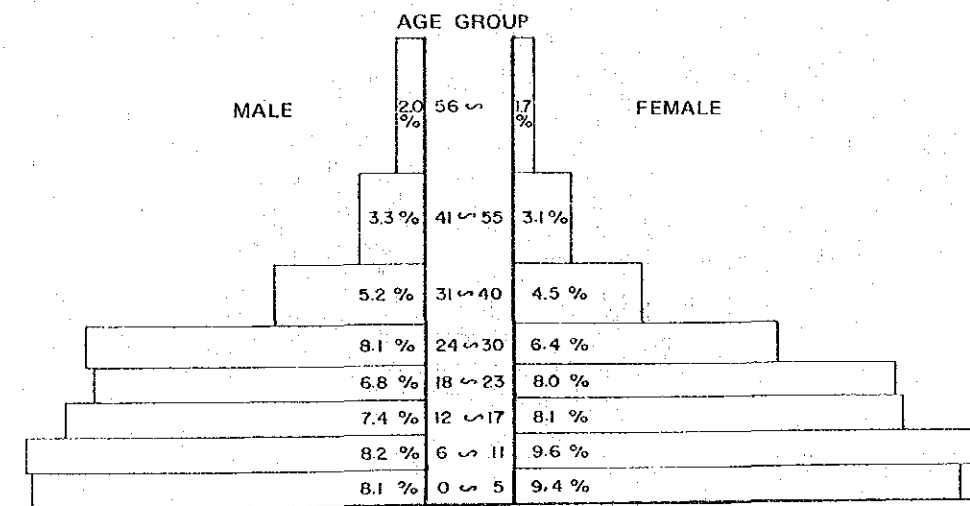


Fig. 4-8 POPULATION DISTRIBUTION (POP. PYRAMIDE)

Job

The most common occupation is private employee and this is 24% of workers. Second is labourers, followed by retailers. The ratio of civil servants is only 12%.

Kind of Job

Civil Servant	Private Employee	Labourer	Retailer	Pensioner	Others	Total
12%	24%	22%	18%	7%	17%	100%

Household Income and Expenditure

The distribution of household income and expenditure is shown in Fig. 4-9. The average monthly income is Rp.95,600 and the average monthly expenditure is

Rp.100,700. The shortage of income may be caused by the secondary income that the inhabitants did not report. About the half of households have monthly income of less than Rp.70,000. Only 20% of households have expenditure for housing and the average household expenditure for housing is Rp.8,000 or 12% of their income.

Housing Expenditure Ratio to Income

Unit: No. of Household

- 5%	5 - 10%	10 - 15%	15 - 20%	25 - 30%	30 - 35%	35 -	Total
34	14	11	0	5	1	5	70
49%	20%	16%	0%	7%	2%	7%	100%

Religious

Islam	Christian	Hinduism	Buddhism	Others	Total
96%	4%	0.2%	0.3%	0%	100%

Social Activities

More than half of inhabitants enjoy voluntary activities, koran reading, lottery and festival. More than 80% of inhabitants have good relationship with their neighbours and the ratio of inhabitants who have a bad relationship is only 1%.

Ratio of Favourite Social Activities

Lottery	Koran	Voluntary Activities	Recreation	Cultural Meeting	Festival
60%	87%	89%	31%	30%	58%

Economic Activities

The ratio of inhabitants who have a business in their home is 18%, and there are many hawkers who work in the neighbourhood.

Number of Business in Home

Unit: No. of Business

Shop	Handicraft	Home Industry	Services	Workshop	Business Office	Others	Total
34	1	7	14	1	0	1	58
58%	2%	12%	24%	2%	0	2%	100%

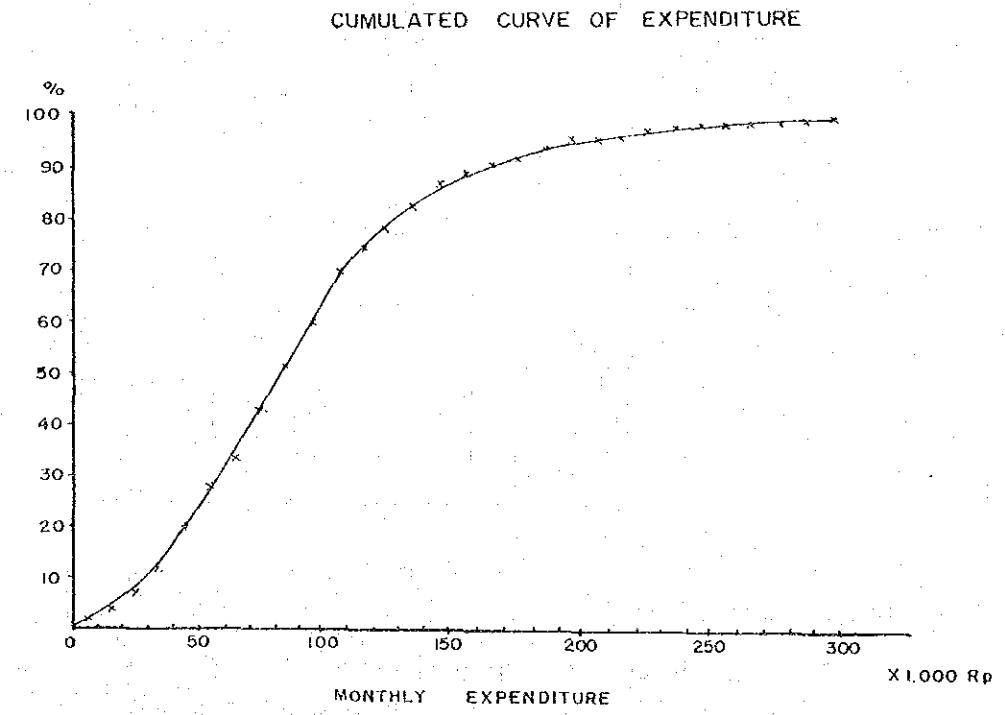
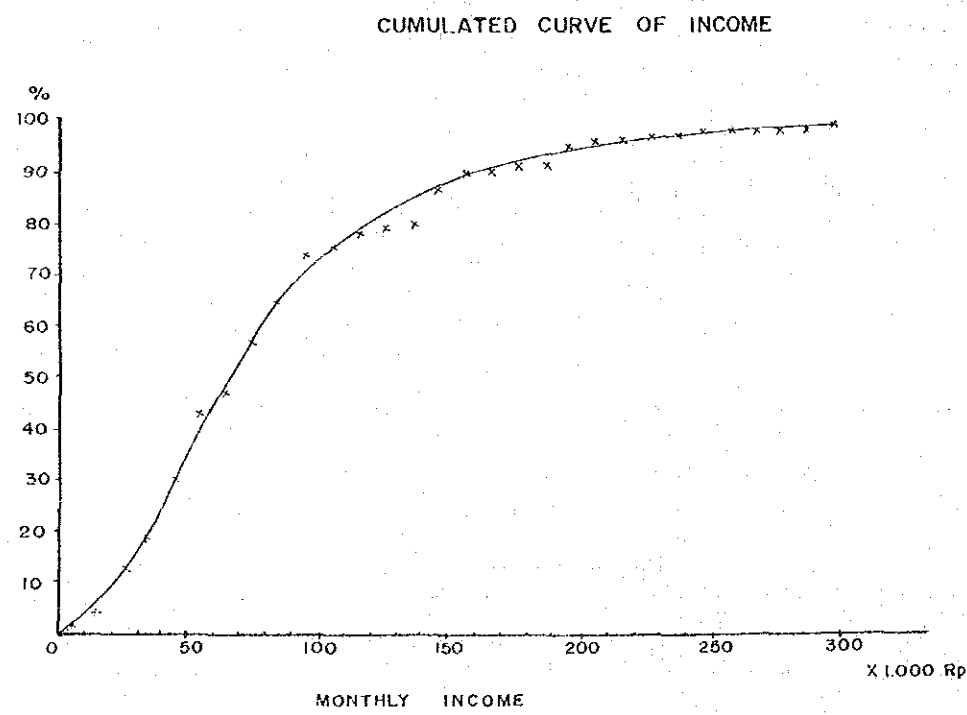
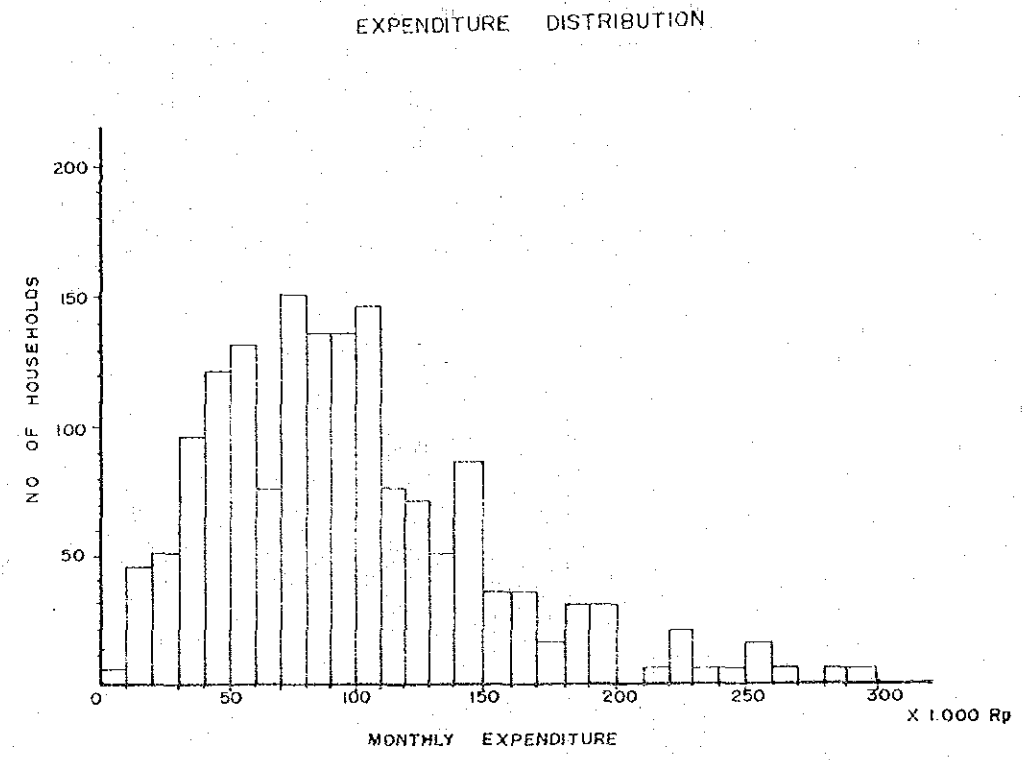
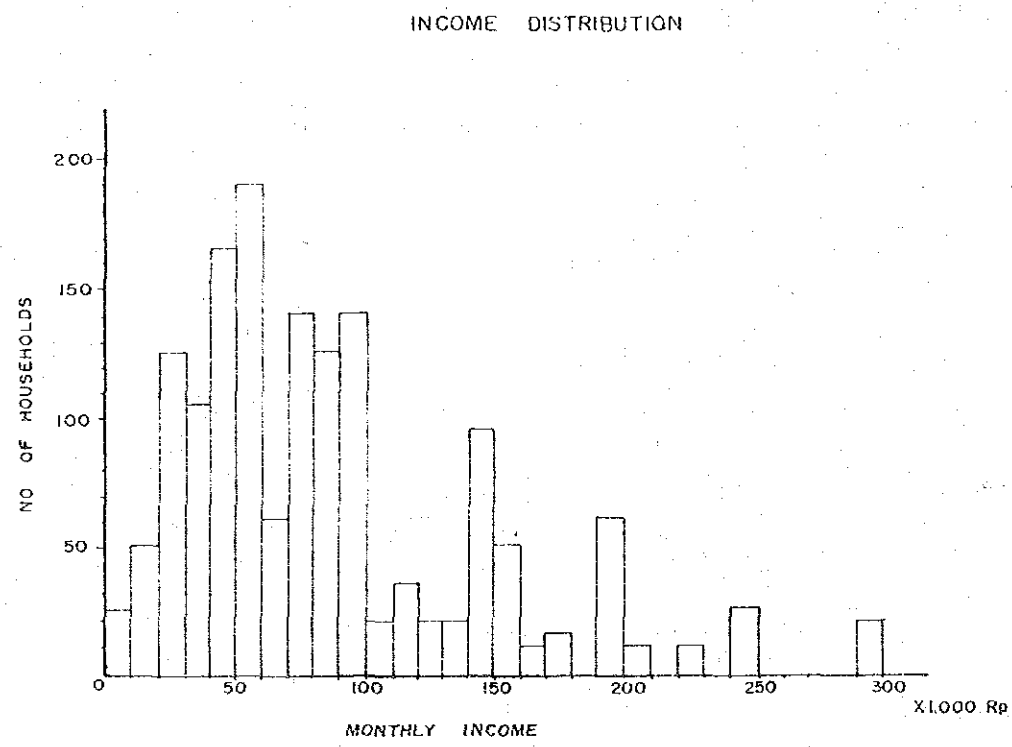


Fig. 4-9 THE DISTRIBUTION OF HOUSEHOLD INCOME AND EXPENDITURE

Urban renewal Sense in the Project Site

About 85% of the inhabitants feel that the living environment should be improved through urban renewal project. As to resettlement ratio, approximate 75% of the inhabitants like to live in the original place after the urban renewal project.

4.1.6 Ownership on Land and Buildings

Ownership on Land (Ref. Fig. 4-10)

As a result of analysis of land ownership, about 85% of building lot area is covered by Hak Milik which is the strongest and the fullest right to the land.

Unit: m²

Right of Ownership (Hak Milik)		Right of Lease (Hak Sewa)		Right to Cultivate (Garapan)	Total
With certificate	Without certificate	Private land	State land	States land	
4,700	14,400	1,000	1,600	4,400	26,100
18%	55%	4%	6%	17%	100%

Ownership of Buildings (See Fig. 4-11)

Unit : No. of Household

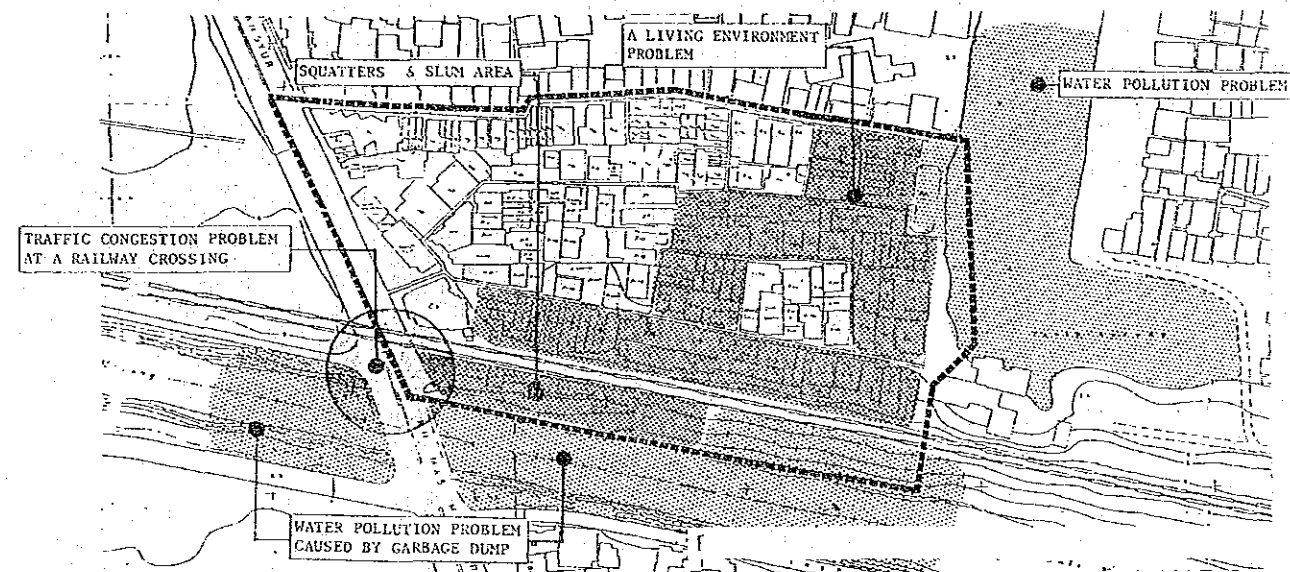
Own House	House Rent	House Contract	Lodging (hanger on)	Total
218	28	52	52	350
62%	8%	15%	15%	100%

Note: The data mentioned above was obtained from the physical inventory survey results in Stage II.

4.2 IDENTIFICATION OF PROBLEMS

The following are the major problems taking place in and surrounding the project site and they are also shown in Fig. 4-12.

- A living environment problem is seen in the project area due to dense and physically unsound houses.
- Water pollution problem in the Kebon Melati pond is seen, because the waste water and sewage generated by the surrounding house is discharged directly into the pond.
- Water pollution problem in the Banjir Canal is also seen because a lot of garbage is illegally dumped on the river bank. Moreover, many illegal temporary public toilets are found on the river bank. The Banjir Canal is used as a source of city water supply and an intake is located at the low reaches of the site.
- Traffic congestion is seen at the railway crossing.
- Squatters and slums are seen in the railway right of way located to the south of the project site.



4.3 PRIORITY PROGRAMMES

Six priority programmes have been designated in and surrounding the project site, as listed below and shown in Fig. 4-13.

Name of Priority Programme	Implementation Agencies	Implementation Schedule
New Karet Station Project	PJKA	Within 5 years according to the railway Master Plan
Station Plaza Project	PJKA & DKI	Within 5 years in linking with New Karet Station Project.
New Road Construction along the Western Line	DKI	Not decided yet.
Road widening to 47 m in Jl. Mas Mansyur	DKI	Not decided yet.
Sewerage system along the Kali Malang (The Banjir Canal)	CIPTA KARYA	Not decided yet.
Ring Canal Sewerage System Project, along the Kebon Melati pond.	DKI	Not decided yet.

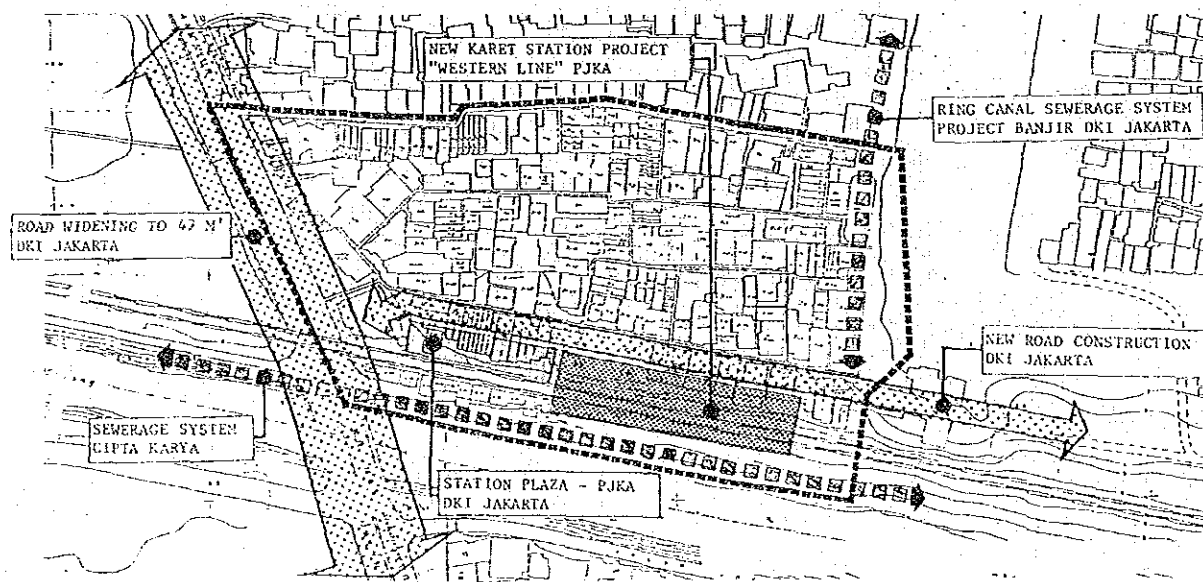


Fig. 4-13 PRIORITY PROGRAMMES

CHAPTER

5

PRELIMINARY URBAN RENEWAL DESIGN

5.1 FORECAST OF FUTURE DEMAND

5.1.1 Future Demand of Commercial Floor

Trade Area

Major markets around Kebon Melati area are shown in Table 5-1.

The primary trade area is determined by a walk-in area and considering the equidistant area amongst all the markets around the developing site.

The secondary trade area is determined by the boundary which has the equidistance between the central and city markets.

The primary and secondary trade areas are shown in Fig. 5-2.

Table 5-1 LIST OF PUBLIC MARKETS SURROUNDING KEBON MELATI

No.	N a m e	Classification	Distance from Kebon Melati (m)	Floor Area (m ²)	No. of Shops
1.	Tanah Abang	Central	1,400	33,462	4,138
2.	C i k i n i	Central	3,000	7,700	354
3.	B l o r a	Regional	900	2,700	341
4.	S l i p i	Regional	2,500	3,080	420
5.	Palmerah	Regional	2,500	?	?
6.	Lonter	"INPRES"	700	?	?

Sales Potential

(1) Estimate of Sales Amount

Table 5-3 shows the sales amount from the present primary and secondary trade area.

Population growth ratio in Jakarta is estimated as 2.9% per annum in the period 1980 through 1995, and 1.9% per annum in the period 1995 through 2005. (Source: DKI Jakarta Master Plan 2005).

Assuming that the population in the trading area of the new commercial developing will increase according to the same ratio of whole DKI Jakarta, the monthly sales amount is estimated as Rp.783 million in year 1995 and Rp.945 million in year 2005.

Fig. 5-2 SURROUNDING EXISTING PUBLIC MARKETS AND TRADE AREA

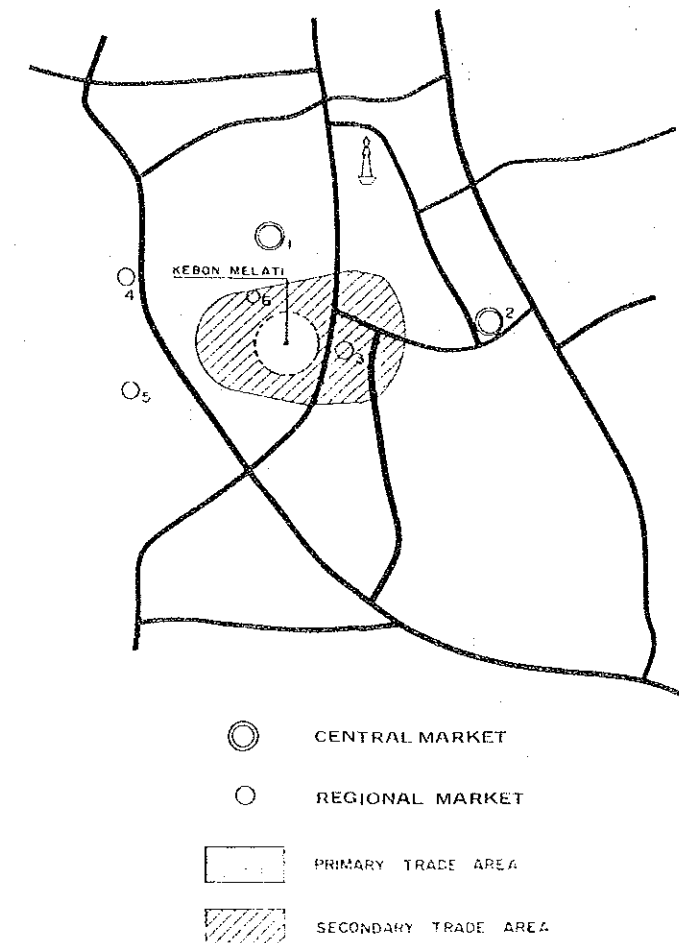


Table 5-3 SALES AMOUNT FROM THE PRESENT PRIMARY AND SECONDARY TRADE AREA

	Primary Trade Area	Secondary Trade Area	T o t a l
Area	80 Ha	500 Ha	630 Ha
Population	17,600	123,200	140,800
Total Consumption for General Merchandise	Rp.255 Mill./ month	Rp.1,786 Mill./ month	Rp.2,505 Mill./ month
Attractive Ratio	60%	20%	-
Sales Amount	Rp.153 Mill./ month	Rp.357 Mill./ month	Rp.510 Mill./ month

(2) Demand forecast of commercial floor

At present, there are only a few small retail shops in the site. But in future, new commercial floor will be required because of household consumption increase and other developing in the site.

The required commercial floor area would be about 5,100 sq.m. for the primary and secondary trade area estimated under the present condition.

Of this commercial floor area, the area for the primary trade accounts for 30% of the total floor area or 1,500 sq.m. would be developed as low-class shops which sell food, family clothes and other daily commodities. Another 70% of the total floor area or 3,600 sq.m. would be developed as middle or high-class shopping area, which would attract the customers from the secondary trade area.

The above figures are calculated on the present conditions. According to the future population increase in the trade area, the trade would expand, and the demand of commercial floor would increase. Even considering the population increase, it could grow 1.5 times by the year 1995 and 1.9 times by the year 2005.

5.1.2 Future Demand for Business Floor Space

Location of Office Building in Jakarta

More than half of the existing office buildings are located along the main roads. In addition to this, many office buildings are now being constructed, and most of them are located along by Jl. Jendral Sudirman, Jl. Gatot Subroto and Jl. Rasuna Said.

Potential of Business Floor Development

The urban renewal area in Kebon Melati is located along Jl. Mas Munsyur which is planned to be improved as a bypass of Jl. M.H. Thamrin and the site will be connected to Jl. M.H. Thamrin by new road development at the same time as new commercial development.

The future potential of business floor development will increase remarkably.

5.1.3 Future Demand for Housing

Classification of Housing Demand

Housing demand in urban renewal project is classified into two kinds. The one is internal demand for rehousing and the other is external demand on private housing and public housing.

Internal demand is for resettlers who are the people involved in the area affected by the urban renewal project.

Housing demand in Kebon Melati

Generally in the urban renewal project, some of the inhabitants wish to dislocate to other places for some reason or other without resettling in the places after renewal. According to the results of socio-economic survey, the anticipated dislocation rate is 25%.

However, housing space is required to be provided sufficiently in preparation for the contingent case in which all of inhabitants wish to resettle.

The number of households actually surveyed in the site of Kebon Melati is 350 and housing floor area is 17,930 sq.m. respectively. Recognizing the fact that in many houses two or more households are living together, housing units required may be less than the number of households, whilst housing floor area should remain the same or become larger than the present one.

5.1.4 Future Demand for Community Facilities

Demand of Community Facilities based on the Criteria

Table 5-4 shows the needs based on the criteria of Cipta Karya, DKI Jakarta and PERUM PERUMNAS.

It is the least of all that based on the criteria of PERUM PERUMNAS.

Table 5-4 COMMUNITY FACILITY AREA BASED ON CRITERIA*1)

	Cipta Karya 2,000*2)	DKI Jakarta 2,000*2)	PERUMNAS 300*3) (4 ha)
Playground	0.2 Ha	-	0.1 Ha
Kiosk	(0.07)	-	(0.05)
Kindergarten	0.16	0.13	0.1
Elementary School	0.3	0.2	-
Others	-	-	-
Total	0.66 Ha	0.33 Ha	0.2 Ha

*1) Cipta Karya, DKI, Jakarta, PERUMNAS Guidelines

*2) Number of Population

*3) Number of Household

Actual Community Facility Area

The community facility are actually provided in Tanah Abang and Kebon Kacang projects, is much lower than the criteria of PERUM PERUMNAS (Ref. Vol. 1-7.5).

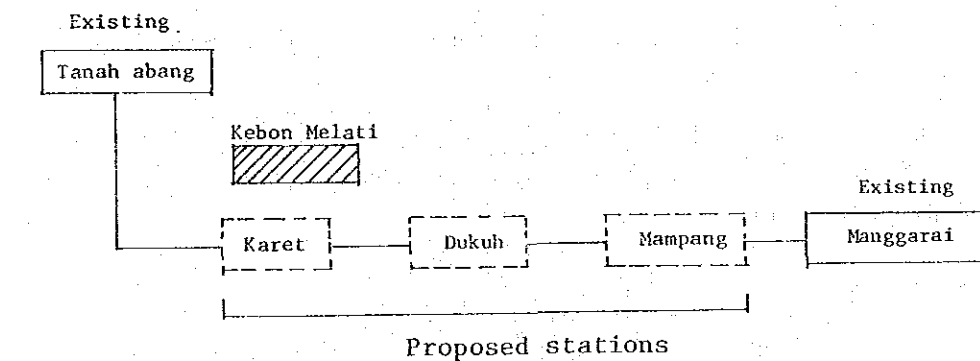
Taking into consideration this fact, it may be teralable that the community facility area provided in the urban renewal area may not necessarily meet the criteria.

5.1.5 Future Demand for Station Plaza in Year 2000

Railway Passengers at Karet Station

Kebon Melati is adjacent to the Western Line and is located between the existing Tanah Abang and Manggarai stations.

There are three stations proposed between them and in Kebon Melati, the proposed station is called the "Karet Station".



Railway passengers (in 2000)	To Manggarai	→	31,000 passengers/day
	To Tanah abang	←	128,000 passengers/day

Source: JICA report, February 1981

The Karet station is much smaller than the Manggarai station and its passengers who get on and off at the station is estimated as 10% of the estimated 128,000 passengers/day.

The calculation is,

$$128,000 \times 10\% = 12,800 \text{ persons/day in Year 2000.}$$

Peak-hour Passengers

As calculated in the case of Manggarai, the following figures are used:

- Concentration of passengers to peak 2 hours : 35%
- Time of passenger using the station plaza (average) : 10 min.
- Additions of non-railway users : 10%

Then, the number of the station plaza users (Np) is,

$$N_p = 12,800 \times 35\% \times \frac{10 \text{ min.}}{2 \text{ hrs. (120 min.)}} \times 1.1 = 400 \text{ persons/10 min.}$$

Proportion by Traffic Modes

The proportion is applied in the same way as in Manggarai.

Public bus	40%
Private car	20%
Taxi	10%
Pedestrians	30%

Users of Each Traffic Mode (400 persons)

Public bus	$400 \times 0.4 = 160$ persons
Private car	$400 \times 0.2 = 80$ persons
Taxi	$400 \times 0.1 = 40$ persons
Pedestrians	$400 \times 0.3 = 120$ persons

Numbers of Vehicles to be Parked

The same figures are applied as in Manggarai.

- Public bus (Buses to be parked: 80%)

Required number of parking: Nb

$$N_b = 160 \times 0.8 \times \frac{1}{40 \text{ persons/bus}} = 4 \text{ No.}$$

- Private car

Required number of parking: Nc

$$N_c = 80 \times 0.1 \times \frac{1}{2 \text{ persons/car}} = 4 \text{ No.}$$

– Taxi

Required number of parking : N_t

$$N_t = 40 \times 0.3 \times \frac{1}{2 \text{ persons/car}} = 6 \text{ No.}$$

Required Parking Spaces

– Public bus

Minimum parking space per bus : $A_b = 90 \text{ m}^2$

Required parking space of buses : P_b

$$P_b = A_b \times N_b = 90 \times 4 = 360 \text{ m}^2$$

– Private car

Minimum parking space per car : $A_c = 20 \text{ m}^2$

Required parking space of taxis : P_t

$$P_t = A_t \times N_t = 20 \times 6 = 120 \text{ m}^2$$

Required Space for Pedestrians : P_p

$$P_p = 2 \times 120 = 240 \text{ m}^2$$

Summary of Required Space

Summary of required space is as shown in Table 5–5.

Table 5–5 REQUIRED SPACE FOR STATION PLAZA

For	Space	Remarks
Bus	360 m ²	} (A) = 1,200 m ² in total
Car	80 m ²	
Taxi	120 m ²	
Pedestrian	240 m ²	
Access roads	400 m ²	
Greenery and open space	360 m ²	(A) x 0,3
Administration	360 m ²	(A) x 0,3
Total	1,920 m²	

For the design, total 2,000 m² station-front plaza is provided.

5.2 STRATEGY OF THE URBAN RENEWAL

5.2.1 Formation of District Centre

In the project planning, Kebon Melati is characterised as one of the district centres in urban residential areas of Jakarta.

To the south of Kebon Melati, a new station named Karet is planned by PJKA in line with the development of the Western Line; the new station and the station-front plaza will be developed accordingly.

Furthermore, when the new road running south of the site is completed, more people will be attracted to visit this area and Kebon Melati will take a more important role as a city district centre.

5.2.2 Improvement of Public Facilities

Major Roads

- Expansion of Jl. Mas Mansyur from the existing 24 m to the planned 47 m with the result of expansion towards the site by 12 m.
- New construction of the road along the north of the Banjir Canal having a right-of-way of 18 m. This requires a bridge over the existing pumping station of the Melati pond.

Station-front Plaza

Estimated number of railway passengers will be 6,000 persons per day and the size of the station-front plaza required is about 2,000 m².

Neighbourhood Roads

Neighbourhood roads or pedestrian mall will be provided along the perimeter of the site or along the boundaries between different land uses. The width of the neighbourhood roads are 8.5 m.

5.2.3 Improvement of Housing and Buildings

Improvement of Urban Middle to High-rise Flats

Consideration was made on the following two aspects.

- In the urban renewal design, more than the existing floor space is to be provided considering the case where most of the inhabitants want to resettle in the same

place. Consequently, the proposed population may possibly remain unchanged.

- Flats for sale to outside, middle to high-income people, or for rent to those who are to move out because of other development projects.

Commercial and Office Buildings Along the New Road

According to the market research of the commercial demand, the following "revenue-producing" buildings are introduced in the design.

- Commercial building
- Office building

Public Buildings

The following public buildings will be provided according to the survey of public buildings demand.

- | | |
|----------------|---|
| - Kindergarten | 1 |
| - Meeting hall | 1 |
| - Mosque | 1 |
| - Library * 1 | 1 |

*1: Not specifically specified in the requirements but preferred in view of social and cultural needs of the area.

5.3 PRELIMINARY URBAN RENEWAL DESIGN

5.3.1 Design Concept (Ref. Fig. 5-6)

Supply of Low-cost Housing and Adequate Community Facilities

- Together with low-cost housings, public open areas are designed in the centre of the project site.
- Around the public open area, community facilities (Ref. 5.2.3) are allocated so as to serve not only for the inhabitants of the site but also for the inhabitants in the neighbourhood.
- The public open area is also planned so that the inhabitants living north of the site can use it as a pedestrian access to the station.

Development of Commercial and Business Facilities

- 2-storey shopping malls are designed as neighbourhood shopping centres.
- A 12-storey office building (private-use floor: 11,000 m²) is designed in the lot adjacent to Jl. KH. Mas Mansyur (Main Road).

Improvement of the Water Front of the Melati Pond

Water front park is designed to provide an amenity for the inhabitants.

5.3.2 Detail of Design (Ref. Fig. 5-8 ~ 10)

General

- Buildings
 - For the inhabitants : 8-storey flats
 - In the south area : 5-storey shops/flats
 - (1st floor : parking
 - 2nd - 3rd floor : shops
 - 4th - 5th floor : flats)
 - 2 storey shops
 - Along Jl. Mas Mansyur : 12-storey office building
- Elevated pedestrian deck

As shown in the Fig. 5-10, the elevation of the railway is 3 m higher than the ground level of the central area. For the development of the shopping mall, an elevated pedestrian deck is proposed and underneath the deck, car parks are provided. Therefore, from the pedestrian deck, 3-storey shops and 5 storey shops/

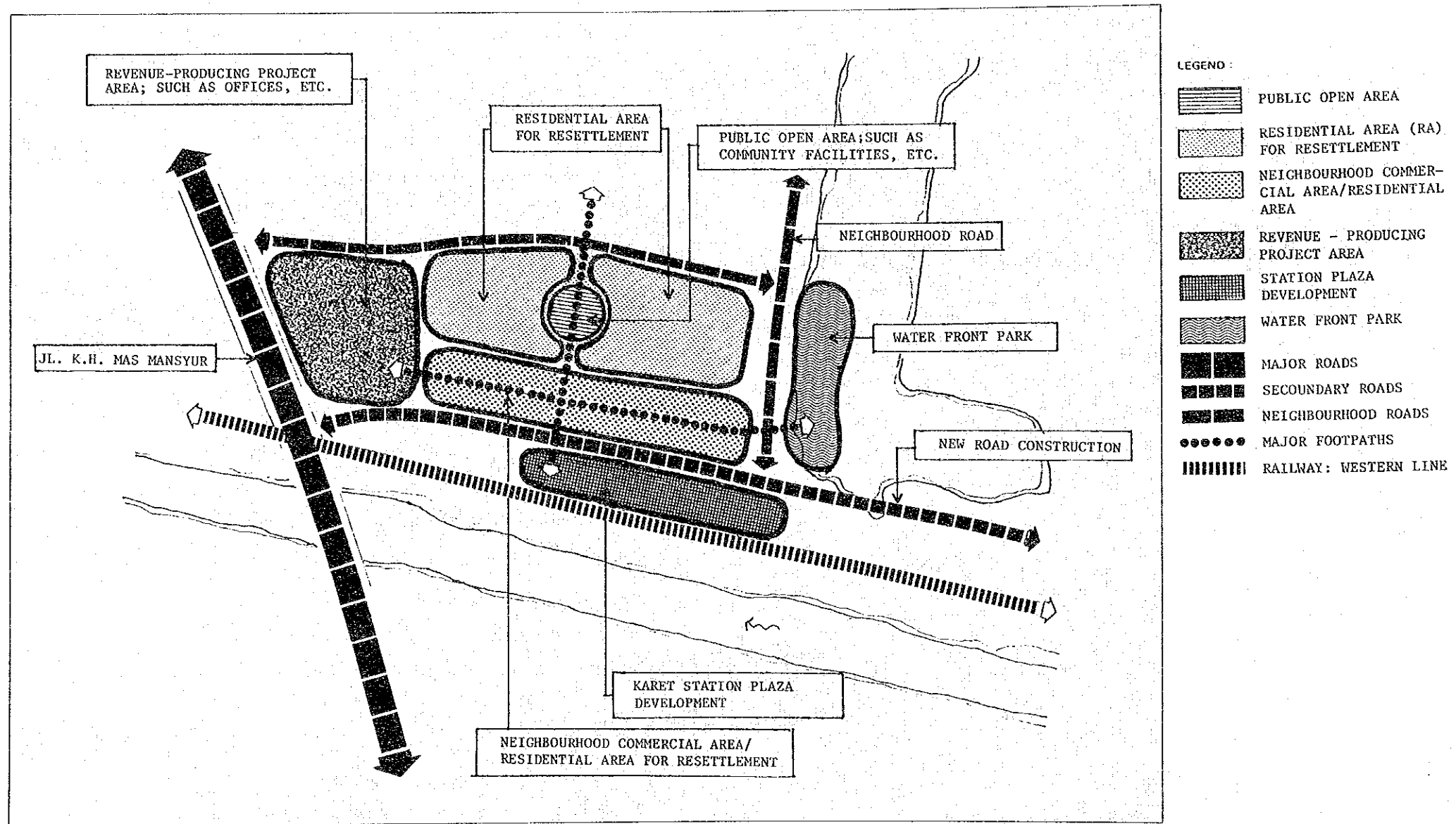


Fig. 5-6 URBAN RENEWAL CONCEPT PLAN - KEBON MELATI

flats look like 2-storey and 4-storey ones respectively.

– Public open area

In the centre of the project site, a public open area surrounded by a waterfall and green trees, is designed. Community facilities (Ref. 5.2.3) are designed around the public open area. They are closely located to allow good accessibility.

The public open area is provided beside the northern housing lots so that the inhabitants living north can use it, too. It will also serve as an approach road to the station for the inhabitants living north of the site where urban renewal will not be applied.

Housing Design

Housing units are designed according to the physical inventory survey. There are 6 types, F-21, F-25, F-36, F-54, F-70 and F-100.

– Type of flats

Type	Private Floor area	Number of units	Type	Private Floor area	Number of units	Total of units
F 21	21.0 m ²	56	F 54	53.8 m ²	96	332
F 25	28.0	56	F 70	76.5	48	
F 36	39.2	28	F100	105.0	48	

– Smaller sizes, F-21, F-25, F-36 and F-54 are allocated to the west of the public open area.

– Larger sizes, F-70 and F-100 are to the east of the area.

– Open gallery

Between the 8-storey flats, an open gallery is designed to offer a neighbourhood communication space which may also provide the space for cooling-off in the evening and children's playground.

– Parking spaces

Due to densely populated flats, parking spaces can not follow the DKI's standard.*¹ However, as the railway and bus transportation will be developed in future, parking spaces for 53 cars could be sufficient against for 119 cars that may be needed according to the DKI's standard.

*1 Number of parking lots of DKI standard
 Shop floor area/60 m²
 Office floor area/100 m²
 Housing < 70 m² 1 car/5 units
 70 – 90 m² 1 car/2 units
 > 90 m² 1 car/1 unit

Water-front Development (Ref. Fig. 5-9)

The improvement of the water-front of the Melati pond will provide a good neighbourhood and playground for the children. When other parts of the water-front will be improved together with resolution of the water pollution, it will provide much more amenity not only for the people in Kebon Melati but also for the citizen of Jakarta.

Shops and Office Floor Areas

Floor areas with parking spaces are given in Table 5-7.

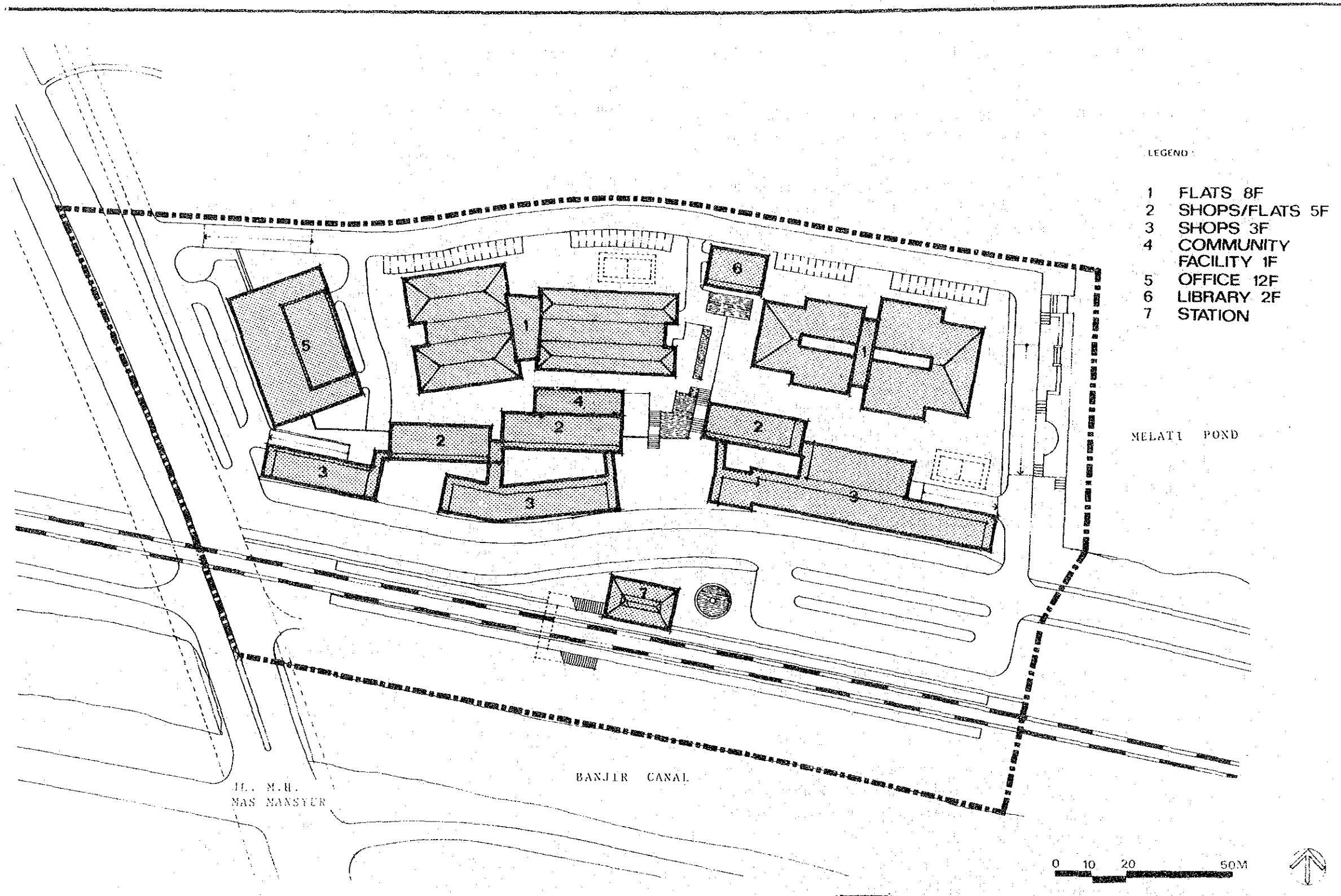
Table 5-7 SHOPS AND OFFICE FLOOR AREAS

	SHOPS	OFFICE	PARKING	
	Gross Floor Area	Gross Floor Area	Gross Floor Area	Remark
PENTHOUSE		360 m ²		
4-12 F		10,665 m ²		
3	1,155 m ²	1,185 m ²		
2	2,155	980		
1		180	4,800 m ²	Number of Parking 205>198 *2 (DKI Standard)
B1		980		
SUB-TOTAL	3,310 m ²	14,350 m ²	4,800 m ²	
T O T A L			22,460 m ²	

$$*2 \quad \frac{3,310}{60} = 55$$

$$\frac{14,350}{100} = 143$$

$$\underline{\quad\quad\quad} 198$$



- LEGEND:
- 1 FLATS 8F
 - 2 SHOPS/FLATS 5F
 - 3 SHOPS 3F
 - 4 COMMUNITY FACILITY 1F
 - 5 OFFICE 12F
 - 6 LIBRARY 2F
 - 7 STATION

Fig. 5-8 BUILDING LAYOUT PLAN -- KEBON MELATI

KEBON MELATI

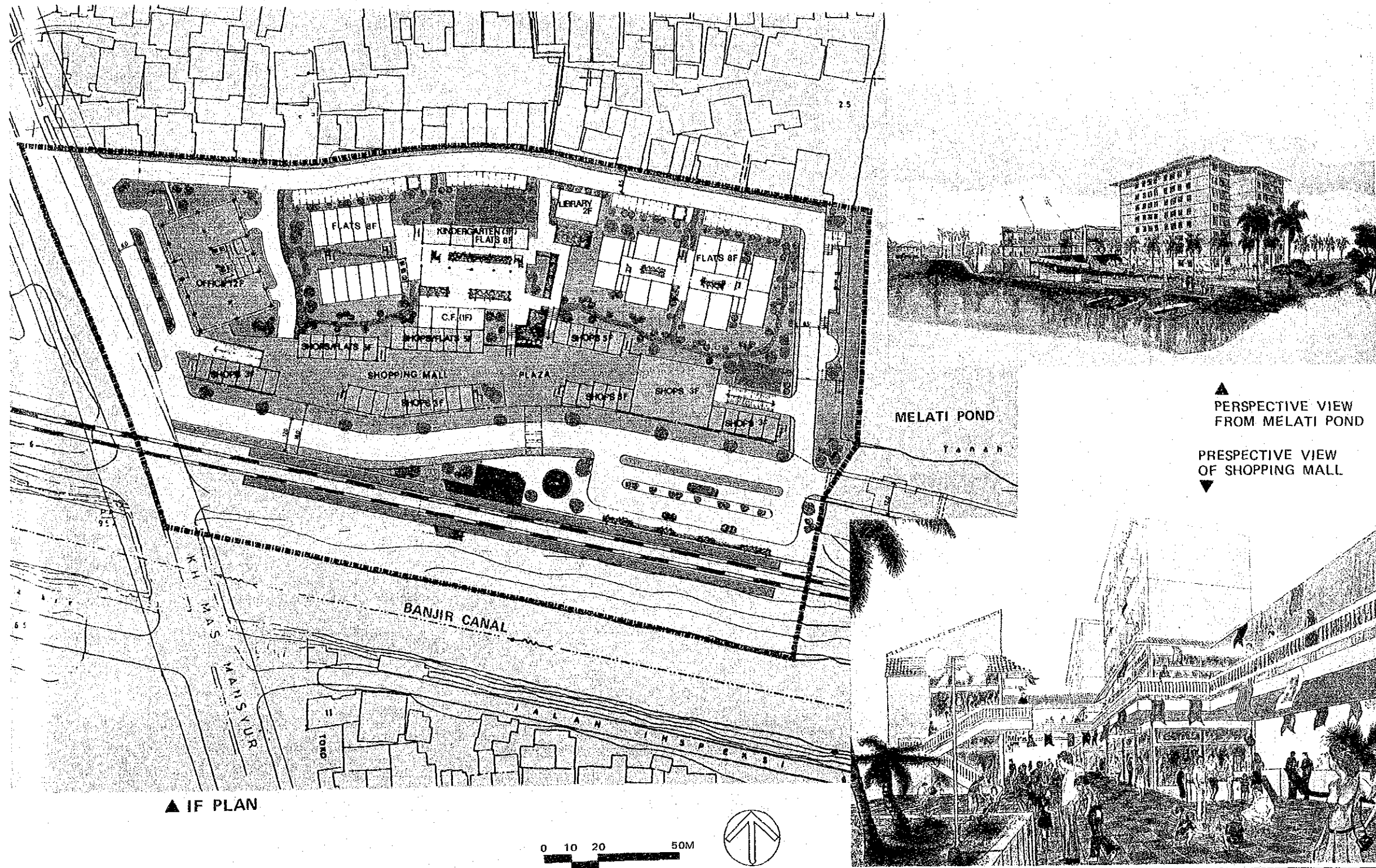


FIG. 5-9 LAYOUT PLANNING - KEBON MELATI

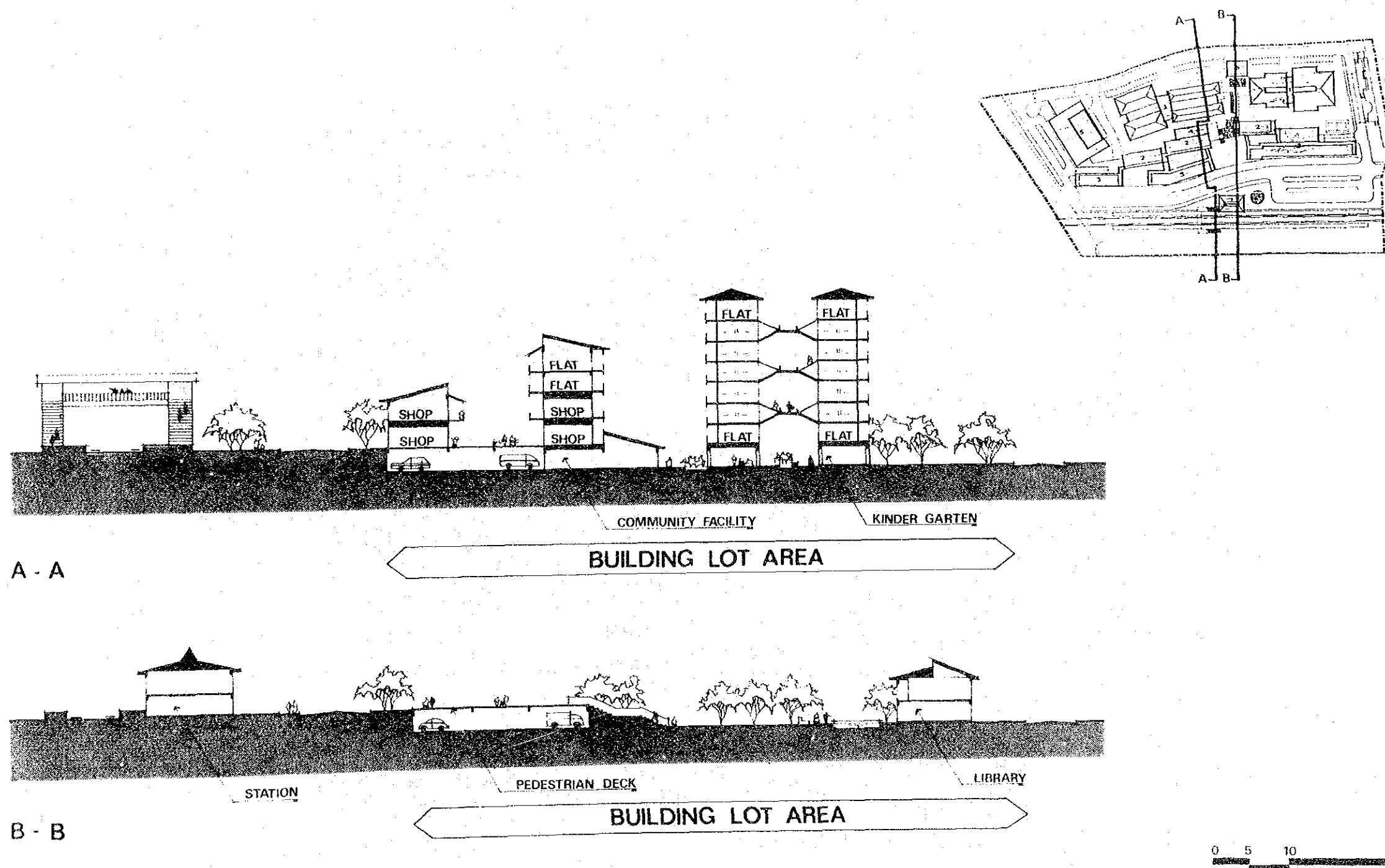


Fig. 5-10 SECTION - KEBON MELATI

5.3.3 Land and Floor Use (Ref. Fig. 5-12)

Land and floor use both before renewal and after renewal is shown on the comparative Table 5-11.

Table 5-11 COMPARISON BETWEEN BEFORE AND AFTER RENEWAL

		Before renewal		After renewal		Remarks	
Land Area	Public Use	Major road	1,700	4.4%	7,100	18.7%	
		Neighbourhood Road	2,080	5.4%	4,100	10.6%	Include walkway
		Station front Plaza	0	0	2,000	5.2%	
		Park	0	0	1,700	4.4%	
		Others	8,650	22.4%	8,000	20.7%	Railway river
		Sub-total	12,470	32.3%	22,900	59.3%	
	Building lot area	26,130	67.7%	15,700	40.7%		
Project area		38,600	100 %	38,600	100 %		
Floor Area	House	17,930		23,878			
	Shop	600		3,310			
	Office	0		14,350			
	Workshop	1,200		0			
	Car Park	0		4,800			
	Community facility	400		900			
	Total	20,130		47,238			
Floor area ratio		77%		270%		without car parking area	
Coverage ratio		70%		42%			

As shown on the Table 5-11, the urban renewal design has the following advantages.

Increase of Public Land Use (Ref. Fig. 5-12)

Before renewal, the area for public use is 12,470 sq.m. and this will increase up to 22,900 sq.m. after renewal.

Increase in Road Area (Ref. Fig. 5-12)

The percentage of the land area utilized by roads will increase from 10% to 29%.

Rearrangement of Building Lot Area

– Before renewal

Building lot area: 26,100 sq.m. (68%)

– After renewal

Building lot area: 15,700 sq.m. (41%)

Applying the high-rise flats in the urban renewal design, the building lot size can be reduced and the remaining area can be used for the commercial and business development.

Increase of Housing Floor Area

Total floor area for housing (after renewal) is 23,900 sq.m. and the private-use floor area (after renewal) is 18,800 sq.m. The latter figure is larger than that pre-renewal.

Development of Commercial and Business Facilities

By the urban renewal project, new shopping centres and business offices will be constructed and they will improve the city function, thus creating a desirable urban environment.

Increase of Floor Area Ratio

Floor area ratio (before renewal) : 77%

Floor area ratio (after renewal) : 270%

By increasing the floor area ratio, the land can be used more effectively.

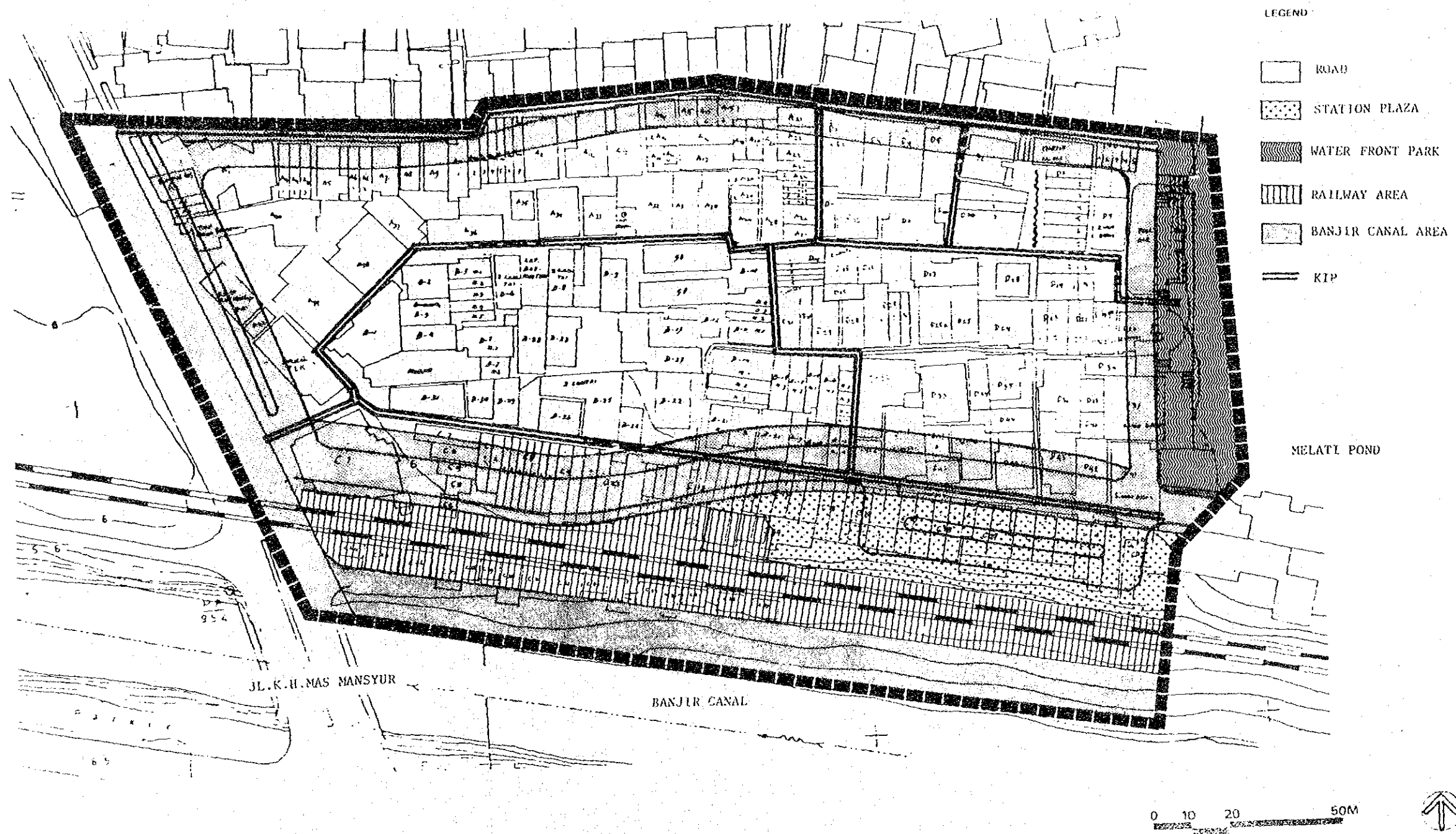


Fig. 5-12 AREA FOR PUBLIC USE - KEBON MELATI

5.4 PRELIMINARY PUBLIC FACILITY DESIGN

5.4.1 Road Network

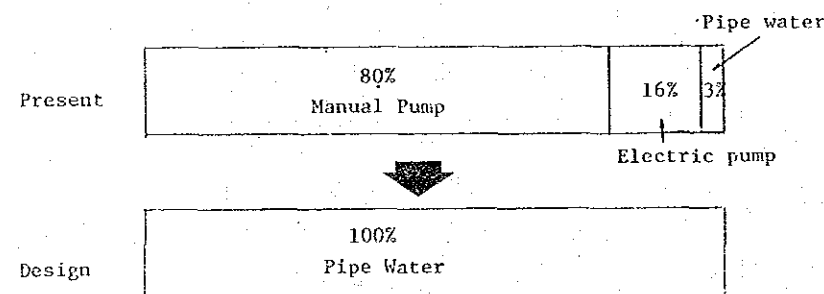
As to the road improvements in Kebon Melati, the priority indicated in the Colin Buchanan report is No. 11, but it does not lessen the importance of the proposed east-west connection road running along the south of the study area.

As a proof, DKI Jakarta's latest development plan for the year 2005, a new "Main arterial street" is proposed, which connects the areas of South of Manggarai – Kebon Melati – Tanah Abang – Kota. The location of the new arterial street is shown in the Fig. 2-9 of Vol. I by a dotted line. When this new street will be completed, the east-west connection road will raise its importance.

The road network plan in Kebon Melati is shown on Fig. 5-13, 14, 15.

5.4.2 Fresh Water

Design Criteria



Fresh Water Demand in 2000

- Daily fresh water demand per person
200 litter/person/day
- Population : 2,000 persons
- Daily fresh water consumption by inhabitants
200 lit. x 2,000 = 400 cu.m/day
- Commercial and business users' demand (Estimate)

Number of users	: 3,000 persons/day
Fresh water demand	: 100 lit/person/day
Daily fresh water consumption	: 100 lit x 3,000 = 300 cu.m./day

- Total demand

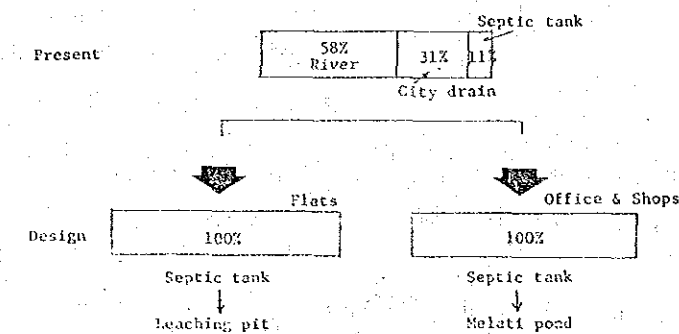
$$\text{Inhabitants} + \text{Users} = 400 + 300 = 700 \text{ cu.m./day}$$

5.4.3 Sanitary Water

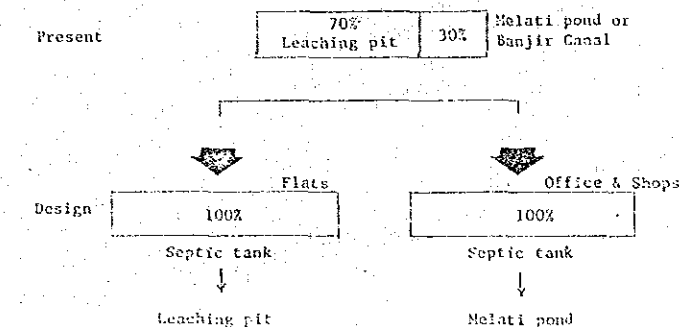
Design Criteria

The construction of the outfall sewer along the Banjir Canal has been postponed by the government agency, and because of this, the sanitary water will be inevitably drained into the Melati pond after the sedimentation in septic tanks.

(1) Sanitary system



(2) Toilet system



Sanitary Water Output

(1) From inhabitants

All sanitary water will be drained into septic tanks and leaching pits.

(2) From Office and Shops

All sanitary water will be drained primarily into septic tanks and finally to the Melati pond.

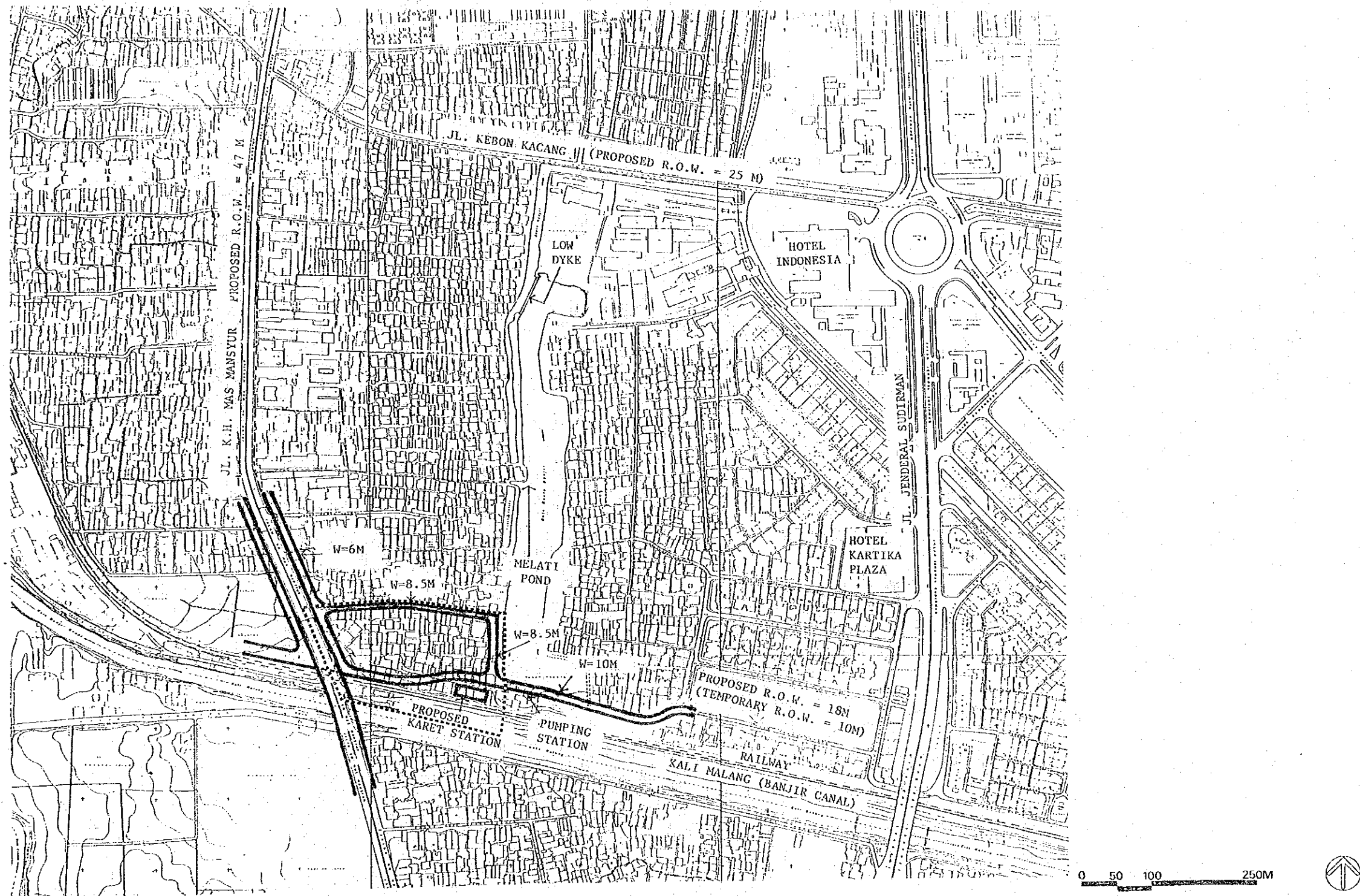


Fig. 5-13 PROPOSED ROADS AND THEIR CONNECTIONS -
KEBON MELATI

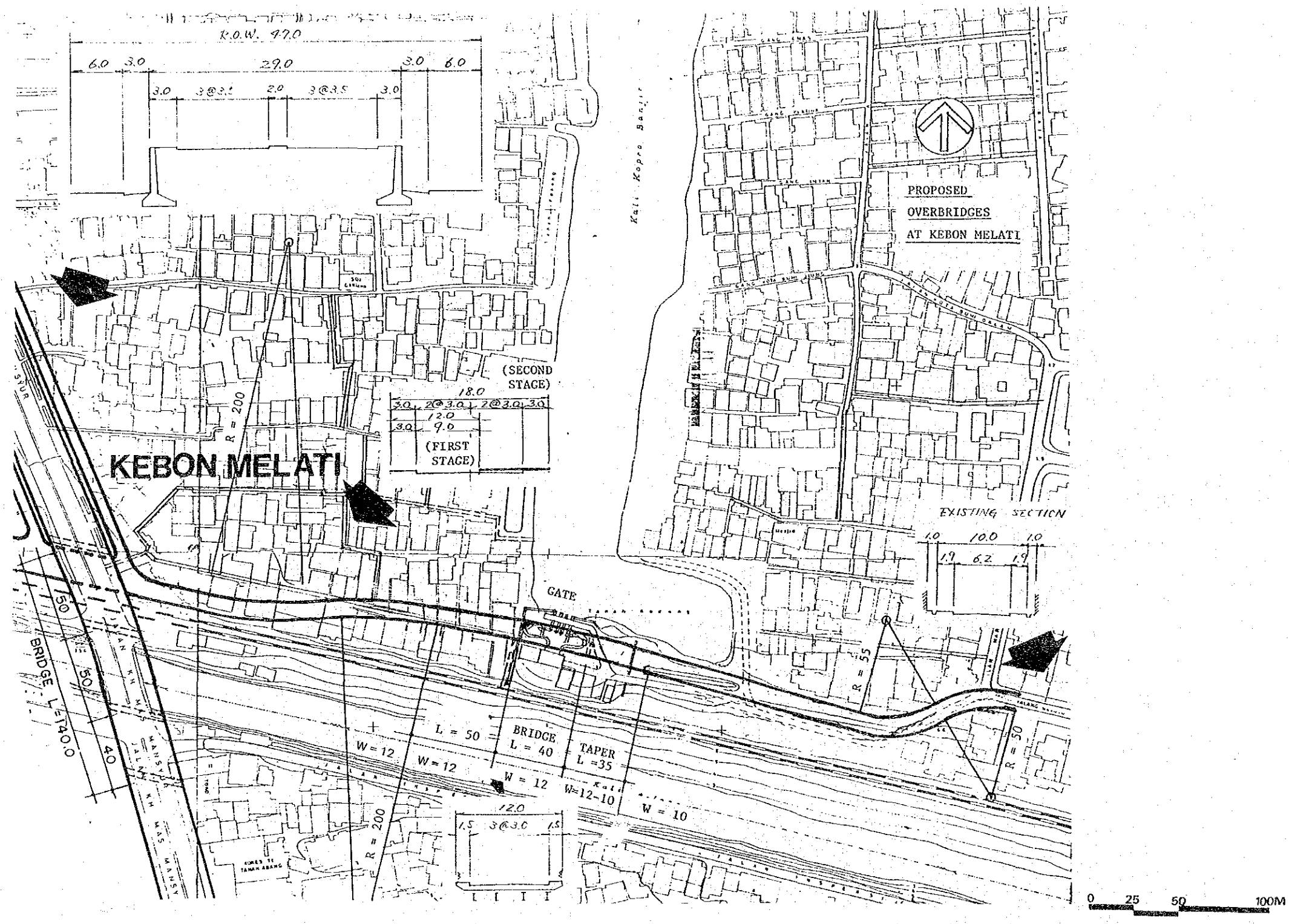
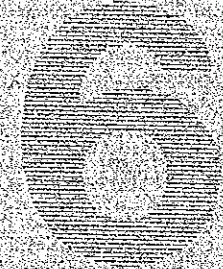


Fig. 5-14 PROPOSED OVERBRIDGES - KEBON MELATI

CHAPTER



FINANCIAL ANALYSIS

6.1 MAJOR CONDITIONS FOR ANALYSIS

6.1.1 Resettlement Rate

Though the housing units more than the number of existing units are planned, it is supposed that the realistic rate of resettlement may be around 75 percent as compared with other cases (dislocation rate : 25%).

6.1.2 Basic Land Price

The estimation of land price is not feasible at the present stage. The land acquisition standard of the projects in the region of DKI will be determined by the Land Acquisition Committee after issuance of the Government's decree on the implementation of the projects. A rough estimation can be made below based on the data of Kebon Kacang project and the results of the home-interview survey conducted in Stage I.

Data in the Kebon Kacang Renewal Project

- Standard land price : Rp.100,000/m²
- Average compensation for a unit space of land : Rp. 53,000/m² (A)

Results of the Home-Interview-Survey

- Land compensation estimated by the inhabitants in Kebon Melati : Rp. 61,000/m² (B)

Using the ratio of (B) to (A), the estimation is made as follows:

- (B)/(A) : 1.15
- Modification factor on different locations : 0.9
- Annual modification factor : 1.20 (every 2 years)

Basic land price is: $100,000 \times 1.15 \times 0.9 \times 1.20 = \text{Rp.}125,000/\text{m}^2$
(against the full right of ownership)

6.1.3 Buiding Compensation

The standards of building are based on the data of Kebon Kacang project.

In the case of licensed buildings, 20% additional. Electricity, water supply and telephone are compensated against 100% of the official installation price of the agencies or corporations.

Unit: Rp.1000

	COMPENSATION EVALUATION (Annual Modification: x 1.2)	KEBON KACANG PROJECT
Building:	/m ²	/m ²
Permanent	30.0	25.0
Semi-permanent	25.2	21.0
Temporary	18.0	15.0
		(Moderate)
Fence:	/m	/m
Iron fence	6.0	5.0
Brick/stone fence	5.0	4.2
Wire/wood/bambu fence	4.2	3.5
Well:	/unit	/unit
Stone well	15.0	12.5
Pump well	10.0	8.35
Dig well	5.0	4.2
Septic tank:	/unit	/unit
Brick septic tank	10.0	8.35
Dig septic tank	5.0	
Electricity	100 /unit	
Water supply	110 /unit	
Telephone	250 /unit	

6.1.4 Other Compensation

Based on the data of Kebon Kacang project.

Unit: Rp.1000

	COMPENSATION EVALUATION (Annual modification: x 1.2)	KEBON KACANG PROJECT
Plants:	/unit	/unit
Fruit trees (producing)	8.0	6.65
Fruit trees (not producing)	2.0	1.65
Trees	2.0	-
Others	1.0	-
Business activity:	Business activities are compensated for the used area (max. 25% of the building area), with license 20% and without license 10% of the building price.	
Removal	78 /unit	65 /unit

6.1.5 Determination of Floor Productivity Ratios

The floor productivity ratios are determined by the following concepts.

By building use

- The sales price of the commercial and business floors which are major part of the residual floor, should be within the market price (prevailing market price is Rp.1.6 million per sq.m. for commercial floor and Rp.1.1 million per sq.m. for business floor).
- The sales price of the housing floor should be adjusted so that the resettlers' monthly installment for the added floor should fall within their affordability.
- The sales price of the entitled floor for shops and the floor for communal facilities should be adjusted to correspond to the net construction costs.
- The sales price of the floor for car parks should be determined to correspond to the revenues when used 5 times a day at the charge of Rp.200 each (which results in the equivalent sales price of Rp.50,000 per sq.m.).

As a consequence, the following productivity ratios are determined by each of building use.

House (1) for resettlement	(F21, 25, 36, 54)	115
House (2) for resettlement	(F70, 100)	150
House (3) for resettlement	(F36, shop-cumhousing)	140
Shop (1) for resettlement		200
Community facilities		200
Office/hotel for sale of residual floor		1,200
Shop (2) for sale of residual floor		1,600
Parking		50

By storey (floor), assuming the first floor being 100

The following are the productivity ratios determined by storey. B2F(70), B1F(90), 1F(100), 2F(90), 3F or above (80).

6.2 FINANCIAL CALCULATION

6.2.1 Summary of Financial Calculation

The summary of financial calculation is shown below.

Table 6-1 THE SUMMARY OF FINANCIAL CALCULATION

Financial Plan *(Rp.1,000,000)	Revenue		Expenditure (Implementation Cost)		Contents Subsidy		
	Subsidy	2,079	Planning	1,085	Planning	724	
Defrayment	3,420	Land Preparation	235	Land Preparation	504		
Sales Revenue of residual floor	14,953	Compensation	744	Construction	752		
		Construction	14,639	Overhead, etc.	99		
		Maintenance	172	Contents of Defrayment			
		Overhead, etc.	952	Land cost	2,086		
		Contingency	1,464	Construction	870		
		Interest	1,162	Compensation	301		
Total	20,452	Total	20,452	Overhead, etc.	163		
Unit floor Cost (Rp.1,000/m ²)	House (1) (F21-F54)	House (2) (F70,F100)	House (3) Shop-cum-housing	Shop (1)	Community facility	Office	Shop (2)
	112,3	147,4	135,7	215,3	215,3	1123,9	1636,5
Right conversion:	Floor area for right holder	19,501 m ²	Conversion rate (Land area)	1,0	Conversion rate (floor area)	1,3	

6.2.2 Summary of Results

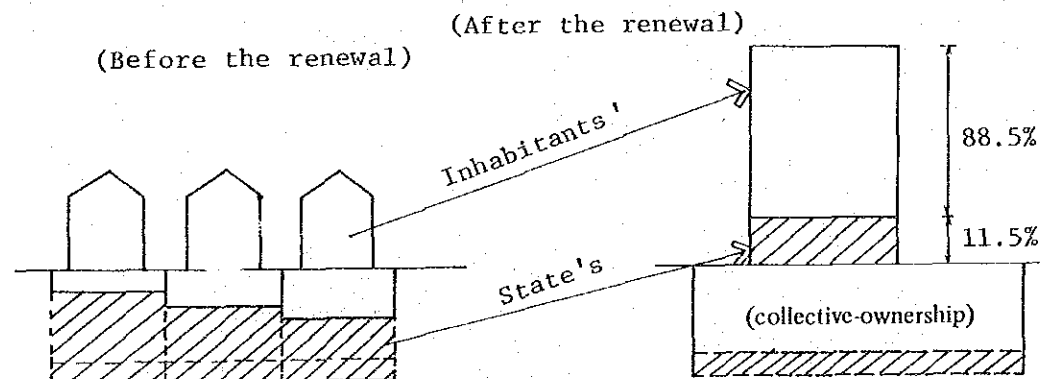
- (1) The implementation cost of the urban renewal project in Kebon Melati amounts to about Rp.20 billion.
- (2) The subsidy is about Rp.2.1 billion which accounts for 10% of the implementation cost.
- (3) The defrayment is about Rp.3.4 billion which accounts for 16.7% of the implementation cost.
- (4) To balance expenditures and revenues, the remaining portion of the implementation cost less the amounts of subsidy and defrayment, has to be recovered by the revenues from lease and/or sale of the residual floor. The revenues amount to Rp.15 billion.

(5) The average floor cost are summarized as follows:

	Unit floor cost
House (1) (F21, F25, F36, F54)	Rp. 112,300/m ²
House (2) (F70, F100)	147,400
House (3) (F36, shop-cum-housing)	135,700
Shop (for resettlers)	215,300
Community facilities	215,300
Shop (for new-comer)	1,636,500
Office/Hotel	1,123,900
Car parking	48,700

(6) The results show that the entitled floor of 19,501 m² can be produced and this figure is approximately equal to the land and floor of the resettlers before renewal; in other words, an equivalent exchange of floor is satisfied.

(7) The entitled floor includes not only the inhabitants' but also the state's. In the case of Kebon Melati, the portion of the inhabitants' account for 88.5% as shown below. The inhabitants' portion is also more than their floor area before renewal. The state's portion can be reallocated to the inhabitants as "added floor", or for other purposes.



Site area = 19,598 m ² (26,130 m ² x 0.75)	Floor area after-renewal (Entitled floor) = 19,501 (100%)
Floor area = 15,098 m ² (20,130 m ² x 0.75)	
Value for right conversion	
of inhabitants' Rp. 2,598 mil. (100%)	17,258 (88.5%)
of state's Rp. 299 mil. (11.5%)	2,243 (11.5%)

(8) Fig. 6-2 shows the present conditions of the rights values and the floor area of the inhabitants on which the floor price is superposed as a parameter.

The figure shows that those who are plotted above the diagonal line can obtain the equivalent exchange of floor; in other words, about half of the rightholders in Kebon Melati are not entitled to obtain the equivalent exchange of floor, thus necessitating the added floor.

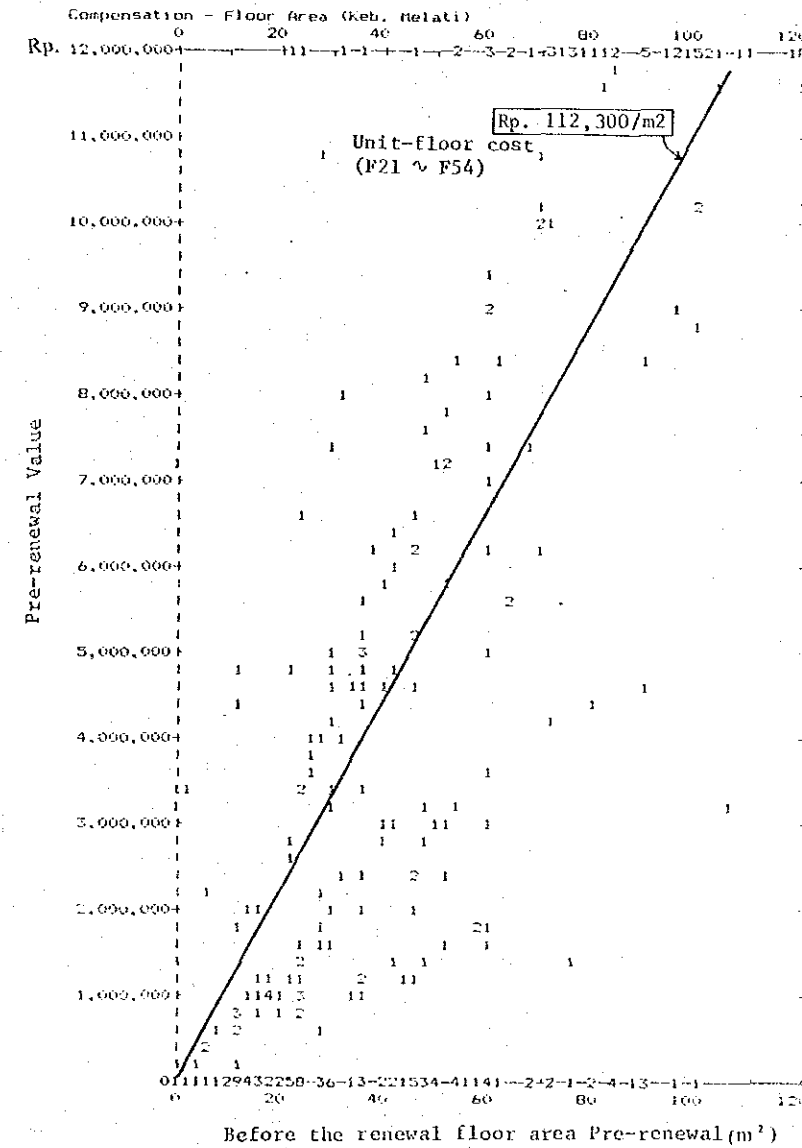
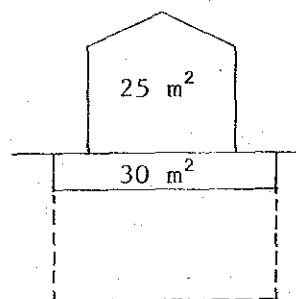


Fig. 6-2 CONDITION OF THE EQUIVALENT EXCHANGE OF FLOOR

6.2.3 Case Studies on Typical Rightholders

Case A:

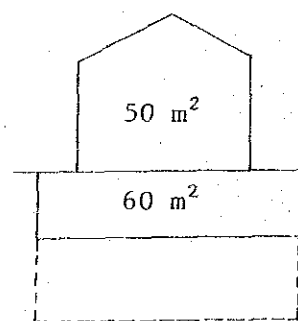


- Land area 30 m²
- Right to land: Right to cultivate (Garapan)
- Floor area 25 m²
- Housing status: Owner
- Monthly income
Rp.60,000.-
- Pre-renewal value
 $30 \text{ m}^2 \times \text{Rp.125,000} \times 0.25 + 25 \text{ m}^2 \times 30,000$
 $= \text{Rp.1,688,000}$

Converted to type F25 (Unit floor price Rp.112,300/unit)

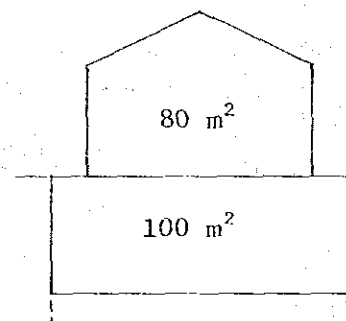
- Floor area against his right amount
 $\text{Rp.1,688,000}/\text{Rp.112,300}/\text{m}^2 = 15.0 \text{ m}^2$
- The different cost between above 15.0 m² and 25 m² (F21)
 $(25 \text{ m}^2 - 15.0 \text{ m}^2) \times \text{Rp.112,300}/\text{m}^2$
 $= \text{Rp.1,123,000}$
- Monthly payment of the loan from BTN (5%, 20 years)
 $\text{Rp.1,123,000} \times 0.080243 \times 1/12 =$
 $\text{Rp.7,509}/\text{month}$
- The rate to monthly income
 $\text{Rp.7,509}/\text{Rp.60,000} = 12.5\% < 1/3 \dots \text{ repayable}$

Case B:



- Land area 60 m²
- Right to land: Right of lease (Hak Sewa)
- Floor area 50 m²
- Housing status: Owner
- Monthly income
Rp.100,000.-
- Pre-renewal value
 $60 \text{ m}^2 \times \text{Rp.125,000}/\text{m}^2 \times 0.4 + 50 \text{ m}^2 \times$
 $\text{Rp.30,000}/\text{m}^2 = \text{Rp.4,500,000}$

Case C:



- Land area 100 m²
 - Right to land: Right of ownership (Hak Milik)
 - Floor area 80 m²
 - Housing status: Owner
 - Monthly income
Rp.150,000.-
 - Pre-renewal value
 $100 \text{ m}^2 \times \text{Rp.100,000}/\text{m}^2 \times 0.9 + 80 \text{ m}^2 \times$
 $\text{Rp.30,000}/\text{m}^2 = \text{Rp.11,400,000}$
- Converted to type F54 (unit floor price Rp.112,300/m²)
- Floor area against the right amount $\text{Rp.4,500,000}/$
 $\text{Rp.112,300} = 40.1 \text{ m}^2$
 - The different cost between above and F54 (53.8 m²)
 $(53.8 \text{ m}^2 - 40.1 \text{ m}^2) \times \text{Rp.112,300} = \text{Rp.1,539,000}$
 - Monthly payment of the loan from BTN (5%, 20 years)
 $\text{Rp.1,539,000} \times 0.080243 \times 1/12 = \text{Rp.10,291}$
 - The rate to monthly income
 $\text{Rp.10,291}/\text{Rp.100,000} = 10.3\% < 1/3 \dots \text{ repayable}$

- Land area 100 m²
- Right to land: Right of ownership (Hak Milik)
- Floor area 80 m²
- Housing status: Owner
- Monthly income
Rp.150,000.-
- Pre-renewal value
 $100 \text{ m}^2 \times \text{Rp.100,000}/\text{m}^2 \times 0.9 + 80 \text{ m}^2 \times$
 $\text{Rp.30,000}/\text{m}^2 = \text{Rp.11,400,000}$

Converted to type F100 (Unit floor price Rp.147,400)

- Floor area against the right amount
 $\text{Rp.11,400,000}/\text{Rp.147,400} = 77.3 \text{ m}^2$
- The different cost between above and F100 (105 m²)
 $(105 \text{ m}^2 - 77.3 \text{ m}^2) \times \text{Rp.147,400} = \text{Rp.4,083,000}$
- Monthly payment of loan from BTN (9%, 20 years)
 $\text{Rp.4,068,000} \times 0.109546 \times 1/12 = \text{Rp.37,273}$
- The rate to monthly income
 $\text{Rp.37,273}/\text{Rp.150,000} = 0.248 < 1/3 \dots \text{ repayable}$

6.2.4 Details of Financial Calculation

Tables of Financial Calculation

(1) Floor area table

storey	upper: priv. f-area (sqM) lower: publ. f-area (sqM)								
	house(1)	house(2)	house(3)	shop(1)	c.facility	office	shop(2)	parking	total
b2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	980.0	0.0	0.0	980.0
b1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4800.0	4800.0
	0.0	0.0	0.0	0.0	0.0	180.0	0.0	0.0	180.0
1	646.0	1089.0	0.0	800.0	900.0	490.0	751.0	0.0	4676.0
	431.0	375.0	0.0	200.0	0.0	490.0	404.0	0.0	1898.0
2-8	8365.0	7623.0	1106.0	0.0	0.0	6510.0	751.0	0.0	24355.0
	2058.0	1911.0	276.0	0.0	0.0	1260.0	404.0	0.0	5909.0
9-11	0.0	0.0	0.0	0.0	0.0	3720.0	0.0	0.0	3720.0
	0.0	0.0	0.0	0.0	0.0	720.0	0.0	0.0	720.0
priv. f-area	9011.0	8712.0	1106.0	800.0	900.0	10720.0	1502.0	4800.0	37551.0
publ. f-area	2489.0	2284.0	276.0	200.0	0.0	3630.0	808.0	0.0	9697.0
total f-area	11500.0	10996.0	1382.0	1000.0	900.0	14350.0	2310.0	4800.0	47248.0

- House (1) : Housing for resettlers (F21, F25, F36, F54)
- House (2) : Housing for resettlers (F70, F100)
- House (3) : Housing for resettlers (F36, Shop-cum-housing)
- Shop (1) : Shops for resettlers
- Shop (2) : Shops for purchasers of residual floor

(2) Project cost

	sub-total (#1000Rp.)	contents			
		1	2	3	4
A: planning	1,085,810.0	439,157.0	980.0	512,350.0	133,324.0
B: land preparation	235,300.0	130,780.0	104,520.0	0.0	0.0
C: compensation	743,591.0	612,422.0	103,713.0	27,456.0	0.0
D: construction	14,638,600.0	13,332,400.0	435,936.0	870,200.0	0.0
E: maintenance	171,600.0	171,600.0	0.0	0.0	0.0
F: overhead, etc.	951,507.0	731,928.0	219,578.0	0.0	0.0
G: contingency	1,463,860.0	1,463,860.0	0.0	0.0	0.0
H: interest	1,161,780.0				
I: total	20,452,000.0				

2.1 total land value

	unit value (#1000Rp./sqM)	* area (sqM)	=	remark: land value of inhabitants	
				area (sqM)	value (#1000Rp.)
hak milik	100%	125.0	26,130.0	3,266,250.0	
	90%	112.5	0.0	0.0	4,624
hak usaha	80%	100.0	0.0	0.0	14,301
hak guna bangunan	80%	100.0	0.0	0.0	0
	70%	87.5	0.0	0.0	174
hak pakai	60%	75.0	0.0	0.0	0
	50%	62.5	0.0	0.0	0
	35%	62.5	0.0	0.0	0
hak sewa	50%	50.0	0.0	0.0	999
	40%	75.0	0.0	0.0	1,582
garapan	40%	50.0	0.0	0.0	116
	25%	31.3	0.0	0.0	4,332
CC1: total				3,266,250.0	26,130
					2,512,079.0

2.2 total building value

	unit value	* units	=		
				area (sqM)	value (#1000Rp.)
permanent	(1)	36.0	3,690.0	132,840.0	
	(2)	30.0	6,480.0	194,400.0	
semi-permanent	(1)	30.2	280.0	8,456.0	
	(2)	25.2	6,130.0	154,476.0	
temporary	(1)	21.6	140.0	3,024.0	
	(2)	18.0	3,330.0	59,940.0	
fence	(1)	5.0	0.0	0.0	
	(2)	6.0	0.0	0.0	
	(3)	4.2	0.0	0.0	
well	(1)	5.0	0.0	0.0	
	(2)	10.0	0.0	0.0	
	(3)	15.0	0.0	0.0	
septic tank	(1)	10.0	0.0	0.0	
	(2)	5.0	0.0	0.0	
electricity		100.0	0.0	0.0	
water supply		110.0	0.0	0.0	
telephone		250.0	0.0	0.0	
CC2: total				553,136.0	

2.3 other compensation		(*1000Rp.)		
	unit cost	# units	=	
for ceatary	(1)	16.2	0.0	0.0
	(2)	4.2	0.0	0.0
for trees	(1)	8.0	0.0	0.0
	(2)	2.0	0.0	0.0
	(3)	2.0	0.0	0.0
	(4)	1.0	0.0	0.0
for business	(p 1)	6.0	0.0	0.0
	(p 2)	3.0	0.0	0.0
	(sp 1)	5.0	0.0	0.0
	(sp 2)	2.5	0.0	0.0
	(t 1)	3.6	0.0	0.0
	(t 2)	1.8	0.0	0.0
for movement		78.0	352.0	27,456.0
CC3: total				27,456.0

A1: project planning = D *a11 *D *a21
A2: soil investigation = a31 *a32 *a33
A3: implementation planning = D *a41
A4: legalization to local government = D1 *a51

B1: building clearance = b11 *b12 *b13 *b14 *b15 *b16
B2: grading = b21 *b22

C1: land compensation (for dislocator) = CC1 *c13 *c14
C2: building compensation (for dislocator) = CC2 *c24 *c25
C3: other compensation = CC3

D1: building construction = d11 *d12
D2: on-site infrastructure = d21 *d22
D3: off-site infrastructure = d31 *d32

E1: temporary house construction = e11 *e12
E2: others = e21 *e22

F1: overhead = D *f11
F2: investment for allocation = D *f21
F3: others = D *f31

G1: contingency = D *g11

H : interest = (A+B+C+D+E+F+G-N) *h11 *h12 *h13

a11: ratio of preliminary planning cost = 0.010
a21: ratio of project planning cost = 0.020
a31: unit cost of soil investigation = 140.000 (*1000Rp./unit)
a32: amount = 7.000 (unit)
a33: modification factor = 1.000
a41: ratio of implementation planning cost = 0.035
a51: ratio of legalization to local government = 0.010

b11: unit cost of temporary building = 5.000 (*1000Rp./sqM)
b12: floor area of temporary building = 3,470.000 (sqM)
b13: unit cost of semi-permanent building = 6.000 (*1000Rp./sqM)
b14: floor area of semi-permanent building = 6,410.000 (sqM)
b15: unit cost of permanent building = 7.000 (*1000Rp./sqM)
b16: floor area of permanent building = 10,710.000 (sqM)

b21: unit cost = 4.000 (*1000Rp./sqM)
b22: site area (before project) = 26,130.000 (sqM)
c13: ratio of dislocation (land comp.) = 0.250
c14: modification factor = 0.750
c24: ratio of dislocation (buil. comp.) = 0.250
c25: modification factor = 0.750
d11: average unit building construction cost = 282.419 (*1000Rp./sqM)
d12: area = 47,208.000 (sqM)
d21: unit cost of on-site infrastructure = 45.600 (*1000Rp./sqM)
d22: area = 9,560.000 (sqM)
d31: unit cost of off-site infrastructure = 38.000 (*1000Rp./sqM)
d32: area = 22,900.000 (sqM)
e11: unit cost of temporary house = 650.000 (*1000Rp./unit)
e12: number of temporary house = 264.000 (unit)
e21: unit cost of others = 0.000 (*1000Rp./unit)
e22: amount = 0.000 (unit)
f11: ratio of overhead = 0.050
f21: ratio of investment for allocation = 0.015
f31: ratio of other cost = 0.000
g11: ratio of contingency = 0.100
h11: interest /year = 0.135
h12: project year = 2.000
h13: modification factor = 0.250

dd. building construction cost data (detail data for d11)

building	stand.-cost	storey-co.	non-stand.	floor-area	lift-no.	lift-cost	sub-total	unit-cost
	dd1	dd2	dd3	dd4	dd5	dd6	dd7	dd8
	(*1000Rp./sqM)			(sqM)	(unit)	(*1000Rp./u)		
1 house(1)	85.0	1.265	0.200	12400.0	2.0	35000.0	1736640.0	140.1
2 house(2)	120.0	1.265	0.250	10996.0	2.0	35000.0	2295590.0	208.8
3 house(3)	110.0	1.170	0.250	1382.0	0.0	0.0	237151.0	171.6
4 office	200.0	1.450	0.400	14900.0	4.0	40000.0	7361670.0	494.1
5 shop	200.0	1.170	0.300	4030.0	2.0	15000.0	1377170.0	341.7
6 parking	80.0	1.100	0.050	3500.0	0.0	0.0	324211.0	92.6

total d12= 47208.0 dd0= 13332400.0

d11: average unit building construction cost = dd0/d12 = 282.419 (*1000Rp./sqM)
dd7: sub-total cost of building = dd1 *dd2 *dd4/(1-dd3) +dd5 *dd6 (*1000Rp.)
dd8: unit construction cost = dd7/dd4 (*1000Rp./sqM)

(3) Subsidy

	sub-total (*1000Rp.)	contents			
		1	2	3	4
J: planning	723,874.0	292,771.0	653.3	341,567.0	88,882.9
K: land preparation	503,504.0	87,186.7	69,680.0	114,400.0	232,237.0
L: construction	752,321.0	219,024.0	133,324.0	133,324.0	266,649.0
M: overhead, etc.	98,984.9				
NN: total	2,078,680.0				
N1 =	930,102.0				
N2 =	1,148,580.0				
N3 =	0.0				
N =	2,078,680.0				

J1: project planning	= A1 *2/3
J2: soil investigation	= A2 *2/3
J3: implementation planning	= A3 *2/3
J4: legalization to local government	= A4 *2/3
K1: building clearance	= B1 *k11 *2/3
K2: grading	= B2 *k21 *2/3
K3: temporary house construction	= k31 *k32 *2/3
K4: compensation	= (CC2+C3) *k41 *2/3
L1: on-site infrastructure	= (111-112) *113 *114 *2/3
L2: supply system, sewage system, etc.	= D1 *121 *142 *2/3
L3: fire-proof, machine-room, etc.	= D1 *131 *142 *2/3
L4: corridor, lift, stair-case, hall, etc.	= D1 *141 *142 *2/3
M: overhead & investment of allocation	= (J+K+L) *m11
N: subsidy (total)	= N1 +N2 + N3
NN: subsidy (sub-total)	= N1 *N2
N1: subsidy (related to land)	= (J+K-J3) *(1+m11)
N2: subsidy (related to building)	= (J3+L) *(1+m11)
N3: extra subsidy	= (given by data)

k11: modification factor	= 1.000
k21: modification factor	= 1.000
k31: unit cost of temporary house	= 650.000 (1000Rp./unit)
k32: number of temporary house	= 264.000 (unit)
k41: modification factor	= 0.600
111: site area (after project)	= 15,700.000 (sqM)
112: ground floor area	= 6,574.000 (sqM)
113: unit cost of on-site infrastructure	= 60.000 (1000Rp./sqM)
114: modification factor	= 0.600
121: ratio of supply system, sewage system, etc.	= 0.050
131: ratio of fire-proof, machine-room, etc.	= 0.050
141: ratio of corridor, lift, stair-case, etc.	= 0.100
142: modification factor	= 0.300
m11: ratio of overhead, etc.	= 0.050

(4) Defrayment from the agencies responsible for public facilities

	sub-total (*1000Rp.)	
land cost	2,386,000.0	01 = o11 *o12
construction (1)	870,200.0	02 = o21 *o22
(2)	0.0	03 = o31 *o32
compensation (build.)	301,500.0	04 = o41 *o42
(others)	0.0	05 = o51 *o52 *o53
others	0.0	06 = o61 *o62
overhead, etc.	162,885.0	07 = (01+02+03+04+05+06) *o71
O: total	3,420,590.0	

o11: unit land cost	= 200.000 (*1000Rp./sqM)
o12: land area	= 10,430.000 (sqM)
o21: unit cost of building construction	= 38.000 (*1000Rp./sqM)
o22: floor area	= 22,900.000 (sqM)
o31: unit cost of other facility	= 0.000 (*1000Rp./unit)
o32: quantity	= 0.000 (unit)
o41: unit cost of building compensation	= 30.000 (*1000Rp./sqM)
o42: floor area	= 10,050.000 (sqM)
o51: unit cost of other compensation	= 0.000 (*1000Rp./unit)
o52: quantity	= 0.000 (unit)
o53: modification factor	= 0.000
o61: unit cost of others	= 0.000 (*1000Rp./unit)
o62: quantity	= 0.000 (unit)
o71: ratio of overhead, etc.	= 0.050

(5) Revenue and expenditure

revenue	(*1000Rp.)	expenditure	(*1000Rp.)
subsidy	2,078,680.0	planning	1,085,810.0
share defrayment	3,420,590.0	land preparation	235,300.0
sales of reserved floor	14,952,700.0	compensation	743,591.0
	0.0	construction	14,638,600.0
	0.0	maintenance	171,600.0
	0.0	overhead, etc.	951,507.0
	0.0	contingency	1,463,860.0
	0.0	interest	1,161,780.0
total (revenue)	20,452,000.0	total (expenditure)	20,452,000.0

(share defrayment = share defrayment by public facility management authorities)

(6) Total floor cost

	(*1000Rp.)	
project cost (total)	20,452,000.0	I
resettler's land value	2,653,830.0	CC1 *(1-c13 *c14)
resettler's bld. value	414,852.0	CC2 *(1-c24)
subsidy	-2,078,680.0	-N
share defrayment	-3,420,590.0	-0
cost for HGB	-471,000.0	P = -CC1/b22 *p11 *111 *p12
B: total	17,550,400.0	

p11: ratio of land value increasing
(after project)/(before project) = 1.200
p12: ratio of land ownership value changing
(before project)-(after project) = 0.200

(7) Floor productivity ratio table

upper: prod. ratio
lower: prod. ratio * priv. f-area

storey	house(1)	house(2)	house(3)	shop(1)	c.facility	office	shop(2)	parking	total
	115.0	150.0	140.0	200.0	200.0	1200.0	1600.0	50.0	
b2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
b1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.0	0.0
90.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2160.0	2160.0
1	115.0	150.0	0.0	200.0	200.0	1200.0	1600.0	0.0	0.0
100.0	742.9	1633.5	0.0	1600.0	1800.0	5880.0	12016.0	0.0	23672.4
2-8	103.5	135.0	126.0	0.0	0.0	1080.0	1440.0	0.0	0.0
90.0	8657.8	10291.0	1393.6	0.0	0.0	70308.0	10814.4	0.0	101465.0
9-11	0.0	0.0	0.0	0.0	0.0	960.0	0.0	0.0	0.0
80.0	0.0	0.0	0.0	0.0	0.0	35712.0	0.0	0.0	35712.0
total	9400.7	11924.5	1393.6	1600.0	1800.0	111900.0	22830.4	2160.0	163009.0

(8) Allocation of floor cost & unit floor cost

upper: unit cost (*1000Rp./sqM)
lower: sub-total cost (*1000Rp.)

storey	house(1)	house(2)	house(3)	shop(1)	c.facility	office	shop(2)	parking	total
b2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
b1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.4	0.0
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	232557.0	232557.0
123.8	161.5	0.0	215.3	215.3	1292.0	1722.6	0.0	0.0	0.0
79984.5	175871.0	0.0	172264.0	193797.0	633072.0	1293710.0	0.0	2548690.0	0.0
2-8	111.4	145.3	135.7	0.0	0.0	1162.8	1550.4	0.0	0.0
932141.0	1107990.0	150038.0	0.0	0.0	7569730.0	1164330.0	0.0	10924200.0	0.0
9-11	0.0	0.0	0.0	0.0	0.0	1033.6	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	3844940.0	0.0	0.0	3844940.0
unit(/sqM)	112.3	147.4	135.7	215.3	215.3	1123.9	1636.5	49.4	467.4
total	1012130.0	1283860.0	150038.0	172264.0	193797.0	12047700.0	2458040.0	232557.0	17550400.0

(9) Case study of right-conversion

9.1 entitled floor

facilities	unit price (*1000Rp./sqM)	net f-area (sqM)	total price (*1000Rp.)	remarks
house(1)	112.3	9,011.0	1,012,130.0	
house(2)	147.4	8,584.4	1,263,250.0	- for inhabitants 88.5 %
house(3)	135.7	1,106.0	150,038.0	. Rp. 2,298,911 (*1000)
shop(1)	215.3	800.0	172,264.0	. area 17,258 (sqM)
c.facility	215.3	0.0	0.0	
office	1,123.9	0.0	0.0	- for state 11.5 %
shop(2)	1,636.5	0.0	0.0	. Rp. 298,769 (*1000)
parking	48.4	0.0	0.0	. area 2,243 (sqM)
	0.0	19,501.4	2,597,680.0	

9.2 residual floor

facilities	unit price (*1000Rp./sqM)	net f-area (sqM)	total price (*1000Rp.)
house(1)	112.3	0.0	0.0
house(2)	147.4	127.6	20,610.4
house(3)	135.7	0.0	0.0
shop(1)	215.3	0.0	0.0
c.facility	215.3	900.0	193,797.0
office	1,123.9	10,720.0	12,047,700.0
shop(2)	1,636.5	1,502.0	2,458,040.0
parking	48.4	4,800.0	232,557.0
	0.0	18,049.6	14,952,700.0

9.3 total

facilities	net f-area (sqM)	total price (*1000Rp.)
house(1)	9,011.0	1,012,130.0
house(2)	8,712.0	1,283,860.0
house(3)	1,106.0	150,038.0
shop(1)	800.0	172,264.0
c.facility	900.0	193,797.0
office	10,720.0	12,047,700.0
shop(2)	1,502.0	2,458,040.0
parking	4,800.0	232,557.0
	37,551.0	17,550,400.0

right conversion amount	=CC1+(1-c13+c14) +CC2*(1-c24) -P =	2,597,680.0 (*1000Rp.)
unit price of entitled floor	=k# * unit floor cost : k# =	1.000
unit price of residual floor	=h# * unit floor cost : h# =	1.000
conversion rate (land area)	: t# = 1/(b22 +(1-c13)) =	0.995
conversion rate (floor area)	: y# = 1/(c32 *(1-c24)) =	1.292
b22: site area (before project)	=	26130.000
c32: floor area (before project)	=	20130.000
Z : resettler's floor area	=	19501.400 (sqM)
c13: ratio of dislocation (land)	=	0.250
c24: ratio of dislocation (building)	=	0.250

Details of Construction Cost Data

(1) Construction Cost of Building

Construction costs of each building are estimated by equation (A)

$$dd7 = dd1 \times dd2 \times \frac{1}{1 - dd3} \times dd4 + dd5 \times dd6 \dots \dots \dots (A)$$

- dd1 : standard unit cost (Rp./m²)
- dd2 : modification factor due to storeys
- dd3 : non-standard cost ratio (without lift)
- dd4 : total floor area of building (m)
- dd5 : number of lift (unit)
- dd6 : unit cost of lift (Rp./unit)
- dd7 : building construction cost (Rp.)
- dd8 = dd7/dd4 : unit building construction cost (Rp./m²)

This calculation method basically follows the DPU Standard*.

* DPU Standard: Keputusan Direktur Jenderal Cipta Karya tentang Pedoman Operational Pengisian dan Pelaksanaan DIP Proyek Gedung Pemerintah dan Perumahan Dinas. July, 1982 (Decree of Directorate General of Cipta Karya on Operational Guidelines for Filling and Implementing DIP Projects of Government Buildings and Housing for Government Officials).

In the DPU Standard, costs are divided into 2 items. One is a standard cost and the other is a non-standard cost. A standard cost includes structure cost, minimum finishing and minimum plumbing.

A non-standard cost includes the following items.

- Lift, escalator, generator, electric pump, fire protection equipment, etc.
- Furniture, interior, etc.
- Electricity, water, telephone and gas supply and junction, etc.

The DPU Standard gives the following table as a ceiling value of the standard cost for multi-storey government buildings.

Standard cost by the DPU standard.

Building grade	(x Rp.1,000/m ²)
High Class	215
Middle Class	175
Common Class	135

In this study, the following table is used as standard. (However, some modifications were made to meet the planning requirements. (Ref. computer output))

Building grade	dd1 (x Rp.1,000/m ²)	dd3	dd5 (x Rp.1,000/m ²)
High Class	192	0.4	45,000
Middle Class	132	0.3	40,000
Common Class	84	0.2	35,000

Storey	dd2
1	1.0
2	1.09
3	1.12
4	1.135
5	1.162
6	1.197
7	1.236
8	1.265
?	?
11	1.45
?	?
14	1.75

As to commercial buildings, these values (dd1, dd2, dd3 and dd5) are derived from the on-going building construction in Jakarta. As to 8-storey flats, these values are derived from the model cost estimation.

(2) Construction cost of on-site infrastructure in housing lot (without grading and land preparation)

The following values are used as standards.

- Water, electric and gas supply Rp.350,000/housing unit
- Sewerage, garbage Rp.350,000/housing unit
- Landscaping (park, footpath, drainage, etc.) Rp. 10,000/m² (for outside space)

These values are based on Kebon Kacang project.

$$D21: \text{Unit construction cost of on-site infrastructure (Rp/sq.m)} = 10,000 + \text{number of housing unit} \times (350,000 + 35,000) / (\text{housing lot area})$$

(3) Construction Cost of Off-site Infrastructure

Construction costs of off-site infrastructure are as follows:

Item (1)	Unit Cost (2)	Quantity (3)	Amount (4)
	Rp./m ²	m ²	Rp.1,000
1. Demolition of existing KIP	2,000	2,170	4,300
2. Land preparation	100	26,200	2,600
3. Earth work	4,000	12,700	51,000
4. Bridge and underpass	1	-	380,000
5. Station plaza	-	27,000	81,000
	Rp./m		
6. Drainage	80,000	1,450	116,000
7. Road	15,000	1,100	152,000
8. Fresh water	50,000	1,450	72,000
9. Electricity	10,000	720	7,200
10. Telephone	5,000	720	3,600
Total			870,200

(4) Construction Cost and Operation Cost of Temporary Housing

The following value are used as standards.

- Construction cost - Rp.600,000/unit
- Operation cost - Rp. 50,000/unit, year

These values are based on Kebon Kacang project cost.