

Tables

Table 1.4.1 List of the JICA Study Team Member and Counterpart Personnel

JICA Study Team

	Name	Position
1.	Hiroshi Kuronuma	Team Leader
2.	Nobuo Sambe	Agricultural and Rural Infrastructure
3.	Hisashi Ishikawa	Agronomy
4.	Makoto Ishizuka	Rural Society / Organization
5.	Takeshi Saito	Agro-processing / Marketing
6.	Yoji Mizuguchi	Environment
7.	Parulian M.Hutagaol	Agro-economy / Project Evaluation
8.	Jun Tsurui	Coordinator

Counterpart Personnel

	Name	Position	Institution
Directorate of General of Food Crops and Horticulture, Ministry of Agriculture			
1.	Dr. Nyman Oka	Agro-processing / Marketing	Directorate of BINUS
2.	Ir. Lily Wahiyah	Agronomy	Directorate of Horticulture and Production
3.	Ir. Tankas P. M.Ag.	Agricultural and Rural Infrastructure	Directorate of Land Rehabilitation and Development
4.	Ir. Richard Karim	Agricultural and Rural Infrastructure	Directorate of Land Rehabilitation and Development
5.	Ir. Wahyu Marno	Agricultural and Rural Infrastructure	Directorate of Land Rehabilitation and Development
6.	Martha Soelaksmi B.Sc.	Agro-economy / Project Evaluation	Directorate of Planning and Programming
7.	Ir. Sarlistyaningsih M.Sc	Agro-economy / Project Evaluation	Directorate of Planning and Programming
Provincial Agricultural Service Office, West Java			
1.	Ir. Adjat S.		
2.	Ir. Umen Permana	Agricultural and Rural Infrastructure	Division of Extension
3.	Ir. Abubakar	Agricultural and Rural Infrastructure / Coordinator	Division of Land Rehabilitation and Plant Protection
4.	Ir. Helmin Kartina	Agronomy	Division of Land Rehabilitation and Plant Protection
5.	Ir. Kurniadi Didi	Rural Society / Organization	Division of Extension
6.	Ir. Dadeng S. MM	Agro-processing / Marketing	Division of Land Rehabilitation and Plant Protection
7.	Ir. Suhermat, M.Ag.	Environment	Division of Land Rehabilitation and Plant Protection
8.	Ir. Achmad Suyatna	Agro-economy / Project Evaluation	Division of Extension
Provincial Public Works Service Office, West Java			
1.	Imam Santoso ME	Irrigation Infrastructure	Irrigation Office
District Agricultural Service Office			
1.	Ir. Ina Dewi Kania	Bandung District Model Areas	Agricultural Service Office, Bandung District
2.	Ir. Deden	Bandung District Model Areas	Agricultural Service Office, Bandung District
3.	Ir. N. Sunendar	Garut District Model Areas	Agricultural Service Office, Garut District
4.	Mr. Ahmad Sulaeman	Garut District Model Areas	Agricultural Service Office, Garut District
5.	Mr. Dadang H	Cianjur District Model Area	Agricultural Service Office, Cianjur District
6.	Ir. E. Tisna Sasmita	Cianjur District Model Area	Agricultural Service Office, Cianjur District
7.	Ir. Triastami	Kuningan District Model Area	Agricultural Service Office, Kuningan District
8.	Mr. Tatang	Kuningan District Model Area	Agricultural Service Office, Kuningan District
9.	Mr. Maman Suparman	Sumedang District Model Area	Agricultural Service Office, Sumedang District
10.	Ir. Nana	Sumedang District Model Area	Agricultural Service Office, Sumedang District

Table 3.1.1 Present Conditions of Model Areas (1/2)

Section	Model Area	Unit	Mekarjaya	Langensari	Tugumukti	Gekbrong	Cisurupan	Tanjungkarya	Mekarmukti	Cisantana	Source
3.4.1	Land Use										
	Total area	ha	160	110	80	80	190	130	270	330	Study team
	Cultivated area	ha	100	72	50	50	140	80	167	250	Study team
	Paddy field	ha	0	0	0	0	100	30	167	0	Study team
	Dry crop field	ha	100	72	50	50	40	50	0	250	Study team
	Estate and Fruit tree	ha	10	0	0	10	10	0	5	5	Study team
	Grassland/Pasture	ha	5	0	0	0	0	0	15	0	Study team
	Forest/Wood land	ha	15	5	10	5	10	10	48	25	Study team
Others	ha	30	33	20	15	30	40	35	50	Study team	
3.4.2	Land Tenure and Land Holding										
	Average operating size	ha	0.47	0.48	1.63	1.57	0.52	1.01	0.59	0.51	Farm household survey
	Distribution of operating sizes										
	0 - 0.2 ha	%	40	33	19	7	32	22	20	23	Farm household survey
	0.2 - 0.4 ha	%	29	31	6	15	26	13	26	35	Farm household survey
	0.4 - 0.6 ha	%	7	8	19	15	18	19	22	15	Farm household survey
	0.6 - 0.8 ha	%	10	8	13	7	5	3	10	13	Farm household survey
	0.8 - 1.0 ha	%	2	3	10	4	0	3	7	3	Farm household survey
	1.0 - 1.4 ha	%	5	17	13	11	10	9	10	5	Farm household survey
	1.4 - 2.0 ha	%	2	0	0	11	5	13	3	5	Farm household survey
	2.0 - 2.6 ha	%	5	0	3	7	2	13	1	1	Farm household survey
	2.6 - 3.2 ha	%	0	0	0	11	1	6	2	1	Farm household survey
	> 3.2 ha	%	0	0	16	11	1	0	0	0	Farm household survey
	Land type of cultivated land										
	Irrigated paddy	%	10	0	4	0	4	16	11	17	Farm household survey
	Rainfed paddy	%	36	1	2	0	16	27	51	12	Farm household survey
	Dry crop land	%	48	96	94	100	74	36	15	68	Farm household survey
	Fruit tree	%	7	3	0	0	5	22	23	3	Farm household survey
Typical farm size	ha	0.2	0.3	0.6	0.8	0.3	0.5	0.4	0.3	Farm household survey	
Land Tenure type											
Owner cultivator	%	47	42	56	6	47	51	83	70	Farm household survey	
Owner cum tenant farmer	%	14	33	11	31	15	31	13	8	Farm household survey	
Tenant farmer	%	21	25	19	47	23	9	2	17	Farm household survey	
land-less farm labor	%	18	0	14	16	15	9	2	5	Farm household survey	
3.4.3	Crops and Farming Practices										
	Cropping intensity	%	181	229	186	174	206	215	119	213	Study team
	Vegetables	%	88	229	186	146	59	149	1	213	Study team
	Paddy rice	%	13	0	0	0	129	56	109	0	Study team
	Palawija	%	80	0	0	28	18	10	9	0	Study team
	Major vegetables *1		1, 2, 4, 7, 9, 12, 13	1, 2, 3, 4, 5, 6, 9	1, 2, 3, 4, 5, 7, 8, 9,	1, 2, 4, 7, 8, 9, 10	1, 2, 3, 4, 7, 9, 10, 13	1, 2, 4, 8, 9, 12, 13	Rare	1, 3, 4, 9, 10, 11	Study team
	Major cropping pattern		2, 3, 4, 6	1, 2	1, 2, 3	2, 3, 4	2, 7, 8, 9	2, 5, 7, 8	9	1, 2, 3	Study team
	Cultivation technology level		Low	High	High	Medium - High	Medium - High	Medium - Low	Very low	Welsh onion: high, Others medium	Study team
	Estate crops		Tea estate 11ha in village	-	-	Tea estate 118 ha in Village	-	-	-	-	Study team & Village
	Major fruit tree										Farm household survey

Table 3.1.1 Present Conditions of Model Areas (2/2)

Section	Model Area	Unit	Mekarjaya	Langensari	Tugumukti	Gekbrong	Cisurupan	Tanjungkarya	Mekarmukti	Cisantana	Source
3.4.4	Crop production										
	Planted area	ha	181	173	93	87	288	172	199	533	Study team
	Vegetables	ha	88	173	93	73	83	119	2	533	Study team
	Paddy rice	ha	13	0	0	0	180	45	182	0	Study team
	Palawija	ha	80	0	0	14	25	8	15	0	Study team
	Productivity of vegetables		Low	High	High	Medium	Medium	medium - Low	Low	High	Study team
	Total production of vegetables	ton	1,038	2,939	1,653	1,165	1,407	1,917	18	8,367	Study team
	Tomato	ton	300	1,160	800	360	500	860	0	1,410	Study team
	Leaf vegetables	ton	195	1,301	578	314	512	760	0	810	Study team
	Bean vegetables	ton	162	135	90	21	72	135	0	315	Study team
Others	ton	381	343	185	470	323	162	18	5,832	Study team	
3.4.5	Livestock and Fishery										
	Population of major livestock										
	Milk cow	head	13	64	112	0	19	16	162	1,765	Farm household survey
	Goat/Sheep	head	720	50	10	46	380	190	550	220	Farm household survey
	Ratio of livestock raising										Farm household survey
	Milk cow	%	2	17	56	-	10	3	20	51	Farm household survey
	Goat/Sheep	%	41	6	8	28	25	34	28	9	Farm household survey
Ratio of aqua-culture	%	4	-	-	-	-	9	-	-	Farm household survey	
Ratio of livestock income	%	16	17	39	22	24	14	22	45	Farm household survey	
3.4.6	Agricultural Production Value										
	Total value	Rp million	1,776	3,158	1,725	1,311	2,689	2,286	1,031	8,173	Study team
	Vegetables	Rp million	1,346	3,158	1,725	1,247	1,676	2,030	23	8,173	Study team
	Food crops	Rp million	430	-	-	64	1,013	256	1,008	-	Study team
	Production value per ha	Rp 1000	17,760	43,870	34,490	26,230	19,210	28,580	6,170	32,690	Study team
Ratio of vegetable production value	%	76	100	100	95	62	89	2	100	Study team	
3.4.7	Net Profit of Crops										
	Total	Rp million	526	953	554	458	803	654	237	2,904	Study team
	Vegetables	Rp million	386	953	554	440	573	595	14	2,904	Study team
	Food crops	Rp million	140	-	-	18	230	59	223	-	Study team
	Ratio of net profit	%	30	30	32	35	30	29	23	36	Study team
	Vegetables	%	29	30	32	35	34	29	61	36	Study team
	Food crops	%	33	-	-	28	23	23	22	-	Study team
	Net profit per ha	Rp 1000	5,270	13,240	11,080	9,170	5,740	8,180	1,420	11,620	Study team
Net profit ratio of Vegetables	%	73	100	100	96	71	91	6	100	Study team	

Note *1 Major vegetables 1: Tomato, 2: Chili, 3: Potato, 4: Cabbage, 5: cauliflower, 6: Lettuce, 7: Chinese cabbage, 8: mustard green, 9: Bean vegetables, 10: Carrot, 11: Welsh onion, 12: Red onion, 13: Sweet corn

*2 Major cropping pattern 1: Vegetables - Vegetables - Vegetables, 2: Vegetables - Vegetables, 3: Vegetables, 4: Palawija - Vegetables, 5: Paddy - Vegetables, 6: Palawija - Palawija, 7: Paddy - Paddy - Paddy/Palawija, 8: Paddy - Paddy/Palawija, 9: Paddy/Palawija

*3 Major fruit tree 1: Mango 2: Banana, 3: Jack fruits, 4: Guava, 5: Avocado, 6: Coconut

Table 3.1.2 Crop Production Cost and Profit per ha (1/3)

Name of Crops	Unit	Tomato			Chili			Potato			Cabbage			Chinese cabbage/Mustard green		
		Q'ty	Price (Rp)	Value (1000Rp)	Q'ty	Price (Rp)	Value (1000Rp)	Q'ty	Price (Rp)	Value (1000Rp)	Q'ty	Price (Rp)	Value (1000Rp)	Q'ty	Price (Rp)	Value (1000Rp)
1 Gross Income	Rp			20,000			20,000			34,000			15,400			12,750
Main products	kg	20,000	1,000	20,000	5,000	4,000	20,000	17,000	2,000	34,000	22,000	700	15,400	17,000	750	12,750
By-product	kg															
2 Direct Cost	Rp			14,090			17,985			19,383			11,339			9,645
2.1 Inputs	Rp			8,890			12,985			14,540			6,900			5,602
Seed	kg	0.3	6,000,000	1,800	0.3	22,500,000	6,750	1,000	10,000	10,000	0.3	4,000,000	1,200	0.3	5,000,000	1,500
Compost	ton	20	100,000	2,000	20	100,000	2,000	15	100,000	1,500	20	100,000	2,000	20	100,000	2,000
Chemical fertilizer	ZA	250	1,100	275	250	1,100	275	100	1,100	110	250	1,100	275		1,100	0
	Urea	300	1,200	360	300	1,200	360	200	1,200	240	300	1,200	360	110	1,200	132
	TSP	250	1,700	425	250	1,700	425	200	1,700	340	250	1,700	425	100	1,700	170
	KCL	100	2,000	200	100	2,000	200	100	2,000	200	100	2,000	200	100	2,000	200
	Complex		3,000	0		3,000	0		3,000	0		3,000	0		3,000	0
Agro-chemicals																
Insecticide	lit	20	55,000	1,100	20	55,000	1,100	5	55,000	275	20	55,000	1,100	10	55,000	550
Fungicide	kg	30	55,000	1,650	25	55,000	1,375	25	55,000	1,375	20	55,000	1,100	10	55,000	550
Others		3	10,000	30		10,000	0	20	10,000	200	24	10,000	240		10,000	0
Others				1,050			500			300		500				500
2.2 Labor	m-d	647		4,529	592	2,000	4,144	560		3,920	557		3,899	512		3,584
Nursery prepar't'n/managm't	m-d	7	7,000	49	7	7,000	49	0	7,000	0	7	7,000	49	7	7,000	49
Land preparation	m-d	140	7,000	980	140	7,000	980	140	7,000	980	140	7,000	980	140	7,000	980
Seeding/transplanting	m-d	60	7,000	420	60	7,000	420	60	7,000	420	60	7,000	420	60	7,000	420
Organic manure application	m-d	80	7,000	560	80	7,000	560	80	7,000	560	80	7,000	560	80	7,000	560
Fertilizer application	m-d	40	7,000	280	40	7,000	280	40	7,000	280	40	7,000	280	30	7,000	210
Pest control	m-d	75	7,000	525	70	7,000	490	45	7,000	315	60	7,000	420	30	7,000	210
Weeding/cultivation	m-d	45	7,000	315	45	7,000	315	45	7,000	315	45	7,000	315	45	7,000	315
Irrigation	m-d	30	7,000	210	30	7,000	210	30	7,000	210	30	7,000	210	25	7,000	175
Harvesting	m-d	60	7,000	420	50	7,000	350	50	7,000	350	40	7,000	280	40	7,000	280
Hauling/Post-harvest	m-d	50	7,000	350	30	7,000	210	40	7,000	280	35	7,000	245	35	7,000	245
Other management	m-d	60	7,000	420	40	7,000	280	30	7,000	210	20	7,000	140	20	7,000	140
2.3 Tool/Equipment	Rp			671			856			923			540			459
5 Profit	Rp			5,910			2,015			14,617			4,061			3,105
Profit ratio	%			30%			10%			43%			26%			24%
Profit/Labor	Rp/m-d			9,135			3,403			26,102			7,291			6,064
Profit/month	Rp1000/month			1,689			448			4,176			1,160			1,035
Profit/products	Rp/kg			296			403			860			185			183
Production cost/products	Rp/kg			704			3,597			1,140			515			567
Input cost ratio	%			63%			72%			75%			61%			58%
Labor cost ratio	%			32%			23%			20%			34%			37%
Critical yield	kg/ha			14,090			4,496			9,692			16,199			12,860
Critical price	Rp/kg			704			3,597			1,140			515			567
Growing period in field	month			3.5			4.5			3.5			3.5			3.0
Fertilizer nutrient																
Nitrogen (N)	kg/ka			188			188			111			188			50
Phosphate (P2O5)	kg/ka			120			120			96			120			48
Potassium (K2O)	kg/ka			52			52			52			52			52

Note: Estimated in case of good management and better yield
Source: Study Team

Table 3.1.2 Crop Production Cost and Profit per ha (2/3)

Name of Crops	Unit	Bean Vegetables			Red Onion			Welsh Onion			Carrot			Sweet Corn			
		Q'ty	Price	Value	Q'ty	Price	Value	Q'ty	Price	Value	Q'ty	Price	Value	Q'ty	Price	Value	
		(Rp)	(1000Rp)	(Rp)	(1000Rp)	(Rp)	(1000Rp)	(Rp)	(1000Rp)	(Rp)	(1000Rp)	(Rp)	(1000Rp)	(Rp)	(1000Rp)		
1 Gross Income	Rp		12,600		14,000		13,500		20,000		11,700						
Main products	kg	9,000	1,400	12,600	7,000	2,000	14,000	15,000	900	13,500	20,000	1,000	20,000	9,000	1,300	11,700	
By-product	kg																
2 Direct Cost	Rp		7,119		9,083		9,083		7,109		4,703						
2.1 Inputs	Rp		3,280		5,220		5,220		3,550		1,735						
Seed	kg	30	12,000	360	1,000	1,500	1,500	1,000	1,500	1,500	1.5	200,000	300	30	17,000	510	
Compost	ton		100,000	0	10	100,000	1,000	10	100,000	1,000	15	100,000	1,500		100,000	0	
Chemical fertilizer	ZA	kg	1,100	0	200	1,100	220	200	1,100	220		1,100	0	100	1,100	110	
	Urea	kg	250	1,200	300	300	1,200	360	300	1,200	360	300	1,200	360	300	1,200	360
	TSP	kg	100	1,700	170	200	1,700	340	200	1,700	340	200	1,700	340	150	1,700	255
	KCL	kg	150	2,000	300	200	2,000	400	200	2,000	400	100	2,000	200	100	2,000	200
	Complex	kg		3,000	0		3,000	0		3,000	0		3,000	0		3,000	0
Agro-chemicals																	
Insecticide	lit	10	55,000	550	10	55,000	550	10	55,000	550	5	55,000	275		55,000	0	
Fungicide	kg	10	55,000	550	10	55,000	550	10	55,000	550	5	55,000	275		55,000	0	
Others			10,000	0		10,000	0		10,000	0		10,000	0		10,000	0	
Others				1,050			300			300			300			300	
2.2 Labor	m-d	500	3,500	490	3,430	490	3,430	460	3,220	392	2,744						
Nursery preparat'n/managm't	m-d	0	7,000	0	0	7,000	0	0	7,000	0	7	7,000	49				
Land preparation	m-d	140	7,000	980	140	7,000	980	140	7,000	980	140	7,000	980	140	7,000	980	
Seeding/transplanting	m-d	30	7,000	210	60	7,000	420	60	7,000	420	20	7,000	140	60	7,000	420	
Organic manure application	m-d	50	7,000	350	50	7,000	350	50	7,000	350	70	7,000	490		7,000	0	
Fertilizer application	m-d	40	7,000	280	40	7,000	280	40	7,000	280	30	7,000	210	40	7,000	280	
Pest control	m-d	30	7,000	210	30	7,000	210	30	7,000	210	15	7,000	105		7,000	0	
Weeding/cultivation	m-d	45	7,000	315	45	7,000	315	45	7,000	315	45	7,000	315	45	7,000	315	
Irrigation	m-d	25	7,000	175	25	7,000	175	30	7,000	210	30	7,000	210	25	7,000	175	
Harvesting	m-d	60	7,000	420	40	7,000	280	40	7,000	280	40	7,000	280	40	7,000	280	
Post-harvest	m-d	30	7,000	210	30	7,000	210	25	7,000	175	30	7,000	210	25	7,000	175	
Other management	m-d	50	7,000	350	30	7,000	210	30	7,000	210	40	7,000	280	10	7,000	70	
2.3 Tool/Equipment	Rp		339		433		433		339		224						
5 Profit	Rp		5,481		4,918		4,418		12,892		6,997						
Profit ratio	%		44%		35%		33%		64%		60%						
Profit/Labor	Rp/m-d		10,962		10,036		9,015		28,025		17,850						
Profit/month	Rp1000/month		1,827		1,639		1,767		3,683		2,332						
Profit/products	Rp/kg		609		703		295		645		777						
Production cost/products	Rp/kg		791		1,298		606		355		523						
Input cost ratio	%		46%		57%		57%		50%		37%						
Labor cost ratio	%		49%		38%		38%		45%		58%						
Critical yield	kg/ha		5,085		4,541		10,092		7,109		3,618						
Critical price	Rp/kg		791		1,298		606		355		523						
Growing period in field	month		3.0		3.0		2.5		3.5		3.0						
Fertilizer nutrient																	
Nitrogen (N)	kg/ka		113		177		177		135		156						
Phosphate (P2O5)	kg/ka		48		96		96		96		72						
Potassium (K2O)	kg/ka		78		104		104		52		52						

Note: Estimated in case of good management and better yield
Source: Study Team

Table 3.1.2 Crop Production Cost and Profit per ha (3/3)

Name of Crops	Unit	Paddy			Maize			Sweet Potato			Soybean		
		Q'ty	Price	Value	Q'ty	Price	Value	Q'ty	Price	Value	Q'ty	Price	Value
		(Rp)	(1000Rp)	(Rp)	(1000Rp)	(Rp)	(1000Rp)	(Rp)	(1000Rp)	(Rp)	(1000Rp)	(Rp)	(1000Rp)
1 Gross Income	Rp		5,400		4,620		4,400		1,620				
Main products	kg	4,500	1,200	5,400	2,200	2,100	4,620	11,000	400	4,400	900	1,800	1,620
By-product	kg												
2 Direct Cost	Rp		4,246		3,649		2,387		730				
2.1 Inputs	Rp		1,510		1,165		208		240				
Seed	kg	35	3,000	105	15	17,000	255	10	800	8	40	3,500	140
Compost	ton		100,000	0		100,000	0		100,000	0		100,000	0
Chemical fertilizer	ZA kg		1,100	0		1,100	0		1,100	0		1,100	0
Urea	kg	300	1,200	360	200	1,200	240		1,200	0		1,200	0
TSP	kg	100	1,700	170	100	1,700	170		1,700	0		1,700	0
KCL	kg	100	2,000	200	100	2,000	200		2,000	0		2,000	0
Complex	kg		3,000	0		3,000	0		3,000	0		3,000	0
Agro-chemicals													
Insecticide	lit	5	55,000	275		55,000	0		55,000	0		55,000	0
Fungicide	kg		55,000	0		55,000	0		55,000	0		55,000	0
Others			10,000	0		10,000	0		10,000	0		10,000	0
Others				400			300			200			100
2.2 Labor	m-d	362	2,534	330	2,310	295	2,065	65	455				
Nursery preparat'n/managm't	m-d	7	7,000	49	0	7,000	0	5	7,000	35	0	7,000	0
Land preparation	m-d	90	7,000	630	120	7,000	840	140	7,000	980	10	7,000	70
Seeding/transplanting	m-d	60	7,000	420	40	7,000	280	30	7,000	210	15	7,000	105
Organic manure application	m-d		7,000	0		7,000	0		7,000	0		7,000	0
Fertilizer application	m-d	30	7,000	210	40	7,000	280		7,000	0		7,000	0
Pest control	m-d	15	7,000	105		7,000	0		7,000	0		7,000	0
Weeding/cultivation	m-d	40	7,000	280	45	7,000	315	30	7,000	210		7,000	0
Irrigation	m-d	30	7,000	210	25	7,000	175	10	7,000	70		7,000	0
Harvesting	m-d	60	7,000	420	40	7,000	280	40	7,000	280	25	7,000	175
Post-harvest	m-d	15	7,000	105	15	7,000	105	20	7,000	140	10	7,000	70
Other management	m-d	15	7,000	105	5	7,000	35	20	7,000	140	5	7,000	35
2.3 Tool/Equipment	Rp		202		174		114		35				
5 Profit	Rp		1,154		971		2,013		890				
Profit ratio	%		21%		21%		46%		55%				
Profit/Labor	Rp/m-d		3,187		2,943		6,825		13,696				
Profit/month	Rp1000/month		330		324		403		297				
Profit/products	Rp/kg		256		441		183		989				
Production cost/products	Rp/kg		944		1,659		217		811				
Input cost ratio	%		36%		32%		9%		33%				
Labor cost ratio	%		60%		63%		87%		62%				
Critical yield	kg/ha		3,539		1,738		5,967		405				
Critical price	Rp/kg		944		1,659		217		811				
Growing period in field	month	3.5			3.0			5.0			3.0		
Fertilizer nutrient													
Nitrogen (N)	kg/ka	135			90			0			0		
Phosphate (P2O5)	kg/ka	48			48			0			0		
Potassium (K2O)	kg/ka	52			52			0			0		

Note: Estimated in case of good management and better yield
Source: Study Team

Table 3.1.3 Marketing System of Model Areas

	Mekarjaya (Bandung)	Langensari (Bandung)	Tugumukti (Bandung)	Gekbrong (Cianjur)	Cisurupan (Garut)	Tanjungkarya (Garut)	Mekarmukti (Sumedang)	Cisantana (Kuningan)
Distribution pattern by traders	Bandung 60% JKT 40% Local	JKT/Bekasi 50% Bandung 50% Local	JKT 50% Bandung 50% Local	JKT/Bekasi 95% Local 5%	Bandung 75% JKT 20% Local 5%	Bandung 75% JKT 20% Local 5%	Local 100%	Local 100%
Farmers' own sale	-	5% to Cimahi	-	5% to Cianjur, Sukabumi	-	25% to Garut	100% to Hariaig	-
Transportation cost and truck type	Bandung: Rp.75,000/1.5 tons pick-up	JKT/Bekasi: Rp.230,000/ 5 tons truck Bandung: Rp.25,000/ 5 tons truck	JKT: Rp.250,000/ 5 tons truck	JKT: Rp.150,000/ 5 tons truck	Bandung: Rp.200,000/ 5 tons truck	Bandung: Rp.160,000/ 5 tons truck JKT: Rp.260,000/ 5 tons truck	Hariaig: Rp.20,000/ pick-up	Kuningan: Rp.5,000/pick- up (100 kg)
Distance to market	Bandung: 30 km	JKT: 210 km Bandung: 25 km	JKT: 210 km Bandung: 25 km	JKT: 135 km	Bandung: 80 km JKT: 270 km	Bandung: 80 km JKT: 270 km	Hariaig: 3 km	Kuningan: 6 km
Daily shipping volume from village (ton)	Cabbage: 5 French bean: 0.7	50 ton	50 ton	20 ton	50 ton	50 ton	Small quantity	11 ton
Post-harvest handling	Sorting & grading	No sorting & grading	No sorting & grading	Sorting & grading	Sorting & grading	Sorting & grading	No sorting & grading	Tomato, sort & grad. carrot, cleaned
Collection center	Existed	Existed	Existed	Existed	Not existed	Existed	Not existed	Existed
Farmers' group	12 groups	20 groups	5 groups	11 groups	9 groups	15 groups	8 groups	Not function due to debt.
KUD activities	KUT channel	KUT channel	KUT by NGO	KUT by NGO	Milk collection	Milk collection	KUT channel	Milk collection
Mode of transaction	Cash & carry, One day credit	One day credit	One day credit	Cash & carry	Cash & carry	Cash & carry, One day credit	Cash	One week credit
Labor wage	-	Rp.10-25/kg	-	-	Rp.100/kg, 3-4 km	Rp.40/kg, 1 km	-	Rp.10,000/day clean/grading

Table 3.1.4 Preliminary Estimation of Annual Soil Erosion Rate in and around the Model Areas

(1) In the model site

Model sites	Annual rainfall	Slope	Crop	Conservation	R	K	LS	C	P	Adjust	E (ton/ha/yr.)
Gekbrong	2,000	0-3	Vegetable	Strip row	2,323	0.40	0.19	0.30	0.30	1.00	15.89
	2,000	3-8	Vegetable	Contour bund with strip row	2,323	0.40	0.52	0.30	0.25	0.90	32.62
Mekarjaya	2,000	10-15	Vegetable	Terrace (moderate)	2,323	0.40	1.40	0.30	0.15	0.55	32.20
	2,000	15-25	Vegetable	Terrace (moderate)	2,323	0.40	3.10	0.30	0.15	0.43	55.75
	2,000	25-40	Vegetable	Contour bund with strip row	2,323	0.40	6.80	0.30	0.45	0.48	409.50
Tugumukti	2,000	0-3	Vegetable	Strip row	2,323	0.40	0.19	0.30	0.30	1.00	15.89
	2,000	3-8	Vegetable	Contour bund with strip row	2,323	0.40	0.52	0.30	0.25	0.90	32.62
	2,000	0-3	Vegetable	Terrace (moderate)	2,323	0.40	0.19	0.30	0.15	1.00	7.95
	2,000	3-8	Vegetable	Terrace (moderate)	2,323	0.40	0.52	0.30	0.15	0.75	16.31
	2,000	8-15	Vegetable	Terrace (moderate)	2,323	0.40	1.40	0.30	0.15	0.55	32.20
Langensari	2,000	0-3	Vegetable	Strip row	2,323	0.40	0.19	0.30	0.30	1.00	15.89
	2,000	3-8	Vegetable	Contour bund with strip row	2,323	0.40	0.52	0.30	0.25	0.90	32.62
	2,000	0-3	Vegetable	Terrace (moderate)	2,323	0.40	0.19	0.30	0.15	1.00	7.95
	2,000	3-8	Vegetable	Terrace (moderate)	2,323	0.40	0.52	0.30	0.15	0.75	16.31
Mekarumukti	2,000	10-15	Paddy	Terrace (complete)	2,323	0.40	1.40	0.01	0.04	0.67	0.35
	2,000	3-8	Uplands	Contour bund	2,323	0.40	0.40	0.40	0.50	0.80	59.48
	2,000	15-25	Paddy	Terrace (complete)	2,323	0.40	3.10	0.01	0.04	0.55	0.63
	2,000	25-40	Banana, Maize	agroforestry with poor terrace	2,323	0.40	6.80	0.05	0.35	0.48	53.08
Cisarupan	2,000	0-3	Vegetable	Terrace (moderate)	2,323	0.40	0.19	0.30	0.15	1.00	7.95
	2,000	3-8	Vegetable	Terrace (moderate)	2,323	0.40	0.52	0.30	0.15	0.75	16.31
	2,000	10-15	Vegetable	Terrace (moderate)	2,323	0.40	1.40	0.30	0.15	0.67	39.23
Tanjungkarya	2,000	0-3	Vegetable	Terrace (complete)	2,323	0.40	0.19	0.30	0.04	1.00	2.12
	2,000	3-8	Vegetable	Terrace (complete)	2,323	0.40	0.52	0.30	0.04	0.75	4.35
	2,000	0-8	Paddy	Terrace (complete)	2,323	0.40	0.40	0.01	0.04	1.00	0.15
	2,000	8-15	Vegetable	Terrace (moderate)	2,323	0.40	1.40	0.30	0.15	0.67	39.23
Cisantana	2,000	10-15	Vegetable	Terrace (moderate)	2,323	0.40	1.40	0.30	0.15	0.67	39.23

(2) Outside of the model site (High Potential area for Soil Erosion)

Model sites	Annual rainfall	Slope	Crop	Conservation	R	K	LS	C	P	Adjust	E (ton/ha/yr.)
Gekbrong	2,000	3-8	Vegetable	Contour bund with strip row	2,323	0.40	0.40	0.30	0.25	0.90	25.09
Mekarjaya	2,000	15-25	Vegetable	Strip row (No conservation)	2,323	0.40	3.10	0.30	0.50	1.00	432.14
	2,000	25-40	Vegetable	Strip row (No conservation)	2,323	0.40	6.80	0.30	0.50	1.00	947.91
Tugumukti	2,000	8-15	Vegetable	Strip row	2,323	0.40	0.19	0.30	0.75	0.66	26.22
Langensari	2,000	15-25	Vegetable	Strip row or Terrace (poor)	2,323	0.40	3.10	0.30	0.45	0.58	225.57
	2,000	25-40	Uplands	Strip row or Terrace (poor)	2,323	0.40	6.80	0.40	0.45	0.52	591.50
Mekarumukti	2,000	25-40	Banana, Maize	agroforestry with poor terrace	2,323	0.40	6.80	0.05	0.35	1.00	110.59
	2,000	25-40	Pernal crops	agroforestry with poor terrace	2,323	0.40	6.80	0.01	0.35	1.00	22.12
Cisarupan	2,000	15-25	Vegetable	Contour bund with strip row	2,323	0.40	3.10	0.30	0.45	0.58	225.57
	2,000	25-40	Vegetable	Contour bund with strip row	2,323	0.40	6.80	0.30	0.45	0.52	443.62
Tanjungkarya	2,000	15-25	Vegetable	Contour bund with strip row	2,323	0.40	3.10	0.30	0.45	0.58	225.57
	2,000	25-40	Vegetable	Contour bund with strip row	2,323	0.40	6.80	0.30	0.45	0.52	443.62
Cisantana	2,000	15-25	Vegetable	Contour bund with strip row	2,323	0.40	3.10	0.30	0.45	0.58	225.57

Table 3.1.5 List of Agro-chemicals often Utilized in and around the Study Area

Use	Common Name	Traded Name	Chemical type<1	Physical type<2	Concentration	WHO classification <3	LD 50 (mg/kg)
Insecticide	Carbofuran	Furadan 3 G	C	G	30 g/kg	Class 1b	8
	Chlorpyrifos	Dursban 20 EC	OP	L	20% w/v	Class II	135
	Profenofos	Curacron 500 EC	OP	L	50% w/v	Class II	358
	Fenvalerate	Sumicidin 5 EC	PY	L	44.5 w/v	Class II	C450
	Deltamethrin	Clecis 2.5 EC	PY	L	25% w/v	Class II	C135
	Deltamethrin	Dechis 2.5 EC	PY	L	25% w/v	Class II	C135
	Methidathion	Supracide	OP	L	420 w/v	Class 1b	25
	Kurstaki strain HD-7	Dipel WP	-	L	16% w/v	-	-
	Lamda sihalotrin	Matedor 25 EC	-	L	25% w/v	-	-
	Betasiflutrin	Buldok 25 EC	-	L	25% w/v	-	-
Fungicide	Propineb	Antracol 70 WP	TC	P	70% w/v	less hazard	8,500
	Maneb	Pilaram 80 WP	TC	P	80% w/v	less hazard	6,750
	Mancozeb	Dithane M 45	TC	P	80% w/v	less hazard	8,000
	Tembaga hydrocide	Kocide 77 WP	-	P	77% w/v	-	-
	Mancozeb	Manzate 200	TC	P	83% w/v	less hazard	8,000
Herbicide	Glyphosate	Round up	-	L	48% w/v	less hazard	4,230
	Glyphosate	Polaris	-	L	48% w/v	less hazard	4,230

Source: Inventroy Survey in KIOS and farmers made by the JICA Study Team.

Remarks : <1 Chemical Type : C: Carbamate, OP: Organophosphorus compound, PY: Pyrethroid, TC: Thiocarbamate

<2 Physical Type : L: Liquid, P: Powder, G: Granule, F: Flowable, D: Dust, SL Souble Liquid.

<3 WHO Classification : Class 1a "Extremely Hazardous", Class 1b "Highly Hazardous", Class II "Moderately Hazardous", Class III "Slightly Hazardous"

Table 3.2.1 Project Components and Implementation Office

Project Components	Responsible Office	Collaborating Office	O&M Body
1. Infrastructure Improvement/Construction Work			
Irrigation System	District Agricultural Service Office	District Public Works Service Office (Irrigation)	Farm Water Users Association
Rural Market Road	District Agricultural Service Office	Sub-District Office	Village Office
Collection and Distribution Center	District Agricultural Service Office	Sub-District Office DISTRICT PUBLIC WORKS	Farmers Cooperative
Rural Water Supply System	District Agricultural Service Office	Service Office (Cipta Karya)	Rural Water Supply Users Association
2. Establishment of Adaptive Trial Farm (Primary Seed Center, BBU at Margahayu, Lembang)			
Improvement of Building and Facilities	Provincial Agricultural Service Office	-	BBU Margahayu
Adoptive Trial Farm/Irrigation System	Provincial Agricultural Service Office	-	BBU Margahayu
3. Formation of Farmers' Organization			
Farmers' Cooperative	District Agricultural Service Office	District Cooperative Service Office	Self-management
Farmers Water Users'	District Agricultural Service Office	District Public Works Service Office (Irrigation) DISTRICT PUBLIC WORKS	Self-management
Rural Water Supply Users Association	District Agricultural Service Office	Service Office (Cipta Karya)	Self-management
4. Guidance to Farmers Organizations			
Farmers Field School	District Agricultural Service Office	BIPP/BPP	-
O&M of rural facilities	District Agricultural Service Office	-	-
Post-harvest handling	District Agricultural Service Office	-	-
Credit management	District Agricultural Service Office	-	-
Women in Development	District Agricultural Service Office	District Counseling Team of Increasing Family Welfare	-
Management of farmers	District Agricultural Service Office		

Note :

BIPP :District Information and Extension Center

BPP: Rural Extension Center

Table 4.3.1 Summary of Evaluation of Prioritization for Model Areas

Evaluation Factors and Indicators	Mekarjaya		Langensari		Tugumukti		Gekbrong		Cisrupan		Tanjungkara		Mekarmukti		Cisantana	
	Judgement	Score	Judgement	Score	Judgement	Score	Judgement	Score	Judgement	Score	Judgement	Score	Judgement	Score	Judgement	Score
1. Development Needs	19.2		11.6		12.4		15.1		11.4		12.4		18.0		12.3	
1.1 Contribution to income generation of the poor																
- Small scale farm household	⊙	3.0	⊙	3.0	○	1.8	△	0.9	⊙	3.0	○	1.8	○	1.8	○	1.8
- Small land holding size	⊙	2.0	⊙	2.0	△	0.6	△	0.6	○	1.2	△	0.6	○	1.2	○	1.2
- Proportion of own operator	○	1.2	△	0.6	○	1.2	△	0.6	○	1.2	○	1.2	⊙	2.0	○	1.2
1.2 Employment generation	⊙	7.0	○	4.2	⊙	7.0	⊙	7.0	○	4.2	⊙	7.0	⊙	7.0	△	2.1
1.3 Necessity of introduction of advanced technology for increasing productivity	⊙	6.0	○	1.8	○	1.8	⊙	6.0	○	1.8	○	1.8	⊙	6.0	⊙	6.0
2. Potential of Active Operation of Farmers' Organization	9.0		16.0		11.4		10.2		11.8		14.6		12.0		13.0	
2.1 Potential of active operation of farmers' cooperatives																
- Participation rate to existing farmers' group	△	1.2	○	2.4	○	2.4	△	1.2	△	1.2	⊙	4.0	○	2.4	○	2.4
- Household invested to production asset in last 2 years	○	1.8	⊙	3.0	⊙	3.0	⊙	3.0	○	1.8	○	1.8	○	1.8	○	1.8
2.2 Potential of participatory O&M of infrastructure																
- Percent of non-members of any rural organizations	○	4.2	⊙	7.0	○	4.2	○	4.2	⊙	7.0	⊙	7.0	○	4.2	⊙	7.0
2.3 Contribution to improvement of gender issues																
- Participation rate of household wife to PKK	△	1.8	○	3.6	△	1.8	△	1.8	△	1.8	△	1.8	○	3.6	△	1.8
3. Potential of Agricultural Development for Upland Crops	17.6		17.6		18.4		18.4		17.6		15.6		10.4		16.6	
A. Natural Conditions																
3A.1 Agro-climate suitability (temperature)	⊙	3.0	⊙	3.0	⊙	3.0	⊙	3.0	⊙	3.0	⊙	3.0	○	1.8	○	3.0
3A.2 Physiography, Altitude	⊙	2.0	⊙	2.0	⊙	2.0	⊙	2.0	⊙	2.0	⊙	2.0	△	0.6	⊙	2.0
3A.3 Soils suitability for vegetable cropping	○	1.2	⊙	2.0	⊙	2.0	⊙	2.0	⊙	2.0	○	1.2	○	1.2	⊙	2.0
B. Agro-economic Conditions																
3B.1 Farmers' intention to promoting vegetable growing	⊙	3.0	⊙	3.0	⊙	3.0	⊙	3.0	⊙	3.0	○	1.8	○	1.8	⊙	3.0
3B.2 Familiarity of farmers with vegetable growing	○	1.2	○	1.2	○	1.2	○	1.2	○	1.2	○	1.2	△	0.6	○	1.2
3B.3 Availability of agricultural extension services	⊙	2.0	○	1.2	⊙	2.0	○	1.2	○	1.2	○	1.2	⊙	2.0	⊙	2.0
C. Marketability																
3C.1 Accessibility to urban market	⊙	2.0	⊙	2.0	⊙	2.0	⊙	2.0	⊙	2.0	⊙	2.0	⊙	2.0	○	1.2
3C.2 Demand size of the present vegetable shipping	⊙	1.2	⊙	2.0	⊙	2.0	⊙	2.0	○	1.2	○	1.2	△	0.2	△	0.2
3C.3 Potential of active operation of post harvest handling	⊙	2.0	○	1.2	○	1.2	⊙	2.0	⊙	2.0	⊙	2.0	△	0.2	⊙	2.0
4. Needs of Improvement/Construction of Agricultural Infrastructures	17.6		13		14.8		17.6		14.4		12.3		12.7		12.7	
4.1 Demand of irrigation supply	⊙	7.0	⊙	7.0	○	4.2	⊙	7.0	○	4.2	△	2.1	△	2.1	⊙	7.0
4.2 Effect of improvement of irrigation facilities	⊙	7.0	○	4.2	⊙	7.0	⊙	7.0	○	4.2	○	4.2	⊙	7.0	△	2.1
4.3 Easiness of O&M of proposed irrigation facilities	○	3.6	△	1.8	○	3.6	○	3.6	⊙	6.0	⊙	6.0	○	3.6	○	3.6
5. Demonstration Effect	16.0		16.0		16.0		12.0		12.0		12.0		9.0		9.0	
5.1 Replicability to other highland areas	⊙	10.0	○	6.0	○	6.0	○	6.0	○	6.0	○	6.0	△	3.0	△	3.0
5.2 Representing the surrounding potential area	○	6.0	⊙	10.0	⊙	10.0	○	6.0	○	6.0	○	6.0	○	6.0	○	6.0
Total		79.4		74.2		73.0		73.3		67.2		66.9		62.1		63.6

Table 5.1.1 Proposed Targets of Verified Indicators of Development Components

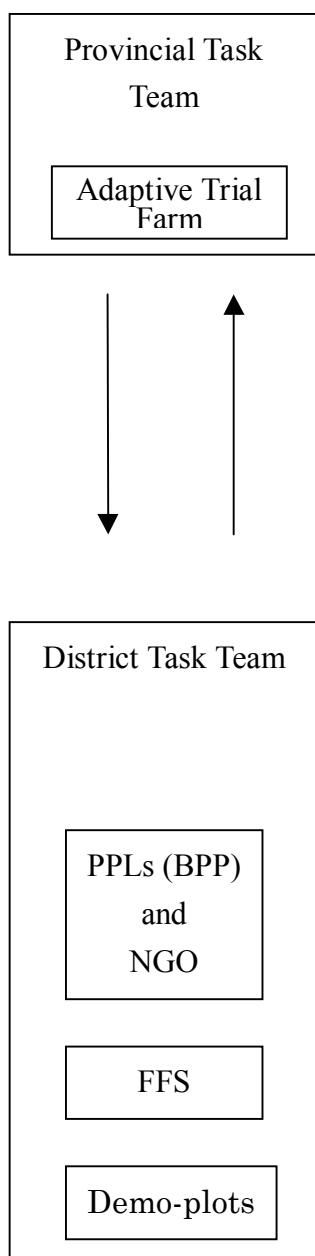
No.	Indicators	Unit	Mekarjaya			Tanjungkarya			Gekbrong			Langensari		
			Existing	Proposed Target		Existing	Proposed Target		Existing	Proposed Target		Existing	Proposed Target	
				Short Term	Long Term		Short Term	Long Term		Short Term	Long Term		Short Term	Long Term
1. Improvement of Vegetable Production System														
1.1	Cropping Intensity of Vegetables	%	36%	70%	100%	45%	65%	74%	100	100	100	100	100	100
1.2	Unit Yields of Main Vegetables													
	- Tomato	ton/ha	11	15	18	17	18	19	15	18	20	20	21	22
	- Chili	ton/ha	4	5	6	6	6.5	7	8	9	9	7	7.5	8
	- Potato	ton/ha	12	15	17	17	18	19	12	15	17	17	20	21
	- Cabbage	ton/ha	18	20	21	21	22	23	20	22	24	22	23	24
1.3	Farm Inputs													
	- Tomato	Rp. 1000/ha	7.4	7.5	8.2	7.8	8.0	8.2	7.5	8.0	8.2	8.2	8.2	8.2
	- Chili	Rp. 1001/ha	12.3	12.8	13.1	12.6	12.9	13.1	12.4	12.7	13.1	13.1	13.1	13.1
	- Potato	Rp. 1002/ha	13.7	13.9	14.3	13.9	14.1	14.3	13.9	14.1	14.3	14.3	14.3	14.3
	- Cabbage	Rp. 1003/ha	6.3	6.7	7.1	6.3	6.8	7.1	6.5	6.7	7.1	7.1	7.1	7.1
2. Improvement of Market System														
2.1	Joint Shipping Volume, % to Total Production	%	0	60	70	0	65	75	0	70	80	0	70	80
2.2	Improvement of Cropping Pattern (Increase from the Present)	%	150	230	255	221	250	265	180	240	270	230	265	285
3. Activation of Farmers Association														
3.1	Farmers Cooperative Membership Rate	%	40	70	90	0	60	80	0	70	90	0	70	90
3.2	Water Users Association Membership Rate	%	0	100	100	0	100	100	0	100	100	0	100	100
3.3	Introduction of Scheduled Vegetable Cropping	-	0	70	80	0	70	80	0	70	80	0	70	80
3.4	Member using Credit of Farmers Cooperative	%	0	20	50	0	20	50	0	20	50	0	20	50
3.5	Total Amount of Credit of Farmers	Rs. Million	0	0.5	1.5	0	0.5	1.5	0	0.5	1.5	0	0.5	1.5
3.6	Total Selling Amount of Farm Inputs/Tools of Farmers Cooperative	Rs. Million	0	0.15	0.3	0	0.15	0.3	0	0.15	0.3	0	0.15	0.3

Note:

Short Term: 3 years after irrigation commencement

Long Term: 6 years after irrigation commencement

Table 6.3.1 Organization and Responsibilities of Extension Activities of Horticulture



Responsibilities of Extension Service

Adaptive Trial Farm (ATF)

- Center for Vegetable cultivation and technology dissemination
- Collection of data /information on vegetable farming and virtues from researches and private sector
- Distribution of above data / information to district task team and field
- Training of district task team and field staff (PPL and NGO)
- Preparation of guideline and monitoring /evaluation for field activities of district task team
- Answer to questions and needs from field
- Adaptive trial on new varieties and technology

District Task Team

- Management and operation of extension activities in the model area
- Planing of extension activities program, monitoring/evaluation of monitoring
- Operation and management of Field Farmers School (FFS) and Demo-plot
- Organizing of farmers school
- Training of PPL and NGO
- Dealing with needs and questions from field

PPL and BPP

- Support for operation of FFS/Demo-plot and organizing of farmers group under district task team
- Grasping of needs and questions of cultivation technology from farmers groups and reporting it to district task team

NGO

- Assistance and support for operation of FFS/Demo-plot and organizing of farmers group under district task team
- Grasping of needs and questions of cultivation technology from farmers groups, and reporting it to district task team

Table 11.2.1 Project Implementation Schedule

Items	Qty	First Year												Second Year												Third Year												Fourth Year												Fifth Year												Sixth Year												Seventh Year																					
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10
A. Project Implementation Schedule of Priority Model Areas																																																																																															
1 Project Preparation																																																																																															
1.1 Overall Project Implementation Schedule	L.S.	[Diagonal lines]																																																																																													
1.2 Establishment of Project Implementation Organization	L.S.	[Diagonal lines]																																																																																													
1.3 Technical Guidebook & Manuals	L.S.	[Diagonal lines]																																																																																													
1.4 Training of Task Teams	4 sites	[Diagonal lines]												[Diagonal lines]												[Diagonal lines]												[Diagonal lines]												[Diagonal lines]												[Diagonal lines]																																	
1.5 Survey, Design and Tendering of Infrastructure Improvement	4 sites	[Diagonal lines]												[Diagonal lines]												[Diagonal lines]												[Diagonal lines]												[Diagonal lines]												[Diagonal lines]																																	
1.6 Improvement of Adaptive Trail Farm	1 site	[Diagonal lines]												[Diagonal lines]												[Diagonal lines]												[Diagonal lines]												[Diagonal lines]												[Diagonal lines]																																	
2 Improvement of Agricultural Infrastructure																																																																																															
2.1 Irrigation Facilities	4 sites													[Solid black]																																																																																	
2.2 Rural Market Roads	4 sites													[Solid black]																																																																																	
2.3 Collection Center	4 sites													[Solid black]																																																																																	
2.4 Rural Water Supply Facilities	2 sites													[Solid black]																																																																																	
3 Formation/Activation of Farmers' Organization																																																																																															
3.1 Water Users' Association	4 sites													[Dotted pattern]																																																																																	
3.2 Rural Water Supply Users' Association	2 sites													[Dotted pattern]																																																																																	
3.3 Farmers' Cooperative	4 sites													[Dotted pattern]																																																																																	
4 Training of Farmers/Farmers' Groups																																																																																															
4.1 Operation of Adaptive Trial Farm	1 site													[Checkered pattern]												[Checkered pattern]																																																																					
4.2 Operation of Farmers' Field School and Demonstration Plots	4 sites													[Checkered pattern]												[Checkered pattern]																																																																					
4.3 Regular Training of Leaders of Farmers' Groups	4 sites													[Dotted pattern]												[Dotted pattern]												[Dotted pattern]												[Dotted pattern]												[Dotted pattern]																																	
5 Monitoring and Evaluation of Project Benefit and Environment Impacts																																																																																															
5.1 Project Benefit Monitoring	4 sites													[Vertical lines]												[Vertical lines]												[Vertical lines]												[Vertical lines]												[Vertical lines]																																	
5.2 Environmental Impact Monitoring	4 sites													[Vertical lines]												[Vertical lines]												[Vertical lines]												[Vertical lines]												[Vertical lines]																																	
6 Feasibility Study of Other Model Areas																																																																																															
[Diagonal lines]												[Diagonal lines]												[Diagonal lines]												[Diagonal lines]												[Diagonal lines]												[Diagonal lines]																																			
B. Staff Requirements																																																																																															
1 Task Teams																																																																																															
1.1 Central Task Team	1	[Solid black]												[Solid black]												[Solid black]												[Solid black]												[Solid black]												[Solid black]																																	
1.2 Province Task Team	1	[Solid black]												[Solid black]												[Solid black]												[Solid black]												[Solid black]												[Solid black]																																	
1.3 District Task Team	4	[Solid black]												[Solid black]												[Solid black]												[Solid black]												[Solid black]												[Solid black]																																	
2 External Expertise																																																																																															
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Development Plan of Other Highland Area																																																																																															
A. 4 Model Areas in West Java Province																																																																																															
1 Fund Arrangement and Project Preparation																																																																																															
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2 Project Implementation																																																																																															
2.1 Agricultural Infrastructure														[Diagonal lines]												[Diagonal lines]												[Diagonal lines]												[Diagonal lines]																																													
2.2 Formation of Farmers' Associations and Training to Them														[Diagonal lines]												[Diagonal lines]												[Diagonal lines]												[Diagonal lines]																																													
B. Development Plan of Other Highland Area																																																																																															
1 Project Identification and Planning																																																																																															
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2 Fund Arrangement and Project Preparation																																																																																															
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3 Project Implementation																																																																																															
3.1 Agricultural Infrastructure														[Diagonal lines]												[Diagonal lines]												[Diagonal lines]												[Diagonal lines]																																													
3.2 Formation of Farmers' Associations and Training to Them														[Diagonal lines]												[Diagonal lines]												[Diagonal lines]												[Diagonal lines]																																													

Table 11.3.1 Project Cost

unit: mil.Rp

	Mekarjaya	Tanjungkarya	Gekbrong	Langensari	Common	Total
I Construction cost						
Direct construction cost						
a Irrigation	1,778.0	893.7	1,066.5	800.2	(181.1)	4,538.4
b Marketing road	688.7	509.1	300.8	242.1		1,740.7
c Collection center	111.0	337.4	143.0	107.5		698.9
d Rural water supply			174.7	251.9		426.6
e Others					(135.4)	0.0
f Physical contingency (10 % of a to d)	257.8	174.0	168.5	140.2	(31.7)	740.5
sub-total	2,835.5	1,914.2	1,853.5	1,541.9	(348.2)	8,145.1
Tax (10 % of direct construction cos)	283.6	191.4	185.4	154.2	(34.8)	814.6
Total	3,119.1	2,105.6	2,038.9	1,696.1	(383.0)	8,959.7
II Training and extension cost by area						
Village coordinator	240.0	180.0	120.0	180.0		720.0
Training of farmers/farmers group	184.5	127.1	97.6	133.6		542.8
Training of village coordinator	5.9	5.5	5.0	5.5		21.9
Total	430.4	312.6	222.6	319.1		1,284.7
III Common cost for Highland Development						
External expert					10,196.6	10,196.6
Adaptive Trial Farm					383.0	383.0
Machine/Equipment cost					389.0	389.0
Training of task team					246.4	246.4
Total					11,215.0	11,215.0
IV Total I, II, III	3,549.5	2,418.2	2,261.5	2,015.2	11,215.0	21,459.4
V Price coningency (8% annum for L/C)	336.2	367.7	237.8	184.2	21.5	1,147.4
Disbursement of (I+II+III)						
1st year	458.1	327.6	282.7	274.7	3,289.0	4,632.1
2nd year	3,298.5	2,364.5	2,149.8	1,829.0	4,697.9	14,339.7
3rd year	129.1	93.8	66.8	95.7	3,249.6	3,635.0
4th year						
VI Total Direct cost	3,885.7	2,785.9	2,499.3	2,199.4	11,236.5	22,606.8
VII Related cost						
Administration cost	621.7	445.7	399.9	351.9	1,797.8	3,617.0
Land acquisition and compensation	3.3	43.7	1.8	6.7		55.5
Pre-implementation arrangement cos	85.1	60.0	55.6	46.3		247.0
Total	710.1	549.4	457.3	404.9	1,797.8	3,919.5
TOTAL PROJECT COST (VI + VII)	4,595.8	3,335.3	2,956.6	2,604.3	13,034.3	26,526.3

