

Table A.3.11 Estate Crop Planted Area of Small-holders

		(unit:ha)						
	Crops	1993	1994	1995	1996	1997	1998	Source
West Sumatra Province	Rubber	N.A.	90,829	93,007	94,505	99,552	116,860	Statistik of West Sumatra Province
	Coconut	N.A.	80,049	80,718	87,181	89,899	87,105	
	Cassia/cassia	N.A.	29,096	32,744	35,706	38,472	39,035	
	Clove	N.A.	9,097	8,517	7,728	6,926	5,804	
	Coffee	N.A.	25,693	26,865	28,271	28,578	25,886	
	Nutmeg	N.A.	1,818	1,844	2,228	2,158	2,199	
	Pepper	N.A.	808	812	693	683	794	
	Gambir	N.A.	12,813	13,374	14,300	14,589	14,983	
	Kapok	N.A.	441	474	481	482	174	
	Enou	N.A.	1,804	1,882	1,987	2,082	1,945	
	Sugarcane	N.A.	9,100	8,924	9,199	9,185	9,170	
Tobacco	N.A.	561	1,265	1,280	1,012	474		
Total	N.A.	252,448	260,237	273,080	283,421	294,785		
West Java Province	Rubber	N.A.	N.A.	N.A.	N.A.	N.A.	14,310	Statistik of West Java Province
	Coconut	N.A.	N.A.	276,881	293,683	295,063	214,676	
	Clove	N.A.	N.A.	52,397	50,293	50,280	30,610	
	Coffee	N.A.	N.A.	21,519	21,699	21,830	15,496	
	Tea	N.A.	N.A.	51,058	54,959	54,601	24,101	
	Cacao	N.A.	N.A.	N.A.	N.A.	N.A.	5,453	
	Cardamom	N.A.	N.A.	N.A.	N.A.	N.A.	1,232	
	Nutmeg	N.A.	N.A.	N.A.	N.A.	N.A.	813	
	Vanilla	N.A.	N.A.	N.A.	N.A.	N.A.	581	
	Pepper	N.A.	N.A.	N.A.	N.A.	N.A.	870	
	Aren	N.A.	N.A.	N.A.	N.A.	N.A.	8,378	
	Meligo	N.A.	N.A.	N.A.	N.A.	N.A.	10,683	
	Kapok	N.A.	N.A.	N.A.	N.A.	N.A.	5,504	
	Sugarcane	N.A.	N.A.	N.A.	N.A.	N.A.	22,810	
Tobacco	N.A.	N.A.	N.A.	N.A.	N.A.	2,777		
Ginger	N.A.	N.A.	N.A.	N.A.	N.A.	2,366		
Total	N.A.	N.A.	401,855	420,634	421,774	318,397		
D.I.Yogyakarta Province	Coconut	N.A.	N.A.	N.A.	N.A.	N.A.	43,974	Statistik of Yogyakarta Province
	Clove	N.A.	N.A.	N.A.	N.A.	N.A.	2,825	
	Coffee	N.A.	N.A.	N.A.	N.A.	N.A.	1,587	
	Cocoa	N.A.	N.A.	N.A.	N.A.	N.A.	2,438	
	Tea	N.A.	N.A.	N.A.	N.A.	N.A.	237	
	Cashew	N.A.	N.A.	N.A.	N.A.	N.A.	5,678	
	Pepper	N.A.	N.A.	N.A.	N.A.	N.A.	32	
	Vanilla	N.A.	N.A.	N.A.	N.A.	N.A.	17	
	Kapok	N.A.	N.A.	N.A.	N.A.	N.A.	2,191	
	Sugarcane	N.A.	N.A.	N.A.	N.A.	N.A.	3,602	
	Tobacco	N.A.	N.A.	N.A.	N.A.	N.A.	1,004	
	Ginger	N.A.	N.A.	N.A.	N.A.	N.A.	12	
	Kenanga	N.A.	N.A.	N.A.	N.A.	N.A.	26	
Nilaen	N.A.	N.A.	N.A.	N.A.	N.A.	4		
Galngale	N.A.	N.A.	N.A.	N.A.	N.A.	13		
Total	N.A.	N.A.	N.A.	N.A.	N.A.	63,641		
East Java Province	Coconut	251,534	256,865	264,554	264,002	273,109	N.A.	Statistik of East Java Province
	Clove	39,656	35,803	35,144	32,462	32,398	N.A.	
	Coffee	43,429	43,758	44,252	44,667	45,250	N.A.	
	Cocoa	4,220	5,296	5,733	5,774	5,612	N.A.	
	Tea	348	354	354	354	354	N.A.	
	Cashew	33,113	37,017	47,709	52,264	54,832	N.A.	
	Kapok	88,941	87,332	87,392	87,156	87,188	N.A.	
	Sugarcane	196,841	194,728	198,261	201,858	200,515	N.A.	
	Tobacco	83,148	95,513	139,654	134,162	144,213	N.A.	
	Cotton	3,103	2,139	1,122	1,285	1,410	N.A.	
Total	461,241	466,425	485,138	486,679	498,743	N.A.		
NTB Province	Coconut	N.A.	62,918	63,361	63,420	63,550	64,019	Statistik of NTB Province
	Clove	N.A.	1,634	1,625	1,616	1,599	1,595	
	Areca Palm	N.A.	1,015	1,048	1,205	1,189	1,177	
	Coffee	N.A.	7,710	7,762	8,290	8,451	9,344	
	Cocoa	N.A.	2,801	3,294	3,394	3,506	3,745	
	Vanilla	N.A.	267	436	546	657	657	
	Cashew	N.A.	27,734	32,449	36,374	41,272	45,427	
	Pepper	N.A.	16	16	17	17	18	
	Tamarind	N.A.	4,183	4,240	4,191	4,163	4,094	
	Kapok	N.A.	5,684	5,702	5,730	5,681	5,698	
	Caster Oilplant	N.A.	1,310	1,297	3,052	3,052	9,261	
	Sugarcane	N.A.	566	610	740	538	581	
	Tobacco	N.A.	11,211	12,427	18,738	18,961	18,722	
Cotton	N.A.	3,867	4,333	2,764	4,643	3,627		
Sesame	N.A.	263	253	50	247	137		
Total	N.A.	130,917	138,601	150,077	157,279	167,965		

Table A.4.1 Cost and Benefit of Vegetables in West Java (per 0.1 ha)

Item	unit	Tomato		Red Chilli		Eggplant		Potato		Cabbage	
		(min.)	(max.)	(min.)	(max.)	(min.)	(max.)	(min.)	(max.)	(min.)	(max.)
<b>Sale</b>											
Yield	(kg)	1,500	1,500	700	700	900	900	2,200	2,200	2,500	2,500
Farm Gate Price	(Rp/kg)	871	1,532	2,957	10,326	495	620	2,442	2,947	714	1,198
<b>Total Sale</b>	(Rp.'000)	1,306.5	2,298.0	2,069.9	7,228.2	445.5	558.0	5,372.4	6,483.4	1,785.0	2,995.0
<b>Cost</b>											
<Seed/Seedlings>											
Amount	(kg or pc)	0.02	0.02	0.03	0.03	0.05	0.05	150	150	0.04	0.04
Price	(Rp/unit)	6,200,000	6,200,000	6,500,000	6,500,000	800,000	800,000	12,000	12,000	2,000,000	2,000,000
Interval of Renewal	(generation)	1	1	1	1	1	1	1	1	1	1
Cost	(Rp.'000)	124.0	124.0	195.0	195.0	40.0	40.0	1,800.0	1,800.0	80.0	80.0
<Fertilizers>											
Urea Price	(Rp/kg)	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300
Amount	(kg)	39.0	39.0	35.0	35.0	30.0	30.0	27.0	27.0	26.0	26.0
Cost	(Rp.'000)	50.7	50.7	45.5	45.5	39	39	35.1	35.1	33.8	33.8
TSP/SP36 Price	(Rp/kg)	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600
Amount	(kg)	38.0	38.0	31.0	31.0	27.0	27.0	30.0	30.0	17.0	17.0
Cost	(Rp.'000)	60.8	60.8	49.6	49.6	43.2	43.2	48	48	27.2	27.2
Kcl Price	(Rp/kg)	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
Amount	(kg)	34.0	34.0	27.0	27.0	17.0	17.0	20.0	20.0	20.0	20.0
Cost	(Rp.'000)	68.0	68.0	54.0	54.0	34.0	34.0	40.0	40.0	40.0	40.0
Manure	(Rp/ton)	200	200	200	200	200	200	200	200	200	200
Amount	(ton)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Cost	(Rp.'000)	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
<Agro-chemicals>											
Price	(Rp/kg or lit)	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000
Amount	(kg or lit)	5.0	5.0	3.5	3.5	2.1	2.1	2.1	2.1	3.0	3.0
Cost	(Rp.'000)	450.0	450.0	315.0	315.0	189.0	189.0	189.0	189.0	270.0	270.0
<b>Total Cost</b>	(Rp.'000)	753.9	753.9	659.5	659.5	345.6	345.6	2,112.5	2,112.5	451.4	451.4
<b>Profit</b>	(Rp.'000)	552.6	1,544.1	1,410.4	6,568.7	99.9	212.4	3,259.9	4,370.9	1,333.6	2,543.6
<b>Sale</b>											
Yield	(kg)	960	960	900	900	1,100	1,100	750	750	1,500	1,500
Farm Gate Price	(Rp/kg)	1,049	1,175	961	1,218	752	868	2,659	7,318	767	968
<b>Total Sale</b>	(Rp.'000)	1,007.0	1,128.0	864.9	1,096.2	827.2	954.8	1,994.3	5,488.5	1,150.5	1,452.0
<b>Cost</b>											
<Seed/Seedlings>											
Amount	(kg or pc)	2.0	2.0	6.0	6.0	0.3	0.3	80.0	80.0	0.3	0.3
Price	(Rp/unit)	42,000	42,000	33,000	33,000	450,000	450,000	6,500	6,500	800,000	800,000
Interval of Renewal	(generation)	3	3	3	3	1	1	3	3	3	3
Cost	(Rp.'000)	28.0	28.0	66.0	66.0	135.0	135.0	173.3	173.3	80.0	80.0
<Fertilizers>											
Urea Price	(Rp/kg)	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300
Amount	(kg)	10.0	10.0	26.0	26.0	15.0	15.0	20.0	20.0	22.0	22.0
Cost	(Rp.'000)	13	13	33.8	33.8	19.5	19.5	26	26	28.6	28.6
TSP/SP36 Price	(Rp/kg)	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600
Amount	(kg)	20.0	20.0	30.0	30.0	15.0	15.0	10.0	10.0	15.0	15.0
Cost	(Rp.'000)	32	32	48	48	24	24	16	16	24	24
Kcl Price	(Rp/kg)	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
Amount	(kg)	9.0	9.0	20.0	20.0	17.0	17.0	16.0	16.0	17.0	17.0
Cost	(Rp.'000)	18.0	18.0	40.0	40.0	34.0	34.0	32.0	32.0	34.0	34.0
Manure	(Rp/ton)	200	200	200	200	200	200	200	200	200	200
Amount	(ton)	1.0	1.0	1.0	1.0	2.0	2.0	1.5	1.5	2.0	2.0
Cost	(Rp.'000)	0.2	0.2	0.2	0.2	0.4	0.4	0.3	0.3	0.4	0.4
<Agro-chemicals>											
Price	(Rp/kg or lit)	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000
Amount	(kg or lit)	1.0	1.0	1.0	1.0	2.1	2.1	1.5	1.5	0.6	0.6
Cost	(Rp.'000)	90.0	90.0	90.0	90.0	189.0	189.0	135.0	135.0	54.0	54.0
<b>Total Cost</b>	(Rp.'000)	181.2	181.2	278.0	278.0	401.9	401.9	382.6	382.6	221.0	221.0
<b>Profit</b>	(Rp.'000)	825.8	946.8	586.9	818.2	425.3	552.9	1,611.6	5,105.9	929.5	1,231.0

Note:

1. Vegetables prices are from "Producer Price Statistics of Agriculture Sector in Indonesia", BPS
2. Labor and miscellaneous are not counted in the cost.

Table A.4.2 Cost and Benefit of Hand Tractor Operation Service (8.5 Hp)

(Annual Profit)

1	Gross profit	13,200,000 Rp	330000 x 40
2	Fixed Cost		
	a repayment	5,300,000 Rp	
	b repair & maintenance	2,000,000 Rp	
3	Valuable cost		
	a labor	3,200,000 Rp	20000x2x40/0.5
	b fuel	636,480 Rp	1.53x650x8x40/0.5
	c oil	57,600 Rp	0.009x10000x8x40/0.5
4	Net profit	2,005,920 Rp	

(Condition)

1	Unit Price	20,000,000 Rp
2	Interest	20 %/year
3	Last Value	2,000,000 Rp (10% unit price)
4	Repair & Maintenance	2,000,000 Rp (10% unit price)
5	Life and loan period	5 year
6	Fuel (diesel) need	1.53 lit/hr
7	Fuel (diesel) price	650 Rp/lit
8	Oil need	0.009 lit/hr
9	Oil price	10,000 Rp/lit
10	Total labor	2 person
11	Labor cost	20,000 Rp/day
12	Total working area	40 ha/year
13	Plowing efficiency	0.5 ha/day
14	Hours worked	8 hr/day
15	Hiring charge	330,000 Rp/ha

(Repayment Plan)

Year	Debt	Repayment	Balance
1st	20,000,000	5,300,000	14,700,000
2nd	17,640,000	5,300,000	12,340,000
3rd	14,808,000	5,300,000	9,508,000
4th	11,409,600	5,300,000	6,109,600
5th	7,331,520	5,300,000	2,031,520
		last value	2,000,000

Table A.4.3 Cost and Benefit of Power Thresher Operation Service (6 Hp)

(Annual Profit)

1	Gross profit	17,920,000 Rp	35x800x8x80
2	Fixed Cost		
	a repayment	4,000,000 Rp	capital and interest
	b repair & maintenance	1,500,000 Rp	
3	Valuable cost		
	a labor	3,200,000 Rp	20000x2x80
	b fuel	449,280 Rp	1.08x8x80x650
	c oil	38,400 Rp	0.006x8x80x10000
4	Net profit	8,732,320 Rp	

(Note) Need additional cost for transportation measures of thresher

(Condition)

1	Unit Price	15,000,000 Rp
2	Interest	20 %/year
3	Last Value	1,500,000 Rp (10% unit price)
4	Repair & Maintenance	1,500,000 Rp (10% unit price)
5	Life and loan period	5 year
6	Fuel (diesel) need	1.08 lit/hr
7	Fuel (diesel) price	650 Rp/lit
8	Oil need	0.006 lit/hr
9	Oil price	10,000 Rp/lit
10	Total labor	2 person
11	Labor cost	20,000 Rp/day
12	Threshing capacity	800 kg/hr
13	Hours worked	8 hr/day
14	Working days	80 day/year
15	Threshing charge	35 Rp/kg

(Repayment Plan)

Year	Debt	Repayment	Balance
1st	15,000,000	4,000,000	11,000,000
2nd	13,200,000	4,000,000	9,200,000
3rd	11,040,000	4,000,000	7,040,000
4th	8,448,000	4,000,000	4,448,000
5th	5,337,600	4,000,000	1,337,600
		last value	1,500,000

Table A.4.4 Cost and Benefit of Rice Mill Business (16 Hp)

(Annual Profit)

1	Gross profit	126,720,000 Rp	$264 \times 1000 \times 0.6 \times 8 \times 100$
2	Fixed Cost		
	a repayment	13,500,000 Rp	capital and interest
	b repair & maintenance	5,000,000 Rp	
3	Valuable cost		
	a labor	10,000,000 Rp	$20000 \times 5 \times 100$
	b fuel	1,560,000 Rp	$3 \times 8 \times 100 \times 650$
	c oil	128,000 Rp	$0.016 \times 8 \times 100 \times 10000$
4	Net profit	96,532,000 Rp	

(Condition)

1	Unit Price	50,000,000 Rp	
2	Interest	20 %/year	
3	Last Value	5,000,000 Rp	(10% unit price)
4	Repair & Maintenance	5,000,000 Rp	(10% unit price)
5	Life and loan period	5 year	
6	Fuel (diesel) need	3 lit/hr	
7	Fuel (diesel) price	650 Rp/lit	
8	Oil need	0.016 lit/hr	
9	Oil price	10,000 Rp/lit	
10	Total labor	5 person	(2 operation + 3 paddy drying)
11	Labor cost	20,000 Rp/day	
12	Milling capacity	0.6 ton/hr	(in paddy)
13	Hours worked	8 hr/day	
14	Working days	100 day/year	
15	Paddy price	1,100 Rp	
16	Rice price	2,200 Rp	
17	Milling recovery	62 %	
18	Milling profit (gross)	264 Rp/kg	$(2,200 \times 0.62 - 1,100)$

(Repayment Plan)

Year	Debt	Repayment	Balance
1st	50,000,000	13,500,000	36,500,000
2nd	43,800,000	13,500,000	30,300,000
3rd	36,360,000	13,500,000	22,860,000
4th	27,432,000	13,500,000	13,932,000
5th	16,718,400	13,500,000	3,218,400
		last value	5,000,000

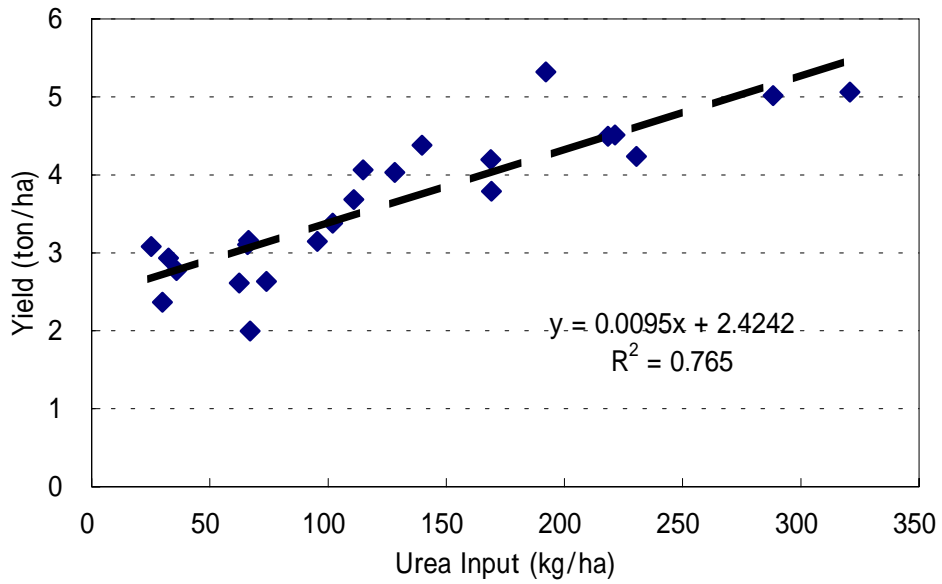


Fig. A.1.1 Provincial Urea Consumption and Rice Yield

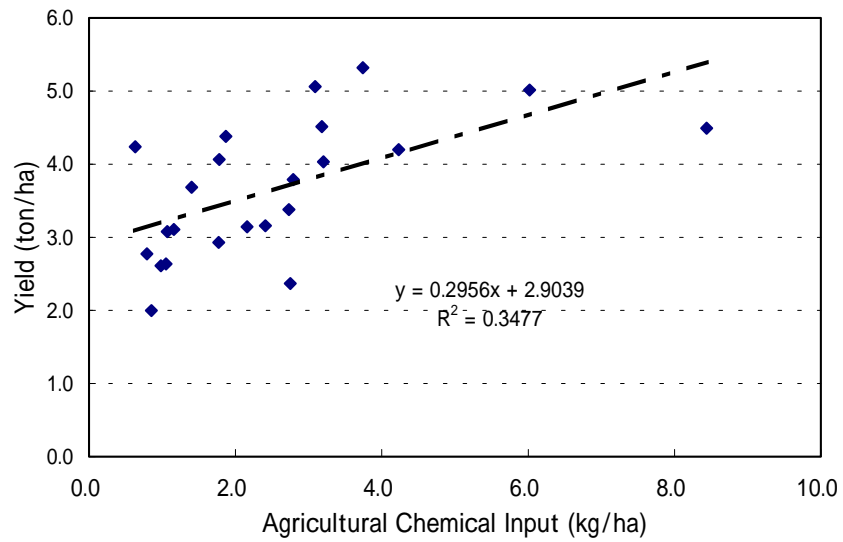


Fig. A.1.2 Correlation Between Rice Yield and Agricultural Chemicals Input

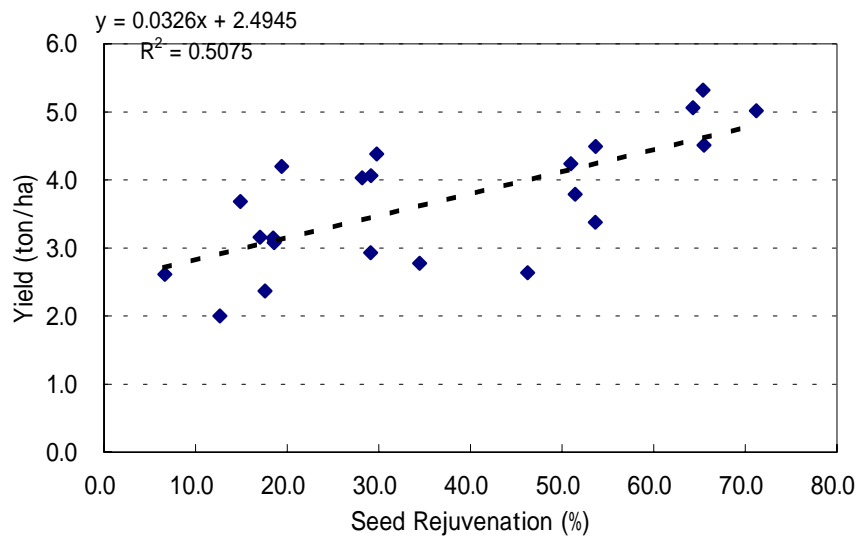


Fig. A.1.3 Correlation Between Rice Yield and Seed Rejuvenation Rate

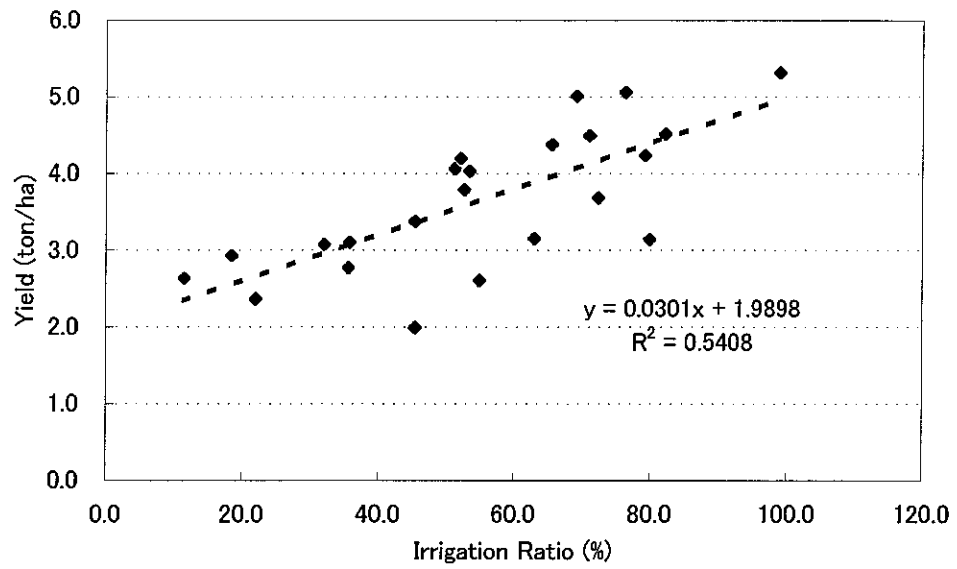
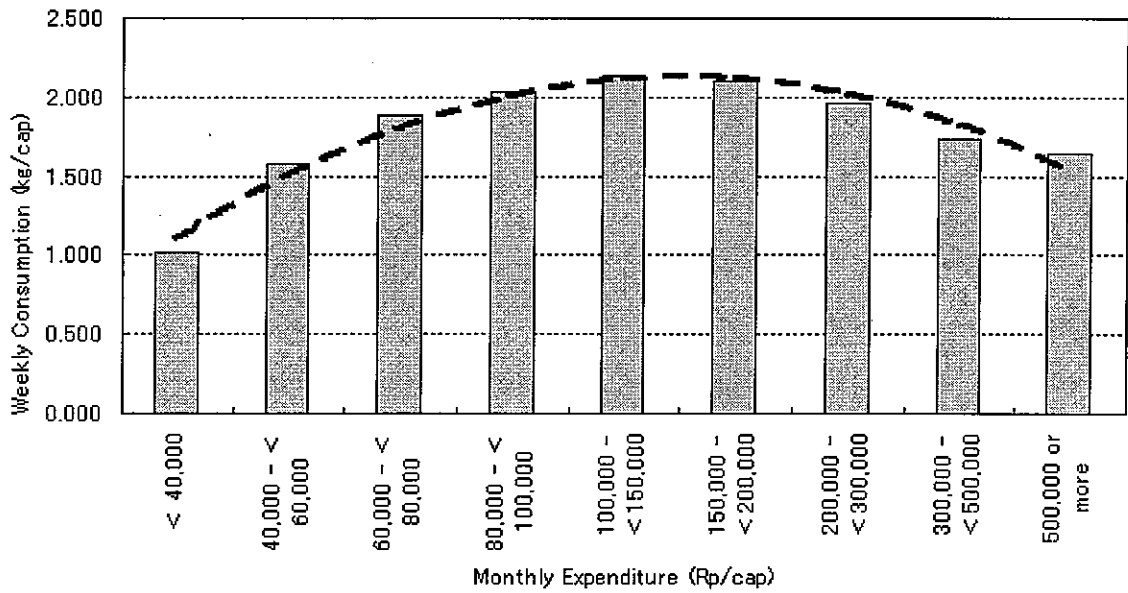
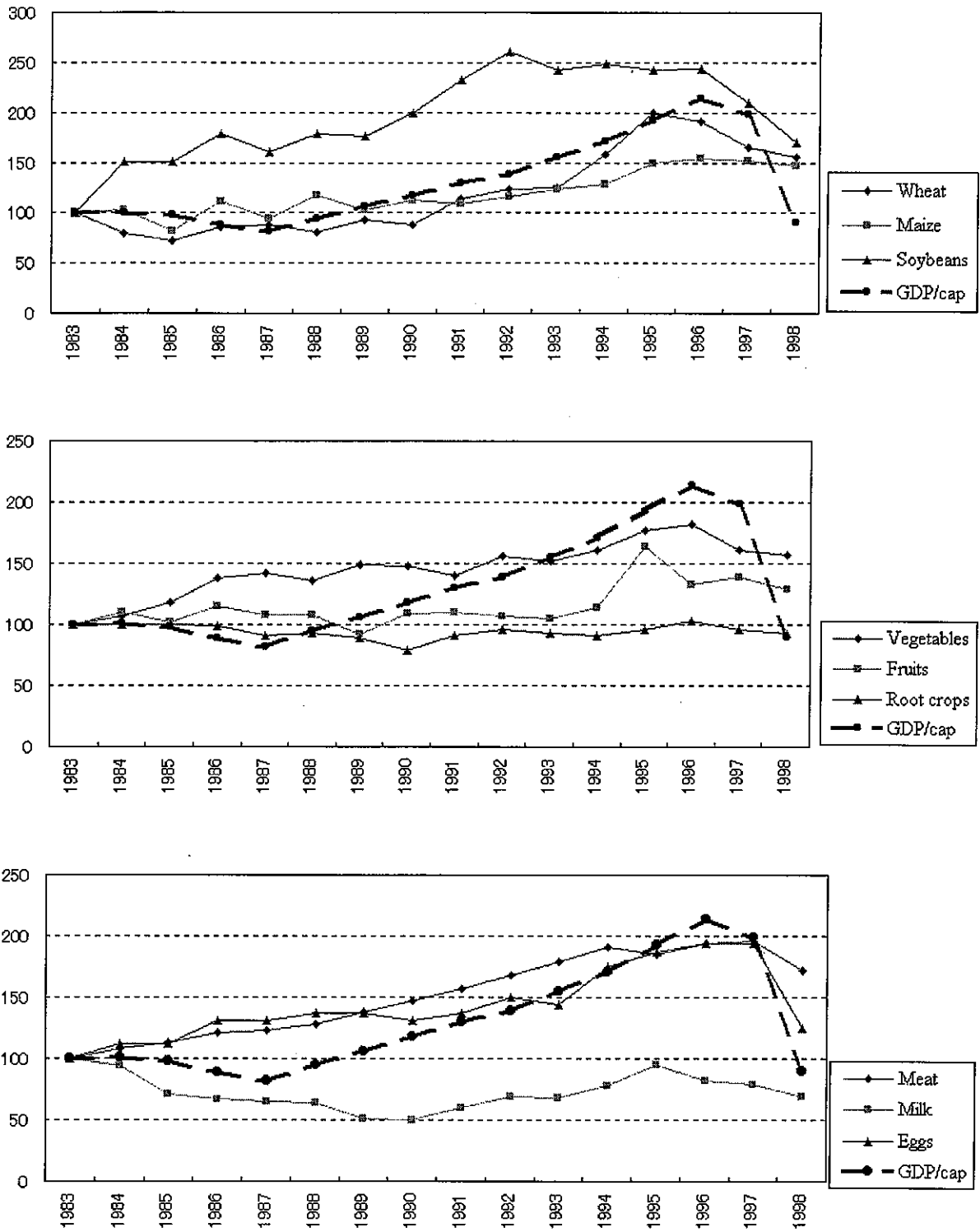


Fig. A.1.4 Correlation Between Rice Yield and Irrigated Area Ratio



Source: Pengeluaran Untuk Konsumsi Penduduk Indonesia 1999, Central Bureau of Statistics Indonesia

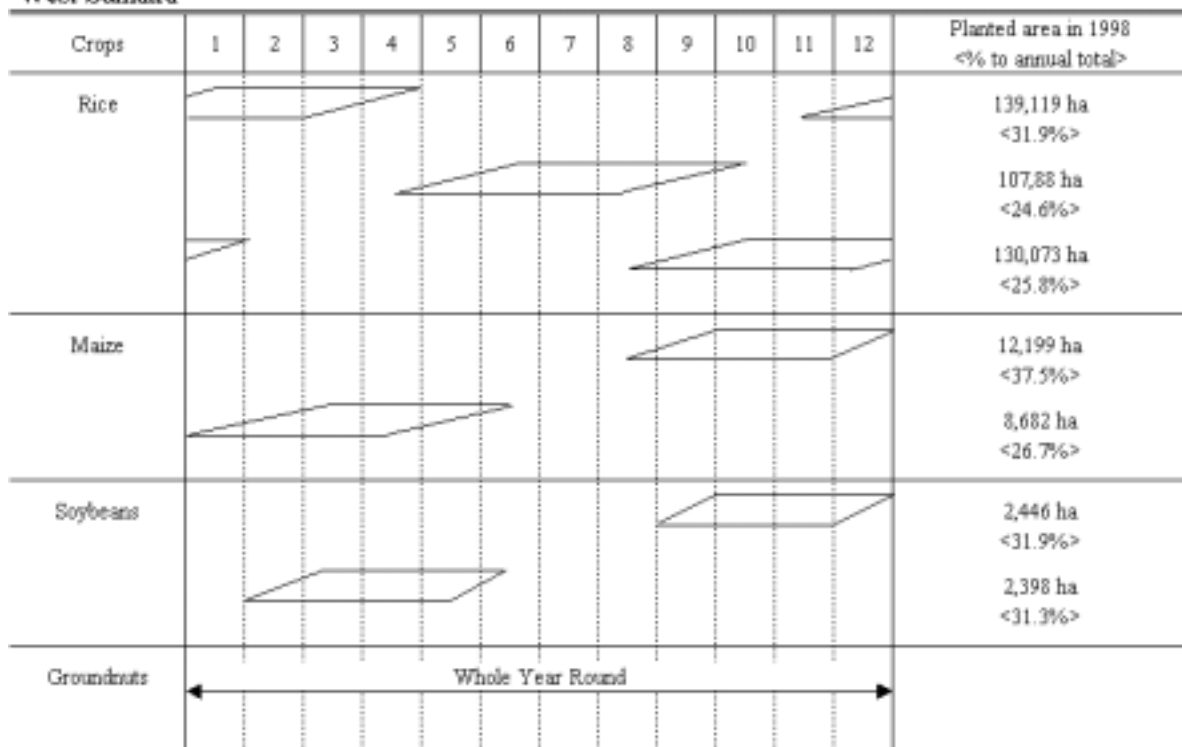
Fig.A.2.1 Rice Consumption by Expenditure Classes



Source: FAO Statistics

Fig. A.2.2 Indices of GDP and Crop Consumption per Capita (1983=100)

**West Sumatra**



**West Java**

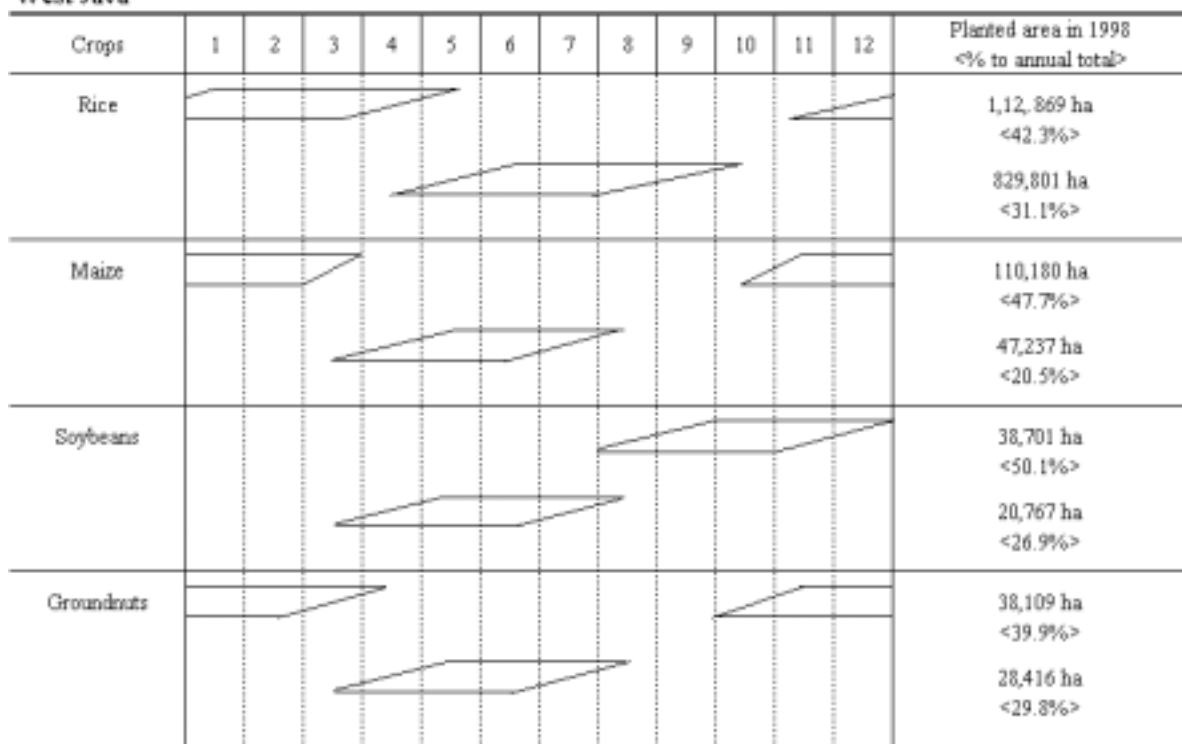


Fig. A.3.1 Cropping Pattern of Rice and Palawija in the Study Provinces (1/3)  
(based on the field observation and the statistic data in 1998)



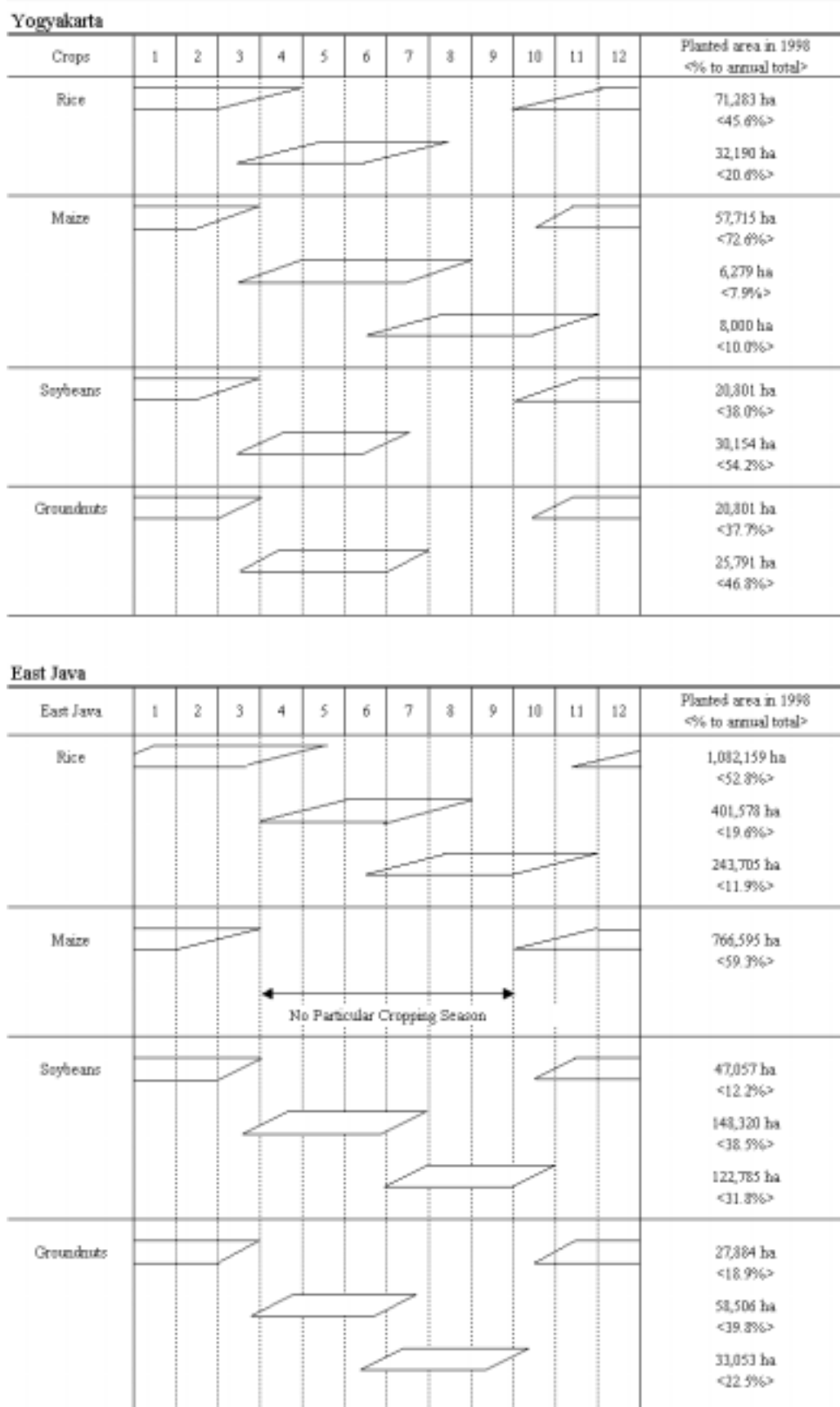


Fig.A.3.1 Cropping Pattern of Rice and Palawija in the Study Provinces (2/3)  
(based on the field observation and the statistic data in 1998)

**NTB**

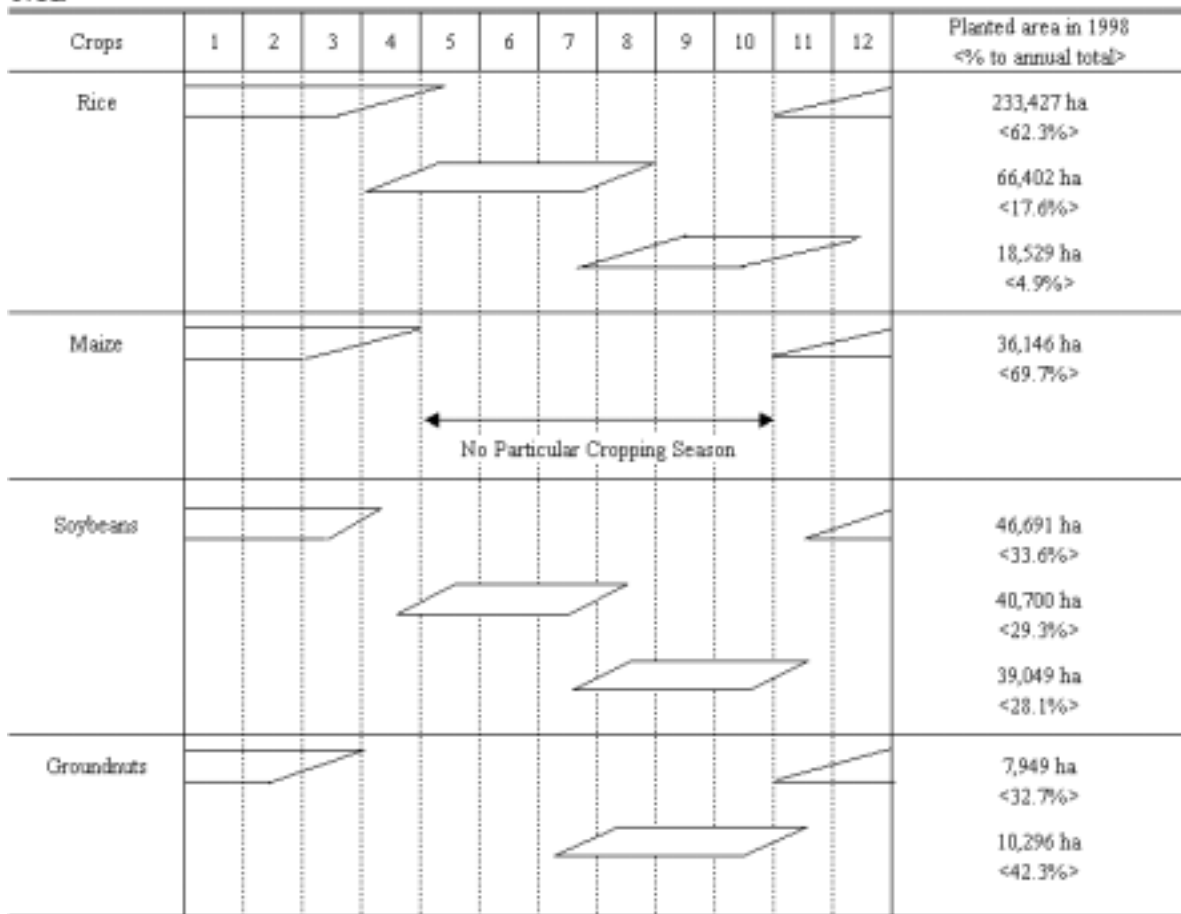


Fig. A.3.1 Cropping Pattern of Rice and Palawija in the Study Provinces (3/3)  
(based on the field observation and the statistic data in 1998)