

Total Revenue from Major Crops by Kabupaten

(unit: million Rp.)

	Magelang	Sleman	Klaten
Paddy	3,110	16,324	3,139
Maize	84	121	103
Cassava	112	496	101
Sweet Potato	91	115	17
Groundnut	113	658	400
Soybean	3	116	21
Sugar Cane	-	6,805	2,195

In calculating net income, the cost of family labor was not considered since this does not represent an actual expenditure and, besides, the opportunity cost involved in the case of such labor can be considered negligible in view of the fact that such persons could not be expected to participate in productive activity for quite some time in the event that they were deprived of their farmwork by lahar damage resulting from failure to undertake the proposed works for erosion and volcanic debris control and in view of the surplus labor force and the scant employment opportunities in the area.

4.3.3 Non-agricultural Income

Table 36 shows the percentages of total income represented by non-agricultural income in 19 kelurahan of hazard zones in the area covered by the plan as determined on the basis of the socioeconomic survey. The average is about 25% of total income coming from non-agricultural sources. In two of these kelurahan, which are located in the upstream part of the Type II area of Zone 3, the non-agricultural income is over 60% of total income; this is due to the scarcity of water which even necessitates daily trips of several kilometers to reservoirs. Only cassava, sweet potatoes, and other crops other than rice can be grown for only home consumption, and with low yields at that. It is therefore necessary for the people to sell eggs at nearby markets and engage in other types of work for cash income.

The main sources of non-agricultural income in descending order are temporary work away from home, peddling of goods (including fruit grown in their own yards), and cottage industry.

The major types of cottage industry are bamboo and stone handicrafts, manufacture of sleeping mats, and food processing such as of coconut sugar and sweets; almost all of these products are produced on a very small scale for the village markets. Promotion of such cottage industries will increase in importance from the standpoint of absorbing the surplus labor force and stimulating regional economic development, but there are many problems, including the need for entrepreneurial spirit in developing local special products, the shortage of capital, and the problem of wider marketing distances.

Fig. 3 Crop Yield Index Map (1971)

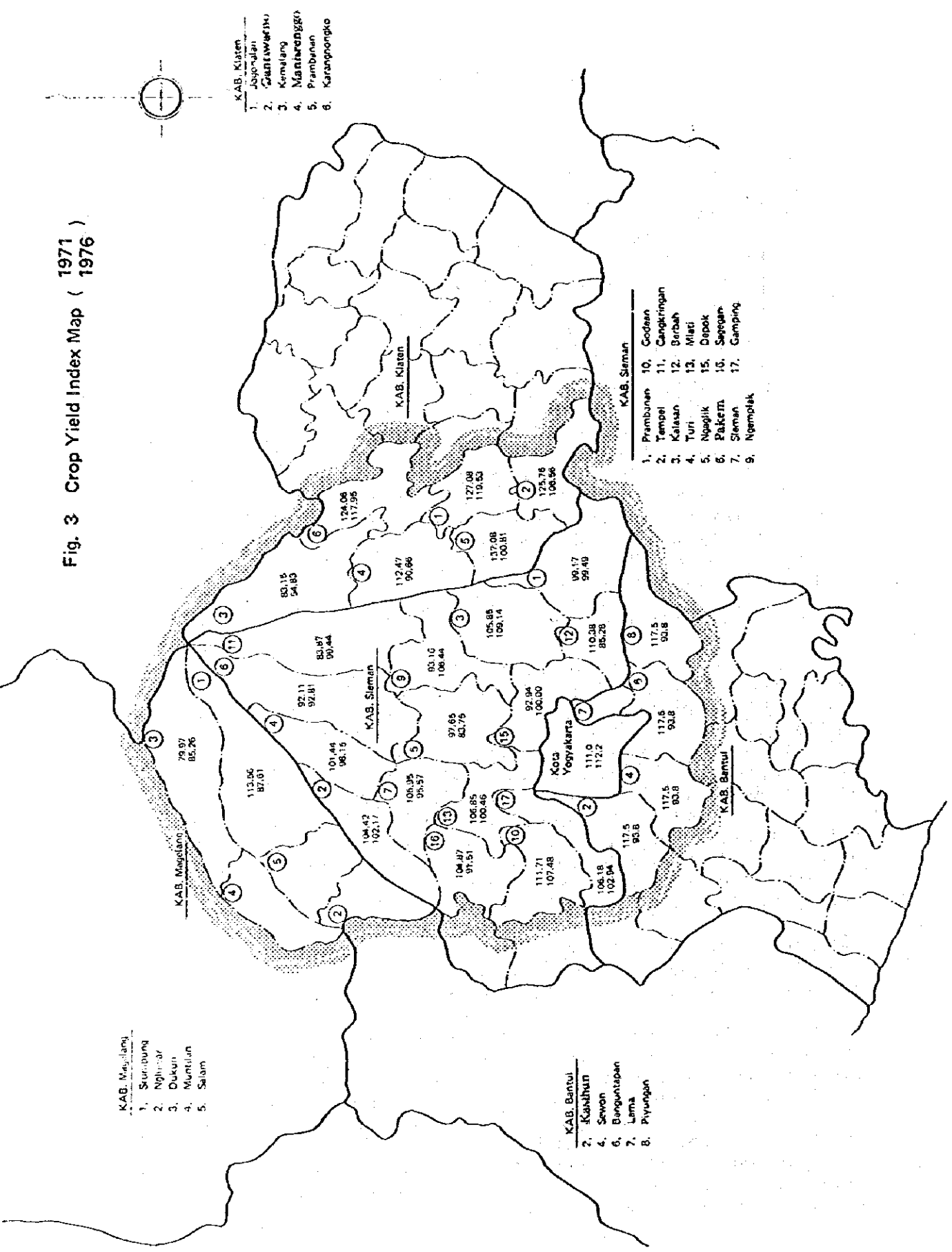


Fig. 4.(1) Crop Yield Index of Kab. MACELANG
(1971 and 1976)

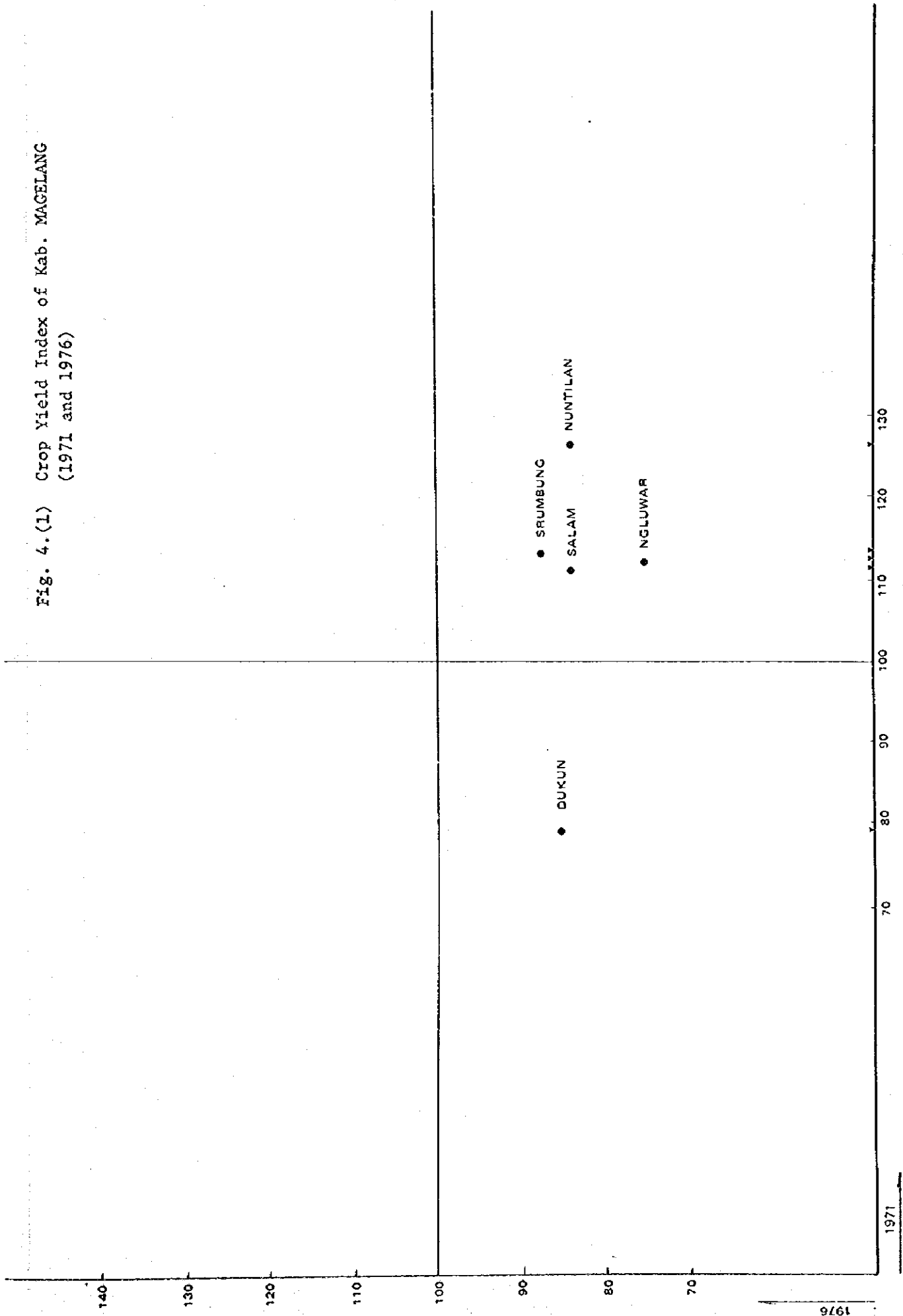


FIG. 4.(2) Crop Yield Index of Kab. SLEMAN
(1971 and 1976)

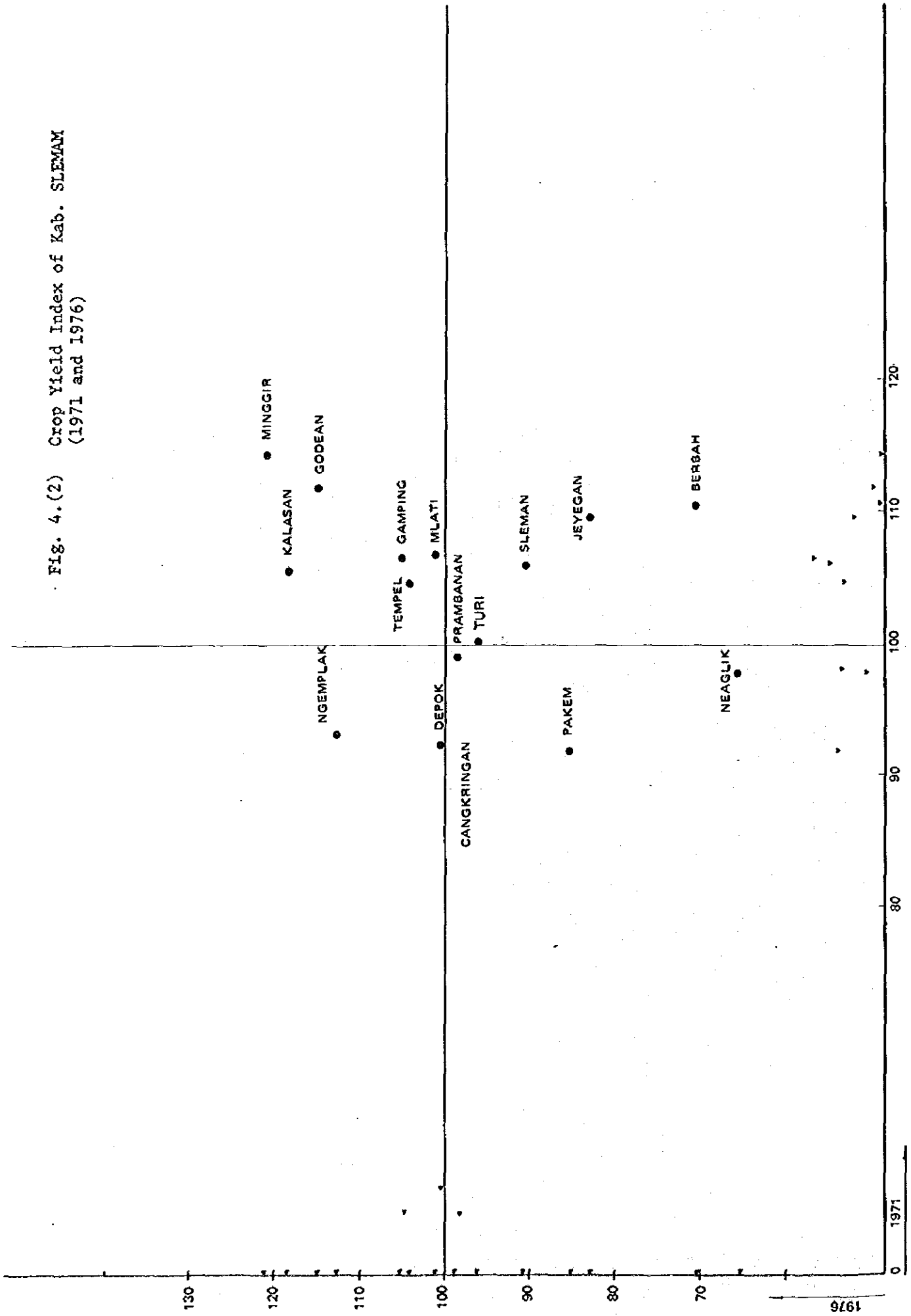


Fig. 4.(3) Crop Yield Index of Kota Yogyakarta (1971 and 1976)

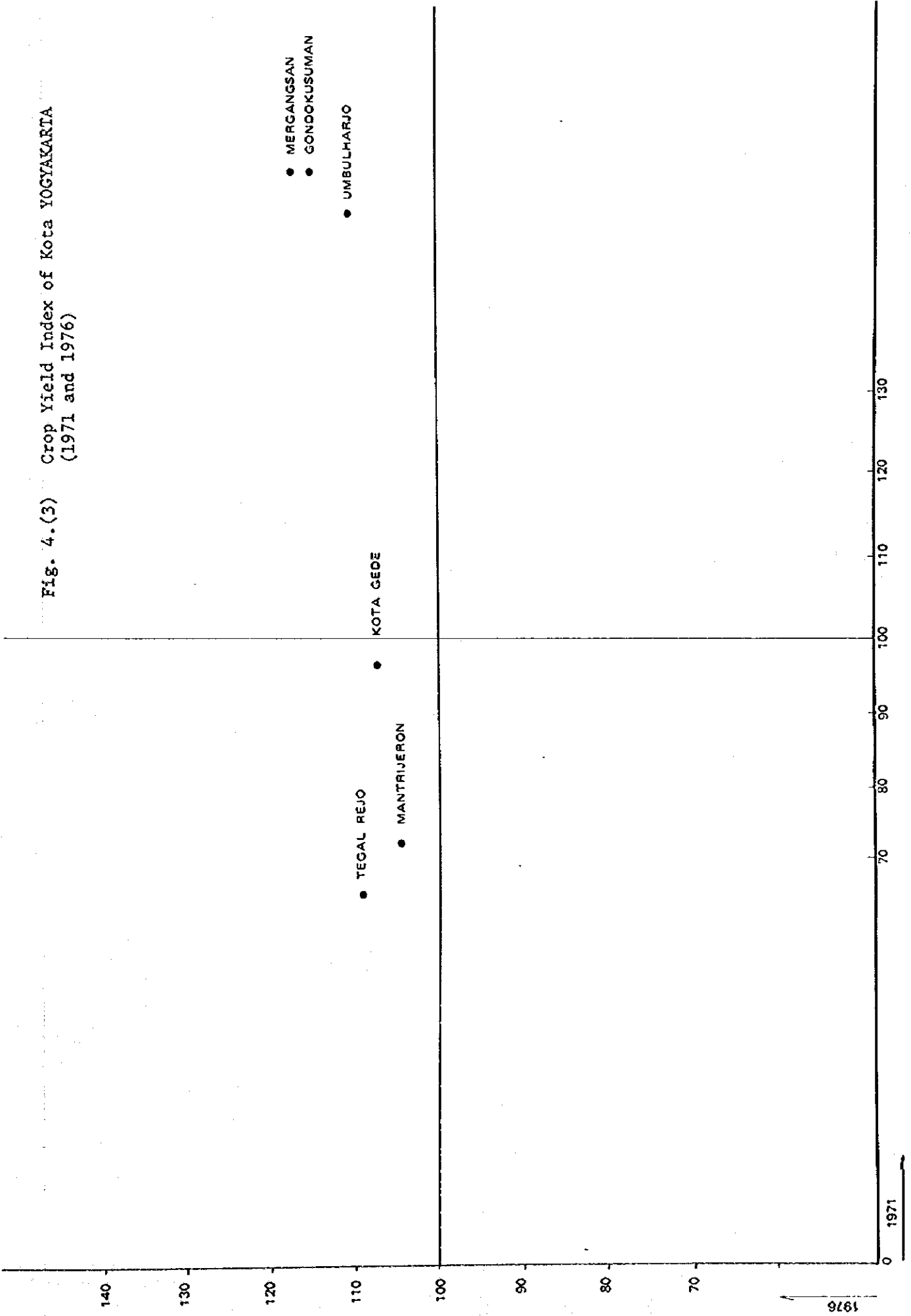


Fig. 4.(4) Crop Yield Index of Kab. BANTUL
(1971 and 1976)

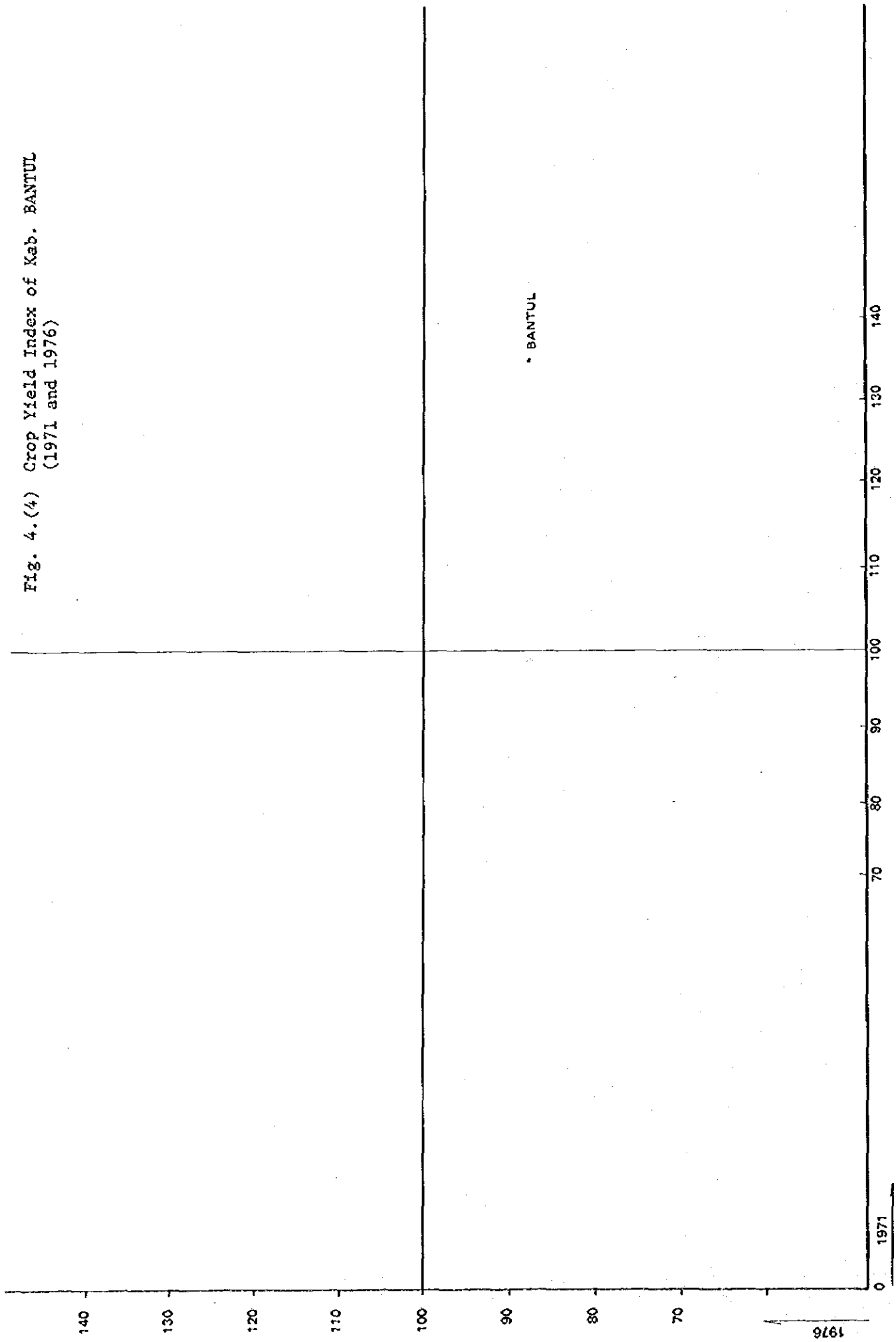


Fig. 4.(5) Crop Yield Index of Kab. KLATEN
(1971 and 1976)

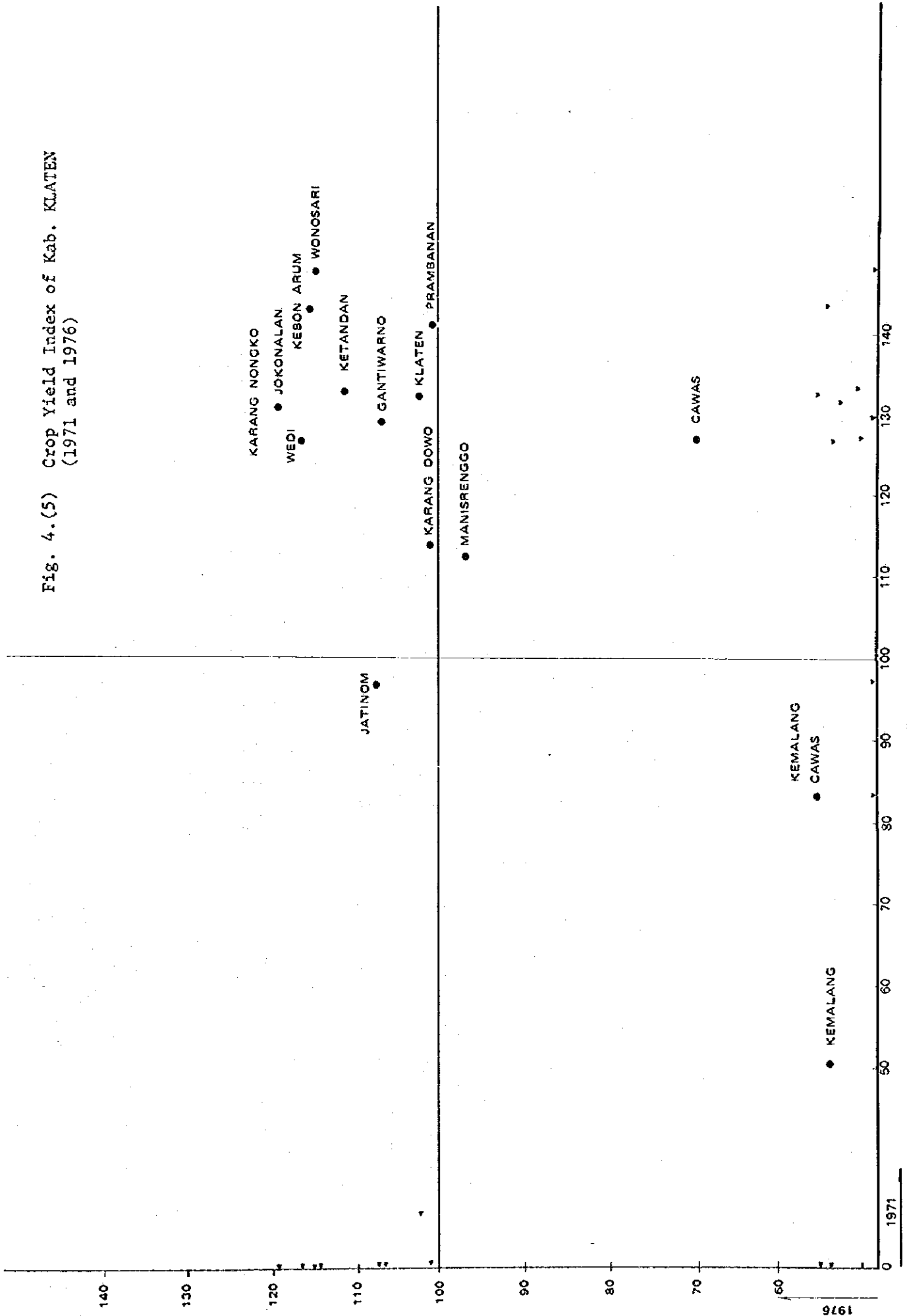


Fig. 5 Present Level and Growth Tendency of Paddy

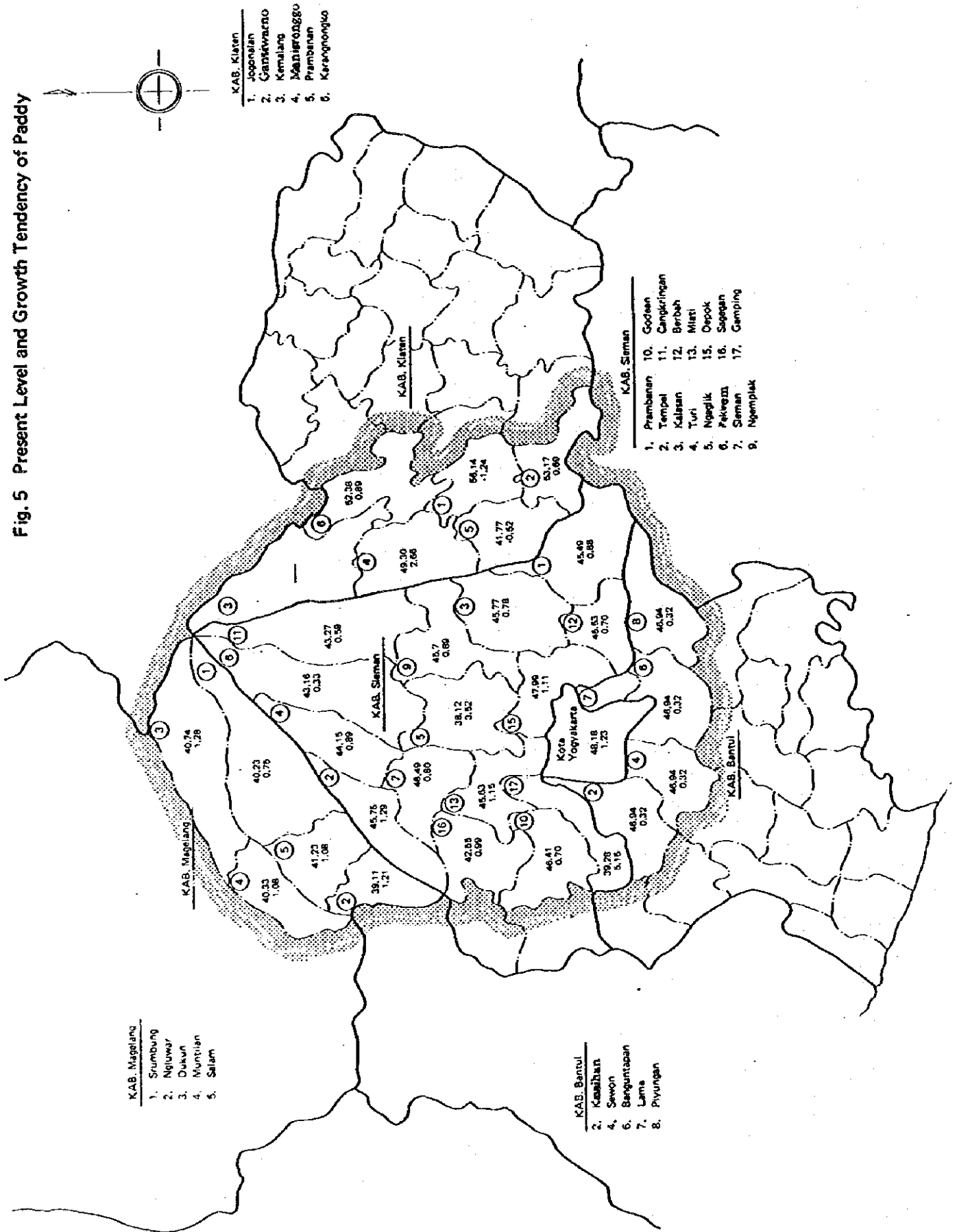


Table 22 Land Use in the Project Area

Location	Total Area (ha.)	Type of Land Use (%)				
		Sawah* (%)	Tegal** (%)	Village (%)	Forest (%)	Others (%)
1. City of Yogyakarta	3,250	20	2	40	-	38
2. Sleman	57,480	48	12	27	2	11
3. Bantul	49,280	37	14	36	1	12
4. Magelang	113,280	37	32	15	6	10
5. Klaten	67,010	53	11	28	2	6
Total	290,300 (100%)	123,903 (43%)	57,482 (20%)	70,315 (24%)	9,779 (3%)	28,820 (10%)

* Sawah: Irrigated land suitable for wet rice

** Tegal: Dry crop land unsuitable for wet rice

Table 23 Farmland Holding per Farm Household

Area Type	Location	Area (ha)	below 0.2	0.2-0.4	0.4-0.6	0.6-1.0	1.0-2.0	Over 2.0	Total
1	A	Number of answers %	23 53.4	11 25.6	6 14.0	1 2.3	0 0	2 4.7	43 100
	B	Number of answers %	21 61.8	10 29.4	2 5.9	0 0	1 2.9	0 0	34 100
	C	Number of answers %	13 59.1	5 22.7	3 13.6	1 4.6	0 0	0 0	22 100
2	A	Number of answers %	18 40.9	12 27.3	6 13.6	5 11.4	3 6.8	0 0	44 100
	B	Number of answers %	43 53.1	23 28.4	2 2.5	13 16.0	0 0	0 0	81 100
	C	Number of answers %	11 29.7	14 37.9	4 10.8	7 18.9	1 2.7	0 0	37 100
3		Number of answers %	38 45.8	20 24.1	11 13.3	7 8.4	5 6.0	2 2.4	83 100
Total		Number of answers %	167 48.5	95 27.6	34 9.9	34 9.9	10 2.9	4 1.2	344 100

(Note) A: Upperstream B: Middlestream C: Downstream

Table 24 Number and Types of Farm Households

Area Type	Location		Independent farmer	Owner + tenant farmer	Tenant farmer	No answer	Total
1	A	Number of answers %	43 87.8	0 0	6 12.2	0 0	49 100
	B	Number of answers %	30 57.7	4 7.7	13 25.0	5 9.6	52 100
	C	Number of answers %	21 77.8	1 3.7	5 18.5	0 0	27 100
2	A	Number of answers %	43 93.5	1 2.2	2 4.3	0 0	46 100
	B	Number of answers %	74 82.2	7 7.8	7 7.8	2 2.2	90 100
	C	Number of answers %	37 90.2	0 0	4 9.8	0 0	41 100
3		Number of answers %	82 94.3	1 1.1	3 3.5	1 1.1	87 100
Total		Number of answers %	33.0 84.2	14 3.6	40 10.2	8 2.0	392 100

(Note) A: Upperstream B: Middlestream C: Downstream

Table 25 Tenancy Fee Payment Methods

Area Type	Location		Cash Payment	Payment for harvested crops in kind					No answer	Total
				25%	30%	33.3%	50%	66.7%		
1	A	Number of answers %	- -	- -	- -	- -	6 100	- -	- -	6 100
	B	Number of answers %	12 66.7	- -	- -	- -	5 27.8	- -	1 5.5	18 100
	C	Number of answers %	4 66.6	- -	- -	- -	1 16.7	- -	1 16.7	6 100
2	A	Number of answers %	- -	- -	- -	1 33.3	1 33.3	1 33.4	- -	3 100
	B	Number of answers %	5 35.7	- -	3 21.5	1 7.1	3 21.5	1 7.1	1 7.1	14 100
	C	Number of answers %	1 25.0	1 25.0	1 25.0	1 25.0	- -	- -	- -	4 100
3		Number of answers %	2 50.0	- -	- -	- -	1 25.0	- -	1 25.0	4 100
Total		Number of answers %	24 43.6	1 1.8	4 7.3	3 5.5	17 30.9	2 3.6	4 7.3	55 100

(Note) A: Upperstream B: Middlestream C: Downstream

Table 26 Harvest Areas of the Main Crops

(Unit: ha)

Kecamatan	Area of Farmland	Paddy	Maize	Cassava	Sweet Potato	Groundnut	Soybean
Megalang							
Muntilan	2,940	2,942	126	167	142	174	11
Dukun	3,547	3,167	1,198	118	101	160	—
Salam	2,311	2,159	84	296	305	46	—
Ngluwar	1,488	2,358	—	116	102	141	15
Srumbung	3,197	2,199	226	328	535	—	—
Total	13,483	12,825	1,634	1,025	1,185	521	26
Sleman							
Sleman	1,984	3,172	184	113	295	191	170
Mlati	1,579	3,448	21	147	72	56	60
Gamping	1,418	2,585	12	—	—	30	—
Godean	1,615	2,201	11	33	—	28	25
Moyudan	1,509	3,431	—	118	—	—	10
Minggir	1,532	3,524	18	140	3	6	3
Seyegan	1,604	3,142	4	1	37	51	145
Tempel	2,029	2,762	34	163	104	40	33
Turi	2,095	2,092	252	374	308	21	23
Pakem	2,914	1,928	771	436	138	70	18
Cangkringan	1,918	2,447	689	330	110	24	18
Ngaglik	2,917	3,410	193	155	235	771	146
Depok	1,484	2,023	156	336	29	458	30
Kalasan	2,164	5,025	54	586	18	180	61
Berbah	2,372	2,473	226	73	14	352	64
Prambanan	1,902	3,229	229	349	116	645	343
Ngemplak	2,632	3,840	45	266	82	114	100
Total	33,668	51,002	2,899	3,620	1,561	3,037	1,249
Klaten							
Jogonalan	1,658	2,150	31	69	29	382	37
Prambanan	2,597	1,840	59	63	35	433	69
Gantiwarno	1,785	2,342	166	48	1	64	37
Manisrenggo	1,970	1,984	157	154	59	462	69
Karangnongko	1,649	1,607	205	180	61	309	12
Kemalang	2,199	191	1,379	268	31	191	—
Total	10,858	10,114	1,997	782	216	1,845	224

Source: Proyek Gunung Merapi: Yield of Food Crops, Land Use 1977

Table 28 Crop Yield Index (1971, 1976)

Kabupaten	Kecamatan	1971	1976
Sleman	Sleman	106	96
	Mlati	107	100
	Gamping	106	103
	Godean	112	107
	Sejegan	105	92
	Tempel	104	102
	Turi	101	98
	Pakem	92	93
	Tjankringan	84	99
	Ngemplak	93	106
	Depok	93	100
	Kalasan	106	109
	Berbah	110	85
	Prambanan	99	99
	Ngaglik	98	84
Bantul	Bantul	118	94
Kota Yogyakarta	Umbul harjo	133	119
	Kota Gede	98	107
	Mergangsan	136	118
	Mantrijeron	84	105
	Gondokusuman	136	115
Klaten	Kemalang	83	55
	Djogonalan	127	120
	Karang Nongko	124	118
	Manis Renggo	112	91
	Pram banan	137	101
	Ganti Warno	126	107
Magelang	Muntilan	126	83
	Dukun	80	85
	Salam	111	83
	Ngluwar	112	74
	Srumbung	114	88

Note: Based on crop yield in Central Java and D.I. Yogyakarta as 100

Table 29(1) Present Level and Growth Tendency of Paddy Yield

Kabupaten	Kecamatan	a	b	r
Sleman	Sleman	46.49	0.80	0.94
	Mlati	45.63	1.15	0.91
	Gamping	39.28	5.15	0.71
	Godean	46.41	0.70	0.82
	Sejegan	42.55	-0.99	-0.67
	Tempel	45.75	1.29	0.75
	Turi	44.15	0.89	0.76
	Pakem	43.16	0.33	0.62
	Tjäng Kringan	43.27	0.59	0.80
	Ngemplak	45.70	0.89	0.78
	Depok	47.99	1.11	0.82
	Kalasan	45.77	0.78	0.78
	Berbah	45.53	0.70	0.71
	Prambanan	45.49	0.88	0.93
	Ngaglik	38.12	-3.52	-0.71
Bantul	Bantul	46.94	0.32	0.74
	Sewon	-	-	-
	Kasih	-	-	-
	Gondowulung	-	-	-
	Kota Gede	52.63	0.63	0.70

The possibility of increase in paddy yield was estimated by the following equation:

$$\bar{Y} = a + bt + e$$

where: \bar{Y} : Paddy yield (q/ha)
a : Present level of paddy yield (q/ha)
b : Increasing or decreasing tendency
t : Time
e : Error term

Table 29 (2)

Kabupaten	Kecamatan	a	b	r
Klaten	Kemalang	63.46	-2.37	-0.52
	Djogonalan	56.14	-1.24	-0.91
	Karang nongko	52.38	0.89	0.78
	Manis renggo	49.30	2.66	0.92
	Prambanan	41.77	-0.52	-0.39
	Cantiwarno	53.17	0.69	0.55
Magelang	Muntilan	-	-	-
	Dukun	-	-	-
	Salam	41.23	1.08	0.93
	Ngluwar	39.11	1.21	0.86
	Srumbung	40.23	0.75	0.36
Kota Yogyakarta	Umbul Harjo	52.85	0.59	0.68
	Kota Gede	52.63	0.63	0.70
	Mergangsan	47.89	-0.96	0.93
	Mantrijeron	42.43	2.00	0.95
	Gondokusuman	53.26	0.58	0.61
	Tegalrejo	40.02	2.65	0.86

Table 30 Comparison of Irrigation Areas with Productivity Classification
(Unit: No. of Grid meshes)

Class	Productivity Classification	Technical area	Semi-Technical area	Non-Technical
Class-5	High productivity land	271 (33%)	420 (33%)	195 (19%)
Class-4	Land with rising productivity	474 (58%)	373 (30%)	625 (60%)
Class-3	Land with declining productivity	68 (8%)	214 (17%)	16 (1%)
Class-2	Low productivity land	0 (0)	255 (20%)	205 (20%)
Class-1	"	3 (1%)	0	0
	Total	816 (100%)	1,262 (100%)	1,041 (100%)
	Average Class	4.24	3.76	3.78

Table 31 Comparison of Irrigation Area with Paddy Yield Classification

(Unit: No. of Grid Meshes)

Class	Paddy Yield Class	Technical area		Semi-technical		Non-technical	
		1976	1981	1976	1981	1976	1981
Class-5	(52.5 q/ha ^v)	49	192	69	204	56	86
Class-4	(47.5 q/ha ~ 52.5)	47	529	152	657	84	200
Class-3	(42.5 q/ha ~ 47.5)	603	27	651	154	337	702
Class-2	(37.5 q/ha ~ 42.5)	114	65	383	111	564	49
Class-1	(~37.5 q/ha)	3	3	7	136	4	4
Total		816		1,262		1,041	
•Average Class of Paddy Yield		3.03	4.03	2.92	3.54	2.65	3.30
•Index of Paddy Yield		100	133	96	117	87	109

Table 32 Crop Input Table

Kind of Crops	Seed (kg/ha)	Urea (kg/ha)	TSP (kg/ha)	Insecticide (l/ha)	Labor (man-day/ha)	Cattle (head/ha)
Paddy	25	200	45	2	235*	37
Maize	25	25	-	1	95	5
Cassava	11,000 stalks	-	-	-	170	10
Sweet Potato	30,000 stalks	-	-	-	125	10
Groundnut	70	-	-	-	250	20
Soybean	30	-	-	-	170	10
Sugar cane	22,500 stalks	400 (ZA)	100	-	850	-

Note: *

Table 33 Crop Output Table by Kabupaten

	Unit: ton/ha		
	Kab. Magelang	Kab. Sleman	Kab. Klaten
Paddy	3.2	4.0	3.9
Maize	0.7	0.7	0.7
Cassava	3.2	3.9	3.7
Sweet Potato	2.9	2.8	2.9
Groundnut	0.6	0.6	0.6
Soybean	0.5	0.4	0.4
Sugar cane	-	90.0	90.0

Table 34 Product Cost Tables

(1) Production Cost of Paddy per Ha

Item		Amount (Rp.)
Seed	25kg x 150Rp./kg	3,750
Fertilizer	Urea: 300kg x 70Rp./kg TSP : 45kg x 70Rp./kg	14,000 3,375
Insecticide	2ℓ x 1,250Rp./ℓ	2,500
Labor	Preparation & planting nursery: 10man-day x 450Rp./man-day 2Units x 1,000Rp./Unit	(4,500) (2,000)
	Land preparation: 40man-day x 350Rp./man-day 35Units x 1,000Rp./Unit	(14,000) (17,500)
	Transplanting : 66man-day x 350Rp./man-day	(23,100)
	Weeding : 65man-day x 350Rp./man-day	(22,750)
	Fertilizer application and spraying : 14man-day x 350Rp./man-day	(4,900)
	Irrigating : 30man-day x 350Rp./man-day	(10,500)
	Others : 10man-day x 350Rp./man-day	(3,500)
	Harvesting : 8% of the harvest crops	24,300
Miscellaneous		20,000
Total		67,925

(2) Production Cost of Maize per Ha

Item		Amount (Rp.)
Seed	25kg x 120Rp./kg	3,000
Fertilizer	Urea: 25kg x 70Rp./kg	1,750
Insecticide	1ℓ x 1,250Rp./ℓ	1,250
Labor	Land preparation & leveling : 20man-day x 450Rp./man-day 5Units x 1,000Rp./Unit	(9,000) (5,000)
	Planting : 20man-day x 350Rp./man-day	(7,000)
	Weeding : 35man-day x 350Rp./man-day	(12,250)
	Harvesting : 20man-day x 350Rp./man-day	7,000
Miscellaneous		5,400
Total		18,400

(3) Production Cost of Cassava per Ha

Item		Amount (Rp.)
Seed	11,000stalks x 0.35Rp./stalks	3,850
Labor	Land preparation : 25man-day x 450Rp./man-day	(11,250)
	& levelling : 10Units x 1,000Rp./Unit	(10,000)
	Planting : 20man-day x 350Rp./man-day	(7,000)
	Weeding : 70man-day x 350Rp./man-day	(24,500)
	Others : 25man-day x 350Rp./man-day	(8,750)
	Harvesting : 30man-day x 350Rp./man-day	10,500
Miscellaneous		4,700
Total		19,050

(4) Production Cost of Sweet Potato per Ha

Item		Amount (Rp.)
Seed	30,000pcs x 0.33Rp./pc	9,900
Labor	Land preparation : 10man-day x 450Rp./man-day	(4,500)
	& leveling : 10Units x 1,000Rp./Unit	(10,000)
	Planting : 20man-day x 350Rp./man-day	(7,000)
	Weeding : 40man-day x 350Rp./man-day	(14,000)
	Others : 30man-day x 350Rp./man-day	(10,500)
	Harvesting : 25man-day x 350Rp./man-day	8,750
Miscellaneous		5,700
Total		24,350

(5) Production Cost of Groundnut per Ha

Item		Amount (Rp.)
Seed	70kg x 350Rp./kg	24,500
Labor	Land preparation: 10man-day x 450Rp./man-day	(4,500)
	& leveling 20Units x 1,000Rp./man-day	(20,000)
	Planting : 70man-day x 350Rp./man-day	(24,500)
	Weeding : 80man-day x 350Rp./man-day	(28,000)
	Others : 40man-day x 350Rp./man-day	(14,000)
	Harvesting : 50man-day x 350Rp./man-day	17,500
Miscellaneous		8,300
Total		50,300

(6) Production Cost of Soybean per Ha

Item		Amount (Rp.)
Seed	30kg x 200Rp./kg	6,000
Labor	Land preparation & levelling : 10man-day x 450Rp./man-day	(4,500)
	: 10Units x 1,000Rp./Unit	(10,000)
	Planting : 40man-day x 350Rp./man-day	(14,000)
	Weeding : 40man-day x 350Rp./man-day	(14,000)
	Others : 30man-day x 350Rp./man-day	(10,500)
	Harvesting : 50man-day x 350Rp./man-day	17,500
Miscellaneous		3,300
Total		26,800

(7) Production Cost of Sugar Cane per Ha

Item		Amount (Rp.)
Seed	22,500stalks x 3.3Rp./stalk	74,250
Fertilizer	Z.A. : 400kg x 70Rp./kg	28,000
	TSP : 100kg x 70Rp./kg	7,000
Labor	Land preparation: 85man-day x 550Rp./man-day	46,750
	Planting : 65man-day x 350Rp./man-day	22,750
	Fertilizing : 25man-day x 350Rp./man-day	8,750
	Irrigating : 150man-day x 350Rp./man-day	52,500
	Weeding : 130man-day x 350Rp./man-day	45,500
	Soil culturing : 195man-day x 350Rp./man-day	68,250
	Harvesting : 200man-day x 350Rp./man-day	70,000
Miscellaneous		75,000
Total		498,750

Table 35 Crop Income Table by Kabupaten

(1) Kab. Magelang

Kind of Crop	Unit Yield (ton/ha)	Unit Price (Rp./ton)	Gross Returns (Rp./ha)	Production Expenses (Rp./ha)	Net Income (Rp./ha)
Paddy	3.2	97,000	310,400	67,925	242,475
Maize	0.7	100,000	70,000	18,400	51,600
Cassava	3.2	40,000	128,000	19,050	108,950
Sweet Potato	2.9	35,000	101,500	24,350	77,150
Groundnut	0.6	445,000	267,000	50,300	216,700
Soybean	0.5	300,000	150,000	26,800	123,156

(2) Kab. Sleman

Kind of Crop	Unit Yield (ton/ha)	Unit Price (Rp./ton)	Gross Returns (Rp./ha)	Production Expenses (Rp./ha)	Net Income (Rp./ha)
Paddy	4.0	97,000	388,000	67,925	320,075
Maize	0.7	100,000	60,000	18,400	41,600
Cassava	3.9	40,000	156,000	19,050	136,950
Sweet Potato	2.8	35,000	98,000	24,350	73,650
Groundnut	0.6	445,000	267,000	50,300	216,700
Soybean	0.4	300,000	120,000	26,800	93,200
Sugar Cane	90.0	28,000	2,520,000	499,000	2,021,000

(3) Kab. Klaten

Kind of Crop	Unit Yield (ton/ha)	Unit Price (Rp./ton)	Gross Returns (Rp./ha)	Production Expenses (Rp./ha)	Net Income (Rp./ha)
Paddy	3.9	97,000	378,300	67,925	310,375
Maize	0.7	100,000	70,000	18,400	51,600
Cassava	3.7	40,000	148,000	19,050	128,950
Sweet Potato	2.9	35,000	101,500	24,350	77,150
Groundnut	0.6	445,000	267,000	50,300	216,700
Soybean	0.4	300,000	120,000	26,800	93,200
Sugar Cane	90,0	28,000	2,520,000	499,000	2,021,000

Table 36 Total Crop Revenue Table by Kabupaten

(1) Magelang (5 Kecamatan)

Crop	Harvested area (ha)	Net income (Rp./ha)	Total return (Rp.)
Paddy	12,825	242,475	3,109,741,875
Maize	1,634	51,600	84,314,400
Cassava	1,025	108,950	111,673,750
Sweet Potato	1,185	77,150	91,422,750
Ground Nut	521	216,700	112,900,700
Soybean	26	123,156	3,202,056
Sugar Cane	-	-	-
Total	-	-	3,513,255,531

Area of farmland : 13,483 ha

Net income per ha: 260,569 Rp./ha

(2) Sleman

Crop	Harvested area (ha)	Net income (Rp./ha)	Total return (Rp.)
Paddy	51,002	320,075	16,324,465,150
Maize	2,899	41,600	120,598,400
Cassava	3,620	136,950	495,759,000
Sweet Potato	1,561	73,650	114,967,650
Ground Nut	3,037	216,700	658,117,900
Soybean	1,249	93,200	116,406,800
Sugar Cane	6,734	1,010,500	6,804,707,000
Total	-	-	24,635,021,900

Area of farmland : 33,668ha

Net income per ha: 731,704Rp./ha

(3) Klaten (6 Kecamatan)

Crop	Harvested area	Net income (Rp./ha)	Total return (Rp.)
Paddy	10,114	310,375	3,139,132,750
Maize	1,997	51,600	103,045,200
Cassava	782	128,950	100,838,900
Sweet Potato	216	77,150	16,664,400
Ground Nut	1,845	216,700	399,811,500
Soybean	224	93,200	20,876,800
Sugar Cane	2,172	1,010,500	2,194,806,000
Total	-	-	5,975,175,550

Area of farmland : 10,858ha

Net income per ha: 550,300 Rp./ha

5. ASSET VALUATION

5.1 Houses

The walls of the houses in the area covered by the plan are made of bricks, wood, or bamboo. The breakdown differs by village, but over 50% of the houses have bamboo walls, and under 10% have brick walls. Table 37 gives the estimated worth of 148 houses as determined in the socio-economic survey. The median value was in the neighborhood of Rp.600,000 per house.

5.2 Yards

Yards are important not only as places for everyday activities around the home, but also in terms of production of coconuts, salak, vegetables, bananas, bamboo, and other products for home consumption and extra cash income. The standard land use pattern for yards in the area covered by the plan as determined in the survey of 19 kelurahan was 30-40% for houses, animal sheds, and other buildings, 50-65% for production of fruits, vegetables, etc., and the remaining 5-10% for other purposes.

Table 38 gives figures concerning the percentage of total cash income represented by income from yards, again as determined in the survey of 19 kelurahan. In the upstream areas of each of the rivers the dependency on income from yards is higher than elsewhere. The estimated annual income per hectare from such yards is Rp.188,500 in Type-I areas, Rp.81,600 in Type II-areas, and Rp.71,700 in Type III-areas (see Table 39).

The main assets of villagers besides their land and houses is their domestic animals. Table 40 shows the state of ownership of domestic animals in four villages in the area covered by the plan. Cattle and water buffalo are usually raised in pairs for work in the fields, and they are owned on the average by one household in six. Besides being used for plowing and levelling the fields of the households owning them, they are also rented out to other households and play a very important role in village agricultural production. Horses are also kept for transport purposes.

The average household owns 6-7 chickens, the eggs of which are an important source of cash income, selling at about Rp.40 each. The chickens are also eaten as an important source of animal protein, with some shipment to cities and other large consumer areas.

Not all areas raise hogs because of the religious implications. In fact, only one of the four villages surveyed raised them.

As for means of transportation, bicycles are quite common, but there are still few motorcycles or automobiles (see Table 41). Table 42 gives figures on ownership of farm tools and implements.

Table 43 gives the results of a door-to-door survey of the value of assets in the 19 kelurahan involving 144 respondents. The median worth of household assets was estimated at about Rp.400,000.

Table 37 Non-Agricultural Income

% of Non-Agricultural Income	~10	11~20	21~30	31~40	41~50	51~60	61~70	71~	TOTAL
No. of kelurahans	2	4	6	4	1	-	2	-	19

Table 38 Value of Houses

Rp.	No. of Buildings	%
~ 200,000	31	21
210,000 ~ 400,000	19	13
410,000 ~ 600,000	26	18
610,000 ~ 800,000	19	13
810,000 ~ 1,000,000	20	14
1,010,000 ~ 1,200,000	2	1
1,210,000 ~ 1,400,000	2	1
1,410,000 ~ 1,600,000	8	5
1,610,000 ~ 1,800,000	2	1
1,810,000 ~ 2,000,000	6	4
2,010,000 ~	13	9 °
Total	148	100

Table 39 Percentage Cash Income from Yards

Area Type	Location	Kelurahan No.	Yard Income (%)
Type I	Upper Stream	1	30%
		2	50
		3	30
	Middle Stream	4	15
		5	10
		6	25
Down Stream	7	20	
	8	30	
Type II	Upper Stream	9	35
		10	50
	Middle Stream	11	30
		12	30
		13	10
	Down Stream	14	25
15		30	
16		25	
Type III	Middle Stream	17	25
		18	5
		19	25

Table 40 Yard Income per Hectar by Area Type

	Type-I (7 Kelurahan)	Type-II (6 Kelurahan)	Type-III (3 Kelurahan)
Area of Yard (ha)	652.0	514.4	529.3
Income (Rp.)	122,890,400	41,969,400	37,966,100
Income per Hectar (Rp./ha)	188,500	81,600	71,700

Table 41 Ownerships of Domestic Animals in Villages

Village Animal	Salam	Merdikojejo	Sukorini	Muruh
Oxen	2	131	331	122
Buffaloes	122	320	-	21
Goats	400	838	265	160
Horses	2	5	3	-
Pigs	-	-	-	41
Chickens	10,480	6,002	2,331	3,000
Ducks	2,098	452	875	260
No. of House-holds	1,074	1,111	540	499

Table 42 Household Assets in Villages

Item	Village		
	Salam	Sukorini	Muruh
Radio	500	49	111
TV	31	5	4
Bicycle	1,098	100	300
Motorbike	80	29	14
Horse Cart	-	2	3
Automobile	23	-	
No. of Households	1,074	540	499

Table 43 Ownership of Farm Tools and Instruments

Area Type			Broad Hoe	Plough	Harrow	Sickle	Others
1	A (50)	Number of answers %	45 90.0	17 34.0	14 28.0	45 90.0	8 16.0
	B (67)	Number of answers %	48 71.6	18 26.9	16 23.9	48 71.6	3 4.5
	C (31)	Number of answers %	29 93.5	13 41.9	7 22.6	26 83.9	1 3.2
2	A (48)	Number of answers %	38 79.2	22 45.8	16 33.3	35 72.9	9 18.8
	B (102)	Number of answers %	90 88.2	54 52.9	42 41.2	90 88.2	5 4.9
	C (50)	Number of answers %	40 80.0	20 40.0	16 32.0	39 78.0	0 0
3	(102)	Number of answers %	86 84.3	61 59.8	53 52.0	86 84.3	9 8.8
Total	(450)	Number of answers %	376 83.6	205 45.6	164 36.4	369 82.0	35 7.8

(Note) A: Upper-stream B: Middle-stream C: Down-stream

Table 44 Total Household Asset Value, Survey Results

Assets Value	No. of Households	%
~ 100,000	44	31
110,000 ~ 200,000	14	10
210,000 ~ 300,000	9	6
310,000 ~ 400,000	7	5
410,000 ~ 500,000	16	11
510,000 ~ 600,000	2	1
610,000 ~ 700,000	2	1
710,000 ~ 800,000	12	8
810,000 ~ 900,000	2	1
910,000 ~ 1,000,000	13	9
1,010,000 ~ 1,500,000	6	4
1,510,000 ~ 2,000,000	4	3
2,010,000 ~	13	9
Total	144	100

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