	· · · · · · · · · · · · · · · · · · ·	·	(Unit: %)
Kab. Kec. Desa	Land Owner	Land Owner cum Tenant	Tenant
Kab. Sidrap			
Kec. Dua Pitue			
Tanru Tedong Bilà	50.4 63.0	23.2 21.4	26.4 15.6
Kab. Wajo	· · · · · ·		
Kec. Tanasitolo			
Nepo	37.0	21.8	41.2
Tancung Lowa	32.4 53.8	32.9 17.3	34.7 28.9
Kec. Maniangpajo			
Anabanua	33.6	39.6	26.8
Kalola	42.9	22.6	34.5
Kec. Belawa			
Wele	45.8	30.5	23.7
Belawa	48.8	28.3	22.9
Average	48.1	26.1	25.8
		·····	

Table 2.23 Land Tenure Condition in the Study Area

Source: Census and Statistics offices and IPEDA offices, Kab. Sidrap and Wajo

Kec. and Desa offices in the Study Area

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Table 2.24Land Holding Size Distributionin the Study Area

· · · ·				(U	hit: No	os. of	farm)
Kab. Kec. Desa	.	Lan	i Holding	Size (ha	3)		Total
	0-0.5	0.5-1.0	1.0-1.5 1	.5-2.0	2.0-5.0	5.0-	lotal
Kab. Sidrap							
Kec. Dua Pitue							
Tanzu Tedong	875	378	330	39	21	-15	1,658
Bila	484	234	170	140	20		1,076
Kab. Wajo					•	· · ·	
Kec. Tanasitolo					•		
Nepo	249	134	118	119	86	16	722
Tancung	392	335	227	116	30	39	1,139
Lowa	335	188	134	40	23	8	728
Kec. Maniangpajo	• •				· · ·	·. ·	· ·
Anabanua	308	221	133	77	83	12	834
Kalola	-	10	111	235	. 11	7	374
Kec. Belawa	4	· · ·			<u>.</u>		
Wele	244	498	59	32	27	14	874
Belawa	701	316	76	40	33	23	
Total	3,588	2,314	1,358	847	334	153	8,594
8	41.7		15.8	9,9	3.9	1.8	100

Source: Census and Statistics offices and IPEDA offices, Kab. Sidrap and Wajo

Kec. and Desa offices in the Study Area

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		-	Tarin Land		Total	Average	PSUS ETS	Der Househoud
Xab. Kec. Desa	Area	Paddy	Upland/ Orchard rield	Total	Rousehold	Field	Orchard Tield	Total
					(Nos.)		•.	
VAN SIATAN		· ·		· · · · ·			۰.	
			•			•		
Kec. Due Pitue		:	· .				0.00	1.32
Tanku Tadong	3,500	2,610	190	2,400				ŗ
BLLA	10,200	3,070	480	3,550	1,570	1.95	00	
				•				•
A. M. MARA		- - - -				.'	•	
NAD. WAY	•					•		-
Xec. Tananitolo						1		
	2.800	290	200	490	1,153	0.25	110	
A CAN			410 4	1.200	1.638	0.38	0.35	0-73
Tancung	1,300	Are .					54 0	2,05
LOWA	4,800	1,660	320	1.980	362			
Kac Maniandra 10		-					-	1
	5 400	2.260	230	2,490	1,070	2.11	12.0	2-32
POUR DEV	20010				537	3.59	0.61	48
Kalola	7,700	1,930	N ¹ ¹ ¹					
Koc. Relava						0 r		1.93
	3.400	1,020	160	2,040	1.076	0/11		
	001.6	095	380	940	1,449	0.39	0.26	0.65
	22512						. 3C V	3
Total /Auntage	44,400	14,910	2,860	17,770	11.582	1-2A	C***D.	

Sources Agriculture offices, census and statistics offices in Rab. Siding and Wajo besa offices in and around the study area.

Remark: The figures include the data in and around the study area.

Table 2.25 Average Farm Size in the Study Area

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	Hable 2.26	Results of	Farm Eco		Results of Farm Economy Survey on the Living Expenses of	iving Ex		Farmer (Unit	<mark>r</mark> (Unit: R <u>p./Yeer/Faxmer</u>)	c/Farmer)
Kab. Kec. Desa	No. of Sampling Farmers	Average Family Size	Food	clothing	Residence	Luxury	Education	Social	Others	Total
	(NO8.)	(Persons)								
Xab. Sidrap	 							· · ·		
Kec. Dua Pitue										022 200
Tanru Tedong	••••	6.6	226,250	38,730	53,400	13,450	18,750	33,840	23,240	000, 104
811a	Ś	5.7	157,480	22,360	11,360	6,830	14,120	14,590	8,650	235,390
Kab. Wajo										
Kec. Tanasítolo					•					•
Neroo	• • •	5.0	240,110	52,180	42,940	38,790	10,620	43,870	33.240	461,750
Tencing	•••	4. 8	160, 780	23,210	24,050	15,380	8,670	32,430	15,090	279,610
LOUA	2 20	5.0	185,850	25,700	46,810	13,020	12,320	56,320	11,970	351,990
Xec. Manianapajo			-		:	:			· ·	
Anabanua		5.4	234,150	38.010	26,290	39,230	15,370	22,240	29,120	404.410
Xalola	m	6.0	249,930	21,880	59,320	49,600	19,940	57,,380	28,190	486,240
Xoc. Delava			. *							
841e	.	5.0	167.070	35,640	23,090	30,500	10,550	7,980	10,270	285,100
Belava	ß	5.0	174,380	40,150	39,550	24,780	12,860	8.470	13,450	313,640
Average	(46)	5+5	199,560	33,100	36.310	25*730 7_2	13,690	30,790 8.6	19,240 5.4	358,420 100.0

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Table 2.27 Farm Budget of Average Size Parmer under Present Condition

Total Farm Land:	1.54 ha
Paddy Field :	1.29 ha
Up-land Field:	0.25 ha
Family Size :	5.5 persons

	Description	Amount
1.	Gross Income	
:	Parm income	
	Wet season paddy	264,860
	Dry season paddy	16,480
	Polowijo crops	57,090
	Up-land crops	41,910
	Non-farm income	47,390
	Sub-total	427,730
2.	Gross Out-go	
	Farming expenses	
	Wet season paddy	45,150
	Dry season paddy	2,29(
	Polowijo crops	8,090
	Up-land crops	5,890
	IPEDA tax, others	7,370
	Sub-total	68,791
3.	Net Income	
	(1 - 2)	358,94
4.	Family Living Expenses	
	Food	199,56
	Clothing	33,10
	Residence	36,31
	Luxury	25,73
	Education	13,69
	Social	30,79
	Others	19,24
	Sub-total	358,42
- ;-	Net Reserve (3 - 4)	52

Remark: Family living expenses is estimated based upon the farm economy survey and shown in Table 2.26.

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Table 3.1 Present Condition of Agricultural Support Service in the Study Area (1980)

					Wear-	Rice	
Kab. Kec. Desa	ATUD ODETITA	any /anna	Member	YSOTY	house	mill	
Xab. Sidrap							
Xcc. Dua Pitue		·			:		
Tanru Tedong	Tanru Tedong I Tanru Tedong II Tanru Tedong III	Amana	403		r.f.	- H	
Bùla	Búla I Búla II Búla III	Matutu	105	.	et 1	н	
<u>Kab. Wajo</u> Kec. Tanasitolo							
Nepo Tancung Lowa	Nepo Tancung Lowa	Latenritata Iowa	120 306	J 1 -	N H	ਜ ਜ	
Kec. Maniangpajo							
Anabanua Kalola	Anabanua I Anabanua II Kalola III	Arabanua	626	-+	N	Ň	
Kec. Belawa			:		· ·.		
Wele Polawa	Wele Belawa	Belawa II Belawa I	285 320	ศศ	ыч	<u>м</u> Ч	
Total	74	6	2,165	Ŝ	0 T	G	13

Source: Cooperative offices and Agriculture offices, Kab. Sidrap and Wajo. Remark: The figures include the data in and around the study area.

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Arca
Study
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3.2 Area under BIMAS and INMAS Program in the Study Area
INMAS
pur
BIMAS
undor
Arca
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Table

Source : BRI branch offices, Kab. Sidrap and Wajo

Remarks: 1) +; No data are available. 2) The figures include the data in and around the study area.

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Table 3.3 Amount of BIMAS Package Credit per Ha (Paddy, 1981/1982)

			CACOGO	H .					CATEGOLY	1		
1961/1982	Amount Valu	Value	PACKAGE B Amount Vali	Value	Amount Val	ra C Value	Amount Va.	ge A Value	Amount Va.	e B Value	Amount Val	Value
1. Seed	a - 1	\$,000	•	•	3	5,000		5,000		ļ	• 1 •	5,000
2. Tertilizere		 	* .		•							
Urea	200 XG	14,000	100 Kg	-000-	250 kg	17,500	130-kg	9,100	65 kg	4,550	160 kg	11,200
T.S.P.2	SO kg	3,500	35 Xq	2,450	75 kg	5,250	So∞kg	3,500	35 kg	2,450	75 kg	5,250
D.N.P.2		•	1			4	150° kg	9,750	75 kg	4,875	185 kg	12,025
<u>کمح</u> ہ/دعہ	So kq	3,500	50 kg	3,500	50 kg	3,500	SO XG	3,500	50 XG	3,500	SO Xg	3,500
3. Agro-chemicals		•				•				* . . *		
Insecticide	2 11t 2,460	2,460	2 1 1 t	2,460	2 114	2,460	2 145	2,460	2 115	2,460	2 115	2,460
Rodenticide	0.2 kg 1,000	1,000	0.2 Kg	1,000	0.2 %9	1,000	0.2 XG	1,000	0.2 kg	1,000	0.2 Xg	1,000
Sprayer	١	2,000	•	2,000	•	2,000		2,000	ŧ	2,000	•	2,000
5. Other Expenses	1	10,000	•	10,000	2	10,000	¥	10,000	· · ·	10,000		10,000
Total	•	41,460		28,410		46,7IO		46,310		30,835	1	52,435

Source ! Report of Intensification Programme of Paddy, Polowije, and Vegetable, 1981/1982, 1981, South Sulawesi Province.

B.P.P. in Kab. Sidrap and Wajo, 1981.

Remarks: /1, T.S.P., Triple super phosphate /2, D.A.P., Diamonium phosphate /3; Xcl. Porassium chloride

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Table 3.4 Amount of BIMAS Package Credit per Ha (Polewijo Crops, 1981/1982)

(Unit: Rp.) 2,460 Value 15,000 5,250 1,000 4,000 34,710 7,000 1 ۱ Sovbeans 2 1it 75 kg 100 Kg Amount I 1 I 1 I 2,460 1,000 Value 8,000 7,000 4,000 7,000 29,460 8 \$ Greenbeans 2.114 Amount 100 kg 100 kg . ı ı ļ 7,000 7,000 2,460 1,000 4,000 Value 35,000 1 ţ Groundnuts Amount Val 2 Lit 100 kg 100 kg \$: ſ I 7,000 4,000 3,250 17,500 2,460 Value I ſ MA120 2 lit Amount 250 kg 100 Kg I 8 ŧ Other Expenses Insecticide Rodenticido Pungicide Fertilizors Chemicala 1981/1981 T.S. T. Sprayor UXCA 1. 5000 2 4. ~

Report of Intensification Programme of Paddy, Polowije, and Vesetable, 1981/1982, 1981, South Sulawest Province. Source:

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56,460

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32,365

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Total

H.P.P. in Kab. Sidrap and Wajo, 1981.

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Table 5.1

1.Plantcd Area (ha) lst Wet season paddy ist Dry season paddy 2.00 1.00 2.00 1.00 1.st Wet season paddy 2nd Wet season paddy 2nd Dry season paddy 1st Polowijo crops 2nd Polowijo crops 1.00 $1.000.0$ 1.00 $1.000.0$ 2.Cross Production Value Dry season paddy 2000.0 $1.000.0$ $1.000.0$ $1.000.0$ $1.000.0$ 2.Cross Production Value $1.000.0$ $2.000.0$ $1.000.0$ $1.000.0$ $1.000.0$ 3.Eroduction Cost 2 294.5 294.5 599.2 294.5 304.7		2.50	3.00
Ist Wet season paddy1.00Ist Dry season paddy1.00Ist Dry season paddy1.002nd Wet season paddy-2nd Polowijo crops-2nd Polowijo crops-2nd Polowijo crops-2nd Polowijo crops-2nd Polowijo crops-2nd Polowijo crops1,000.01,000.01,000.0Production Value1,000.01,000.01,000.0Production Cost294.5Polowijo crops294.7Polowijo crops204.7		0-50	о
1st Dry season paddy1.002nd Wet season paddy-2nd Dry season paddy-1st Polowijo crops-2nd Polowijo crops-2nd Polowijo crops-2nd Polowijo crops-2nd Polowijo crops-2nd Polowijo crops1,000.02nd Polowijo crops1,000.02nd Polowijo crops1,000.0Polowijo crops294.2Polowijo crops204.7Polowijo crops-			•
2nd Wet season paddy 2nd Dry season paddy 1st Polowijo crops 2nd Polowijo crops 2nd Polowijo crops Wet season paddy Polowijo crops Production Cost ² 899.2 7000.0 294.5 294.5 294.7 Polowijo crops		000	1.00
2nd Dry season paddy 1st Polowijo crops 2nd Polowijo crops 2nd Polowijo crops Gross Production Value Wet season paddy Polowijo crops Production Cost Production Cost 299.2 294.5 294.5 294.7 Polowijo crops	0.50	0-50	I
lst Polowijo crops 2nd Polowijo crops 2nd Polowijo crops Wet season paddy Production Value/1 Polowijo crops Production Cost/2 Wet season paddy 299.2 294.5 294.7 Polowijo crops Polowijo crops	0-50	2	I
2nd Polowijo crops 2.000.0 Wet season paddy Polowijo crops Production Cost Wet season paddy Dry season paddy 2.4.7 2.000.0 1.000.0 1.000.0 2.995.2 294.5 294.7 Polowijo crops	0.50	0.50	1-00
Cross Production Value ¹ Wet season paddy Dry season paddy Polownjo crops Production Cost ² Wet season paddy Dry season paddy Polownio crops	J.,	0.50	ı
Wet season paddy Dry season paddy Polownjo crops <u>Production Cost</u> Wet season paddy Dry season paddy Polownjo crops	2,165.0	1,830.0	2,330-0
Dry season paddy Polowijo crops <u>Production Cost</u> Wet season paddy Dry season paddy Polowijo crops	:	1,000 0	1,000.(
Pelowijo crops Production Cost ² Wet season paddy Dry season paddy Polowijo crops	1,000.0	500.0	1,000.0
Production Cost ² Wet season paddy Dry season paddy Polowijo crops	165.0	330.0	330-0
Polouito crops Polowijo crops	682.2	612-7	765.1
304.7	294.5	294.5	294.5
	304.7	152.3	304.7
	83.0	165.9	165.9
त्वे	1,482.8	1,217.3	1,565.9
Wet season paddy 705.5 705.5	705.5	705.5	705-5
	695.3	347.7	695-3
	82.0	164.1	164-1

Tables 5.11, 5.12 and 5.13, to be referred.

<u>[</u>2]

Table 5.2 Calculation of Available Labour Force under the Project

Total Paddy <u>/</u> Fields <u>/</u>	Irrigated Paddy Ficlds under the Project	Remaining Rainfed Paddy Ficlds	unte Average Labour Reguire- ment for Rainfed Paddy Fields/2	Total Labour Requirement for Rainfed Paddy Ficlds	Total Available Labour Force/3	Unit AVALLANCE Labour Force gated Paddy Field the Project
(1)	(2)	(3) = (1) - (2)	(4)	$(5) = (3) \times (4)$	· · · (9). · · ·	(7) = [(6) - (5)]/(2)
(ba)	(घर)	(vy)	(man/ha/day)		(man/ha/day)	(web/cd/nem)
13,700	5,000	8,700	1.12	9,740	23,500	2-75
13,700	6,000	7,700	1.12	8,620	23,500	2,48
13,700	7,000	6,700	1.12	7,500	23,500	2.28
13.700	8,000	5,700	1.12	6,380	23,500	2-14
13,700	000,6	4,700	1.12	5,260	23,500	2.02
13,700	10,000	3,700	1.12	4,140	23,500	1.93

see Table 2.4 Ĵ Remarks:

- Estimated on the basis of farm economy survey. The labour requirement for domestic purposes are included. : []
 - Total available labour force = (a) x (b) x (c)/100 Ü
 - (a) Total farm household⁽¹ : 11,582
 - (b) Average family size⁽¹: 5.5
- 26.1 × 0.75/5 19.4 × 0.9 Male 4: Female 4: Total (c) Percentage of available labour force (15 - 49 years old)

<u> 19.5</u> 36.9 E 17.4

- See Table 2.3 হা
- Adult men equivalent হা

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Table 5.3 Farm Inputs and Labour Requirements per Ha under Proposed Farming Practices for Paddy Cultivation

	Farm O	Farm Operation	0079 01644 1740781 -		Farm Inputs	its.	Habour Raguirement Wet Season Dry Sea	Dry Season
· [·			planting	Lng.			Paddy	racoy
Zh	ursery J	Nursery proparation ¹¹ (seeding, raising of seediing)	•		Seed Urea	30 kg 5 kg	4.3	4.5
5 .	Hold Pret	Field preparation (plowing)	100	Ċ			21.3	12.8
₩.~	fold pri	Field preparation (harrowing/puddiing)	•	4 d	Urea T.S.P.	65 XQ 50 XQ	13.6	15.0
ं स 	let fertilizer	Litzer application	F	×	XC1	50 kg	2.5	2.5
. स २	Transplanting 2			0			25.7	25.7
н	lst weeding	ing	아라 +	~		· .	4.5	5.8
્સ	2nd fertilizer	ilizer application	о г .+		Urea	65 kg	् भ म	5.7
	at chem	lst chemical application	•		Insecticide	1 116.	1.3	1.3
<u>N</u>	2nd weeding	bu	97 + 1	~	•		4.5	5.8
ci,	3rd weeding	bu	+ 25	·			3.1	4.1
- C	nd chem	2nd chemical application	+ 25		Insecticide	1 114.	5 · H	1.4
12.	Jrd fertilizer	ilizer application	÷.30		Urea	65 kg	1.5	1+2 1
	rd chem	ird chemical application	4 4		rungicide	1 110	1.3	м т
4	ch chem	4th chemical application	+ 40		Insecticide Rodenticide	1 11t. 100 gr	80 • • •	8
2	15. Harvesting	Ţ	+			:	22.9	22.9
E	Threeing	· · · · · · · · · · · · · · · · · · ·					18-2	18-2
<u> </u>	17. Drying			۰.		•	5.6	5-6
18.	Transportation	acton					12.8	12.8
3	ater mai	19. Water management					5.0	5.0
L H	Total						142.7	149.4
Remarksı	ିପ	Area of nursery bed: 1/20	1/20 of puddy field	1 <u>2</u> 7 p1	Planting density: Planting depth	63	30 cm x 15 cm, 3 seedl 3 cm from the surface	3 seedling/hill surface

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	Description	W/O Project	W/Project	Increment
1.	Total Paddy Field (ha) $\frac{1}{2}$	10,300	9,800	- 500
2.	Planted/Harvested Area (ha) $\frac{/2}{}$	12,800	19,600	6,800
	Wet season paddy	9,490	9,800	310
	Dry season paddy	590	9,800	9,210
•	Polowijo crops	2,720	~	- 2,720
3.	Unit Yield (tons/ha)			
	Wet season paddy	2.97	5.00	2.03
:	Dry season paddy	2.84	5.00	2.16
	Polowijo crops	0.73	-	
4.	Production (tons)	29,870	98,000	68,130
	Wet season paddy 13	28,190	49,000	20,810
	Dry season paddy $\frac{1}{3}$	1,680	49,000	47,320
	Polowijo crops	(1,990)	(-)	(- 1,990

Table 5.4 Annual Incremental Production of Paddy and Polowijo Crops under with and without Project

- Remarks: <u>/1</u>; The difference between with and without project conditions means losses of farmland for project facilities, i.e., the areas of the existing paddy fields which will become unproductive owing to the construction of the project facilities.
 - /2: The planted/harvested areas under without project condition area determined by applying the rate of the present drought damage area to the total paddy field area.

/3: Dried paddy

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Table 5.5 Projected Financial Prices of Paddy and Polowijo Crops

Paddy					(Unit:	Rp./Kg)
Year	Wajo	Milled Ric		13- 4 ×	Dried Padd	
	najo	Sidrap	Sul-Sel	Wajo	Sidrap	Sul-Sel
1975	90.16	77.18	93.95	61.31	52.48	63.89
1976	107.15	95.79	112.54	72.86	65.14	76.53
1977	105.73	98.27	115.25	71.90	66.82	78.37
1978	130.33	117.67	128.88	88.62	80.02	87.64
1979	139.48	144.96	164.50	94.85	98.57	111.86
1980	179.69	173.00	207.77	122.19	117.64	141.28
1. Projected						
Retail Price	182.35	182.41	211.01	124.00	124.04	143.48
2. Farm Gate Price (1 x 0.75) <u>/1</u>	136.76	136.81	158.26	93.00	93.03	107.61

Paddy

Polowijo Crops/1

(Unit: Rp./Kq)

· · · · · · · · · · · · · · · · · · ·				are: why w
Year	Maize	Groundnuts	Greenbeans	Soybeans
1975	47.45	182.25	165.80	138.61
1976	69.24	230.63	233.23	174.50
1977	47.11	239.88	209.82	145.88
1978	46.79	254.38	200.21	· · · · ·
1979	76.26	412.23	355.38	225.00
1980	87.53	537.50	289.27	-
1981				
l. Projected Retail Price	88.89	591.79	350.06	263.71
2. Farm Gate Price (1 x 0.75)/2	66.67	443.84	262.55	197.78

Source : Statistik Harga Hasil Pertanian Taraman Pangan, 1981.

Remarks: 11: The average price in Kab. Wajo and Sidrap.

 $\frac{12}{12}$; The ratio of retail price and farm gate price is obtained through farm economy survey.

· · · · · · · · · · · · · · · · · · ·		(Unit: Rp./Kg, lit)
Descriptio	n	Prices
, Farm Products		
Dried paddy		93
Maize		67
Groundnuts		444
Greenbeans		263
Soybeans		198
. Parm Inputs		
Seed	Paddy	160
	Maize	95
	Groundnuts	450
	Greenbeans	320
	Soyleans	309
Fertilizers	Urea	75
	T.S.P.	75
	XC1	75
Agro-chemicals	Insecticide	1,310
	Fungicide	1,310
	Rodenticide	4,260
Labour	Reavy worker	1,070
	Light worker	800
	Female worker	530

Table 5.6Pinancial Prices of Farm Products
and Parm Inputs at Parm Gate
(as of 1981)

Remark: Financial prices in 1981 are estimated by applying 6.61 per annum as the price escalation index to present prices in 1980 (refer to Tables 2.17 and

5.5.).

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-+			Unit:	Rp./K	9, lit)
	Description		· .	·	Price
l.	Farm Products				
	Dried paddy				200
	Maize				113
	Groundnuts				357
	Greenbeans				340
	Soybeans				286
2.	Farm Inputs				
	Seed	Paddy			300
		Maize			140
		Groundnuts			380
		Soybeans			320
	Fertilizers	Urea			260
		Т. S.P.			220
		KC1			100
	Agro-cheaicals	Insecticide	÷.		6,500
		Fungicide			6,500
		Rodenticide			2,300
	Labour	Heavy worker			1,300
		Light worker			1,000
		Female worker			660

Table 5.7Economic Prices of Farm Products and
Farm Inputs at Farm Cate (1990)

Source: Calculated from the data given in "Price Prospects for Major Primary Commodities", IBRD, June 1981.

Remark: Labour value increase is assumed by annual increase rate of 2.5% considering the regional socio-economic development in future.

Table 5.8 Calculation of 1990 Economic Farm Gate Price of Paddy(Import Substitution Price)

.

		(Unit: Rp./t
	International Market Price of Milled Rice (P.O.B. Bangkok, Thai 5% broken), US\$613	383,125
2.	Quality Discount at 20%	306,500
3.	External Transportation Cost (Bangkok - Ujung Pandang)	+ 23,400
4.	Port Handling Charge and Storing Cost (including Cost of sack)	+ 14,260
5.	Price of Milled Rice at Ex-DOLOG (Ujung Pandang)	344,160
6.	Inland Transportation Cost (Ujung Pandang - Sengkang)	- 17,500
7.	Milling Charge	- 9,609
8.	Local Storage Loss (5%)	- 16,900
9.	Price of Milled Rice at Ex-mill Gate (Sengkang)	300,160
10.	Conversion to Price of Dry Paddy (x 0.68)	204,100
11.	Handling and Transportation Cost (farm gate to mill)	- 3,900
12.	Economic Farm Gate Price of Dried Paddy	209,200
•		(= 200,000)

Source: Price Prospects for Major Primary Commodities, IEED, 1981 (US\$613, Projected price to 1990 at 1981 constant price)

Remark: All the data for 1981 were obtained from DOLOG, Sulawesi Selatan and were projected to 1990 by using the general price index in Sulawesi Selatan. (Conversion rate; US\$1 = Pp.625)

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2.1	2
Calculation of 1990 Economic Farm Gate Price	of Polowijo Crops (Import substitution price)
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1								(Unit:	(Unit: Np./ton)
	Description	MA	Maire	Groundnuts	anute	Gree	Greenbeans	Soybeans	eans
4	International Market Prices.	US\$162	101,250	195\$SA	350,625	05\$532	332,500	US\$441	275,625
ei -	External Transportation Cost (to Ujung Pandang)		+ 25,600		+ 25,600		+ 25,600		+ 25,600
ň	3. Port Mandling Charge and Storing Cost		+ 11,700		+ 11,700		+ 11,700		+ 11,700
4	4. Market Prices at Ujung Pandang		138,550	. : -	387,925		369,800	•	312,925
s.	5. Intend Transportation Cost (Ujung Pandang - Sengkang)		- 8,000		- 8,000		8,000		- 8,000
\$	Marketing Cost. Sengkang		- 17,100		- 22,900		- 22,000	•	- 19,150
1	Iconomic Tarm Cate Prices	•	113,450		357,025		339,800	·	285,775
	Source: Price Prospects for Major Primary Commodities, 188D, 1981	ry Commodities.	IBRD, 1981						

(1990 Projection in 1981 constant price)

Remark: All the data for 1981 were obtained from DOLDG, Sulawesi Selatan and were projected to 1990 by using the general price index in Sulawesi Selatan-

 Δt Conversion rate USS1 = RP_1625 Δt Including cost of marketing, storing, handling and transportation from farm.

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		(Unit: Rp./ton)
	Description	Price
1. '	Fertilizer	
· .	(1) Urea	
	Export price F.O.B. Europe US301/1$	168,125
	External transportation cost to Ujung Pandang	25,000
	Port handling charge and storing cost	12,500
	Inland distribution $cost^{1/2}$	34,300
	Economic farm gate price, Sengkang	259,925
-		(= \$p.260/kg)
:-		
	(2) <u>Triple Super Phosphate</u>	
	Export price F.O.B. Gulf US\$245/1	153,125
	External transportation cost to Ujung Pandang	20,625
	Fort handling charge and storing cost $/2$	12,500
	Inland distribution $\cot \frac{1}{2}$	33,790
	Econòmic farm gate price, Sengkang	219,950
		(= Fp.220/kg)
•	(3) Muriate of Potash	
	Export price F.O.B. Vancouver US\$78/1	48,750
	External transportation cost to Ujung Pandang	15,625
,	Port handling charge and storing cost	12,500
	Inland distribution $cost^{1/2}$	23,500
	Economic farm gate price, Sengkang	100,375
		(=. Pp.100/kg)
2.	Agro-chemicals	
	(1) Insecticide, Fungicide	
	Adjusted to 1981 prices	6,460,000
		(=. Fp.6,503/11
	(2) Rodenticide	
-	Mjusted to 1981 prices	2,300,000
	mjasted to mot prices	(= Fp.2,300/kg)
		1 6- 4 3 201 × 31

Table 5.10Calculation of 1990 Beconomic Parm Gate Price
of Parm Inputs (Import substitution price)

Femark: All the date were projected to 1990 by using the general price index in

Sulavesi Selatan.

/1: Conversion rate US\$1 = %p.625

/2: Including cost of storing, handling and transportation to XIOS.

Table 5.11 Production Cost of Paddy with and without Project

	Description	CIALT DELCO			Project			With P	roject	
			WOL SARON		Paddy Dry Sea	Season Paddy	Wet. Seas	Wet Season Paddy Dry	Dry Seas	Dry Season Paddy
L. Tan	Farm Input									
£	(1) Seed,	Rp. 300/X4	35 kg	10,500	35 kg	10.500	30 Xg	000.6	30 XG	000'6
8	a to the to the top	•								
		ND. 260/Kg	100 Kg	26,000	100: Xa	26,000	200- Xa	52,000	200 kg	52.00
	7. S. P		50 Xg	000'TT	•	4	SO XQ	11,000	So Xo	8.44
	XCI	Rp. 100/Xg		•	. 1	ı	50 X 05	5,000	50 XG	5,000
ଟି	Acro-chemicals									
	Insecucide	Xp. 6,500/11t	2 11t	13,000	7 774	6,500	3 1it	19,500	3 110	19,500
	Tungleide	Rp. 6,500/11t				. •	1,115	6,500	2 Prt	6,500
•	Rodenticide	Rp. 2,300/Xg	0.1 kg	230	J	•	0.1 kg	230	0.1 Xg	230
	Sub-total			60,730		43,000		103,230		103,230
Ă	Labour Cost	(Rp./day)	(a/w)		(a/w)		(a/w)		(a/x)	
3	Nursery Preparacion	1,300	4.7	6,100	4.7	6,100	4	5,590	4.S	5,800
(3)	Plowing	1,450	21.3	16,380	12.3	17,830	21.3	16,380	12.8	18,560
3	Harrowing/Puddling	1,450	13.6	19,720	14.5	21,030	13.6	19,720	15.0	21,750
÷	Transplanting	1,300	257	33,410	25.7	33,410	25.7	33,410	25.7	33,410
ତ	Weeding	1,300	6.11	15,470	14-5	18,850	12.1	15,730	15.7	20,410
(§)	Fertilizer Application	600	3.0	1,800	2.0	1,200	5-5	3,300	5.5	3,330
6	Chemical Application	1,300	3.0	3,900	2.0	2,600	5.7	7,410	5.7	7,410
(8)	Karvesting	1,000	18.0	18,000	17.0	17,000	22.9	22,900	22.9	22,900
6	Threshing	1,000	14.0	14,000	12.3	12,300	18.2	18,200	18-2	18,200
(0C)	Drying	1,000	4.0	4,000	3.6	3,600	5.6	5,600	5.6	5,600
ft	Transportation	660	9.2	6,070	9.0	5,280	12.8	8,450	12.8	8,450
(22)	Water Management	600	2.1	906	2.0	1,200	5.0	3,000	5.0	3,000
	Sub-total		119.9	139,750	118.6	140,400	142.7	159,690	149.4	168,790
Milec (Boto	Miscellaneous Cost (Equipment, tax etc.)	12% of (1 + 2)	÷	24,060		22,010		31,550		32,600

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	Project
	with Pi
	Crops
-	Production Cost of Polowijo Crops wi
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	Table

	Descripcion	Unit Prico	Mai	Malze	Groundnuce	nuce	Greenbeans	Aans	Soybeans	547
	Warm Trobit				-					:
) Seed		50 kg	000'1	. 100 kg	39,000	25 kg	9,500	40 XG	12,800
ଟି) Fertilizers Urea T.S.P.	Рр. 260/хд Нр. 220/хд	150 XG 100 XG	39,000 22,000	100 kg 100 kg	26,000	100 kg 100 kg	26,000 22,000	75 XG 100 XG	19,500
(3)) Agro-chemicals Insecticide Rodenticide	Rp. 6.500/lit Rp. 2,300/Kg	2 11t 0.1 kg	13,000	2 11C 0 1 XG	13,000 230	2 11t 0.1 Xg	13,000 230	2 1ÅF 0.1 XG	13,000
	Sub-Total			R1,230		100, 230		70, 730	·	67,530
רי בי גי	Labour Cost	(Rp./CAY)	(0/W)		(a/w)		(a/w)		(q/w)	
	(1) Land Preparation	1,300	01	13,000	10	13,000	50	13,000	70	13,000
6) Seeding	1,000	89	8,000	no L	10,000	х Т С	15,000	24	14,000
Ĉ		1,000	20	20,000	20	20,000	50	20,000	50	20,000
3		600	ų	1,800	će	1,200	Cł	1,200	à	1,200
(2)		1,300	n	3,900	ņ	3,900	r	3,900	n	3,900
(9)		660	15	006'6	00	19,800	25	16,500	25	16,500
6		660	4	2,640	ę	1,980	n	1,980	ю	1,980
(8)		600	EJ.	1,800	n	1,800	e	1,800	ň	1,300
			ઙ	61,040	T8	71,680	<u>8</u> 6	78, 380	ŝ	72,380
 문헌 	Miscellansoum Cost (Mgulphent, tax etc.)	10% of (1 + 2)		14,230		17,190		14,990		13,990
				156,500		189,100		164,100	-	153,900

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	Production	
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Description	Unit Price		Matza	Grow	Groundnuts	Green	Greenbeans	Soybeans	us.
Farm Input									
(1) Speed		20 Xg	2,800	65 kg	25,350	25 Xg	9,500	30 XG	9,600
(2) Fertilizero									
UH04	Rp. 260/kg	I	1	50 . Kg	13,000	SO XG	13,000		f ⁱ
	RD. 220/K	1	ı		1	ı	•		•
(3) Agro-chemicals Traecticide	RD. 6.500/1:	-	1 . 8	2 144	11.000	5 144		•	
Sub-total			2,800		51,350) ((35,500) t t	22,600
Labour Cost	(RD./day)	(0/W)	-	(a/w)		(a/w)	• •	(C/W)	
(1) Land Preparation	1,300	3	7.800	60	10,400	5	001-6	8	10,400
(2) Soeding	1,000	4	4,000	Ś	6,000	ю Н	10,000	Ŷ	6,000
(3) Weeding	1,000	74	14,000	20	20,000	30	20,000	8	20,000
(4) Fertilizer Application	600	•		с. Н	609	-4	609		
(5) Chemical Applification	1,300	•	•	1	5,200	4	5,200	4	5,200
(6) Karvesting/Drying	660	14	9,200	24	15,840	33	14,520	32	14,520
(7) Transportation	660	'n	1,980	n	1,980	2.5	1,650	2.5	1,650
(8) Water Management	600	ы	600	-4	600	-1	600	н	600
Sub-total		<u>(</u>)	37,580	3	60,620	67.5	61,670	59.5	58,370
Miscellaneous Cost (Equipment, tax etc.)	10* of (1 + 2)	· .	4,040	· · · · ·	11,200		9,730	· · · · · · · · · · · · · · · · · · ·	8,030
- Total (1 + 2 + 3)			44.420		123.170		106 900		

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Table 5.14 Annual Net Production Value per Ha under Future with and without Project

	Description	Without Project	With Project	Increment
1.	Planted/Harvested Area (ha)		· · · · · · · · · · · · · · · · · · ·	
	Wet season paddy	0.921	1.00	0.079
	Dry season paddy	0.057	1.00	0.943
	Polowijo crops	0.264	-	- 0.264
2.	Unit Yield (tons/ha)			
	Wet season paddy	2.97	5.00	2.03
	Dry season paddy	2.84	5.00	2.16
	Polowijo crops	0.73	_	~
3.	Unit Prices (Rp./ton)			
	Dry paddy	200,000	200,000	-
	Polowijo crops	275,000	275,000	-
4.	Unit Production Cost (Rp./ha)	:		
	Wet season paddy	224,540	294,470	69,930
	Dry season paddy	205,410	304,660	99,250
	Polowijo crops	90,870	-	~
5.	Gross Production Value (Rp./ha)	632,450	2,000,000	1,367,550
	Wet season paddy	547,070	1,000,000	452,930
	Dry season paddy	32,380	1,000,000	967,620
	Polowijo crops	53,000	-	- 53,000
6.	Production Cost (Rp./ha)	242,500	599,130	356,630
	Wet season paddy	206,800	294,470	87,670
	Dry season paddy	11,710	304,660	292,950
	Polowijo crops	23,990	-	- 23,990
7.	Net Production Value (Rp./ha)	389,950	1,400,870	1,010,920
	Net season paddy	340,270	705,530	365,260
	Dry season paddy	20,670	695,340	674,670
	Polowijo crops	29,010	-	- 29,010
8.	Annual Net Production Value			
	per Ha (Rp.)	389,950	1,400,870	<u>1,010,920</u>
		(US\$624)	(US\$2,241)	(US\$1,617)

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Table 6.1 Irrigation Benefits

	Description		Without Project	With Project	Increment
1.	Project Area	(ha)	10,900	9,800	-1,100
2.	Planted/Harvested Area	(ha)			
	Wet season paddy		9,490	9,800	310
	Dry season paddy		590	9,800	9,210
	Polowijo crops		2,720	-	-2,720
3.	Gross Production Value	(10 ⁶ Rp.)	6,518	19,600	13,082
· ·	Ket season paddy	•	5,637	9,800	4,163
	Dry season paddy		335	9,800	9,465
	Polowijo crops		546	-	-546
4.	Total Production Cost	(10 ⁶ Rp.)	2,499	5,872	3,373
4.	Wet season paddy	(20 -1-1	2,131	2,886	755
	Dry season paddy		121	2,986	2,865
	Polowijo crops	. *	247	· -	-247
5.	Net Production Value	(10 ⁶ Rp.)	4,019	13,728	9,709
٦.	Wet season paddy		3,506	6,914	3,408
	Dry season paddy		214	6,814	6,600
	Polowijo cróps	•	299		-299
6.	Production Loss Value	(10 ⁶ Rp.)	157	-	-157
••	Ket season paddy		136		-136
	Dry season paddy		8	-	-8
	Polowijo crops		13		-13
7.	Annual Incremental Benefits	(10 ⁶ Rp.)	4,176	13,728	9,552
••	Initial Andronovicos penosado		<u> </u>	·	(US\$1,560/ha

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Table 6.2	Farm Budget of Average Size Parmer
	under with and without Project

Total Farm Land:	1.54 ha
Paddy field :	1.29 ha/1
Up-land field:	0.25 ha
Family Size :	5.5 persons

Description	W/o Project	W/Project	Increment
. Gross Income			
Farm income	· ·		
Wet season paddy	328,160	521,920	
Dry season paddy	19,560	433,410	
Polovijo crops	58,850	16,880	
Up-land crops	43,200	43,200	
Non-farm income	54,980	-	
Sub-total	504,750	1,015,410	510,660
2. Gross Out-go			
Farming expenses		·	
Wet season paddy	48,150	87,490	
Dry season paddy	2,440	71,760	
Polowijo crops	8,630	2,480	
Up-land crops	6,280	6,280	
IPEDA tax, others	7,560	18,290	
Family living expenses	430,500	526,300	
Sub-total	503,560	712,600	209,04
3. Net Reserve			
(1 - 2)	1,190	302,810	301,62

Remark: /1; Out of 1.29 ha of paddy field, 0.92 ha will be put under the project area.

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THE BILA IRRIGATION PROJECT

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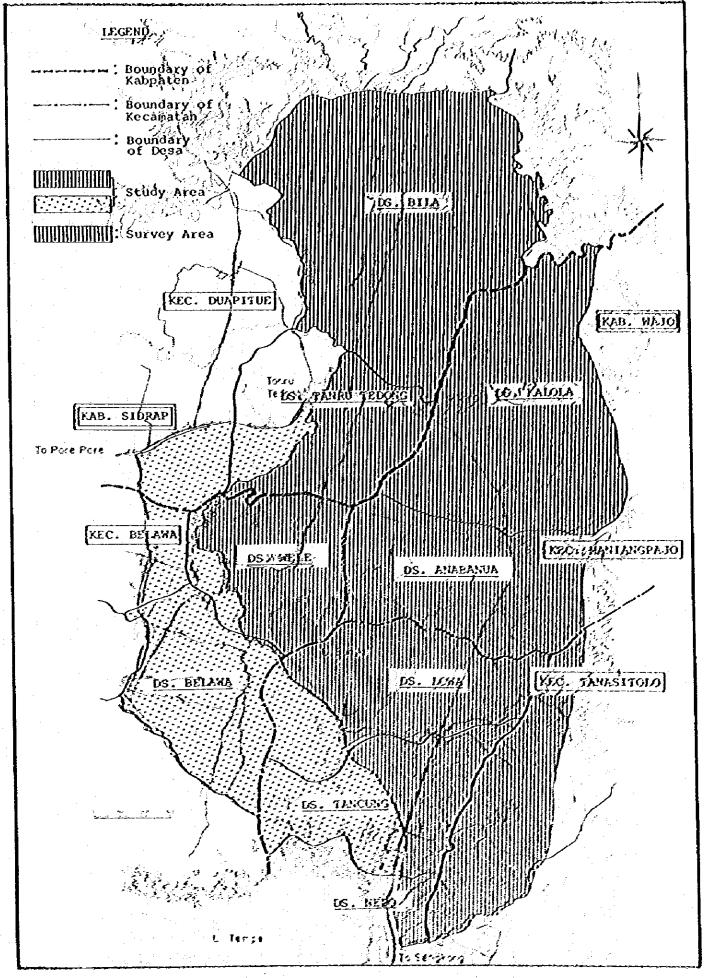


FIG. 2.1 ADMINISTRATIVE BOONDARIES IN THE STUDY APEA

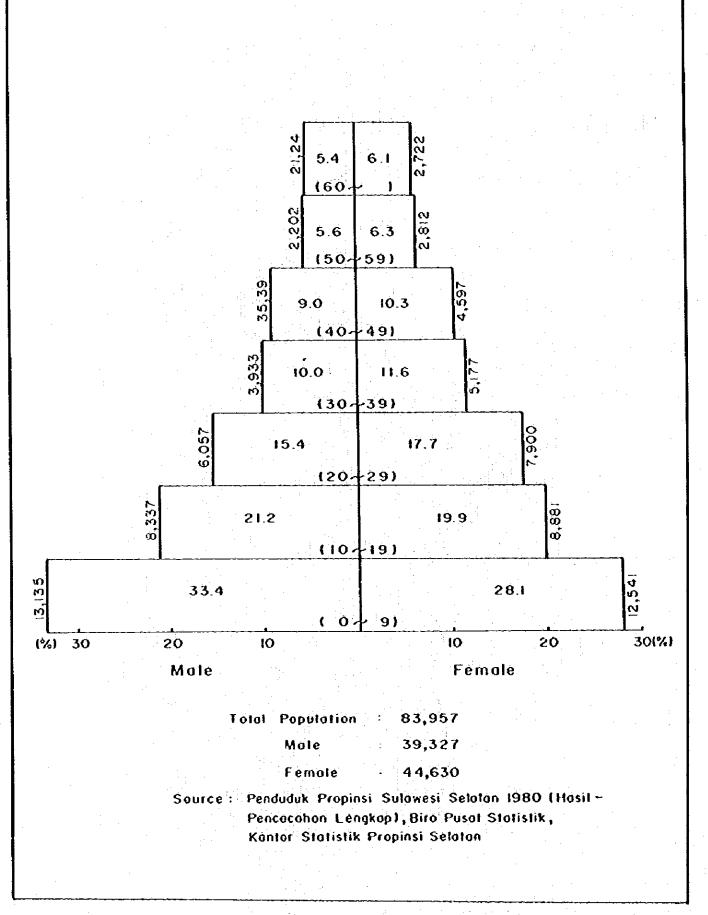
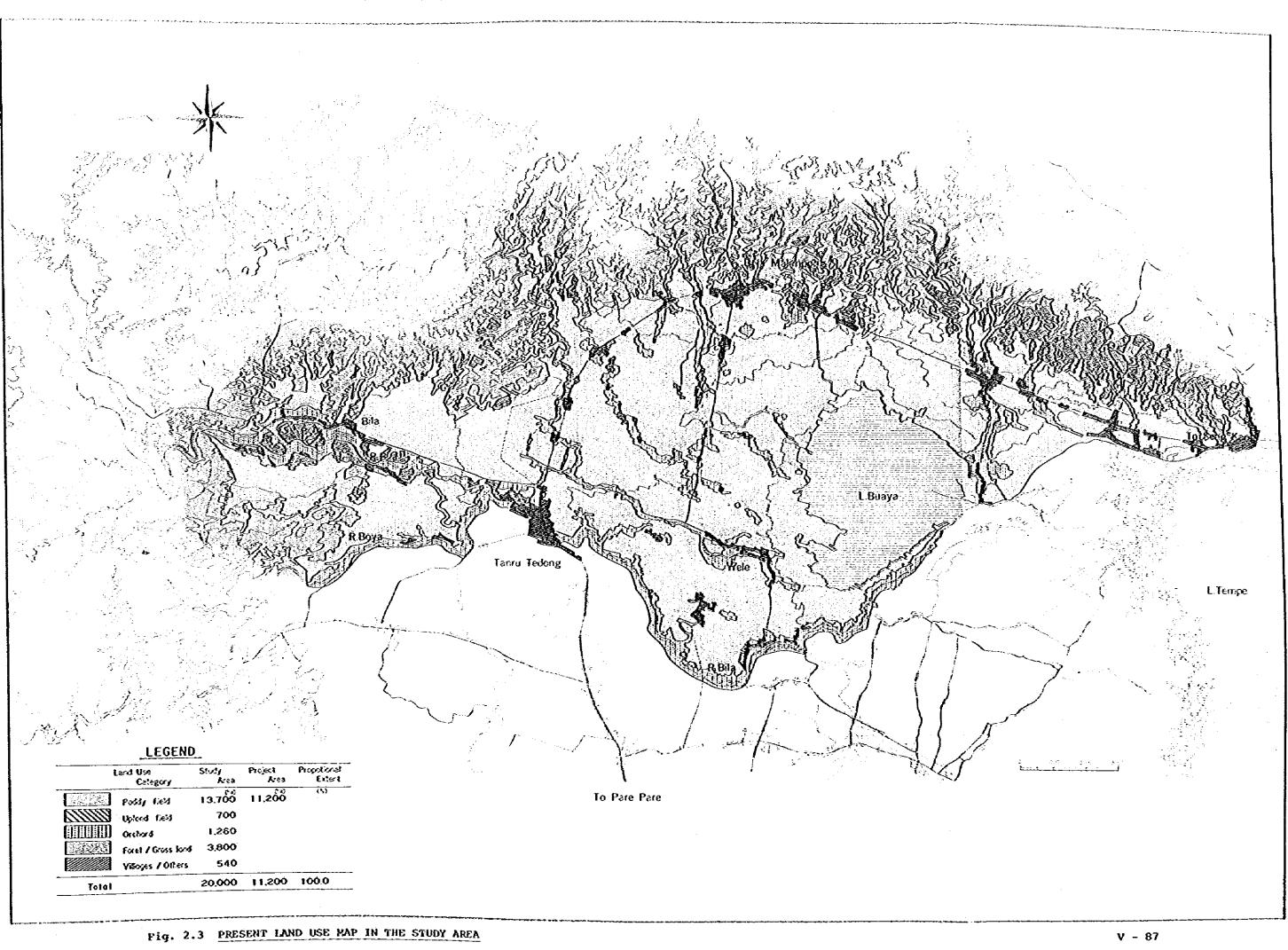


Fig. 2.2 POPULATION STRUCTURE IN THE PROJECT AREA



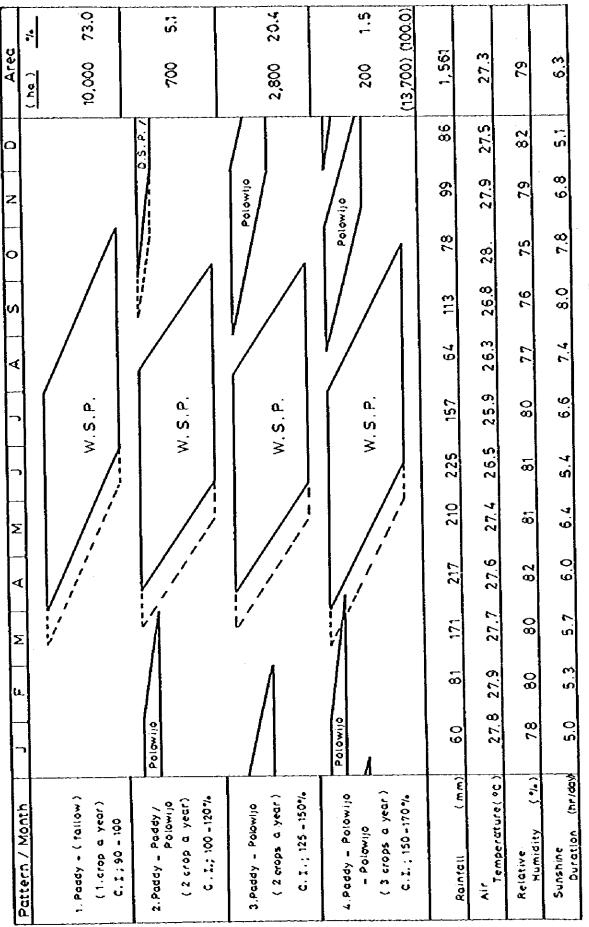
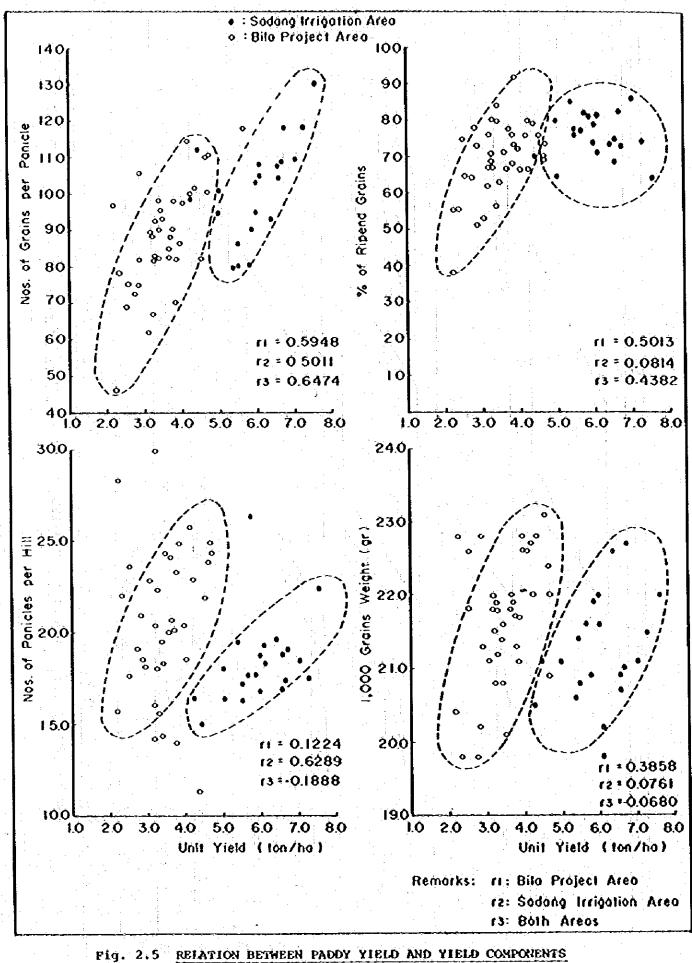
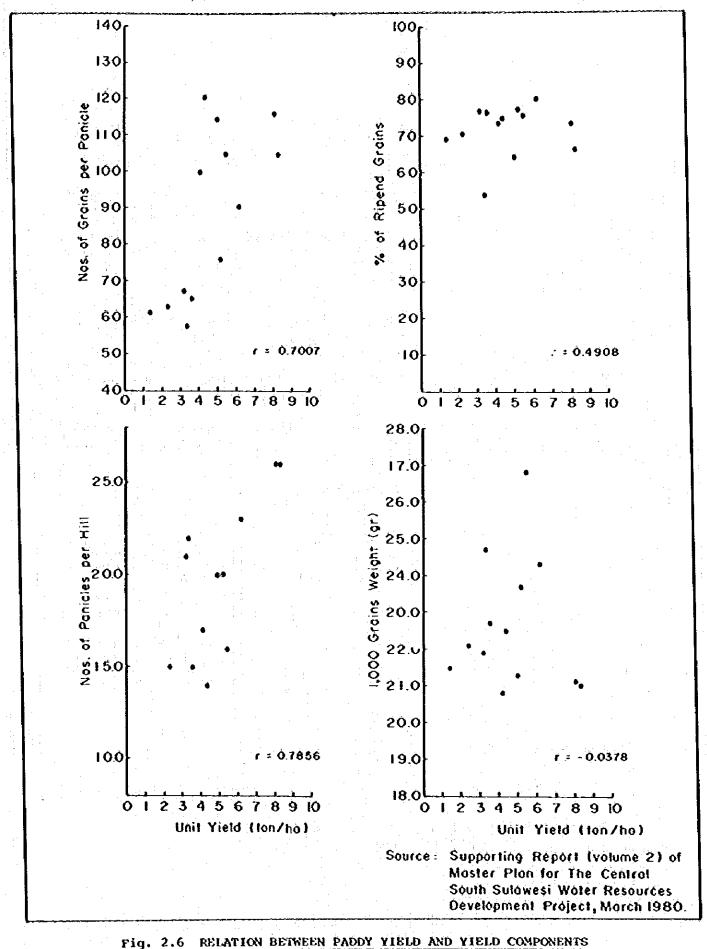


Fig. 2.4 PRESENT CROPPING PATTERNS IN THE STUDY AREA

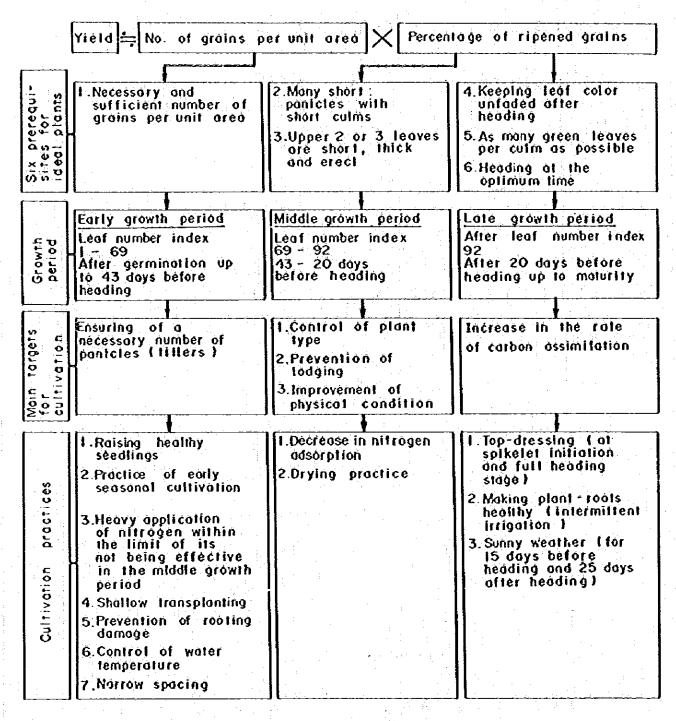
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RELATION BETWEEN PADDY YIELD AND YIELD COMPONENTS (Wet Season Paddy)



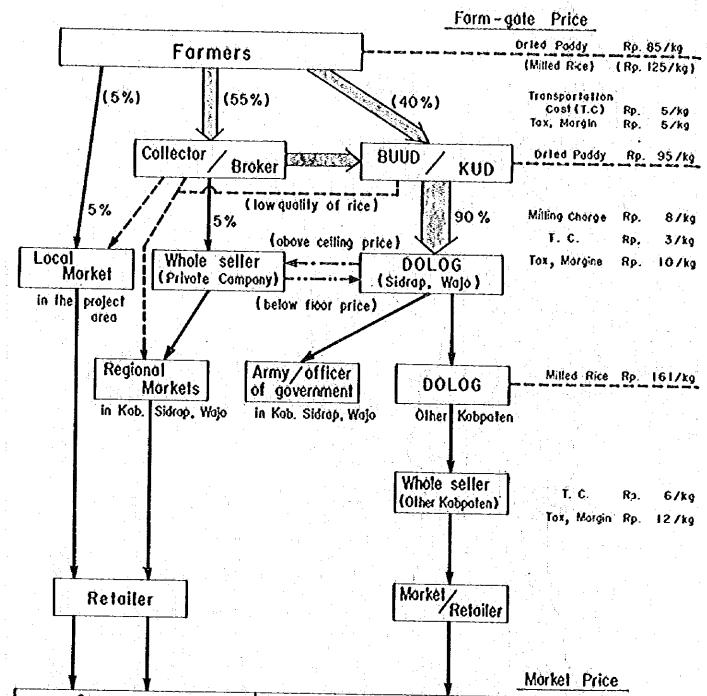
(Dry Season Paddy)



Source : S. Matsushima, Rice cultivation for the Million, Japan Scientific Societies Press, 1980

Fig. 2.7 DIAGRAMMATIC GUIDELINE FOR IMPROVEMENT OF RICE CULTIVATION PRACTICES

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		Population		Paday	
	Kob.			Production	Surplus
目 イイムトー	(1) Ujung Pandarg	624	144	10	- 134
	(2) Marcs	186	43	95	52
	(3) Porgles	209	48	117	69
	(4) Goxo	341	78	131	53
	(5) Totalor	165	38	60	22
	6 Mojete	114	26	6	- 20 4
	Morre ju	92	21	25	- 14
	(8) Pore Pore	82 261	19 60	329	269
	(9) Pireosy (10) 89114	136	31	70	39
	(I) Steep	200	46	275	22.9
$\bigwedge \ (\ (\) \)$	(12) Soppery	245	56	196	140
()-1) ×	(13 Enretona	130	30	37	7
学,1 ((14) Wejo	354	81	2 57	176
	(15) Politios	361	83	93	10
	(6) Bore	624	14.4	184	40
\mathbf{T}	(17) Bontceny	E E E	26	32	6
	(18 Bulutonto	295	68	106	38
	J 🕘 Sinjal	: 165 250	38 52	50 40	- 1 S 1 S
	(2) Jereponto	228 98	23	2	-21
	2) Selayor 2) Lunu	453	104	179	75
(P)	(a) Tokx	322	74	94	20
	Tolo1	5,794		2,395	1,060
	t ¥1ĝ l				



Comsumer (Kob. Sidrop, Wojó)	Comsumer (Other Kabpaten , Province)	Milled Rice Rp. 179/kg
Current Market Price of	Milled Rice (1980)	
Kob. Sidrap Rp. 173.07kg Kob. Wojo Rp. 179.67kg	Pare Pare Rp. 189.7/kg Ujung Pandong Rp. 243.4/kg	

Fig. 2.9 MARKETING FLOW OF RICE

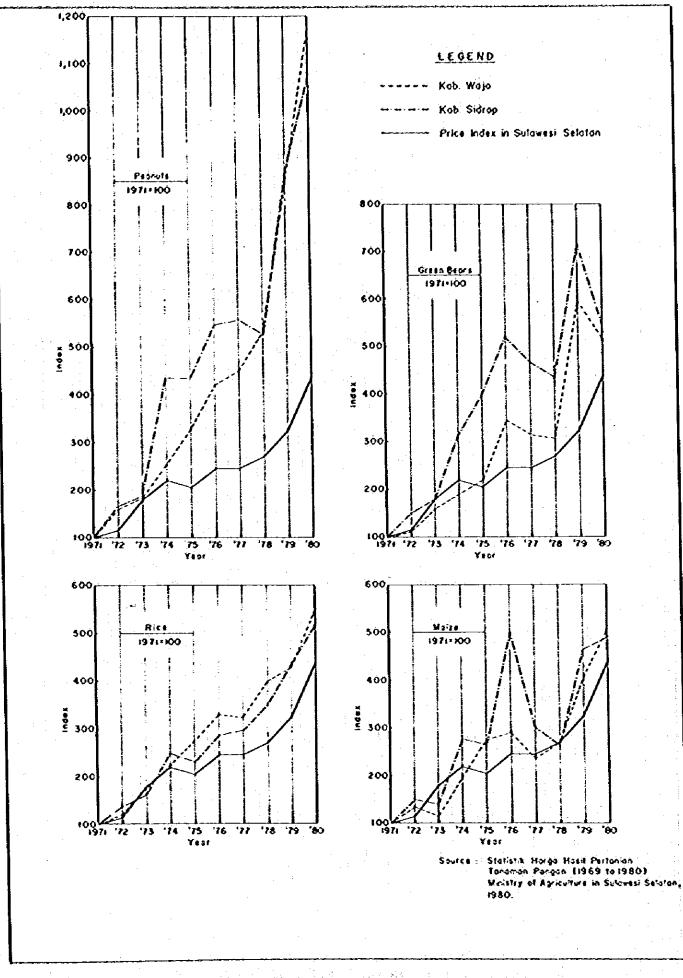
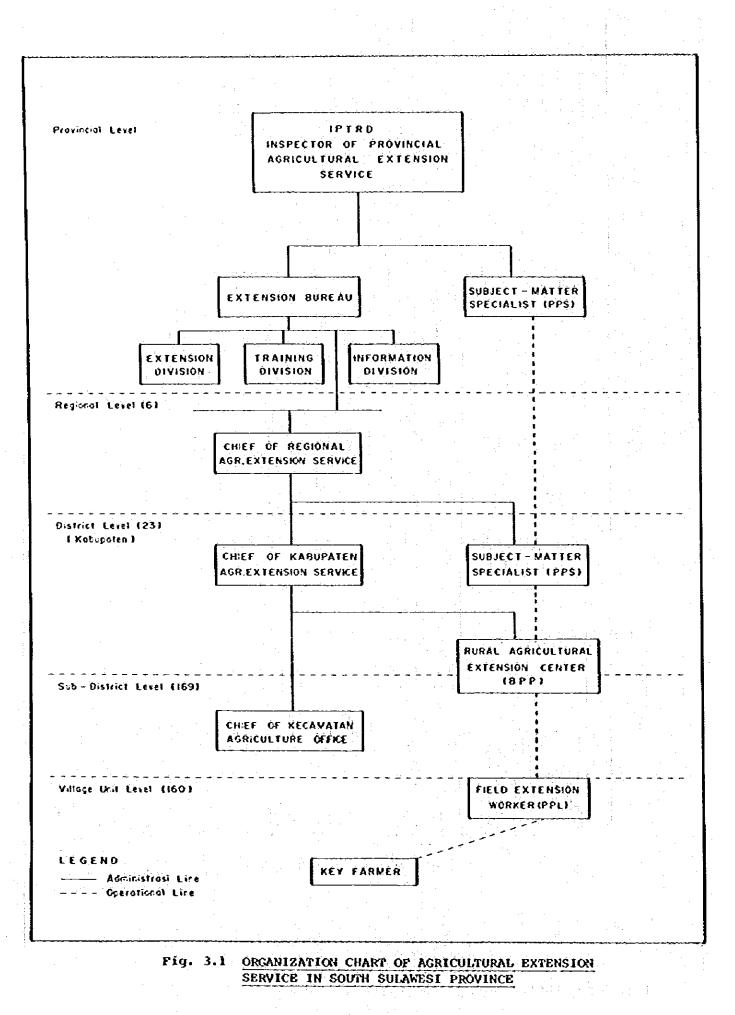
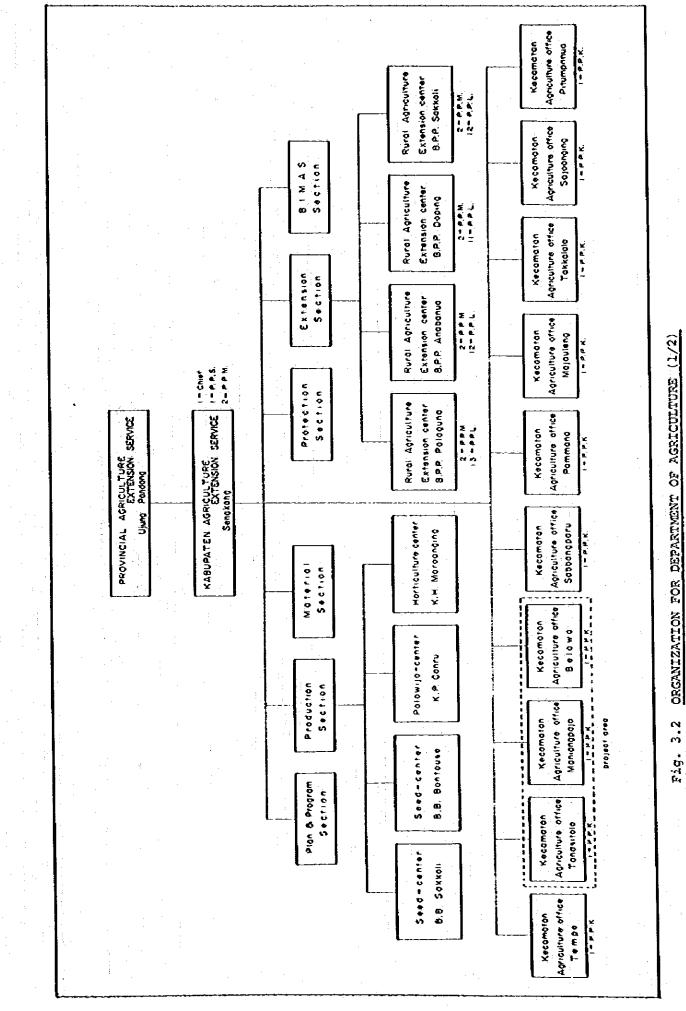
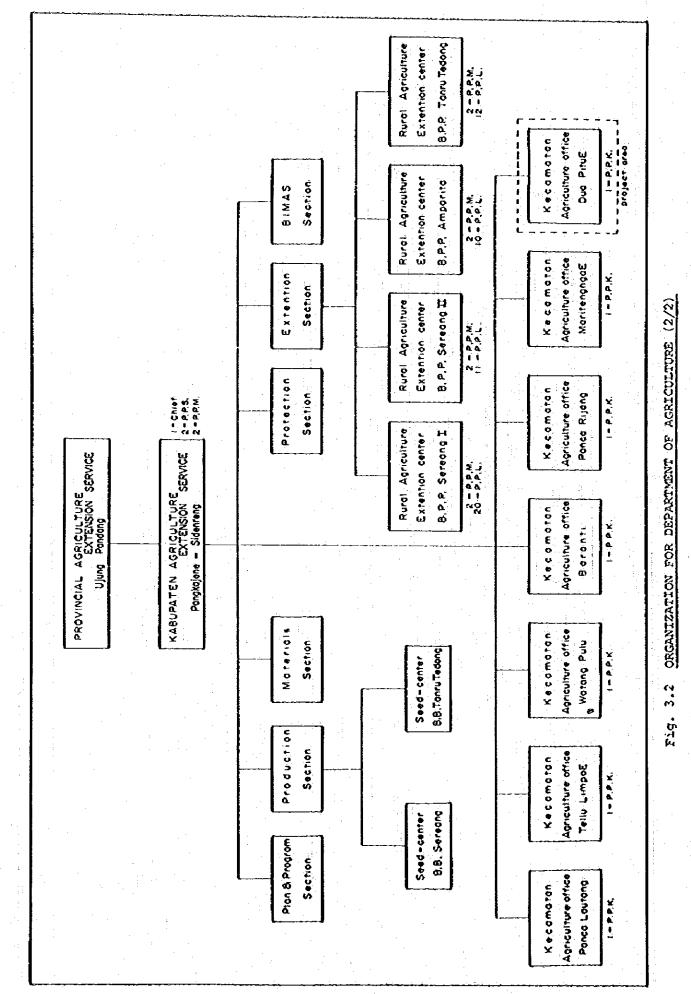


FIG. 2.10 RETAIL PRICE OF PARM PRODUCTS IN KAB. WAJO AND KAB. SIDRAP



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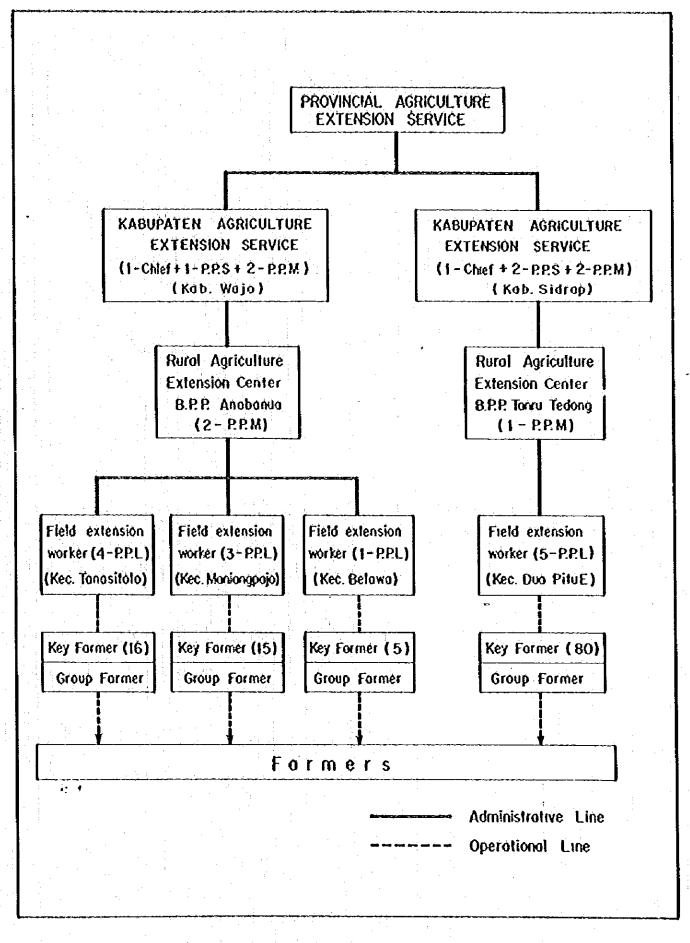
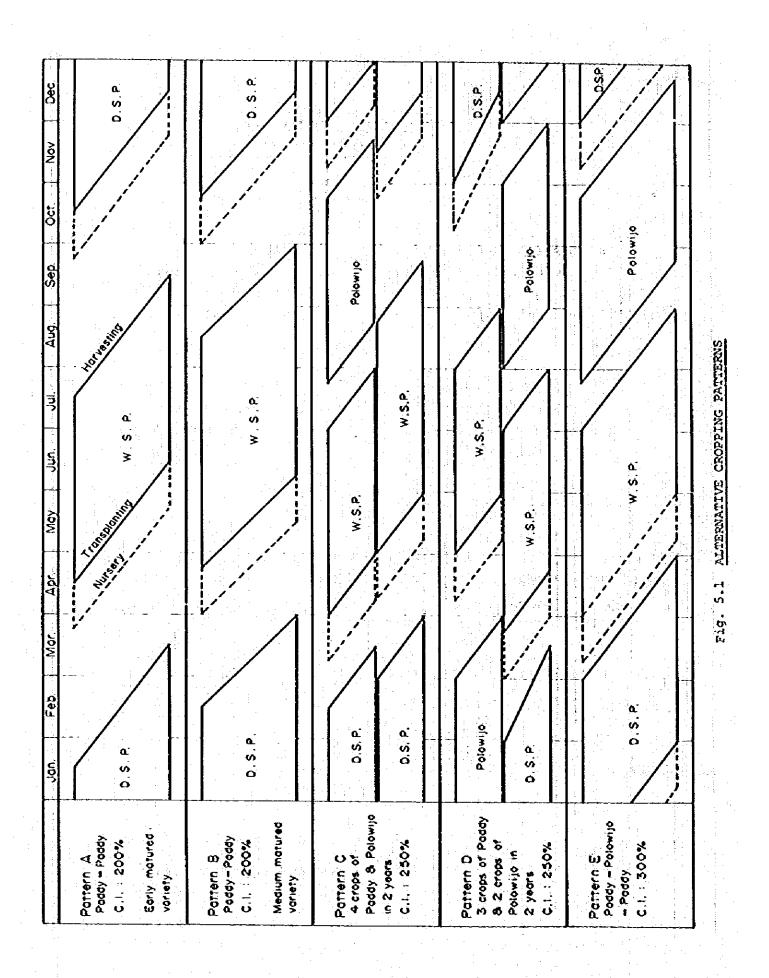


FIG. 3.3 STRUCTURAL ORGANIZATION OF AGRICULTURAL EXTENSION SERVICE IN THE STUDY AREA



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Control Control M.S. P. O.S. P. <t< th=""><th>Control Control <t< th=""><th>Cobald Cobald Portaria Dis P Porencentia</th></t<><th></th><th>Unit Labour Requ</th><th></th></th></t<>	Control Control <t< th=""><th>Cobald Cobald Portaria Dis P Porencentia</th></t<> <th></th> <th>Unit Labour Requ</th> <th></th>	Cobald Cobald Portaria Dis P Porencentia		Unit Labour Requ	
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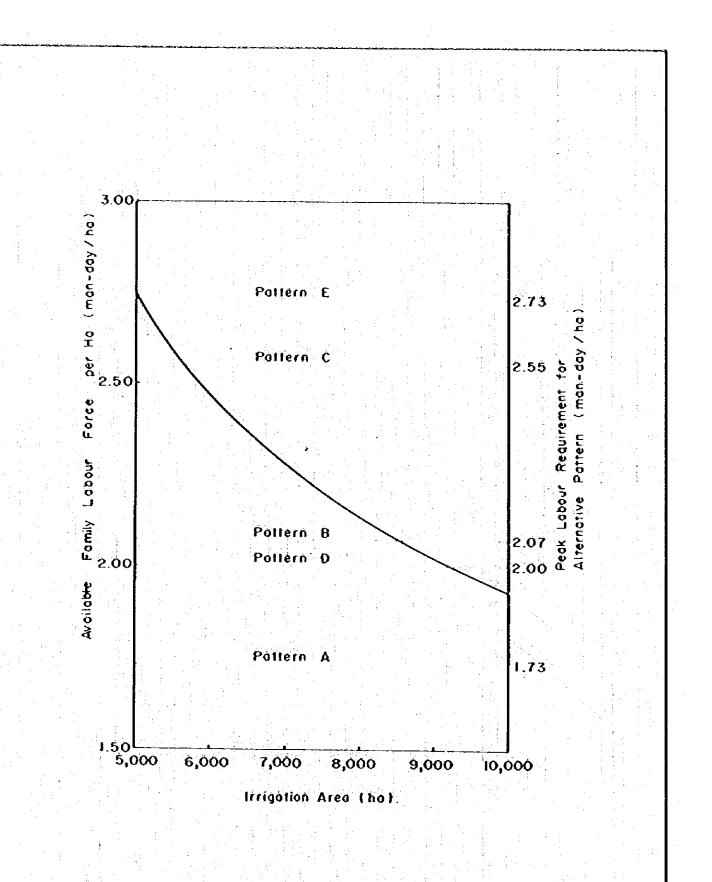
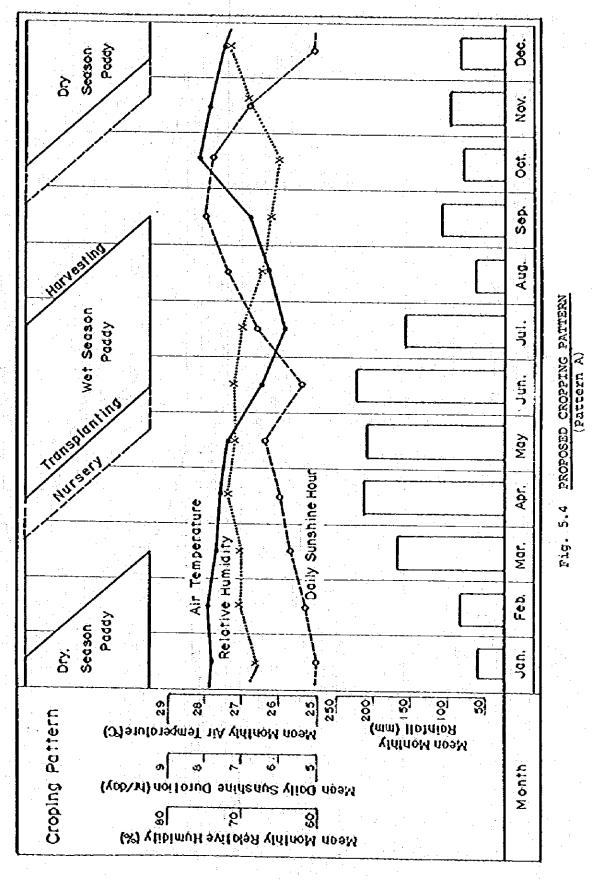
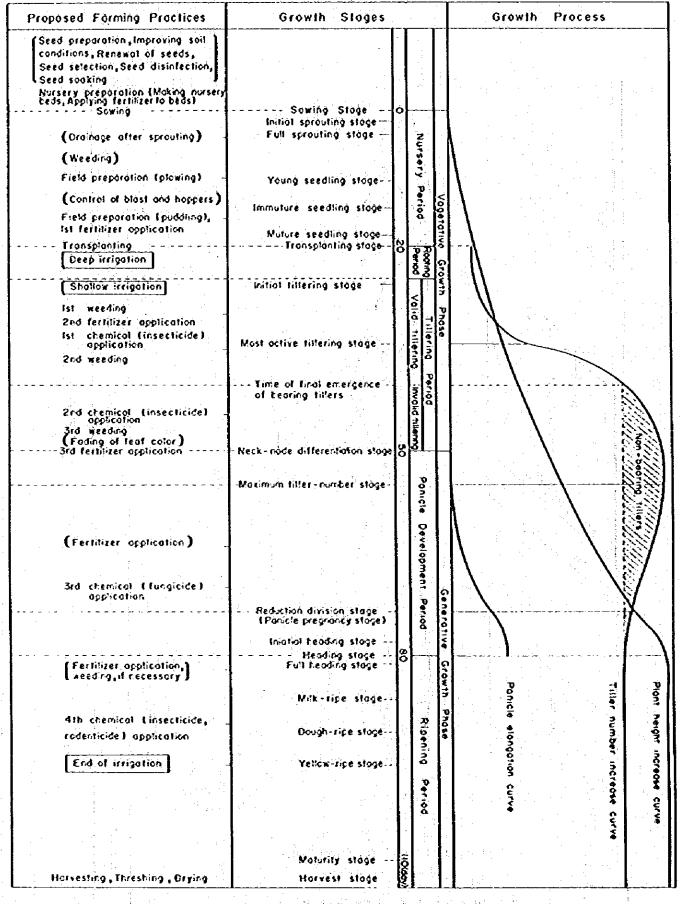


Fig. 5.3 <u>RELATION BETWEEN AVAILABLE LABOUR FORCE AND IRRIGABLE AREA (Adaptability</u> of alternative Cropping Pattern under different irrigation Areas)



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Pig. 5.5 GROWTH PROCESS OF THE RICE PLANT AND PROPOSED FARMING PRACTICES AT EACH GROWTH STAGE

