(Unit: Rp '000)

Item	Telagasari	Bagor	Mattiro Bulu	Trimurjo
The Fifth Year Balance Cumulative	13,872 64,440	13,064 65,080	9,687 118,268	15,413 201,431
The Tenth Year Balance Cumulative	5,849 83,351	11,193 88,654	4,859 136,296	16,345 235,383

7.3 Economic Evaluation

7.3.1 Economic Benefit

Economic benefit will accrue from the decrease in losses of paddy and rice and increase in rice quality which are considered as the quantitative and qualitative benefits respectively. Incremental benefits between without and with project conditions are estimated in terms of economic value of milled rice.

Quantitative benefits consist of the decrease in reaping and threshing losses at field level and rice milling losses which will be produced by the improvement of harvesting and milling activities with introduction of machinery and equipments. Increase in milling recovery rates are estimated at 5% between the present rate of around 60% and the improved rate of around 65% in with project condition. The saving of these field and milling losses is evaluated by applying the class C price.

The milled rice in without project condition is considered as the class C rice which is common product around the pilot areas. The rice quality in with project condition will be improved to the class B or A by the improvement of drying, cleaning and milling activities with introduction of winnowers, drying and storage facilities and rice mills. Qualitative benefit is calculated in terms of economic price differences among each class. The quantitative and qualitative annual benefits are estimated as shown in Table 7.3-1 and summarized as follows:

Item	Unit	Telagasari	Bagor	Mattiro Bulu	Trimurjo
I. Quantitative Benefit					
1. Decrease in Field Losses					
- Decrease in losses	t of paddy	99	47	98	72
- Increase in rice	t of rice		28	. 59	43
- Price of Class C rice	Rp'000/t	328	328	328	328
- Benefit	Rp 000	19,352	9,184	19,352	14,104
2. Decrease in Milling Losses	-				
- Decrease in milling losses	t	84	61	56	91
- Benefit	Rp'000	27,552	20,008	18,368	29,848
3. Quantitative Benefit	Rp'000	46,904	29,192	37,720	43,952
II. Qualitative Benefit					
1. Class B Rice Production					
- Production in with	t	1,034	754	690	1,127
- Price difference (Class B and C)	Rp'000/t	22	22	22	22
- Benefit	Rp'000	22,748	16,588	15,180	24,794
2. Class A Rice Production					
Production in with	t	40	27	24	42
- Price difference (Class A and C)	Rp'000/t	- 65		65	65
- Benefit	Rp'000	2,600	1,755	1,560	
3. Qualitative Benefit	Rp'000	25,348	18,343	16,740	27,524

The benefits will be expected to increase linearly year by year and reach the full benefits in and after five years after the implementation of the pilot plan.

7.3.2 Economic Cost

(1) Economic Project Cost

Economic project cost for the pilot plan comprises the construction cost for drying floor, warehouse and milling house, and procurement cost for machinery. Economic project cost is converted from the financial costs by applying the standard conversion factor (SCF) of 0.9. The economic project cost is estimated as follows:

(Unit: Rp '000)

	Telagasari	Bagor	Mattiro Bulu	Trimurjo
1. Machinery and Equipment	28,864	31,432	19,181	46,241
2. Construction - Drying Floor - Building	9,597 53,928	6,855 39,312	7,312 40,824	10,511 57,456
Sub-total	63,525	46,167	48,136	67,967
3. Total (1 + 2)	92, 389	77,599	67,317	114,208

(2) Operation and Maintenance Cost

Operation and maintenance cost (O&M costs) for processing and marketing activities using drying floor, winnowers, rice mills and warehouse are considered the additional cost in with project condition. Economic O&M costs are estimated by applying the economic labor cost of Rp 1,450/man-day and the SCF of 0.9 for the other cost portion. Economic annual O&M costs in the respective pilot areas are estimated as follows:

(Unit: Rp '000/year)

	Cost Item	Telagasari	Bagor	Mattiro Bulu	Trimurjo
1.	Operation and				
	Maintenance Cost	10,561	7,506	7,224	11,332
п.	Personnel Cost	6,801	4,750	4,617	7,355
II.	Transportation Cost	1,775	1,174	1,190	1,850
	Total (I+II+III)	19,137	13,430	13,033	20,534

(3) Change of Cost for Harvesting

O&M cost for the threshers accrues in with project condition instead of threshing labor costs in without project condition. The labor costs for pre drying activities will be an additional cost in with project condition. Total economic harvesting cost will increase between without and with project conditions. The incremental harvesting costs are summarized as follows:

<u>.</u>			(Uni	t: Rp '000)
Item	Telagasari	Bagor	Mattiro Bulu	Trimurjo
Incremental cost				
Wet season	518	1,018	588	1,364
Dry season	835	1,253	524	1,758
Total	1,353	2,271	1,062	3,122

(4) Replacement Cost

The following machinery and equipments are considered to be replaced by 5 years and 2 or 3 years respectively. Building and drying floor will be replaced by 20 years. Economic replacement costs for machinery and equipment are estimated by applying the SCF of 0.9 to those of financial prices as follows:

Itém	Useful Life (year)	Telagasari	Bagor	Mattiro Bulu	Trimurjo
1. Replacement in 3rd year					
- Serrated Sickle - Drying Sheet	2 2	412 1,440	340 1,080	365 1,080	542 1,440
Total		1,852	1,420	1,445	1,982
2. Replacement in 4th year					
- Threshing Sheet - Pedal Thresher Total	3 3	738 3,690 4,428	216 0 216	504 2,520 3,024	306 0 306
3. Replacement in 6th year - Power Thresher - Power Winnower - Rice Mill Unit	5 5 5	0 2,064 20,520	15,084 1,032 13,680	0 1,032 13,680	21,369 2,064 20,520
Total		22,584	29,796	14,712	43,953
4. Replacement in 21st year					
- Building - Drying Floor Total	20 20	53,928 9,597 63,525	39,312 6,855 46,167	40,824 7,312 48,136	57,456 10,511 67,967

(Unit: Rp '000)

7.3.3 Economic Evaluation

The economic useful life of the pilot plan is considered to be 20 years on the basis of the useful life for building and drying floors of 20 years. The economic internal rate of return (EIRR) is calculated from the economic cost and benefit flows for each pilot area as shown in Table 7.3-2. The EIRRs are as follows:

	Telagasari	Bagor	Mattiro Bulu	Trimurjo
EIRR (%)	25	18	24	19

The project sensitivity is analyzed with respect to the change in benefits and cost. The pilot plan is still expected to become economically feasible even if there are increase in the costs and decrease in the benefits between 10-20% as follows:

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		•	EIRR	(8)	
Assum Cost Up	<u>ption (%)</u> Benefit Down	Telagasari	Bagor	Mattiro Bulu	Trimurjo
	-10	20	14	19	15
+10	-20	16	10	16	13
+10 +20	-10	19	12	18	14
+20	-20	15	9	15	12

7.4 Socio-Economic Impacts

In addition of the direct benefits assessed in the economic and financial evaluations, various secondary and intangible benefits and/or favourable socio-economic impacts may be expected from the implementation of the pilot plans as follows:

(1) Activation of Village Economy

The present economy in the pilot areas depends on the paddy production sector. The agro-processing industries including rice milling are limited to the home consumption for farmers and most of marketable surplus are brought out by paddy or raw materials. The operation of rice mills by farmer groups will create the employment opportunities of laborers and operators for drying, cleaning and milling. Initial rice milling activities by farmer groups would promote the other processing industries for palawija crops. The village economy will be stabilized and enlarged by the close coordination between production and processing sectors.

(2) Spreading Effects to Other Area

Each of the pilot area is located at the major rice producing area in the respective four provinces. The development effects by the pilot plan will be easily spread to the other farmer groups around the pilot areas through the existing Rural Extension Centers and the proposed Post Harvest Service Centers.

(3) Enhancement of Farmer Groups Organization

Joint post harvest and marketing activities by farmer groups will accrue close coordination with pre harvesting activities and KUDs' activities. Farmer group activities for the improvement of post harvest will be expanded to pre harvesting activities on the basis of SUPRA INSUS technologies. Farmer groups will easily join the KUDs' activities through the timely arrangement for the procurement of farm inputs, surely repayment of SUPRA INSUS credit and close coordination of marketing activities.

When the farmer groups by the unit of tertiary irrigation block are reorganized and their post harvest and marketing activities are fairly under way, the respective farmer groups will be integrated as a rice growers' association. This association will have chances to introduce more effective technologies i.e. mechanical dryers, larger scale rice mills with higher efficiency, and to get more strong bargaining powers. The set-up of the growers' association will bring more benefits to the member farmers.

(4) Enhancement of Village Society

The proposed pilot plan will play the leading activities in the village society. Not only member farmers but also agricultural laborers and the government officials in the villages will participate in the pilot activities. Most of the village members will be required to attend the meetings for the promotion of the plan and have the joint activities each other. The village society can be enhanced through these activities.

(5) Promotion of Palawija Crop Production

The present major constraints for the production of palawija crops are lower productivities due to improper farming practices as well as limited water supply or production under rainfed conditions, and lower prices due to limited market outlets. The farmer groups set-up by the pilot plan could improve the constraints on the marketing outlets through the joint processing and marketing activities of rice product.

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(1) Early Implementation of the Plans

The plans are verified herewith to be technically sound, and economically and financially feasible. It is highly recommended that the necessary arrangement for early implementation of the plans be taken as soon as possible.

(2) Financial Support by the Government for the Pilot Plans

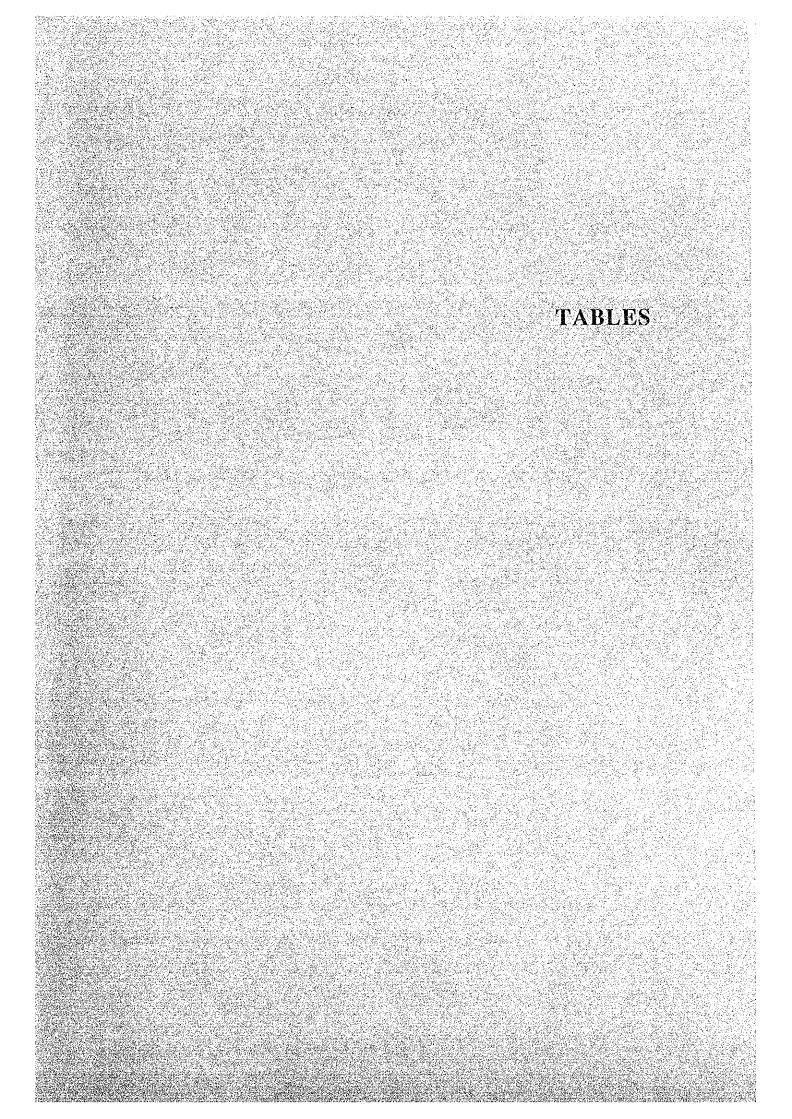
It is very important to realize improvement in post harvest and marketing in farmer groups in the pilot plans as one of the progressive examples for future implementation of the national post harvest improvement program. For early and steady realization of proposed pilot plans, it is recommended to support financial arrangement of farmer group's initial investment costs by the Government.

In order to facilitate, introduction of advanced machinery by farmer groups, it is recommended to provide some subsidized credit or lease services of advanced machinery to farmer groups with technical guidance and training through the Service Centers.

(3) Intensive Investment in Farm Roads and Drainage Canals

The poor drainage and road system is one of the major causes of the harvesting losses and low efficiency in the field work of the paddy cultivation and its improvement is the prerequisite for the improvement in harvesting and transportation activities. But the improvement of drainage and road system is though to be too heavy for farmers. It is recommended to implement drainage and road improvement work in the pilot areas by the Government.

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AREA
SURVEY
Z H -
CONDITION
AGRICULTURAL CONDITION IN SURVEY AREA
AND
DMINISTRATIVE
PRESENT A
Table 3.1-1

KABUPATEN	KARA	KARAWANG	NGAN	NGANJUK	INIA	P INRANG	LAMPUNG 1	HADNEF
KECAMATAN	TELAGASARI	ASARI	BAGOR	50R	MATTIRO	O BULU	TRIMURJO	8JO
	Survey	Cadas	Survey	Selorejo	Survey	Marannu	Survey P	Purwodadi
Survey area/related Desa (plan area)	area K	ertajava	area		area		атеа	
			- 1. -		•			
1. Area (km2)	50	9.0 6	52	2.9	161	20	200	5.2
2. Population/H.Hold		·						
Population	49,600	2,697	\mathbf{c}	, 25	23,240	2,401		3,667
Population density	992	692	066	1,467	107	489	736	7(
(person/km2)								
No. of household	12,860	672	11,900	ω	4,770	120	8,210	75
Average family size	3.9	4.0	4.3	4.3	4.9	4.9	5.2	4.
3. No. of Farm Household								
Owner Farmer	3,820	σ	~	ហ	2,300	212	\sim	40
Tenant Farmer	2,100	\sim	5,720	Q	1,840	4	2	12
Agricultural Labor	4,240	200	74	230	0	0	610	- F
Total	10,160	618		4	4,140	453		
Share to whole H.H (%)	19	92	92	9 6	87	£6	ы С	æ
4. Land use								
Paddy Field :								
Irrigated (ha)	3,960	290		197	ົ	1,357	3,900	32
Rainfed (ha)	I	ł	9	1	1,380	I	300	
Sub-total (ha)	3,960	290	2,100	197	ς.	1,357	4,200	32
Upland (ha)	20	63	9	56	Ч	623	0	Т 6
	1,020	ſ	2,860	34	Ø	20	1,300	(*)
4	5,000	390	5,120	287	16,100	2,000	, 80	ŝ
5. No. of Farmer Groups							4 1	
SUPRA INSUS	102	œ	44	m	122	32	n . 0	
NON-SUPRA INSUS	0	0	4	0	0	0		
	0.01	a	a v	(7	122	32	102	

Source : BPP, Camat office, Dinas Pertanian.

Table 3.2-1 PRESENT CONDITION OF AGRICULTURE IN SURVEY AREA (1/7)

•

T. TENG USE IN CHE WARTEDE LEET (Na)												
(1) Paddy Field -Irrigated	3, 960	<u>1</u>		, L		(-)	m	3, 950	()	3, 900		~
-Rainfed						(-)	⊦ -(() (m i		_
	3, 960	<u> </u>		6	2	8)	U) -		(33%)	4,200	~	~
						(3%)	10	-	(899)	m		~
(3) Others	1,020	0 (21%)		ю,		8)			(1%)	1,300		-
(4) Total	5, 000	(%001) 00		เง้	5,120 (100%)	(<u>8</u>	16	16,100 (10	(100%)	5, 800	00 (100%)	<u>.</u>
(5) Area covered by SUPRA INSUS	100% of i paddy	irrigated Y field	U	70% of padd	k of irrigated paddy field	ted	60% D	60% of irrigated paddy field	ated d	85% of pack	s of irrigated paddy field	ec.
2.Paddy Production (1988/89)	Dry Sesson Se	Wet		Dry Season	Wet Season	Total	Dry Sea son	Wet Season	Total	Drý Season S	Wet Season	Total
(1) Irricated Harvested Area (ha)			7,920	1,550	1,750	3,300	2,700	3,950	6, 650		3,900	7,800
land Average Yield (6.6	6.3	و. د ا	6.4	5.8	5.8	5.8		5.7	ນ 4
		26.9	52.6	9.8 8	11.4	21.2	15.7	22.9	38.6	20.3	22.2	. 42.5
(2) Rainfed Harvested Area (ha)	I	ł	1	I	160 .	160	I	540	540	I	300	300
land	i	۱	I	ł	2-0	2.0	t	1.5	1.5	1	1.5	1.5 1
	i	١	I	I	0.4	0.4	I	0.8	0.8	1	0.5	0.5
							,	ł		ſ		
ropping Pattern n the Irrigated Pado	Dry Season Se 1008	Wet Season 100%	Total	Dry Season 80%	Wet Season on%	Total 170%	Dry Season 44%	wet Season 100%	Total 144%	ury Season 100%	wet Season 100%	Total 200%
(T) crobbrud Turenstra or Faund		e 0001	e 0004	2		2 - -			season is	>		season
· · ·							average o	of past 3 years	Years.	decreases t	to 50% on	once 3
•								y tends t	0	years.		
-							increase recently.)	recently	·			
(2) Cropping Intensity of Upland Crops	sq											000
-Plan	65%	t	65%	10%	60%	70%	1	1 ·	I	20%	ı	\$02 5
-Actual	0.3%	ł	0.3%	10%		70%	1	,	1	2%	ļ	N. %
	•.			Sugarcane is		planted in 10% neddy area						
						•						
(3) Harvesting Season of Paddy	קצע	2	Wet	<i>й</i> яд		Wet	Dry		Wet	Dry Dry	v	Wet
101 1 a 1	Season	Veb. 25-Mar	Season 25-Mar 25	Jul.18-Aud.5		season Mar.7-30	Aug.15-Sep.15		Feb.15-Mar.15	Aug.15-Sep.15		April
1 1 1 C 1 1	(1 month)		(1 month)	(0.8 month)		(0.8 month)	(1 month)		(1 month)	(1 month)		(1 month)
-Actual	Jul.10-Aug.25		Feb.15-Mar.30	Jul.18-Aug.10		Mar.4-Apr.10	Aug.3-Sep15		Feb.15-Mar.30	AL		Mar.15-May
	(1.5 month)		(1.5 month)	(0.9 month)		(1.3 month)	(1.4 month)		(1.5 month)	(1.5 month)		(2 month)

PRESENT CONDITION OF AGRICULTURE IN SURVEY AREA (2/7) Table 3.2-1

• •			-	-	
Item		Kab. Karawang Kec. Telegasari	Kab. Nganjuk Kec. Bagor	Keb. Pinrang Kec. Mattiro Bulu	Kab. Lampung Kec. Trimurjo
(4) General	:	 a. 75% of farmers have not operated farming practices according to the schedule. b. Harvesting is delayed cause of delayed planting (due to improper water manage- ment) and labour shortage in harvesting period. 	 a. 60% of farmers properly carry out farming practices according to the schedule. b. Due to labour shortage, land preparation and transplanting are delayed. 	 Y a. Large land owners didn't cultivate in dry season against the plan, and this resulted in low cropping intensity. b. Due to labour shortage for land preparation and delaying previous dry season crop, planting in rainy season is behind the schedule. 	 a. Dry season crop delays due to shortage of animal power and irri- gation water for land preparation. b. Rainy season crop delays due to shortage of animal power and irrigation water for land preparation.
4. Farming Practice (1) Variety -Plan -Actual		Dry Wet Season Season IR64 Cisadane IR64 (100%) Cisadane (90%) IR64 (10%)	Dry Wet Season Season IR36 IR36 (100%) IR36(100%) IR36(100%)	Dry Wet Season Season IR64 (100%) IR36/42 IR64 (100%) IR36 (80%) IR42 (20%)	Dry Wet Season Season IR64 Cisadane IR64 Cisadane (20%) IR64/42 (80%)
- Use of	Rec sea tol tol pre var Var	Recommended variety in rainy season is Cisadane as disease tolerant variety, but farmers prefer IR64, high yielding variety. Seeds 98% 98%	908 208	80% 80%	Recommended variety in rainy season is Cisadane as disease tolerant variety, but farmers prefer IR64, high yielding variety. 62%
(2) Fertilizer	-Actual	40% of farmers apply armonium sulfate inadequately.	Application of fertilizer is carried out as planed. Organic fertilizer is recommended to apply 5 t/ha for rainy season crop, 40% of farmers apply the planned dosage.	Generally, dosage of armonium sulfate and KCl is short (8% for armonium a sulfate and 16% for KCl against the plan).	60% of farmers apply urea insufficiently.
(3) Agro-chemicals	-Actual	Insufficient application of agro-chemicals due to delay of distributing materials.	I Insecticide is applied as planned. Rodenticide is not applied as planned. Only Hitorasil is applied as Hormone.	Insecticide is applied by 30% of planned amount. Rodenticide is not applied due to high price. Fungi- cide is not applied against recommendation Only Sitocine is applied as Hormone.	Agro-chemicals is applied by planned amount. It is insufficient for 65% of farmers to observe insects and disease.

 5. Farm Operation System (1) Land Preparation mat Soaking (1) Land Preparation and Soaking (1) Land Preparation and Soaking (1) Land Preparation and Soaking (2) Transplanting (3) Transplanting (4) Transplanting of 1 ha can be dramation by a power. Operators in the strateging to the strange. (5) Transplanting (6) Transplanting of 1 ha can be dramation by a power. Operators in the strateging to the strange. (7) Transplanting (7) Transplanting (7) Transplanting (7) Transplanting of 1 ha can be dramation for group (20-40 persons). (7) Transplanting of 1 ha can be dramating at the dramating of 1 ha can be dramating at the dramating dramating dramating of 1 ha can be dramating d	Item	Kab. Karawang Kec. Telagasari	Kab. Nganjuk Kec. Bagor	Kab. Pinzang Kec. Mattiro Bulu	Kab. Lampung Kec. Trimurjo
 (2) Transplanting of 1 ha can group (20-40 persons). De finished in 1 day by owner and tenant fammers have contracts with labour 20 females labours. Ave contracts with labour 20 females labours. Ave contracts with labour 20 females labours. Ave contracts with labour 20 females labours. Transplanting of 1 ha can groups in villages. (3) Weeding a. More than 2 times in villages. Contract with village a coording to the labour force. There is no case that owner or tenant farmers weed by themselves. 	5. Farm Operation System (1) Land Preparation and Soaking	Custom land preparation by hand tractor. (animal power is not applied.)	Custom land preparation by hand tractor. Operators are labour force in the villages. 1 ha can be finished in 1 day.	50% is custom land preparation by hand tractor, and another 50% is carried out by animal power. Operators are labour force in the villages. Working efficiency is 0.6 ha/day.	 a. Land preparation by animal power. (custom land preparation by hand tractor is partially started.) b. Land preparation is not sufficient (20% of farmers).
 (3) Weeding a. More than 2 times b. By labours in free of tenant force. There is no case that owner or tenant farmers weed by themselves. b. By labours with payment (Greptokan). c. There is no case that owner or tenant farmers weed by themselves. 	·	Contract with a labour group (20-40 persons). Owner and tenant farmers have contracts with labour groups in villages.	Transplanting of 1 ha can be finished in 1 day by about 20 females labours.	Family labour force is exchanged each other under the Gotong Royong system. 1 ha can be transplanted in 1 day by about 20 females labours.	Contract with village transplanting group (10 females and 2 males, owner/tenant farmers and labour in the village). Farmers groups and labour groups help each other (Gotong Royong system).
By labours in free of tenant farmers weed by charge (Cheblokan), themselves. by labours with payment (Gropyokan). (Gropyokan). There is no case that owner or tenant farmers weed by themselves.			Contract with village labour force. There is no case that owner or	Usually owner or tenant farmers weed by themselves. Supple-	a. More than 2 times farmers to the instruction.
<u>і</u> ц			tenant farmers weed by themselves.	mentary labour force is supplied through labour exchange among farmers in Gotong Royong system.	
		ធ			 Farmers groups and labour groups help each other (Gotong Royong system).

Table 3.2-1 PRESENT CONDITION OF AGRICULTURE IN SURVEY AREA (3/7)

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<pre>Usually by owner or tenant Usu farmers. Processes like far application method and time the are carried out according to the instructions of the extension office. (1/11 of harvests for contract. (60%) 1/11 of harvests for gropyokan, Rp 15 per kg for syst contract. 1/11 of harvests for gropyokan, Rp 15 per kg for syst contract. 1/11 of harvests for gropyokan, Rp 15 per kg for syst contract. 1/11 of harvests for gropyokan, Rp 15 per kg for syst contract. 1/11 of harvests for gropyokan, Rp 15 per kg for syst contract. 1/11 of harvests for gropyokan, Rp 15 per kg for syst contract. 1/11 of harvests for gropyokan, Rp 15 per kg for syst contract. 1/11 of harvests for gropyokan, Rp 15 per kg for syst contract. 2. Femeles thresh paddy by peating. 2. Wooden plates for beating conting for contract for beating. 2. Wooden plates for beating.</pre>	 (4) Application of Fartilizers Contract with labour drawing over of feature states spaces and the state of the st	í í	Item	Kab. Karawang Kec. Telagasari	Kab. Nganjuk Kec. Bagor	Kab. Pinrang Kec. Mattiro Bulu	Kab. Lampung Kec. Trimurjo
 aid Agro-chemicals groups. gr	 and Agro-chemicals groups. gr		Application of Fertilizers	Contract with labour	Usinally owner or tenant	[[sumer or tenant	Tisual V humar or renant
 (5) Earvesting System Coording to the arread of the arready and the arready arready and arready arready arready and arready a	 (5) Rarvering System Coording to the area carried out according to the instructions of the instruction of the instruction		and Adro-chemicals		farmers armiv by	farmers Processes like	famore carry dit by
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thresher:Rp 5,000/day.	thresher:Rp 5,000 day. - 2 male labours operate 6.				- Rental charge of pedal	- Wooden plates for	ı
ų	و			1	thresher:Rp 5,000/day.	beating	
¢					- 2 male labours operate	-	

PRESENT CONDITION OF AGRICULTURE IN SURVEY AREA (5/7) Table 3.2-1

Item	Kec. Telagasari	Kec. Bagor	Nap. Fintang Kec. Mattiro Bulu	kec. Trimurjo
3) Operation Method	8. Transportation to the 6	. Wirnowing on the sheet.	7. Packing in the plastic	6. Winnowing on the vinyl
1	main roads.	. Packing threshed paddy		sheet using pampoo bowl.
	- on the backs of labours.	(70-80 kg per jute bag)	8. Transportation by horse	- winnowing is not
	- 1 back (75-90kg)/time. 8	. Transportation to main	to assembly points at	sufficient and much
	 Transportation to the 	road by man power.	the main road side.	impurities contain.
	use yard	Transportation to farm	- Rp 11/km under 2 km	
	bicycle or by cart, and	yard is by man power	- Rp 13-15/km over 2 km	8. Transportation to the
	dividing	cart (500kg capacity)	- 4 bags (360 kg) in one	main road and farmers
	9'.Dividing at the main	in the area of good	time (2 horses x 2 bags	house yards by bicycle
	road-side and sell to	road condition (20%),		(2-3 bags/time) through
	middleman or millers	and by bicycle in the	 Paddy is sold at the 	farm road.
		area of worse road	assembly points at the	9. Division at the farm
		condition.	road side (mainly rainy	yard.
	• 6	-	season).	9' not many cases of.
		1. to 8. is 0.31 ha/day		dividing at the main
	•	by 10 persons, or at		road and sell to
				middleman or millers.
		persons.		
(6) General	a. Labour force is short a.	. Labour force stavs in	a. Large owner farmers	a. Labour force is always
	for harvesting rainv		hire the labour force	short for harvesting
	season paddy due to long	is enough in this area.	of small holders and	rainy season paddy
	rainv davs.	In the other 53%,	tenants by contract.	(difficult to harvest
	b. Labour force is	labour force is only	Owner farmers use	timely).
		available after	family members and	b. Labour force is
	harvesting dry season	completing in the above	sometimes hire labours	sufficient for
	paddy.	area, and labour force	from other villages.	harvesting dry season
	c. High harvesting loss and	is short for harvesting	Labour force is short.	paddy, because labour
	low paddy quality in	rainy season paddy and	b. Due to shortage of	(mainly relatives) is
	rainy season are caused	land preparation in dry	irrigation water and	available from rainfed
	by the inefficient farm	season.	labour force, land	area.
	operations due to	. Pedal threshers	preparation is usually	c. High harvesting loss and
	insufficient drainage in	decrease the	delayed.	low paddy quality in
	the field.	opportunities for		rainy season are caused
	•.	female labour force to		by the inefficient farm
		join harvesting.		operation due to
			- -	insufficient drainage in
				the field.

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PRESENT CONDITION OF AGRICULTURE IN SURVEY AREA (6/7) Table 3.2-1

	NGC. 16100011	Kec. Bagor	Kec. Mattiro Bulu	Kec. Trimurjo
ter Management (Tertiary canal a Personnel in Charge of Water 1 Management Management	 6. Water Management (Tertiary canal and down stream) (1) Personnel in Charge of Water Irrigation inspector (Uru Uru) of Desa office and Uru) of Desa office and labour group. *Chief of water user's association (P3A) is elected by farmers. Usually, chief of P3A and Uru Uru is the same person. 	Existing water user's a association (HIPPA) is organized in village level. 1 representative is elected in each farmers group, and one of representatives are selected as a chief of HIPPA. 1 unit of HIPPA is th plots of the farmers group.	 a. P3A is organized, and a chief is elected from the farmers group. Usually, a group leader is elected as an inspector. b. P3A is the same organization as the farmers group, and the names of farmers groups are applied as the block names in on-farm level. 	a. Irrigation inspector (Ili Ili) of Desa office and several farmers. P3A has not organized yet.
	 a. Uru Uru control the gate of terriary canals. (Quarterly canals have not been equipped yet.) b. In the plot-to-plot irrigation area, irrigation blocks are adjusted by farmers. (Adjustment is not so sufficient that plots near the terminal area tend to be short of irrigation water). 	 a. Irrigation inspectors control the gate of tertiary canals. b. Farmers groups divide paddy field into blocks, and prepare schedule for irrigation and drainage. In the dry season, farmers make a plan for crops to be planted in each block and allocate irrigation water. 	 a. Irrigation inspector control the gate of tertiary canals. b. Plot-to-plot irrigation. c. In the rainy season, a part of area is under poor drainage condition. d. In the dry season, water allocation is not so fair that much area can not be planted. 	 a. Irrigation inspectors control the gate of tertiary and quarterly canals. b. In the plot-to-plot irrigation area, irrigation blocks are adjusted by farmers. (As plot-to-plot irrigation area is limited due to undulating topographic condition, it is easy to adjust irrigation area among farmers.)

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Iten	Kab. Karawang Kec. Telagasari	Kab. Nganjuk Kec. Bagor	Kab. Pinrang Kec. Mattiro Bulu	Kab. Lampung Kec. Trimurjo
(3) Maintenance	 a. In the active P3A area, tertiary canals are repaired by farmers groups through provision of labour force before starting irrigation in each season. b. P3A is generally inactive, and it is not sufficient to repair tertiary canals. c. Quarterly canals is not functioned due to functioned du	a. Well maintenance of main to tertiary canals.	a. Tertiary and quarterly canals are maintained by farmers groups voluntarily.	 a. Tertiary and guarterly canals are maintained as required by farmers group through provision of labour force before starting irrigation in each season. b. Well maintenance of tertiary and quarterly canals.
(4) Water Charge	is	a. Rp 3,000/year/ha.	a. 25 kg of paddy/year/ha.	a. 15-20 kg of paddy/year /ha. b. Water charge is
	time in every season, and is disbursed as payment for inspectors and labours.			time in every season, and is disbursed as payment for inspectors/ labours and for rensiring materials
	•			(cement and stone) .

Table 5.2-1 PADDY PRODUCTION IN THE PILOT AREAS

	Pilot Area/	Telagasari	Bagor	Mattiro Bulu	Trimurjo
- 1	Description	West Java		South Sulawesi	
			Buse Gava	JULIN VULUMEDI	Dampang
Α.	Harvested Area	·			
	- Wet season paddy	119 ha	98 ha	105 ha	157 ha
	- Dry season paddy	119 ha	87 ha	84 ha	157 ha
	Total	238 ha	185 ha	189 ha	314 ha
B	Unit Yield (wet pade	iv GKP)			:
	- Wet season paddy		8.4 t/ha	7.5 t/ha	6.9 t/ha
 1.	- Dry season paddy		7.7 t/ha		6.2 t/ha
C	Production at Field	(wet paddy. G	(P)		
		1,011 tons	823 tons	787 tons	1,083 tons
	- Dry season paddy	987 tons	669 tons	571 tons	973 tons
	Total	1,988 tons	1,492 tons		2,056 tons
D.	Harvested Paddy (dry		(() + + + +	626 tons	956 ton:
•	- Wet season paddy	859 tons	662 tons		875 tons
	- Dry season paddy	822 tons	562 tons 1,224 tons	1,118 tons	1,831 ton:
	Total	1,681 tons	1,224 CONS	I, IIO CONS	2,001 001
г Г	Paddy for Food Consu	notion			
· • •	- Wet season paddy	79 tons	107 tons	47 tons	120 ton:
	- Dry season paddy	78 tons	106 tons	46 tons	119 ton:
	Total	157 tons	213 tons		239 ton
F.	Seed				
	- Wet season paddy	4 tons	3 tons	4 tons	6 ton
	- Dry season paddy	4 tons	3 tons	'3 tons	5 ton:
	Total	8 tons	6 tons	7 tons	11 ton.
G.	Milling Paddy	·			0.00
	- Wet season paddy	855 tons	659 tons		950 ton
	– Dry season paddy	818 tons	559 tons		870 ton
	Total	1,673 tons	1,218 tons	1,111 tons	1,820 ton
Н.	Marketable Paddy				
	- Wet season paddy	776 tons	552 tons	575 tons	830 ton
	- Dry season paddy	740 tons	453 tons	443 tons	751 ton
	Total	1,516 tons	1,005 tons		1,581 ton
			1		_

Remarks :

1) Harvested paddy is calculated at dried clean paddy and reduced

post havest losses (ref. in ANNEX VII).

2) Marketable paddy is excluded paddy for food consumption and seed.

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Table 5.4-1 REQUIREMENT OF MACHINERY AND FACILITIES

Pilot Area/ Itoms	Telagasari	Bagor	Mattiro Bulu	Trimurjo
, Harvesting Area		<u>.</u>	105 ha	157 ha
- Wet season paddy	119 ha	98 ha		
- Dry season paddy	119 ha	87 ha	94 ha	157 ha
A. Production (GKP)	1,011 tons	823 tons	787 tons	1,083 tons
- Wet season paddy	987 tons	669 tons	571 tons	973 tons
- Dry season paddy		1,492 tons	1,358 tons	2,056 tons
Total	1,998 tons	1,102 0005	1,000 0000	.,
, Home Consumption Paddy (GKG)				
- Wet season paddy	79 tons	107 tons	47 tons	120 tons
- Dry season paddy	78 tons	106 tons	46 tons	119 tons
Total	157 tons	213 tons	93 tons	239 tons
), Paddy of Required Seed (GKG)		· · ·		(h
- Wet season paddy	4 tons	3 tons	4 tons	6 tons
- Dry season paddy	4 Lons	3 tons	3 tons	5 tons
Total	8 tons	6 tons	7 tons	11 tons
E. Required Servated Sickles	7.9 ha/day	6.5 ha/ha	7.0 ha/day	10.4 ha/day
- Daily working area (GKP) - Serrated sickles (0.043ha/day)		151	162	241
 Selfaced Stexies (0.040ma/day) 				
. Required Thresher				
- Harvested paddy (GKP)	67 t/day	50 t/day	45 t/day	68 t/day
- Pedal threser (1.62 t/day)	41	-	28	· _
- Power thresher (4.05 t/day)		12		17
;, Required Drying Floor				
- Drying paddy (GKG)	52 t/ 2 days	37 t/ 2 days	38 t/ 2 days	55 t/ 2 days
- Net drying floor (27.5 kg/m2)	1,891 m2	1,345 m2	1,382 m2	2,000 m2
~ Gross drying floor (x 1.1)	2,100 m2	<u>1,500 m2</u>	1,600 m2	2,300 m2
·				
4. Required Winnower	9 1 + /day	5.4 t/day	5.4 t/day	8.1 t/day
- Cleaning paddy before milling	8.1 t/day	1	1 J.4 C/uay	2
- Power winnower (4.05 t/day)	2	·		
L. Required Rice Mill Unit				
- Milling Paddy	8.4 t/day	6.1 t/day	5.6 t/day	9.1 t/day
~ Rice mill unit (2.7 t/day)	3	2	2	3
				· · · ·
), Required Warehouse for Paddy				÷
~ Storing Paddy (wet season)	776 tons	552 tons	575 tons	830 tons
 Milling paddy in harvesting pe 	riod			
(10 hr/day x 15 days)	203 tons	135 tons	135 tons	203 tons
Net storing paddy	573 t <i>o</i> ns	417 tons	440 tons	627 Lons
- Net warehouse (0.75 t/m2)	764 m2	556 m2	587 m2	836 m2
- Gross warehouse (x 1.1)	850 m2	620 m2	650 m2	920 m2
	(m.)			·
A state of Rice Mill Unit and (- Rice mill unit (60 m2/unit)	Others 180 m2	120 m2	120 m2	180 m2
- Office and others	40 m2	40 m2	40 m2	40 m2
VIANC HIG VERED	7 V 1(14,	3.0 107	1V 182	
Remarks :	······································			
1) Working capacity of reaping :	15 days/seaso	n, 6 hrs/day	ang taon at si a	
· · · · · · · · ·	0.6m x 0.12 k	m/hr x 6 hrs =	0.0432 ha/day	
 Working capacity of threshing: 			-	
Pedal thresher		.9 x 6 hrs/day		
Power thresher		.9 x 6 Hrs/day		
 Working capacity of drying : 		paddy(GKP_x_0.		
		eason, 2 days o		; 15 times
		ific gravity of		1-2 26 01
W the balance and a second		drying paddy ;		
4) Working capacity of cleaning :				ac x 0.9)
Power winnower		$1.9 \times 6 \text{ hrs} = 4.$		
5) Working capacity of milling :		, 6 hrs/day(10		rvesting pério
6) Charles a second to a		9 x 6 hrs/day =		
6) Storage capacity :	is kgroag of	paddy x 2 x 5 =	iu pags/m2	
				· .
	т - 1	10		
				1

Quarterly Faddy No of Blocks Field Farmers Blocks Field Farmers Blocks Field Farmers Suberch 9.5 a. 1 9.5 a. 3 9.5 a. 4 11.0 a. 5 9.5 a. 4 12.0 a. 5 9.5 a. 4 12.0 a. 5 9.5 b. 3 9.5 b. 3 9.5 b. 3 9.6 b. 1 9.0 b. 2 9.5 b. 3 6.0 b. 4 7.0 b. 3 6.0 b. 4 9.5 b. 3 6.0 b. 4 9.5 b. 5 14 c. 1 9.5 b. 4 9.5 b. 5 12 c. 1 9.5 c. 2 8.0 12 c. 3 9.0 13 suberceal 13.5 46 c. 1 9.5 14 c. 2 8.0 12 <tr< th=""><th>Name of Name of Name of WU-I-a WU-I-a WU-I-a WU-I-a WU-I-a WU-I-a WU-I-a WU-II-a WU-II-a WU-II-a WU-II-a WU-II-a WU-III-a WU-II-a WU-III-a WU-II-a WU-III-a WU-II-a WU-III-a WU-II-a WU-III-a WU-II-a WU-III-a WU-II-a WU-II-a WU-II-a WU-II-a WU-II-a WU-I-a WU-II-a WU-I-a WU-I</th><th>Paddy M Fleid (ha) (ha) (1 14.0 14.0 12.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 12.0 9.0 11.0 0.0 11.0 0.0</th><th>Mather Retriners (No.) 14 14 14 13 13 14 14 10 10 10 10 10 10 11 11 11 11 11 11 11</th><th>Name of Branch and No. of Group Branch - I 5 working units 54.0 ha of paddy field 78 member farmera 8 working units 46 member farmers 8 member farmers 33.5 ha of paddy field 48 member farmers 48 member farmers</th><th>Quarterly Paddy Blocks Field Block [ha] Block 1 a. 1 13.0 a. 2 9.5 s. 3 27.0 b. 1 7.0 b. 1 7.0 b. 2 8.0 b. 1 7.0 b. 2 8.0 b. 1 7.0 b. 1 7.0 b. 2 8.0 b. 1 7.0 b. 2 8.0 b. 4 10.0 c. 3 10.5 c. 4 10.5 c. 5 5.5 Sub-total 10.5 c. 4 10.6 c. 5 5.0 c. 4 10.5 d. 7 10.5 d. 30.0 9.10</th><th>Paddy R Field F (ha) 13.0 13.0 13.0 13.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 13.0 10.0 10.0 10.0 10.0 10.5 10.0 10.5 10.0 10.5 10.0 10.5 10.5</th><th>Recent Recent Re</th><th>Werking Unit Werking Unit WU-I-a WU-I-b Sub-total WU-II-b WU-II-b WU-II-b WU-II-a WU-II-a Sub-total Sub-total WU-III-a WU-III-a WU-III-a Sub-total WU-IV-a WU-III-a Sub-total</th><th>Paddy (11a) (11a) 13.0 27.0 27.0 27.0 27.0 13.0 13.0 20.0 25.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.</th><th>Ramber Ramber (No.) 43 43 43 43 83 83 80 15 83 863 863 863 863 863 863 863 863 863</th><th>Name of Branch and Noi. of Group Branch - I 2 working units 2 working units Branch - II Branch - II 32.0 ha of paddy fiwld 105 member farmers Branch - IV 24 orking units Branch - IV 3 working units 3 workin</th></tr<>	Name of Name of Name of WU-I-a WU-I-a WU-I-a WU-I-a WU-I-a WU-I-a WU-I-a WU-II-a WU-II-a WU-II-a WU-II-a WU-II-a WU-III-a WU-II-a WU-III-a WU-II-a WU-III-a WU-II-a WU-III-a WU-II-a WU-III-a WU-II-a WU-III-a WU-II-a WU-II-a WU-II-a WU-II-a WU-II-a WU-I-a WU-II-a WU-I-a WU-I	Paddy M Fleid (ha) (ha) (1 14.0 14.0 12.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 12.0 9.0 11.0 0.0 11.0 0.0	Mather Retriners (No.) 14 14 14 13 13 14 14 10 10 10 10 10 10 11 11 11 11 11 11 11	Name of Branch and No. of Group Branch - I 5 working units 54.0 ha of paddy field 78 member farmera 8 working units 46 member farmers 8 member farmers 33.5 ha of paddy field 48 member farmers 48 member farmers	Quarterly Paddy Blocks Field Block [ha] Block 1 a. 1 13.0 a. 2 9.5 s. 3 27.0 b. 1 7.0 b. 1 7.0 b. 2 8.0 b. 1 7.0 b. 2 8.0 b. 1 7.0 b. 1 7.0 b. 2 8.0 b. 1 7.0 b. 2 8.0 b. 4 10.0 c. 3 10.5 c. 4 10.5 c. 5 5.5 Sub-total 10.5 c. 4 10.6 c. 5 5.0 c. 4 10.5 d. 7 10.5 d. 30.0 9.10	Paddy R Field F (ha) 13.0 13.0 13.0 13.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 13.0 10.0 10.0 10.0 10.0 10.5 10.0 10.5 10.0 10.5 10.0 10.5 10.5	Recent Re	Werking Unit Werking Unit WU-I-a WU-I-b Sub-total WU-II-b WU-II-b WU-II-b WU-II-a WU-II-a Sub-total Sub-total WU-III-a WU-III-a WU-III-a Sub-total WU-IV-a WU-III-a Sub-total	Paddy (11a) (11a) 13.0 27.0 27.0 27.0 27.0 13.0 13.0 20.0 25.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.	Ramber Ramber (No.) 43 43 43 43 83 83 80 15 83 863 863 863 863 863 863 863 863 863	Name of Branch and Noi. of Group Branch - I 2 working units 2 working units Branch - II Branch - II 32.0 ha of paddy fiwld 105 member farmers Branch - IV 24 orking units Branch - IV 3 working units 3 workin
Rasark Pilot Ar 1 1 9.5 2 2 9.0 3 9.5 3 9.5 4 124.0 5 124.0 6 0 6 0 6 0 6 0 6 0 6 0 6 0 7 0 8 0 6 0 6 0 6 0 6 0 7 0 8 0 6 0 1 1 1 9.6 1 24.0 0 5 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2		0 10000 0000 0000 0000 0		Branch - I 5 working units 5 working units 1.0 ha of paddy field 78 member farmera Branch - II 4 working units 4 working units Branch - III Branch - III 3.5 ha of paddy field 4 working units 3.5 ha of paddy field 4 member farmers		(ha) 13.0 13.0 29.5 27.0 29.5 10.0 12.0 10.0 10.0 10.0 10.0 10.0 10.0	(No.) 15 15 32 32 32 32 32 32 33 33 33 33 33 33 33	W0-I-a W0-I-a W0-I-b W0-II-a W0-II-b W0-II-c M0-II-c Sub-total WU-IV-a WU-IV-a WU-IV-a WU-IV-a WU-IV-a WU-IV-a Sub-total Sub-total	(ha) 13.0 27.0 27.0 27.0 24.0 20.0 11.0 26.0 26.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5	(No.) 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Branch - I Branch - I 2 vorking units 27.0 ha of paddy fit Branch - II 8 working units 32.0 ha of paddy fit Branch - II 8 member farmers 80 ha of paddy fit 8 working units 26.0 ha of paddy fit 8 anch - IV 3 working units 8 member farmers 87 member farmers
1 1 9.5 2 9.5 9.5 4 14.0 5 9.5 4 14.0 5 9.5 6 9.5 7 9.5 8 9.5 7 9.5 8 9.5 8 9.5 8 9.5 8 9.5 8 9.5 8 9.5 8 9.5 8 9.5 8 9.5 9 9.5 9 9.5 9 9.5 9 9.5 <td>WU-I-a WU-I-b WU-I-c WU-I-c WU-I-e WU-II-a WU-II-b WU-II-a WU-II-c SUD-CCEA] WU-III-a WU-III-a WU-III-a WU-III-a WU-III-a WU-III-a WU-III-a WU-II-a WU-I-a WU-I-a</td> <td></td> <td>1 1 1</td> <td><pre>Branch - I 5 working units 1.0 ha of paddy field 78 member farmers Branch - II 4 working units 1.5 ha of paddy field 46 member farmers Branch - III 8 a of paddy field 48 member farmers 48 member farmers 48 member farmers 40 member farmers 40</pre></td> <td></td> <td></td> <td>43 15 32 32 33 35 33 35 36 36 36 36 36 36 36 36 36 36 36 36 36</td> <td>WU-I-a WU-I-a Sub-total WU-II-a WU-II-a WU-II-a WU-II-a Sub-total WU-III-a WU-III-a WU-II-a Sub-total WU-IV-a WU-IV-a WU-IV-a WU-IV-a Sub-total</td> <td></td> <td>969 969 969 969 969 969 969 969 969 969</td> <td>Branch - I Branch - I 2 working units 90 member farmers Branch - II 32.0 ha of paddy f1 32.0 ha of paddy f1 Branch - II 8 member farmers 80 member farmers 81 member farmers 87 member farmers 87 member farmers 87 member farmers</td>	WU-I-a WU-I-b WU-I-c WU-I-c WU-I-e WU-II-a WU-II-b WU-II-a WU-II-c SUD-CCEA] WU-III-a WU-III-a WU-III-a WU-III-a WU-III-a WU-III-a WU-III-a WU-II-a WU-I-a WU-I-a		1 1 1	<pre>Branch - I 5 working units 1.0 ha of paddy field 78 member farmers Branch - II 4 working units 1.5 ha of paddy field 46 member farmers Branch - III 8 a of paddy field 48 member farmers 48 member farmers 48 member farmers 40 member farmers 40</pre>			43 15 32 32 33 35 33 35 36 36 36 36 36 36 36 36 36 36 36 36 36	WU-I-a WU-I-a Sub-total WU-II-a WU-II-a WU-II-a WU-II-a Sub-total WU-III-a WU-III-a WU-II-a Sub-total WU-IV-a WU-IV-a WU-IV-a WU-IV-a Sub-total		969 969 969 969 969 969 969 969 969 969	Branch - I Branch - I 2 working units 90 member farmers Branch - II 32.0 ha of paddy f1 32.0 ha of paddy f1 Branch - II 8 member farmers 80 member farmers 81 member farmers 87 member farmers 87 member farmers 87 member farmers
н н н н н н н н н н н н н н н н н н н	WU-I-a WU-I-c WU-I-c WU-I-e WU-I-e SUD-FCOEAJ WU-II-a WU-II-a WU-I-a	8 8 8 8 8 8 8 8 8 8 8 8 8 8		Branch - I 5 working units 1.0 ha of paddy fleid Branch - I 4 working units 46 member farmers Branch - III Branch - III Branch - III 3.5 ha of paddy field 48 member farmers		13.0 45.5 7.0 7.0 7.0 7.0 10.0 10.0 10.5 10.5 10.5 10.5 10.5 10	43 155 32 32 32 32 33 33 35 33 35 35 35 35 35 35 35 36 3 16 3 1	WU-I-A WU-I-A WU-II-a WU-II-a WU-II-a WU-II-a WU-II-a SUD-II-a SUD-II-a WU-III-a WU-III-a SUD-III-a WU-II-a SUD-II-a SUD-II-a SUD-II-a SUD-II-a SUD-II-a SUD-II-A SUD-II-A SUD-II-A SUD-II-A SUD-II-A SUD-II-A SUD-II-A SUD-II-A SUD-II-A SUD-II-A SUD-II-A SUD-II-A SUD-II-A SUD-II-A SUD-II-A SUD-II-A SUD-II-A SUD-II-A SUD-III-A SUD-II-A S	13.0 24.0 27.0 27.0 25.0 10.5 25.5 59.0 25.5 59.0 59.0 59.0 59.0	44 44 106 106 106 106 106 106 106 106 106 106	Branch - I 2 working units 27.0 ha of paddy fi Branch - II 8 fanch - II 32.0 ha of paddy fi 105 member farmers Branch - III 21.0 ha of paddy fi Branch - IIV 3 working units 26.0 ha of paddy fi 87 member farmers 87 member farmers 37.0 ha of paddy fi
на стания с с с с с с с с с с с с с с с с с с с	WU-Ia WU-Ib WU-I WU-Ie WU-Ie WU-IIb WU-IIb WU-IIb WU-IIb WU-IIb WU-IIb WU-IIb WU-IIa WU-IIIa WU-II	9999444 9999447 99994 9999 999 999 999 9		5 working units 1.0 ha of paddy field 78 member farmera Branch - II 4 working units 1.5 ha of paddy field 46 member farmera Branch - III Branch - III 3.5 ha of paddy field 4 member farmera		13.0 4.5 7.0 7.0 7.0 7.0 13.0 10.5 10.5 10.5 10.5 10.5 10.5 10.5 10	43 15 15 15 90 23 23 23 23 35 35 35 35 35 35 35 35 35 35 35 35 35	WU-I-A WU-II-A WU-II-A WU-II-A WU-II-C WU-II-C WU-II-C SUD-CCCAI WU-III-A SUD-CCCAI WU-YV-C SUD-CCCAI	13.0 14.0 7.0 7.0 7.0 13.0 10.0 10.0 10.0 10.0 59.0 59.0 59.0	43 263 263 263 263 263 263 263 263 263 26	2 vorking units 27.0 ha of paddy fi 90 member farmors Branch - 11 4 vorking units 32.0 ha of paddy fi 80 member farmers 80 member farmers 81 a of paddy fi 3 working units 26.0 ha of paddy fi 81 member farmers 87 member farmers
2 9.0 1 4 9.5 1 5 9.5 1 5 12.0 1 7 12.0 1 7 12.0 1 7 2 9.5 1 7 2 9.5 1 7 2 8.0 1 7 2 8.0 1 7 0 1 7 2 8.0 1 7 0 1 7	WU-T-C WU-T-C WU-T-C WU-T-C WU-TI-b WU-TI-b WU-TI-C WU-TI-C WU-TIT-C WU-TIT-C WU-TIT-C WU-TIT-C WU-TIT-C WU-TIT-C WU-TICCAI	а а и и и и и и и и и и и и и и и и и и		5 working units 1.0 ha of paddy field 78 member farmers Branch - II 1.5 ha of paddy field 4.6 member farmers Branch - III Branch - III 3.5 ha of paddy field 4.8 member farmers 4.8 member farmers		4.5 27.0 27.0 12.0 32.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 1	15 90 22 23 23 23 23 33 33 35 36 36 36 36 36 36 36 36 36 36 36 36 36	WG-I-b Sub-total WG-II-a WG-II-b WG-II-c MG-II-c Sub-total WU-II-a WU-II-a WU-II-a WU-IV-c Sub-total J1	14.0 27.0 2.0 10.0 10.0 10.0 10.0 10.0 10.0 10.	47 49 10 10 10 10 10 10 10 10 10 10 10 10 10	2 working units 27.0 ha of paddy fi Branch - II Branch - II 32.0 ha of paddy fi Branch - III Branch - II 24.0 ha of paddy fi 80 member farmers 81 member farmers 87 member farmers 87 member farmers 87 member farmers
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4 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	WU-LIL-d Sub-total WU-LIL-a WU-LIL-a WU-LIL-c MU-LIL-c MU-L-a MU-L-a MU-L-a MU-L-a MU-L-a MU-L-a	9.1.0 9.1.0 9.0 9.0 9.0 119.0		46 member farmers Branch - III 4 working units 48 member farmers 48 member farmers		11.0 13.0 10.0 50.0 50.0 10.0 50.0	37 43 35 33 33 19 167 363	WU-III-6 WU-III-6 WU-III-6 SUD-E0E8] WU-IV-6 WU-IV-6 SUD-E0E8] JI	11.0 13.0 10.5 10.5 10.0 10.0 10.0 10.0 10.0 10	43 43 43 43 43 43 43 43	Bronch - III Z working units 24.0 ha of paddy 11 80 member formars Branch - IV 3 working units 26.0 ha of paddy fi 87 member farmars 3ranch - T
Cotal 31.5 4 - II 9.5 1 2 8.0 1 3 7.0 7 3 7.0 7 5 9.0 1 5 1 9.0	Sub-total WU-III-a WU-III-a WU-III-c WU-III-c MU-III-c MU-I-a MU-I-a MU-I-b WU-I-b WU-I-b	31.5 9.5 8.0 3.6 119.0		Branch - III 4 working units 3.5 ha of paddy field 48 member farmers	m + 1 1	11.0 13.0 10.5 10.5 50.0 50.0 109.0 109.0	37 35 35 33 33 363 363	WU-III-a WU-IXI-b SUb-total WU-IV-a WU-IV-a WU-IV-a WU-IV-c SUb-total J1	11.0 13.0 24.0 24.0 50.0 6.0 6.0 6.0 6.0	84 86 15 15 15 16 16 16 16 16 16 16 16 16 16 16 16 16	2 working units 24.0 ha of paddy fa 80 member farmars 81 anch - IV 3 working units 87 member farmers 3ranch - T
- TH 2 2 8.0 1 3 7.0 3 3 7.0 1 3 7.0 1 3 9.0 1 3 9.0 1 3 9.0 1 3 9.0 1 3 9.0 1 4 1 331.5 Are 4 1 119.0 1 4 1 8.0 5 10 1 1 10.0 1 4 1 10.0 1 1 10.0 1	WU-III-a WU-III-a WU-III-c WU-III-c MU-III-c SUb-COCal MU-I-a MU-I-a WU-I-a	9.5 9.5 9.5 33.5 119.0		Branch - III 4 working units 3.5 ha of paddy field 48 member farmers		11.0 13.0 10.5 50.0 50.0 109.0 109.0	37 43 35 33 33 363 363	NU-III-a Nu-III-b Sub-total NU-IV-a NU-IV-c XU-IV-c Sub-total 11	11.0 2.4.0 2.0.6 5.0 69.0 69.0 69.0	43 43 10 10 10 10 10 10 10 10 10 10 10 10 10	Z working units 24.0 ha of paddy 19 80 menber farmers 8 ranch - IV 3 working units 26.0 ha of paddy fi 81 member farmers 3 anch - T 3 anch - T
- III 2 8.9.5 4 9.0 1 19.0 1 19.0 1 19.0 1 19.0 1 19.0 1 8.0 1 10.0 1	WU-III-6 WU-III-6 WU-III-6 WU-III-6 NU-III-6 NU-III-6 NU-II-6 MU-I-8 MU-I-8 WU-I-9	9.5 8.0 7.0 9.5 3.5 119.0	1	Branch - III 4 working units 3.5 ha of paddy field 48 member farmers	+ L I	13.0 10.5 5.5 50.0 109.0 109.0	43 35 19 167 363	NU-TII-D SUD-COCAI WU-IV-A WU-IV-A WU-IV-C SUD-COCAI JI	23.0 20.5 20.0 20.0 50.0 59.0	43 80 81 963	24.0 ha of pady 1 80 member fatmars 81 anch - IV 3 working units 26.0 ha of pady fi 31 member fatmors 31 anch - T 31 anch - T
9.5 9.5 7.0 7.0 7.0 7.0 7.0 119.0 119.0 119.0 119.0 10 8.0 7.0	WU-ITI-a WU-ITI-b WU-ITI-b WU-ITI-d MU-ITI-d MU-IT-d MU-I-a MU-I-a MU-I-b WU-I-b	9.5 8.0 9.0 3.5 119.0		4 working units 3.5 ha of paddy field 48 member farmers		10.5 10.0 5.5 50.0 109.0	35 33 19 167 363	Sub-total WU-IV-a WU-IV-b WU-IV-c Sub-total 11	24.0 10.5 10.0 5.5 26.0 69.0	80 13 15 15 15 15 16	<pre>80 member fatmars 81 anch - IV 3 working units 26.0 ha of paddy fi 87 member fatmars 31 anch - T 31 anch - T</pre>
8.0 1 9.0 1 9.0 1 33.5 2 1.19.0 1 8.0 7.0 7.0	MU-III-6 MU-III-6 MU-III-6 MU-III-6 MU-111-6 MU-1-a MU-1-a MU-1-5 MU-1-5	8.0 7.6 9.0 13.5		4 working units 3.5 ha o£ paddy field 48 member farmers		10.0 5.5 50.0 109.0 10t Area	33 19 363	WU-IV-a WU-IV-b WU-IV-C SUD-TV-C SUD-TOCal	10.5 10.6 5.5 26.0 69.0	8 5 5 7 8 5 5 7 8 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	Branch - IV 3 working units 26.0 ha of paddy fi 87 member farmers 3ranch - T
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	R-1-102	2			•-•	13.5	22	MU-11-a	9.51	22	
	Sub-rore !	5 C 5	0 7		с 2	11.0	a) • 1	MC-II-D	11.0	8	S YORKING UNITS
						8.0	2	2-11-0M	10.5	17	35.0 ha of paddy field
						2.5	प				57 member tarmers
				Branch - 11	Sub-total	35.0	57	Sub-total	35.0	57	
5.9.5	MU-II-a	5.6	-20		Block - III						Bracot 1 1111
- 0 6 2 G	WC-11-P	0.6	[*	6 working uning	 5	6.0	10	WU-III-a	10.0	16	
- 0 - 0	0+11-11M	6.5		7.5 ha of paddy field	с. 2 С	4.0	G				3 working units
ota: 28.0				18 member tarmers		6,0	10	9-111-0%	11.0	18	34.5 ha of paddy fi
						5.0	a				56 nember farmers
					с. 5	0.9	15	20-III-DA	1315	22	
31.006 - 1111 31.006 - 1111						4.5	7				
0, 1, 0	P-II-DM	7.0	ų		Sun-total	34.5	56	Sub-total	36.5	56	
	WC+11+6	5.5	ო		Block - IV						
. 3 7.0	3-11-014	7.0	10		. ч -	6.0	10				21 - COORUS
rotel 19.5	Sub-total	47.5	38		a. 2	5.6	41 i	8-11-114	1. 1	52	
					Sub-total	15.5	25				atten Service 6
					Block - V				د د ۲	•	ex.v ha or pagey risted
						101	\$ 1		0 1 0 1 1	0 V 1 T	
					ค.	2 2	5 1	0-71-DV	n < 0 <	5 4	
					0. d	0.01 10.0	0 9	SUNATO SUMPACE	244	0'r + r-	
					1 100011004	2-22		2020 - 2020			
		4 9 4 F	20	S Leave	Arral	167.0	254	5.	157.0	254	

Tablo 5.5-1 PROPOSED ORGANIZATION OF FARMER GROUPS IN PILOT AREAS

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				· · · · · ·	
		Tela	gasari	Bag	
Cost Items	Unit Cost	Q'ty	Amount	Q'ty	Amount
	(Rp'000)	(<u>No</u>)	(Rp'000)	(No)	(Rp'000)
	1 A		5. 		
1. Machinery	20	41	820	12	240
- Threshing Mat (larger than 5m x 5m)	100	41	4,100	-	012
- Pedal Thresher (300 kg/hr)	1,397	41	4,100	12	16,764
- Power Thresher (750 kg/hr)	1,397	2	2,294	1	1,147
- Power Winnower (750 kg/hr)	7,600	3	22,800	2	15,200
- Rice Mill Unit (500 kg/hr)	7,000		30,014		33,351
sub-total			50,014		~~,~~
2. Construction/1		(m2)		(m2)	
- Drying Floor	5.08	2,100	10,668	1,500	7,620
- Warehouse	56	850	47,600	620	34,720
- Milling House	56	220	12,320	160	8,960
- Milling house Sub-Total			70,588		51,300
3. Total (1+2)			100,602		84,651
		Mattiro	Bulu	Trimu	rjo
Cost Items	Unit Cost	Q'ty	Amount	Q'ty	Amount
	(Rp'000)	(No)	(Rp'000)	(No)	(Rp'000)
l. Machinery					
- Threshing Mat (larger than 5m x 5m)		28	560	17	340
- Pedal Thresher (300 kg/hr)	100	28	2,800		کورد مدارع شد
- Power Thresher (750 kg/hr)	1,397	. –		17	23,749
- Power Winnower (750 kg/hr)	1,147	1	1,147	2	2,294
- Rice Mill Unit (500 kg/hr)	7,600	2	15,200	. 3	22,800
sub-total			19,707	·	49,183
2. Construction/1		(m2)		(m2)	an pair
- Drying Floor	5.08	1,600	8,128	2,300	11,684
- Warehouse	56	650	36,400	920	51,520
- Milling House	56	160	8,960	220	12,320
Sub-Total	50	100	53,488	220	75,524

Table 6.2-1 FINANCIAL PROJECT COST FOR PILOT PLANS

Note ; /1: Indicating by m2.

Table 6.2-2 FINANCIAL REPLACEMENT COST

	Useful	**********	Financ	ial Cost	
Description	Life	Telagasari	Bagor	Mattiro Bulu	Trimurjo
	(Year)	(Rp'000)	(Rp'000)	(Rp1000)	(Rp'000)
1. Replacement in 4t	h year				
Threshing Mat	3	820	240	560	340
Pedal Thresher	3	4,100	0	2,800	(
Total		4,920	240	3,360	34(
	-				
2. Replacement in 6t	h year				
Power Thresher	5	0	16,764	0	23,749
Power Winnower	5	2,294	1,147	1,147	2,294
Rice Mill Unit	5	22,800	15,200	15,200	22,800
Total		25,094	33,111	16,347	48,84
3. Replacement in 21	th year				
Drying Floor	20	10,668	7,620	8,128	11,684
Warehouse	20	47,600	34,720	36,400	51,520
Milling House	20	12,320	8,960	8,960	12,320
Total		70,588	51,300	53,488	75,52

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		equired	
Items	Area	and Number	Amount
an an an and the set of a labeler of a set of the set o			(Rp '000)
A. Building/ Facilities	· · · ·		0.5 0.00
1) Display room		100 m2	25,000
2) Meeting/ lecture room		100 m2	25,000
3) service center office		60 m2	15,000
A) Monitoring/ marketing info	rmation room	60 m2	15,000
5) Inspection/ laboratory for	rice and paddy	100 m2	25,000
6) Farm machinery warehouse	•		
(rice mill, dryer, winnowe	r, etc.)	150 m2	22,500
7) Garage for farm machinery			
(reaper, binder, truck, et	c.)	50 m2	5,000
Sub-total			132,500
Sub cocar			
3. Equipment for Rice/ Paddy Insp	ection Service		
1) Grain moisture tester		3 sets	3,400
·		l set	8,600
		1 set	10,000
3) Test mill unit		l set	12,600
4) Test dryer		1 set	8,000
5) Test thickness grader		1 set	8,000
6) Test grader		1 set	700
7) Beam balance		1 set	700
8) Grain volume-weight tester			2,000
9) Digital rigidity tester		1 set	5,700
10) Digital witheness tester		1 set	
11) Grain thermometer		1 set	700
12) Tachometer		l set	300
13) Sample divider		1 set	700
14) Grain shape tester		l set	
15) Sampler, others		L.S	7,000
Sub-total			68,480
C. Farm machinery and Equipment 1	or Demonstratio		
-Ordinery machinery for common			
1) Rice mill unit	practices	1 set	7,600
2) Power winnower		2 sets	2,400
3) Power thresher		2 sets	2,800
-Modernized machinery for adva	aced practices	2 3600	27000
4) Reaper	leed practices	5 sets	32,000
5) Binder/ harvester		2 sets	24,400
		2 sets	12,000
6) Mechanical dryer		L.S.	5,000
Other equipment		ь.э	86,200
Cub total			00,200
Sub-total			
. Equipment for Marketing Inform		ring	
		ring 1 set	5,200
. Equipment for Marketing Inform		÷ .	5,200 1,300
). Equipment for Marketing Inform 1) Photo copy/ printing machi		1 set	1,300
). Equipment for Marketing Inform 1) Photo copy/ printing machi 2) White board		1 set 2 sets	1,300
 Equipment for Marketing Inform 1) Photo copy/ printing maching 2) White board 3) Furniture and equipment Sub-total 		1 set 2 sets	1,300
 Equipment for Marketing Inform 1) Photo copy/ printing maching 2) White board 3) Furniture and equipment Sub-total 5. Office Equipment 		l set 2 sets L.S.	1,300 3,000 9,500
 Equipment for Marketing Inform 1) Photo copy/ printing maching 2) White board 3) Furniture and equipment Sub-total Coffice Equipment 1) Truck (3 tons) 		l set 2 sets L.S.	1,300 3,000 9,500 26,000
 Equipment for Marketing Inform Photo copy/ printing machi White board Furniture and equipment Sub-total Office Equipment Truck (3 tons) Jeep 		1 set 2 sets L.S. 1 1	1,300 3.000 9,500 26,000 30,000
 Equipment for Marketing Inform Photo copy/ printing machi White board Furniture and equipment Sub-total Office Equipment Truck (3 tons) Jeep Motor cycle 	ne	1 set 2 sets L.S. 1 1 6	1,300 3,000 9,500 26,000 30,000 31,200
 Equipment for Marketing Inform Photo copy/ printing maching White board Furniture and equipment Sub-total Office Equipment Truck (3 tons) Jeep Motor cycle Micro computer/ typewriter 	ne	1 set 2 sets L.S. 1 1 6 L.S.	1,300 3,000 9,500 26,000 30,000 31,200 13,000
 Equipment for Marketing Inform Photo copy/ printing maching White board Furniture and equipment Sub-total Office Equipment Truck (3 tons) Jeep Motor cycle Micro computer/ typewriter Telecommunication equipment 	ne s tt*	1 set 2 sets L.S. 1 1 6 L.S. L.S.	1,300 3,000 9,500 26,000 30,000 31,200 13,000 15,000
 Equipment for Marketing Inform Photo copy/ printing maching White board Furniture and equipment Sub-total Office Equipment Truck (3 tons) Jeep Motor cycle Micro computer/ typewriter 	ne s tt*	1 set 2 sets L.S. 1 1 6 L.S.	1,300 3,000 9,500 26,000 30,000 31,200 13,000

Table 6.3-1 PRELIMINARY COST ESTIMATE FOR THE SERVICE CENTER

Note : *; Side single band (SSB) wireless radio, telephones and handy talkies

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Table 7.1-1 FINANCIAL PRICES OF FARM INPUTS AND CUSTOM CHARGES

Item	IT as à de	Without	Wit	
10em	Unit	Project	Proj	
		Condition	Condi	tion
Televe ebener	_ /.			
Labor charge	Rp/day			
Java(Telagasari/Bagor)		2,500	2,5	500
Outside of Java		2,000		000
(Mattiro Bulu/Trimurjo)				
Hired animal power	Rp/day	12,000	12,0	000
Custom Charges/Cost				
-Hand tractor	Rp/day			
Telagasari		27,500	27,	500
Bagor		25,000	25,0	
Outside of Java		32,500	32,5	
Thresher	Rp/kg		lst to 5th	After
	(Paddy)		Year	6th Year
Telagasarí(Manual)		_	8	6
Bagor (Power)		_	10	6
Mattiro Bulu (Manual)		_	7	5
Trimurjo (Power)			9	6
			-	Ť
-Processing/Marketing	Rp/kg			
<u>.</u>	(Rice)			
Drying(Concrete Floor)		-	4 - 5	3
Ceaning (Winnower)		-	4 - 5	4
Milling		20	20	13
Storage		-	13 - 14	13 - 14
Transportation		-	2	2
Transportation Total			43 - 46	35 -

		7.2-1					~		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	<u>(Uni</u>	t: 000Rs	/ha)
· · · · · · · · · · · · · · · · · · ·	ىلىمىيە بېرىمە يېرىدى		TELAG	ASARI					BAG			
	With	out		WI	th		With	out	<u></u>		th.	
			lst-5t	h Year	After 6				1st-5t		After 6	
	W.S.	D.S.	W.S.	D.S.	W.S.	D.S.	W.S.	D.S.	W.S.	D.S.	W.S.	D.S.
A. Gross Income	1,400	1,682	1,829	2,098	1,829	2,098	1,253	1,478	1,710	1,971	1,710	1,971
 Yield(t/ha) 				. .	7.4	7.1	6.7	6.4	6.9	6.7	6.9	6.
-Paddy	7.0	6.7	7.4	7.1	4.8	4.6			4.5	4.4	4.5	4.
-Rice		-	4.8	4.6	4.0	4.0						4.
2) Unit price (Rp/kg)							187	231		-	-	
-Paddy	200	251	-	-	-		107	231	380	448	380	44
-Rice	-	-	381	456	381	456	-	-	360	440	. 300	44
Production Cost												
1) Farm input	143	143	143	143	143	143	159	159	159	159	159	15
2) Cost for pre harvest									· .·	:		
-Labor	150	150	150	150	150	150	140	140	140	140	140	14
-Labor -Animal	150	150	0	0	0	0	0	0.	. 0	0	. 0	
-Machinery	55	55	55	55	55	55	50	50	50	50	50	5
_			1.26	126	125	115	207	205	145	140	113	10
 Harvesting cost /1 	195	233	136	120	125	115	201	200				
 Processing/Marketing 	-	-	240	230	202	193	-	-	239	233	203	19
charge		-	2	3	2	3	2	2	- 2	2	2	
5) Irrigation fee	2	З	2	3	2	5						
6) Land tax	23	23	23	23	23	23	20	20	20	. 20	20	í
7) Land rent	700	841	914	1,049	914	1,049	626	739	855	986	855	98
8) Total												
-Owner	568	606	749	729	699	681	578	576	754	745	686	6
-Tenant	1,174	1,353	1,569	1,684	1,520	1,636	1,105	1,216	1,510	1,631	1,442	1,5
. Net Return (A-B)									•			
-Owner	832	1,076	1,080	1,369	1,130	1,416	675	902	956		1,024	1,2
	227	329	260	414	309	462	148	262	200	341	268	4

			MATTIR	O BULU					TRIM		· · · · · · · · · · · · · · · · · · ·	
	Wit}	iout		Wi	th		Witl	out			th	
			lst-St	h Year	After 6	th Year			lst-5t		After 6	th Year
	W.S.	D.S.	W.S.	D.S.	W.S.	D.S.	W.S.	D.S.	W.S.	D.S.	W.S.	D.S.
A. Gross Income	1,027	1,145	1,416	1,664	1,416	1,664	1,021	1,293	1,576	1,647	1,576	1,64
 Yield(t/ha) 												
-Paddy	5.9	5.9	6.2	6.2	6.2	6.2	5.8	5.3	6.2	5.7	6.2	5.
-Rice	-	-	4.0	4.0	4.0	4.0	~		4.0	3.7	4.0	з.
Unit price (Rp/kg)								·				
-Paddy	174	194	-	-	-	-	176	244	~	~	-	
-Rice	-	· _	354	416	354	416	-		394	445	394	44
B. Production Cost												
1) Farm Input	113	113	113	113	113	113	131	131	131	131	131	131
2) Cost for pre harvest												
-Labor	б	6	6	6	. 6	6	4	4	4	4	4	
-Animal	36	36	36	36	36	36	24	24	24	24	24	2
-Machinery	33	33	33	33	33	33	0	0	. 0	0	0	I
3) Harvesting cost /1	63	82	70	72	60	62	63	92	86	91	60	6
 Processing/Marketing charge 	-	-	204	204	176	176	-	-	196	181	168	15
5) Irrigation fee	2	2	2	2	2	2	2	2	2	2	. 2	
6) Land tax	15	15	15	15	15	÷ 15	15	15	15	15	15	1
7) Land rent	513	572	708	832	708	832	510	647	788	823	788	82
8) Total												
-Owner	267	287	478	481	440	443	239	268	458	449	404	39
-Tenant	709	787	1,115	1,241	1,077	1,203	669	835	1,165	1,191	1,111	1,14
. Net Return (A-B)												
-Owner	759	858	938	1,184	976	1,222	782	1,025	1,118	•	1,172	1,25
-Tenant Note: This budget is fo	318	357	301	423	339	461	352	459	411	455	465	50

Table 7.2-1 CROP BUDGET IN WITH AND WITHOUT PROJECT CONDITIONS

Note: This budget is for paddy in /1= See Table XI 3-1 without project condition, project condit Table 7.2-2 FARM BUDGET IN WITH AND WITHOUT PROJECT CONDITIONS (1/2)

• •	Without	out		With			Without	out		W1th	ch .	
Item			lst-5th Year	Year	After 6	6th Year	ļ		<u>lst-5th</u>	Year		6th Year
	Owner	Tenant	Cwner	Tenant	Owner	renanc	Owner	Tenant	Owner	Tenant	Owner	Tegant
Family Size	4.1	4 1	4.1	4 1	4	4.1	يم. 1	4.3	5	6 . 6	4.3	ф. Э
rarm Size(na) Operated	0.69	0.69	0.69	0.69	0.69	0.69	0 30	0.30	0.30	. (*	0.50	
Leased to other farmer(s)	0.29		0.29		0.29		1.00		1.00	٠	00.5	0 - 1 0 - 2
Cropping Intensity (%)				-							·.	
Paddy (WS)	100	100	001	100	100	100	06	90	06	90°	06	90
Paddy (DS)	100	100	100	100	100	100	0	œ	80	80	80	. 80
Palawija	0	0	0	0	0	o	70 /2	2 70 /2	2 70 /2	/ 0/	2 70/2	2 70
Sugarcane	•	1	1	ı	ı	1	01	0	10	10	10	10
1. 好きて田 ゴカならぬる												
4												
	701 0	101 0	0 '1 '0	0 77 0	016 6	014 0	203	0 0 1	5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	11 (1) (1)	5	100
								7 C N C D L) () (0 0 0 0	0 0 0 0	0 1 7 7 7
-Froquenton cost	0 r 0 r	55/ T	1, UZU	C67'7	אר ה ה ה י	5 T T Z	2, C 0 0 0 0	0 r 0 r	3 0 0 0 0 0 0	או או רי	20 ເ ຜູ້ເ ທີ່ມ	1 64
-Nec Tucome	175.7	n n n	7, 030	C 9 6	/C) /T	700		6 0 T	20	9 D T	287	0/ T
b. Palawija												
-Net income	ı	I	3	1	1	1	145	145	145	145	145	145
	1	ı	ı	1	1	1	۲L	20	11	20	. 11	20
	L C		· · ·		- N		F00 f		, , ,			
II. MANG FENC LFOM CENAUC	400	1	0 0	I	N 0 0	1		r'	11011	L	15017	1
III Income from On-farm Employment	I	1	I	I	1	I	1	ĩ	1	i	ı	ł
IV. Non-farm income	419	412	419	412	419	412	451	489	451	489	451	489
V. Total Income	2,141	795	2,678	877	2,746	944	2,273	756	3,060	789	3,095	824
				•								
VI. Living Expense	2,065	749	2,065	749	2,065	749	1,480	667	1,480	667	1,480	667
a. Food	846	476	846	476	846	476	659	055	659	640	659	440
-Rice	206	206	206	206	206	206	159	159	159	159	159	159
-Other food	640	270	640	270	640	270	500	281	500	281	500	18 2
b. Other items	1,219	273	1,219	273	1,219	273	821	227	821	227	821	227
	i					i C			C C L			(1 7
VII Net Reserve(V-VI)	76	46	613	T 28	681	C A T	541	π ά	08c'i	72T-	CT9'T	101

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(2)	
(2)	
2 FARM BUDGET IN WITH AND WITHOUT PROJECT CONDITIONS (2/2)	
PROJECT	,
TUOHT IM	
AND	
нтім	
IN	
BUDGET	
FARM	
Table 7.2-2	
Table	

-			MATTIRO	BULU					TRIMURJO			
	Without	Jout		With	th		Without	out			q	
Item .			lst-5th	Year	After 6t	h Year			lst-5th		After 6th	h.Year
	Owner	Tenant	Owner	Tenant	Owner	Tenant	Owner	Tenant	Owner	Tenant	Owner	Tenant
Famlly Size Farm Size(ha)	4.9	4.9	4.9	4.9	4.9	4.9	6.4	4.9	9.9	á.9	4.9	4
Operated	1.21	1.21	1.21	1.21	2	1.21	0.62	0.62	0.62	0.62	0,62	C.62
to other	1.35	1	ς.	1 .	1.35	ı	5	1	0.14	1		1
cropping intensity (*) Dedate (ms)	0 7	00,	0 7	•	- 0		- c	001	001	с	001	- C
Facuy (WS)			001							001		
raccy (US) Delawite	0 0	с У Ч		с Сос С	5 C 6 ¥	0 C 0 K	0		0 1) O) 0 1	
Sugarcane))	5 I)	7 I))) F	1	, ,	1	ł	t	I	١
I. Farm Income a. Paddy					-							
-Gross income	2,351	2,351	ς.	3,324	3,324	3,324	1,435	1,435	1,998	1,998	1,998	1,998
-Production cost	601	1,620	1,044	2,550	σ	2,468	314	932		1,461 E20	194 1	955'T
-Net income	l,750	731	\sim	4774	2,363	6 2 0 2	1,120	209	а-5 2 , 1	0000	20c /T	000
b. Falawija -Net income	417	417	417	417	417	417	1	1	ł	I	ı	ı
 c. Sugarcane -Net income 	- 1	ı	I	ľ	ł	1	1	3	1	ł)	1
II Land rent from tenant	1,314	I	2,079	ł	2,079	· F	567	1	226	1	226	I
II:Income from On-farm Employment	۱	ı	ł	1	3	I	I .	1	I	t	1 .	
IV Non-farm income	18 1	30	18	30	18	30	24	162	24	162	24	162
	3,499	1,178	4,794	1,220	4,877	1,303	1,288	664	1,685	700	1,751	765
(I + II + II + IV) VI Litting Ryngned	2145	925	2.145	925	2.145	925	1.184	662	1,184	662	1,184	663
a Food	890	585	ຸ	282 282	တာ၊	585	•	423	687	423	687	423
-Rice	200	200	200	200	200	200	198 1	198	198	198	198	198
-Other food	690	385	690	385	690	.385	485	225	489	225	489	225
6 .4	1,255	340	1,255	340		340	497	239	497	239	497	239
VIINet Reserve(V-VI)	1.354	253	2,649	295	2,732	378	104	N		38	567	103

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					~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~				Unit : Rp	000)
Item / Year	1	2	3	4	5	6	7	8	э	10
Inflow										······································
(1) Custom Threshing Charges										
1, Pedal Throsher/Equipment	15,984	15,984	15,984	15,984	15,984	11,988	11,988	11,988	11,988	11,988
2. Power Thresher/Equipment	0.	Ū	10,504	13,304	13, 284	(1,500	11,200	11,900	11,966	11,950
(2) Processing/Marketing Charges	\$1,850	51,850	51,850	\$1,850	51,850	43,146	43,146	43,146	43,146	43,14
(3) Rice Sales Income	411,406	411,405	411,406	411,406	411,406	411.406	411,406	411,406	411,406	411,40
(4) Loan / 1	,	1	1111100	111/400	111,100	411,400	411,400	411,400	411,400	411,40
1. Machinery	30,014	0	0	0	0	0	0	0	0	
2. Facilities	100,602	õ	. 0	ů	a	0	0	ő	ő	
Sub-total	130,616	õ	ů	· 0	e e	0 0	0	0	0	
Total Inflow	609,856	479,240	479,240	479,240	479,240	466,540	466,540	466,540	466,540	466,54
1. Outflow	• • • • •				,		,	1007010	100,010	100101
(1) Investment Cost / 1										
1. Machinery	30,014	0	0	0	0	0	0	0	Û	
2. Facilities	100,602	0	0	0	0	0	ō	ō	ő	
Sub-total	130,616	Ū.	ō	0	å	0	0	ō	0	
(2) Operating Cost	-			-	-	-	-			
1. Machinery / 2										
Pedal or power thresher	574	574	574	574	574	574	574	574	574	52
Power winnower	1,416	1,416	1,416	1,416	1,416	1,416	1,416	1,416	1,416	1,41
Rice mill	5,022	5,022	5,022	5,022	5,022	5,022	5,022	5,022	5,022	5,02
2. Facilities / 2	-	-	•	•	• • • •					
Driyng	533	533	533	533	\$33	533	533	533	533	53
Warehouse and others	1,798	1,798	1,798	1,798	1,798	1,798	1,798	1,798	1,798	1,79
3. Personnel Cost	20,501	20,501	20,501	20,501	20,501	20,501	20,501	20,501	20,501	20,50
4. Transportation Cost	1,972	1,972	2,972	1,972	1,972	1,972	1,972	1,972	1,972	1,97
5. Rice Procurement	411,406	411,406	411,406	411,406	411,406	411,406	411,406	411,406	411,406	411,40
6. Others /_3	2,958	2,958	2,958	2,958	2,958	2,958	2,958	2,958	2,958	2,95
Sub-total	446,180	446,180	446,180	446,180	446,180	446,180	446,180	446,180	446,180	446,18
(3) Replacement Cost	. 0	. O.	0	4,920	0	25,094	4,920	0	0	4,92
(4) Repayment	19,188	19,188	19,188	19,188	19,188	9,591	9,591	9,591	9,591	9,59
Total Outflow	595,984	465,368	465,368	470,288	465,368	480,865	460,691	455,771	455,771	460,69
III.Cash Surplus			· ·							
1. Annual Balance (1-11)	13,872	13,872	13,872	8,952	13,872	-14,325	5,849	10,769	10,769	5,84
2. Cumulative	13,872	27,744	41,616	50,562	64,440	50,115	55,964	66,733	77,502	83,35

Table 7.2-3 CASH FLOW STATEMENT FOR FARMER GROUP ACTIVITIES, TELAGASARI PILOT PLAN AREA (1/4)

Note : /_1 ; Income and expenditure for the procurement of machinery and construction of facilities in the previous year. /_2 ; Cost for fuel, oil, spareparts and repair excluding personnel costs. /_3 ; Cost for bagging of marketable rice.

----

I. Inflow (1) Custom Threshing Charges 1. Pedal Thresher/Equipment 2. Power Thresher/Equipment (2) Processing/Marketing Charges (3) Rice Sales Income (4) Loan /_1. 1. Machinery 33,35 2. Facilities Sub-total 1. Outflow (1) Investment Cost /_1 1. Machinery 33,35 2. Facilities Sub-total 1. Machinery (2) Total Inflow (3) Rice Sales Sub-total 1. Outflow (1) Investment Cost /_1 1. Machinery 2. Facilities Sub-total 84,65 (2) Operating Cost 1. Machinery /_2 Pedal or power thresher 2,90 Power winnower 1,03	1 38,031 2 267,602 1 0 0 0 1 0 4 320,553 1 0	3 14,920 38,031 267,602 0 0 320,553 0	4 0 14,920 38,031 267,602 0 0 320,553	5 0 14,920 38,031 267,602 0 0 320,553	6 8,352 31,703 267,602 0 0 308,257	7 8,952 31,703 267,602 0 0 308,257	8 0 8,952 31,703 267,602 0 0 308,257	9 8,952 31,703 267,602 0 0 308,257	10 8,952 31,703 267,602 0 0 308,257
<ul> <li>(1) Custom Threshing Charges <ol> <li>Pedal Thresher/Equipment</li> <li>Power Thresher/Equipment</li> <li>Processing/Marketing Charges</li> <li>Rice Sales Income</li> <li>Rice Sales Income</li> <li>Uan /_1.</li> <li>Machinery</li> <li>Rice Sales</li> <li>Facilities</li> <li>Sub-total</li> <li>Multiple</li> <li>Resher Kost /_1</li> <li>Machinery</li> <li>Rachinery</li> <li>Rachinery</li></ol></li></ul>	0 14,920 1 38,031 2 267,602 1 0 0 0 1 0 4 320,553 1 0	14,920 38,031 267,602 0 320,553	14,920 38,031 267,602 0 0 320,553	14,920 38,031 267,602 0 0 0 0 2 320,553	8,952 31,703 267,602 0 0 308,257	8,952 31,703 267,602 0 0	8,952 31,703 267,602 0 0	8,952 31,703 267,602 0 0	8,952 31,703 267,602 0 0
<ul> <li>(1) Custom Threshing Charges <ol> <li>Pedal Thresher/Equipment</li> <li>Power Thresher/Equipment</li> <li>Processing/Marketing Charges</li> <li>Rice Sales Income</li> <li>Rice Sales Income</li> <li>Uan /1</li> <li>Machinery</li> <li>Rice Sales</li> <li>Facilities</li> <li>Sub-total</li> <li>Machinery</li> <li>Astronome</li> <li>Sub-total</li> <li>Sub-total</li> <li>Sub-total</li> <li>Sub-total</li> <li>Sub-total</li> <li>Sub-total</li> <li>Sub-total</li> <li>Sub-total</li> <li>Sub-total</li> <li>Achinery</li> <li>Sub-total</li> <li>Sub-total</li> <li>Machinery /2</li> <li>Pedal or power thresher</li> <li>1,03</li> </ol></li></ul>	0 14,920 1 38,031 2 267,602 1 0 0 0 1 0 4 320,553 1 0	14,920 38,031 267,602 0 320,553	14,920 38,031 267,602 0 0 320,553	14,920 38,031 267,602 0 0 0 0 2 320,553	8,952 31,703 267,602 0 0 308,257	8,952 31,703 267,602 0 0	8,952 31,703 267,602 0 0	8,952 31,703 267,602 0 0	8,952 31,703 267,602 0 0
1. Pedal Thresher/Equipment       14,92         2. Power Thresher/Equipment       14,92         2. Processing/Marketing Charges       38,03         (3) Rice Sales Income       267,60         (4) Lean /_1       33,35         1. Machinery       33,35         2. Facilities       51,30         Sub-total       84,65         (1) Investment Cost /_1       1.         1. Machinery       33,35         2. Facilities       51,30         Sub-total       84,65         (1) Investment Cost /_1       1.         1. Machinery       33,35         2. Facilities       51,30         Sub-total       84,65         (2) Operating Cost       1.         1. Machinery /_2       Pedal or power thresher       2,90         Power winnower       1,03	0 14,920 1 38,031 2 267,602 1 0 0 0 1 0 4 320,553 1 0	14,920 38,031 267,602 0 320,553	14,920 38,031 267,602 0 0 320,553	14,920 38,031 267,602 0 0 0 0 2 320,553	8,952 31,703 267,602 0 0 308,257	8,952 31,703 267,602 0 0	8,952 31,703 267,602 0 0	8,952 31,703 267,602 0 0	8,952 31,703 267,602 0 0
2. Power Thresher/Equipment       14,92         (2) Processing/Marketing Charges       38,03         (3) Rice Sales Income       267,60         (4) Loan /_1       1         1. Machinery       33,35         2. Facilities       51,30         Sub-total       70tal Inflow         (1) Investment Cost /_1       3,35         2. Facilities       51,30         Sub-total       84,65         (2) Operating Cost       84,65         (2) Operating Cost       84,65         (2) Operating Cost       84,65         1. Machinery       32,35         2. Facilities       51,30         Sub-total       84,65         (2) Operating Cost       84,65         1. Machinery /_2       Pedal or power thresher       2,90         Power winnower       1,03	0 14,920 1 38,031 2 267,602 1 0 0 0 1 0 4 320,553 1 0	38,031 267,602 0 320,553	38,031 267,602 0 0 320,553	38,031 267,602 0 0 0 2 320,553	31,703 267,602 0 0 308,257	31,703 267,602 0 0 0	31,703 267,602 0 0	31,703 267,602 0 0	31,703 267,602 0 0
(2) Processing/Marketing Charges       38,03         (3) Rice Sales Income       267,60         (4) Loan / 1       1         1. Machinery       33,35         2. Facilities       51,30         Sub-total       84,65         Total Inflow       405,20         II. Machinery       33,35         2. Facilities       51,30         Sub-total       84,65         (1) Investment Cost / 1       1         1. Machinery       33,35         2. Facilities       51,30         Sub-total       84,65         (2) Operating Cost       84,65         1. Machinery / 2       2         Pedal or power thresher       2,90         Power winnower       1,03	1 38,031 2 267,602 1 0 0 0 1 0 4 320,553 1 0	38,031 267,602 0 320,553	38,031 267,602 0 0 320,553	38,031 267,602 0 0 0 2 320,553	31,703 267,602 0 0 308,257	31,703 267,602 0 0 0	31,703 267,602 0 0	267, 602 0 0	31,703 267,602 0 0
(3) Rice Sales Income       257,60         (4) Loan / 1       1.         1. Machinery       33,35         2. Facilities       51,30         Sub-total       84,65         Total Inflow       405,20         II. Outflow       11         1. Machinery       33,35         2. Facilities       51,30         Sub-total       84,65         2. Facilities       51,30         Sub-total       84,65         2. Facilities       51,30         Sub-total       84,65         (2) Operating Cost       84,65         1. Machinery / 2       Pedal or power thresher       2,90         Power winnower       1,03	2 267,602 1 0 0 0 1 0 4 320,553 1 0	267,602 0 0 320,553 0	267,602 0 0 320,553	267, 602 0 0 220, 553	267,602 0 0 308,257	267,602 0 0	267,602 0 0	0 0 0	267,602 0 0
(4) Loan /_1.       33,35         1. Machinery       33,35         2. Facilities       51,30         Sub-total       84,65         Total Inflow       405,20         II. Outflow       10         (1) Investment Cost /_1       33,35         2. Facilities       51,30         Sub-total       84,65         (2) Operating Cost       84,65         1. Machinery       33,35         2. Facilities       51,30         Sub-total       84,65         (2) Operating Cost       84,65         1. Machinery /_2       Pedal or power thresher       2,90         Power winnower       1,03	1 0 0 0 1 0 4 329,553	0 0 0 320,553	0 0 320,553	0 0 0 320,553	0 0 308,257	0 0 0	0 0	0 0 0	0 9 0
1. Machinery     33,35       2. Facilities     51,30       Sub-total     84,65       Total Inflow     405,20       II. Outflow     11       II. Nestment Cost / 1     33,35       2. Facilities     51,30       Sub-total     84,65       (1) Investment Cost / 1     33,35       2. Facilities     51,30       Sub-total     84,65       (2) Operating Cost     84,65       1. Machinery / 2     2       Pedal or power thresher     2,90       Power winnower     1,03	0 0 <u>1 0</u> 4 329,553 1 0	0 0 320,553 0	0 0 320,553	0 0 320,553	0 0 308,257	0 0	0	0	0 0
2. Facilities     51,30       Sub-total     84,65       Total Inflow     405,20       II. Outflow     11       (1) Investment Cost /_1     33,35       2. Facilities     51,30       Sub-total     84,65       (2) Operating Cost     84,65       1. Machinery /_2     Pedal or power thresher       2. Pedal or power     1,03	0 0 <u>1 0</u> 4 329,553 1 0	0 0 320,553 0	0 0 320,553	0 0 320,553	0 0 308,257		0		0
Sub-total     84,65       Total Inflow     405,20       II. Outflow     1       11. Newstment Cost /_1     33,35       2. Facilities     51,30       Sub-total     84,65       (2) Operating Cost     84,65       1. Machinery /_2     Pedal or power thresher       2. Pedal or power (1,03)     2,90	1 0 4 329,553 1 0	0 320,553 0	0 320,553	0 320,553	308,257				the second se
Total Inflow 405,20       II. Outflow       (1) Investment Cost / 1       1. Machinery     33,35       2. Facilities     51,30       Sub-total     84,65       (2) Operating Cost     1.       1. Machinery / 2     Pedal or power thresher       2. Pedal or power     1,03	4 <u>329,553</u> 10	0	-	·		308,257	308,257	308,257	308,257
II. Outflow (1) Investment Cost /_1 1. Machinery 33,35 2. Facilities 51,30 Sub-total 84,65 (2) Operating Cost 1. Machinery /_2 Pedal or power thresher 2,90 Power winnower 1,03	1 0	0	-	·		•			
(1) Investment Cost /_1         1. Machinery       33,35         2. Facilities       51,30         Sub-total       84,65         (2) Operating Cost       1.         Machinery /_2       Pedal or power thresher       2,90         Power winnower       1,03			G	٥					
1. Machinery     33,35       2. Facilities     51,30       Sub-total     84,65       (2) Operating Cost     1.       1. Machinery / 2     Pedal or power thresher       2. Pedal or power (1,03)     2,90			0	n					
2. Facilities       51,30         Sub-total       84,65         (2) Operating Cost       1.         Machinery /_2       Pedal or power thresher       2,90         Power winnower       1,03					0	0	0	0	0
Sub-total     84,65       (2) Operating Cost     1.       1. Machinery /_2     Pedal or power thresher     2,90       Power winnower     1,03		0	0	0	0	0	0	0	0
<pre>(2) Operating Cost 1. Machinery / 2 Pedal or power thresher 2,90 Power winnower 1,03</pre>		Ő	0	0	0	٥	0	Û	đ
1. Machinery / 2     Pedal or power thresher     2,90       Power winnower     1,03									
Pedal or power thresher 2,90 Power winnower 1,03									
Power winnower 1,03	4 2,904	2,904	2,904	2,904	2,904	2,904	2,904	2,904	2,904
		1,031	1,031	1.031	1,031	1 031	1,031	1,031	1,031
Rice mill 3,65		3,658	3,658	3,658	3,658	3,658	3,658	3,658	3,658
2. Facilities / 2						-			
Driyng 38	1 381	381	381		381	361	381	381	381
Warehouse and others 1,31		1,310	1,310	1,310	1,310	1,310	1,310	1,310	1,310
3. Personnel Cost 9,70		9,708	9,708	9,708	9,708	9,708	9,708	9,708	9,708
4. Transportation Cost 1,30		1,304	1,304	1.304	1,304	1,304	1,304	1,304	3,304
5. Rice Procurement 267.60		267,602	267,602	267,602	267,692	267,602	267,602	267,602	267,602
6. Others / 3 1,95		1,956	1,956	1,956	1,956	1,956	1,956	1,956	1,956
Sub-total 289,85		289,854	289,854	289,854	289,854	289,854	289,854	289,854	289,854
	0 0	0	240	0	33,111	Z40	0	0	240
(4) Repayment 17.63		17,635	17,635	17,635	6,970	6,970	6,970	6,970	6,970
Total Outflow 392,14		307,489	307,729	307,489	329,935	297,064	296,824	296,824	297,064
III.Cash Surplus									
1. Annual Balance (I-II) 13,06	13,064	13,064	12,824	13,064	-21,678	11,193	11,433	11,433	11,193
2. Cumulative 13,06		39,192	52,016	65,080	43,402	54,595	66,028	77,461	\$8,654

Table 7.2-3 CASH FLOW STATEMENT FOR FARMER GROUP ACTIVITIES, BAGOR PILOT PLAN AREA (2/4)

Note : / 1 ; Income and expenditure for the procurement of machinery and construction of facilities in the previous year. / 2 ; Cost for fuel, oil, spareparts and repair excluding personnel costs. / 3 ; Cost for bagging of marketable rice.

Table 7.2-3	CASH FLOW STATEMENT FOR FARMER GROUP ACTIVITIES, MATTIRO BULU PILOT PLAN AREA (3/4)
-------------	-------------------------------------------------------------------------------------

									Unit : Rp ⁴	000)
Item / Year	1	2	э	4	5	6	7	8	9	10
I. Inflow										
(1) Custom Threshing Charges					0 506	6,790	6,790	6,790	6,790	6,790
1, Pedal Thresher/Equipment	9,506	9,506	9,506	9,506	9,506	0,190	0,190	0,150	0,750	0,130
2. Power Thresher/Equipment	0	0	0	0	0	-	30,121	30,121	30,121	30, 121
(2) Processing/Marketing Charges	35,175	35,175	35,175	35,175	35,175	30,121		251,631	251,631	
(3) Rice Sales Income	251,631	251,631	251,631	251,631	251,631	251,631	251,631	5211031	231,031	251,631
(4) Loan / 1										
1. Machinery	19,707	0	0	0	0	0	0	0		(
2. Facilities	53,488	0	0	0	0		0	0	0	. (
Sub-total	73,195	. 0	0	0	0	0		<u> </u>	0	(
Total inflow	369,507	296,312	296, 312	296,312	296,312	288,542	288, 542	288,542	288,542	288,54
I. Outflow	_									
(1) Investment Cost /_1										
1. Hachinery	19,707	0	0	0	0	0	Û	0	0	
2. Facilities	53,488	0	0	D	0	. 0	0	0	Q	
Sub-total	73,195	0	D	0	Ð	Û	0	0	0	
(2) Operating Cost										
1. Machinery / 2										
	392	392	392	392	392	392	392	392	392	39
Pedal or power thresher	937	937	937	937	937	937	937	937	937	93
Power winnower	3,334	3,334	3,334	3,334	3,334	3,334	3,334	3,334	3,334	3,33
Rice mill	3,339	3, 339	3,334	51554	5,555		•/•••			
2. Facilities /_2		406	406	406	406	406	406	406	406	40
Driyng	405			1,361	1,361	1,361	1,361	1,361	1,361	1,36
Warehouse and others	1,361	1,361	1,361		11,664	11,664	11,664	11,664	11,664	
3. Personnel Cost	11,664	11,664	11,664	11,664	1,322	1,322	1,322	1,322		1,32
4. Transportation Cost	1,322	1,322	1,322	1,322			251,631	251,631	251,631	251,63
5. Rice Procurement	251,631	251,631	251,631	251,631	251,631	251,631		1,983	1,983	1,98
6. Others / 3	1,983	1,983	1,983	1,983	1,983	1,983	1,983		273,030	273,03
Sub-total	273,030	273,030	273,030	273,030	273,030	273,030	273,030	273,030		
(3) Replacement Cost	0	0	0	3,360	0	16,347	3,360	0.	- 0	3,30
(4) Repayment	13,570	13,570	13,569	13,569	13,569	7,267	7,267	7,267	7,267	7,26
Total Outflow	286,626	286,626	286,625	289,985	286,625	296,670	283,683	280,323	280,323	283,68
III.Cash Surplus										
1. Annual Balance (I-II)	82,881	9,686	9,687	6,327	9,687	-8,128	4,859	8,219	8,219	4,85
2. Cumulative	82,881	92,567	102,254	108,381	118,268	110,140	114,999	123,213	131,437	136,29

Note : /_1 : Income and expenditure for the procurement of machinery and construction of facilities in the previous year. /_2 : Cost for fuel, oil, spareparts and repair excluding personnel costs. /_3 : Cost for bagging of marketable rice.

Table 7.2-3	CASH FLOW	STATEMENT	FOR FARME	R CROUP	ACTIVITIES	TRIMURJO PILOT PLAN AREA	(4/4)
Jaole 1.2-3	UASE CLUM	STUTEMENT	FOR CARME	A GROUP	WC11A11723'	INTROVIDO FIDOT FIDA PARA	(3) 3)

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									(Unit : Ro	000)
Item / Year	1	2	3	4	5	6	7	8	.9	1
I. Inflow								-		
<ol> <li>Custom Threshing Charges</li> </ol>										
<ol> <li>Pedal Thresher/Equipment</li> </ol>	0	0	o	0	0	0	0	0	0	
<ol><li>Power Thresher/Equipment</li></ol>	18,504	18,504	18,504	18,504	18,504	12,336	12,336	12,336	12,336	12,33
(2) Processing/Marketing Charges	54,116	54,116	54,116	54,116	54,116	45,828	45,828	45,828	45,828	45,82
(3) Rice Sales Income	429,931	429,931	429,931	429,931	429, 931	429,931	429,931	429,931	429,931	429,93
(4) Loan /_1										
1. Machinery	49,183	0	0	C	0	Q	0	Q	0	
2. Facilities	75,524	0	0	0	0	· D	0	0	0	
Sub-total	124,707	0	Ċ	0	0	0	<b>9</b> .	00	0	
Total Inflow	627,258	502,551	502,551	502,551	502,551	488,095	488,095	488,095	488,095	488,05
II. Outflow										
<ol> <li>Investment Cost / 1</li> </ol>										
1. Machinery	49,183	0	0	0	0	0	0	. 0	0	
2. Facilities	75,524	0	0	0	0	e	0	0	0	
Sub-total	124,707	0	0	0	0	0	0	. 0	. 0	
(2) Operating Cost										
1. Machinery / 2										
Pedal or power thresher	3,978	3,978	3,978	3,978	3,978	3,978	3,978	3,978	3,978	3,97
Power winnower	1,534	1,534	1,534	1,534	1,534	1,534	1,534	1,534	1,534	1,53
Rice mill	5,469	5,469	5,469	5,469	5,469	5,469	5,469	5,469	5,469	5,41
2. Facilities / 2		-			-					+
Drivng	584	584	584	584	584	584	584	584	584	51
Warehouse and others	1,915	1,915	1,915	1,915	1,915	1,915	1,915	1,915	1,915	1,91
<ol><li>Personnel Cost</li></ol>	12,598	12,598	12,598	12,598	12,598	12,598	12,598	12,598	12,598	12,55
4. Transportation Cost	2,056	2,056	2,056	2,056	2,056	2,056	2,056	2,056	2,056	2,0
5. Rice Procurement	429,931	429,931	429,931	429,931	429,931	429,931	429,931	429,931	429,931	429,93
6. Others	3,084	3,084	3,084	3,084	3,054	3,084	3,084	3,984	3,084	3,0
Sub-total	461,149	461,149	461,149	461,149	461,149	461,149	461.149	461,149	461,149	461,1
(3) Replacement Cost	0	0	0	340	. 0	48,843	340	0	- <b>-</b> 0	34
(4) Repayment	25,990	25, 989	25,989	25,989	25,989	10,261	10,261	10,261	10,261	10,20
Total Outflow	487,139	487,138	487,138	487,478	487,138	520,253	471,750	471,410	471,410	471,7
II.Cash Surplus		• • •	•		• • •		• •		•	
1, Annual Balance (I-II)	140,119	15,413	15,413	15,073	15,413	-32,158	16.345	16,685	16,685	16,34
2. Cumulative	140,119	155,532	170,945	186,018	201,431	169,273	185,618	202,303	218,988	235,33

	Operation	Unit	Telagasari	Bagor	Mattiro Bulu	Trímurjo
I. Ouantitative Benefit						
5			-			
1) Production of paddy for use		¢				
a. Without condition			1,582	1,177	1,020	1,759
b. With condition			1,631	1,224	1,118	1,831
c. Decrease in losses			66	47	98	6
2) Milling rate in without condition		ж,	60	60	. 09	60
3) Increase in rice		ц	6 27	28	6.0	
4) Price of C class rice		Rp.000/t	328	328	328	328
5) Benefit	0×4	Rp.000/t	19,352	9,184	19,352	14,104
(B) Decrease in Milling Losses					·	
6) Increase in milling rate(60% to 65%)	(	dР	IJ	S	ŝ	ý
7) Paddy milled in the New Rice Mill		ц	1,673	1,218	1,111	1,820
8) Decrease in milling losses	6*7	Ч	84	61	ŋ	-
9) Price of rice in without condition		Rp'000/t	328	328	328	328
Benefit	o ∗ø	Rp 1000	27,552	20,008	18,368	29,848
(C) Quantitative Benefit	ልተይ	Rp ' 000	46,904	29,192	37,720	43,952
II. Qualitative Benefit						
(A) Class B Rice Production						
1) Production in with		Ч	1,034	754	690	1,127
2) Price of rice						
a. Class C rice		Rp.000/t	328	328	328	328
b. Class B rice		Rp'000/t	350	350	350	350
c. Price difference		Rp'000/t	22	22	22	22
3) Benefit	1*20	Rp,000	22,748	16,588	15,180	24,794
(B) Class A Rice Production						
4) Production in with		ц	40	27	24	42
5) Price of rice						
a. Class C rice		Rp.000/t	328	328	328	328
b. Class A rice		Rp'000/t	393	393	393	393
c. Price difference		Rp'000/t	65	65	65	65
6) Benefit	4 * 5 C	Rp - 000	2,600	1,755	1,560	2,730
						1
(C) Qualitative Benefit	A+A	Rp'000	25,348	18.343	16.740	27 574

Table 7.3-1 ESTIMATION OF ECONOMIC BENEFIT FOR PILOT PLAN

T - 21

TELAGASARI PILOT PLAN (WEST JAVA)

Benefit	low	Benefit F	]					Flow	Cost		25%	IRR :
minus	Total	Quali-	Quanti-	Total	Change of	Replace-	O & M	Machine		oject Cost	D.v.	Year
Cost		tative	tative		Cost for	ment	Cost	Cost	Total			in
	÷ ÷	Benefit	Benefit		Harvesting		0000	0000	10041	Building		order
					/_3		/_2	<u> </u>		11	Floor	
-92,389	0	0	0	92, 389	. 0	0		28,864	63,525	53, 928	9,597	1
~6,039	14,451	5,070	9,381	20,490	1,353	. 0	19,137	0	00,020	03,520	9, 391	1
6,559	28,901	10,139	18,762	22,342	1,353	1,852	-	-	ŏ	0	Ň	2
22,861	43,351	15,209	28,142	20,490	1,353	, 0	• •	Ő	ň	0	0	د د
31,031	57,801	20,278	37,523	26,770	1,353	6,280	19,137	-	ő	Ň	0	4 4
51,762	72,252	25,348	46,904	20,490	1,353	0	19,137		ň	0	0	2
27,326	72,252	25,348	46,904	44,926	1,353	24,436	19,137		ñ	,0 N	õ	7
47,334	72,252	25,348	46,904	24,918	1,353	4,428	19,137		õ	ů	0	, ,
49,910	72,252	25,348	46,904	22,342	1,353	1,852	19,137	Ō	õ	. 0	ň	9
51,762	72,252	25,348	46,904	20,490	1,353	0	19,137	-	õ	ő	ň	10
45,482	72,252	25,348	46,904	26,770	1,353	6,280	19,137	0	õ	ŏ	Ő	11
29,178	72,252	25,348	46,904	43,074	1,353	22,584	19,137	ō	õ	õ	· ŏ	12
49,910	72,252	25,348	46,904	22,342	1,353	1,852	19,137	ō	ō	õ	ŏ	13
47,334	72,252	25,348	46,904	24,918	1,353	4,428	19,137	Ō	ō	õ	õ	14
49,910	72,252	25,348	46,904	22,342	1,353	1,852	19,137	0	0	0	0	15
51,762	72,252	25,348	46,904	20,490	1,353	. 0	19,137	0	ົ້	Ď	ຄັ	16
22,898	72,252	25,348	46,904	49,354	1,353	28,864	19,137	ō	ō	õ	õ	17
51,762	72,252	25,348	46,904	20,490	1,353	0	19,137	0	0	Ő	õ	18
49,910	72,252	25,348	46,904	22,342	1,353	1,852	19,137	0	ō	Ő	õ	19
47;334	72,252	25,348	46,904	24,918	1,353	4,428	19,137		0	. 0	õ	20

Note :/_1 ; Construction cost for warehouse, milling house, garage and community house. /_2 ; 0 & M cost for processing and marketing by winnower, rice mill, and building. /_3 ; Incremental production cost for post harvest activities at field level.

BAGOR PII	OT PLAN	(EAST	JAVA)
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Benefi	OW	Benefit Fl	i					Flow	Cost			Year
minu.	Total	Quali-	Quanti-	Total	Change of	Replace-	0 & M	Machine	:	oject Cost	Pr	in
Cos		tative	tative		Cost for	ment	Cost	Cost	Total	Building	Drying	Order
		Benefit	Benefit		Harvesting	Cost				-	Floor	
					/_3		/_2			/ 1		
-77,59	. 0	.0	0	77,599	0	0	0	31,432	46,167	39, 312	6,855	1
-6,19	9,507	3,669	5,838	15,701	2,271	0	13,430	0	0	0	0	2
1,89	19,014	7,337	11,677	17,121	2,271	1,420	13,430	0	0	0	0	3
12,82	28,521	11,006	17,515	15,701	2,271	0	13,430	0	0	0	0	4
20,69	38,028	14,674	23,354	17,337	2,271	1,636	13,430	0	0	0	0	5
31,83	47,535	18,343	29,192	15,701	2,271	0	13,430	0	0	0	0	6
61	47,535	18,343	29,192	46,917	2,271	31,216	13,430	Ο	0	0	0	7
31,61	47,535	18,343	29,192	15,917	2,271	216	13,430	0	0	0	0	8
30,41	47,535	18,343	29,192	17,121	2,271	1,420	13,430		0	0	0	9
31,83	47,535	18,343	29,192	15,701	2,271	0	13,430	0	0	0	0	10
30,19	47,535	18,343	29,192	17,337	2,271	1,636	13,430	0	0	0	0	11
2,03	47,535	18,343	29,192	45,497	2,271	29,796	13,430	. 0	0	0	0	12
30,41	47,535	18,343		17,121	2,271	1,420	13,430	0	0	0	0	13
31,61	47,535	18,343	29,192	15,917	2,271	216	13,430		0	0	8	14
30,41	47,535	18,343	29,192	17,121	2,271	1,420	13,430	0	0	0	0	15
31,83	47,535	18,343	29,192	15,701	2,271	0	13,430	0	0	0	0	16
40	47,535	18,343		47,133	2,271	31,432	13,430		0	0	0	17
31,83			29,192	15,701	2,271	0	13,430		0	0	0	18
30,41	47,535	18,343.	29,192	17,121	2,271	1,420	13,430		0	0	0	19
31,61	47,535	18,343	29,192	15,917	2,271	216	13,430	0	0	0	0	20

Note :/_1 ; Construction cost for warehouse, milling house, garage and community house. /_2 ; 0 & M cost for processing and marketing by winnower, rice mill, and building. /_3 ; Incremental production cost for post harvest activities at field level.

### MATTIRO BULU PILOT PLAN (SOUTH SULAWESI)

<u>p '000)</u> Benefi	( Unit : Rj	Benefit Fl						Flow	Cost	1.1		Year
minu	Total	Quali-	Quanti-	Total	Change of	Replace-	0 & M	Machine		oject Cost		in
Cos	10002	tative	tative		Cost for	ment	Cost	Cost	Total	Building	Drying	Order
		Benefit	Benefit		Harvesting	Cost					Floor	
			*******		/_3		1_2			/_1		1
-67,31	0	0	0	67,317		0	0	19,181	48,136	40,824	7,312	1
-8,86	5,228	1,607	3,621	14,095	1,062	0	13,033	0	0	0	0	2
-5,08	10,456	3,214	7,242	15,540	1,062	1,445	13,033	0	0	0	0	3
12,04	26,141	8,035	18,106	14,095	1.062	0	13,033	0	0	0	0	4
25,00	43,568	13,392	30,176	18,564	1.062	4,469	13,033	0	0	0	0	5
40,36	54,460	16,740	37,720	14,095	1,062	0	13,033	0.	0	0:	0	6
24,20	54,460	16,740	37,720	30,252	1,062	16,157	13,033	0	0	0	0	.7
37,34	54,460	16,740	37,720	17,119	1,062	3,024	13,033	- 0	0	0	0	8
38,92	54,460	16,740	37,720	15,540	1,062	1,445	13,033	0	0	0	0	
40,36	54,460	16,740	37,720	14,095	1,062	0	13,033	0	0	0	0	10
35,89	54,460	16,740	37,720	18,564	1,062	4,469	13,033	0	Ο.	0	0	11
25,65	54,460	16,740	37,720	28,807	1,062	14,712	13,033	- 0	0	0	0	12
38,92	54,460	16,740	37,720	15,540	1,062	1,445	13,033	0	0	0	0	13
37,34	54,460	16,740	37,720	17,119	1,062	3,024	13,033	0	0	·· 0	. 0	14
38,92	54,460	16,740	37,720	15,540	1,062	1,445	13,033	. 0	0	0	0	15
40,35	54,460	16,740	37,720	14,095	1,062	0	13,033	0	0	0	0	16
21,18	54,460	16,740	37,720	33,276	1,062	19,181	13,033	0	0	0	0	17
40,36	54,460	16,740	37,720	14,095	1,062	ò	13,033	0	0	0	0	18
38,92	54,460	16,740	37,720	15,540	1,062	1,445	13,033	0	0	0	0	19
37,34	54,460	16,740	37,720	17,119	1,062	3,024	13,033	0	0	0	0	20

Note :/_1 ; Construction cost for warehouse, milling house, garage and community house. /_2 ; 0 & M cost for processing and marketing by winnower, rice mill, and building. /_3 ; Incremental production cost for post harvest activities at field level.

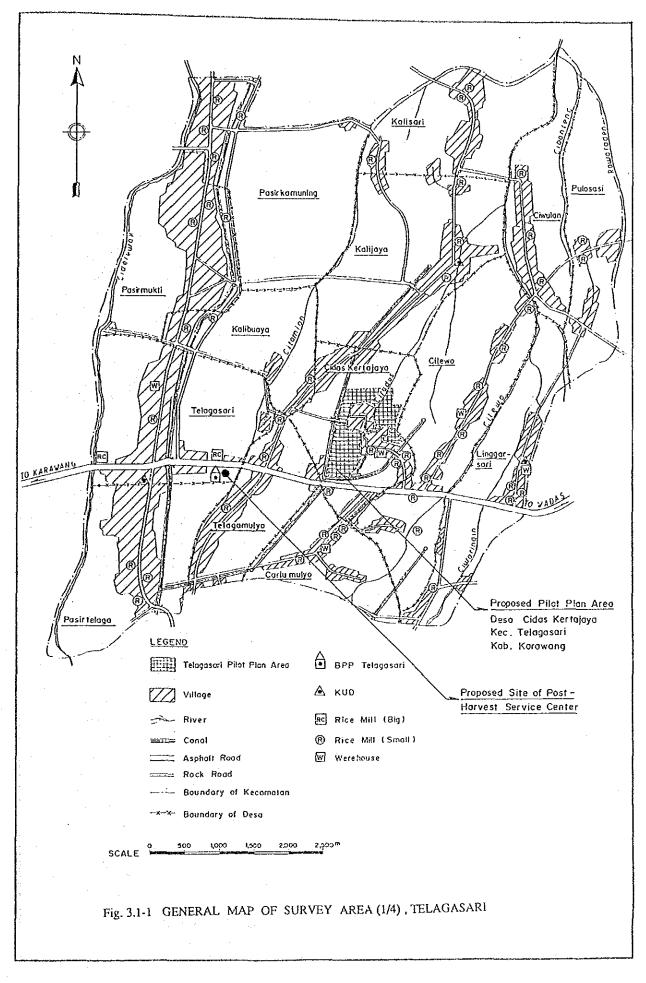
### TRIMURJO PILOT PLAN (LAMPUNG)

IRR :	19%						-				( Unit : i	(000 <u>' q</u>
Year		· · · · ·	Cost	Flow						Benefit F	low	Benefit
in	Pı	oject Cost		Machine	ΟδΜ	Replace-	Change of	Total	Quanti-	Quali-	Total	minus
Order	Drying	Building	Total	Cost	Cost	ment	Cost for		tative	tative		Cost
	Floor					Cost	Harvesting		Benefit	Benefit		
	· . · ·	/_1			/_2		/_3					
1	10,511	57,456	67,967	46,241	0	0	0	114,208	0	0	0	-114,208
2	0	0	0	0	20,537	0	. 3,122	23,659	8,790	5,505	14,295	-9,364
3	0	. 0	0	0	20,537	1,982	3,122	25,641	17,581	11,010	28,591	2,950
4	0	0	0	0	20,537	. 0	3,122	23,659	26,371	16,514	42,885	19,226
5	<b>D</b>	0	0	0	20,537	2,288	3,122	25,947	35,162	22,019	57,181	31,234
6	0	0	0	0	20,537	0	3,122	23,659	43,952	27,524	71,476	47,817
7	0	0	0	0	20,537	45,935	3,122	69,594	43,952	27,524	71,476	1,882
8	0	0	0	. 0	20,537	306	3,122	23,965	43,952	27,524	71,476	47,511
9	0	0	0	0	20,537	1,982	3,122	25,641	43,952	27,524	71,476	45,835
10	0	0	0	0	20,537	0	3,122	23,659	43,952	27,524	71,476	47,817
11	0	0	0	0	20, 537	2,288	3,122	25,947	43,952	27,524	71,476	45,529
12	0	0	0	0	20,537	43,953	3,122	67,612	43,952	27,524	71,476	3,864
13	0	0	0	0	20,537	1,982	3,122	25,641	43,952	27,524	71,476	45,835
14	0	. 0	Û	0	20,537	306	3,122	23,965	43,952	27,524	71,476	47,511
15	`O	0	. • 0	0	20,537	1,982	3,122	25,641	43,952	27,524	71,476	45,835
16	0	0	0	0	20,537	0	3,122	23,659	43,952	27,524	71,476	47,817
17	0	0	0	0	20,537	46,241	3,122	69,900	43,952	27,524	71,476	1,576
18	0	0	0	. 0	20,537	0	3,122	23,659	43,952	27,524	71,476	47,817
19	0	0	0	0	20,537	1,982	3,122	25,641	43,952	27,524	71,476	45,835
20.	. 0	0	. 0	0	•	306	3,122	23,965	43,952	27,524	71,476	47,511

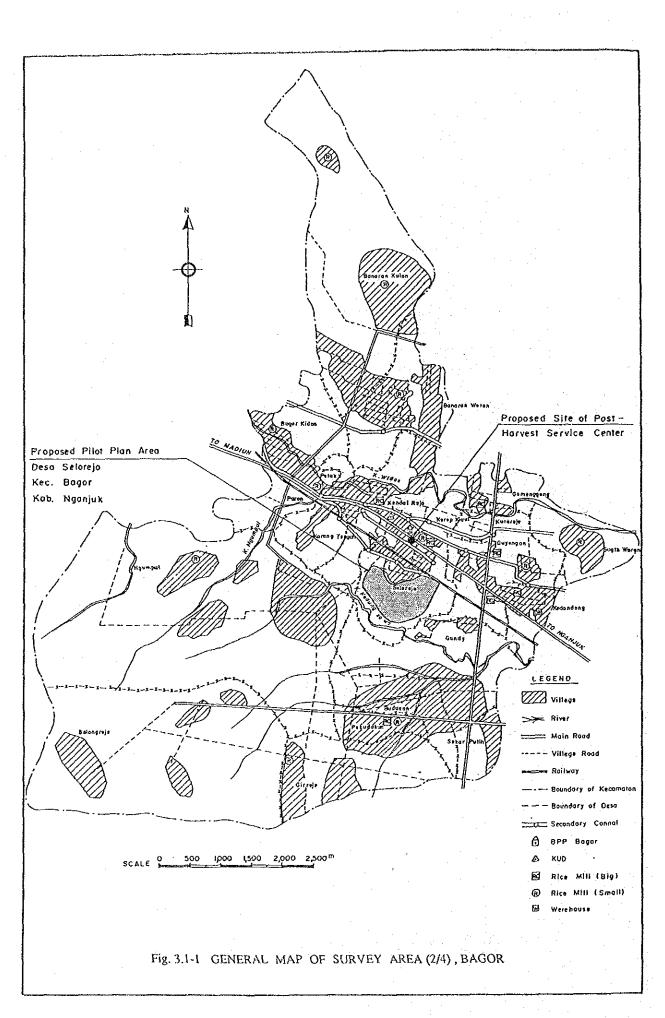
Note :/_1 ; Construction cost for warehouse, milling house, garage and community house. /_2 ; 0 % M cost for processing and marketing by winnower, rice mill, and building. /_3 ; Incremental production cost for post harvest activities at field level.

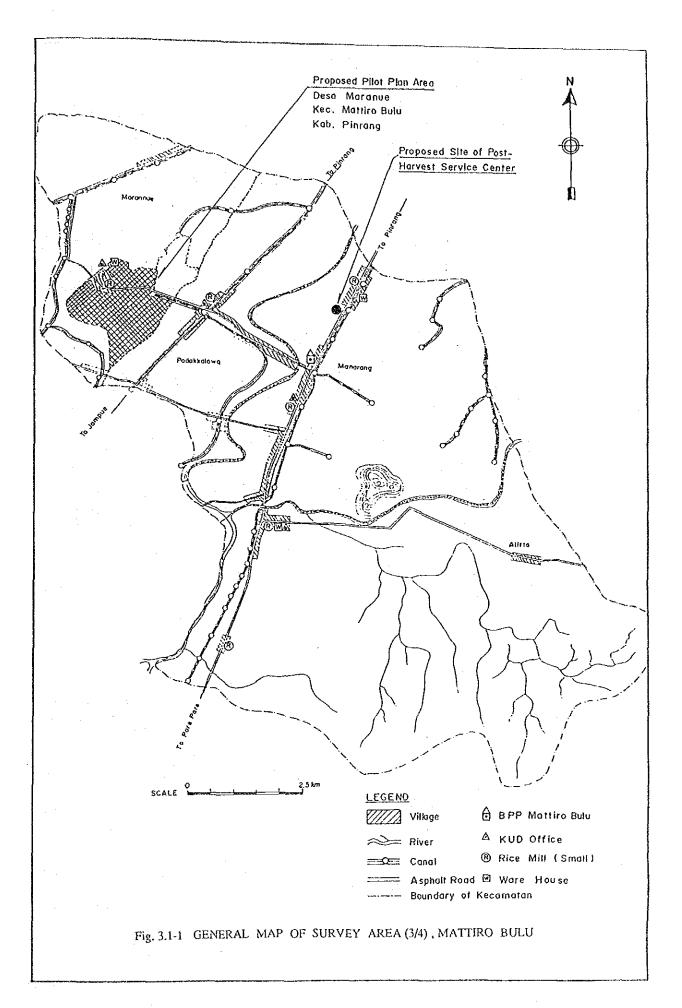


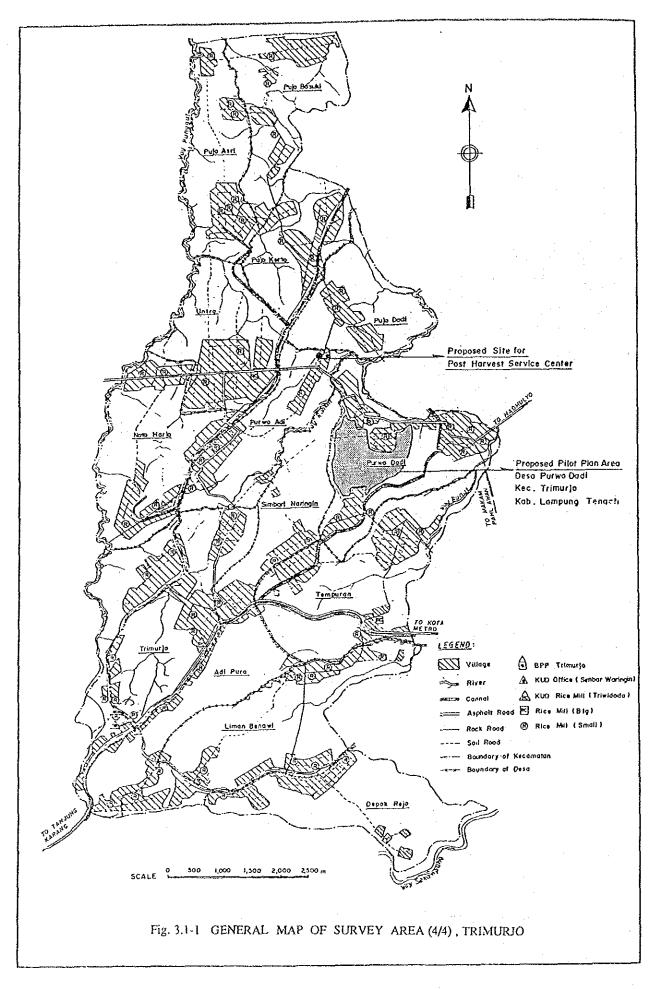
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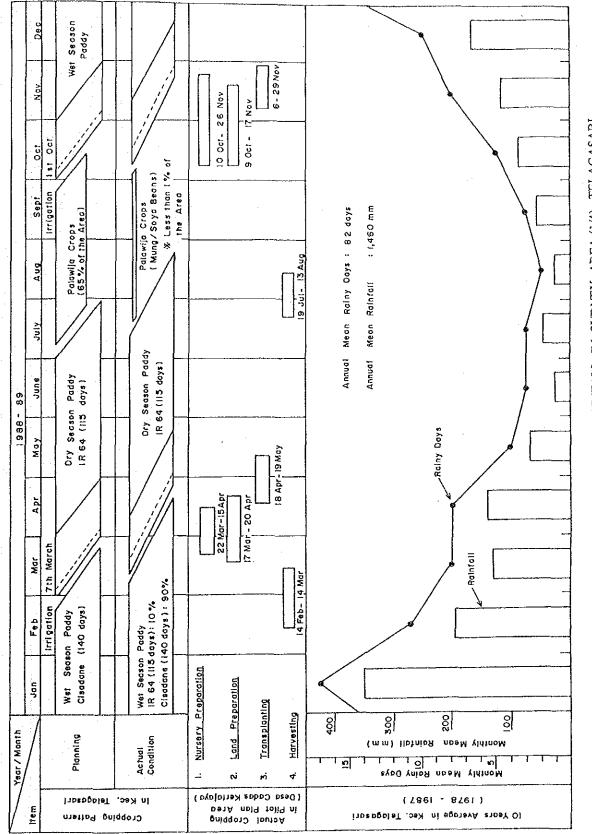
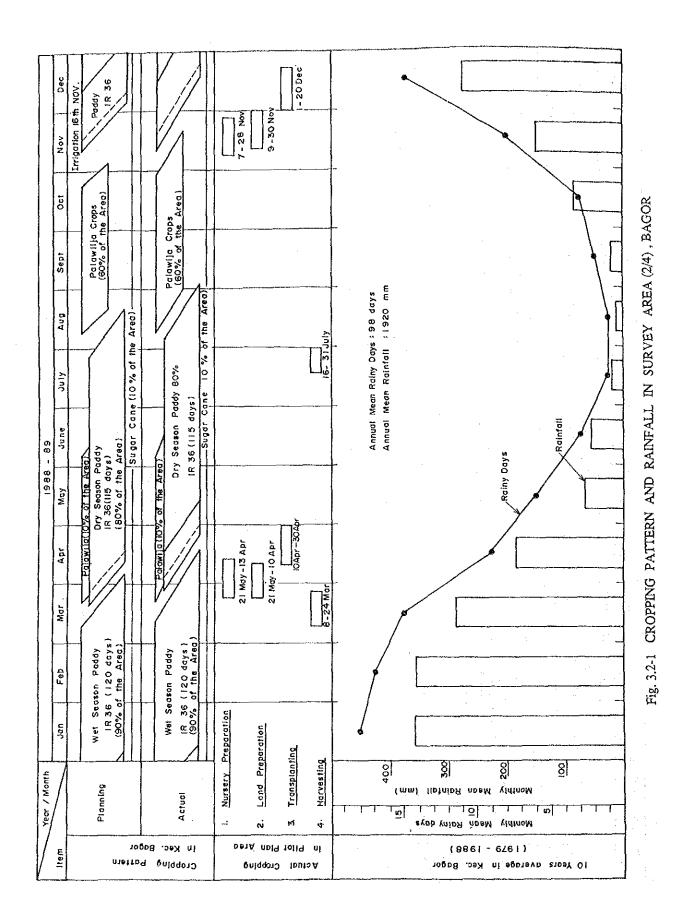
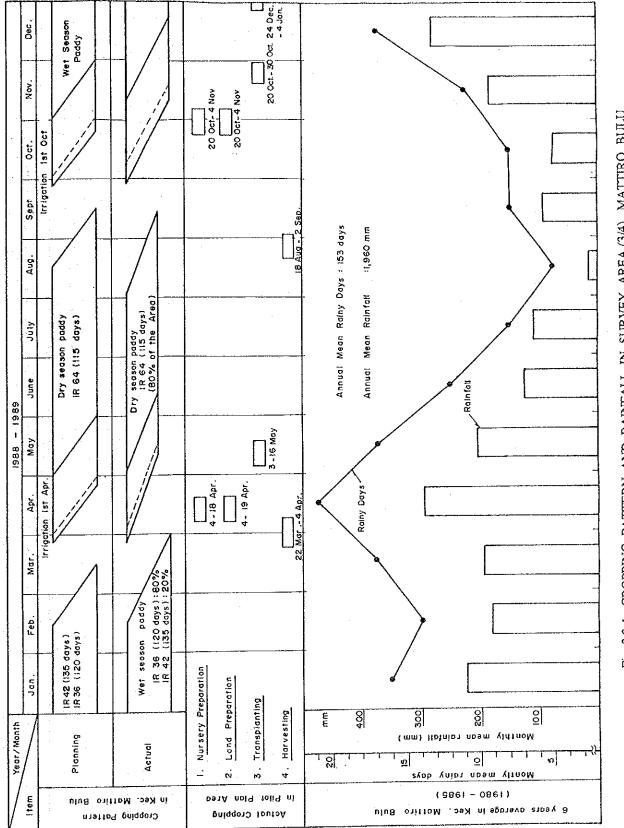


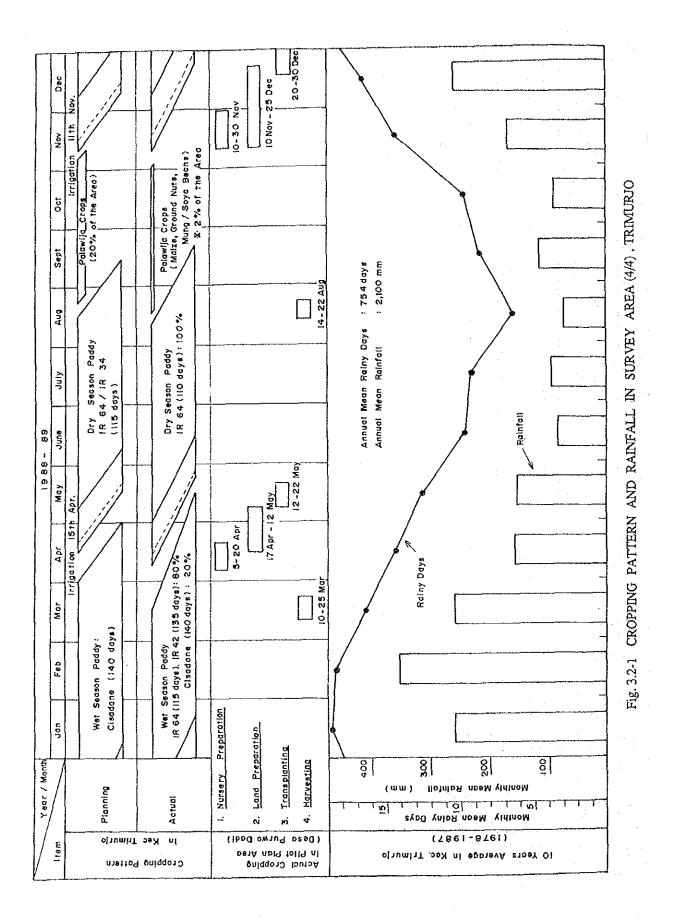
Fig. 3.2-1 CROPPING PATTERN AND RAINFALL IN SURVEY AREA (1/4), TELAGASARI

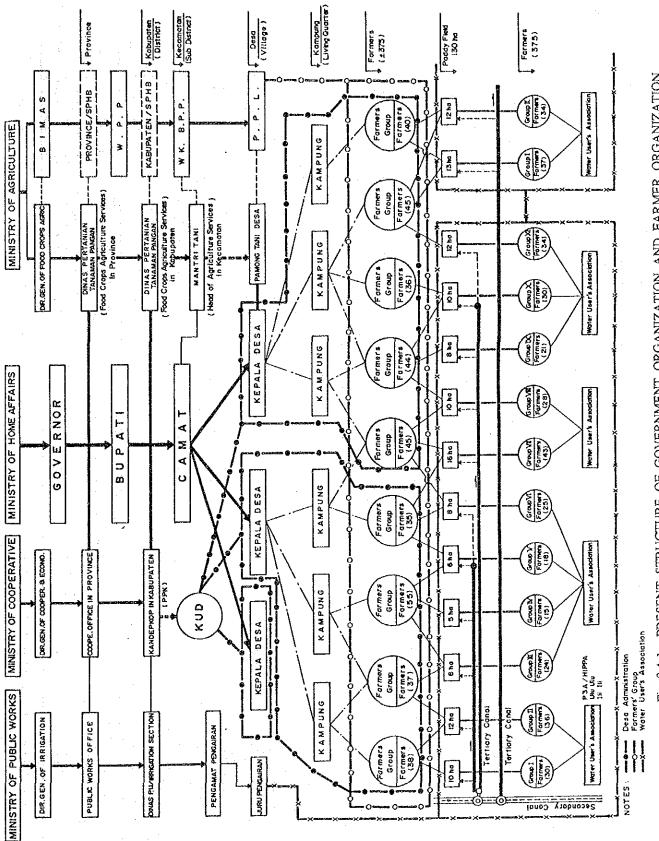






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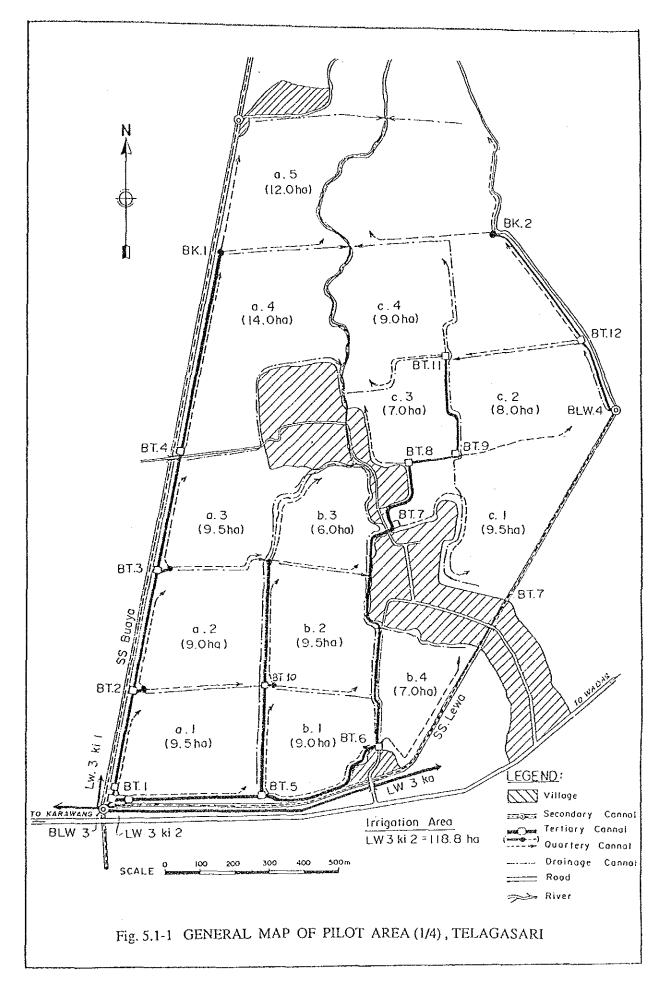


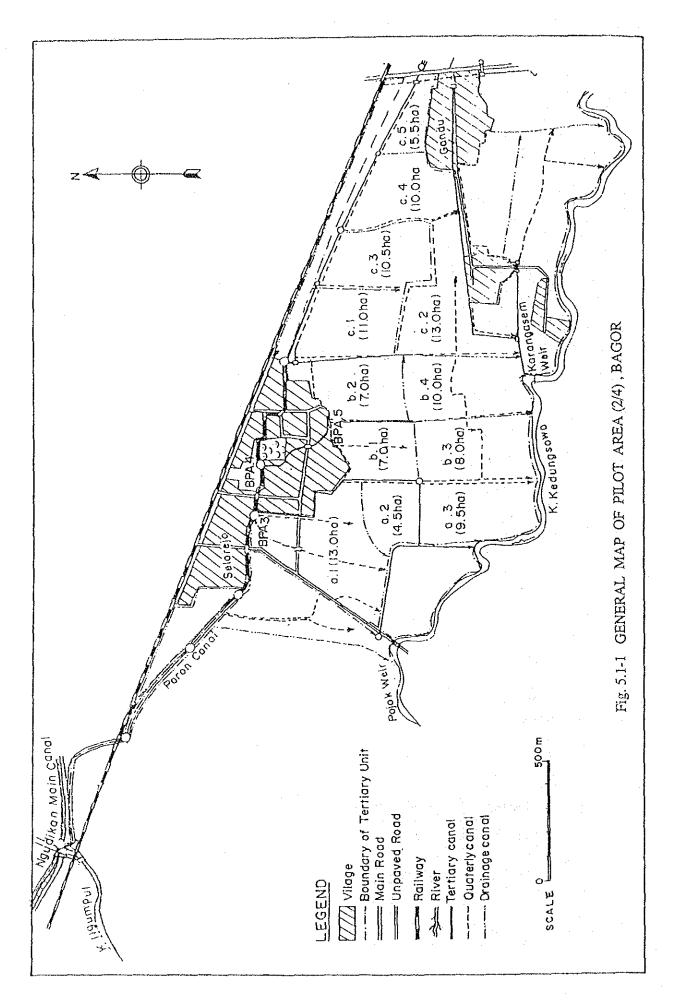


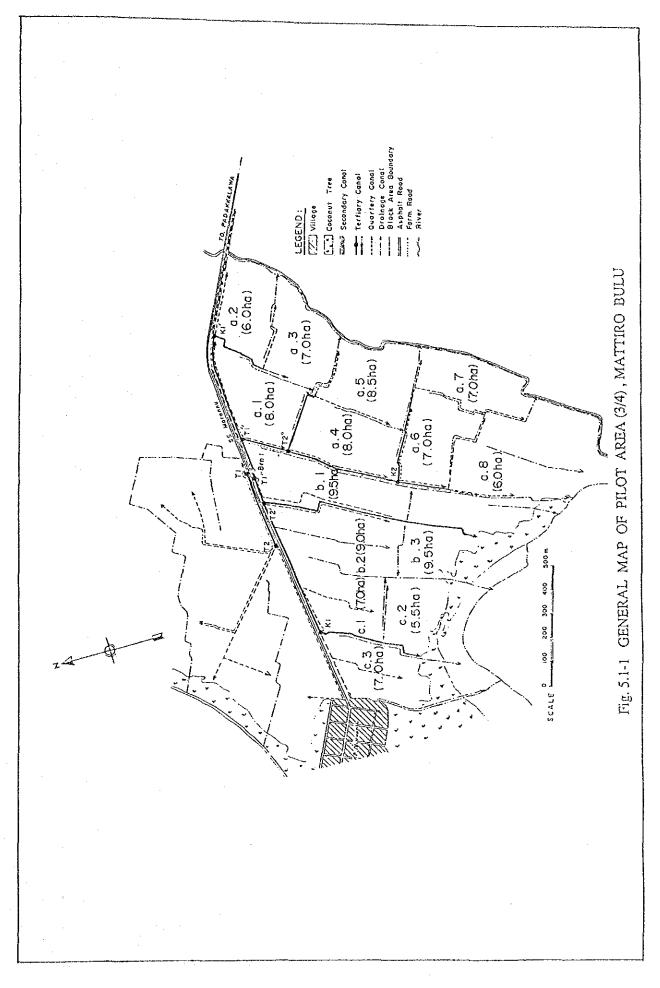
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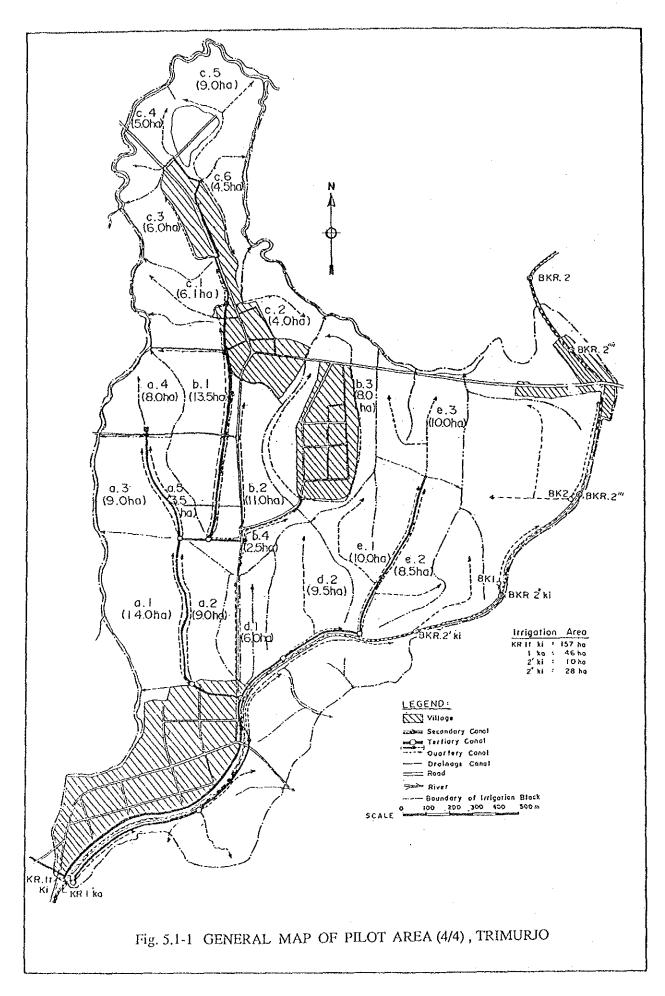
Consolidation of the Activities of Supporting Services	1 3	Saving of Post Horvest Losses Increase in Form Income	iraig: Iucides lu Iucides lu	Consolidation of Farmer's Organization
Extension of Improved Plan (or Pass Notrvess and Martasting in Formers Group Monitoring of Formers Group Activities Promotion of SUPRA INSUS	TARG	Pre-Post Harvest Activitiest Pre-Post Harvest Activitiest International Cropping Plan Completion of Pre-Post Harvest Activitiest Pre-Post Harvest Activ	E stobiling System Mortselling System Mortselling System Mortselling Price Ancreate in Mortselling	Exacution of SUPRA INSUS Program Cooperation of Farmer Cooperation of Farmer Coup Association Operation of Farmer Fund System
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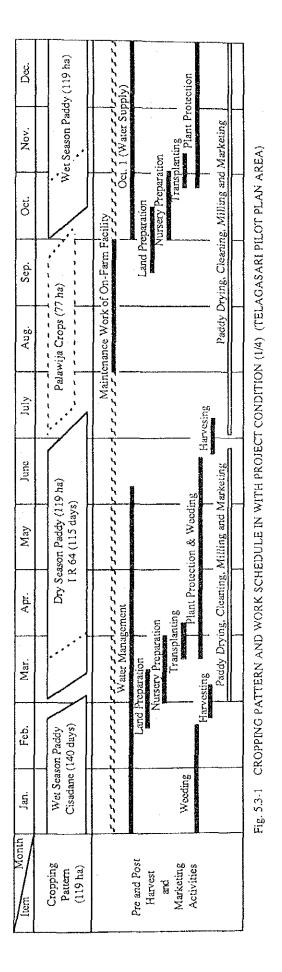
Fig. 4.5-1 IMPROVEMENT TECHNOLOGY PACKAGE FOR PRE AND POST HARVEST/MARKETING IN FARMER GROUPS



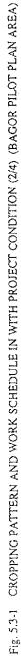




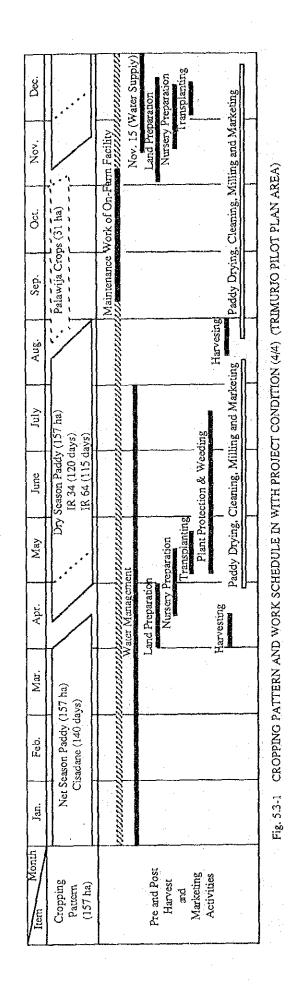




v. Dec.				Facility   Nov. 15 (Water Supply)	Land Freparation	Nursery Preparation	l ransplanting	Plant Protection	 keting	
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Sep.		Palawija Crops (65 ha)			1 1 1 1 1 1 1 1 1 1 1				 ly Drying, Cle	
Aug.	1 1 1 1	····			1 1 1 1					
July					1				Harvesing	
June	, , , , , , , , , , , , , , , , , , ,	addy (87 ha) 15 days)	<ul> <li>Sugar Cane (11 ha)</li> </ul>					& Weeding	and Marketing	
May	Palawiga Crops (11 ha)	Dry Season Paddy (87 ha) 1R = 36 (115 days)	Sug					Plant Protection & Weeding	ng v Drying, Cleaning, Milling and Marketing	2
Apr.	Palawiga			gement	Land Preparation	Preparation	I ransplanting	Pla	lg V Drying, Clea	
Mar.				Water Management	Land Pre	Nursery			Jarvestin Padd	
Feb.		Not season Paddy (98 ha) lR = 36 (120  days)								
Jan.		Nct Scas 1R =						Weeding		
tem Month	Cropping	Pattern (109 ha)	<b>L</b> .L.		Pre and Post	Harvest	and	Marketing		



Sep. Oct. Nov. Dec.	Wet Season Paddy (105 ha)     YR 42 (135 days)     Season Paddy (105 ha)     YR 42 (120 days)     YR 36 (120 days)	Land Preparation Doc. 1 (Water Supply) Land Preparation	Paddy Drying, Cleaning, Milling and Marketing	WORK SCHEDULE IN WITH PROJECT CONDITION (3/4) (MATTIRO BULU PILOT PLAN AREA)
Aug.		Land Prepar	Harvesting	N (3/4) (MATT)
July	(84 ha) (85) (85)		ing	CT CONDITIO
June	Dry Season Paddy (84 ha) IR 64 (135 days)	Water Man Zeement Water Man Zeement V Prevaration	Transplanting Plant Protection & Weeding Paddy Drying, Cleaning, Milling and Marketing	WITH PROJEC
May	DA	Maintenance	ransplanting Plant Protecti Ving, Cleaning, Mill.	HEDULE IN V
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item Month	Cropping Pattern (119 ha)	Pre and Post Harvest	and Marketing Activities	



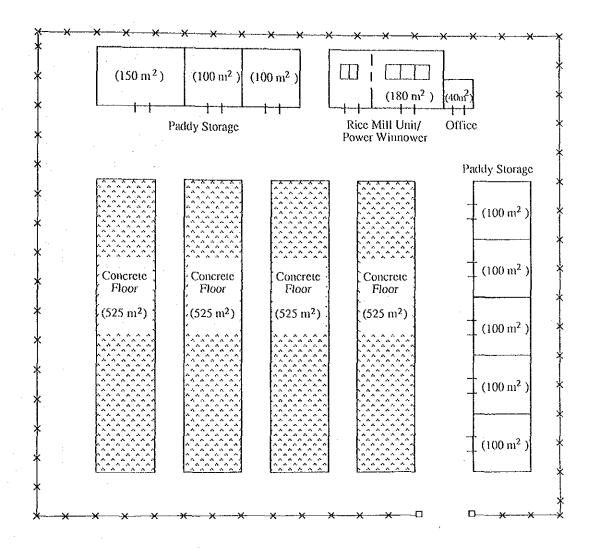
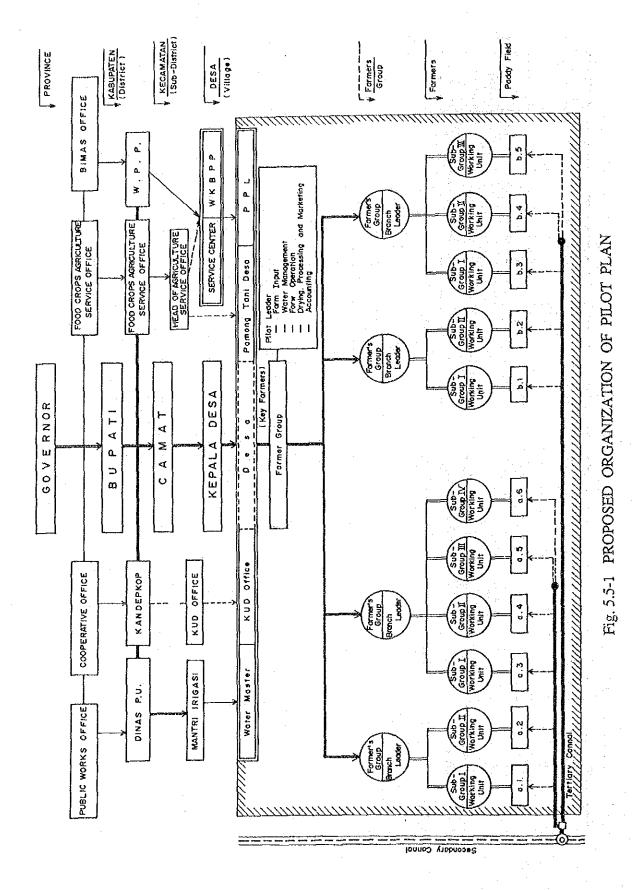


Fig. 5.4-1 TYPICAL LAYOUT OF RICE MILL FACILITY

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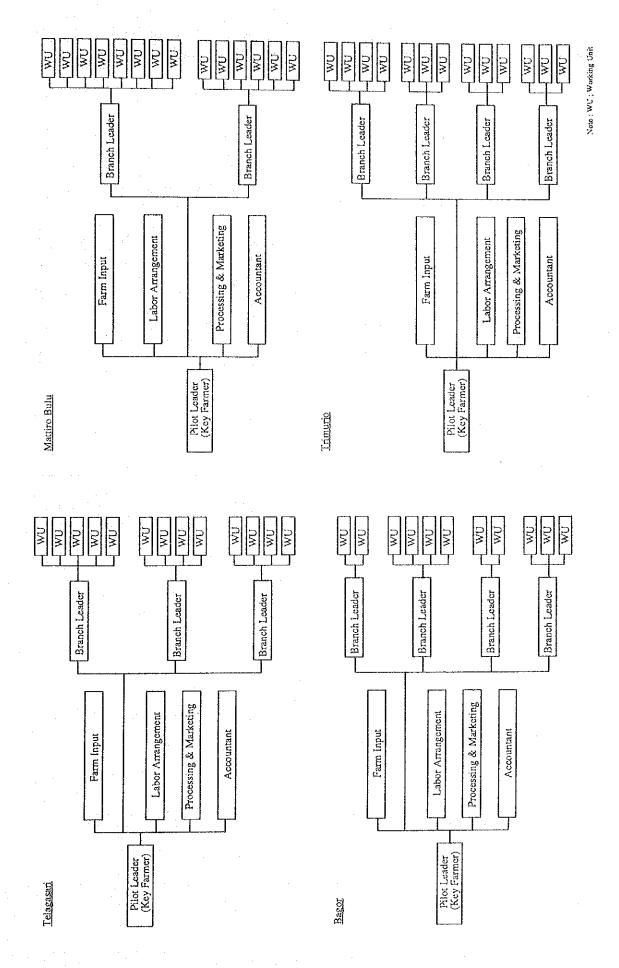
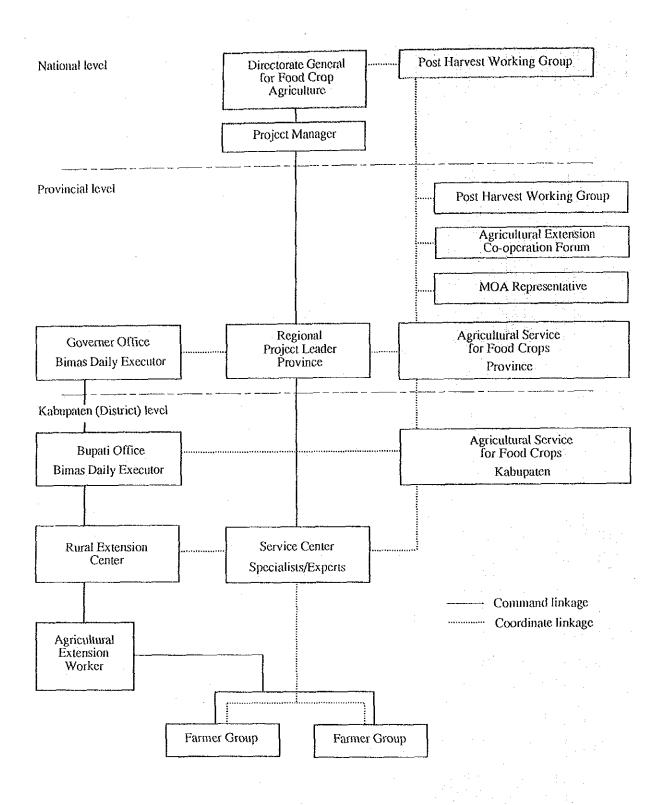


Fig. 5.5-2 PROPOSED ORGANIZATION OF FARMER GROUP





PROPOSED ORGANIZATION STRUCTURE OF THE SERVICE CENTER

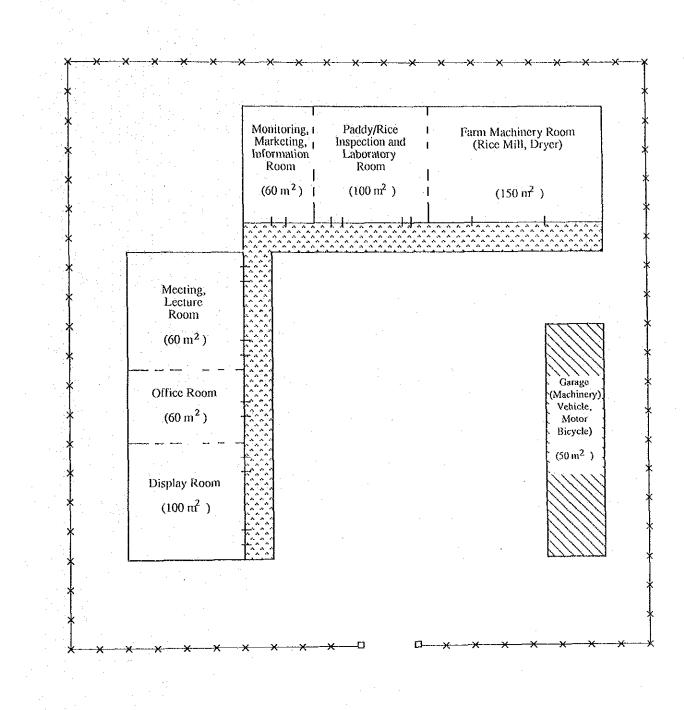


Fig. 5.6-2 GENERAL LAYOUT OF POST HARVEST SERVICE CENTER

1996 :995 Pilot Plan Period 7991 1993 1992 ; 4 4 ł Preparatory Stage ł 1991 1990 (1) Pilot farmer groups set-up (Pre and post harvest and marketing for rice) Development Stage (3) Guidance, assistance and monitoring on farmer group activities (7) Preparation of manual on appropriative technology packages (2) Training and demonstration of machinery operation (1) Training for machinery and facilities operation (6) Preparation of monitoring and evaluation report (4) Demonstration of reaper, and mechanical dryer (1) Study & survey for Pilot Plan implementation - Pedal thresher (Telagasari, Mattiro Bulu) (3) Joint processing and marketing of rice (2) Orientation for farmer groups set-up (3) Service Center organization set-up Power thresher (Bagor, Trimurjo) (1) Guidance for farmer groups set-up (2) Improved harvesting activities 5. Pilot Farmer Groups' Activities Construction of Service Centers (2) Construction of facilities (5) Market information service Rice milling facilities (3) Procurement of machinery Development of Pilot Area Service Center Activities 3. Procurement of Machinery - Power winnower Development Items Drying flocr Preparatory Stage - Rice mill - Warehouse ~ . 4 . 0 .;

Fig. 6.1-1 IMPLEMENTATION SCHEDULE OF FILOT PLAN

# ATTACHMENTS

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ATTACHMENT-1 SCOPE OF WORK FOR THE STUDY ON IMPROVEMENT OF RICE POST HARVEST AND MARKETING IN FARMER GROUPS

SCOPE OF WORK FOR THE STUDY ON IMPROVEMENT OF RICE POST HARVEST AND MARKETING IN FARMER GROUPS IN

THE REPUBLIC OF INDONESIA

AGREED UPON BETWEEN DIRECTORATE GENERAL OF FOOD CROPS AGRICULTURE AND JAPAN INTERNATIONAL COOPERATION AGENCY

Jakarta, June 23, 1988

llingalow

Dr. A. Muin Pabinru Director General Directorate General of Food Crops Agriculture Ministry of Agriculture

||

Mr. Kiyoaki Komatsu Leader Preliminary Survey Team Japan International Cooperation Agency

### I. INTRODUCTION

In response to the request of the Government of the Republic of Indonesia, Government of Japan has decided to conduct the Study for Improvement of Rice Post Harvest and Marketing in Farmer Groups ( hereinafter referred to as "the Study" ) and in accordance with the relevant laws and regulations in force in Japan.

Accordingly, Japan International Gooperation Agency ( hereinafter referred to as "JICA" ), the official agency responsible for the implementation of the technical cooperation programs of the Government of Japan, will undertake the Study in close cooperation with the authorities of the Republic of Indonesia.

The present document sets forth the scope of work with regard to the Study.

### II. OBJECTIVES OF THE STUDY

The objectives of the Study are;

- to study the possibility of improvement of post harvest and marketing activities in farmers groups,
- (2) to suggest improved post harvest and marketing packages for farmers/ farmer groups, and
- (3) to formulate pilot plans for improved post harvest and marketing packages for selected farmers groups.

### **III. SCOPE OF THE STUDY**

- Study Area The study covers East Java, West Java, South Sulawesi and Lampung provinces.
- Target Group Fargers/farger groups participating in SUPRA INSUS Program shall be the target group of the Study.
- Target Crop
   The crop subject to the Study shall be rice.

#### 4. Outline of the Study

The Study to be undertaken shall comprise the followings,

- 4-1 Data Collection and Field Survey Data and information relevant to the Study shall be collected, and a field survey shall be carried out on the following items.
- (1) General condition
  - a) Development policy for rice production
  - b) Major programs for intensification of rice production
  - c) Agro-climatology
  - d) Others
- (2) Rice production
  - a) Harvested area
  - b) Yield and production
  - c) Varieties and seeds
  - d) Cultivation xethod
  - e) Harvesting method
  - f) Agricultural supporting system
  - g) Others
- (3) Post harvest
  - a) Quantitative and qualitative losses and their causes at; Farmer level
    - Fargers' group level
    - Collector level
    - Processor level
    - KUD level
    - BULOG level
  - b) Post harvest technique of farmer/farmers' groups
     Harvesting
    - Threshing
    - Preparation
    - Drying
    - Xilling
    - Storage
    - Transportation
  - c) Tools, equipment, uachinaries and facilities
  - d) Post harvest supporting system
- e) Others
  - (4) Socio-economics of post harvest

- (5) Agro-economy and marketing
  - a) Fara household economy
  - b) Pricing mechanisa
  - c) Regional demand and supply balance
  - d) Narketing system
  - e) Grading system
  - f) Consumer's preference
  - g) Others
- (6) Organization and institution
  - a) Laws and regulations for post harvest activities
  - b) Farmers' organization
  - c) Others
- 4-2 Plan formulation

Based on the analysis of collected data and the findings of the field survey, the followings will be worked out.

- (1) Appropriate post harvest and marketing packages for target groups
- (2) Pilot plans for improvement of post harvest and marketing packages for selected farmers/farmers' groups including;
  - a) Tools, equipment and machinaries
  - b) Facilities
  - c) Institutions and organizations
  - d) Supporting systems
  - e) Evaluation of the plans

#### IV. STUDY SCHEDULE

The Study will be executed in accordance with the attached tentative work schedule.

#### V. REPORTS

JICA shall prepare and submit the following reports in English to the Government of the Republic of Indonesia.

- (1) Inception Report
- Thirty (30) copies at the commencement of the first field work (2) Interim Report

Thirty (30) copies at the end of the second field work

(3) Draft Final Report

Thirty (30) copies within one (1) month after the end of the home office work.

The Government of Indonesia is requested to provide its comments on the draft final report with one (1) month after its receipt.

(4) Final Report

Fifty (50) copies within one (1) nonth after receiving the comments on the draft final report

### VI. UNDERTAKING OF THE GOVERNMENT OF INDONESIA

- To facilitate smooth conduct of the Study, the Government of the Republic of Indonesia shall take necessary measures:
  - (1) To secure the safety of the Japanese study team,
  - (2) To permit the members of the Japanese study team to enter, leave and sojourn in Indonesia for the duration of their assignment therein, and exempt them from alien registration requirements and consular fees,
  - (3) To exempt the members of the Japanese study team from taxes, duties, fees and other charges on equipment, machinery and other materials brought into Indonesia for the conduct of the Study,
  - (4) To except the members of the Japanese study team from income tax and other charges of any kind imposed on or in connection with any emoluments or allowance paid to the members of the Japanese study team for their services in connection with the implementation of the Study,
  - (5) To provide necessary facilities to the Japanese study team for remittances as well as utilization of the funds introduced into Indonesia from Japan in connection with implementation of the Study,
  - (6) To secure permission for entry into private properties for the conduct of the Study, unless prohibited by laxs/regulations,
  - (7) To secure permission to take all data and documents related to the Study out of Indonesia to Japan by the Japanese study team, and
  - (8) To provide the medical services as needed. Its expenses will be chargeable on the members of the Japanese study team.

2. The Government of Indonesia shall bear claims, if any arises, against the members of the Japanese study team resulting from, occurring in

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the course of, or otherwise connected with the discharge of their duties in the implementation of the Study, except when such claims arise from gross negligence or willful misconduct on the part of the members of the Japanese study team.

- 3. The Directorate General of Food Crops Agriculture shall act as counterpart agency to the Japanese study team and also as coordinating body to other relevant organization for the smooth implementation of the Study.
- 4. The Directorate General of Food Crops Agriculture shall, at its own expense, provide the Japanese study team with the following, in cooperation with other agencies concerned, if necessary.
  - (1) Available data and information to the Study,
  - (2) Counterpart personnel,
  - (3) Suitable office with necessary equipment,

### VII. UNDERTAKING OF JICA

For the implementation of the Study, JICA shall take following measures:

- 1. To dispatch, at its own expense, study teams in accordance with the attached tentative work schedule, and
- 2. To pursue technology transfer to the Indonesian counterpart personnel in the course of the Study.

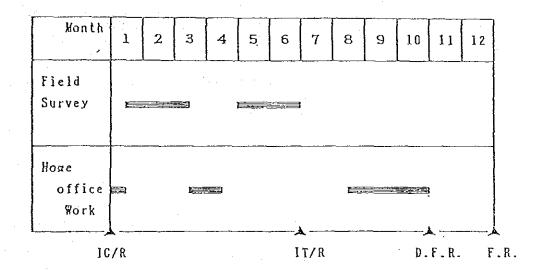
#### VA. OTHERS

JICA and the Directorate General of Food Grops Agriculture will consult with each other in respect of any matter that is not agreed upon in this document and may arise from or in connection with the Study.



### ATTACHMENT

TENTATIVE WORK SCHEDULE



IC/R : Inception Report IT/R : Interim Report D.F.R.: Draft Final Report F.R. : Final Report

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### ATTACHMENT-2 MINUTES OF MEETING ON THE INCEPTION REPORT

### MINUTES OF MEETING

#### ON

### THE INCEPTION REPORT

### OF

## STUDY ON IMPORVEMENT OF RICE POST HARVEST AND MARKETING

IN

### FARMER GROUPS

Jakarta, 2 December 1988

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Dr. A. Muin PABINRU Director General Directorate General of Food Crops Agriculture Ministry of Agriculture Government of Indonesia

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Mr. Masashi SHONO Team Leader JICA Study Team

Witnessed by :

Dr. Atsunobu TOMOMATSU Advisory Committee JICA

### MEETING OF THE INCEPTION REPORT

	:	
Date :		December 01, 1988
Place :		Meeting Room of Food Crops Economic and Processing of MOA
Attendance :		As per attached

The meeting on the Inception Report for the Study on Improvement of Rice Post Harvest and Marketing in Farmer Groups was held on December 1, 1988. The team leader of the JICA Study Team, Mr. Shono explained the content of the Inception Report. Discussion was made between Sub Working Group on Food Crops Post Harvest consisting of DGFCA, Ministry of Cooperative, BIMAS, BULOG and Agency for Agricultural Research and Development, and the JICA Study Team.

Both sides agreed with the content of the Inception Report in general.

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The salient results of the meeting other than the Scope of work are as follows :

- The most important issues of the post-harvest for improvement of farm income are, not only the improvement in drying to milling activities but also harvesting and threshing, because harvesting losses at the field level occupy major part of postharvest losses.
- 2. The sampling of cultivators according to the land holding size is very important, because the farmers' social and economic situation by land size will be different.
- 3. Integrated technical improvement measures at the farmers' level will be indespensable for the saving of post harvest losses and quality improvement.
- 4. The correct name of the Post-Harvest Regulation Forum mentioned in the Report is "Coordination Forum for Improvement of Post Harvest".

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- Indonesian_Side Mr. Abdul Halim
   Mr. Abdul Halim
   Mr. S.O. Manurung
   Mr. Sutadji
   Mr. Sutadji
   Mr. Arifin Ahmad
   Mr. Rachman Madjid
   Mrs. Martha S.
   Mr. Slamet Purnomo
   Mr. Wayan Sidhya
   Mr. Muchransyah A.
   Mr. Mochamad Sjai
   Mrs. Lies Usmanti
   Mr. Y. Yoshizumi
   Mr. Kiyoshi Sawada
- Head of Sub-directorate of Post Harvest Development

Head of Division, Agency for Agricultural Research and Development

Head of Section, The Directorate General of Food Crops Economic and Processing

Head of Section, Sub-directorate of Farm Machinery, CDAAET

Head of Section, The Directorate General of Food Crops Economic and Processing

Head of Section, Directorate of Program Development

Senior Researcher, National Logistics Agency

Head of Section, Bearou of Planning

Staff of Directorate General of Food Crops Economic and Processing

Staff of Farmer Institution, Directorate of Food Crop Extension

Staff of BIMAS

JICA Expert, The Directorate General of Cooperative

JICA Expert, Directorate General of Food Crops Agriculture

2. Japanese Side

Dr. Atsunobu Tomomatsu Mr. Masashi Shono Mr. Yuichi Fukasaka Mr. Seiichi Makino Advisory Committee, Post Harvest Expert, JICA

Team Leader/Institution

Marketing Expert

Agricultural Economist

### ATTACHMENT-3 MINUTES OF MEETING ON THE PROGRESS REPORT

MINUTES OF MEETING ON THE PROGRESS REPORT OF STUDY ON IMPROVEMENT OF RICE POST HARVEST AND MARKETING

IN

FARMER GROUPS

Jakarta, 10 March 1989

Mr. Suglanto 1 Director of Food Crop Economics and Processing Development The Directorate General of Food Crops Agriculture

M. Shohno

Mr. Masashi SHONO Team Leader JICA Study Team

### MEETING OF THE PROGRESS REPORT

Date	:	March 6, 1989
Place	:	Meeting Room of The Directorate of Food Crop Economics
		and Processing Development of the DGFCA, the MOA.
Attendance	:	As per attached

The meeting on the Progress Report for the Study on Improvement of Rice Post Harvest and Marketing in Farmer Groups was held on March 6, 1989. The team leader of the JICA Study Team, Mr. Shono explained the content of the Progress Report. Discussion was made between Indonesian side consisting of DGFCA, BIMAS, and Agency for Agricultural Research and Development, and the JICA Study Team.

The salient results of the meeting are as follows :

- 1. Present farmers' condition for marketing is very poor without any transportation measures and good outlets. For the promotion of farmers' marketing activities, development on transportation and marketing facilities (assemble centers) will be required to be included in the basic concept.
- 2. Utilization of appropriative technology and equipment for saving qualitative losses of paddy will be considered as one of items in the basic concept.
- 3. Extension services for post harvest and marketing improvement will be considered as one of components in the Pilot Plan. Therefore, Pilot Plan and Service Center will be made based on the existing agricultural support organization
- 4. Extension services should be extended to the agricultural labourers groups organized for post harvest farm activities.

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### LIST OF ATTENDANT

1.	Indonesia Side	
	Mr. Abdul Halim	Head of Sub Directorate of Post Harvest
		Development, DGFCA
	Mr. Nasrun Hasibuan	Head of Sub Directorate of Marketing
		Information System, DGFCA
	Mr. S.O. Manurung	Agency for Agricultural Research and
		Developement, Bogor
	Mr. Ekowarso	Head of Food Crop Production Control
· .		Division, Bimas,
	Mr. Sutadji	Head of Section, Sub Directorate of
		Post Harvest Development, DGFCA
	Mr. Arifin Ahmad	Head of Section, Sub Directorate of
· ·		Post-Harvest development, DGFCA
	Mr. Gatot Waluyanto	Staff of Sub Directorate of Inputs &
		Credit Agriculture, DGFCA
	Mr. Bambang Kuncoro	Staff of Food Crops Programme
		Development , DGFCA
	Ms. Budiningsih	Staff of Directorate of Food Crops
		Extention, DGFCA
	Mr. Mochamad Syai	Staff of Directorate of Food Crops
		Extention, DGFCA
2.	<u>Japanese Side</u>	
	Mr. Masashi Shono	Team Leader/Institution
	Mr. Fumihiro Nagao	Agriculture Facilities and Machinery
		Expert
	Mr. Hisashi Ikewada	Post Harvest Expert

- Mr. Yuichi Fukasaka
- Mr. Seiichi Makino

Agricultural Economist

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Marketing Expert

### ATTACHMENT-4 MINUTES OF MEETING ON THE INTERIM REPORT

MINUTES OF MEETING OF THE INTERIM REPORT OF STUDY ON IMPROVEMENT OF RICE POST HARVEST AND MARKETING IN FARMER GROUPS

Date : April 27, 1989 Place : Meeting Room of The Directorate of Food Crop Economics and Processing Development of the DGFCA, the MOA. Attendance : As per attached

The meeting on the Interim Report for the Study on Improvement of Rice Post Harvest and Marketing in Farmer Groups, commenced by Mr. Sugianto as a chairman, was held on April 27, 1989. The JICA Study Team explained the content of the Interim Report including outline of the pilot plan formulated. Discussion was made between Indonesian side consisting of DGFCA, BIMAS, Secretariat General, Agency of Agricultural Education, Training and Extension (AAETE) and Agency for Agricultural Research and Development, and the JICA Study Team, and the contents of the Interim Report were basically accepted by Indonesian side. The salient results of the meeting are as follows :

- 1. Detailed pilot plans including project evaluation, estimation of cost and benefit and implementation programme should be included in the Final Report.
- 2. The contents of the Interim Report were basically accepted. However, improvement in post harvest activities and marketing should have higher priority than pre harvest improvement in the Final Report.
- 3. Economic scale of farmer groups for the improvement of post harvest and marketing activities should be identified.
- 4. Appropriate organization for the pilot plan will be proposed by the Indonesian side and the results will be informed to the study team.

Mr. Sugianto Director of Food Crop Economics and Processing Development, The Directorate General of Food Crops Agriculture

Jakarta, 28 April 1989

Mr. Masashi SHONO Team Leader JICA Study Team Indonesian Side Mr. Sugianto

Mr. Abdul Halim

Mr. Nasrun Hasibuan

Mr. S.O. Manurung

Mr. Ekowarso

Mr. Sutadji

Mr. Siswanto

Mr. Muchransyah Achmad

Mr. Mardojo

Ms. Martha S.

Mr. I. Sunarmo

Mr. Suharyo Husen

Mr. Mochamad Syai

Mr. Masahito Sato Mr. Kiyoshi Sawada

<u>Japanese Side</u> Mr. Masashi Shono Mr. Fumihiro Nagao

Mr. Hisashi Ikewada Mr. Yuichi Fukasaka Ms. Mihoko Uramoto Mr. Seiichi Makino Director of Food Crop Economics and Processing Develeopment, DGFCA Head of Sub Directorate of Post Harvest Development, DGFCA

Head of Sub Directorate of Marketing Information System, DGFCA

Agency for Agricultural Research and Developement, Bogor

Head of Technology Implementation and Monitoring Division, BIMAS

Head of Section, Sub Directorate of Post Harvest Development, DGFCA

Head of Section Sub Directorate of Post Harvest Development, DGFCA

Head of Section, Sub Directorate of Marketing Information System, DGFCA

Head of Institution Division of Bureau of Legal aspect and Organization Secretariat General, MOA

Head of Section, Directorate of Program Development

Staff of Bureau Agrigultural Extension, AAETE

Head of Bilateral Cooperation Division, MOA

Staff of Directorate of Food Crops Extention, DGFCA

JICA Expert, Bureau of Planning, MOA JICA Expert, Bureau of Planning, MOA

Team Leader/Institution Agriculture Facilities and Machinery Expert Post Harvest Expert Marketing Expert Project Economist Agricultural Economist

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### Minutes of Meeting

on

# The Draft Final Report for the Study on Improvement of Rice Post Harvest and Marketing in Farmer Groups

Japan International Cooperation Agency (JICA) sent a team on September 6, 1989 to Jakarta for the explanation of the draft final report for the study on improvement of rice post harvest and marketing in farmer groups.

A seminar was held on September 11 in Pola Room, Ministry of Agriculture, on the proposed improvement plans made by the JICA study team for the rice post harvest and marketing in Indonesia. In the seminar various opinions and information were exchanged among participants such as Japanese experts and Indonesian officials concerned, on the rice post harvest and marketing.

The Team and Indonesian Authorities concerned discussed the draft final report on September 12, taking the results of the seminar into consideration, in the headquarter of Directorate General of Food Crops Agriculture. A list of the participants in the meeting is given in a separate paper attached.

The salient results of the seminar and the meeting with the Director General are as follows.

- 1. Indonesian side principally accepted the draft final report prepared by the JICA study team. However several comments were made by the Indonesian side as shown in a separate paper attached.
- 2. Both sides agreed that all the comments were made in the present meeting and no additional comments will be made, and that Japanese side would prepare the final report taking the Indonesian comments into consideration, within one (1) month.

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The Japanese side agreed that JICA will distribute the final reports to only authorized agencies for official purposes and, that the controlled usage of the reports will be for three (3) years after the completion of the reports and that JICA will make receipts and an inventory of the distribution of the reports.

September 12, 1989

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Dr. Ir. A. Muin Pabinru Director General of Food Crops Agriculture

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Masashi Shono Leader of JICA Study Team

Witnessed by:

Kiyoaki Komatsu Chairman of Advisory Committee of the study, JICA

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### Comments of Indonesian Side

- 1. Not only micro computers but also side single band (SSB) wireless radio, telephones and handy talkies shall be included for using by the Service Centers.
- 2. Machinery of the Service Center should be classified into ordinary machinery for common practices and modernized machinery for advanced practices.
- 3 Number of machinery for demonstration in the Service Centers should be increased for surrounding farmer groups of the objective pilot areas within working region of the rural extension centers (BPPs).
- 4. Experts for the Service Centers should be changed to the following specialities.
  - farm machinery
  - rice processing
  - marketing business
  - extension method
  - farm management
  - rice farming

### LIST OF ATTENDANT

1.	Indonesia Side							
	Dr. Ir. A. Muin Pabinru	Director General of Food Crops Agriculture (DGFCA)						
	Mr. Abdurrahman Daud Rusydi	Secretary of Directorate General of Food Crops Agriculture						
	Mr. Abdul Halim	Head of Sub Directorate of Post Harvest Development, DGFCA						
	Mr. Nasrun Hasibuan	Head of Sub Directorate of Food Crops Marketing Information Services						
	Mr. Arifin Ahmad	Head of Section, Sub Directorate of Post- Harvest development, DGFCA						
	Mr. Masahito Sato	JICA Expert, Bureau of Planning, MOA						
	Mr. Kiyoshi Sawada	JICA Expert, Bureau of Planning, MOA						

Mr. Kiyoaki Komatsu Chairman of Advisory Committe of the Study Mr. Naoyuki Kobayashi Coordinator, JICA

Japanese Side

2.

Mr. Masashi ShonoLeader of the Study Team/InstitutionMr. Hisashi IkewadaPost Harvest ExpertMr. Fumihiro NagaoAgricultural Facilities and Machinery Expert

