CHAPTER 6

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 a certain project 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 project. However, rough estimation can be made below based on the data of Kebon Kacang project and the results of the home-interview survey conducted at 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 Manggarai Rp.34,600/m² (B)

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

(B)/(A)	0.65 (Rp.34,600/Rp.53,000)
Modification factor for market price	1.2
Annual modification factor	1.20 (per 2 years)
Standard land price in Manggarai is:	100,000 x 0.65 x 1.2 x 1.20 = Rp.93,600 . . . . Rp.100,000/m² (against the full right of ownership)

6.1.3 Standard of Building Compensation

Unit: Rp.100

	COMPENSATION EVALUATION (Annual Modification: x 1.2)	KEBON KACANG PROJECT
Building:	/m²	/m²
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	

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

6.1.4 Standard of Other Compensation

Based on the data of Kebon Kacang project.

Unit: Rp.1000

	COMPENSATION EVALUATION (Annual modification: x 1.2)	KEBON KACANG PROJECT
Plant:		
Fruit trees (producing)	8.0 /unit	6.65 /unit
Fruit trees (not producing)	2.0	1.65
Trees	2.0	-
Others	1.0	-
Business activities:	Business activities compensated as 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 Determintion 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 carparks 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 (F 21)	100
House (2) for resettlement (F 36, 43, 54)	130
House (3) for resettlement (F 70, 100)	180
Shop (1) for resettlement	200 (150 for Sec. II)
Community facilities	200
Office/hotel for sale of residual floor	1,400
Shop (2) for sale of residual floor	1,900
Car parking for sale of residual floor	50

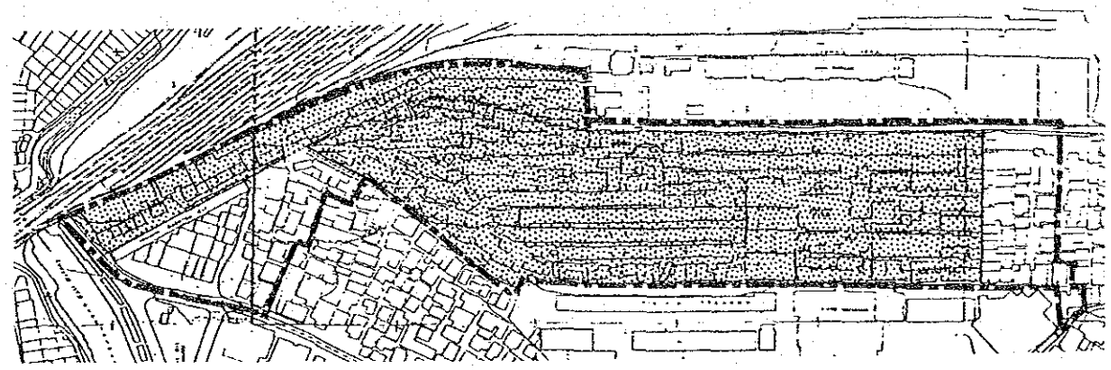
By Storey (Floor), Assuming the First Floor being 100

- The ratio of the second floor of the commercial and business buildings is determined to be equal to that of the first floor taking into account the good accessibility by deck. The following are the productivity ratios determined by storey. B1F (90), 1 F (100), 2 F (100), 3 F (90), 4 F or above (80).

6.1.6 Concepts on the Land Owned by PJKA

As shown in Fig. 6–1 most of the site is believed (customarily owned by PJKA but no legal registration available) to be owned by PJKA. However, the site is being used predominantly as the residential area including some home industries, distinct from the adjacent land where the railway facilities, such as warehouse, depot, factories, etc. exist. In fact, not a few inhabitants replied that they have the ownership on their buildings on the state land not necessarily synonymous with the PJKA's land.

In this study, the PJKA's land is dealt with as the state land; however, it is, of course, a matter to be left to the resolution by the administration.



the land owned by PJKA

Fig. 6–1 THE LAND OWNED BY PJKA

6.2 FINANCIAL CALCULATION

6.2.1 Summary of Financial Calculation

The summary of financial calculation is shown below.

Table 6–2 THE SUMMARY OF FINANCIAL CALCULATION (SECTION I + II)

Financial Plan (Rp.1,000,000)	Revenue		Expenditure (Implementation Cost)		Contents of Subsidy	
	Subsidy	6,707	Planning	3,628	Planning	2,419
	Defrayment	7,655	Land Preparation	600	Land Preparation	1,578
	Sales revenue of residual floor	52,434	Compensation	979	Construction	2,392
			Construction	48,935	Overhead,etc.	320
			Maintenance	780	Contents of Defrayment	
			Overhead, etc.	3,181	Land acquisition	3,204
			Contingency	4,893	Construction	3,595
			Interest, etc.	3,800	Compensation	491
	Total	66,796	Total	66,796	Overhead,etc.	365

Table 6–3 THE SUMMARY OF FINANCIAL CLACULATION BY SECTION

	SECTION I							SECTION II						
Financial Plan (Rp.1,000,000)	Revenue		Expenditure (Implementation Cost)		Contents of Subsidy			Revenue		Expenditure (Implementation Cost)		Contents of Subsidy		
	Subsidy	3,589	Planning	1,741	Planning	1,161		Subsidy	3,118	Planning	1,887	Planning	1,258	
	Defrayment	4,998	Land Preparation	438	Land Preparation	1,073		Defrayment	2,657	Land Preparation	162	Land Preparation	505	
	Sales Revenue of residual floor	23,939	Compensation	626	Construction	1,184		Sales Revenue of residual floor	28,495	Compensation	353	Construction	1,207	
			Construction	23,481	Overhead, etc.	171				Construction	25,454	Overhead, etc	148	
			Maintenance	536	Contents of Defrayment					Maintenance	244	Contents of Defrayment		
			Overhead, etc	1,526	Land cost	2,916				Overhead, etc.	1,655	Land Cost	288	
			Contingency	2,348	Construction	1,395				Contingency	2,545	Construction	2,200	
			Interest	1,830	Compensation	449				Interest	1,970	Compensation	42	
	Total	32,526	Total	32,526	Overhead, etc	238		Total	34,270	Total	34,270	Overhead, etc	127	
Unit floor Cost (Rp. 1000/m^2)	House (1) (F21)	House(2) (F25-F54)	House (3) (F70,F100)	Shop (1)	Community facility	Office	Shop (2)	House (1) (F21)	House (2) F25-F54)	Shop (2)	Community facility	Hotel	Shop(2)	Car Parking
	93,3	115	159.2	207,3	207,3	1161,0	1,672,2	92,7	114	154,6	206,1	1187,0	1750.3	43,3
Right conversion	Floor area for right holder	29,367 m^2	Conversion rate (Land area)	1,0	Conversion rate (floor area)	1,0		Floor area for right holder	13.358 m^2	Conversion rate (land area)	0,9	Conversion rate (floor area)	1,3	

6.2.2 Summary of Results

– The implementaton cost of the urban renewal project in Manggarai amounts to about Rp.67 billion, of which the cost for Section I is about half of it, i.e. Rp.32.5 billion.

– The subsidy for Section I is about Rp.3.6 billion which accounts for 11% of the implementation cost. The subsidy for Section II accounts for 9.1% of the implementation cost, slightly less than that of Section I, attributable to the larger proportion of the commercial and business floors that cannot enjoy the subsidy.

– The defrayment for Section I is about Rp.5 billion which accounts for 15.4% of the implementation cost. This percentage will drop to 7.4% for Section II, because major public facilities, such as station-front plaza and arterial roads will be constructed in Section I, and Section II includes the construction of underpass and deck slab as major public facilities.

– To balance expenditures and revenues, the remaining portion of the implementation cost less the amount 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.23.9 billion for Section I and Rp.28.5 billion for Section II.

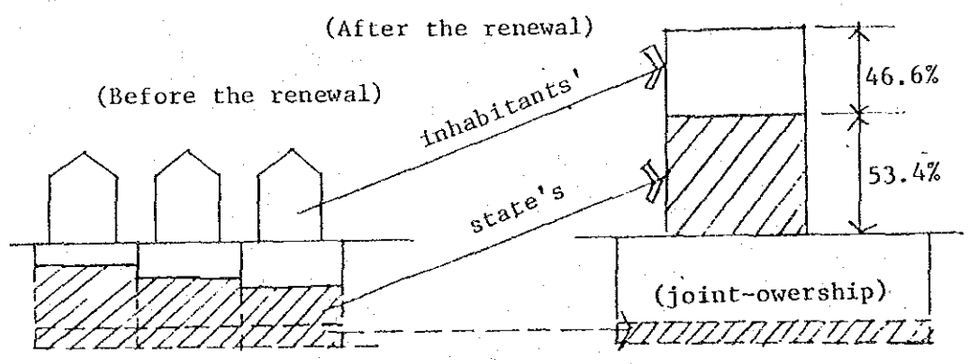
– The average floor cost are summarized as follows:

Unit: Rp.1000

	Section I	Section II
House (1) (F21)	93.3 /m^2	92.7 /m^2
House (2) (F25, F36, F54)	115.0	114.0
House (3) (F70, F100)	159.2	-
Shop (for resettlers)	207.3	154.6 (small shop)
Community facilities	207.3	206.1
Shop (for new-comer)	1,672.2	1,750.0
Office/Hotel	1,161.0	1,187.0
Car parking	48.7	43.3

– The results show that the entitled floor of 29,367 m^2 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.

– However, the entitled floor includes not only the inhabitants' but also the state's floor. In the case or Section I, the portion of the inhabitants' floor accounts for 46.6% as shown below. Therefore, in order that the inhabitants can obtain the same floor area as before, the state's portion should be reallocated to the inhabitants as an "added floor".



Site area = 29,558 m^2 (39,450 m^2 x 0.75)
Floor area = 28,050 m^2 (37,450 m^2 x 0.75)
Pre-renewal value for conversion Rp.3,632 mil. (100%)
of inhabitants' Rp.1,694 mil. (46.6%)
of state's Rp.1,938 mil. (53.4%)
Floor area after-renewal = 29,367 m^2 (100%)
13,670 m^2 (46.6%)
15,697 m^2 (53.6%)

– Fig. 6–4 shows the present conditions of the rights values and the floor areas of the inhabitants on which the floor price of F21 type 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, most of the inhabitants in Manggarai are not entitled to obtain the equivalent exchange of floor, thus necessitating the added floor.

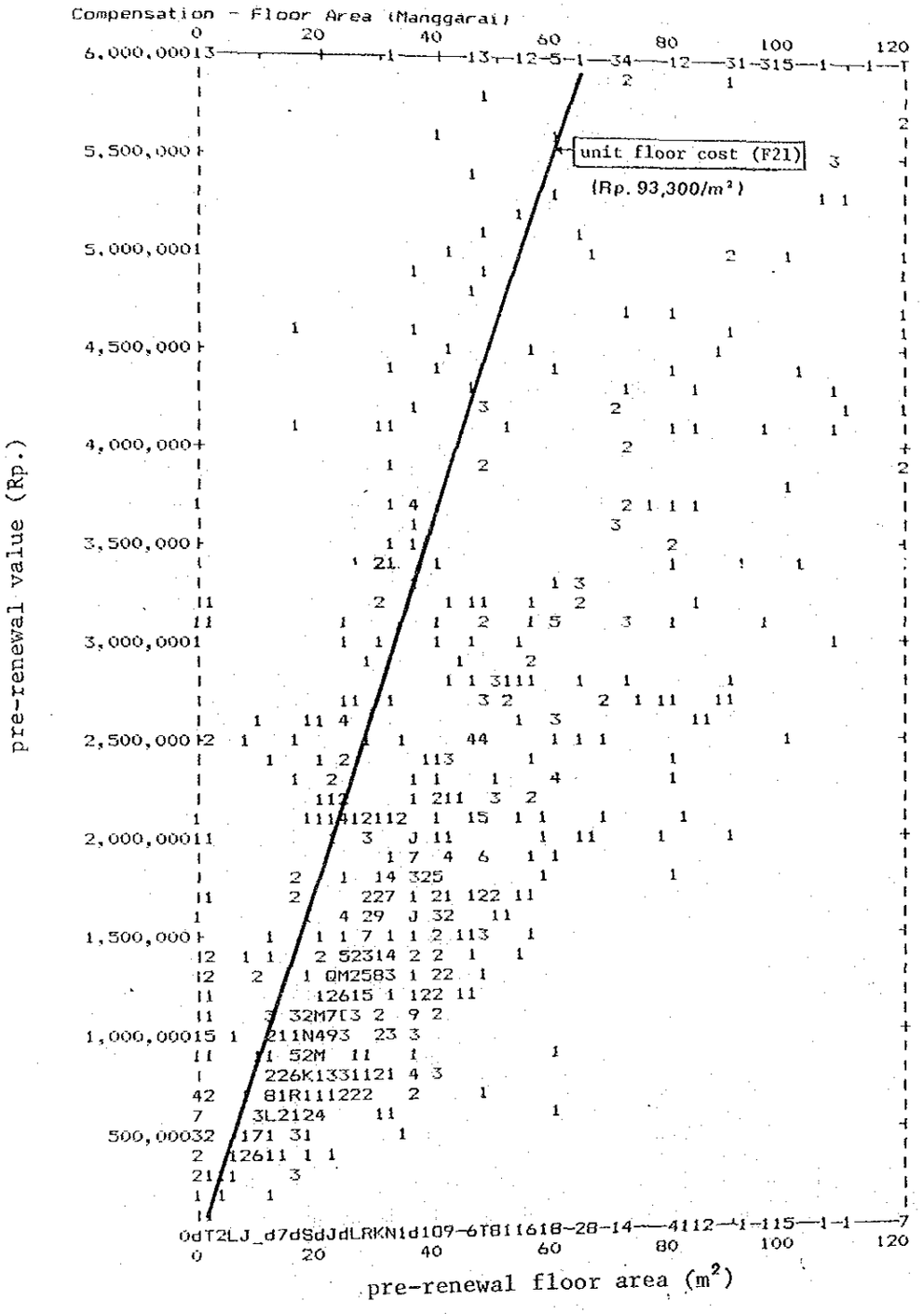
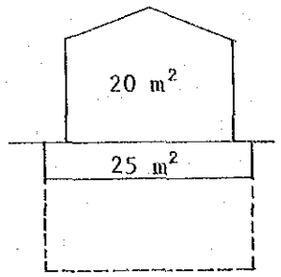


Fig. 6–4 CONDITIONS OF THE EQUIVALENT EXCHANGE OF FLOOR

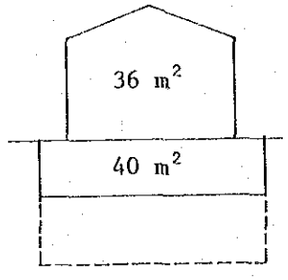
6.2.3 Case Studies on Typical Rightholders

Case A:



- Land area 25 m²
- Right to land: Right to Caltivate (Garapan)
- Floor area 20 m²
- Housing status: Owner
- Monthly income: Rp.60,000
- Value for right conversion
  25 m² x 100,000 x 0.25 + 20 m² x Rp.30,000
  = 1,225,000
- Converted to type F21 (Unit floor price Rp.93,300/unit)
- Floor area against the value for right conversion
  Rp.1,225,000 ÷ Rp.93,300/m² = 13.1 m²
- The different cost between above 13.1 m² and 21 m².(F21)
  (21 m² – 13.1 m²) x Rp.93,300/m²
  = Rp.737,100
- Monthly payment of the loan from BTN (5%, 20 years)
  Rp.737,100 x 0.080243 x 1/12 = Rp.4,929/month
- The rate to monthly income
  Rp.4,929/Rp.60,000 = 8.2% < 1/3 . . . repayable

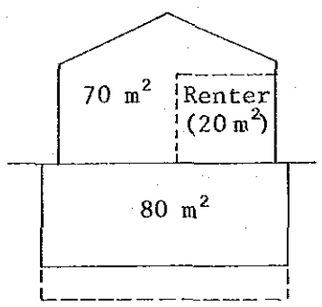
Case B:



- Land area 40 m²
- Right to land: Right of Lease (Hak Sewa)
- Floor area 36 m²
- Housing status: Owner
- Monthly income Rp.80,000
- Value for right conversion
  40 m² x Rp.100,000 x 0.4 + 36 m² x Rp.30,000/m²
  = Rp.2,680,000
- Converted to type F36 (unit floor price Rp.115,000/m²)
- Floor area against the value for right conversion
  Rp.2,680,000 ÷ Rp.115,000 = 23.3 m²

– The different cost between above and 36 m
(36 m^2 – 23.3 m^2) x Rp.115,000 = Rp.1,460,000
– Monthly payment of the loan from BTN (5%, 20 years)
Rp.1,460,000 x 0.080243 x 1/12 = Rp.9,763
– The rate to monthly income
Rp.9,763/Rp.80,000 = 12.2% < 1/3 . . . repayable

Case C:



– Land area 80 m^2
– Right to land: Right of Ownership
– Floor area 70 m^2
– Housing status: Owner
– Monthly income: Rp.120,000
– Include renter (floor area 20 m^2)
– Value for right conversion
80 m^2 x Rp.100,000/m^2 x 0.9 + 70 m^2 x Rp.30,000/m^2 = Rp.9,300,000
– Floor area against the value
Rp.9,300,000 ÷ Rp.115,000/m^2 = 80.9 m^2
– He gets one unit F54 for his personal use and one unit F21 for renter
– Liquidation
Rp.9,300,000 – (52.7 m^2 x Rp.115,000 + 21 m^2 x Rp.93,300) = Rp.1,280,200 . . . refundable

6.2.4 Details of Financial Calculation

Financial Calculation of Section I

(1) Floor area table

upper: priv. f-area (sqM)
lower: publ. f-area (sqM)

storey	house(1)	house(2)	house(3)	shop(1)	p.facility	office	shop(2)	parking	total
b1	0.0	0.0	0.0	0.0	0.0	0.0	260.0	0.0	260.0
	0.0	0.0	0.0	0.0	0.0	1000.0	140.0	0.0	1140.0
1	777.0	1184.0	726.0	1630.0	570.0	0.0	774.0	2090.0	7751.0
	194.0	986.0	269.0	400.0	0.0	1460.0	416.0	0.0	3725.0
2	777.0	2339.0	1452.0	0.0	0.0	0.0	663.0	2090.0	7321.0
	194.0	584.0	273.0	0.0	0.0	110.0	1157.0	0.0	2318.0
3	777.0	2339.0	1452.0	0.0	0.0	0.0	663.0	6270.0	11501.0
	194.0	584.0	273.0	0.0	0.0	110.0	357.0	0.0	1518.0
4-	1554.0	11695.0	7260.0	0.0	0.0	8220.0	5382.0	0.0	34111.0
	388.0	2970.0	1365.0	0.0	0.0	2100.0	2898.0	0.0	9721.0
priv. f-area	3885.0	17557.0	10890.0	1630.0	570.0	8220.0	7742.0	10450.0	60944.0
publ. f-area	970.0	5124.0	2180.0	400.0	0.0	4780.0	4968.0	0.0	18422.0
tatal f-area	4855.0	22681.0	13070.0	2030.0	570.0	13000.0	12710.0	10450.0	79366.0

House (1) : Housing for resettlers (F21)

House (2) : Housing for resettlers (F25, F36, F54)

House (3) : Housing for resettlers (F70, F100)

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	1,741,460.0	704,428.0	1,400.0	821,833.0	213,795.0
B: land preparation	438,000.0	280,200.0	157,800.0	0.0	0.0
C: compensation	625,565.0	345,188.0	194,578.0	85,800.0	0.0
D: construction	23,480,900.0	21,379,500.0	706,440.0	1,395,000.0	0.0
E: maintenance	536,250.0	536,250.0	0.0	0.0	0.0
F: *overhead,etc.*	1,526,260.0	1,174,050.0	352,214.0	0.0	0.0
G: contingency	2,348,090.0	2,348,090.0	0.0	0.0	0.0
H: interest	1,829,710.0				
I: total	32,526,300.0				

2.1 total land value (*1000Rp.)

		unit value	* area	= (sqM)		remark : land value of inhabitants area (sqM)	value (*1000Rp.)
hak milik	100%	100.0	39,450.0	3,945,000.0		141	14,100.0
	90%	90.0	0.0	0.0		2,930	263,700.0
hak usaha	80%	80.0	0.0	0.0		999	79,920.0
hak guna bangunan	80%	80.0	0.0	0.0		0	0.0
	70%	7.0	0.0	0.0		55	3,850.0
hak pakai	60%	60.0	0.0	0.0		0	0.0
	50%	50.0	0.0	0.0		365	18,250.0
	35%	35.0	0.0	0.0		0	0.0
hak sewa	50%	5.0	0.0	0.0		386	19,300.0
	40%	40.0	0.0	0.0		1,338	53,520.0
garapan	40%	40.0	0.0	0.0		179	7,160.0
	25%	25.0	0.0	0.0		33,055	826,375.0
CC1: total				3,945,000.0		39,450	1,286,175.0

2.2 total building value (*1000Rp.)

		unit value	* units	=
permanent	(1)	36.0	550.0	19,800.0
	(2)	30.0	5,750.0	172,500.0
semi-permanent	(1)	30.2	1,100.0	33,220.0
	(2)	25.2	14,400.0	362,880.0
temporary	(1)	21.6	450.0	9,720.0
	(2)	18.0	15,150.0	272,700.0
fence	(1)	5.0	209.0	1,045.0
	(2)	6.0	76.0	456.0
	(3)	4.2	152.0	638.4
well	(1)	5.0	0.0	0.0
	(2)	10.0	502.0	5,020.0
	(3)	15.0	61.0	915.0
septic tank	(1)	10.0	147.0	1,470.0
	(2)	5.0	495.0	2,475.0
electricity		100.0	875.0	87,500.0
water supply		110.0	5.0	550.0
telephone		250.0	8.0	2,000.0
CC2: total				972,889.0

2.3 other compensation (*1000Rp.)

		unit cost	* units	=	
for cemetary	(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	1,100.0		85,800.0
CC3: total					85,800.0

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	=	10.000	(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	=	15,600.000	(sqM)
b13: unit cost of semi-permanent building	=	6.000	(*1000Rp./sqM)
b14: floor area of semi-permanent building	=	15,500.000	(sqM)
b15: unit cost of permanent building	=	7.000	(*1000Rp./sqM)
b16: floor area of permanent building	=	15,600.000	(sqM)
b21: unit cost	=	4.000	(*1000Rp./sqM)
b22: site area (before project)	=	39,450.000	(sqM)
c13: ratio of dislocation (land comp.)	=	0.250	
c14: modification factor	=	0.350	
c24: ratio of dislocation (buil. comp.)	=	0.250	
c25: modification factor	=	0.800	
d11: average unit building construction cost	=	267.649	(*1000Rp./sqM)
d12: area	=	79,879.000	(sqM)
d21: unit cost of on-site infrastructure	=	60.000	(*1000Rp./sqM)
d22: area	=	11,774.000	(sqM)
d31: unit cost of off-site infrastructure	=	60.000	(*1000Rp./sqM)
d32: area	=	23,250.000	(sqM)
e11: unit cost of temporary house	=	650.000	(*1000Rp./unit)
e12: number of temporary house	=	825.000	(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 dd1 (*1000Rp./sqM)	storey-co. dd2	non-stand. dd3	floor-area dd4 (sqM)	lift-no. dd5 (unit)	lift-cost dd6 (*1000Rp./u)	sub-total dd7	unit-cost dd8
1 house (8F)	85.0	1.265	0.200	23361.0	6.0	35000.0	3349860.0	143.4
2 house (5F)	85.0	1.162	0.200	6168.0	0.0	0.0	761517.0	123.5
3 house,shop (8F)	130.0	1.265	0.300	14670.0	2.0	35000.0	3516400.0	239.7
4 office,shop (12F)	200.0	1.450	0.400	25230.0	7.0	40000.0	12474500.0	494.4
5 parking	100.0	1.100	0.100	10450.0	0.0	0.0	1277220.0	122.2
total			d12=	79879.0		dd0=	21379500.0	

d11: average unit building construction cost = dd0/d12 = 267.649 (*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	1,160,970.0	469,619.0	933.3	547,889.0	142,530.0
K: land preparation	1,072,980.0	186,800.0	105,200.0	357,500.0	423,476.0
L: construction	1,184,850.0	329,672.0	213,795.0	213,795.0	427,590.0
M: overhead,etc.	170,940.0				
NN: total	3,589,740.0				

N1 =	1,770,360.0
N2 =	1,819,380.0
N3 =	0.0
N =	3,589,740.0

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 = (l11-l12) *l13 *l14 *2/3
L2: supply system,sewage system,etc. = D1 *l21 *l42 *2/3
L3: fire-proof,machine-room,etc. = D1 *l31 *l42 *2/3
L4: corridor,lift,stair-case,hall,etc. = D1 *l41 *l42 *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 = 825.000 (unit)
k41: modification factor = 0.600

l11: site area (after project) = 23,250.000 (sqM)
l12: ground floor area = 11,476.000 (sqM)
l13: unit cost of on-site infrastructure = 60.000 (1000Rp./sqM)
l14: modification factor = 0.700
l21: ratio of supply system,sewage system,etc. = 0.050
l31: ratio of fire-proof,machine-room,etc. = 0.050
l41: ratio of corridor,lift,stair-case,etc. = 0.100
l42: 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		2,916,000.0	O1 = o11 *o12
construction	(1)	1,395,000.0	O2 = o21 *o22
	(2)	0.0	O3 = o31 *o32
compensation	(build.)	448,800.0	O4 = o41 *o42
	(others)	0.0	O5 = o51 *o52 *o53
others		0.0	O6 = o61 *o62
overhead,etc.		237,990.0	O7 =(O1+O2+O3+O4+O5+O6) *o71
O: total		4,997,790.0	

o11: unit land cost = 180.000 (*1000Rp./sqM)
o12: land area = 16,200.000 (sqM)
o21: unit cost of building construction = 60.000 (*1000Rp./sqM)
o22: floor area = 23,250.000 (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 = 14,960.000 (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	3,589,740.0	planning	1,741,460.0
share defrayaent	4,997,790.0	land preparation	438,000.0
sales of reserved floor	23,938,800.0	compensation	625,565.0
	0.0	construction	23,480,900.0
	0.0	aaintenance	536,250.0
	0.0	overhead,etc.	1,526,260.0
	0.0	contingency	2,348,090.0
	0.0	interest	1,829,710.0
total (revenue)	32,526,300.0	total (expenditure)	32,526,300.0

(share defrayaent = share defrayaent by public facility aanegeaent authorities)

(6) Total floor cost

	(*1000Rp.)	
project cost (total)	32,526,300.0	I
resettler's land value	3,599,810.0	CC1 *(1-c13 *c14)
resettler's bld. value	729,667.0	CC2 *(1-c24)
subsidy	-3,589,740.0	-M
share defrayaent	-4,997,790.0	-0
cost for HBB.	-697,500.0	P =-CC1/b22 *p11 *I11 *p12
0: total	27,570,700.0	

p11: ratio of land value increasing
(after project)/(before project) = 1.500
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)	p.facility	office	shop(2)	parking	total
		100.0	130.0	180.0	200.0	200.0	1400.0	1900.0	50.0	
b1		0.0	0.0	0.0	0.0	0.0	0.0	1710.0	0.0	0.0
	90.0	0.0	0.0	0.0	0.0	0.0	0.0	4446.0	0.0	4446.0
1		100.0	130.0	180.0	200.0	200.0	0.0	1900.0	50.0	0.0
	100.0	777.0	1539.2	1306.8	3260.0	1140.0	0.0	14706.0	1045.0	23774.0
2		100.0	130.0	180.0	0.0	0.0	0.0	1900.0	50.0	0.0
	100.0	777.0	3040.7	2613.6	0.0	0.0	0.0	12597.0	1045.0	20073.3
3		90.0	117.0	162.0	0.0	0.0	0.0	1710.0	45.0	0.0
	90.0	699.3	2736.6	2352.2	0.0	0.0	0.0	11337.3	2821.5	19947.0
4-		80.0	104.0	144.0	0.0	0.0	1120.0	1520.0	0.0	0.0
	80.0	1243.2	12162.8	10454.4	0.0	0.0	92064.0	81806.4	0.0	197731.0
total		3496.5	19479.3	16727.0	3260.0	1140.0	92064.0	124893.0	4911.5	265971.0

(8) Allocation of floor cost & unit floor cost

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

storey	house(1)	house(2)	house(3)	shop(1)	p.facility	office	shop(2)	parking	total
b1	0.0	0.0	0.0	0.0	0.0	0.0	1772.6	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	460875.0	0.0	460875.0
1	103.7	134.8	186.6	207.3	207.3	0.0	1969.6	51.8	0.0
	80544.3	159555.0	135464.0	337934.0	118173.0	0.0	1524430.0	108325.0	2464430.0
2	103.7	134.8	186.6	0.0	0.0	0.0	1969.6	51.8	0.0
	80544.3	315201.0	270928.0	0.0	0.0	0.0	1305810.0	108325.0	2080810.0
3	93.3	121.3	167.9	0.0	0.0	0.0	1772.6	46.6	0.0
	72489.9	283681.0	243835.0	0.0	0.0	0.0	1175230.0	292479.0	2067720.0
4-	82.9	107.8	149.3	0.0	0.0	1161.0	1575.6	0.0	0.0
	128871.0	1260800.0	1083710.0	0.0	0.0	9543420.0	8480110.0	0.0	20496900.0
unit(/sqM)	93.3	115.0	159.2	207.3	207.3	1161.0	1672.2	48.7	452.4
total	362450.0	2019240.0	1733940.0	337934.0	118173.0	9543420.0	12946500.0	509129.0	27570700.0

(9) Case study of right conversion

9.1 entitled floor

facilities	unit price (*1000Rp./sqM)	net f-area (sqM)	total price (*1000Rp.)
house(1)	93.3	3,885.0	362,450.0
house(2)	115.0	16,373.0	1,859,690.0
house(3)	159.2	8,712.0	1,327,540.0
shop(1)	207.3	397.0	82,302.3
p.facility	207.3	0.0	0.0
office	1,161.0	0.0	0.0
shop(2)	1,672.2	0.0	0.0
parking	48.7	0.0	0.0
	0.0	29,367.0	3,631,980.0

remarks
- for inhabitants 46.6 %
. Rp. 1,694,298 (*1000)
. area 13,670 (sqM)
- for state 53.4 %
. Rp. 1,937,682 (*1000)
. area 15,697 (sqM)

9.2 residual floor

facilities	unit price (*1000Rp./sqM)	net f-area (sqM)	total price (*1000Rp.)
house(1)	93.3	0.0	0.0
house(2)	115.0	1,184.0	159,555.0
house(3)	159.2	2,178.0	406,391.0
shop(1)	207.3	1,233.0	255,631.0
p.facility	207.3	570.0	118,173.0
office	1,161.0	8,220.0	9,543,420.0
shop(2)	1,672.2	7,742.0	12,946,400.0
parking	48.7	10,450.0	509,129.0
	0.0	31,577.0	23,938,700.0

9.3 total

facilities	net f-area (sqM)	total price (*1000Rp.)
house(1)	3,885.0	362,450.0
house(2)	17,557.0	2,019,240.0
house(3)	10,890.0	1,733,930.0
shop(1)	1,630.0	337,933.0
p.facility	570.0	118,173.0
office	8,220.0	9,543,420.0
shop(2)	7,742.0	12,946,400.0
parking	10,450.0	509,129.0
	60,944.0	27,570,700.0

right conversion amount =CC1*(1-c13*c14) +CC2*(1-c24) -P = 3,631,980.0 (*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# = Z/(b22 *(1-c13)) = 0.993
conversion rate (floor area) : y# = Z/(c32 *(1-c24)) = 1.047

b22: site area (before project) = 39450.000
c32: floor area (before project) = 37400.000
Z : resettler's floor area = 29367.000 (sqM)
c13: ratio of dislocation (land) = 0.250
c24: ratio of dislocation (building) = 0.250

Financial Calculation of Section II

(1) Floor area table

upper: priv. f-area (sqM)
lower: publ. f-area (sqM)

storey	house(1)	house(2)	shop(1)	c.facility	hotel	shop(2)	parking	total
b1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	800.0	370.0	0.0	1170.0
1	462.0	796.0	640.0	2640.0	780.0	845.0	310.0	6473.0
	116.0	320.0	0.0	0.0	1400.0	455.0	0.0	2291.0
2	462.0	2017.0	0.0	0.0	1038.0	845.0	620.0	4982.0
	116.0	504.0	0.0	0.0	692.0	840.0	0.0	2152.0
3	462.0	2017.0	0.0	0.0	0.0	845.0	2600.0	5924.0
	116.0	504.0	0.0	0.0	90.0	455.0	0.0	1165.0
4-	924.0	10085.0	0.0	0.0	14192.0	1965.0	7800.0	34986.0
	232.0	2520.0	0.0	0.0	4538.0	640.0	0.0	7930.0
priv. f-area	2310.0	14915.0	640.0	2640.0	16010.0	4500.0	11330.0	52345.0
publ. f-area	580.0	3848.0	0.0	0.0	7520.0	2760.0	0.0	14708.0
total f-area	2890.0	18763.0	640.0	2640.0	23530.0	7260.0	11330.0	67053.0

House (1) : Housing for resettlers (F21)

House (2) : Housing for resettlers (F25, F36, F54)

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	1,887,090.0	763,626.0	980.0	890,897.0	231,592.0
B: land preparation	162,400.0	84,400.0	78,000.0	0.0	0.0
C: compensation	353,088.0	243,750.0	70,338.4	39,000.0	0.0
D: construction	25,454,200.0	23,159,200.0	600,960.0	1,694,000.0	0.0
E: maintenance	243,750.0	243,750.0	0.0	0.0	0.0
F: overhead,etc.	1,654,520.0	1,272,710.0	381,813.0	0.0	0.0
G: contingency	2,545,420.0	2,545,420.0	0.0	0.0	0.0
H: interest	1,969,780.0				
I: total	34,270,200.0				

2.1 total land value (*1000Rp.)

		unit value (*1000Rp./sqM)	* area (sqM)	=	remark : land value of inhabitants area (sqM)	value (*1000Rp.)
hak milik	100%	100.0	19,500.0	1,950,000.0	1,008	100,800.0
	90%	90.0	0.0	0.0	4,326	389,340.0
hak usaha	80%	80.0	0.0	0.0	927	74,160.0
hak guna bangunan	80%	80.0	0.0	0.0	0	0.0
	70%	70.0	0.0	0.0	0	0.0
hak pakai	60%	60.0	0.0	0.0	263	15,780.0
	50%	50.0	0.0	0.0	0	0.0
	35%	35.0	0.0	0.0	0	0.0
hak sewa	50%	50.0	0.0	0.0	145	7,250.0
	40%	40.0	0.0	0.0	2,449	97,960.0
garapan	40%	40.0	0.0	0.0	145	5,800.0
	25%	25.0	0.0	0.0	10,385	259,625.0
CC1: total				1,950,000.0	19,500	950,715.0

2.2 total building value (*1000Rp.)

		unit value	* units	=
permanent	(1)	36.0	850.0	30,600.0
	(2)	30.0	3,230.0	96,900.0
semi-permanent	(1)	30.2	40.0	1,208.0
	(2)	25.2	5,750.0	144,900.0
temporary	(1)	21.6	590.0	12,744.0
	(2)	18.0	3,630.0	65,340.0
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				351,692.0

2.3 other compensation (*1000Rp.)

		unit cost	* units	=
for cemetary	(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	500.0	39,000.0
CC3: total				39,000.0

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-H) *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 = 4,220.000 (sqM)
b13: unit cost of semi-permanent building = 6.000 (*1000Rp./sqM)
b14: floor area of semi-permanent building = 5,790.000 (sqM)
b15: unit cost of permanent building = 7.000 (*1000Rp./sqM)
b16: floor area of permanent building = 4,080.000 (sqM)

b21: unit cost = 4.000 (*1000Rp./sqM)
b22: site area (before project) = 19,500.000 (sqM)

c13: ratio of dislocation (land comp.) = 0.250
c14: modification factor = 0.500
c24: ratio of dislocation (buil. comp.) = 0.250
c25: modification factor = 0.800

d11: average unit building construction cost = 356.384 (*1000Rp./sqM)
d12: area = 64,984.000 (sqM)
d21: unit cost of on-site infrastructure = 60.000 (*1000Rp./sqM)
d22: area = 10,016.000 (sqM)
d31: unit cost of off-site infrastructure = 220.000 (*1000Rp./sqM)
d32: area = 7,700.000 (sqM)

e11: unit cost of temporary house = 650.000 (*1000Rp./unit)
e12: number of temporary house = 375.000 (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 dd1 (*1000Rp./sqM)	storey-co. dd2	non-stand. dd3	floor-area dd4 (sqM)	lift-no. dd5 (unit)	lift-cost dd6 (*1000Rp./u)	sub-total dd7	unit-cost dd8
1 house 8F	85.0	1.265	0.200	20896.0	4.0	35000.0	2948550.0	141.1
2 house 5F	85.0	1.162	0.200	2888.0	0.0	0.0	356560.0	123.5
3 hotel	200.0	1.900	0.400	28520.0	6.0	40000.0	18302700.0	641.7
4 school	85.0	1.162	0.200	1350.0	0.0	0.0	166674.0	123.5
5 parking	100.0	1.100	0.100	11330.0	0.0	0.0	1384780.0	122.2
total			d12=	64984.0		dd0=	23159200.0	

d11: average unit building construction cost = dd0/d12 = 356.384 (*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	1,258,060.0	509,084.0	653.3	593,931.0	154,395.0
K: land preparation	505,182.0	56,266.7	52,000.0	162,500.0	234,415.0
L: construction	1,206,820.0	280,448.0	231,592.0	231,592.0	463,185.0
M: overhead,etc.	148,503.0				
NN: total	3,118,570.0				
N1 =	1,227,780.0				
N2 =	1,890,790.0				
N3 =	0.0				
N =	3,118,570.0				

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) *a11

N : subsidy (total) = N1 +N2 + N3
NN: subsidy (sub-total) = N1 +N2
N1: subsidy (related to land) = (J+K-J3) *(1+a11)
N2: subsidy (related to building) = (J3+L) *(1+a11)
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 = 375.000 (unit)
k41: modification factor = 0.900

111: site area (after project) = 17,900.000 (sqM)
112: ground floor area = 7,884.000 (sqM)
113: unit cost of on-site infrastructure = 60.000 (1000Rp./sqM)
114: modification factor = 0.700
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

a11: ratio of overhead,etc. = 0.050

(4) Defrayment from the agencies responsible for public facilities

		sub-total (*1000Rp.)	
land cost		288,000.0	01 = o11 *o12
construction	(1)	1,694,000.0	02 = o21 *o22
	(2)	340,000.0	03 = o31 *o32
compensation	(build.)	42,000.0	04 = o41 *o42
	(others)	0.0	05 = o51 *o52 *o53
others		166,050.0	06 = o61 *o62
overhead,etc.		126,503.0	07 =(01+02+03+04+05+06) *o71
0: total		2,656,550.0	

o11: unit land cost = 180.000 (*1000Rp./sqM)
o12: land area = 1,600.000 (sqM)
o21: unit cost of building construction = 220.000 (*1000Rp./sqM)
o22: floor area = 7,700.000 (sqM)
o31: unit cost of other facility = 100.000 (*1000Rp./unit)
o32: quantity = 3,400.000 (unit)
o41: unit cost of building compensation = 30.000 (*1000Rp./sqM)
o42: floor area = 1,400.000 (sqM)
o51: unit cost of other compensation = 100.000 (*1000Rp./unit)
o52: quantity = 1,400.000 (unit)
o53: modification factor = 0.000
o61: unit cost of others = 123.000 (*1000Rp./unit)
o62: quantity = 1,350.000 (unit)
o71: ratio of overhead,etc. = 0.050

(5) Revenue and expenditure

revenue	(*1000Rp.)	expenditure	(*1000Rp.)
subsidy	3,118,570.0	planning	1,887,090.0
share defrayment	2,656,550.0	land preparation	162,400.0
sales of reserved floor	28,495,100.0	compensation	353,088.0
	0.0	construction	25,454,200.0
	0.0	maintenance	243,750.0
	0.0	overhead,etc.	1,654,520.0
	0.0	contingency	2,545,420.0
	0.0	interest	1,969,780.0
total (revenue)	34,270,200.0	total (expenditure)	34,270,200.0

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

(6) Total floor cost

	(*1000Rp.)	
project cost (total)	34,270,200.0	I
resettler's land value	1,706,250.0	CC1 *(1-c13 *c14)
resettler's bld. value	263,769.0	CC2 *(1-c24)
subsidy	-3,118,570.0	-M
share defrayment	-2,656,550.0	-B
cost for HGB.	-537,000.0	P =-CC1/b22 *p11 *111 *p12
Q: total	29,928,100.0	

p11: ratio of land value increasing
(after project)/(before project) = 1.500

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)	shop(1)	c.facility	hotel	shop(2)	parking	total
		100.0	130.0	150.0	200.0	1400.0	1900.0	50.0	
b1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	90.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1		100.0	130.0	150.0	200.0	1400.0	1900.0	50.0	0.0
	100.0	462.0	1034.8	960.0	5280.0	10920.0	16055.0	155.0	34866.8
2		100.0	130.0	0.0	0.0	1400.0	1900.0	50.0	0.0
	100.0	462.0	2622.1	0.0	0.0	14532.0	16055.0	310.0	33981.1
3		90.0	117.0	0.0	0.0	0.0	1710.0	45.0	0.0
	90.0	415.8	2359.9	0.0	0.0	0.0	14449.5	1170.0	18395.2
4-		80.0	104.0	0.0	0.0	1120.0	1520.0	40.0	0.0
	80.0	739.2	10488.4	0.0	0.0	158950.0	29868.0	3120.0	203166.0
total		2079.0	16505.2	960.0	5280.0	184402.0	76427.5	4755.0	290409.0

(8) Allocation of floor cost & unit floor cost

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

storey	house(1)	house(2)	shop(1)	c.facility	hotel	shop(2)	parking	total
b1	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	0.0	0.0
1	103.1	134.0	154.6	206.1	1442.8	1958.1	51.5	0.0
	47611.5	106641.0	98932.9	544131.0	1125360.0	1654550.0	15973.5	3593200.0
2	103.1	134.0	0.0	0.0	1442.8	1958.1	51.5	0.0
	47611.5	270221.0	0.0	0.0	1497600.0	1654550.0	31947.1	3501930.0
3	92.7	120.6	0.0	0.0	0.0	1762.2	46.4	0.0
	42850.3	243199.0	0.0	0.0	0.0	1489100.0	120575.0	1895720.0
4-	82.4	107.2	0.0	0.0	1154.2	1566.4	41.2	0.0
	76178.4	1080880.0	0.0	0.0	16380700.0	3078050.0	321532.0	20937300.0
unit(/sqM)	92.7	114.0	154.6	206.1	1187.0	1750.3	43.3	571.7
total	214252.0	1700940.0	98932.9	544131.0	19003600.0	7876250.0	490027.0	29928100.0

(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)	92.7	2,310.0	214,252.0	
house(2)	114.0	10,408.1	1,119,830.0	- for inhabitants 68.2 %
shop(1)	154.6	640.0	98,933.1	. Rp. 976,805 (*1000)
c.facility	206.1	0.0	0.0	. area 9,110 (sqM)
hotel	1,187.0	0.0	0.0	
shop(2)	1,750.3	0.0	0.0	- for state 31.8 %
parking	43.3	0.0	0.0	. Rp. 456,215 (*1000)
	0.0	13,358.1	1,433,020.0	. area 4,248 (sqM)

9.2 residual floor

facilities	unit price (*1000Rp./sqM)	net f-area (sqM)	total price (*1000Rp.)
house(1)	92.7	0.0	0.0
house(2)	114.0	4,506.9	581,109.0
shop(1)	154.6	0.0	0.0
c.facility	206.1	2,640.0	544,130.0
hotel	1,187.0	16,010.0	19,003,600.0
shop(2)	1,750.3	4,500.0	7,876,250.0
parking	43.3	11,330.0	490,028.0
	0.0	38,986.9	28,495,100.0

9.3 total

facilities	net f-area (sqM)	total price (*1000Rp.)
house(1)	2,310.0	214,252.0
house(2)	14,915.0	1,700,940.0
shop(1)	640.0	98,933.1
c.facility	2,640.0	544,130.0
hotel	16,010.0	19,003,600.0
shop(2)	4,500.0	7,876,250.0
parking	11,330.0	490,028.0
	52,345.0	29,928,100.0

right conversion amount	=CC1*(1-c13*c14) +CC2*(1-c24) -P =	1,433,020.0 (*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# = I/(b22 *(1-c13)) =	0.913	
conversion rate (floor area)	: y# = I/(c32 *(1-c24)) =	1.264	
b22: site area	(before project)	=	19500.000
c32: floor area	(before project)	=	14090.000
I : resettler's floor area		=	13358.100 (sqM)
c13: ratio of dislocation	(land)	=	0.250
c24: ratio of dislocation	(building)	=	0.250

Details of Construction Cost

(1) Construction Cost of Building

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

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

dd1 : standard unit cost (Rp./m^2)
dd2 : modification factor due to storeys
dd3 : non-standard cost ratio (without lift)
dd4 : total floor area of building (m^2)
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./m^2)

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 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 building.

Standard cost by the DPU standard.

Building grade	(x Rp.1,000/m²)
High Class	215
Middle Class	175
Common Class	135

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

Building grade	dd1 (x Rp.1,000/m²)	dd3	dd5 (x Rp.1,000/m²)
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 some examples that are now under 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 standard.

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

These values are based on Kebon Kacang project.

D21: Unit construction cost of on-site infrastructure (Rp/sqM) = 10,000 + number of housing unit x (350,000 + 35,000)/(housing lot area − building coverage area)

(3) Construction Cost of Off-site Infrastructure

Construction costs of off-site infrastructure are as follows:

Item	Unit cost	Section I		Section II		Total
		Quantity	Amount	Quantity	Amount	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Rp./m²	m²	Rp.1000		Rp.1000	Rp.1000
1. Demolition of existing KIP	2,000	5,920	11,840	2,980	5,960	17,800
2. Land preparation	100	37,500	3,770	18,800	1,860	5,630
3. Earth work	4,000	-	-	-	-	-
4. Bridge and underpass	-	-	-	-	750,000	750,000
5. Concrete cover for canal	74,000	875	647,500	875	647,500	1,295,000
6. Station plaza	-	6,900	153,180	3,400	340,000	493,180
	Rp/m	m				
7. Drainage	80,000	39,750	214,600	20,100	117,000	331,600
8. Road	15,000	14,800	221,690	7,000	104,680	326,000
				m		
9. Fresh water	50,000	24,420	125,800	13,000	59,600	185,400
10. Electricity	10,000	960	9,620	520	5,200	14,820
11. Telephone	5,000	960	5,100	520	2,200	7,300
Total (D3)			1,395,000		2,034,000	3,429,000

(4) Construction Cost and Operation Cost of Temporary Housing

Following value are used as standard.

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

These values are based on Kebon Kacang project cost.

CHAPTER 7

SOCIO-ECONOMIC ANALYSIS

7.1 ECONOMIC EVALUATION

7.1.1 General Conditions

Method of Evaluation

The purposes of urban renewal are to improve urban infrastructures and increase decent housing stocks in urban area. Through urban renewal, the urban functions to be assigned to the area will also be rearranged suitably.

In fact, the site in Manggarai has many low standard housing in insanitary conditions and inadequate urban infrastructures as well, thus necessitating a comprehensive urban renewal project.

The success in urban renewal projects is largely dependent on how to produce development benefits coping with various conflicting requirements.

The proposed urban renewal project is evaluated in terms of the "net present value (NPV)" which is expressed as a difference between the benefit and cost. Other indices for evaluation such as "cost benefit ratio (B/C) and "internal rate of return (IRR)" are calculated only for reference.

Benefit

Benefits of the urban renewal project are composed of the following items.

- Housing
- Business-use floor development
- Parking area development
- Infrastructure development or improvement

Cost

Project costs include investment for construction, operation and maintenance cost, replacement cost and land acquisition cost. Financially, land acquisition cost is not enumerated in the right conversion system. However, the land and building values before renewal must be included in the economic project costs since the values are nullified by the urban renewal.

Project Life

Although buildings and infrastructures are considered to have more than 30 years physical life period, social life period is expected to be shorter than the physical life period. In this sutdy, the project life is assumed to last until the year 2010, so that the maximum life period of buildings and infrastructure becomes 24 years.

Discount Rate

Considering the loan conditions for construction and the general interest rate available, annual discount rate is assumed to be 15%.

Price Indication

All costs and benefits are indicated at the price prevalent in the year 1983.

7.1.2 Economic Benefit

Benefit of Housing

The existing housing conditions in Manggarai are of low standard. In this area, betterment of living environment and rebuilding of housing will increase better social capital stocks and thus contribute towards laying the foundation of the national economic development. Housing is a capital stock to provide living services and thus encourage labour force. It is necessary to make full use of the ability of the labour force by improvement of their will to work and thus increase labour efficiency.

The benefits of the betterment of living environment and rebuilding of houses are measured by the willingness to pay to get new houses. Usually, when inhabitants get newly-built houses, they borrow housing loan from the National Saving Bank (Bank Tabungan Negara = BTN). Considering their abilities for repayment, the bank decides the loan amount. According to the standard of BTN, the maximum loan amount is one third of the inhabitants' household income. This ratio is considered to be the same as the inhabitants' willingness to pay.

Therefore, the annual benefits of the betterment of living environment and rebuilding of houses are calculated by the following formula.

Benefit of housing = Average family income x 1/3 x number of families.

Number of households who resettle in the urban renewal area is as shown in Table 7–1.

Table 7–1 NUMBER OF RESETTLED HOUSEHOLDS

Year	Section	Number of Households	Accumlated Number
1987	I (a)	650	650
1989	I (b)	400	1,050
1991	II	550	1,600

In the urban renewal area, the average monthly household income is Rp.80,700, and the housing benefit is expected to be one third of the household income.

The annual housing benefit is estimated as shown in Table 7–2.

Table 7–2 HOUSING BENEFIT

Year	Number of Households	Annual Benefit (Mill.Rp.)
1987	650	210
1988	650	210
1989	1,050	339
1990	1,050	339
1991 –	1,600	516

Benefit of Business-use Floor

The business-use floor will be developed for use of commercial, business office and hotel facilities. In the urban renewal project, the floor for these facilities will be created by the development of vertical land use. The economic activities using the floor will be needed in Manggarai to function as a sub-centre, and such development cannot be expected without initiating the urban renewal project.

The business on the floor contributes towards enhancement of the national economy, through the commercial activities and services. The benefits from the floor are estimated as follows.

(1) Commercial

In Jakarta, the average sales amount of 1 sq.m. of commercial floor is Rp.100,000 of which profits before tax is about 23%. This amount is regarded as a floor productivity. The benefit from commercial floor is Rp.23,000 per one sq.m. The calculation formula of the benefit from commercial floor is as mentioned below.

Benefit of commercial floor = Productivity x Commercial floor area

(2) Business office

Business office is not directly engaged in productive activities, but supports them. Economically, business office spares part of economic benefits from industrial activities. The benefit of office floor is assumed to be the same as the willingness to pay to get office space. The benefit of office floor is thus measured by the marketable rental price. In Jakarta, the average monthly rental price of office floor is Rp.15,000 per sq.m., and this amount is regarded as the benefit or productivity of office floor. The calculation formula remains the same as the case of commercial floor, as shown in the following:

Benefit of office floor = Productivity x Office floor area

(3) Hotel

The benefit of hotel is considered to follow the same principle as commercial floor.

The expected total monthly sales amount to Rp.2,178,000 per one bedroom, and the profit before tax is 50% of the sales or Rp.1,089,000 per one bedroom. As the average private floor area per one bedroom is 60 sq.m., the monthly productivity, which is the same as benefit, becomes Rp.18,000 per sq.m. The calculation formula remains the same as the cases of commercial floor and office floor, as shown in the following.

Benefit of Hotel = Productivity x Hotel floor area.

The business-use floor will be developed as shown in Table 7–3.

Table 7–3 FLOOR AREA OF BUSINESS-USE FLOOR

(unit : sq.m.)

Year	Section	Commercial		Office		Hotel	
		Con-structed	Accu-mulated	Con-structed	Accu-mulated	Con-structed	Accu-mulated
1987	I (a)	430	430	0	0	0	0
1989	I (b)	8,942	9,372	8,220	8,220	0	0
1992	II	5,140	14,512	0	8,220	16,010	16,010

As mentioned above, the monthly benefits of each floor use are Rp.23,000 per sq.m. for commercial, Rp.15,000 per sq.m. for office and Rp.18,000 per sq.m. for hotel.

Therefore, the annual benefits of business-use floor become as shown in Table 7–4.

Table 7–4 ANNUAL BENEFIT OF BUSINESS-USE FLOOR

(Floor Area : sq.m., Benefit: mill.Rp.)

Year	Commercial		Office		Hotel		Total Benefit
	Floor Area	Benefit	Floor Area	Benefit	Floor Area	Benefit	
1987	430	119	0	0	0	0	119
1988	430	119	0	0	0	0	119
1989	9,372	2,587	8,220	1,480	0	0	4,067
1990	9,372	2,587	8,220	1,480	0	0	4,067
1991	9.372	2.587	8,220	1,480	0	0	4,067
1992–	14,512	4,005	8,220	1,480	16,010	3,458	8,948

Benefit of Parking Area

Parking spaces serve for the customers of commercial area, visitors of business office and hotel guests. The benefit of parking is measured by the willingness to pay to park and expected to be the same as the parking fee which is Rp.200 for one parking.

On the average, one parking lot serves 5 times a day, and requires the space of 30 sq.m. The monthly benefit of parking is estimated as Rp.1,000 per sq.m.

The schedule of parking development is as shown in Table 7–5 and the benefit of parking is shown in the same table.

Table 7–5 PARKING SPACE AND ANNUAL BENEFIT

Year	Parking Space		Benefit
	Constructed	Accumulated	
	sq.m.	sq.m.	mill.Rp
1989	10,450	10,450	127
1990	0	10,450	127
1991	0	10,450	127
1992–	11,330	21,780	265

Benefit of Infrastructure Development or Improvement

The benefits of infrastructure development and improvement mainly come from the transportation benefit measured by the following items.

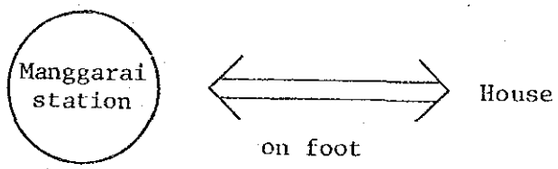
– Station-front plaza and bus terminal developments
– Underpass improvement

Other infrastructure improvements and developments such as service road improvement, sewerage improvement, piped water development, etc., serve for the improvement of living environment and business environment. Therefore, the benefits from these infrastructures are considered to be included in the housing benefit or the benefit of business-use floor.

(1) Station-front plaza and bus terminal

When the development of station-front plaza and bus terminal, the railway passengers can reduce the travel time, as compared to the case without such development. The benefit of station-front plaza and bus terminal is measured by the time saving for railway passengers. The calculation formula is as shown below.

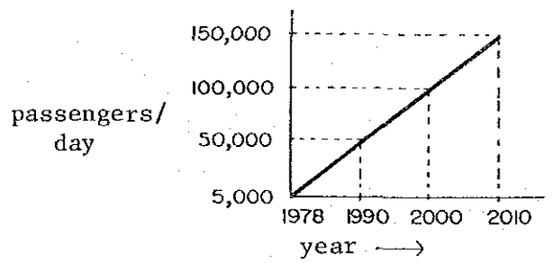
Benefit of station-front plaza and bus terminal = Number of railway passengers x Saving time x Time value.



In 1978, the railway passengers who get on and off at the Manggarai station, is estimated as about 5,000 persons/day (JICA report, February 1981). The renewal project will be completed by 1991 and thereafter the benefit will be continuously received by passengers for 20 years (1991 – 2010).

The JICA report (1981) estimated the passengers as follows:

in 1990 : 50,000 persons/day (10 times)
in 2000 : 100,000 persons/day (20 times)
in 2010 : 150,000 persons/day (30 times)



With the urban renewal project, the passengers can reduce the travel time by 5 minutes/day on the average, because they can use the proposed station plaza instead of the existing underpass located far away from the Manggarai station, to access to the land transportation.

The economic benefit is given as follows:

Passengers' hourly rate (average)	:	Rp.500/h.
Working days in year	:	300 days
Time saving per day	:	5 min./day

Benefit per person in a year

$$Rp.500 \times \frac{5 \text{ min.}}{60 \text{ min.}} \times 300 \text{ days} = Rp.12,500/\text{year}.$$

The benefits of the station-front plaza and bus terminal developments are as shown in Table 7–6.

Table 7–6 BENEFIT OF STATION-FRONT PLAZA AND BUS TERMINAL DEVELOPMENTS

Year	No. of Persons	Benefit Rp.x10^6/year	Year	No. of Perosns	Benefit Rp.x10^6/year
1987	35,000	437	1999	95,000	1,187
1988	40,000	500	2000	100,000	1,250
1989	45,000	562	2001	105,000	1,312
1990	50,000	625	2002	110,000	1,375
1991	55,000	687	2003	115,000	1,437
1992	60,000	750	2004	120,000	1,500
1993	65,000	812	2005	125,000	1,562
1994	70,000	875	2006	130,000	1,625
1995	75,000	937	2007	135,000	1,687
1996	80,000	1,000	2008	140,000	1,750
1997	85,000	1,062	2009	145,000	1,812
1998	90,000	1,125	2010	150,000	1,875

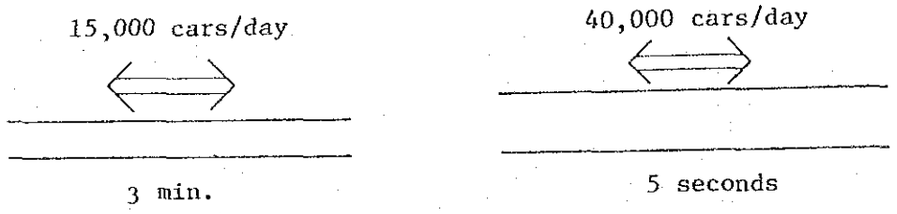
(2) Underpass improvement

After improvement of the underpass, the car users can reduce their travel time and operating cost, because of smooth driving without traffic jam. The benefit of the underpass improvement is calculated by the following formula.

Benefit of underpass improvement = Number of vehicle passengers x Saving time x Time value + Number of vehicles x Saving operating cost.

– Reduction of travel time

After improvement of the underpass by widening and giving more clearance, the car users can reduce their travel time because of traffic jam at the existing underpass will become less serious.



· Existing car users in 1982 (Jl. Sultan Agung)

15,000 cars/day — Public bus 60% : 9,000 cars/day; Private car 40% : 6,000 cars/day

persons of public bus

40 persons/car x 9,000 = 360,000 persons/day

persons of private car

2 persons/car x 6,000 = 12,000 persons/day

Total 372,000 persons/day

· Proposed car users after 2000

Public bus 60% : 24,000 cars/day

Private car 40% : 16,000 cars/day

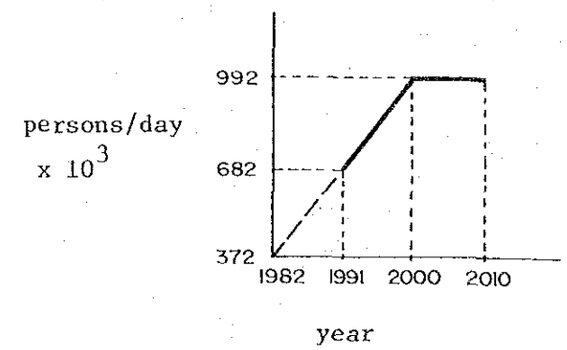
persons of public bus

40 persons/car x 24,000 = 960,000 persons/day

persons of private car

2 persons/car x 16,000 = 32,000 persons/day

Total 992,000 persons/day



Users' hourly rate (average) : Rp.500/h.
Working days in a year : 300 days
Time saving per day : 3 min./day
Benefit per person in a year

$$Rp.500 \times \frac{3 \text{ min.}}{60 \text{ min.}} \times 300 \text{ days} = Rp.7,500 \text{ year.}$$

The number of car users and the benefit are as shown in Table 7–7.

Table 7–7 TIME REDUCTION BENEFIT OF UNDERPASS IMPROVEMENT

Year	No. of Persons	Benefit Rp.x 10^6/year	Year	No. of Persons	Benefit Rp. x 10^6/year
1991	682,000	5,115	2001	992,000	7,440
92	716,000	5,370	2	"	"
93	751,000	5,632	3	"	"
94	785,000	5,887	4	"	"
95	820,000	6,150	5	"	"
96	854,000	6,450	6	"	"
97	889,000	6,667	7	"	"
98	923,000	6,922	8	"	"
99	956,000	7,170	9	"	"
2000	992,000	7,440	2010	"	"

– Reduction of vehicle operating cost

Vehicle operating cost usually consists of:

- Fuel consumption
- Engine oil consumption
- Tire wear
- Maintenance cost
- Depreciation of vehicle
- Interest
- Insurance
- Wages of crew

For calculation, reference was made to the method of "An improved Data Base for Estimating Vehicle Operation Cost in Developing Countries" – TRRL Supplementary Report 223 US, by H. Hide.

The detail calculation made for Indonesia is shown in the report "Feasibility Study on Jakarta Harbour Road Project", Draft Final Report, August 1981, JICA. In practice, as the estimate needs a lot of data and calculation, only the results of the JICA's report are used by neglecting intermediate discussions.

By the urban renewal project in Manggarai, it is expected that cars can go through the project site at the speed of 40 km/hr. instead of 20 km/hr. at present. Then, the operating costs of 40 km/hr. and 20 km/hr. are compred and calculated as shown in Table 7–8.

Table 7–8 ECONOMIC VEHICLE OPERATING COST BY SPEED

Speed	Bus	Sedan	Truck
20 km/hr.	338.2	120.2	219.1
40 km/hr.	264.8	77.0	155.5

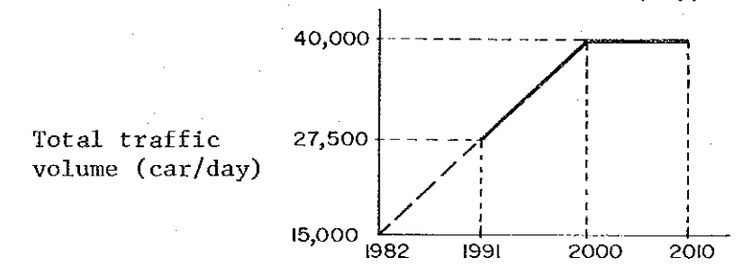
Arterial street (2-way, 4-lanes), Unit: Rp/km/car

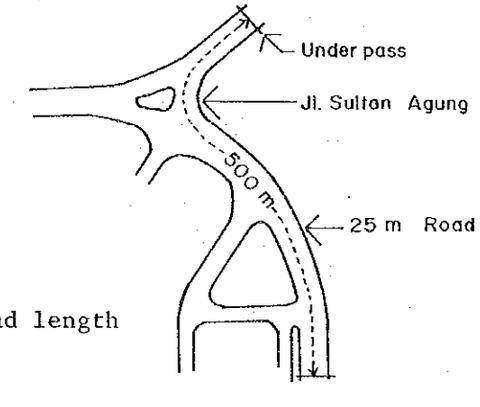
- Estimate of car users in 1991 (Jl. Sultan Agung)

27,500 cars/day
(Bus 60% : 16,500 cars/day)
(Sedan 39% : 10,700 cars/day)
(Truck 1% : 300 cars/day)

- Future car users after 2000

40,000 cars/day
(Bus 60% : 24,000 cars/day)
(Sedan 39% : 15,600 cars/day)
(Truck 1% : 400 cars/day)





Improve road length (25 m road in project site + part of Jl. Sultan Agung + underpass) : 500 m

The savings of the vehicle operating costs are:

Bus : (Rp.338.2 – Rp.264.8) x 0.5 km = Rp.37/ car/day
Sedan: (Rp.120.2 – Rp. 77.0) x 0.5 km = Rp.22/car/day
Truck: (Rp.219.1 – Rp.155.5) x 0.5 km = Rp.32/car/day.

In 1991

Bus : Rp.37 x 16,500 cars/day x 365 days = Rp.223 x 10^6 /year
Sedan : Rp.22 x 10,700 cars/day x 365 days = Rp. 86 x 10^6 /year
Truck : Rp.32 x 300 cars/day x 365 days = Rp. 4 x 10^6 /year

Total Rp.313 x 10^6 /year

In 2000

Bus : Rp.37 x 24,000 cars/day x 365 days = Rp.324 x 10^6 /year
Sedan : Rp.22 x 15,600 cars/day x 365 days = Rp.125 x 10^6 /year
Truck : Rp.32 x 400 cars/day x 365 days = Rp. 5 x 10^6 /year

Total Rp.454 x 10^6 /year

Between 1991 and 2000, the benefit increases in same rate.

The vehicle operating reduction benefit is as shown in Table 7–9.

Table 7–9 VEHICLE OPERATING REDUCTION BENEFIT OF UNDERPASS IMPROVEMENT

Year	Benefit Rp. x 10^6/year	Year	Benefit Rp. x 10^6/year
1991	313	2001	454
92	329	2	"
93	344	3	"
94	360	4	"
95	376	5	"
96	391	6	"
97	407	7	"
98	423	8	"
99	438	9	"
2000	454	2010	"

Total Economic Benefit

As mentioned above, annual total economic benefit is as shown in the Table 7–10.

Table 7–10 ECONOMIC BENEFIT

Unit: million Rp.

Year	Housing	Business Use Floor	Parking	Infrastructure	Total
1987	210	119	0	437	766
1988	210	119	0	500	829
1989	339	4,067	127	562	5,095
1990	339	4,067	127	625	5,158
1991	516	4,067	127	6,115	10,825
1992	516	8,948	265	6,449	16,178
1993	516	8,948	265	6,788	16,517
1994	516	8,948	265	7,122	16,851
1995	516	8.948	265	7,463	17,192
1996	516	8,948	265	7,841	17,570
1997	516	8,948	265	8,136	17,865
1998	516	8,948	265	8,470	18,199
1999	516	8,948	265	8,795	18,524
2000	516	8,948	265	9,144	18,873
2001	516	8,948	265	9,206	18.935
2002	516	8,948	265	9,269	18,998
2003	516	8,948	265	9,331	19,060
2004	516	8,948	265	9,394	19,123
2005	516	8,948	265	9,456	19,185
2006	516	8,948	265	9,519	19,248
2007	516	8,948	265	9,581	19,310
2008	516	8,948	265	9,644	19,373
2009	516	8,948	265	9,706	19,435
2010	516	8,948	265	9,769	19,498

7.1.3 Economic Cost

In the economic evaluation, interest, insurance and tax, which are "transferred costs" in the national economy, must be excluded from the economic cost. According to the "Construction Establishments in Indonesia, 1977 (Central Statistic Office, 1979)", tax ratio in construction work is 5%. In this study, this ratio is used to exclude taxes from construction cost.

The annual construction cost is as shown in Table 7–11.

Table 7–11 CONSTRUCTION COST

(Unit : Mill. Rp.)

Year	Financial Cost				In-terest & In-surance	Tax	Land & Build-ing Value	Econo-mic Cost
	Section I(a)	Section I(b)	Section II	Total				
1984	1,683	0	0	1,683	74	80	1,185	2,714
1985	4,295	0	0	4,295	260	202	0	3,833
1986	3,186	1,551	0	4,737	266	224	509	4,756
1987	0	9,445	0	9,445	532	446	0	8,467
1988	0	12,366	2,732	15,098	854	712	1,976	15,508
1989	0		8.016	8.016	461	378	0	7,177
1990	0		13,845	13,845	796	652	0	12,397
1991	0		9,677	9,677	556	456	0	8,665
Total	9,164	23,362	34,270	66,796	3,799	3,150	4,561	64,408

Operation and maintenance costs including reserves for replacement are assumed to be required equally in every year. The rates to construction cost are assumed as follows.

Housing : 3%
Other buildings : 5%
Infrastructure : 2%

Annual operation and maintenance cost is as shown in Table 7–12.

Table 7–12 OPERATION AND MAINTENANCE COST

Year	Low Grade Building	High Grade Building	Infrastructure	Total
1987	117	0	29	146
1988	117	0	29	146
1989	117	820	40	977
1990	117	820	40	977
1991	117	820	40	977
1992-	216	1,755	84	2,055

7.1.4 Evaluation

As shown in Table 7–13, net present value (NPV, present value of benefit – present value of cost) is Rp.7,366 million at 15% of annual discount rate. As the benefit is more than the cost at the present value, the urban renewal project can be said to have good economic viability. Furthermore, the cost benefit ratio (B/C) and internal rate of return (IRR) are calculated as shown below.

NPV = Rp.7,366 million (Discount rate: 15%)
B/C = 1.20 (Discount rate: 15%)
IRR = 18.0%

Table 7–13 CALCULATION OF N.P.V.

(unit : mill. Rp.)

YEAR	COST		BENEFIT		N.P.V.
	ACTUAL	DISCOUNT	ACTUAL	DISCOUNT	
1	2714	2360	0	0	2360-
2	3833	2898	0	0	2898-
3	4756	3127	0	0	3127-
4	8613	4925	766	438	4487-
5	15654	7783	829	412	7371-
6	8154	3525	5095	2203	1322-
7	13374	5028	5158	1939	3089-
8	9642	3152	10825	3539	387
9	2055	584	16178	4599	4015
10	2055	508	16517	4083	3575
11	2055	442	16851	3622	3180
12	2055	384	17192	3213	2829
13	2055	334	17570	2856	2522
14	2055	290	17865	2525	2234
15	2055	253	18199	2237	1984
16	2055	220	18524	1980	1760
17	2055	191	18873	1754	1563
18	2055	166	18935	1530	1364
19	2055	144	18998	1335	1191
20	2055	126	19060	1165	1039
21	2055	109	19123	1016	907
22	2055	95	19185	886	791
23	2055	83	19248	773	691
24	2055	72	19310	675	603
25	2055	62	19373	589	526
26	2055	54	19435	513	459
27	2055	47	19498	448	401
TOTAL	105785	36962	372607	44327	7366

DISCOUNT RATE = 15.00 %/YEAR

7.2 SOCIAL BENEFIT

7.2.1 Effects on Neighbourhood Community

Continuation of Neighbourhood Community

The urban renewal project is a comprehensive project including urban infrastructure improvement and rebuilding of urban housing, to achieve suitable reassignment of urban functions.

Usually, in urban area, many people are often obliged to move out because of infrastructure developments, when such infrastructure developments are implemented independently. Whilst, if the infrastructure developments are incorporated in an urban renewal project, the inhabitants affected can live on in the same area, re-accommodated in new houses. During the construction period, they can live in temporary houses located near the project site, if they wish to stay there.

The urban renewal is, in principle, planned to resettle all inhabitants in the same place, thus prserving the present neighbourhood community during the construction period as well as after the renewal.

Neighbourhood Community in Housing Block and Community Network

Although the urban renewal project will provide flats which are five-storey walk-up flats and eight-storey flats equipped with lifts, open galleries will be provided between housing blocks to maintain a good communication amongst the neighbours.

Also, as adjacent buildings are connected with open galleries, a community network will be made even broader by using open galleries. The functions of open galleries are similar to those of neighbourhood roads.

6.2.2 Other Social Benefits

Improvement of Sanitation Conditions

Through the improvement of sewerage and garbage collection system, sanitation conditions will be improved. At present, two third of the inhabitants think the sanitation conditions as a problem.

Diarrhoea is caused by insanitary living conditions, mainly due to lact of sewerage and garbage collection system. And infection diseases spread under these conditions.

After the area is renewed, sanitation conditions will be improved and the inhabitants can keep their health. They will reduce medical expenditure and will work more efficiently.

Good Living Conditions

At present, two third of the inhabitants feel lack of community facilities, playgrand, recreation facilities and meeting hall. In fact, there are only small open spaces in the urban renewal area.

Through vertical land use, public open spaces and the area for community facilities will be created. After the renewal project, public open areas, such as playground, garden, sports field and neighbourhood park, will be 5,500 sq.m., and the community facilities, such as kindergarten, elementary school, mosque, meeting hall and library will be provided in the urban renewal area.

Fire Protection

At present, low quality houses exist densely, and they are in danger of fire. About three fourth of the inhabitants feel that fire protection is inadequate.

After renewal, fire proof housing will be provided for inhabitants, and they will live without worrying about fire.

Green Area

At present, one or two-storey houses stand in high density, and there are only few spaces of green. About 95% of the inhabitants feel that more green and trees are necessary.

Through vertical land use of the urban renewal, green areas and green blets will be provided. Inhabitants can feel a restful atmosphere and enjoy the coolness under the tree shade.

7.3 HOUSING AFFORDABILITY ANALYSIS

7.3.1 Meaning of Housing Affordability

Housing affordability implys how many people can afford to get the house. This analysis was developed by the World Bank group in 1970s and they published the book "Housing for low-Income Urban Families, Economic and Policy in the Developing World" by Orville F. Grimes, Jr., the World Bank 1976.

Their original intention is to secure the poor people from the financial crisis when they are going to supply low-cost housing to them. The reason is that in developing countries, too many people cannot buy even the cheapest houses.

Whereas, in the urban renewal, particularly when the right conversion method is applied, the housing affordability will be improved remarkably because together with the housing development, commercial and business facilities are developed to produce revenues to mitigate overall financial situation (cross-subsidization).

7.3.2 Method of Analysis

Flow chart of the housing affordability analysis is shown in Fig. 7—14. In fact, the method is more complicated than that of the World Bank because the number of samples are more than 1,000 and there are 7 different house types. (In the Bank's report, only the cheapest one is analysed).

Then, the analysis, input and output data are all computerized and the computer output is attached in the Appendix B.

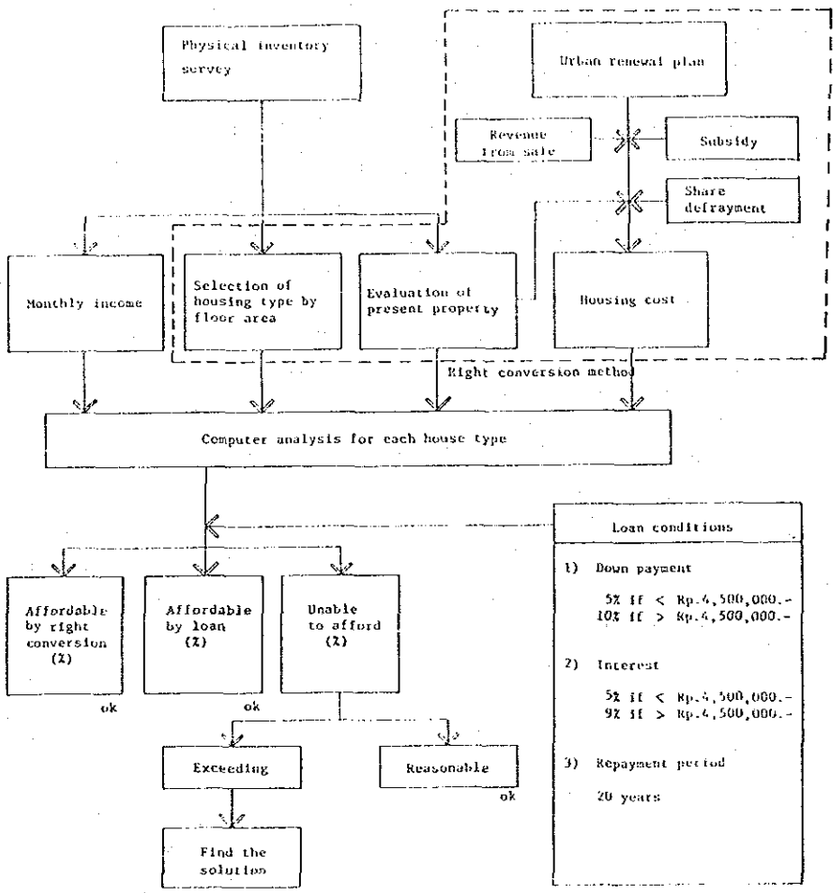


Fig. 7–14 FLOW CHART OF HOUSING AFFORDABILITY ANALYSIS

7.3.3 Evaluation

The result of computer analysis is summarized in Fig. 7–15 and Fig. 7–16.

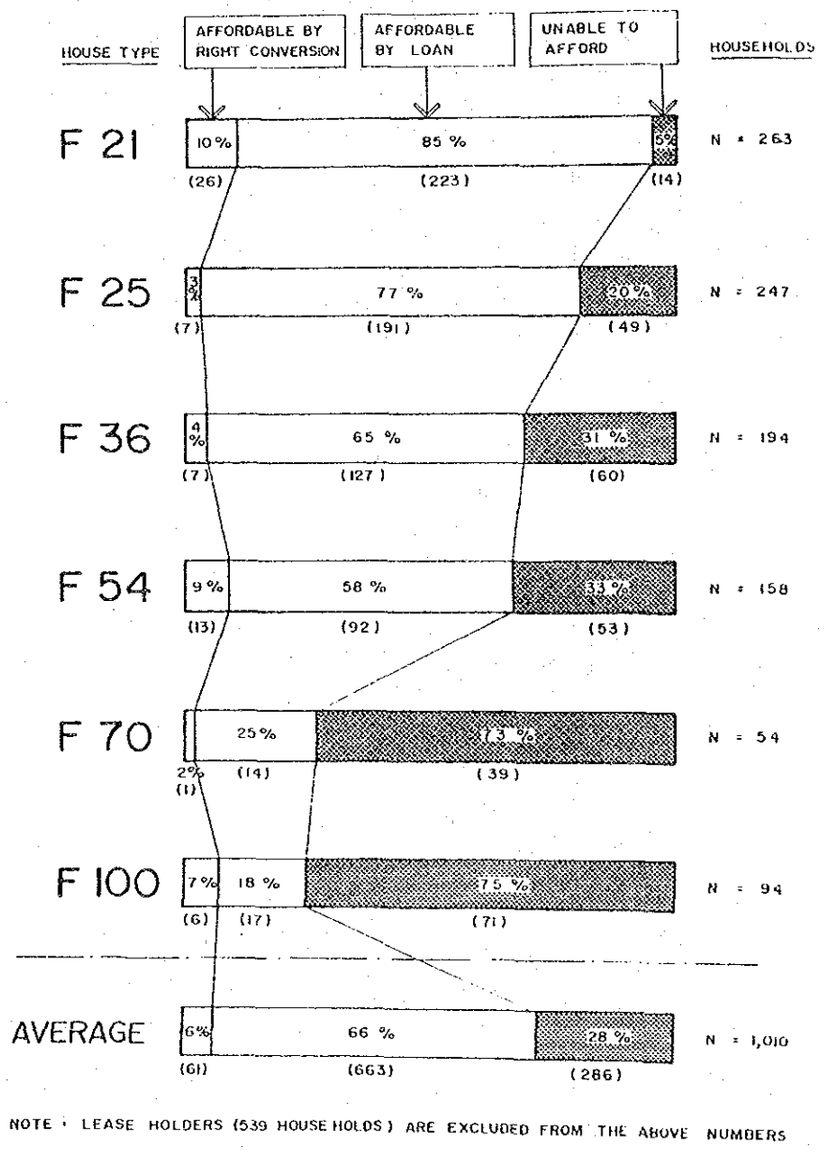
Percentage of "Unable-to-afford"

As shown in Fig. 7–15, the percentage of the unable-to-afford increases as floor area increases (from 5% in F21 to max. 75% in F100). The reason is that the increase of housing cost exceeds the inhabitants' affordability.

Solution

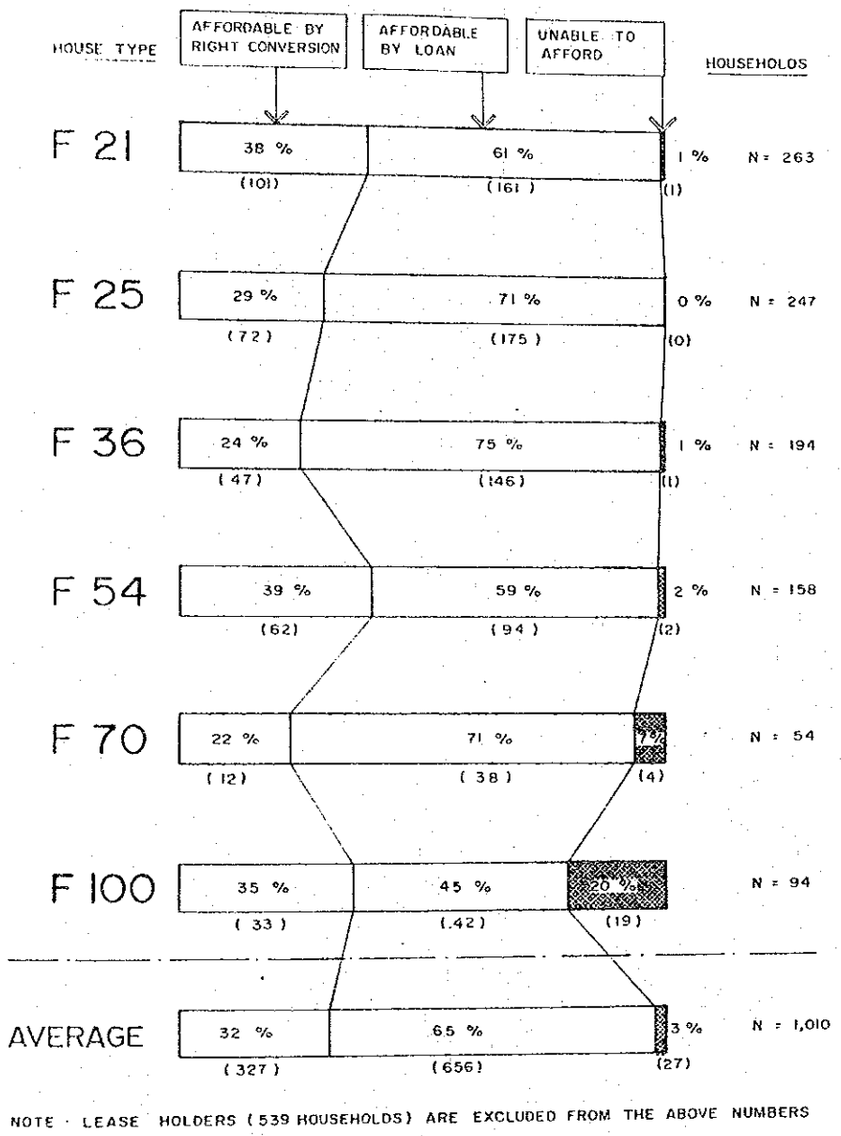
75% of the unable-to-afford appears to be not justifiable for planning. As a solution, the case that all the state land is granted to the inhabitants, is examined and the result is shown in Fig. 7–16.

According to Fig. 7–16 only 3% of the inhabitants remain unable to afford. The *actual situation will be in* between Fig. 7–15 and Fig. 7–16. In effect, this will depend on the urban renewal land policy, particularly as to how to treat the state land. As a result, the housing affordability in Manggarai will be dominated by the administrative decisions on the land pllicy related to the urban renewal.



NOTE : LEASE HOLDERS (539 HOUSE HOLDS) ARE EXCLUDED FROM THE ABOVE NUMBERS

Fig. 7–15 HOUSING AFFORDABILITY AT MANGGARAI



NOTE · LEASE HOLDERS (539 HOUSEHOLDS) ARE EXCLUDED FROM THE ABOVE NUMBERS

Fig. 7–16 HOUSING AFFORDABILITY AT MANGGARAI (IN CASE OF ALL STATE LAND BEING GIVEN TO INHABITANTS)

CHAPTER 8

IMPLEMENTATION PLAN

8.1 IMPLEMENTATION SCHEDULE

As shown in Fig. 8–1, the project site is divided into two sections, namely Section I and Section II. Section I is further divided into Section I(a) – part to be commenced earlier, and Section I(b) – part to be commenced later. The total project period is 8 years overlapping Section I and Section II by one year.

		Year
Section I	Section I(a)	5 years (1 year overlapped)
	Section I(a)	
Section II		4 years
Total		8 years

The reasons why Section I are divided into Section I(a) and Section I(b) are;

– To avoid the concentration of construction works, and

– To reduce the number of temporary housing which is mentioned in 8.2.

The compensation to the inhabitants will be paid when they move to the temporary housing or to the new flats if they are ready for accommodation.

Table 8–2 shows the implementation schedule and annual disbursement schedule.

Major construction works are summarized as follows.

Section I(a) – D Block, station-front plaza, etc.

– Infrastructure
  - Concrete cover and box culvert for the Saluran Air (open channel)
  - 25 m wide road
  - Station-front plaza
  - Bus terminal (relocation of existing ones)

– Buildings
  - 8-storey and 5-storey flats (D Block)

Section I(b) – B and C Block

– Infrastructure
  - Service roads

– Buildings
  - 12-storey shopping centre and office building (B Block)
  - 8-storey flats (C Block)

Section II – A and E Block, Pedestrian Deck

– Infrastructure
  - Underpass (in coordination with the Manggarai station improvement project)
  - Relocation of the lower reaches of the Saluran Air (in advance of the construction of a hotel)

– Building
  - 5-storey and 8-storey flats (E Block)
  - Community facilities, such as, elementary school, meeting hall, etc.

    Note: Inhabitants will resettle in new flats one year before the completion of Section II.

    As final adjustment of the account will be done on completion of Section II, this resettlement is considered to be tentative, awaiting final liquidation of equity payment.
  - 20-storey high-rise hotel (A Block)
  - Pedestrian deck over station-front plaza (in coordination with the Manggarai station improvement project)

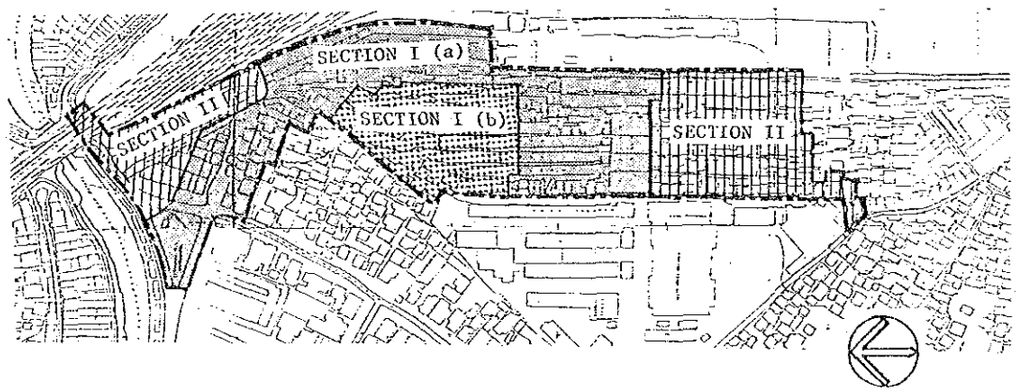
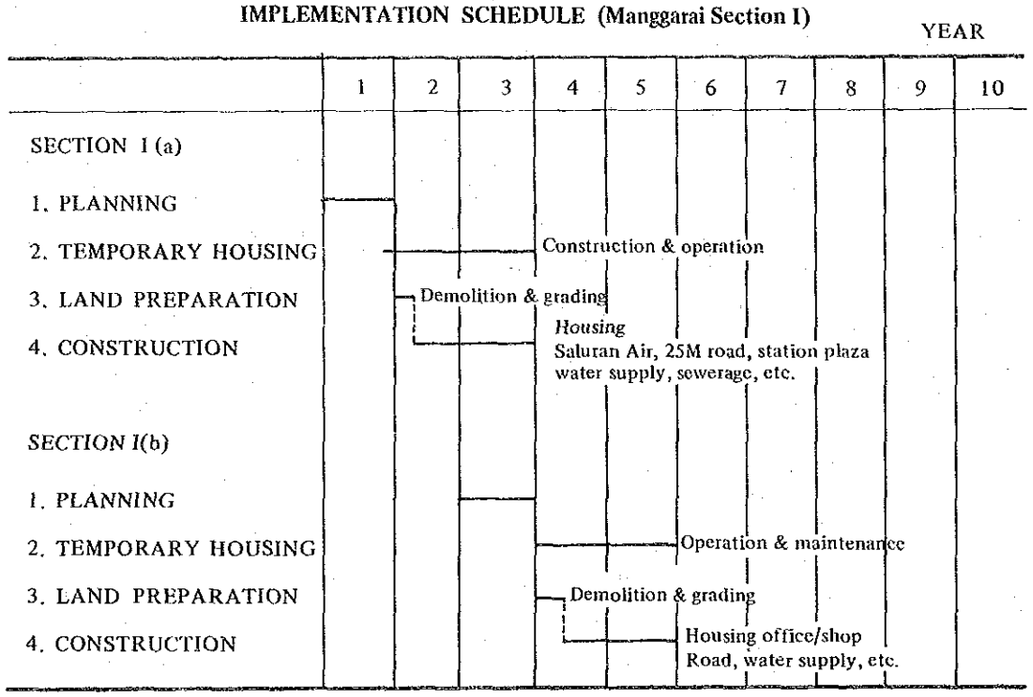


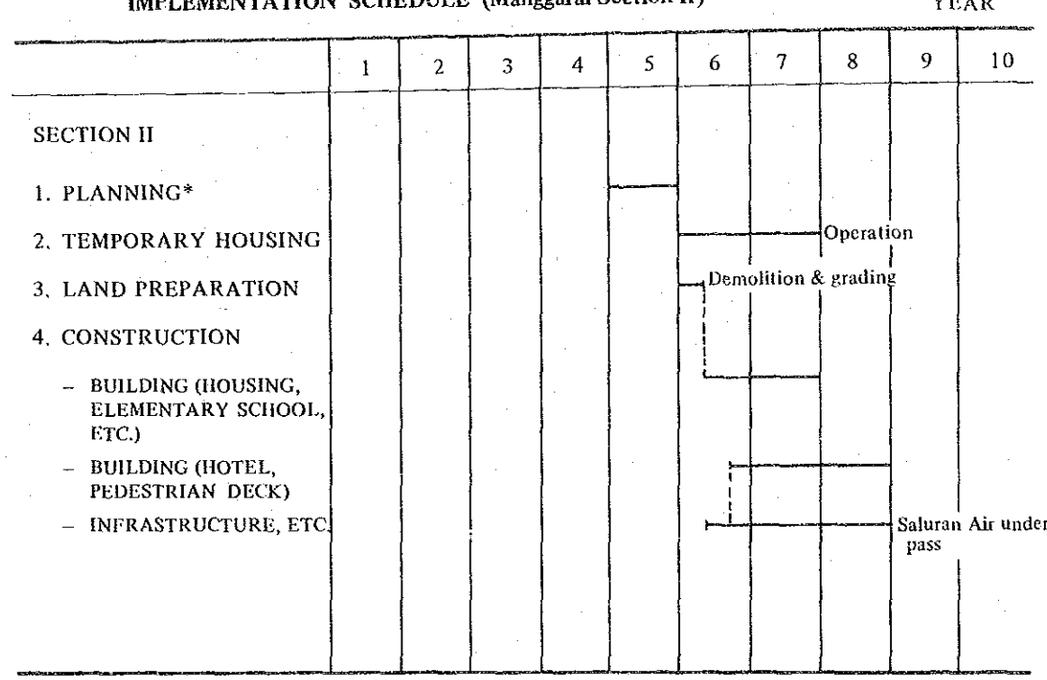
Fig. 8–1 CONSTRUCTION SECTION

Table 8-2 IMPLEMENTATION SCHEDULE AND ANNUAL DISBURSEMENT SCHEDULE

IMPLEMENTATION SCHEDULE (Manggarai Section I)



IMPLEMENTATION SCHEDULE (Manggarai Section II)



* Alternatively, this can be advantageously performed in continuation of the planning for Section I.

DISBURSEMENT SCHEDULE (Manggarai Section I)

x Rp.1,000,000

Items	1	2	3	4	5	6	7	8	9	10
Planning	651	0	1,090	0	0					
Temporary Housing	365	32	32	54	54					
Compensation	438	0	188	0	0					
Land Preparation	0	329	0	109	0					
Construction	0	3,122	2,598	7,622	10,139					
Overhead and Contingency	156	552	562	1,128	1,476					
Total 30,691*	1,610	4,035	4,470	8,913	11,670					

* Exclusive of interest

DISBURSEMENT SCHEDULE (Manggarai Section II)

x Rp.1,000,000

Items	1	2	3	4	5	6	7	8	9	10
Planning					1,887	0	0	0		
Temporary Housing					0	171	73	0		
Compensation					353	0	0	0		
Land Preparation					0	162	0	0		
Construction					0	6,240	11,279	7,935		
Overhead and Contingency					335	982	1,697	1,186		
Total 32,300*					2,575	7,554	13,050	9,121		

* Exclusive of interest

8.2 TEMPORARY HOUSING PLANNING

8.2.1 General

In programming the implementation of urban renewal projects, planning on temporary housing is one of the most important factors. In other words, urban renewal projects cannot be successfully implemented without adequate planning on temporary housing. As a matter of fact, construction time and sequence are largely dependent upon whether temporary housing areas are available in or around the project site, particularly when the project is implemented by the right conversion method.

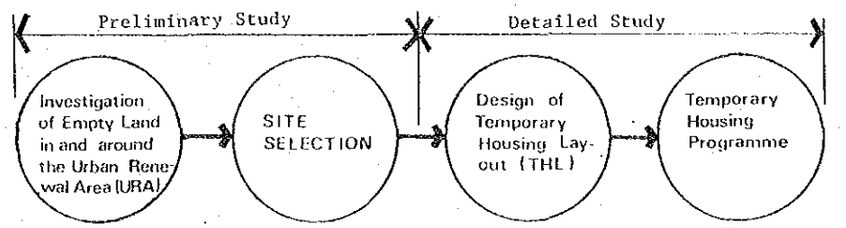
The planning on temporary housing should start from the thorough examination of the temporary resettlement rate (how many families wish to live in temporary housing during the construction period) on the basis of the socio-economic survey that may be conducted at the beginning stage. When conducting physical inventory, empty land which may be available for temporary housing, should also be sought in or around the project site, and the availability should be confirmed with those who have the rights to the land. Generally speaking, the empty state land is, if available, much advantageous for use of temporary housing site as compared to the empty private land. Therefore, availability of the empty land owned by the government or government agencies is one of the important criteria for selection of the project site.

To preserve the existing neighbourship of the inhabitants, particular care should be directed to their accommodation to the temporary housing so that the existing neighbour groups should be maintained.

The flow chart for temporary housing planning is explained in Fig. 8–3. In the course of preparing the preliminary urban renewal plan, temporary housing is planned following the flow chart, in coordination with other planning fields such as resettlement, urban renewal design, construction planning, financial planning, etc.

This preliminary study on temporary housing includes:

- Investigation of empty land and proposed temporary housing sites;
- Proposed procedure of temporary housing allocation; and
- Study on the required number of temporary housing units to comply with inhabitant desires.



Items to be investigated:	Criteria for site selection and temporary housing allocation:	Criteria for design:	Items to be prepared:
• Land area • Ownership • Possibility to use the land • Public utilities	• Possibility to use the land • Proximity to the URA • Public utilities easily available • Study on temporary housing allocation • Study on required temporary housing units for temporary resettlement	• Type of units to be designed (e.g. 12.5 M2 – 18 M2) • Building structures • Community facility layout • Public utility layout	• Site location map • Site layout map • Study on actual temporary resettlement • Construction cost • Operation & maintenance costs • Overall temporary housing time and schedule • Proposed solution after using temporary housing

Fig. 8–3 FLOW CHART OF TEMPORARY HOUSING PLANNING (THP)

8.2.2 Preliminary Study on Temporary Housing Planning in Manggarai

Investigation of Empty Land and Proposed Temporary Housing Sites

Two temporary housing sites, namely PTHS – 1 and PTHS – 2, have been selected, as a result of the investigation and based on the criteria mentioned in the Flow Chart (Ref. Fig. 8–4). Location of the proposed temporary sites, their conditions as well as the expected number of temporary units to be planned, are explained in Fig. 8–5.

Proposed Procedure of Temporary Housing Allocation

The procedure considering temporary housing allocation, movement of the Kompor factories to Pulo Gadung and its implementation schedule, is explained in Fig. 8–5. In addition, the temporary resettlement rate of 90% is determined referring to the socio-economic survey results as mentioned below.

The socio-economic survey results in Stage II.
"Where do you want to live temporarily ?"

Temporary housing	88%
Relative's house	7%
Others	5%

Study on the Required Number of Temporary Units

The type of units and the floor area for temporary housing needed by the inhabitants, should be ascertained through the socio-economic survey. The temporary housing planning should then be studied according to the survey results in an attempt to comply with the inhabitant's desires as much as possible.

The socio-economic survey results in Stage II and the proposed criteria for the number of temporary units are studied as follows.

The socio-economic survey results		Criteria for the suitable number of temporary units according to the survey	
"How many floor area do you want to live temporarily?"		1 unit : 12.5 m²	
Less than 21 m²	13%	1 unit for one family (13% + 47 x 0.5) = 36.5%	35%
22 – 36 m²	47%		
37 – 54 m²	24%	2 units for one family	50%
Over 55 m²	16%	3 units for one family	15%

Study on the required number of units in Section I (a)

Section I	No. of families	No. of units to be required	
I (a)	510 families	510 x 0.35% x 1 unit =	180 units
		510 x 0.50% x 2 units =	510 units
		510 x 0.15% x 3 units =	230 units
		Total	920 units

Required temporary housing units : 920 units
Two proposed temporary housing sites : 1,200 units

In conclusion, it is confirmed that two proposed temporary housing sites are enough to accommodate the required temporary housing units.

Structure: Wood structure, one storey

Unit size: 50 m x 2.5 m = 12.5 m²

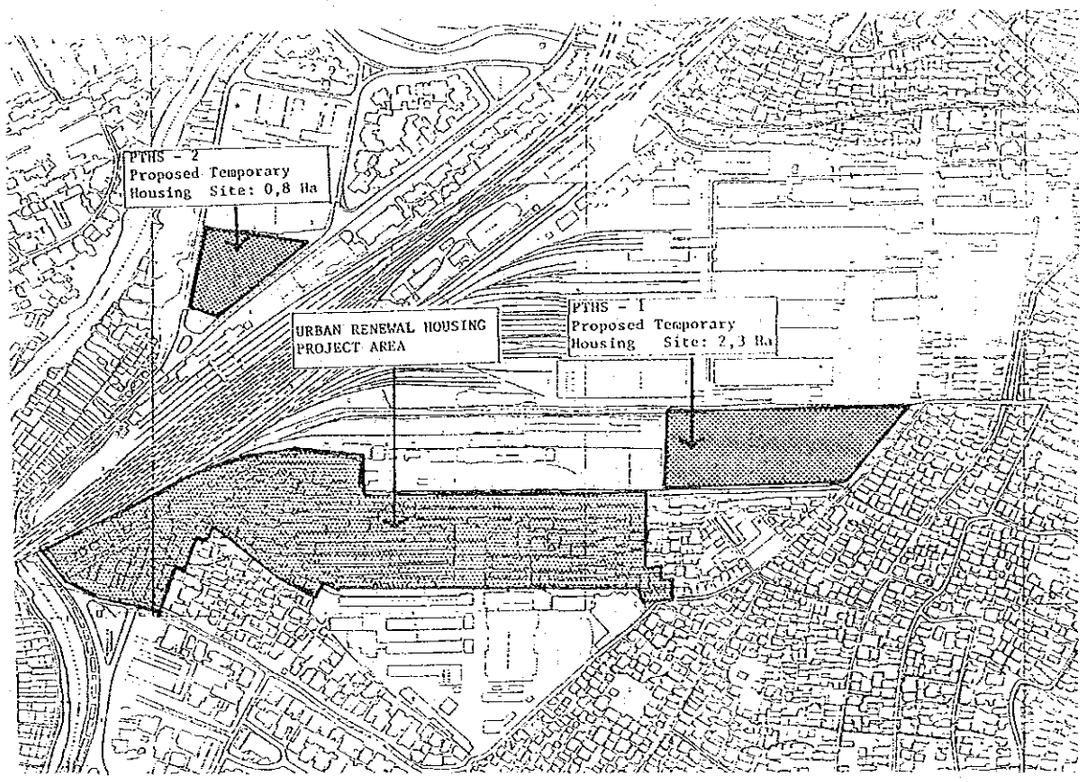


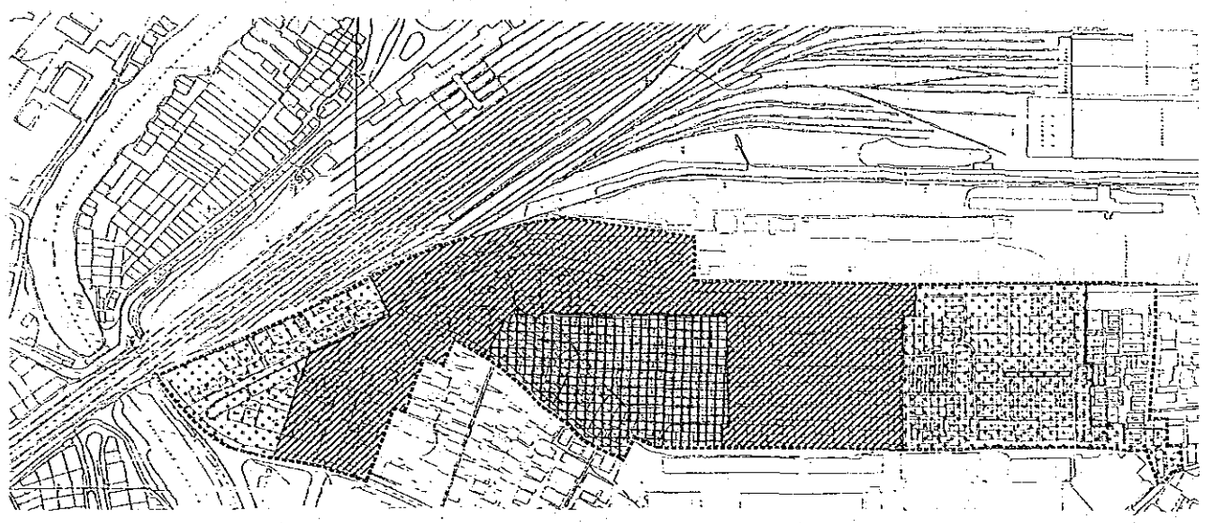
Fig. 8–4 LOCATION MAP: PROPOSED TEMPORARY HOUSING SITE

Condition of PTHS

	PTHS–1	PTHS–2
Site area	2.3 Ha.	0.8 Ha.
Land ownership	PJKA	PJKA
Present condition	Empty	Empty
Expected No. of units	900 units	300 units
$\frac{23{,}000\ m^2 \times 0.6^{*1} \times 0.85^{*2}}{12.5\ m^2} = (930)$		$\frac{8{,}000\ m^2 \times 0.6 \times 0.85}{12.5\ m^2} = (326)$

Total PTHS–1 + PTHS–2 = 900 + 300 = 1,200 units

*1 Coverage rate = 60%
*2 Bldg. efficiency = 85%



PROPOSED PROCEDURE OF TEMPORARY HOUSING ALLOCATION IN MANGGARAI

LEGEND :

SECTION – I

I(a) ABOUT 650 FAMILIES

I(b) ABOUT 400 FAMILIES

SECTION – II

ABOUT 550 FAMILIES

TOTAL ABOUT 1600 FAMILIES IN THE PROJECT AREA

ABOUT 200 FAMILIES OUT OF THE PROJECT AREA

G. TOTAL 1800 FAMILIES

*1 Temporary resettlemen ratio 90% based on the socio economic survey results in stage II.

SECTION I.

I(a)

650 FAMILIES IN SECTION I(a)

*1 (570 x 0.9) 510 FAMILIES

TEMPORARY HOUSING

510 FAMILIES

RESETTLEMENT OF THE NEW FLATS(720 UNITS)

ABOUT 80 KOMPOR FACTORIES

A SMALL INDUSTRIAL COMPLEX IN PULO GADUNG

CONSTRUCTION OF THE PROJECT IN I(aX720 UNITS)

I(b)

210 FAMILIES

400 FAMILIES IN SECTION I(b)

(340x0.9) 300 FAMILIES

90 FAMILIES

TEMPORARY HOUSING

90 FAMILIES

RESETTLEMENT OF THE NEW FLATS(120 UNITS)

ABOUT 60 KOMPOR FACTORIES

CONSTRUCTION OF THE PROJECT IN I(b) 020 UNITS)

SECTION 2.

550 FAMILIES IN SECTION II

(550 x 0.9)=500 FAMILIES

TEMPORARY HOUSING

500 FAMILIES

RESETTLEMENT OF THE NEW FLATS 520 UNITS)

CONSTRUCTION OF THE PROJECT IN SECTION II(520 UNITS)

Fig. 8--5 ALLOCATION OF TEMPORARY HOUSING PLANNING ON STAGE BASIS

8.3 FINANCIAL SCHEDULE

8.3.1 Foreign and Local Cost Components

General

Foreign and local cost components are analysed and estimated for the financial schedule of the project.

The estimate is based on the preliminary design, and the terms and conditions are summarized as follows:

(1) All planning and construction works will be contracted with general consultants and contractors through international tender.

(2) The cost component is estimated at the prices prevalent in September 1983.

(3) The construction costs are first split into the following three components:

- Labour
- Materials
- Equipment

Then, each component is split into,

- Foreign and
- Local

portions in terms of percentage. The financial schedule is proportionally divided into foreign and local portions prepared in Rupiah and U.S. dollars.

(4) The foreign portion mainly consists of the costs for;

- Salaries and wages of foreign personnel
- Overhead and profit of foreign firms
- Depreciation of construction equipment
- Steel pipe pile, steel sheet pile, steel H-beam and steel forms.
- Structural steel for building, bridge and underpass
- Lifts, air conditioners, pumps and boilers
- Fire protection, emergency generators
- Sanitary ware, interior material
- Curtain wall (Aluminium and glass)
- Tendon for prestressed concrete and reinforcement bars
- Bituminous material
- Traffic signals

(5) The local portion mainly consists of the cost of;

- Domestic materials such as cement, aggregate, timber, slate, concrete block, brick, wood, tile, etc
- Salaries and wages of local personnel
- Overhead and profit of local firms
- Taxies

(6) The Indonesian tax and duty on imported equipment and materials are considered free because of the intergovernment agreement.

(7) Exchange rate between U.S.$ and Indonesian Rupiah is U.S.$1.0 =Rp.980.0 based on the rate of September 1983.

Results

The results are summarized in Table 8–6. The foreign portion of the building construction cost accounts for only 37%, whilst the foreign portion of the infrastructure construction cost accounts for 58%. The foreign portion of the total cost results in approximately 40%.

The annual construction cost prepared in local and foreign currencies and the details of the calculation are shown in Appendix B.

Table 8–6 CONSTRUCTION COST BY LOCAL AND FOREIGN CURRENCIES

Unit : Rp. 1,000,000

Item	Section 1			Section 2			Section 1 + Section 2		
	Local	Foreign	Total	Local	Foreign	Total	Local	Foreign	Total
Planning	470 (27%)	1,271 (73%)	1,741	528 (28%)	1,359 (72%)	1,887	998 (28%)	2,630 (72%)	3,628
Temporary Housing Construction	310 (85%)	55 (15%)	365				310 (85%)	55 (15%)	365
Temporary Housing Operation & Maintenance	146 (85%)	26 (15%)	172	207 (85%)	37 (15%)	244	353 (85%)	63 (15%)	416
Compensation	626 (100%)	0 (0%)	626	353 (100%)	0 (0%)	353	979 (100%)	0 (0%)	979
Land Preparation	285 (65%)	153 (35%)	438	105 (67%)	57 (33%)	162	390 (65%)	210 (35%)	600
Building Construction	13,606 (64%)	7,774 (36%)	21,380	14,450 (62%)	8,709 (38%)	23,159	28,056 (63%)	16,483 (37%)	44,539
Infrastructure Construction	779 (41%)	1,111 (59%)	1,890	960 (42%)	1,335 (58%)	2,295	1,739 (42%)	2,446 (58%)	4,185
Land-Scaping	170 (80%)	42 (20%)	212				170 (80%)	42 (20%)	212
Overhead & Contingency	1,867 (48%)	2,007 (52%)	3,874	2,022 (48%)	2,178 (52%)	4,200	3,889 (48%)	4,185 (52%)	8,074
TOTAL	18,259 (60%)	12,439 (40%)	30,698	18,625 (57%)	13,675 (43%)	32,300	36,884 (58%)	26,114 (42%)	62,998

Note : Interest is excluded

8.3.2 Financial Schedule

General Assumptions

(1) Subsidy from the Government will be provided in each year according to the progress of implementation.

(2) One third of share defrayment will be received as advance payment at the planning stage, and the remainder will be received after the construction works be completed.

(3) A soft loan from foreign lending agencies will be available in each year. The amount of the foreign soft loan will be equivalent to the foreign portion of the total construction cost.

The loan conditions of the foreign soft loan are assumed as follows.

- Interest rate : 5% per annum
- Grace period : 5 years
- Amortization period : 20 years (including the grace period)

(4) The rights to the residual floor will be owned by the implementation body and the residual floor will be leased to tenants.

In planning the financial schedule, occupancy ratio of the residual floor was assumed to be 90%.

(5) When the total amount of the above project finance becomes deficit against required expenditures, then the loan equivalent to the deficit will be borrowed from governmental banks. The loan conditions are assumed as follows.

- Interest rate : 12% per annum
- Grace period : 5 years
- Amortization period : 20 years (including grace period)

Results

The financial schedule for the project in Manggarai is shown in Table 8--8, 8--9 and 8--10.

The rates of subsidy and share defrayment to the construction cost of Section I plus II are 10% and 12% respectively. These amounts should be prepared by the Government (both Local and Central).

The amounts of subsidy, share defrayment and final cash balance are as shown in Table 8--7. In each Section, the final cash balance is able to recover the amount to be prepared by the Government.

Table 8--7 AMOUNT TO BE PREPARED BY THE GOVERNMENT AND FINAL CASH BALANCE

Section	I	II	I + II
Period	24 years	23 years (Starting from the 5th year after the commencement of Section I)	27 years
Subsidy	3,590 mill.Rp.	3,119 mill. Rp.	6,709 mill.Rp.
Share Defrayment	4,998	2,657	7,655
Total	8,588	5,776	14,364
Final Cash Balance	9,746	5,806	34,906

For reference, the financial internal rate of return (FIRR) is calculated as follows.

Section	FIRR
I	7.9%
II	9.4%
I + II	8.9%

If the mean interest rate of the loans acquired for the construction funds is smaller than these rates, the project can produce surplus (profit) at the end of the amortization period and thus become financially sound and feasible.

Table 8–8 FINANCIAL SCHEDULE OF SECTION I

Unit : Rp. Million

	Item \ Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Source of Fund	Balance at the Beginning	0	1,190	0	0	0	0	1,787	2,797	3,674	4,304	4,483	4,662	4,841	5,020	5,199
	Equity	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Share Defrayment by DKI Jakarta	1,325	0	341	2,650	0	682	0	0	0	0	0	0	0	0	0
	Subsidy from Government	895	709	1,160	490	336	0	0	0	0	0	0	0	0	0	0
	Revenue from Rental Floor	0	0	0	135	135	3,447	3,447	3,447	3,447	3,447	3,447	3,447	3,447	3,447	3,447
	Foreign Loan	611	1,643	2,086	3,510	4,589	0	0	0	0	0	0	0	0	0	0
	Domestic Loan from Government Bank	0	689	1,344	3,142	8,924	0	0	0	0	0	0	0	0	0	0
	Total	2,831	4,231	4,931	9,927	13,984	4,129	5,234	6,244	7,121	7,751	7,930	8,109	8,288	8,467	8,646
Use of Fund	Construction	1,610	4,035	4,470	8,913	11,670	0	0	0	0	0	0	0	0	0	0
	Interest of Foreign Loan	31	113	217	393	622	622	621	615	605	586	555	523	489	454	417
	Interest of Domestic Loan	0	83	244	621	1,692	1,692	1,692	1,690	1,683	1,665	1,617	1,562	1,501	1,433	1,356
	Repayment of Foreign Loan	0	0	0	0	0	28	106	208	381	613	643	675	709	745	782
	Repayment of Domestic Loan	0	0	0	0	0	0	18	57	148	405	454	508	569	637	714
	Total	1,641	4,231	4,931	9,927	13,984	2,342	2,437	2,570	2,817	3,268	3,268	3,268	3,268	3,268	3,268
Balance at the End		1,190	0	0	0	0	1,787	2,797	3,674	4,304	4,483	4,662	4,841	5,020	5,199	5,378

Table 8–8 FINANCIAL SCHEDULE OF SECTION I (Continued)

Unit : Rp. Million

Item		Year 16	17	18	19	20	21	22	23	24						TOTAL
Source of Fund	Balance at the Beginning	5,378	5,557	5,736	5,915	6,094	6,273	6,510	7,007	7,903						
	Equity	0	0	0	0	0	0	0	0	0						0
	Share Defrayment by DKI Jakarta	0	0	0	0	0	0	0	0	0						4,998
	Subsidy from Government	0	0	0	0	0	0	0	0	0						3,590
	Revenue from Rental Floor	3,447	3,447	3,447	3,447	3,447	3,447	3,447	3,447	3,447						
	Foreign Loan	0	0	0	0	0	0	0	0	0						12,439
	Domestic Loan from Government Bank	0	0	0	0	0	0	0	0	0						14,099
	Total	8,825	9,004	9,183	9,362	9,541	9,720	9,957	10,454	11,350						
Use of Fund	Construction	0	0	0	0	0	0	0	0	0						30,698
	Interest of Foreign Loan	377	336	293	248	201	151	101	57	21						
	Interest of Domestic Loan	1,271	1,175	1,067	947	812	661	492	315	140						
	Repayment of Foreign Loan	821	862	905	950	998	989	880	723	421						
	Repayment of Domestic Loan	799	895	1,003	1,123	1,258	1,409	1,477	1,456	1,170						
	Total	3,268	3,268	3,268	3,268	3,268	3,210	2,950	2,551	1,752						
Balance at the End		5,557	5,736	5,915	6,094	6,273	6,510	7,007	7,903	9,598						9,598

Table 8–9 FINANCIAL SCHEDULE OF SECTION II

Unit : Rp. Million

	Item \ Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Source of Fund	Balance at the Beginning	0	0	0	0	0	1,310	0	0	0	2,774	3,706	4,416	4,642	4,472	4,302
	Equity	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Share Defrayment by DKI Jakarta	0	0	0	0	886	0	0	0	1,771	0	0	0	0	0	0
	Subsidy from Government	0	0	0	0	1,543	788	788	0	0	0	0	0	0	0	0
	Revenue from Rental Floor	0	0	0	0	0	0	0	162	4,103	4,103	4,103	4,103	4,103	4,103	4,103
	Foreign Loan	0	0	0	0	1,533	3,086	5,359	3,697	0	0	0	0	0	0	0
	Domestic Loan from Government Bank	0	0	0	0	0	2,956	8,815	8,362	0	0	0	0	0	0	0
	Total	0	0	0	0	3,962	8,140	14,962	12,221	5,874	6,877	7,809	8,519	8,745	8,757	8,405
Use of Fund	Construction	0	0	0	0	2,575	7,554	13,050	9,121	0	0	0	0	0	0	0
	Interest of Foreign Loan	0	0	0	0	77	231	499	684	684	684	680	669	645	612	577
	Interest of Domestic Loan	0	0	0	0	0	355	1,413	2,416	2,416	2,416	2,416	2,406	2,367	2,297	2,218
	Repayment of Foreign Loan	0	0	0	0	0	0	0	0	0	71	218	477	672	706	741
	Repayment of Domestic Loan	0	0	0	0	0	0	0	0	0	0	79	325	589	659	738
	Total	0	0	0	0	2,652	8,140	14,962	12,221	3,100	3,171	3,393	3,877	4,273	4,273	4,273
Balance at the End		0	0	0	0	1,310	0	0	0	2,774	3,706	4,416	4,642	4,472	4,302	4,132

Table 8–9 FINANCIAL SCHEDULE OF SECTION II (Continued)

Unit : Rp. Million

	Item \ Year	16	17	18	19	20	21	22	23	24	25	26	27			TOTAL
Source of Fund	Balance at the Beginning	4,132	3,962	3,792	3,622	3,452	3,282	3,112	2,942	2,772	2,602	2,579	3,287			
	Equity	0	0	0	0	0	0	0	0	0	0	0	0			0
	Share Defrayment by DKI Jakarta	0	0	0	0	0	0	0	0	0	0	0	0			2,657
	Subsidy from Government	0	0	0	0	0	0	0	0	0	0	0	0			3,119
	Revenue from Rental Floor	4,103	4,103	4,103	4,103	4,103	4,103	4,103	4,103	4,103	4,103	4,103	4,103			
	Foreign Loan	0	0	0	0	0	0	0	0	0	0	0	0			13,675
	Domestic Loan from Government Bank	0	0	0	0	0	0	0	0	0	0	0	0			20,133
	Total	8,235	8,065	7,895	7,725	7,555	7,385	7,215	7,045	6,875	6,705	6,682	7,390			
Use of Fund	Construction	0	0	0	0	0	0	0	0	0	0	0	0			32,300
	Interest of Foreign Loan	540	501	460	417	372	325	275	223	168	111	58	17			
	Interest of Domestic Loan	2,129	2,030	1,919	1,794	1,655	1,499	1,324	1,128	909	663	388	132			
	Repayment of Foreign Loan	778	817	858	901	946	993	1,042	1,095	1,149	1,059	815	339			
	Repayment of Domestic Loan	827	926	1,037	1,162	1,301	1,457	1,632	1,828	2,047	2,293	2,134	1,096			
	Total	4,273	4,273	4,273	4,273	4,273	4,273	4,273	4,273	4,273	4,126	3,395	1,584			
Balance at the End		3,962	3,792	3,622	3,452	3,282	3,112	2,942	2,772	2,602	2,579	3,287	5,806			5,806

Table 8–10 FINANCIAL SCHEDULE OF SECTION I + II

Unit : Rp. Million

Item		Year 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Source of Fund	Balance at the Beginning	0	1,190	0	0	0	0	0	0	0	4,027	5,799	7,370	8,315	9,085	9,855
	Equity	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Share Defrayment by DKI Jakarta	1,325	0	341	2,650	886	682	0	0	1,771	0	0	0	0	0	0
	Subsidy from Government	895	709	1,160	490	1,879	788	788	0	0	0	0	0	0	0	0
	Revenue from Rental Floor	0	0	0	135	135	3,447	3,447	3,609	7,550	7,550	7,550	7,550	7,550	7,550	7,550
	Foreign Loan	611	1,643	2,086	3,510	6,122	3,086	5,359	3,697	0	0	0	0	0	0	0
	Domestic Loan from Government Bank	0	689	1,344	3,142	7,435	2,210	7,362	6,862	0	0	0	0	0	0	0
	Total	2,831	4,231	4,931	9,927	16,457	10,213	16,956	14,168	9,321	11,577	13,349	14,920	15,865	16,635	17,405
Use of Fund	Construction	1,610	4,035	4,470	8,913	14,245	7,554	13,050	9,121	0	0	0	0	0	0	0
	Interest of Foreign Loan	31	113	217	393	699	853	1,120	1,299	1,289	1,270	1,235	1,192	1,135	1,066	993
	Interest of Domestic Loan	0	83	244	621	1,513	1,778	2,662	3,483	3,476	3,459	3,415	3,539	3,272	3,153	3,019
	Repayment of Foreign Loan	0	0	0	0	0	28	106	208	381	684	861	1,152	1,381	1,450	1,523
	Repayment of Domestic Loan	0	0	0	0	0	0	18	57	148	365	468	722	992	1,112	1,245
	Total	1,641	4,231	4,931	9,927	16,457	10,213	16,956	14,168	5,294	5,778	5,979	6,605	6,780	6,780	6,780
Balance at the End		1,190	0	0	0	0	0	0	0	4,027	5,799	7,370	8,315	9,085	9,855	10,625

Table 8–10 FINANCIAL SCHEDULE OF SECTION I + II (Continued)

Unit : Rp. Million

	Item \ Year	16	17	18	19	20	21	22	23	24	25	26	27			TOTAL
Source of Fund	Balance at the Beginning	10,625	11,395	12,165	12,935	13,705	14,475	15,304	16,392	17,878	20,164	24,131	28,720			
	Equity	0	0	0	0	0	0	0	0	0	0	0	0			0
	Share Defrayment by DKI Jakarta	0	0	0	0	0	0	0	0	0	0	0	0			7,655
	Subsidy from Government	0	0	0	0	0	0	0	0	0	0	0	0			6,709
	Revenue from Rental Floor	7,550	7,550	7,550	7,550	7,550	7,550	7,550	7,550	7,550	7,550	7,550	7,550			
	Foreign Loan	0	0	0	0	0	0	0	0	0	0	0	0			26,114
	Domestic Loan from Government Bank	0	0	0	0	0	0	0	0	0	0	0	0			29,044
	Total	18,175	18,945	19,715	20,485	21,255	22,025	22,854	23,942	25,428	27,714	31,681	36,270			
Use of Fund	Construction	0	0	0	0	0	0	0	0	0	0	0	0			62,998
	Interest of Foreign Loan	917	827	753	665	572	475	376	280	189	111	58	17			
	Interest of Domestic Loan	2,870	2,703	2,515	2,305	2,070	1,807	1,512	1,194	862	544	320	108			
	Repayment of Foreign Loan	1,599	1,679	1,763	1,851	1,943	1,982	1,923	1,818	1,570	1,059	815	339			
	Repayment of Domestic Loan	1,394	1,562	1,749	1,959	2,194	2,457	2,651	2,772	2,643	1,869	1,768	900			
	Total	6,780	6,780	6,780	6,780	6,780	6,721	6,462	6,064	5,264	3,583	2,961	1,364			
Balance at the End		11,395	12,165	12,935	13,705	14,475	15,304	16,392	17,878	20,164	24,131	28,720	34,906			34,906

Sensitivity Analysis

A sensitivity analysis was made to the financial schedule which would be affected by fluctuations of a foreign portion and interest rates of domestic loan. The analysis was made to the entire project (Section I + Section II) and the cases analysed are as shown in Table 8–11.

Table 8–11 CASES FOR SENSITIVITY ANALYSIS

Interest rate of domestic loan / Foreign Portion	12%	14%	16%	18%
40%	Case 1 (Basic Case)	Case 2	Case 3	Case 4
50%	Case 5	Case 6	Case 7	Case 8

The foreign portion being 50% means that a foreign cost component involved in the building construction comes out 50% against the previous figure of 37% (ref. Table 8–6). In this case, the total foreign portion becomes Rp.31,901 million. The disbursement schedule is assumed as shown in Table 8–12.

Table 8–12 DISBURSEMENT SCHEDULE

(Million Rp.)

Foreign Portion	40%	50%
1st year	611	611
2nd year	1,643	2,095
3rd year	2,086	2,456
4th year	3,510	4,408
5th year	6,122	7,318
6th year	3,086	3,818
7th year	5,359	6,627
8th year	3,697	4,568
Total	26,114	31,901

The amounts of cumulative cash surplus or deficit in each case are shown in Fig. 8–13 and Fig. 8–14. In the case of the foreign portion being 40%, cash flow becomes deficit in the 5th year after completion of the construction, at the interest rate of 16% per annum. Whereas, in the case of the foreign portion being 50%, cash flow becomes deficit in the 6th year after completion of the construction, at the interest rate of 18% per annum.

In the meantime, a life period of buildings would be over 30 years. The buildings could be leased on even after ending the loan amortization and in this case, the rent would be a revenue of the implementation body. Taking this concept into consideration, the cash deficit amount of Rp.29,918 million which would come out in the 16th year after completion of the construction under the conditions of the foreign portion being 40% and the interest rate being 18% per annum, could possibly be recovered in the 22nd year if the implementation body can sustain the project financing by that time.

At any rate, in order to assure the sound financial status of the project, it is very much essential that the implementation body makes effort to arrange as low-interest loan as possible and to raise an occupancy rate of the residual floor.

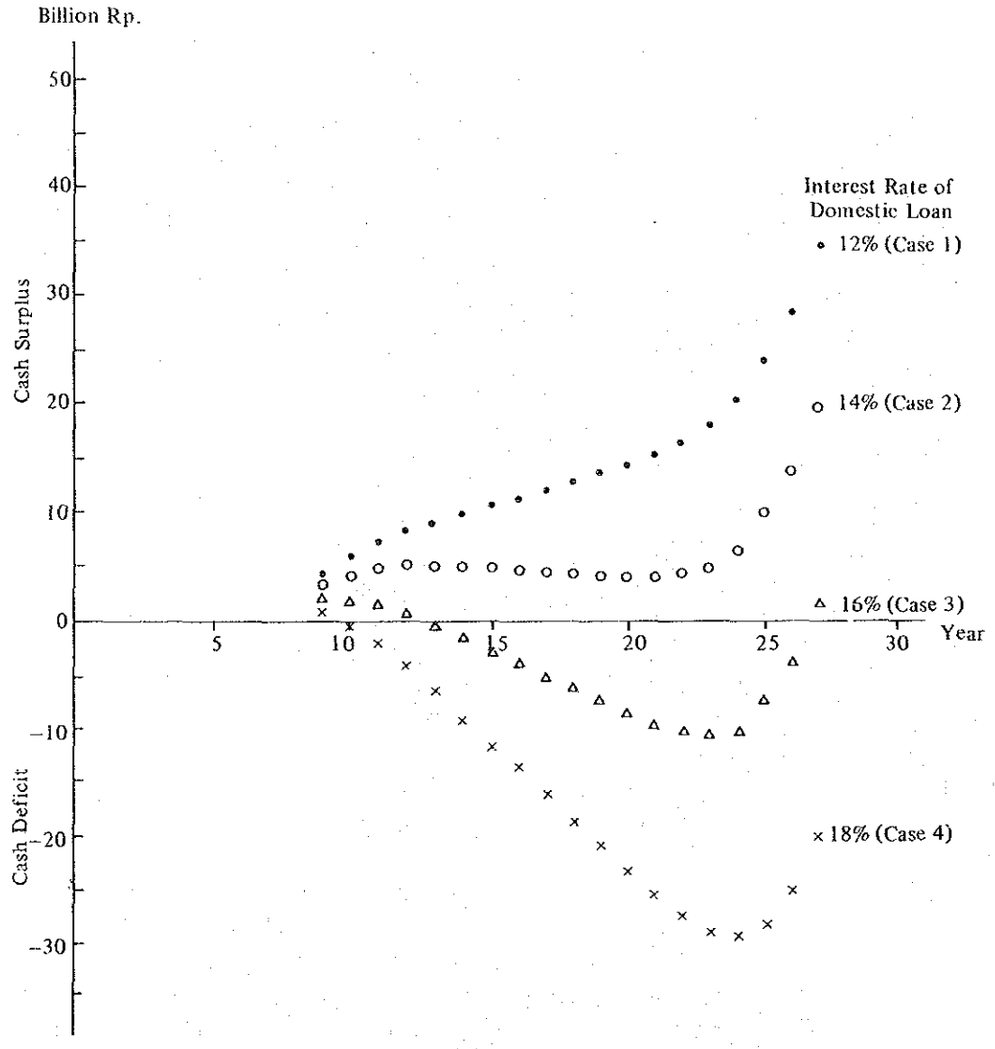


Fig. 8–13 CUMULATIVE CASH SURPLUS AND DEFICIT – FOREIGN PORTION : 40%

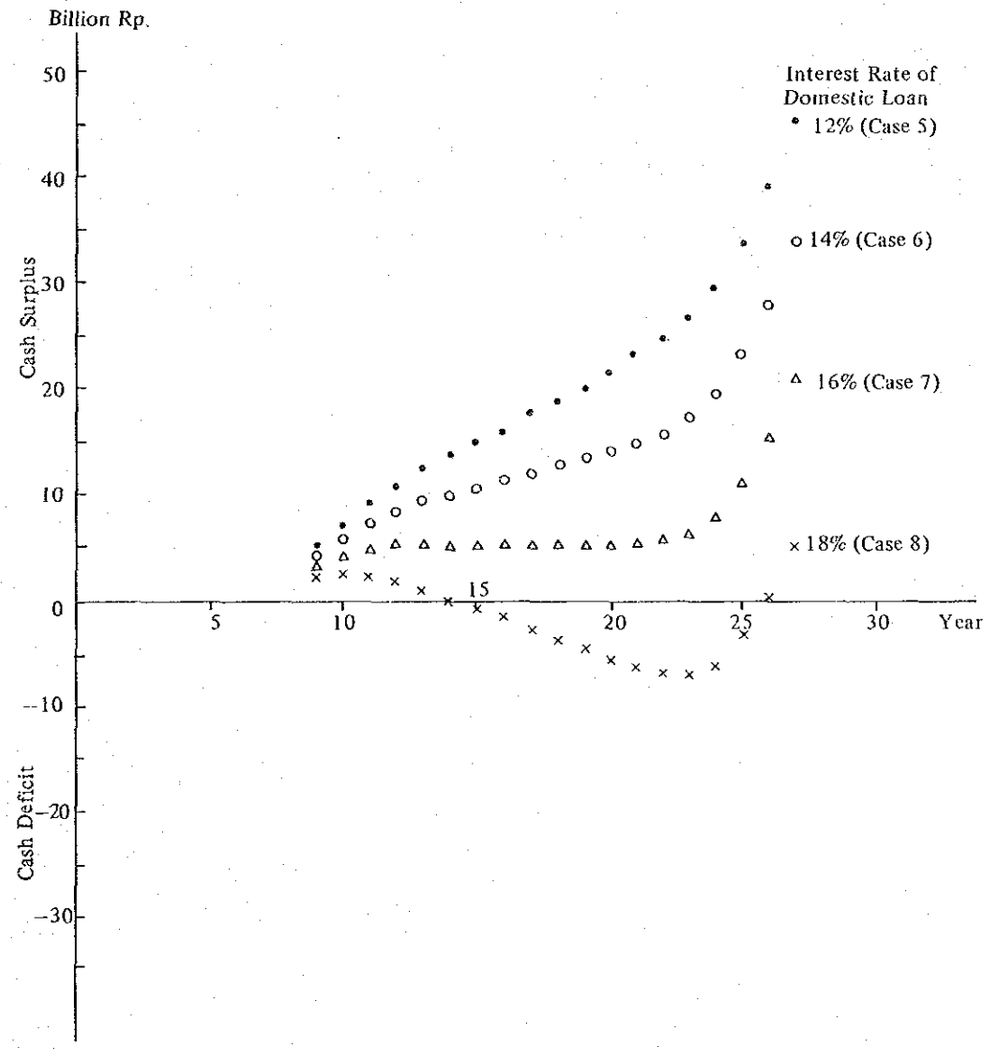
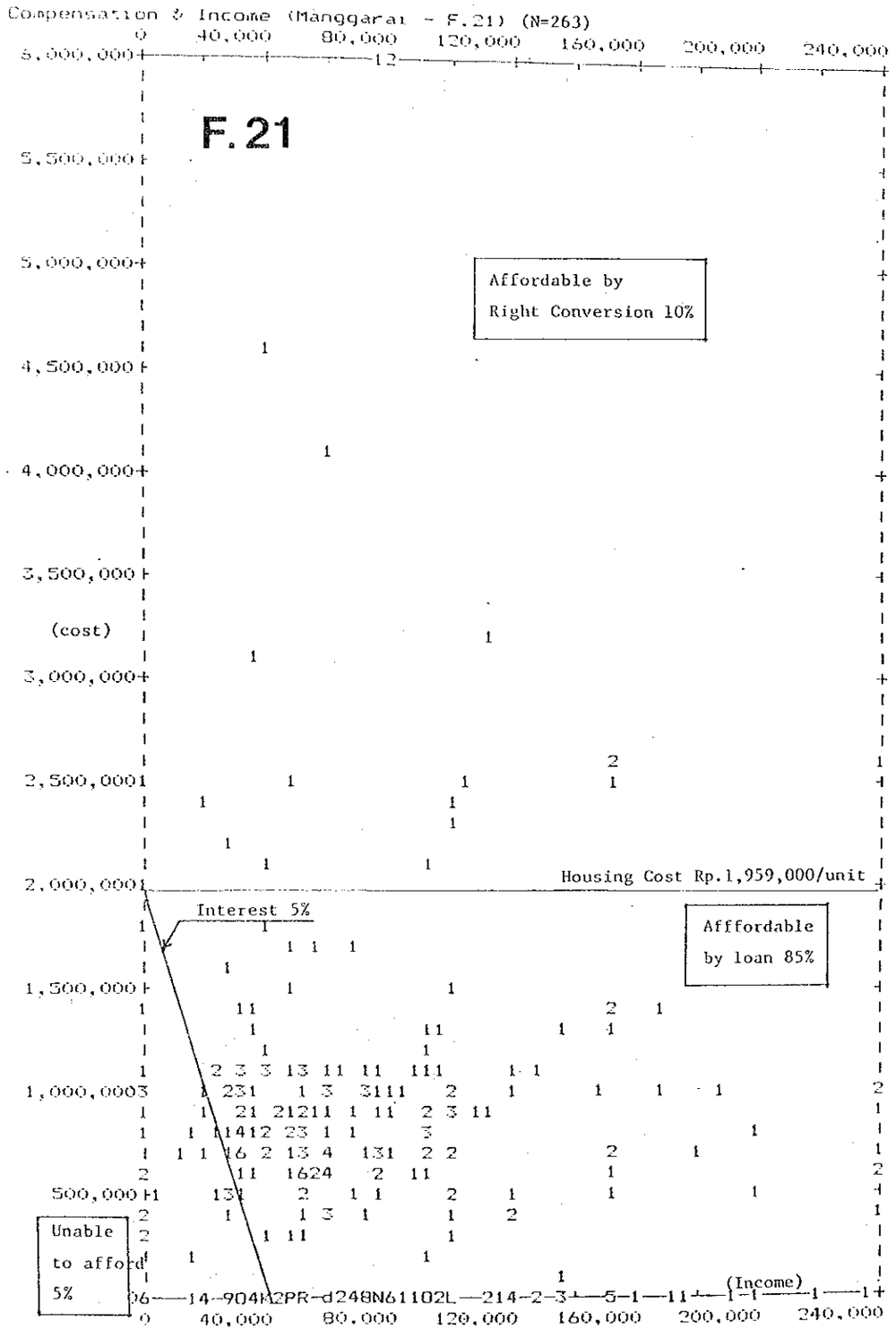
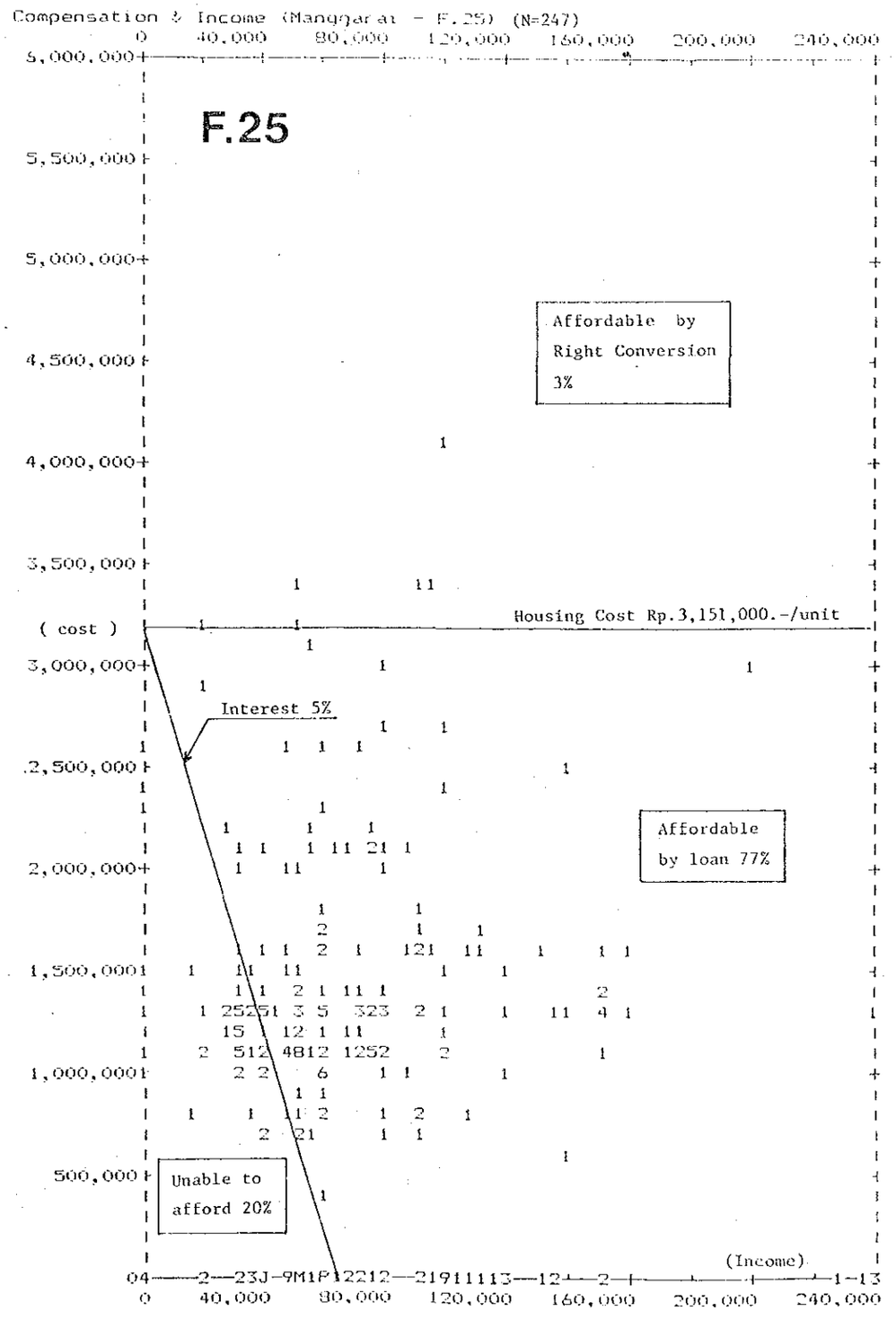


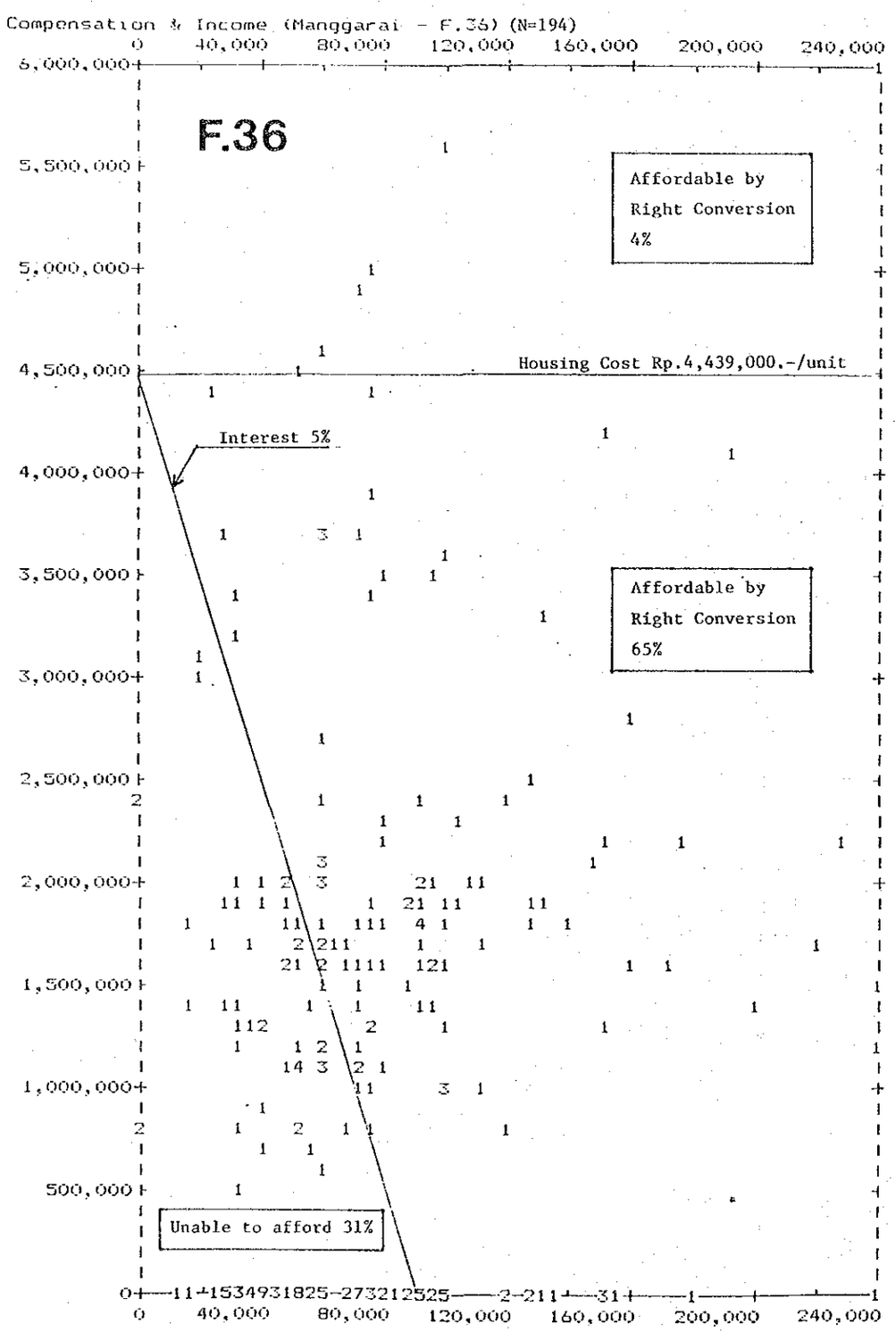
Fig. 8–14 CUMULATIVE CASH SURPLUS AND DEFICIT – FOREIGN PORTION : 50%

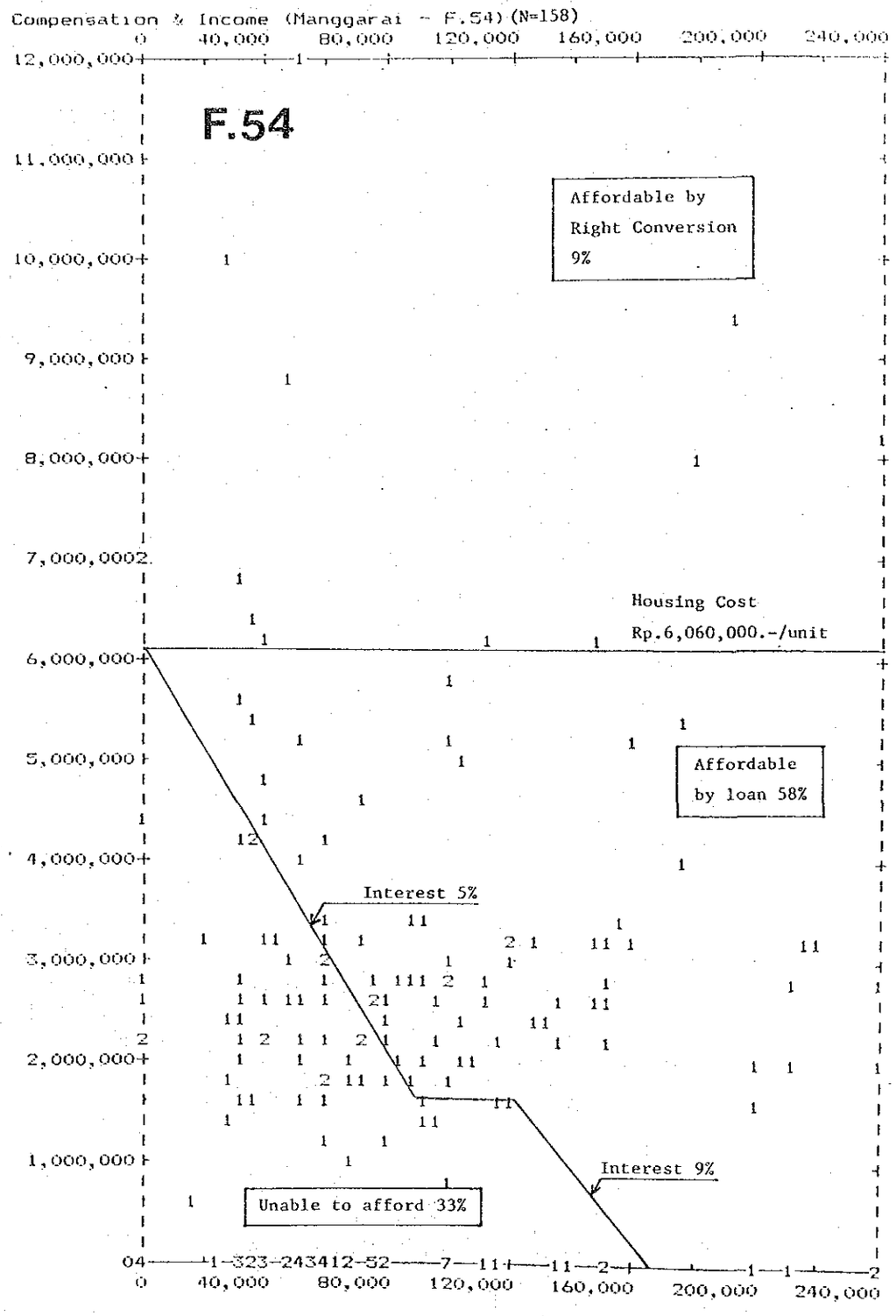
APPENDICES

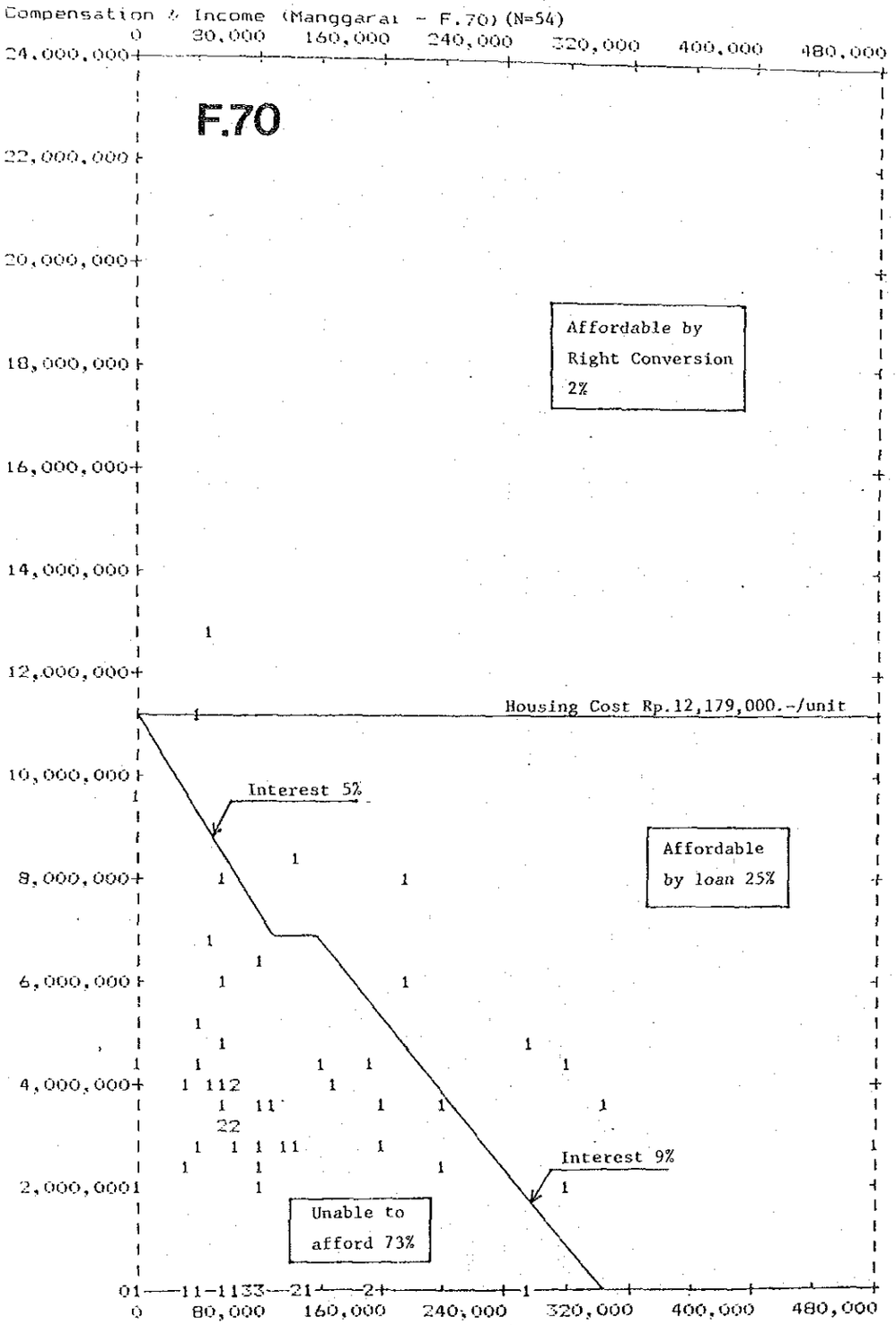
APPENDIX A COMPUTER OUTPUT FOR HOUSING AFFORDABILITY ANALYSIS
(Number of Households)

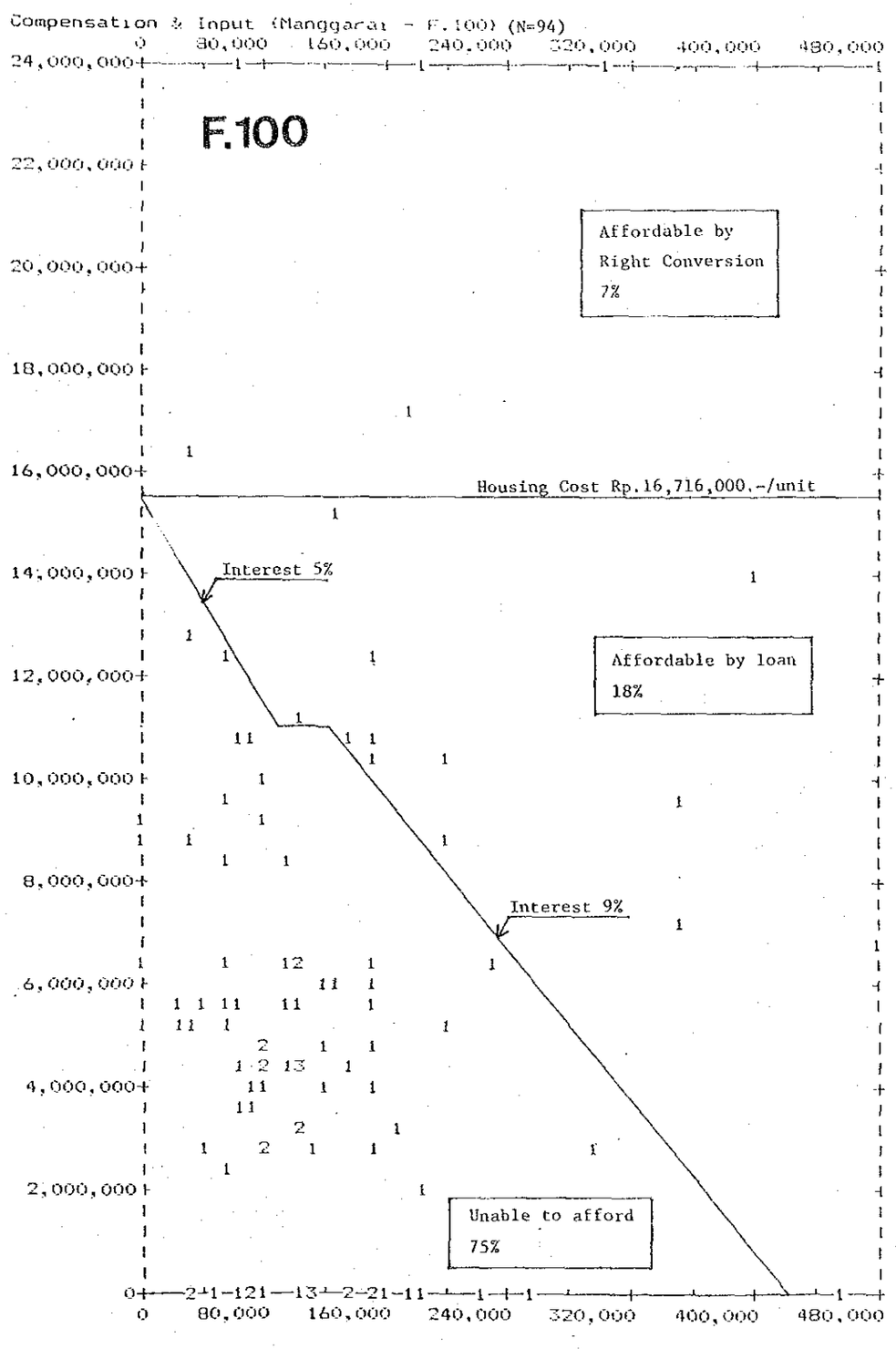





Compensation & Income (Manggarai - F.36) (N=194)
F.36
Affordable by Right Conversion 4%
Housing Cost Rp.4,439,000.-/unit
Interest 5%
Affordable by Right Conversion 65%
Unable to afford 31%
0
40,000
80,000
120,000
160,000
200,000
240,000
500,000
1,000,000
1,500,000
2,000,000
2,500,000
3,000,000
3,500,000
4,000,000
4,500,000
5,000,000
5,500,000
6,000,000


Compensation & Income (Manggarai - F.54) (N=158)
F.54
Affordable by Right Conversion 9%
Housing Cost Rp.6,060,000.-/unit
Affordable by loan 58%
Interest 5%
Interest 9%
Unable to afford 33%
0
40,000
80,000
120,000
160,000
200,000
240,000
1,000,000
2,000,000
3,000,000
4,000,000
5,000,000
6,000,000
7,000,000
8,000,000
9,000,000
10,000,000
11,000,000
12,000,000


Compensation & Income (Manggarai - F.70) (N=54)
F.70
Affordable by Right Conversion 2%
Housing Cost Rp.12,179,000.-/unit
Interest 5%
Interest 9%
Affordable by loan 25%
Unable to afford 73%
0
30,000
160,000
240,000
320,000
400,000
480,000
24,000,000
22,000,000
20,000,000
18,000,000
16,000,000
14,000,000
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000


Compensation & Input (Manggarai - F.100) (N=94)
F.100
Affordable by Right Conversion 7%
Housing Cost Rp.16,716,000.-/unit
Interest 5%
Interest 9%
Affordable by loan 18%
Unable to afford 75%
0
30,000
160,000
240,000
320,000
400,000
480,000
24,000,000
22,000,000
20,000,000
18,000,000
16,000,000
14,000,000
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000

APPENDIX B: DETAILS OF LOCAL AND FOREIGN PORTIONS

1. ANNUAL CONSTRUCTION COST BY LOCAL AND FOREIGN CURRENCIES

Table B-1 CONSTRUCTION COST BY LOCAL AND FOREIGN CURRENCY: SECTION I

Unit : Rp. 1,000,000,( ) = U.S.$1,000

Item	1st year			2nd year			3rd year			4th year			5th year			TOTAL		
	Local	Foreign	Total	Local	Foreign	Total	Local	Foreign	Total	Local	Foreign	Total	Local	Foreign	Total	Local	Foreign	Total
Planning	176	475 (485)	651				294	796 (812)	1,090							470	1,271 (1,297)	1,741
Temporary Housing Construc-tion	310	55 (56)	365													310	55 (56)	365
Temporary Housing Operation & Mainte-nance				27	5 (5)	32	27	5 (5)	32	46	8 (8)	54	46	8 (8)	54	146	26 (26)	172
Compen-sation	438	0 (0)	438				188	0 (0)	188							626	0 (0)	626
Land Pre-paration				214	115 (117)	329				71	38 (39)	109				285	153 (156)	438
Building Construc-tion				1,584	679 (693)	2,263	1,294	554 (565)	1,848	4,598	2,803 (2,860)	7,401	6,130	3,738 (3,814)	9,868	13,606	7,774 (7,932)	21,380
Infra-structure Construc-tion				301	558 (569)	859	225	419 (428)	644	144	77 (79)	221	109	57 (58)	166	779	1,111 (1,134)	1,890
Land-scaping							85	21 (21)	106				85	21 (21)	106	170	42 (42)	212
Overhead & Contin-gency	75	81 (83)	156	266	286 (292)	552	271	291 (297)	562	544	584 (596)	1,128	711	765 (781)	1,476	1,867	2,007 (2,049)	3,874
TOTAL	999	611 (624)	1,610	2,392	1,643 (1,676)	4,035	2,384	2,086 (2,128)	4,470	5,403	3,510 (3,582)	8,913	7,081	4,589 (4,682)	11,670	18,259	12,439 (12,692)	30,698

US $ 1.0 = Rp. 980.0

Note : Interest is excluded

Table B-2 CONSTRUCTION COST BY LOCAL AND FOREIGN CURRENCY: SECTION II

Unit : Rp. 1,000,000,( )=US$ 1,000

Item	5th year			6th year			7th year			8th year			year			TOTAL		
	Local	Foreign	Total	Local	Foreign	Total	Local	Foreign	Total	Local	Foreign	Total	Local	Foreign	Total	Local	Foreign	Total
Planning	528	1,359 (1,387)	1,887													528	1,359 (1,387)	1,887
Temporary Housing Construction																		
Temporary Housing Operation & Maintenance				145	26 (27)	171	62	11 (11)	73							207	37 (38)	244
Compensation	353	0 (0)	353													353	0 (0)	353
Land Preparation				105	57 (58)	162										105	57 (58)	162
Building Construction				3,445	1,980 (2,021)	5,425	6,197	3,662 (3,737)	9,859	4,808	3,067 (3,129)	7,875				14,450	8,709 (8,887)	23,159
Infrastructure Construction				300	514 (524)	814	615	806 (822)	1,421	45	15 (15)	60				960	1,335 (1,361)	2,295
Landscaping																		
Overhead & Contingency	161	174 (177)	335	473	509 (519)	982	817	880 (898)	1,697	571	615 (628)	1,186				2,022	2,178 (2,222)	4,200
TOTAL	1,042	1,533 (1,564)	2,575	4,468	3,086 (3,149)	7,554	7,691	5,359 (5,468)	13,050	5,424	3,697 (3,772)	9,121				18,625	13,675 (13,953)	32,300

US$ 1.0 = Rp. 980.0

Note : Interest is excluded

2. DETAILS OF LOCAL AND FOREIGN PORTION

2.1 SECTION I

(1) REVENUE AND EXPENDITURE

Revenue	(*1000Rp.)	Expenditure	(*1000Rp.)
Subsidy	3,589,740	Planning	1,741,460
Share defrayment	4,997,790	Land Preparation	438,000
Sales of reserved floor	23,938,800	Compensation	625,565
		Construction	23,480,900
		Maintenance	536,250
		Overhead, etc.	1,526,260
		Contingency	2,348,090
		Interest	1,829,710
Total (Revenue)	32,526,300	Total(Expenditure)	32,526,300

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

(2) BREAKDOWN OF EXPENDITURE (x1,000Rp.)

A : PLANNING

		Foreign (%)	Local (%)
Project Planning	= 704,428	80	20
Soil Investigation	= 1,400	15	85
Implementation Planning	= 821,833	80	20
Legalization to Local Government	= 213,795	15	85
TOTAL	1,741,460	73	27

B : LAND PREPARATION

		Foreign (%)	Local (%)
Building Clearance	= 280,200	35	65
Grading	= 157,800	35	65
TOTAL	438,000	35	65

C : COMPENSATION

		Foreign (%)	Local (%)
Land Compensation (for dislocator)	= 345,188	0	100
Building Compensation (for dislocator)	= 194,578	0	100
Other Compensation	= 85,800	0	100
TOTAL	625,565	0	100

D : CONSTRUCTION

		Foreign (%)	Local (%)
Building Construction	= 21,379,500	36	64
On-site Infrastructure	= 706,440	25	75
Off-site Infrastructure	= 1,395,000	70	30
TOTAL	23,480,900	38	62

E : MAINTENANCE

		Foreign (%)	Local (%)
Temporary House Construction	= 536,250	15	85
Others	= 0	-	-
TOTAL	536,250	15	85

F : OVERHEAD, ETC.

		Foreign (%)	Local (%)
Overhead	= 1,174,050	70	30
Investment for Allocation	= 352,214	70	30
Others	= 0	–	–
TOTAL	1,526,260	70	30

G : CONTINGENCY

		Foreign (%)	Local (%)
Contingency	= 2,348,090		
TOTAL	2,348,090	40	60

H : INTEREST

		Foreign (%)	Local (%)
Interest	= 1,829,710		
TOTAL	= 1,829,710	0	100
GRAND TOTAL	32,526,300	38	62
	(x 1,000 Rp)		
(Foreign	12,439,840)		
(Local	20,086,460)		

(3) BREAKDONW OF CONSTRUCTION COST (x1,000 Rp.)

(a) Building Construction

Item	Cost	Foreign (%)	Local (%)
House (8F)	3,349,860	30	70
House (5F)	761,517	30	70
House, Shop (8F)	3,516,400	35	65
Office, Shop (12F)	12,474,500	40	60
Parking	1,277,220	25	75
TOTAL	21,379,500	36	64
(Foreign	7,774,040)		
(Local	13,605,460)		

(b) On-site Infrastructure

Item	Cost	Foreign (%)	Local (%)
Water, Electric and Gas Supply	-	-	-
Sewerage, Garbage	-	-	-
Landscaping	-	-	-
TOTAL	706,440	25	75
(Foreign	176,600)		
(Local	529,840)		

(c) Off-site Infrastructure

Item	Cost	Foreign (%)	Local (%)
1. Demolition of existing KIP	11,840	95	5
2. Land Preparation	3,770	95	5
3. Earth Work	-	90	10
4. Bridge and Underpass	-	80	20
5. Concrete Cover for Canal	647,500	70	30
6. Station Plaza	153,180	60	40
7. Drainage	214,600	50	50
8. Road	221,690	80	20
9. Fresh Water	125,800	50	50
10. Electricity	9,620	50	50
11. Telephone	5,100	50	50
TOTAL	1,395,000	70	30
(Foreign	976,500)		
(Local	418,500)		

2.2 SECTION II

(1) REVENUE AND EXPENDITURE

Revenue	(*1000Rp.)	Expenditure	(*1000Rp.)
Subsidy	3,118,570	Planning	1,887,090
Share defrayment	2,656,550	Land Preparation	162,400
Sales of reserved floor	28,495,100	Compensation	353,088
		Construction	25,454,200
		Maintenance	243,750
		Overhead, etc.	1,654,520
		Contingency	2,545,420
		Interest	1,969,780
Total (Revenue)	34,270,200	Total(Expenditure)	34,270,200

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

(2) BREAKDOWN OF EXPENDITURE

A : PLANNING

			Foreign (%)	Local (%)
Project Planning	=	763,626	80	20
Soil Investigation	=	980	15	85
Implementation Planning	=	890,897	80	20
Legalization to Local Government	=	231,592	15	85
TOTAL		1,887,090	72	28

B : LAND PREPARATION

			Foreign (%)	Local (%)
Building Clearance	=	84,400	35	65
Grading	=	78,000	35	65
TOTAL		162,400	33	67

C : COMPENSATION

			Foreign (%)	Local (%)
Land Compensation (for dislocator)	=	243,750	0	100
Building Compensation (for dislocator)	=	70,338	0	100
Other Compensation	=	39,000	0	100
TOTAL		353,088	0	100

D : CONSTRUCTION

			Foreign (%)	Local (%)
Building Construction	=	23,159,200	38	62
On-site Infrastructure	=	600,960	25	75
Off-site Infrastructure	=	1,694,000	70	30
TOTAL		25,454,200	40	60

E : MAINTENANCE

			Foreign (%)	Local (%)
Temporary House Construction	=	243,750	15	85
Others	=	0	0	0
TOTAL		243,750	15	85

F : OVERHEAD, ETC.

		Foreign (%)	Local (%)
Overhead	= 1,272,710	70	30
Investment for Allocation	= 381,813	70	30
Others	= 0	0	0
TOTAL	1,654,520	70	30

G : CONTENGENCY

		Foreign (%)	Local (%)
Contingency	= 2,545,420		
TOTAL	2,545,420	40	60

H : INTEREST

		Foreign (%)	Local (%)
Interest	= 1,969,780		
TOTAL	1,969,780	0	100
GRAND TOTAL	34,270,200	40	60

(x 1,000 Rp.)

(Foreign 13,673,710)
(Local 20,596,490)

Manggarai (Section 1 + Section 2)

(Foreign 26,113,550 (39%))
(Local 40,682,950 (61%))

66,796,500

(3) BREAKDOWN OF CONSTRUCTION COST (x1,000 Rp.)

(a) Building Construction

Item	Cost	Foreign (%)	Local (%)
House (8F)	2,948,550	30	70
House (5F)	356,560	30	70
Business	18,302,700	40	60
School	166,674	30	70
Parking	1,384,780	25	75
TOTAL	23,159,200	38	62
(Foreign	8,708,880)		
(Local	14,450,320)		

(b) On-site Infrastructure

Item	Cost	Foreign (%)	Local (%)
Water, Electric and Gas Supply	-	-	-
Sewerage, Garbage	-	-	-
Landscaping	-	-	-
TOTAL	601,000	25	75
(Foreign	150,250)		
(Local	450,750)		

(c) Off-site Infrastructure

Item	Cost	Foreign (%)	Local (%)
1. Demolition of existing KIP	5,960	95	5
2. Land Preparation	1,860	95	5
3. Earth Work	-	90	10
4. Bridge and Underpass	750,000	80	20
5. Concrete Cover for Canal	647,500	70	30
6. Station Plaza	340,000	60	40
7. Drainage	117,000	50	50
8. Road	104,680	80	20
9. Fresh Water	59,600	50	50
10. Electricity	5,200	50	50
11. Telephone	2,200	50	50
TOTAL	2,034,000	70	30
(Foreign	1,423,800)		
(Local	610,200)		

3. DETAIL OF COST COMPONENT

P : Proportion (x1/10)
F : Foreign Portion (x1/10)
L : Local Portion (x1/10)

Item		Material			Labour			Equipment			F(%)	L(%)
		P	F	L	P	F	L	P	F	L		
A : Planning												
Project Planning		1	8	2	8	8	2	1	8	2	80	20
Soil Investigation		1	3	7	8	1	9	1	3	7	15	85
Implementing Planning		1	8	2	8	8	2	1	8	2	80	20
Legalization to local Government		1	2	8	8	1	9	1	2	8	15	85
B : Land Preparation												
Building Clearance		2	3	7	4	1	9	4	6	4	35	65
Grading		2	2	8	4	1	9	4	6	4	35	65
C : Compensation												
Land Compensation											0	100
Bldg. Compensation											0	100
Other Compensation											0	100
D : Construction	%										38	62
D_1 Building Construction											36	64
(a) House (8F)*1											30	70
Structure	65	5	2	8	3	1	9	2	7	3	27	73
Exterior	10	4	2	8	4	1	9	2	5	5	22	78
Interior	5	4	2	8	4	1	9	2	5	5	22	78
Equipment & Others	13	5	5	5	3	1	9	2	5	5	38	62
Lift	7	6	9	1	3	5	5	1	8	2	77	23
(b) House (5F)												
Structure	70	5	2	8	3	1	9	2	7	3	27	73
Exterior	10	4	2	8	4	1	9	2	5	5	22	78
Interior	5	4	2	8	4	1	9	2	5	5	22	78
Equipment & Others	15	5	5	5	3	1	9	2	5	5	38	62

*1 Common to House (1), (2), (3) in Kebon Melati

Item		Material			Labour			Equipment			F(%)	L(%)
		P	F	L	P	F	L	P	F	L		
(c) House, Shop (8F)	(%)										35	65
Structure	60	5	2	8	3	1	9	2	7	3	27	73
Exterior	10	4	3	7	4	1	9	2	5	5	26	74
Interior	10	4	3	7	4	1	9	2	5	5	26	74
Equipment & others	18	5	6	4	3	2	8	2	5	5	46	54
Lift	2	6	9	1	3	5	5	1	8	2	77	23
(d) Office, Shop (12F) *2											40	60
Structure	45	5	3	7	3	2	8	2	7	3	35	65
Exterior	15	4	4	6	4	1	9	2	5	5	30	70
Interior	15	4	3	7	4	1	9	2	5	5	26	74
Equipment & others	22	5	6	4	3	2	8	2	5	5	46	54
Lift	3	6	9	1	3	5	5	1	8	2	77	23
(e) Business											40	60
Structure	45	5	4	6	3	2	8	2	7	3	40	60
Exterior	15	4	4	6	4	1	9	2	5	5	30	70
Interior	15	4	3	7	4	1	9	2	5	5	26	74
Equipment & others	22	5	7	3	3	2	8	2	5	5	51	49
Lift	3	6	9	1	3	5	5	1	8	2	77	23
(f) School											30	70
Structure	70	5	2	8	3	1	9	2	7	3	27	73
Exterior	10	4	2	8	4	1	9	2	5	5	22	78
Interior	5	4	2	8	4	1	9	2	5	5	22	78
Equipment & others	15	5	5	5	3	1	9	2	5	5	38	62

*2 Common to Office and Shop in Kebon Melati

Detail of Cost Component (Cont'd)

P : Proportion (x1/10)
F : Foreign Portion (x1/10)
L : Local Portion (x1/10)

Item		Material			Labour			Equipment			F(%)	L(%)
		P	F	L	P	F	L	P	F	L		
(g) Parking	%										25	75
Structure	80	5	2	8	3	1	9	2	7	3	27	73
Exterior	5	4	2	8	4	1	9	2	5	5	22	78
Interior	5	4	2	8	4	1	9	2	5	5	22	78
Equipment & others	10	5	5	5	3	1	9	2	5	5	38	62
D2: On-site Infra-structure											25	75
Water, Electric & Gas Supply	40	5	3	7	3	1	9	2	5	5	28	72
Sewerage, Garbage	40	5	2	8	3	1	9	2	5	5	23	77
Landscaping	20	4	1	9	4	1	9	2	5	5	18	82
D3: Off-site Infra-structure											70	30
1. Demolition		0			1	5	5	9	10	0	95	5
2. Land prepa-ration		0			1	5	5	9	10	0	95	5
3. Earth work		0			1	8	2	9	9	1	90	10
4. Bridge and Underpass		4	6	4	1	5	5	5	10	0	80	20
5. Concrete cover for canal		4	4	6	1	5	5	5	10	0	70	30
6. Station Plaza		6	4	6	1	5	5	3	10	0	60	40
7. Drainage		5	3	7	2	5	5	3	8	2	50	50
8. Road		4	6	4	1	5	5	5	10	0	80	20
9. Fresh water		7	4	6	1	5	5	2	8	2	50	50
10. Electricity		7	7	3	1	0	10	2	0	10	50	50
11. Telephone		7	7	3	1	0	10	2	0	10	50	50

Item		Material			Labour			Equipment			F(%)	L(%)
		P	F	L	P	F	L	P	F	L		
E : Maintenance	(%)											
E_1 Temporary housing											15	85
Construction	90	6	1	9	3	1	9	1	5	5	14	86
Operation	10	4	1	9	5	1	9	1	5	5	14	86
F : Overhead, etc.											70	30
F_1 Overhead		0			10	7	3	0			70	30
F_2 Investment for allocation		0			0			10	7	3	70	30
G : Contingency											40	60
H : Interest											0	100