

Table 4.8.12 Economic Profit per Ha from Seasonal Crops and Estate Crops for Agroforestry (1/5)

Slope Class 0-8%

Year/Season/Crop	With Proejct			Without Proejct		
	Land useintensity (%)	Net return per ha (Rp.million)	Net return (Rp million)	Land useintensity (%)	Net return per ha (Rp.million)	Net return (Rp million)
1st Year						
MT-I maize	100	2.48	2.48	100	2.11	2.11
MT-II groundnut	40	1.41	0.56	40	0.77	0.31
cassava	20	0.68	0.14	20	0.68	0.14
tree crop	5	-3.43	-0.17			0.00
Annual			3.01			2.55
2ne Year						
MT-I maize	100	2.48	2.48	100	2.11	2.11
MT-II groundnut	40	1.41	0.56	40	0.77	0.31
cassava	20	0.68	0.14	20	0.68	0.14
tree crop	5	-2.36	-0.12			0.00
Annual			3.06			2.55
3rd Year						
MT-I maize	100	2.48	2.48	100	2.11	2.11
MT-II groundnut	40	1.41	0.56	40	0.77	0.31
cassava	20	0.68	0.14	20	0.68	0.14
tree crop	5	-2.58	-0.13			0.00
Annual			3.05			2.55
4th Year						
MT-I maize	100	2.48	2.48	100	2.11	2.11
MT-II groundnut	40	1.41	0.56	40	0.77	0.31
cassava	20	0.68	0.14	20	0.68	0.14
tree crop	5	-0.53	-0.03			0.00
Annual			3.15			2.55
5th Year						
MT-I maize	95	2.48	2.36	100	2.11	2.11
MT-II groundnut	40	1.41	0.56	40	0.77	0.31
cassava	20	0.68	0.14	20	0.68	0.14
tree crop	5	0.70	0.04			0.00
Annual			3.09			2.55
6 th Year						
MT-I maize	95	2.48	2.36	100	2.11	2.11
MT-II groundnut	40	1.41	0.56	40	0.77	0.31
cassava	20	0.68	0.14	20	0.68	0.14
tree crop	5	2.42	0.12			0.00
Annual			3.18			2.55
7th Year						
MT-I maize	95	2.48	2.36	100	2.11	2.11
MT-II groundnut	40	1.41	0.56	40	0.77	0.31
cassava	20	0.68	0.14	20	0.68	0.14
tree crop	5	3.72	0.19			0.00
Annual			3.24			2.55
8th Year						
MT-I maize	95	2.48	2.36	100	2.11	2.11
MT-II groundnut	40	1.41	0.56	40	0.77	0.31
cassava	20	0.68	0.14	20	0.68	0.14
tree crop	5	4.86	0.24			0.00
Annual			3.30			2.55
9thYear						
MT-I maize	95	2.48	2.36	100	2.11	2.11
MT-II groundnut	40	1.41	0.56	40	0.77	0.31
cassava	20	0.68	0.14	20	0.68	0.14
tree crop	5	6.11	0.31			0.00
Annual			3.36			2.55
10th Year						
MT-I maize	95	2.48	2.36	100	2.11	2.11
MT-II groundnut	40	1.41	0.56	40	0.77	0.31
cassava	20	0.68	0.14	20	0.68	0.14
tree crop	5	7.18	0.36			0.00
Annual			3.42			2.55
11th Year						
MT-I maize	95	2.48	2.36	100	2.11	2.11
MT-II groundnut	40	1.41	0.56	40	0.77	0.31
cassava	20	0.68	0.14	20	0.68	0.14
tree crop	5	8.29	0.41			0.00
Annual			3.47			2.55
12th Year						
MT-I maize	95	2.48	2.36	100	2.11	2.11
MT-II groundnut	40	1.41	0.56	40	0.77	0.31
cassava	20	0.68	0.14	20	0.68	0.14
tree crop	5	8.47	0.42			0.00
Annual			3.48			2.55
13th Year						
MT-I maize	95	2.48	2.36	100	2.11	2.11
MT-II groundnut	40	1.41	0.56	40	0.77	0.31
cassava	20	0.68	0.14	20	0.68	0.14
tree crop	5	8.80	0.44			0.00
Annual			3.50			2.55
14 th Year						
MT-I maize	95	2.48	2.36	100	2.11	2.11
MT-II groundnut	40	1.41	0.56	40	0.77	0.31
cassava	20	0.68	0.14	20	0.68	0.14
tree crop	5	9.11	0.46			0.00
Annual			3.51			2.55
15th Year						
MT-I maize	95	2.48	2.36	100	2.11	2.11
MT-II groundnut	40	1.41	0.56	40	0.77	0.31
cassava	20	0.68	0.14	20	0.68	0.14
tree crop	5	9.11	0.46			0.00
Annual			3.51			2.55

Source: JICA stury team

Table 4.8.12 Economic Profit per Ha from Seasonal Crops and Estate Crops for Agroforestry (2/5)

Slope Class 8~15%

Year/Season/Crop	With Proeject			Without Proeject		
	Land useintensity (%)	Net return per ha (Rp.million)	Net return (Rp million)	Land useintensity (%)	Net return per ha (Rp.million)	Net return (Rp million)
1st Year						
MT-I maize	100	2.48	2.48	100	2.11	2.11
MT-II groundnut	40	1.41	0.56	40	0.77	0.31
cassava	15	0.68	0.10	20	0.68	0.14
tree crop	13	-3.43	-0.45			0.00
Annual			2.70			2.55
2ne Year						
MT-I maize	100	2.48	2.48	100	2.11	2.11
MT-II groundnut	40	1.41	0.56	40	0.77	0.31
cassava	15	0.68	0.10	20	0.68	0.14
tree crop	13	-2.36	-0.31			0.00
Annual			2.84			2.55
3rd Year						
MT-I maize	100	2.48	2.48	100	2.11	2.11
MT-II groundnut	40	1.41	0.56	40	0.77	0.31
cassava	15	0.68	0.10	20	0.68	0.14
tree crop	13	-2.58	-0.34			0.00
Annual			2.81			2.55
4th Year						
MT-I maize	100	2.48	2.48	100	2.11	2.11
MT-II groundnut	40	1.41	0.56	40	0.77	0.31
cassava	15	0.68	0.10	20	0.68	0.14
tree crop	13	-0.53	-0.07			0.00
Annual			3.08			2.55
5th Year						
MT-I maize	87	2.48	2.16	100	2.11	2.11
MT-II groundnut	40	1.41	0.56	40	0.77	0.31
cassava	10	0.68	0.07	20	0.68	0.14
tree crop	13	0.70	0.09			0.00
Annual			2.88			2.55
6 th Year						
MT-I maize	87	2.48	2.16	100	2.11	2.11
MT-II groundnut	40	1.41	0.56	40	0.77	0.31
cassava	10	0.68	0.07	20	0.68	0.14
tree crop	13	2.42	0.31			0.00
Annual			3.10			2.55
7th Year						
MT-I maize	87	2.48	2.16	100	2.11	2.11
MT-II groundnut	40	1.41	0.56	40	0.77	0.31
cassava	10	0.68	0.07	20	0.68	0.14
tree crop	13	3.72	0.48			0.00
Annual			3.27			2.55
8th Year						
MT-I maize	87	2.48	2.16	100	2.11	2.11
MT-II groundnut	40	1.41	0.56	40	0.77	0.31
cassava	10	0.68	0.07	20	0.68	0.14
tree crop	13	4.86	0.63			0.00
Annual			3.42			2.55
9th Year						
MT-I maize	87	2.48	2.16	100	2.11	2.11
MT-II groundnut	40	1.41	0.56	40	0.77	0.31
cassava	10	0.68	0.07	20	0.68	0.14
tree crop	13	6.11	0.79			0.00
Annual			3.58			2.55
10th Year						
MT-I maize	87	2.48	2.16	100	2.11	2.11
MT-II groundnut	40	1.41	0.56	40	0.77	0.31
cassava	10	0.68	0.07	20	0.68	0.14
tree crop	13	7.18	0.93			0.00
Annual			3.72			2.55
11th Year						
MT-I maize	87	2.48	2.16	100	2.11	2.11
MT-II groundnut	40	1.41	0.56	40	0.77	0.31
cassava	10	0.68	0.07	20	0.68	0.14
tree crop	13	8.29	1.08			0.00
Annual			3.87			2.55
12th Year						
MT-I maize	87	2.48	2.16	100	2.11	2.11
MT-II groundnut	40	1.41	0.56	40	0.77	0.31
cassava	10	0.68	0.07	20	0.68	0.14
tree crop	13	8.47	1.10			0.00
Annual			3.89			2.55
13th Year						
MT-I maize	87	2.48	2.16	100	2.11	2.11
MT-II groundnut	40	1.41	0.56	40	0.77	0.31
cassava	10	0.68	0.07	20	0.68	0.14
tree crop	13	8.80	1.14			0.00
Annual			3.93			2.55
14 th Year						
MT-I maize	87	2.48	2.16	100	2.11	2.11
MT-II groundnut	40	1.41	0.56	40	0.77	0.31
cassava	10	0.68	0.07	20	0.68	0.14
tree crop	13	9.11	1.18			0.00
Annual			3.97			2.55
15th Year						
MT-I maize	87	2.48	2.16	100	2.11	2.11
MT-II groundnut	40	1.41	0.56	40	0.77	0.31
cassava	10	0.68	0.07	20	0.68	0.14
tree crop	13	9.11	1.18			0.00
Annual			3.97			2.55

Source: JACA study team

Table 4.8.12 Economic Profit per Ha from Seasonal Crops and Estate Crops for Agroforestry (3/5)

Slope Class 15~25%

Year/Season/Crop	With Proeject			Without Proeject		
	Land useintensity (%)	Net return per ha (Rp.million)	Net return (Rp million)	Land useintensity (%)	Net return per ha (Rp.million)	Net return (Rp million)
1st Year						
MT-I maize	90	2.48	2.23	100	2.11	2.11
MT-II groundnut	40	1.41	0.56	40	0.77	0.31
cassava	10	0.68	0.07	20	0.68	0.14
tree crop	25	-3.43	-0.86			0.00
medical crop	0					
Annual			2.01			2.55
2ne Year						
MT-I maize	90	2.48	2.23	100	2.11	2.11
MT-II groundnut	40	1.41	0.56	40	0.77	0.31
cassava	10	0.68	0.07	20	0.68	0.14
tree crop	25	-2.36	-0.59			0.00
medical crop	0					
Annual			2.27			2.55
3rd Year						
MT-I maize	90	2.48	2.23	100	2.11	2.11
MT-II groundnut	40	1.41	0.56	40	0.77	0.31
cassava	10	0.68	0.07	20	0.68	0.14
tree crop	25	-2.58	-0.65			0.00
medical crop	0					
Annual			2.22			2.55
4th Year						
MT-I maize	90	2.48	2.23	100	2.11	2.11
MT-II groundnut	40	1.41	0.56	40	0.77	0.31
cassava	10	0.68	0.07	20	0.68	0.14
tree crop	25	-0.53	-0.13			0.00
medical crop	0					
Annual			2.73			2.55
5th Year						
MT-I maize	75	2.48	1.86	100	2.11	2.11
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	0			20	0.68	0.14
tree crop	25	0.70	0.18			0.00
medical crop	10	2.92	0.29			
Annual			2.75			2.55
6 th Year						
MT-I maize	75	2.48	1.86	100	2.11	2.11
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	0			20	0.68	0.14
tree crop	25	2.42	0.61			0.00
medical crop	10	2.92	0.29			
Annual			3.18			2.55
7th Year						
MT-I maize	75	2.48	1.86	100	2.11	2.11
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	0			20	0.68	0.14
tree crop	25	3.72	0.93			0.00
medical crop	10	2.92	0.29			
Annual			3.51			2.55
8th Year						
MT-I maize	75	2.48	1.86	100	2.11	2.11
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	0			20	0.68	0.14
tree crop	25	4.86	1.22			0.00
medical crop	10	2.92	0.29			
Annual			3.50			2.55

Source:JICA study team

Year/Season/Crop	With Proeject			Without Proeject		
	Land useintensity (%)	Net return per ha (Rp.million)	Net return (Rp million)	Land useintensity (%)	Net return per ha (Rp.million)	Net return (Rp million)
9thYear						
MT-I maize	75	2.48	1.86	100	2.11	2.11
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	0			20	0.68	0.14
tree crop	25	6.11	1.53			0.00
medical crop	10	2.92	0.29			
Annual			4.10			2.55
10th Year						
MT-I maize	75	2.48	1.86	100	2.11	2.11
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	0			20	0.68	0.14
tree crop	25	7.18	1.80			0.00
medical crop	10	2.92	0.29			
Annual			4.37			2.55
11th Year						
MT-I maize	75	2.48	1.86	100	2.11	2.11
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	0			20	0.68	0.14
tree crop	25	8.29	2.07			0.00
medical crop	10	2.92	0.29			
Annual			4.36			2.55
12th Year						
MT-I maize	75	2.48	1.86	100	2.11	2.11
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	0			20	0.68	0.14
tree crop	25	8.47	2.12			0.00
medical crop	10	2.92	0.29			
Annual			4.69			2.55
13th Year						
MT-I maize	75	2.48	1.86	100	2.11	2.11
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	0			20	0.68	0.14
tree crop	25	8.80	2.20			0.00
medical crop	10	2.92	0.29			
Annual			4.78			2.55
14 th Year						
MT-I maize	75	2.48	1.86	100	2.11	2.11
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	0			20	0.68	0.14
tree crop	25	9.11	2.28			0.00
medical crop	10	2.92	0.29			
Annual			4.85			2.55
15th Year						
MT-I maize	75	2.48	1.86	100	2.11	2.11
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	0			20	0.68	0.14
tree crop	25	9.11	2.28			0.00
medical crop	10	2.92	0.29			
Annual			4.85			2.55

Table 4.8.12 Economic Profit per Ha from Seasonal Crops and Crops for Agroforestry (4/5)

Slope Class 25-40%

Year/Season/Crop	With Proejct			Without Proejct		
	Land useintensity (%)	Net return per ha (Rp.million)	Net return (Rp million)	Land useintensity (%)	Net return per ha (Rp.million)	Net return (Rp million)
1st Year						
MT-I maize	75	2.48	1.86	100	1.45	1.45
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	10	0.68	0.07	20	0.68	0.14
tree crop	38	-3.43	-1.30			0.00
medical crop	0					
Annual			1.05			1.89
2ne Year						
MT-I maize	75	2.48	1.86	100	1.45	1.45
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	5	0.68	0.03	20	0.68	0.14
tree crop	38	-2.36	-0.90			0.00
medical crop	0					
Annual			1.42			1.89
3rd Year		2.48				
MT-I maize	75	2.48	1.86	100	1.45	1.45
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	5	0.68	0.03	20	0.68	0.14
tree crop	38	-2.58	-0.98			0.00
medical crop	0					
Annual			1.34			1.89
4th Year						
MT-I maize	75	2.48	1.86	100	1.45	1.45
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	5	0.68	0.03	20	0.68	0.14
tree crop	38	-0.53	-0.20			0.00
medical crop	0					
Annual			2.12			1.89
5th Year						
MT-I maize	62	2.48	1.54	100	1.45	1.45
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	0			20	0.68	0.14
tree crop	38	0.70	0.27			0.00
medical crop	10	2.92	0.29			
Annual			2.52			1.89
6 th Year						
MT-I maize	62	2.48	1.54	100	1.45	1.45
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	0			20	0.68	0.14
tree crop	38	2.42	0.92			0.00
medical crop	10	2.92	0.29			
Annual			3.17			1.89
7th Year						
MT-I maize	62	2.48	1.54	100	1.45	1.45
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	0			20	0.68	0.14
tree crop	38	3.72	1.41			0.00
medical crop	10	2.92	0.29			
Annual			3.67			1.89
8th Year						
MT-I maize	62	2.48	1.54	100	1.45	1.45
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	0			20	0.68	0.14
tree crop	38	4.86	1.85			0.00
medical crop	10	2.92	0.29			
Annual			3.81			1.89
9thYear						
MT-I maize	62	2.48	1.54	100	1.45	1.45
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	0			20	0.68	0.14
tree crop	38	6.11	2.32			0.00
medical crop	10	2.92	0.29			
Annual			4.57			1.89
10th Year						
MT-I maize	62	2.48	1.54	100	1.45	1.45
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	0			20	0.68	0.14
tree crop	38	7.18	2.73			0.00
medical crop	10	2.92	0.29			
Annual			4.98			1.89
11th Year						
MT-I maize	62	2.48	1.54	100	1.45	1.45
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	0			20	0.68	0.14
tree crop	38	8.29	3.15			0.00
medical crop	10	2.92				
Annual			5.11			1.89
12th Year						
MT-I maize	62	2.48	1.54	100	1.45	1.45
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	0			20	0.68	0.14
tree crop	38	8.47	3.22			0.00
medical crop	10	2.92	0.29			
Annual			5.47			1.89
13th Year						
MT-I maize	62	2.48	1.54	100	1.45	1.45
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	0			20	0.68	0.14
tree crop	38	8.80	3.34			0.00
medical crop	10	2.92	0.29			
Annual			5.60			1.89
14 th Year						
MT-I maize	62	2.48	1.54	100	1.45	1.45
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	0			20	0.68	0.14
tree crop	38	9.11	3.46			0.00
medical crop	10	2.92	0.29			
Annual			5.71			1.89
15th Year						
MT-I maize	62	2.48	1.54	100	1.45	1.45
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	0			20	0.68	0.14
tree crop	38	9.11	3.46			0.00
medical crop	10	2.92	0.29			
Annual			5.71			1.89

Source:JICA study team

Table 4.8.12 Economic Profit per Ha from Seasonal Crops and Crops for Agroforestry (5/5)

Slope Class over 40%

Year/Season/Crop	With Proejct			Without Proejct		
	Land useintensity (%)	Net return per ha (Rp.million)	Net return (Rp million)	Land useintensity (%)	Net return per ha (Rp.million)	Net return (Rp million)
1st Year						
MT-I maize	60	2.48	1.49	100	1.45	1.45
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	0			20	0.68	0.14
tree crop	50	-3.43	-1.72			0.00
medical crop	0					
Annual			0.20			1.89
2ne Year						
MT-I maize	60	2.48	1.49	100	1.45	1.45
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	0			20	0.68	0.14
tree crop	50	-2.36	-1.18			0.00
medical crop	0					
Annual			0.73			1.89
3rd Year						
MT-I maize	60	2.48	1.49	100	1.45	1.45
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	0			20	0.68	0.14
tree crop	50	-2.58	-1.29			0.00
medical crop	0					
Annual			0.62			1.89
4th Year						
MT-I maize	60	2.48	1.49	100	1.45	1.45
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	0			20	0.68	0.14
tree crop	50	-0.53	-0.27			0.00
medical crop	0					
Annual			1.65			1.89
5th Year						
MT-I maize	50	2.48	1.24	100	1.45	1.45
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	0			20	0.68	0.14
tree crop	50	0.70	0.35			0.00
medical crop	20	2.92	0.58			
Annual			2.60			1.89
6 th Year						
MT-I maize	50	2.48	1.24	100	1.45	1.45
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	0			20	0.68	0.14
tree crop	50	2.42	1.21			0.00
medical crop	20	2.92	0.58			
Annual			3.46			1.89
7th Year						
MT-I maize	50	2.48	1.24	100	1.45	1.45
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	0			20	0.68	0.14
tree crop	50	3.72	1.86			0.00
medical crop	20	2.92	0.58			
Annual			4.11			1.89
8th Year						
MT-I maize	50	2.48	1.24	100	1.45	1.45
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	0			20	0.68	0.14
tree crop	50	4.86	2.43			0.00
medical crop	20	2.92	0.58			
Annual			4.09			1.89
9thYear						
MT-I maize	50	2.48	1.24	100	1.45	1.45
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	0			20	0.68	0.14
tree crop	50	6.11	3.06			0.00
medical crop	20	2.92	0.58			
Annual			5.30			1.89
10th Year						
MT-I maize	50	2.48	1.24	100	1.45	1.45
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	0			20	0.68	0.14
tree crop	50	7.18	3.59			0.00
medical crop	20	2.92	0.58			
Annual			5.84			1.89
11th Year						
MT-I maize	50	2.48	1.24	100	1.45	1.45
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	0			20	0.68	0.14
tree crop	50	8.29	4.15			0.00
medical crop	20	2.92				
Annual			5.81			1.89
12th Year						
MT-I maize	50	2.48	1.24	100	1.45	1.45
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	0			20	0.68	0.14
tree crop	50	8.47	4.24			0.00
medical crop	20	2.92	0.58			
Annual			6.48			1.89
13th Year						
MT-I maize	50	2.48	1.24	100	1.45	1.45
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	0			20	0.68	0.14
tree crop	50	8.80	4.40			0.00
medical crop	20	2.92	0.58			
Annual			6.65			1.89
14 th Year						
MT-I maize	50	2.48	1.24	100	1.45	1.45
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	0			20	0.68	0.14
tree crop	50	9.11	4.56			0.00
medical crop	20	2.92	0.58			
Annual			6.80			1.89
15th Year						
MT-I maize	50	2.48	1.24	100	1.45	1.45
MT-II groundnut	30	1.41	0.42	40	0.77	0.31
cassava	0			20	0.68	0.14
tree crop	50	9.11	4.56			0.00
medical crop	20	2.92	0.58			
Annual			6.80			1.89

Source: JICA study team

Table 4.8.13 Total Economic Benefit from Keduang Watershed Conservation Project(1/3)

development year				Slope of Class					Total
				0-8%	8-15%	15-25%	25-40%	over 40%	
1st year	with project condition	Terrace	Gross area (ha)	1,524	2,804	2,138	1,341	1,913	9,720
			Net area (ha)	1,494	2,608	1,903	1,113	1,435	9,526
			Net return/ha (Rp million)	3.01	2.70	2.01	1.05	0.20	
			Net return (Rp million)	4,495	7,041	3,825	1,169	287	16,817
	Without project condition	Composite	Gross area (ha)	762	897	556	241	268	2,724
			Net area (ha)	762	897	556	241	268	2,724
			Net return/ha (Rp million)	2.55	2.55	2.55	1.89	1.89	
			Net return (Rp million)	1,943	2,288	1,417	456	506	6,611
	Without project condition	Terrace	Gross area (ha)	762	1,907	1,582	1,100	1,645	6,996
			Net area (ha)	747	1,773	1,408	913	1,234	13,607
			Net return/ha (Rp million)	2.55	2.55	2.55	1.89	1.89	
			Net return (Rp million)	1,904	4,522	3,591	1,725	2,332	14,074
	Benefit								
				648	231	-1,183	-1,013	-2,551	-3,868
2nd year	with project condition	Terrace	Gross area (ha)	1,524	2,804	2,138	1,341	1,913	9,720
			Net area (ha)	1,494	2,608	1,903	1,113	1,435	9,526
			Net return/ha (Rp million)	3.06	2.84	2.27	1.42	0.73	
			Net return (Rp million)	4,570	7,406	4,319	1,581	1,047	18,923
	Without project condition	Composite	Gross area (ha)	762	897	556	241	268	2,724
			Net area (ha)	762	897	556	241	268	21,648
			Net return/ha (Rp million)	2.55	2.55	2.55	1.89	1.89	
			Net return (Rp million)	1,943	2,288	1,417	456	506	6,611
	Without project condition	Terrace	Gross area (ha)	762	1,907	1,582	1,100	1,645	6,996
			Net area (ha)	747	1,773	1,408	913	1,234	13,607
			Net return/ha (Rp million)	2.55	2.55	2.55	1.89	1.89	
			Net return (Rp million)	1,904	4,522	3,591	1,725	2,332	14,074
	Benefit								
				723	596	-689	-601	-1,791	-1,761
3rd year	with project condition	Terrace	Gross area (ha)	1,524	2,804	2,138	1,341	1,913	9,720
			Net area (ha)	1,494	2,608	1,903	1,113	1,435	9,526
			Net return/ha (Rp million)	3.05	2.81	2.22	1.34	0.62	
			Net return (Rp million)	4,555	7,328	4,224	1,491	890	18,488
	Without project condition	Composite	Gross area (ha)	762	897	556	241	268	2,724
			Net area (ha)	762	897	556	241	268	21,213
			Net return/ha (Rp million)	2.55	2.55	2.55	1.89	1.89	
			Net return (Rp million)	1,943	2,288	1,417	456	506	6,611
	Without project condition	Terrace	Gross area (ha)	762	1,907	1,582	1,100	1,645	6,996
			Net area (ha)	747	1,773	1,408	913	1,234	13,607
			Net return/ha (Rp million)	2.55	2.55	2.55	1.89	1.89	
			Net return (Rp million)	1,904	4,522	3,591	1,725	2,332	14,074
	Benefit								
				708	518	-784	-690	-1,949	-2,197
4th year	with project condition	Terrace	Gross area (ha)	1,524	2,804	2,138	1,341	1,913	9,720
			Net area (ha)	1,494	2,608	1,903	1,113	1,435	9,526
			Net return/ha (Rp million)	3.15	3.08	2.73	2.12	1.65	
			Net return (Rp million)	4,705	8,032	5,195	2,360	2,367	22,658
	Without project condition	Composite	Gross area (ha)	762	897	556	241	268	2,724
			Net area (ha)	762	897	556	241	268	25,382
			Net return/ha (Rp million)	2.55	2.55	2.55	1.89	1.89	
			Net return (Rp million)	1,943	2,288	1,417	456	506	6,611
	Without project condition	Terrace	Gross area (ha)	762	1,907	1,582	1,100	1,645	6,996
			Net area (ha)	747	1,773	1,408	913	1,234	13,607
			Net return/ha (Rp million)	2.55	2.55	2.55	1.89	1.89	
			Net return (Rp million)	1,904	4,522	3,591	1,725	2,332	14,074
	Benefit								
				857	1,222	187	178	-471	1,973
5th year	with project condition	Terrace	Gross area (ha)	1,524	2,804	2,138	1,341	1,913	9,720
			Net area (ha)	1,494	2,608	1,903	1,113	1,435	9,526
			Net return/ha (Rp million)	3.09	2.88	2.75	2.52	2.60	
			Net return (Rp million)	4,615	7,510	5,233	2,805	3,730	23,893
	Without project condition	Composite	Gross area (ha)	762	897	556	241	268	2,724
			Net area (ha)	762	897	556	241	268	26,618
			Net return/ha (Rp million)	2.55	2.55	2.55	1.89	1.89	
			Net return (Rp million)	1,943	2,288	1,417	456	506	6,611
	Without project condition	Terrace	Gross area (ha)	762	1,907	1,582	1,100	1,645	6,996
			Net area (ha)	747	1,773	1,408	913	1,234	13,607
			Net return/ha (Rp million)	2.55	2.55	2.55	1.89	1.89	
			Net return (Rp million)	1,904	4,522	3,591	1,725	2,332	14,074
	Benefit								
				768	700	225	624	892	3,208
6th year	with project condition	Terrace	Gross area (ha)	1,524	2,804	2,138	1,341	1,913	9,720
			Net area (ha)	1,494	2,608	1,903	1,113	1,435	9,526
			Net return/ha (Rp million)	3.18	3.10	3.18	3.17	3.46	
			Net return (Rp million)	4,749	8,084	6,051	3,528	4,964	27,377
	Without project condition	Composite	Gross area (ha)	762	897	556	241	268	2,724
			Net area (ha)	762	897	556	241	268	30,101
			Net return/ha (Rp million)	2.55	2.55	2.55	1.89	1.89	
			Net return (Rp million)	1,943	2,288	1,417	456	506	6,611
	Without project condition	Terrace	Gross area (ha)	762	1,907	1,582	1,100	1,645	6,996
			Net area (ha)	747	1,773	1,408	913	1,234	13,607
			Net return/ha (Rp million)	2.55	2.55	2.55	1.89	1.89	
			Net return (Rp million)	1,904	4,522	3,591	1,725	2,332	14,074
	Benefit								
				902	1,274	1,043	1,347	2,126	6,692

Table 4.8.13 Total Economic Benefit from Keduang Watershed Conservation Project(2/3)

development year			Slope of Class					Total	
			0-8%	8-15%	15-25%	25-40%	over 40%		
7th year	with project condition	Terrace	Gross area (ha)	1,524	2,804	2,138	1,341	1,913	9,720
			Net area (ha)	1,494	2,608	1,903	1,113	1,435	9,526
			Net return/ha (Rp million)	3.24	3.27	3.51	3.67	4.11	
			Net return (Rp million)	4,839	8,527	6,679	4,085	5,897	30,027
	Without project condition	Composite	Gross area (ha)	762	897	556	241	268	2,724
			Net area (ha)	762	897	556	241	268	32,751
			Net return/ha (Rp million)	2.55	2.55	2.55	1.89	1.89	
			Net return (Rp million)	1,943	2,288	1,417	456	506	6,611
		Terrace	Gross area (ha)	762	1,907	1,582	1,100	1,645	6,996
			Net area (ha)	747	1,773	1,408	913	1,234	13,607
			Net return/ha (Rp million)	2.55	2.55	2.55	1.89	1.89	
			Net return (Rp million)	1,904	4,522	3,591	1,725	2,332	14,074
	Benefit		992	1,717	1,671	1,904	3,059	9,342	
	8th year	with project condition	Terrace	Gross area (ha)	1,524	2,804	2,138	1,341	1,913
Net area (ha)				1,494	2,608	1,903	1,113	1,435	9,526
Net return/ha (Rp million)				3.30	3.42	3.50	3.81	4.09	
Net return (Rp million)				4,929	8,918	6,660	4,241	5,868	30,616
Without project condition		Composite	Gross area (ha)	762	897	556	241	268	2,724
			Net area (ha)	762	897	556	241	268	33,340
			Net return/ha (Rp million)	2.55	2.55	2.55	1.89	1.89	
			Net return (Rp million)	1,943	2,288	1,417	456	506	6,611
		Terrace	Gross area (ha)	762	1,907	1,582	1,100	1,645	6,996
			Net area (ha)	747	1,773	1,408	913	1,234	13,607
			Net return/ha (Rp million)	2.55	2.55	2.55	1.89	1.89	
			Net return (Rp million)	1,904	4,522	3,591	1,725	2,332	14,074
Benefit			1,081	2,109	1,652	2,059	3,030	9,931	
9th year		with project condition	Terrace	Gross area (ha)	1,524	2,804	2,138	1,341	1,913
	Net area (ha)			1,494	2,608	1,903	1,113	1,435	9,526
	Net return/ha (Rp million)			3.36	3.58	4.10	4.57	5.30	
	Net return (Rp million)			5,018	9,336	7,802	5,087	7,604	34,846
	Without project condition	Composite	Gross area (ha)	762	897	556	241	268	2,724
			Net area (ha)	762	897	556	241	268	37,571
			Net return/ha (Rp million)	2.55	2.55	2.55	1.89	1.89	
			Net return (Rp million)	1,943	2,288	1,417	456	506	6,611
		Terrace	Gross area (ha)	762	1,907	1,582	1,100	1,645	6,996
			Net area (ha)	747	1,773	1,408	913	1,234	13,607
			Net return/ha (Rp million)	2.55	2.55	2.55	1.89	1.89	
			Net return (Rp million)	1,904	4,522	3,591	1,725	2,332	14,074
	Benefit		1,171	2,526	2,793	2,905	4,766	14,161	
	10th year	with project condition	Terrace	Gross area (ha)	1,524	2,804	2,138	1,341	1,913
Net area (ha)				1,494	2,608	1,903	1,113	1,435	9,526
Net return/ha (Rp million)				3.42	3.72	4.37	4.98	5.84	
Net return (Rp million)				5,108	9,701	8,315	5,543	8,379	37,046
Without project condition		Composite	Gross area (ha)	762	897	556	241	268	2,724
			Net area (ha)	762	897	556	241	268	39,770
			Net return/ha (Rp million)	2.55	2.55	2.55	1.89	1.89	
			Net return (Rp million)	1,943	2,288	1,417	456	506	6,611
		Terrace	Gross area (ha)	762	1,907	1,582	1,100	1,645	6,996
			Net area (ha)	747	1,773	1,408	913	1,234	13,607
			Net return/ha (Rp million)	2.55	2.55	2.55	1.89	1.89	
			Net return (Rp million)	1,904	4,522	3,591	1,725	2,332	14,074
Benefit			1,261	2,891	3,307	3,362	5,541	16,361	
11th year		with project condition	Terrace	Gross area (ha)	1,524	2,804	2,138	1,341	1,913
	Net area (ha)			1,494	2,608	1,903	1,113	1,435	9,526
	Net return/ha (Rp million)			3.47	3.87	4.36	5.11	5.81	
	Net return (Rp million)			5,183	10,092	8,296	5,688	8,336	37,594
	Without project condition	Composite	Gross area (ha)	762	897	556	241	268	2,724
			Net area (ha)	762	897	556	241	268	40,319
			Net return/ha (Rp million)	2.55	2.55	2.55	1.89	1.89	
			Net return (Rp million)	1,943	2,288	1,417	456	506	6,611
		Terrace	Gross area (ha)	762	1,907	1,582	1,100	1,645	6,996
			Net area (ha)	747	1,773	1,408	913	1,234	13,607
			Net return/ha (Rp million)	2.55	2.55	2.55	1.89	1.89	
			Net return (Rp million)	1,904	4,522	3,591	1,725	2,332	14,074
	Benefit		1,335	3,282	3,288	3,506	5,498	16,909	
	12th year	with project condition	Terrace	Gross area (ha)	1,524	2,804	2,138	1,341	1,913
Net area (ha)				1,494	2,608	1,903	1,113	1,435	9,526
Net return/ha (Rp million)				3.48	3.89	4.69	5.47	6.48	
Net return (Rp million)				5,197	10,144	8,924	6,088	9,297	39,651
Without project condition		Composite	Gross area (ha)	762	897	556	241	268	2,724
			Net area (ha)	762	897	556	241	268	42,376
			Net return/ha (Rp million)	2.55	2.55	2.55	1.89	1.89	
			Net return (Rp million)	1,943	2,288	1,417	456	506	6,611
		Terrace	Gross area (ha)	762	1,907	1,582	1,100	1,645	6,996
			Net area (ha)	747	1,773	1,408	913	1,234	13,607
			Net return/ha (Rp million)	2.55	2.55	2.55	1.89	1.89	
			Net return (Rp million)	1,904	4,522	3,591	1,725	2,332	14,074
Benefit			1,350	3,334	3,916	3,907	6,459	18,966	

Table 4.8.13 Total Economic Benefit from Keduang Watershed Conservation Project(3/3)

development year			Slope of Class					Total	
			0-8%	8-15%	15-25%	25-40%	over 40%		
13th year	with project condition	Terrace	Gross area (ha)	1,524	2,804	2,138	1,341	1,913	9,720
			Net area (ha)	1,494	2,608	1,903	1,113	1,435	9,526
			Net return/ha (Rp million)	3.50	3.93	4.78	5.60	6.65	
			Net return (Rp million)	5,227	10,248	9,095	6,233	9,541	40,345
	Without project condition	Composite	Gross area (ha)	762	897	556	241	268	2,724
			Net area (ha)	762	897	556	241	268	43,070
		Net return/ha (Rp million)	2.55	2.55	2.55	1.89	1.89		
		Net return (Rp million)	1,943	2,288	1,417	456	506	6,611	
	Terrace	Gross area (ha)	762	1,907	1,582	1,100	1,645	6,996	
		Net area (ha)	747	1,773	1,408	913	1,234	13,607	
		Net return/ha (Rp million)	2.55	2.55	2.55	1.89	1.89		
		Net return (Rp million)	1,904	4,522	3,591	1,725	2,332	14,074	
	Benefit			1,380	3,438	4,087	4,052	6,703	19,660
	14th year	with project condition	Terrace	Gross area (ha)	1,524	2,804	2,138	1,341	1,913
Net area (ha)				1,494	2,608	1,903	1,113	1,435	9,526
Net return/ha (Rp million)				3.51	3.97	4.85	5.71	6.80	
Net return (Rp million)				5,242	10,353	9,229	6,355	9,756	40,935
Without project condition		Composite	Gross area (ha)	762	897	556	241	268	2,724
			Net area (ha)	762	897	556	241	268	43,660
		Net return/ha (Rp million)	2.55	2.55	2.55	1.89	1.89		
		Net return (Rp million)	1,943	2,288	1,417	456	506	6,611	
Terrace		Gross area (ha)	762	1,907	1,582	1,100	1,645	6,996	
		Net area (ha)	747	1,773	1,408	913	1,234	13,607	
		Net return/ha (Rp million)	2.55	2.55	2.55	1.89	1.89		
		Net return (Rp million)	1,904	4,522	3,591	1,725	2,332	14,074	
Benefit			1,395	3,543	4,221	4,174	6,918	20,251	
15th year		with project condition	Terrace	Gross area (ha)	1,524	2,804	2,138	1,341	1,913
	Net area (ha)			1,494	2,608	1,903	1,113	1,435	9,526
	Net return/ha (Rp million)			3.51	3.97	4.85	5.71	6.80	
	Net return (Rp million)			5,242	10,353	9,229	6,355	9,756	40,935
	Without project condition	Composite	Gross area (ha)	762	897	556	241	268	2,724
			Net area (ha)	762	897	556	241	268	43,660
		Net return/ha (Rp million)	2.55	2.55	2.55	1.89	1.89		
		Net return (Rp million)	1,943	2,288	1,417	456	506	6,611	
	Terrace	Gross area (ha)	762	1,907	1,582	1,100	1,645	6,996	
		Net area (ha)	747	1,773	1,408	913	1,234	13,607	
		Net return/ha (Rp million)	2.55	2.55	2.55	1.89	1.89		
		Net return (Rp million)	1,904	4,522	3,591	1,725	2,332	14,074	
	Benefit			1,395	3,543	4,221	4,174	6,918	20,251

Source: JICA Study Team

Sloope Class (%)	rate of netarea/gross area in planning	sharing rate of uplands by composite and terrace (%) at present condition		upland areas in Keduang watershed (ha)
		composite	terrace	
0-8	0.98	50	50	1,524
8-15	0.93	32	68	2,804
15-25	0.89	26	74	2,138
25-40	0.83	18	82	1,341
over 40	0.75	14	86	1,913
Total				9,720

remark: rate of net area/gross area is applied to 100% for composite lands and planning rate to terrace lands

Table 4.8.15 Financial Crop Budget of Palawiji per Ha under Monoculture (Current Condition)

Cropping Season: MT I				Maize (Hybrid)				Maize (Komposit)				Groundnut				Soybeans				Cassava (1 season)			
Production (ton)		Unit Price (Rp.000/kg)		Gross Return (Rp. million)		Maize (Hybrid)		Maize (Komposit)		Groundnut		Soybeans		Cassava (1 season)									
Unit	Q'ty	Unit Price (Rp.000)	Amount (Rp.000)	Unit Price (Rp.000)	Amount (Rp.000)	Q'ty	Unit Price (Rp.000)	Amount (Rp.000)	Q'ty	Unit Price (Rp.000)	Amount (Rp.000)	Q'ty	Unit Price (Rp.000)	Amount (Rp.000)	Q'ty	Unit Price (Rp.000)	Amount (Rp.000)						
1. Materials																							
Seed	kg	27.0	1,520	17	17	7.0	17	119	6.5	100	650	4.0	44	176	1.0	0.01	10,000	100					
Fertilizer Urea	kg	1.3	200	260	1.3	150	195	1.3	50	65	1.3	50	65	1.3	50	1.3	50	65					
TSP	kg	1.6	100	160	1.6	75	120	1.6	100	160	1.6	100	160	1.6	100	1.6	100	160					
KCL	kg	2.5	50	125	2.5	50	125	2.5	50	125	2.5	50	125	2.5	50	2.5	50	125					
Compost	ton	200	2	400	200	1	200	200	1.0	200	200	200	0.5	100	200	200	200	200					
Dolomite	ton		0	0		0	0	0		0	0		0	0		0	0	0					
Rhizobium	g		0	0		0	0	0		0	0		0	0		0	0	0					
Pesticide	kg	8.0	2.00	16																			
	lit	100	1.00	100																			
2. Labor 1/			666					594			792			558				774					
Land Preparation	mandays		25					25			25			25				25					
Family	mandays	17	17					17			17			17				17					
Hired	mandays	8	144	18	8	144	18	8	144	18	8	144	18	8	144	18	8	144					
Farm Management/Harvest	mandays	96	67					84			84			75				50					
Family	mandays	67	67					59			59			52				15					
Hired	mandays	18	29	522	18	25	450	18	36	648	18	23	414	18	35	630	18	35					
Total Labor	mandays	121						109			145			100				75					
Family	mandays	84						76			101			69				32					
Hired	mandays	18	37					33			44			31				43					
3. Threshing/Shelling	machineday		0					0			0			0				0					
4. Miscellaneous Costs (1+2+3) x 10%			219					135			199			130				98					
Total Costs (Rp.000)			2,405					1,488			2,191			1,429				1,077					
Net Return (Rp. Million)			63%	4.10				67%	3.06		60%			3.31				49%					

Note: Crop budget indicated in bold letters applied for the present study

Cropping Season: MT II				Groundnut				Soybeans			
Production (ton)		Unit Price (Rp.000/kg)		Gross Return (Rp. million)		Groundnut		Soybeans			
Unit	Q'ty	Unit Price (Rp.000)	Amount (Rp.000)	Unit Price (Rp.000)	Amount (Rp.000)	Q'ty	Unit Price (Rp.000)	Q'ty	Unit Price (Rp.000)		
1. Materials											
Seed	kg	6.5	100	650	4.0	44	176	4.0	44		
Fertilizer 2/											
Pesticide 2/											
2. Labor 1/											
Land Preparation	mandays		13						13		
Family	mandays	9	9						9		
Hired	mandays	18	4	72	18	4	72	18	4		
Farm Management/Harvest	mandays	120							75		
Family	mandays	84							52		
Hired	mandays	18	36	648	18	23	414	18	23		
Total Labor	mandays	133							88		
Family	mandays	93							61		
Hired	mandays	18	40						27		
3. Threshing/Shelling	machineday		0						0		
4. Miscellaneous Costs (1+2+3) x 10%			170						100		
Total Costs (Rp.000)			1,870						1,101		
Net Return (Rp. Million)			51%	1.98					48%	1.00	

Note: Crop budget indicated in bold letters applied for the present study

1/: Assuming Family labor account for 70 % of total labor requirements, except for cassava
2/: Assuming 60 % of MT I

Source: Analisa Usaha Tani Tanaman Palawija, Dinas Pertanian, Kab. Wonogiri, 2004 & 2005

Table 4.8.16 Financial Crop Budget of Palawija per Ha under Monoculture (With-project Condition)

Cropping Season: MT I			Maize (Hybrid)			Groundnut			Soybeans			Cassava: Current			Termic (Kanyit)			
Production (ton)	Unit		Unit Price (Rp.000)	Q'ty	Amount (Rp.000)	Unit Price (Rp.000)	Q'ty	Amount (Rp.000)	Unit Price (Rp.000)	Q'ty	Amount (Rp.000)	Unit Price (Rp.000)	Q'ty	Amount (Rp.000)	Unit Price (Rp.000)	Q'ty	Amount (Rp.000)	
Production (ton)					5.5	1.2			1.2			1.2			14.0			13.5
Unit Price (Rp.000/kg)					1.30	5.5			3.00			0.15			0.15			0.6
Gross Return (Rp. million)					7.15	6.60			3.60			2.10			2.10			8.10
Development/Production Costs																		
1. Materials					1,585	1,830			1,009						205			3,219
Seed	kg		27.0	17	459	10.0	100	1,000	6.0	44	264	0.01	10,000	100	3.00	800	2,400	
Fertilizer Urea	kg		1.3	250	325	1.3	50	65	1.3	50	65	1.3	50	65	1.3	100	130	
TSP	kg		1.6	100	160	1.6	100	160	1.6	100	160	1.6	25	40	1.6	50	80	
KCL	kg		2.5	50	125	2.5	50	125	2.5	50	125	2.5	50	125	2.5	75	188	
Compost	ton		200	2.0	400	200	2.0	400	200	1.0	200	200			200	2.0	400	
Dolomite	ton				0	100	0.5	50	100	0.5	50							
Rhizobium	g				0	0	0.2	150	0	0.2	150	0			0		0	
Pesticide	kg		8	2.00	16				0	1.5	1.00	15			7	3.0	21	
Labor 1/	lit		100	1.00	100				0	100	1.00	100			0		0	
2. Labor 1/					684			2,188							774		576	
Land Preparation	mandays			25				25		25			25			25		
Family	mandays			17				17		17			17			17		
Hired	mandays		18	8	144	188	8	1,504	18	8	144	18	8	144	18	8	144	
Farm Management & Harvest	mandays			100				128		75			50			80		
Family	mandays			70				90		52			15			56		
Hired	mandays		18	30	540	18	38	684	18	23	414	18	35	630	18	24	432	
Total Labor	mandays			125				153		100			75			105		
Family	mandays			87				107		69			32			73		
Hired	mandays		18	38		18	46		18	31		18	43		18	32		
Threshing/Shelling	machineday				0			0							0		0	
3. Threshing/Shelling					227			402							98		379	
4. Miscellaneous Costs (1+2+3) x 10%					2,496			4,420							1,077		4,174	
Total Costs (Rp.000)																		
Net Return (Rp. Million)					65%			2.18		33%					49%		48%	3.93

Note: Crop budget indicated in bold letters applied for the present study

Cropping Season: MT II			Groundnut			Soybeans		
Production (ton)	Unit		Unit Price (Rp.000)	Q'ty	Amount (Rp.000)	Unit Price (Rp.000)	Q'ty	Amount (Rp.000)
Production (ton)					0.9			0.9
Unit Price (Rp.000/kg)					5.5			3.00
Gross Return (Rp. million)					4.95			2.70
Development/Production Costs								
1. Materials					1,314			772
Seed	kg		6.5	100	650	4.0	44	176
Fertilizer 2/					664			504
Pesticide 2/					0			92
2. Labor 1/					756			560
Land Preparation	mandays			15				15
Family	mandays			11				11
Hired	mandays		18	4	72	20	4	80
Farm Management & Harvest	mandays			124				78
Family	mandays			86				54
Hired	mandays		18	38	684	20	24	480
Total Labor	mandays			139				93
Family	mandays			97				65
Hired	mandays		18	42		20	28	
Threshing/Shelling	machineday				0			0
3. Threshing/Shelling					207			133
4. Miscellaneous Costs (1+2+3) x 10%					2,277			1,465
Total Costs (Rp.000)								
Net Return (Rp. Million)					54%			46%

Note: Crop budget indicated in bold letters applied for the present study

1/: Assuming Family labor account for 70 % of total labor requirements, except for cassava
2/: Assuming 80 % of MT I

Source: Analisa Usaha Tani Tanaman Palawija, Dinas Pertanian, Kab. Wonorejo, 2004 & 2005

Table 4.8.17 Averaged Financial Crop Budget of Tree Crops

Crop	Item	Year														
		1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th
Mango	Production (ton)				0.3	1.4	1.8	2.6	3.1	4.4	5.3	6.4	7.7	9.2	10.0	10.0
	Unit Price (Rp.000)				0.5	0.6	0.8	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
	Gross Return (Rp.million)				0.15	0.36	1.12	2.86	3.41	4.84	5.83	7.04	8.47	10.12	11.00	11.00
	Dev. Cost(Rp.000)															
	Farming cost(Rp.000)	2805	1,001	895	955	1,117	1,176	1,295	1,397	1,456	1,456	1,496	1,720	1,760	1,984	1,984
Rambutan	Total(Rp.000)	2,805	1,001	895	955	1,117	1,176	1,295	1,397	1,456	1,496	1,720	1,760	1,984	1,984	
	Net Return (Rp.million)	-2.81	-1.00	-0.75	-0.60	0.00	0.80	1.57	2.01	3.38	4.33	5.32	6.71	8.14	9.02	9.02
	Production (ton)				0.5	1.0	2.0	3.0	4.0	5.0	6.0	6.0	6.0	6.0	6.0	6.0
	Unit Price (Rp.000)				2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
	Gross Return (Rp.million)				1.00	2.00	4.00	6.00	8.00	10.00	12.00	12.00	12.00	12.00	12.00	12.00
Durian	Dev. Cost(Rp.000)															
	Farming cost(Rp.000)	2101	1,702	1,455	1,372	1,030	1,383	1,616	1,616	1,616	1,616	1,616	1,616	1,616	1,616	
	Total(Rp.000)	2,101	1,702	1,455	1,372	1,030	1,383	1,616	1,616	1,616	1,616	1,616	1,616	1,616	1,616	
	Net Return (Rp.million)	-2.10	-1.70	-1.46	-0.37	0.97	2.62	4.38	6.38	8.38	10.38	10.38	10.38	10.38	10.38	
	Production (ton)				0.7	1.0	1.0	1.5	2.0	2.5	3.0	3.5	3.5	3.5	3.5	
Clove	Unit Price (Rp.000)				5.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
	Gross Return (Rp.million)				3.50	6.00	6.00	9.00	12.00	15.00	18.00	21.00	21.00	21.00	21.00	
	Dev. Cost(Rp.000)															
	Farming cost(Rp.000)	2563	1,594	1,621	1,621	3,293	3,692	4,384	4,384	4,384	5,016	5,129	5,129	5,129		
	Total(Rp.000)	2,563	1,594	1,621	1,621	3,293	3,692	4,384	4,384	4,384	5,016	5,129	5,129	5,129		
Cashew Nut	Net Return (Rp.million)	-2.56	-1.59	-1.62	-1.62	0.21	2.31	4.62	7.62	10.62	12.98	15.87	15.87	15.87		
	Production (kg)				10	40	80	160	180	220	320	320	320	360		
	Unit Price (Rp.000)				35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0		
	Gross Return (Rp.million)				0.35	1.40	2.80	5.60	6.30	7.70	9.10	11.20	11.20	12.60		
	Dev. Cost(Rp.000)															
Cacao	Farming cost(Rp.000)	3,442	514	596	729	954	1,164	1,353	1,815	2,396	2,907	3,410	3,757	4,425		
	Total(Rp.000)	3,442	514	596	729	954	1,164	1,353	1,815	2,396	2,907	3,410	3,757	4,425		
	Net Return (Rp.million)	-3.44	-0.51	-0.60	-0.38	0.45	1.64	4.25	4.49	5.30	6.19	7.79	7.44	7.44		
	Production (ton)				1.5	2.0	2.2	2.4	2.6	2.7	2.7	2.7	2.7	2.8		
	Unit Price (Rp.000)				4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6		
Cacao	Gross Return (Rp.million)				6.9	9.2	10.1	11.0	12.0	12.4	12.4	12.4	12.4	12.9		
	Dev. Cost(Rp.000)															
	Farming cost(Rp.000)	2,782	2,132	3,271	3,331	3,791	3,810	3,830	3,830	4,290	4,290	4,290	4,290			
	Total(Rp.000)	2,782	2,132	3,271	3,331	3,791	3,810	3,830	3,830	4,290	4,290	4,290	4,290			
	Net Return (Rp.million)	-2.78	-2.13	-3.27	-3.27	-3.27	-3.27	-3.27	-3.27	-3.27	-3.27	-3.27	-3.27			
Average of 6 Crops	Production (ton)				0.05	0.5	1.0	1.4	1.8	2.2	2.7	3.1	3.4	3.6	3.9	
	Unit Price (Rp.000)				0.5	4.3	4.1	4.3	4.0	3.8	3.7	3.7	3.7	3.6	3.4	
	Gross Return (Rp.million)	0.00	0.00	0.03	2.29	4.15	6.13	7.73	8.93	10.31	11.54	12.74	12.97	13.33		
	Dev. Cost(Rp.000)															
	Farming cost(Rp.000)	2,485	1,345	1,522	1,635	2,101	2,275	2,483	2,577	2,761	2,958	3,098	3,162	3,200		
Average of 6 Crops	Total(Rp.000)	2,485	1,345	1,522	1,635	2,101	2,275	2,483	2,577	2,761	2,958	3,098	3,162			
	Net Return (Rp.million)	-2.49	-1.34	-1.50	-0.65	2.04	3.86	5.25	6.35	7.55	8.58	9.64	9.81			

Source: JICA Study Team

Table 4.8.19 Financial Agroforestry Crop Budget of Fruit : Rambutan

Production (ton) Unit Price (Rp.000) Gross Return (Rp. million)	Unit Price (Rp.000)	Unit	1st Year		2nd Year		3rd Year		4th Year		5th Year		6th Year		7th Year		8th Year		9th Year		10th Year		11-15th Year		16-20th Year			
			Q'ty	Amount (Rp.000)	Q'ty	Amount (Rp.000)	Q'ty	Amount (Rp.000)	Q'ty	Amount (Rp.000)	Q'ty	Amount (Rp.000)	Q'ty	Amount (Rp.000)	Q'ty	Amount (Rp.000)	Q'ty	Amount (Rp.000)	Q'ty	Amount (Rp.000)	Q'ty	Amount (Rp.000)	Q'ty	Amount (Rp.000)	Q'ty	Amount (Rp.000)	Q'ty	Amount (Rp.000)
1. Materials		trees	100	1,910	1,548	1,323	1,248	818	858	1,021	1,021	1,021	1,021	1,021	1,021	1,021	1,021	1,021	1,021	1,021	1,021	1,021	1,021	1,021	1,021	1,021	1,021	
Seeding				750	40	300	10	75																				
Fertilizer																												
Urea	1.3	kg	150	195	150	195	150	195	75	98	20	26	20	26	20	26	20	26	20	26	20	26	20	26	20	26	20	
TSP	1.6	kg	150	240	150	240	150	240	75	120	20	32	20	32	20	32	20	32	20	32	20	32	20	32	20	32	20	
KCL	2.5	kg	100	250	75	188	75	188	50	125	10	25	15	38	15	38	15	38	15	38	15	38	15	38	15	38	15	
Compost	200	ton	2	400	2	400	2	400	2	400	2	400	2	400	2	400	2	400	2	400	2	400	2	400	2	400	2	
Pesticide	75	l	1	75	3	225	3	225	1	75	5	375	7	525	7	525	7	525	7	525	7	525	7	525	7	525	7	
2. Labor			70	0	80	0	65	0	60	0	82	119	134	400	143	448	143	448	143	448	143	448	143	448	143	448	143	
2.1 Development 1/			50	0	20	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Family		mandays	35		14		3																					
Hired		mandays	15	0	6	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2.2 Farm Operation			20	0	60	0	60	0	60	0	82	119	134	400	143	448	143	448	143	448	143	448	143	448	143	448	143	
1) Management			20	0	60	0	60	0	60	0	60	0	60	0	60	0	60	0	60	0	60	0	60	0	60	0	60	
Family		mandays	20		60		60		60		60		60		60		60		60		60		60		60		60	
Hired		mandays	18	0																								
2) Harvesting 1/																												
Family		mandays																										
Hired		mandays																										
3. Miscellaneous Costs (1+2) x 10%				191	155	132	125	94	7	119	22	400	25	448	25	448	25	448	25	448	25	448	25	448	25	448	25	
Total Costs (Rp.000)				2,101	1,702	1,455	1,372	1,030	1,383	1,616	1,616	1,616	1,616	1,616	1,616	1,616	1,616	1,616	1,616	1,616	1,616	1,616	1,616	1,616	1,616	1,616	1,616	
Net Return (Rp. Million)				-2.1	-1.7	-1.5	-0.4	1.0	2.6	4.4	6.4	8.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	

1/ Assuming family labor accounts for 70% of total labor requirements

Source: Agriculture Sectoral Report, Master Plan Study on Integrated Development & Management of Walmac-Cearmae River Basin, 2001 & Hasil Analisa Usaha Tani Tanaman Mangga, Dinas Pertanian Kab. Wonorejo, 2004

Table 4.8.20 Financial Agroforestry Crop Budget of Fruit : Durian

Production (ton) Unit Price (Rp,000) Gross Return (Rp. million)	Unit Price (Rp,000)	Unit	1st Year		2nd Year		3rd Year		4th Year		5th Year		6th Year		7th Year		8th Year		9th Year		10th Year		11-15th Year		16-20th Year						
			Q'ty	Amount (Rp,000)	Q'ty	Amount (Rp,000)	Q'ty	Amount (Rp,000)	Q'ty	Amount (Rp,000)	Q'ty	Amount (Rp,000)	Q'ty	Amount (Rp,000)	Q'ty	Amount (Rp,000)	Q'ty	Amount (Rp,000)	Q'ty	Amount (Rp,000)	Q'ty	Amount (Rp,000)	Q'ty	Amount (Rp,000)	Q'ty	Amount (Rp,000)	Q'ty	Amount (Rp,000)			
1. Materials			2,330		1,449		1,474		1,474		2,535		2,870		3,445		3,445		3,445		3,445		4,020		4,123		4,123				
Seedling	10.0	trees	100	1,000	20	200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Fertilizer																															
Urea	1.3	kg	98	78	60	78	60	78	60	78	150	195	175	228	175	228	175	228	175	228	175	228	175	228	175	228	175	228			
TSP	1.6	kg	120	96	60	96	60	96	60	96	150	240	175	280	175	280	175	280	175	280	175	280	175	280	175	280	175	280			
KCL	2.5	kg	188	150	60	150	60	150	60	150	150	375	175	438	175	438	175	438	175	438	175	438	175	438	175	438	175	438			
Compost	200	ton	400	200	200	400	200	400	200	400	300	600	400	800	500	1,000	500	1,000	500	1,000	500	1,000	500	1,000	500	1,000	500	1,000			
Pesticide	75	lit	525	70	70	525	10.0	750	10.0	750	150	1,125	150	1,125	200	1,500	200	1,500	200	1,500	200	1,500	200	1,500	200	1,500	200	1,500			
2. Labor			70	0	70	0	60	0	60	0	145	459	150	486	160	540	160	540	160	540	160	540	160	540	160	540	160	540			
2.1 Development I/			50	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Family			35	7	7																										
Hired			15	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
2.2 Farm Operation			20	0	60	0	60	0	60	0	145	459	150	486	160	540	160	540	160	540	160	540	160	540	160	540	160	540	160	540	
1) Management			20	0	60	0	60	0	60	0	60	0	60	0	60	0	60	0	60	0	60	0	60	0	60	0	60	0	60	0	
Family			20	0	60	0	60	0	60	0	60	0	60	0	60	0	60	0	60	0	60	0	60	0	60	0	60	0	60	0	
Hired			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2) Harvesting I/																															
Family																															
Hired																															
3. Miscellaneous Costs (1+2) x 10%			233	145	145	147	147	147	147	147	299	299	336	336	399	399	399	399	399	399	399	399	456	456	466	466	466	466	466		
Total Costs (Rp,000)			2,563	1,594	1,594	1,621	1,621	1,621	1,621	1,621	3,293	3,293	3,692	3,692	4,384	4,384	4,384	4,384	4,384	4,384	4,384	5,016	5,016	5,129	5,129	5,129	5,129	5,129			
Net Return (Rp. Million)			-2.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	0.2	0.2	2.3	2.3	4.6	4.6	4.6	4.6	4.6	4.6	4.6	10.6	10.6	13.0	13.0	15.9	15.9	15.9	15.9		

I/: Assuming family labor accounts for 70% of total labor requirements

Source: Agriculture Sectoral Report, Master Plan Study on Integrated Development & Management of Waiuae-Centranae River Basin, 2001

Table 4.8.21 Financial Agroforestry Crop Budget of Estate Crop : Clove (Cengkeh)

Gross Return (Rp. million)	1st Year		2nd Year		3rd Year		4th Year		5th Year		6th Year		7th Year		8th Year		9th Year		10th Year		
	Unit Price (Rp.000)	QTY	Amount (Rp.000)	QTY	Amount (Rp.000)	QTY	Amount (Rp.000)	QTY	Amount (Rp.000)	QTY	Amount (Rp.000)	QTY	Amount (Rp.000)	QTY	Amount (Rp.000)	QTY	Amount (Rp.000)	QTY	Amount (Rp.000)	QTY	Amount (Rp.000)
Gross Return (Rp. million)																					
Production (kt)																					
Unit Price (Rp.000)			320		320		320		320		320		320		320		320		320		320
Gross Return (Rp. million)			96,000		96,000		96,000		96,000		96,000		96,000		96,000		96,000		96,000		96,000
Development/Production Costs																					
1. Materials			2,954		2,954		2,954		2,954		2,954		2,954		2,954		2,954		2,954		2,954
Seedling	tree	7.5	230		1725		20		150		40		30		180		180		180		180
Lantoro	tree	0.5	300		150						35.0		35.0		35.0		35.0		35.0		35.0
Glutida	tree	0.5	300		150						35.0		35.0		35.0		35.0		35.0		35.0
Seeds of Temporary Shadow Tree	kg	15	15		225						1.4		1.4		1.4		1.4		1.4		1.4
Stick	stick	4.0	18		72						7.63		7.63		7.63		7.63		7.63		7.63
Fertilizer	kg	2.5	40		100		30		75		120		300		160		400		200		500
NPK	kg	1.3																			
Urea	kg	1.2																			
TSP	kg	1.6																			
KCL	kg	2.5																			
Compost	ton	2.0	2.0		400		1.0		200		1		200		1		200		1		200
Pesticide	kg	2.0	2.0		400		1.0		200		1		200		1		200		1		200
2. Equipment & Tool	unit	21	2		42		2		42		3		63		3		63		3		63
Sprayer	unit	75	1		75																
Others	packet	100	1		100		68		68		60		60		60		60		60		60
3. Labor I/	mandays	80	0		0		8		8		0		0		0		0		0		0
Family	mandays	56	0		0		6		6		0		0		0		0		0		0
Hired	mandays	24	0		0		2		2		0		0		0		0		0		0
3 Farm Operation	mandays	60	0		0		60		60		60		60		60		60		60		60
1) Management	mandays	60	0		0		60		60		60		60		60		60		60		60
2) Harvesting	mandays	18	0		0		0		0		0		0		0		0		0		0
Family	mandays	18	0		0		0		0		0		0		0		0		0		0
Hired	mandays	0	0		0		0		0		0		0		0		0		0		0
4. Miscellaneous Costs (1+2+3) x 10%	mandays	18	0		0		0		0		0		0		0		0		0		0
Total Costs (Rp.000)			3,442		3,442		3,442		3,442		3,442		3,442		3,442		3,442		3,442		3,442
Net Return (Rp. Million)			-3.4		-0.5		-0.6		-0.4		-0.4		-0.4		-0.4		-0.4		-0.4		-0.4

1/ Assuming family labor accounts for 70% of total labor requirements
 Source: Hasil Analisis Usaha Tani Tanaman Perkebunan Di Jawa Tengah, Dinas Perkebunan, Jawa Tengah, 2005

Table 4.8.22 Financial Agroforestry Crop Budget of Estate Crop : Cashew Nut

Gross Return Production (ton) Unit Price (Rp.000) Gross Return (Rp. million)	Unit	Unit Price (Rp.000)	1st Year		2nd Year		3rd Year		4th Year		5th Year		6th Year		7th Year		8th Year		9-12th Year		13-15th Year			
			Qty	Amount (Rp.000)	Qty	Amount (Rp.000)	Qty	Amount (Rp.000)	Qty	Amount (Rp.000)	Qty	Amount (Rp.000)	Qty	Amount (Rp.000)	Qty	Amount (Rp.000)	Qty	Amount (Rp.000)	Qty	Amount (Rp.000)	Qty	Amount (Rp.000)	Qty	Amount (Rp.000)
1. Materials				2,329		1,938		2,774		2,774		3,174		3,174		3,174		3,174		3,174		3,574		3,574
Seed (400 trees)	kg	25	8	200																				
Stake	stick	0.5	450	225																				
String	m	0.5	100	50																				
Seeds of Temporary Shadow Tree	kg		0	0																				
Permanent Shadow Tree	stick		0	0																				
Fertilizer																								
NPK	kg	2.0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Urea	kg	1.3	80	104	200	260	360	468	360	468	360	468	360	468	360	468	360	468	360	468	360	468	360	468
TSP	kg	1.6			80	128	160	256	160	256	160	256	160	256	160	256	160	256	160	256	160	256	160	256
KCL	kg	2.5			80	200	160	400	160	400	160	400	160	400	160	400	160	400	160	400	160	400	160	400
Compost	ton	200	4	800	2	400	2	400	2	400	2	400	2	400	2	400	2	400	2	400	2	400	2	400
Pesticide	l	75	10	750	10	750	10	750	10	750	10	750	10	750	10	750	10	750	10	750	10	750	10	750
Fungicide	l	50	4	200	4	200	10	500	10	500	10	500	10	500	10	500	10	500	10	500	10	500	10	500
2. Equipment & Tool				200				200		200		200		200		200		200		200		200		200
Sprayer	unit																							
Others	packet	200	1	200			1	200	1	200	1	200	1	200	1	200	1	200	1	200	1	200	1	200
3. Labor			140	0	52	0	40	0	60	54	64	72	68	90	70	108	70	108	70	108	72	126	72	126
3.1 Development	mandays		120	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Family	mandays		84		8																			
Hired	mandays		36	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.2 Farm Operation	mandays		20	0	40	0	40	0	60	54	64	72	68	90	70	108	70	108	70	108	72	126	72	126
1) Management	mandays		20	0	40	0	40	0	50	0	50	0	50	0	50	0	50	0	50	0	50	0	50	0
Family	mandays		20		40		40		50		50		50		50		50		50		50		50	
Hired	mandays		18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2) Harvesting	mandays		0	0	0	0	0	0	10	54	14	72	18	90	20	108	20	108	20	108	22	126	22	126
Family	mandays								7		10		13		14		14		14		15		15	
Hired	mandays								3	54	4	72	5	90	6	108	6	108	6	108	7	126	7	126
4. Miscellaneous Costs (1+2+3) x 10%			253		194		297		303	345	345	345	346	346	348	348	348	348	348	348	390	390	390	390
Total Costs (Rp.000)				2,782		2,132		3,271		3,331		3,791		3,830		3,830		3,830		3,830		4,290		4,290
Net Return (Rp. Million)				-2.8		-2.1		-3.3		3.6		5.4		6.3		7.2		8.1		8.1		8.6		8.6

Source: Agriculture Sectoral Report, Master Plan Study on Integrated Development & Management of Waiamae-Cenranae River Basin, 2001

Table 4.8.24 Financial Profit per Ha from Agroforestry (1/5)

Slope Class 0~8%

Year/Season/Crop	With Proeject			Without Proeject		
	Land useintensity (%)	Net return per ha (Rp.million)	Net return (Rp million)	Land useintensity (%)	Net return per ha (Rp.million)	Net return (Rp million)
1st Year						
MT-I maize	100	4.65	4.65	100	4.01	4.01
MT-II groundnut	40	2.67	1.07	40	1.98	0.79
cassava	20	1.02	0.20	20	1.02	0.20
tree crop	5	-2.49	-0.12			0.00
Annual			5.80			5.01
2ne Year						
MT-I maize	100	4.57	4.57	100	4.01	4.01
MT-II groundnut	40	4.65	1.86	40	1.98	0.79
cassava	20	2.67	0.53	20	1.02	0.20
tree crop	5	-1.34	-0.07			0.00
Annual			6.90			5.01
3rd Year						
MT-I maize	100	4.65	4.65	100	4.01	4.01
MT-II groundnut	40	2.67	1.07	40	1.98	0.79
cassava	20	1.02	0.20	20	1.02	0.20
tree crop	5	-1.50	-0.08			0.00
Annual			5.85			5.01
4th Year						
MT-I maize	100	4.65	4.65	100	4.01	4.01
MT-II groundnut	40	2.67	1.07	40	1.98	0.79
cassava	20	1.02	0.20	20	1.02	0.20
tree crop	5	0.65	0.03			0.00
Annual			5.95			5.01
5th Year						
MT-I maize	95	4.65	4.42	100	4.01	4.01
MT-II groundnut	40	2.67	1.07	40	1.98	0.79
cassava	20	1.02	0.20	20	1.02	0.20
tree crop	5	2.04	0.10			0.00
Annual			5.79			5.01
6 th Year						
MT-I maize	95	4.65	4.42	100	4.01	4.01
MT-II groundnut	40	2.67	1.07	40	1.98	0.79
cassava	20	1.02	0.20	20	1.02	0.20
tree crop	5	3.86	0.19			0.00
Annual			5.88			5.01
7th Year						
MT-I maize	95	4.65	4.42	100	4.01	4.01
MT-II groundnut	40	2.67	1.07	40	1.98	0.79
cassava	20	1.02	0.20	20	1.02	0.20
tree crop	5	5.26	0.26			0.00
Annual			5.95			5.01
8th Year						
MT-I maize	95	4.65	4.42	100	4.01	4.01
MT-II groundnut	40	2.67	1.07	40	1.98	0.79
cassava	20	1.02	0.20	20	1.02	0.20
tree crop	5	6.35	0.32			0.00
Annual			6.01			5.01
9thYear						
MT-I maize	95	4.65	4.42	100	4.01	4.01
MT-II groundnut	40	2.67	1.07	40	1.98	0.79
cassava	20	1.02	0.20	20	1.02	0.20
tree crop	5	7.55	0.38			0.00
Annual			6.07			5.01
10th Year						
MT-I maize	95	4.65	4.42	100	4.01	4.01
MT-II groundnut	40	2.67	1.07	40	1.98	0.79
cassava	20	1.02	0.20	20	1.02	0.20
tree crop	5	8.58	0.43			0.00
Annual			6.12			5.01
11th Year						
MT-I maize	95	4.65	4.42	100	4.01	4.01
MT-II groundnut	40	2.67	1.07	40	1.98	0.79
cassava	20	1.02	0.20	20	1.02	0.20
tree crop	5	9.64	0.48			0.00
Annual			6.17			5.01
12th Year						
MT-I maize	95	4.65	4.42	100	4.01	4.01
MT-II groundnut	40	2.67	1.07	40	1.98	0.79
cassava	20	1.02	0.20	20	1.02	0.20
tree crop	5	9.81	0.49			0.00
Annual			6.18			5.01
13th Year						
MT-I maize	95	4.65	4.42	100	4.01	4.01
MT-II groundnut	40	2.67	1.07	40	1.98	0.79
cassava	20	1.02	0.20	20	1.02	0.20
tree crop	5	10.13	0.51			0.00
Annual			6.20			5.01
14 th Year						
MT-I maize	95	4.65	4.42	100	4.01	4.01
MT-II groundnut	40	2.67	1.07	40	1.98	0.79
cassava	20	1.02	0.20	20	1.02	0.20
tree crop	5	10.39	0.52			0.00
Annual			6.21			5.01
15th Year						
MT-I maize	95	4.65	4.42	100	4.01	4.01
MT-II groundnut	40	2.67	1.07	40	1.98	0.79
cassava	20	1.02	0.20	20	1.02	0.20
tree crop	5	10.39	0.52			0.00
Annual			6.21			5.01

Source: JICA stury team

Table 4.8.24 Financial Profit per Ha from Agroforestry (2/5)

Slope Class 8~15%

Year/Season/Crop	With Proejct			Without Proejct		
	Land useintensity (%)	Net return per ha (Rp.million)	Net return (Rp million)	Land useintensity (%)	Net return per ha (Rp.million)	Net return (Rp million)
1st Year						
MT-I maize	100	4.65	4.65	100	4.1	4.1
MT-II groundnut	40	2.67	1.07	40	0.98	0.39
cassava	15	1.02	0.15	20	1.02	0.20
tree crop	13	-2.49	-0.32			0.00
Annual			5.55			4.70
2ne Year						
MT-I maize	100	4.65	4.65	100	4.1	4.10
MT-II groundnut	40	2.67	1.07	40	0.98	0.39
cassava	15	1.02	0.15	20	1.02	0.20
tree crop	13	-1.34	-0.17			0.00
Annual			5.70			4.70
3rd Year						
MT-I maize	100	4.65	4.65	100	4.1	4.10
MT-II groundnut	40	2.67	1.07	40	0.98	0.39
cassava	15	1.02	0.15	20	1.02	0.20
tree crop	13	-2.58	-0.34			0.00
Annual		-1.50	5.54			4.70
4th Year						
MT-I maize	100	4.65	4.65	100	4.1	4.10
MT-II groundnut	40	2.67	1.07	40	0.98	0.39
cassava	15	1.02	0.15	20	1.02	0.20
tree crop	13	-0.53	-0.07			0.00
Annual		0.65	5.80			4.70
5th Year						
MT-I maize	87	4.65	4.05	100	4.1	4.10
MT-II groundnut	40	2.67	1.07	40	0.98	0.39
cassava	10	1.02	0.10	20	1.02	0.20
tree crop	13	0.70	0.09			0.00
Annual		2.04	5.31			4.70
6 th Year						
MT-I maize	87	4.65	4.05	100	4.1	4.10
MT-II groundnut	40	2.67	1.07	40	0.98	0.39
cassava	10	1.02	0.10	20	1.02	0.20
tree crop	13	3.86	0.50			0.00
Annual			5.72			4.70
7th Year						
MT-I maize	87	4.65	4.05	100	4.1	4.10
MT-II groundnut	40	2.67	1.07	40	0.98	0.39
cassava	10	1.02	0.10	20	1.02	0.20
tree crop	13	5.25	0.68			0.00
Annual			5.90			4.70
8th Year						
MT-I maize	87	4.65	4.05	100	4.1	4.10
MT-II groundnut	40	2.67	1.07	40	0.98	0.39
cassava	10	1.02	0.10	20	1.02	0.20
tree crop	13	6.35	0.83			0.00
Annual			6.04			4.70
9th Year						
MT-I maize	87	4.65	4.05	100	4.1	4.10
MT-II groundnut	40	2.67	1.07	40	0.98	0.39
cassava	10	1.02	0.10	20	1.02	0.20
tree crop	13	7.55	0.98			0.00
Annual			6.20			4.70
10th Year						
MT-I maize	87	4.65	4.05	100	4.1	4.10
MT-II groundnut	40	2.67	1.07	40	0.98	0.39
cassava	10	1.02	0.10	20	1.02	0.20
tree crop	13	8.58	1.12			0.00
Annual			6.33			4.70
11th Year						
MT-I maize	87	4.65	4.05	100	4.1	4.10
MT-II groundnut	40	2.67	1.07	40	0.98	0.39
cassava	10	1.02	0.10	20	1.02	0.20
tree crop	13	9.64	1.25			0.00
Annual			6.47			4.70
12th Year						
MT-I maize	87	4.65	4.05	100	4.1	4.10
MT-II groundnut	40	2.67	1.07	40	0.98	0.39
cassava	10	1.02	0.10	20	1.02	0.20
tree crop	13	9.81	1.28			0.00
Annual			6.49			4.70
13th Year						
MT-I maize	87	4.65	4.05	100	4.1	4.10
MT-II groundnut	40	2.67	1.07	40	0.98	0.39
cassava	10	1.02	0.10	20	1.02	0.20
tree crop	13	####	1.32			0.00
Annual			6.53			4.70
14 th Year						
MT-I maize	87	4.65	4.05	100	4.1	4.10
MT-II groundnut	40	2.67	1.07	40	0.98	0.39
cassava	10	1.02	0.10	20	1.02	0.20
tree crop	13	10.4	1.35			0.00
Annual			6.57			4.70
15th Year						
MT-I maize	87	4.65	4.05	100	4.1	4.10
MT-II groundnut	40	2.67	1.07	40	0.98	0.39
cassava	10	1.02	0.10	20	1.02	0.20
tree crop	13	10.4	1.35			0.00
Annual			6.57			4.70

Source: JACA study team

Table 4.8.24 Financial Profit per Ha from Agroforestry (3/5)

Slope Class 15~25%

Year/Season/Crop	With Proeject			Without Proeject		
	Land useintensity (%)	Net return per ha (Rp.million)	Net return (Rp million)	Land useintensity (%)	Net return per ha (Rp.million)	Net return (Rp million)
1st Year						
MT-I maize	90	4.65	4.19	100	4.1	4.1
MT-II groundnut	40	2.67	1.07	40	1.98	0.79
cassava	10	1.02	0.10	20	1.02	0.20
tree crop	25	-2.49	-0.62			0.00
medical crop	0					
Annual			4.73			5.10
2ne Year						
MT-I maize	90	4.65	4.19	100	4.1	4.10
MT-II groundnut	40	2.67	1.07	40	1.98	0.79
cassava	10	1.02	0.10	20	1.02	0.20
tree crop	25	-1.34	-0.34			0.00
medical crop	0					
Annual			5.02			5.10
3rd Year						
MT-I maize	90	4.65	4.19	100	4.1	4.10
MT-II groundnut	40	2.67	1.07	40	1.98	0.79
cassava	10	1.02	0.10	20	1.02	0.20
tree crop	25	-1.50	-0.38			0.00
medical crop	0					
Annual			4.98			5.10
4th Year						
MT-I maize	90	4.65	4.19	100	4.1	4.10
MT-II groundnut	40	2.67	1.07	40	1.98	0.79
cassava	10	1.02	0.10	20	1.02	0.20
tree crop	25	0.65	0.16			0.00
medical crop	0					
Annual			5.52			5.10
5th Year						
MT-I maize	75	4.65	3.49	100	4.1	4.10
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	0	1.02		20	1.02	0.20
tree crop	25	2.04	0.51			0.00
medical crop	10	3.93	0.39			
Annual			5.19			5.10
6th Year						
MT-I maize	75	4.65	3.49	100	4.1	4.10
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	0	1.02		20	1.02	0.20
tree crop	25	3.86	0.97			0.00
medical crop	10	3.93	0.39			
Annual			5.65			5.10
7th Year						
MT-I maize	75	4.65	3.49	100	4.1	4.10
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	0	1.02		20	1.02	0.20
tree crop	25	5.25	1.31			0.00
medical crop	10	3.93	0.39			
Annual			5.99			5.10
8th Year						
MT-I maize	75	4.65	3.49	100	4.1	4.10
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	0	1.02		20	1.02	0.20
tree crop	25	6.35	1.59			0.00
medical crop	10	3.93	0.39			
Annual			6.27			5.10

Source: JICA study team

Year/Season/Crop	With Proeject			Without Proeject		
	Land useintensity (%)	Net return per ha (Rp.million)	Net return (Rp million)	Land useintensity (%)	Net return per ha (Rp.million)	Net return (Rp million)
9th Year						
MT-I maize	75	4.65	3.49	100	4.1	4.10
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	0	1.02		20	1.02	0.20
tree crop	25	7.55	1.89			0.00
medical crop	10	3.93	0.39			
Annual			6.57			5.10
10th Year						
MT-I maize	75	4.65	3.49	100	4.1	4.10
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	0	1.02		20	1.02	0.20
tree crop	25	8.58	2.15			0.00
medical crop	10	3.93	0.39			
Annual			6.83			5.10
11th Year						
MT-I maize	75	4.65	3.49	100	4.1	4.10
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	0	1.02		20	1.02	0.20
tree crop	25	9.64	2.41			0.00
medical crop	10	3.93	0.39			
Annual			7.09			5.10
12th Year						
MT-I maize	75	4.65	3.49	100	4.1	4.10
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	0	1.02		20	1.02	0.20
tree crop	25	9.81	2.45			0.00
medical crop	10	3.93	0.39			
Annual			7.13			5.10
13th Year						
MT-I maize	75	4.65	3.49	100	4.1	4.10
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	0	1.02		20	1.02	0.20
tree crop	25	10.13	2.53			0.00
medical crop	10	3.93	0.39			
Annual			7.21			5.10
14th Year						
MT-I maize	75	4.65	3.49	100	4.1	4.10
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	0	1.02		20	1.02	0.20
tree crop	25	10.39	2.60			0.00
medical crop	10	3.93	0.39			
Annual			7.28			5.10
15th Year						
MT-I maize	75	4.65	3.49	100	4.1	4.10
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	0	1.02		20	1.02	0.20
tree crop	25	10.39	2.60			0.00
medical crop	10	3.93	0.39			
Annual			7.28			5.10

Table 4.8.24 Financial Profit per Ha from Agroforestry (4/5)

Slope Class 25-40%

Year/Season/Crop	With Proeject			Without Proeject		
	Land useintensity (%)	Net return per ha (Rp.million)	Net return (Rp million)	Land useintensity (%)	Net return per ha (Rp.million)	Net return (Rp million)
1st Year						
MT-I maize	75	4.65	3.49	100	3.06	3.06
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	5	1.02	0.05	20	1.02	0.20
tree crop	38	-2.29	-0.87			0.00
medical crop	0					
Annual			3.47			4.06
2ne Year						
MT-I maize	75	4.65	3.49	100	3.06	3.06
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	5	1.02	0.05	20	1.02	0.20
tree crop	38	-1.34	-0.51			0.00
medical crop	0					
Annual			3.83			4.06
3rd Year						
MT-I maize	75	4.65	3.49	100	3.06	3.06
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	5	1.02	0.05	20	1.02	0.20
tree crop	38	-1.50	-0.57			0.00
medical crop	0					
Annual			3.77			4.06
4th Year						
MT-I maize	75	4.65	3.49	100	3.06	3.06
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	5	1.02	0.05	20	1.02	0.20
tree crop	38	0.65	0.25			0.00
medical crop	0					
Annual			4.59			4.06
5th Year						
MT-I maize	62	4.65	2.88	100	3.06	3.06
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	0	1.02		20	1.02	0.20
tree crop	38	2.04	0.78			0.00
medical crop	10	3.93	0.39			
Annual			4.85			4.06
6 th Year						
MT-I maize	62	4.65	2.88	100	3.06	3.06
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	0	1.02		20	1.02	0.20
tree crop	38	3.86	1.47			0.00
medical crop	10	3.93	0.39			
Annual			5.54			4.06
7th Year						
MT-I maize	62	4.65	2.88	100	3.06	3.06
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	0	1.02		20	1.02	0.20
tree crop	38	5.25	2.00			0.00
medical crop	10	3.93	0.39			
Annual			6.07			4.06
8th Year						
MT-I maize	62	4.65	2.88	100	3.06	3.06
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	0	1.02		20	1.02	0.20
tree crop	38	6.35	2.41			0.00
medical crop	10	3.93	0.39			
Annual			6.10			4.06
9th Year						
MT-I maize	62	4.65	2.88	100	3.06	3.06
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	0	1.02		20	1.02	0.20
tree crop	38	7.55	2.87			0.00
medical crop	10	3.93	0.39			
Annual			6.95			4.06
10th Year						
MT-I maize	62	4.65	2.88	100	3.06	3.06
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	0	1.02		20	1.02	0.20
tree crop	38	8.58	3.26			0.00
medical crop	10	3.93	0.39			
Annual			7.34			4.06
11th Year						
MT-I maize	62	4.65	2.88	100	3.06	3.06
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	0	1.02		20	1.02	0.20
tree crop	38	9.64	3.66			0.00
medical crop	10	3.93				
Annual			7.35			4.06
12th Year						
MT-I maize	62	4.65	2.88	100	3.06	3.06
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	0	1.02		20	1.02	0.20
tree crop	38	9.81	3.73			0.00
medical crop	10	3.93	0.39			
Annual			7.80			4.06
13th Year						
MT-I maize	62	4.65	2.88	100	3.06	3.06
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	0	1.02		20	1.02	0.20
tree crop	38	10.13	3.85			0.00
medical crop	10	3.86	0.39			
Annual			7.92			4.06
14 th Year						
MT-I maize	62	4.65	2.88	100	3.06	3.06
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	0	1.02		20	1.02	0.20
tree crop	38	10.39	3.95			0.00
medical crop	10	3.93	0.39			
Annual			8.03			4.06
15th Year						
MT-I maize	62	4.65	2.88	100	3.06	3.06
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	0	1.02		20	1.02	0.20
tree crop	38	10.39	3.95			0.00
medical crop	10	3.93	0.39			
Annual			8.03			4.06

Source: JICA study team

Table 4.8.24 Financial Profit per Ha from Agroforestry (5/5)

Slope Class over 40%

Year/Season/Crop	With Project			Without Project		
	Land use intensity (%)	Net return per ha (Rp.million)	Net return (Rp million)	Land use intensity (%)	Net return per ha (Rp.million)	Net return (Rp million)
1st Year						
MT-I maize	60	4.65	2.79	100	3.06	3.06
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	0	1.02		20	1.03	0.21
tree crop	50	-2.49	-1.25			0.00
medical crop	0					
Annual			2.35			4.06
2nd Year						
MT-I maize	60	4.65	2.79	100	3.06	3.06
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	0	1.02		20	1.03	0.21
tree crop	50	-1.34	-0.67			0.00
medical crop	0					
Annual			2.92			4.06
3rd Year						
MT-I maize	60	4.65	2.79	100	3.06	3.06
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	0	1.02		20	1.03	0.21
tree crop	50	-1.50	-0.75			0.00
medical crop	0					
Annual			2.84			4.06
4th Year						
MT-I maize	60	4.65	2.79	100	3.06	3.06
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	0	1.02		20	1.03	0.21
tree crop	50	0.65	0.33			0.00
medical crop	0					
Annual			3.92			4.06
5th Year						
MT-I maize	50	4.65	2.33	100	3.06	3.06
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	0	1.02		20	1.03	0.21
tree crop	50	2.04	1.02			0.00
medical crop	20	3.93	0.79			
Annual			4.93			4.06
6th Year						
MT-I maize	50	4.65	2.33	100	3.06	3.06
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	0	1.02		20	1.03	0.21
tree crop	50	3.86	1.93			0.00
medical crop	20	3.93	0.79			
Annual			5.84			4.06
7th Year						
MT-I maize	50	4.65	2.33	100	3.06	3.06
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	0	1.02		20	1.03	0.21
tree crop	50	5.25	2.63			0.00
medical crop	20	3.93	0.79			
Annual			6.54			4.06
8th Year						
MT-I maize	50	4.65	2.33	100	3.06	3.06
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	0	1.02		20	1.03	0.21
tree crop	50	6.35	3.18			0.00
medical crop	20	3.93	0.79			
Annual			6.30			4.06

Source: JICA study team

Year/Season/Crop	With Project			Without Project		
	Land use intensity (%)	Net return per ha (Rp.million)	Net return (Rp million)	Land use intensity (%)	Net return per ha (Rp.million)	Net return (Rp million)
9th Year						
MT-I maize	50	4.65	2.33	100	3.06	3.06
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	0	1.02		20	1.03	0.21
tree crop	50	7.55	3.78			0.00
medical crop	20	3.93	0.79			
Annual			7.69			4.06
10th Year						
MT-I maize	50	4.65	2.33	100	3.06	3.06
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	0	1.02		20	1.03	0.21
tree crop	50	8.58	4.29			0.00
medical crop	20	3.93	0.79			
Annual			8.20			4.06
11th Year						
MT-I maize	50	4.65	2.33	100	3.06	3.06
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	0	1.02		20	1.03	0.21
tree crop	50	9.64	4.82			0.00
medical crop	20	3.93	0.79			
Annual			7.95			4.06
12th Year						
MT-I maize	50	4.65	2.33	100	3.06	3.06
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	0	1.02		20	1.03	0.21
tree crop	50	9.81	4.91			0.00
medical crop	20	3.93	0.79			
Annual			8.82			4.06
13th Year						
MT-I maize	50	4.65	2.33	100	3.06	3.06
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	0	1.02		20	1.03	0.21
tree crop	50	10.13	5.07			0.00
medical crop	20	3.93	0.79			
Annual			8.98			4.06
14th Year						
MT-I maize	50	4.65	2.33	100	3.06	3.06
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	0	1.02		20	1.03	0.21
tree crop	50	10.39	5.20			0.00
medical crop	20	3.93	0.79			
Annual			9.11			4.06
15th Year						
MT-I maize	50	4.65	2.33	100	3.06	3.06
MT-II groundnut	30	2.67	0.80	40	1.98	0.79
cassava	0	1.02		20	1.03	0.21
tree crop	50	10.39	5.20			0.00
medical crop	20	3.93	0.79			
Annual			9.11			4.06

Table 4.8.25 Total Financial Benefit from Keduang Watershed Conservation Project(1/3)

development year			Slope of Class					Total	
			0-8%	8-15%	15-25%	25-40%	over 40%		
1st year	with project condition	Terrace	Gross area (ha)	1,524	2,804	2,138	1,341	1,913	9,720
			Net area (ha)	1,494	2,608	1,903	1,113	1,435	9,526
		Net return/ha (Rp million)	5.80	5.55	4.73	3.47	2.35		
		Net return (Rp million)	8,662	14,473	9,000	3,862	3,372	39,369	
	Without project condition	Composite	Gross area (ha)	762	897	556	241	268	2,724
			Net area (ha)	762	897	556	241	268	2,724
		Net return/ha (Rp million)	5.01	4.70	5.10	4.06	4.06		
		Net return (Rp million)	3,818	4,217	2,835	980	1,087	12,937	
	Terrace	Gross area (ha)	762	1,907	1,582	1,100	1,645	6,996	
		Net area (ha)	747	1,773	1,408	913	1,234	19,933	
		Net return/ha (Rp million)	5.01	4.70	5.10	4.06	4.06		
		Net return (Rp million)	3,741	8,334	7,181	3,705	5,010	27,972	
	Benefit			1,104	1,921	-1,016	-823	-2,725	-1,540
	2nd year	with project condition	Terrace	Gross area (ha)	1,524	2,804	2,138	1,341	1,913
Net area (ha)				1,494	2,608	1,903	1,113	1,435	9,526
Net return/ha (Rp million)			6.90	5.70	5.02	3.83	2.92		
Net return (Rp million)			10,305	14,864	9,552	4,263	4,189	43,174	
Without project condition		Composite	Gross area (ha)	762	897	556	241	268	2,724
			Net area (ha)	762	897	556	241	268	45,898
		Net return/ha (Rp million)	5.01	4.70	5.10	4.06	4.06		
		Net return (Rp million)	3,818	4,217	2,835	980	1,087	12,937	
Terrace		Gross area (ha)	762	1,907	1,582	1,100	1,645	6,996	
		Net area (ha)	747	1,773	1,408	913	1,234	19,933	
		Net return/ha (Rp million)	5.01	4.70	5.10	4.06	4.06		
		Net return (Rp million)	3,741	8,334	7,181	3,705	5,010	27,972	
Benefit				2,746	2,313	-464	-423	-1,907	2,265
3rd year		with project condition	Terrace	Gross area (ha)	1,524	2,804	2,138	1,341	1,913
	Net area (ha)			1,494	2,608	1,903	1,113	1,435	9,526
	Net return/ha (Rp million)		5.85	5.54	4.98	3.77	2.84		
	Net return (Rp million)		8,737	14,447	9,476	4,196	4,075	40,931	
	Without project condition	Composite	Gross area (ha)	762	897	556	241	268	2,724
			Net area (ha)	762	897	556	241	268	43,655
		Net return/ha (Rp million)	5.01	4.70	5.10	4.06	4.06		
		Net return (Rp million)	3,818	4,217	2,835	980	1,087	12,937	
	Terrace	Gross area (ha)	762	1,907	1,582	1,100	1,645	6,996	
		Net area (ha)	747	1,773	1,408	913	1,234	19,933	
		Net return/ha (Rp million)	5.01	4.70	5.10	4.06	4.06		
		Net return (Rp million)	3,741	8,334	7,181	3,705	5,010	27,972	
	Benefit			1,178	1,895	-540	-489	-2,022	22
	4th years	with project condition	Terrace	Gross area (ha)	1,524	2,804	2,138	1,341	1,913
Net area (ha)				1,494	2,608	1,903	1,113	1,435	9,526
Net return/ha (Rp million)			5.95	5.80	5.52	4.59	3.92		
Net return (Rp million)			8,886	15,125	10,504	5,109	5,624	45,248	
Without project condition		Composite	Gross area (ha)	762	897	556	241	268	2,724
			Net area (ha)	762	897	556	241	268	47,972
		Net return/ha (Rp million)	5.01	4.70	5.10	4.06	4.06		
		Net return (Rp million)	3,818	4,217	2,835	980	1,087	12,937	
Terrace		Gross area (ha)	762	1,907	1,582	1,100	1,645	6,996	
		Net area (ha)	747	1,773	1,408	913	1,234	19,933	
		Net return/ha (Rp million)	5.01	4.70	5.10	4.06	4.06		
		Net return (Rp million)	3,741	8,334	7,181	3,705	5,010	27,972	
Benefit				1,328	2,573	487	423	-473	4,339
5th year		with project condition	Terrace	Gross area (ha)	1,524	2,804	2,138	1,341	1,913
	Net area (ha)			1,494	2,608	1,903	1,113	1,435	9,526
	Net return/ha (Rp million)		5.79	5.31	5.19	4.85	4.93		
	Net return (Rp million)		8,647	13,847	9,876	5,398	7,073	44,842	
	Without project condition	Composite	Gross area (ha)	762	897	556	241	268	2,724
			Net area (ha)	762	897	556	241	268	47,566
		Net return/ha (Rp million)	5.01	4.70	5.10	4.06	4.06		
		Net return (Rp million)	3,818	4,217	2,835	980	1,087	12,937	
	Terrace	Gross area (ha)	762	1,907	1,582	1,100	1,645	6,996	
		Net area (ha)	747	1,773	1,408	913	1,234	19,933	
		Net return/ha (Rp million)	5.01	4.70	5.10	4.06	4.06		
		Net return (Rp million)	3,741	8,334	7,181	3,705	5,010	27,972	
	Benefit			1,089	1,296	-141	713	976	3,933
	6th year	with project condition	Terrace	Gross area (ha)	1,524	2,804	2,138	1,341	1,913
Net area (ha)				1,494	2,608	1,903	1,113	1,435	9,526
Net return/ha (Rp million)			5.88	5.72	5.65	5.54	5.84		
Net return (Rp million)			8,782	14,916	10,751	6,166	8,379	48,994	
Without project condition		Composite	Gross area (ha)	762	897	556	241	268	2,724
			Net area (ha)	762	897	556	241	268	51,718
		Net return/ha (Rp million)	5.01	4.70	5.10	4.06	4.06		
		Net return (Rp million)	3,818	4,217	2,835	980	1,087	12,937	
Terrace		Gross area (ha)	762	1,907	1,582	1,100	1,645	6,996	
		Net area (ha)	747	1,773	1,408	913	1,234	19,933	
		Net return/ha (Rp million)	5.01	4.70	5.10	4.06	4.06		
		Net return (Rp million)	3,741	8,334	7,181	3,705	5,010	27,972	
Benefit				1,223	2,365	735	1,481	2,282	8,085

Table 4.8.25 Total Financial Benefit from Keduang Watershed Conservation Project(2/3)

development year				Slope of Class					Total
				0-8%	8-15%	15-25%	25-40%	over 40%	
7th year	with project condition	Terrace	Gross area (ha)	1,524	2,804	2,138	1,341	1,913	9,720
			Net area (ha)	1,494	2,608	1,903	1,113	1,435	9,526
			Net return/ha (Rp million)	5.95	5.90	6.27	6.07	6.54	
			Net return (Rp million)	8,886	15,386	11,931	6,756	9,383	52,342
	Without project condition	Composite	Gross area (ha)	762	897	556	241	268	2,724
			Net area (ha)	762	897	556	241	268	55,066
			Net return/ha (Rp million)	5.01	4.70	5.10	4.06	4.06	
			Net return (Rp million)	3,818	4,217	2,835	980	1,087	12,937
	Without project condition	Terrace	Gross area (ha)	762	1,907	1,582	1,100	1,645	6,996
			Net area (ha)	747	1,773	1,408	913	1,234	19,933
			Net return/ha (Rp million)	5.01	4.70	5.10	4.06	4.06	
			Net return (Rp million)	3,741	8,334	7,181	3,705	5,010	27,972
	Benefit			1,328	2,834	1,914	2,071	3,286	11,433
	8th year	with project condition	Terrace	Gross area (ha)	1,524	2,804	2,138	1,341	1,913
Net area (ha)				1,494	2,608	1,903	1,113	1,435	9,526
Net return/ha (Rp million)				6.01	6.04	6.27	6.10	6.30	
Net return (Rp million)				8,976	15,751	11,931	6,789	9,039	52,486
Without project condition		Composite	Gross area (ha)	762	897	556	241	268	2,724
			Net area (ha)	762	897	556	241	268	55,210
			Net return/ha (Rp million)	5.01	4.70	5.10	4.06	4.06	
			Net return (Rp million)	3,818	4,217	2,835	980	1,087	12,937
Without project condition		Terrace	Gross area (ha)	762	1,907	1,582	1,100	1,645	6,996
			Net area (ha)	747	1,773	1,408	913	1,234	19,933
			Net return/ha (Rp million)	5.01	4.70	5.10	4.06	4.06	
			Net return (Rp million)	3,741	8,334	7,181	3,705	5,010	27,972
Benefit				1,417	3,199	1,914	2,104	2,942	11,577
9th year		with project condition	Terrace	Gross area (ha)	1,524	2,804	2,138	1,341	1,913
	Net area (ha)			1,494	2,608	1,903	1,113	1,435	9,526
	Net return/ha (Rp million)			6.07	6.20	6.57	6.95	7.69	
	Net return (Rp million)			9,066	16,168	12,502	7,736	11,033	56,504
	Without project condition	Composite	Gross area (ha)	762	897	556	241	268	2,724
			Net area (ha)	762	897	556	241	268	59,228
			Net return/ha (Rp million)	5.01	4.70	5.10	4.06	4.06	
			Net return (Rp million)	3,818	4,217	2,835	980	1,087	12,937
	Without project condition	Terrace	Gross area (ha)	762	1,907	1,582	1,100	1,645	6,996
			Net area (ha)	747	1,773	1,408	913	1,234	19,933
			Net return/ha (Rp million)	5.01	4.70	5.10	4.06	4.06	
			Net return (Rp million)	3,741	8,334	7,181	3,705	5,010	27,972
	Benefit			1,507	3,616	2,485	3,050	4,936	15,898
	10th year	with project condition	Terrace	Gross area (ha)	1,524	2,804	2,138	1,341	1,913
Net area (ha)				1,494	2,608	1,903	1,113	1,435	9,526
Net return/ha (Rp million)				6.12	6.33	6.83	7.34	8.20	
Net return (Rp million)				9,140	16,507	12,996	8,170	11,765	58,578
Without project condition		Composite	Gross area (ha)	762	897	556	241	268	2,724
			Net area (ha)	762	897	556	241	268	61,302
			Net return/ha (Rp million)	5.01	4.70	5.10	4.06	4.06	
			Net return (Rp million)	3,818	4,217	2,835	980	1,087	12,937
Without project condition		Terrace	Gross area (ha)	762	1,907	1,582	1,100	1,645	6,996
			Net area (ha)	747	1,773	1,408	913	1,234	19,933
			Net return/ha (Rp million)	5.01	4.70	5.10	4.06	4.06	
			Net return (Rp million)	3,741	8,334	7,181	3,705	5,010	27,972
Benefit				1,581	3,955	2,980	3,484	5,668	17,669
11th year		with project condition	Terrace	Gross area (ha)	1,524	2,804	2,138	1,341	1,913
	Net area (ha)			1,494	2,608	1,903	1,113	1,435	9,526
	Net return/ha (Rp million)			6.17	6.47	7.09	7.35	7.95	
	Net return (Rp million)			9,215	16,872	13,491	8,181	11,406	59,165
	Without project condition	Composite	Gross area (ha)	762	897	556	241	268	2,724
			Net area (ha)	762	897	556	241	268	61,889
			Net return/ha (Rp million)	5.01	4.70	5.10	4.06	4.06	
			Net return (Rp million)	3,818	4,217	2,835	980	1,087	12,937
	Without project condition	Terrace	Gross area (ha)	762	1,907	1,582	1,100	1,645	6,996
			Net area (ha)	747	1,773	1,408	913	1,234	19,933
			Net return/ha (Rp million)	5.01	4.70	5.10	4.06	4.06	
			Net return (Rp million)	3,741	8,334	7,181	3,705	5,010	27,972
	Benefit			1,656	4,320	3,475	3,495	5,309	18,256
	12th year	with project condition	Terrace	Gross area (ha)	1,524	2,804	2,138	1,341	1,913
Net area (ha)				1,494	2,608	1,903	1,113	1,435	9,526
Net return/ha (Rp million)				6.18	6.49	7.13	7.80	8.82	
Net return (Rp million)				9,230	16,924	13,567	8,682	12,654	61,057
Without project condition		Composite	Gross area (ha)	762	897	556	241	268	2,724
			Net area (ha)	762	897	556	241	268	63,782
			Net return/ha (Rp million)	5.01	4.70	5.10	4.06	4.06	
			Net return (Rp million)	3,818	4,217	2,835	980	1,087	12,937
Without project condition		Terrace	Gross area (ha)	762	1,907	1,582	1,100	1,645	6,996
			Net area (ha)	747	1,773	1,408	913	1,234	19,933
			Net return/ha (Rp million)	5.01	4.70	5.10	4.06	4.06	
			Net return (Rp million)	3,741	8,334	7,181	3,705	5,010	27,972
Benefit				1,671	4,373	3,551	3,996	6,558	20,148

Table 4.8.25 Total Financial Benefit from Keduang Watershed Conservation Project(3/3)

development year			Slope of Class					Total	
			0-8%	8-15%	15-25%	25-40%	over 40%		
13th year	with project condition	Terrace	Gross area (ha)	1,524	2,804	2,138	1,341	1,913	9,720
			Net area (ha)	1,494	2,608	1,903	1,113	1,435	9,526
			Net return/ha (Rp million)	6.20	6.53	7.21	7.92	8.98	
			Net return (Rp million)	9,260	17,028	13,719	8,815	12,884	61,707
	Without project condition	Composite	Gross area (ha)	762	897	556	241	268	2,724
			Net area (ha)	762	897	556	241	268	64,431
			Net return/ha (Rp million)	5.01	4.70	5.10	4.06	4.06	
			Net return (Rp million)	3,818	4,217	2,835	980	1,087	12,937
	Without project condition	Terrace	Gross area (ha)	762	1,907	1,582	1,100	1,645	6,996
			Net area (ha)	747	1,773	1,408	913	1,234	19,933
			Net return/ha (Rp million)	5.01	4.70	5.10	4.06	4.06	
			Net return (Rp million)	3,741	8,334	7,181	3,705	5,010	27,972
	Benefit			1,701	4,477	3,703	4,130	6,787	20,798
	14th year	with project condition	Terrace	Gross area (ha)	1,524	2,804	2,138	1,341	1,913
Net area (ha)				1,494	2,608	1,903	1,113	1,435	9,526
Net return/ha (Rp million)				6.21	6.57	7.28	8.03	9.11	
Net return (Rp million)				9,275	17,133	13,853	8,938	13,071	62,268
Without project condition		Composite	Gross area (ha)	762	897	556	241	268	2,724
			Net area (ha)	762	897	556	241	268	64,993
			Net return/ha (Rp million)	5.01	4.70	5.10	4.06	1.89	
			Net return (Rp million)	3,818	4,217	2,835	980	506	12,356
Without project condition		Terrace	Gross area (ha)	762	1,907	1,582	1,100	1,645	6,996
			Net area (ha)	747	1,773	1,408	913	1,234	19,352
			Net return/ha (Rp million)	5.01	4.70	5.10	4.06	1.89	
			Net return (Rp million)	3,741	8,334	7,181	3,705	2,332	25,294
Benefit			1,716	4,581	3,836	4,252	10,232	24,618	
15th year		with project condition	Terrace	Gross area (ha)	1,524	2,804	2,138	1,341	1,913
	Net area (ha)			1,494	2,608	1,903	1,113	1,435	9,526
	Net return/ha (Rp million)			6.21	6.57	7.28	8.03	9.11	
	Net return (Rp million)			9,275	17,133	13,853	8,938	13,071	62,268
	Without project condition	Composite	Gross area (ha)	762	897	556	241	268	2,724
			Net area (ha)	762	897	556	241	268	64,993
			Net return/ha (Rp million)	5.01	4.70	5.10	4.06	4.06	
			Net return (Rp million)	3,818	4,217	2,835	980	1,087	12,937
	Without project condition	Terrace	Gross area (ha)	762	1,907	1,582	1,100	1,645	6,996
			Net area (ha)	747	1,773	1,408	913	1,234	19,933
			Net return/ha (Rp million)	5.01	4.70	5.10	4.06	4.06	
			Net return (Rp million)	3,741	8,334	7,181	3,705	5,010	27,972
	Benefit			1,716	4,581	3,836	4,252	6,974	21,359

Source: JICA Study Team

Slope Class (%)	rate of net area/gross area in planning	sharing rate of uplands by composite and terrace (%) at present condition		upland areas in Keduang watershed (ha)
		composite	terrace	
0-8	0.98	50	50	1,524
8-15	0.93	32	68	2,804
15-25	0.89	26	74	2,138
25-40	0.83	18	82	1,341
over 40	0.75	14	86	1,913
Total				9,720

remark: rate of net area/gross area is applied to 100% for composite lands and planning rate to terrace lands

Figure

Kecamatan	Cropping Schedules & Patterns											Cropping Intensity/Other Cropping Patterns
	Month											
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	
1. Pracimantoro	Irrigated Paddy Field:											Cropping Intensity (IP): 280%
												Other Patterns: Palawija - Paddy - Palawija (IP: 300%)
	Rainfed Paddy Field:											Cropping Intensity (IP): 200%
												Other Patterns: -
2. Giritontro	No data available											
3. Giriwiry	Irrigated Paddy Field:											Cropping Intensity (IP): 300%
												Other Patterns: Paddy - Paddy - Palawija
	Rainfed Paddy Field:											Cropping Intensity (IP): 200%
												Other Patterns: Palawija - Paddy
4. Batuwarno	No data available											
5. Karangtengah	Irrigated Paddy Field:											Cropping Intensity (IP): 300%
												Other Patterns: Paddy - Paddy - Palawija (IP 270%)
	Rainfed Paddy Field:											Cropping Intensity (IP): 270%
												Other Patterns: Up. Rice+Maiz - Paddy - Soybeans(IP:240%)
6. Tirtomoyo	Irrigated Paddy Field:											Cropping Intensity (IP): 300%
												Other Patterns: Paddy - Paddy - Palawija (soybeans)
	Rainfed Paddy Field:											Cropping Intensity (IP): 200%
												Other Patterns: Palawija - Paddy
7. Nguntoronadi	Irrigated Paddy Field:											Cropping Intensity (IP): 230%
												Other Patterns: -
	Rainfed Paddy Field:											Cropping Intensity (IP): 240%
												Other Patterns: Paddy - Paddy (IP: 200%)
8. Baturetno	Irrigated Paddy Field:											Cropping Intensity (IP): 300%
												Other Patterns: Up. rice+Maize - Paddy - Vegetable or Fallow
	Rainfed Paddy Field:											Cropping Intensity (IP): 200%
												Other Patterns: Ur+Mz - Paddy

Figure 1.2.1 Prevailing Cropping Schedules Estimated Cropping Patterns in Paddy Fields in Project Kecamatan (1/3)

Kecamatan	Cropping Schedules & Patterns											Cropping Intensity/Other Cropping Patterns
	Month											
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	
9. Eromoko	Irrigated Paddy Field:											Cropping Intensity (IP): 200%
												Other Patterns: Paddy - Paddy - Soybeans (IP: 300%)
	Rainfed Paddy Field:											Cropping Intensity (IP): 160%
												Other Patterns: Groundnut+Maize+Cassava - Soybeans
10. Wuryantoro	Irrigated Paddy Field:											Cropping Intensity (IP): 300%
												Other Patterns: Groundnut - Paddy - Sorghum
	Rainfed Paddy Field:											Cropping Intensity (IP): 200%
												Other Patterns: Up. rice - Paddy
11. Manyaran	Irrigated Paddy Field:											Cropping Intensity (IP): 300%
												Other Patterns: Paddy - Paddy - Palawija (Groundnut + Maize)
	Rainfed Paddy Field: Multiple Cropping)											Cropping Intensity (IP):
												Other Patterns: Maize+Groundnut+Cassava - Fallow or Maize + Groundnut - Fallow or mungbeans
12. Selogiri	Irrigated Paddy Field:											Cropping Intensity (IP): 270%
												Other Patterns: -
	Rainfed Paddy Field:											Cropping Intensity (IP): 200%
												Other Patterns: Paddy - Mungbeans
13. Wonogiri	Irrigated Paddy Field:											Cropping Intensity (IP): 200%
												Other Patterns: Paddy - Paddy - Palawija
	Rainfed Paddy Field:											Cropping Intensity (IP): 250%
												Other Patterns: Paddy - Paddy/Maize - Mungbeans
14. Ngadirojo	Irrigated Paddy Field:											Cropping Intensity (IP): 300%
												Other Patterns: -
	Rainfed Paddy Field:											Cropping Intensity (IP): 200%
												Other Patterns: Palawija - Paddy

Figure 1.2.1 Prevailing Cropping Schedules Estimated Cropping Patterns in Paddy Fields in Project Kecamatan (2/3)

Kecamatan	Cropping Schedules & Patterns											Cropping Intensity/Other Cropping Patterns
	Month											
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	
15. Sidoharjo	Irrigated Paddy Field:											Cropping Intensity (IP): 300%
	Paddy			Paddy			Paddy					Other Patterns:
	(IP: 100%)			(IP: 100%)			(IP: 100%)					Paddy - Paddy (IP: 200%)
	Rainfed Paddy Field:											Cropping Intensity (IP): 200%
Maize			Paddy									Other Patterns:
(IP: 100%)			(IP: 100%)									-
16. Jatiroto	Irrigated Paddy Field:											Cropping Intensity (IP): 300%
	Paddy			Paddy			Paddy					Other Patterns:
	(IP: 100%)			(IP: 100%)			(IP: 100%)					Paddy - Paddy - Palawija
	Rainfed Paddy Field:											Cropping Intensity (IP): 250%
Maize			Paddy			Soybeans					Other Patterns:	
(IP: 100%)			(IP: 100%)			(IP: 50%)					Palawija - Paddy	
17. Slogohimo	Irrigated Paddy Field:											Cropping Intensity (IP): 270%
	Paddy (80%) Maize (7%)			Paddy			Paddy (55%) Maize/Soybeans (28%)					Other Patterns:
												Paddy/Palawija - Paddy - Palawija
												Cropping Intensity (IP):
											Other Patterns:	
											-	
18. Jatisrono	Irrigated Paddy Field:											Cropping Intensity (IP): 300%
	Paddy			Paddy			Paddy					Other Patterns:
	(IP: 100%)			(IP: 100%)			(IP: 100%)					-
	Rainfed Paddy Field:											Cropping Intensity (IP): 200%
Maize			Paddy									Other Patterns:
(IP: 100%)			(IP: 100%)									Paddy - Upland Rice (IP: 200%)
19. Jatipurno	Irrigated Paddy Field:											Cropping Intensity (IP): 300%
	Paddy			Paddy			Paddy					Other Patterns:
	(IP: 100%)			(IP: 100%)			(IP: 100%)					-
	Rainfed Paddy Field:											Cropping Intensity (IP): 250%
Maize+Groundnut			Paddy			Padi					Other Patterns:	
(IP: 50%)			(IP: 100%)			(IP: 100%)					Palawija - Paddy - Vegetable (200%)	
20. Girimarto	Irrigated Paddy Field:											Cropping Intensity (IP): 300%
	Paddy			Paddy			Paddy					Other Patterns:
	(IP: 100%)			(IP: 100%)			(IP: 100%)					Paddy - Paddy (IP: 200%)
	Rainfed Paddy Field:											Cropping Intensity (IP): 200%
Maize			Paddy									Other Patterns:
(IP: 100%)			(IP: 100%)									Palawija - Paddy (IP: 200%)

Source: Estimated based on findings of questionnaire survey to Extension Coordinators made by JICA Study Team

Figure 1.2.1 Prevailing Cropping Schedules Estimated Cropping Patterns in Paddy Fields in Project Kecamatan (3/3)

Kecamatan	Cropping Schedules & Patterns												Cropping Intensity/Other Cropping Patterns		
	Month														
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sep.			
1. Pracimantoro													Tegal	Mz+Ca - Fw or Gr/Sy - Fw	
													Pekarangan	Mz+Gr+Ca - Fw or Gr/Sy - Fw	
													Overall Cropping Intensity in MT I:	100%	
													Overall Cropping Intensity in MT II:	48%	
													Overall Cropping Intensity in MT III:	0%	
2. Giritontro	No data available														
3. Giriwiry													Tegal	Mz+Be+Ca - Mz+Be - Fw	
													Pekarangan	Mz+Ca - Sy - Fw	
													Overall Cropping Intensity in MT I:	100%	
													Overall Cropping Intensity in MT II:	100%	
													Overall Cropping Intensity in MT III:	0%	
4. Batuwarno	No data available														
5. Karangtengah													Tegal	Mz+Ur - Gr+Be or FW - Fw or Sy	
													Pekarangan	Mz+Sy - Mz+Sy or FW - Fw or Sy	
													Overall Cropping Intensity in MT I:	100%	
													Overall Cropping Intensity in MT II:	69%	
													Overall Cropping Intensity in MT III:	0%	
6. Tirtomoyo													Tegal	Mz+Ur+Ca - FW or Gr/Sy - Fw	
													Pekarangan	Mz+Ca - FW - Fw	
													Overall Cropping Intensity in MT I:	100%	
													Overall Cropping Intensity in MT II:	26%	
													Overall Cropping Intensity in MT III:	0%	
7. Nguntoronadi													Tegal	Ur+Ca - Fw or Gr - Fw	
													Pekarangan	Mz+Gr - Fw or Gr - Fw	
													Overall Cropping Intensity in MT I:	100%	
													Overall Cropping Intensity in MT II:	32%	
													Overall Cropping Intensity in MT III:	1%	
8. Baturetno													Tegal	Mz+Sy+Ca - FW or Mz/Sy - Fw	
													Pekarangan	Mz+GR+Ca - FW or Mz/Sy - Fw	
													Overall Cropping Intensity in MT I:	100%	
													Overall Cropping Intensity in MT II:	13%	
													Overall Cropping Intensity in MT III:	0%	
9. Eromoko													Tegal	Mz+Ur+Ca - FW or Gr - Fw	
													Pekarangan	Mz+Sy+Ca - FW or Gr - Fw	
													Overall Cropping Intensity in MT I:	100%	
													Overall Cropping Intensity in MT II:	21%	
													Overall Cropping Intensity in MT III:	0%	
10. Wuryantoro													Tegal	Mz+Ca - FW - Fw	
													Pekarangan	Mz+Vg+Ca - FW or Vg - Fw or Vg	
													Overall Cropping Intensity in MT I:	100%	
													Overall Cropping Intensity in MT II:	62%	
													Overall Cropping Intensity in MT III:	26%	
11. Manyaran													Tegal	Be+Ca - FW or Gr/Sy - Fw	
													Pekarangan	Mz+Gr+Ca - FW - Fw	
													Overall Cropping Intensity in MT I:	100%	
													Overall Cropping Intensity in MT II:	31%	
													Overall Cropping Intensity in MT III:	0%	

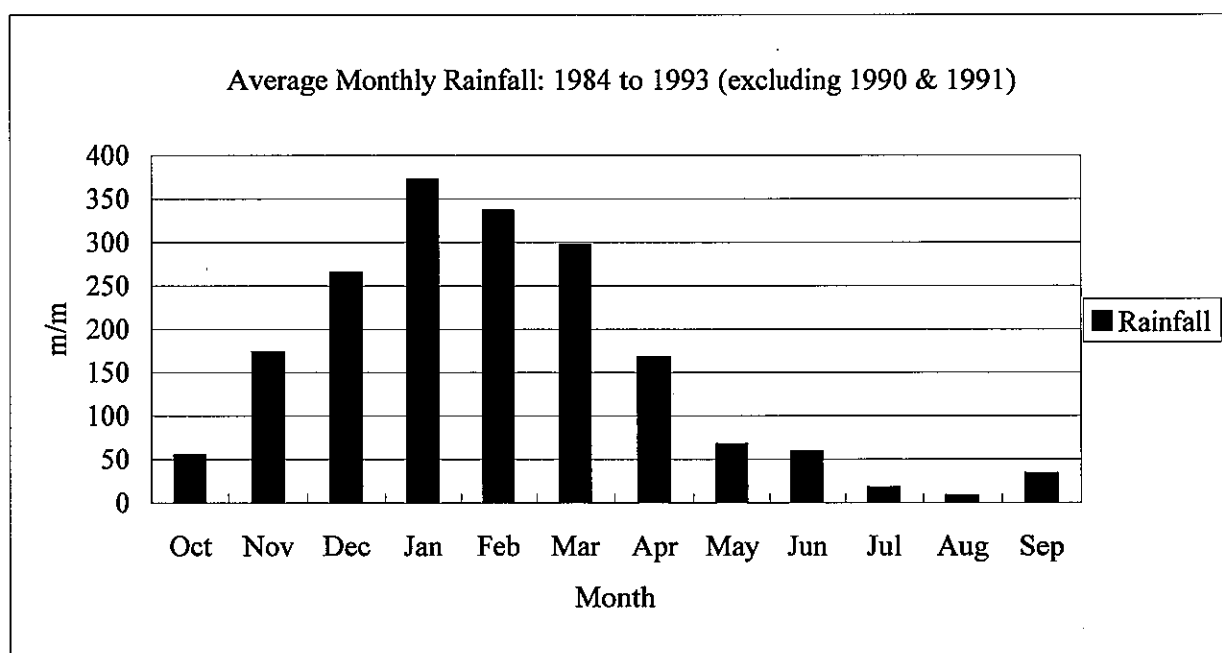
Figure 1.2.2 Prevailing Cropping Schedules Estimated Multiple Cropping Patterns in Dry Farmland in Project Kecamatan (1/2)

Kecamatan	Cropping Schedules & Patterns												Cropping Intensity/Other Cropping Patterns
	Month												
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sep.	
12. Selogiri													Tegal - Pekarangan Planted with fruit trees Overall Cropping Intensity in MT I: 100% Overall Cropping Intensity in MT II: 36% Overall Cropping Intensity in MT III: 0%
13. Wonogiri													Tegal Mz+Ca - Gr or Fw - Fw Pekarangan Mz+Ca - Be or Fw - Fw Overall Cropping Intensity in MT I: 100% Overall Cropping Intensity in MT II: 44% Overall Cropping Intensity in MT III: 0%
14. Ngadirojo													Tegal Mz+Ca - Gr or Fw - Fw Pekarangan Planted with fruit trees Overall Cropping Intensity in MT I: 100% Overall Cropping Intensity in MT II: 71% Overall Cropping Intensity in MT III: 0%
15. Sidoharjo													Tegal Mz+Ca+Tr - Fw or FW - Fw Pekarangan Mz+Ca - Fw or Gr - Fw Overall Cropping Intensity in MT I: 100% Overall Cropping Intensity in MT II: 39% Overall Cropping Intensity in MT III: 0%
16. Jatiroto													Tegal Mz+Ca+Tr - Fw or FW - Fw Pekarangan Mz+Ca+Tr - Fw or FW - Fw Overall Cropping Intensity in MT I: 100% Overall Cropping Intensity in MT II: 48% Overall Cropping Intensity in MT III: 0%
17. Slogohimo													Tegal - Pekarangan Mz+Ca - Fw or Mz - Fw Overall Cropping Intensity in MT I: 100% Overall Cropping Intensity in MT II: 16% Overall Cropping Intensity in MT III: 0%
18. Jatisrono													Tegal - Pekarangan Mz+Ca - Fw or Gr - Fw Overall Cropping Intensity in MT I: 100% Overall Cropping Intensity in MT II: 44% Overall Cropping Intensity in MT III: 0%
19. Jatipurno													Tegal - Pekarangan Mz+Be+Ca+Tr - Fw or Be - Fw Overall Cropping Intensity in MT I: 100% Overall Cropping Intensity in MT II: 9% Overall Cropping Intensity in MT III: 0%
20. Girimarto													Tegal Gr+Ca - Fw or Gr - Fw Pekarangan Planted with fruit trees Overall Cropping Intensity in MT I: 100% Overall Cropping Intensity in MT II: 48% Overall Cropping Intensity in MT III: 0%

Mz: maize; Ur: upland rice; Gr: groundnut; Ca: cassava; Sy: soybeans; Be: beans; Tr: tree crops; Fw: fallow
 Source: Estimated based on findings of questionnaire survey to Extension Coordinators made by JICA Study Team

Figure 1.2.2 Prevailing Cropping Schedules Estimated Multiple Cropping Patterns in Dry Farmland in Project Kecamatan (2/2)

Cropping Season Month	MT I (1st Cropping Season)				MT II (2nd Cropping Season)				MT III (3rd Cropping Season)				Remarks
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sep.	
Typical Pattern	Palawija (single or plural)				Beans				Cassava (Intensity 100%)				Palawija: - Maize - Upland Rice - Beans
					(Intensity depending)								



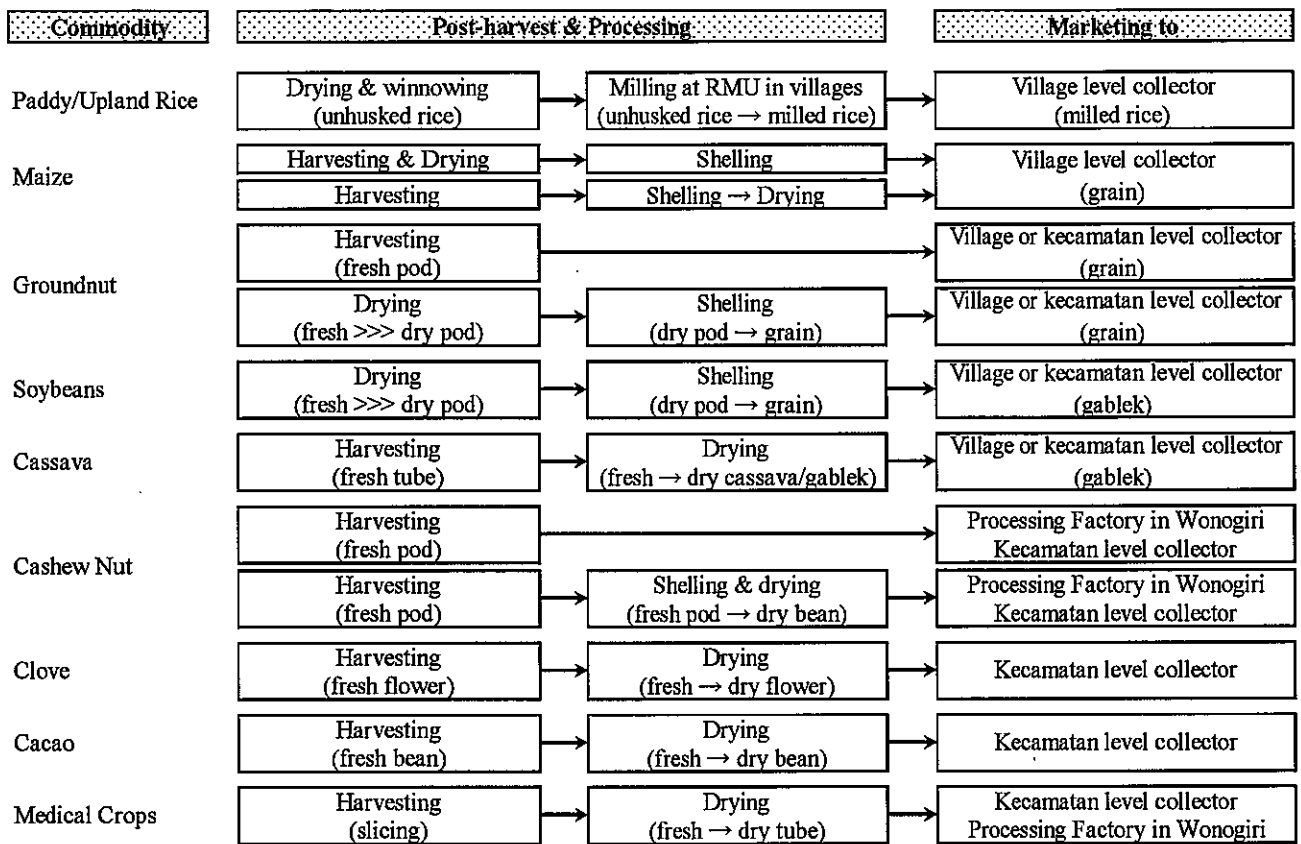
Unit: mm

Year	Oct	Nov	Dec.	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1984	61	289	317	358	373	313	231	111	10	24	4	130	1,554
1985	103	139	215	245	303	511	210	53	116	6	13	0	1,459
1986	46	211	108	525	287	282	82	15	143	0	0	33	1,367
1987	0	0	517	613	298	134	98	25	0	0	0	0	1,168
1988	122	303	143	275	451	214	77	133	45	0	0	0	1,195
1989	29	104	219	142	406	217	205	109	69	97	14	31	1,290
1992	74	192	255	321	382	543	125	38	18	9	27	71	1,534
1993	0	150	346	493	189	159	308	49	66	0	3	0	1,267
Avg.	54	174	265	372	336	297	167	67	58	17	8	33	1,354

Source: Report on The Evaluation of Wonogiri Watershed Management, Research & Development Project of Solo Watershed Management, 1995

256 Wet month ($\geq 200\text{mm}$) 120 Humid Month ($\geq 100\text{mm} - < 200\text{mm}$) 38 Dry month ($< 100\text{mm}$)

Figure 1.2.3 Generalized Cropping Schedule and Pattern in DAS Wonogiri



RMU: rice mill unit

Figure 1.2.4 Prevailing Marketing Channels of Farm Products in DAS Wonogiri

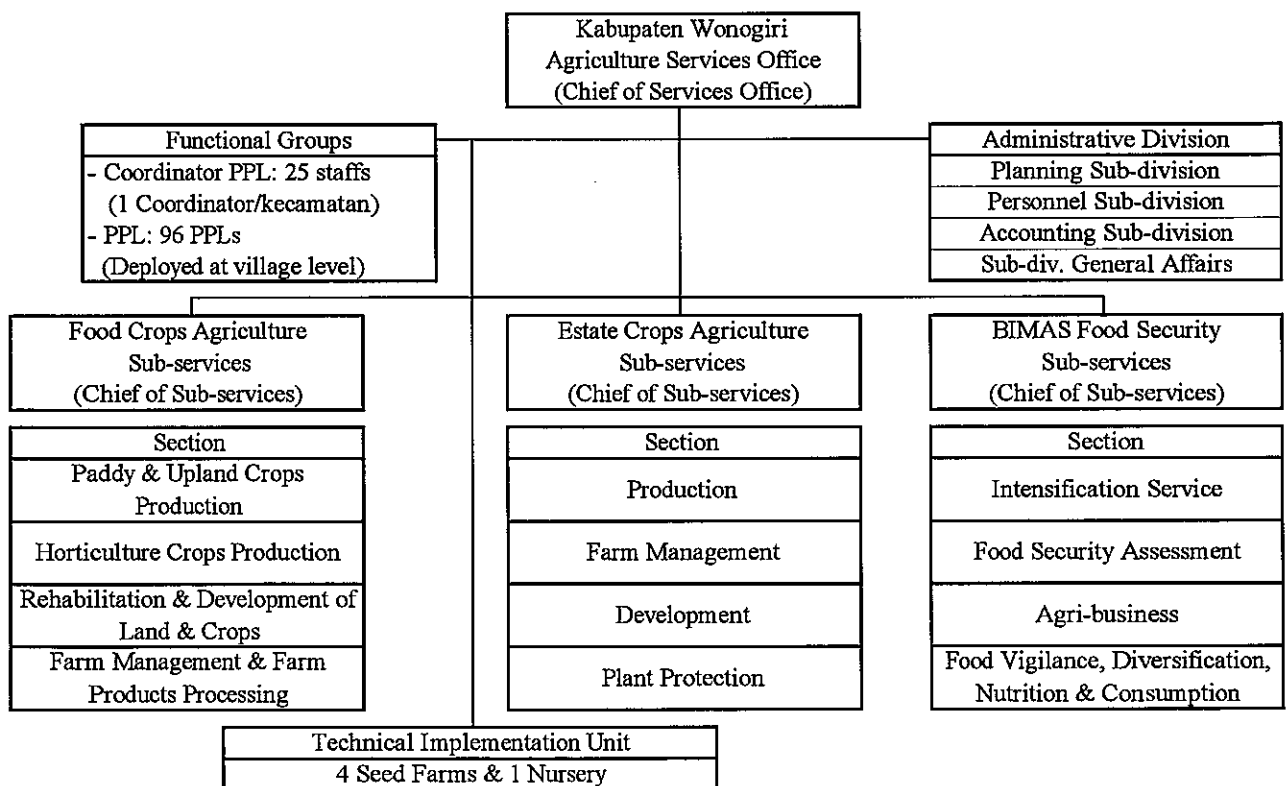


Figure 1.2.5 Organizational Structure of Kabupaten Agriculture Services Office, Wonogiri

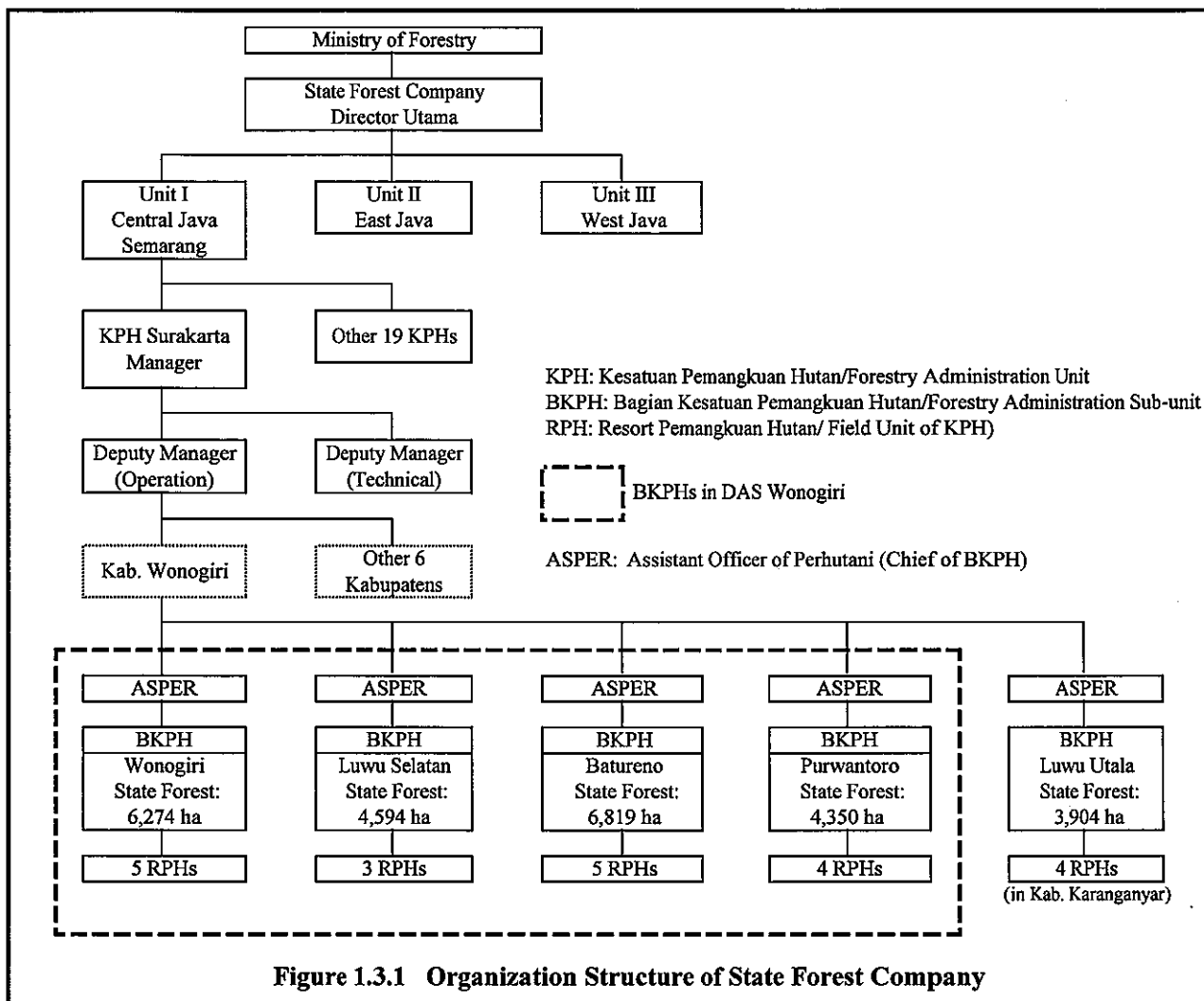


Figure 1.3.1 Organization Structure of State Forest Company

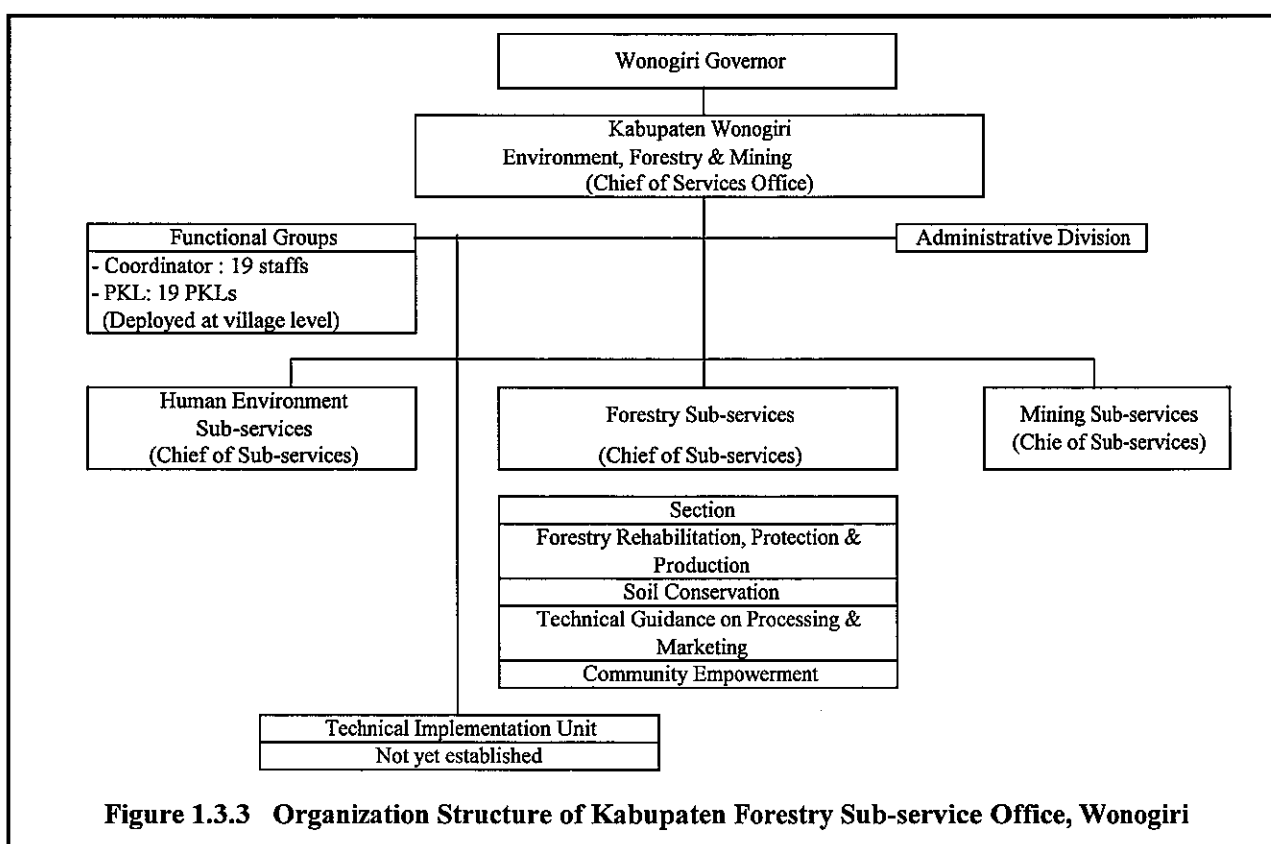
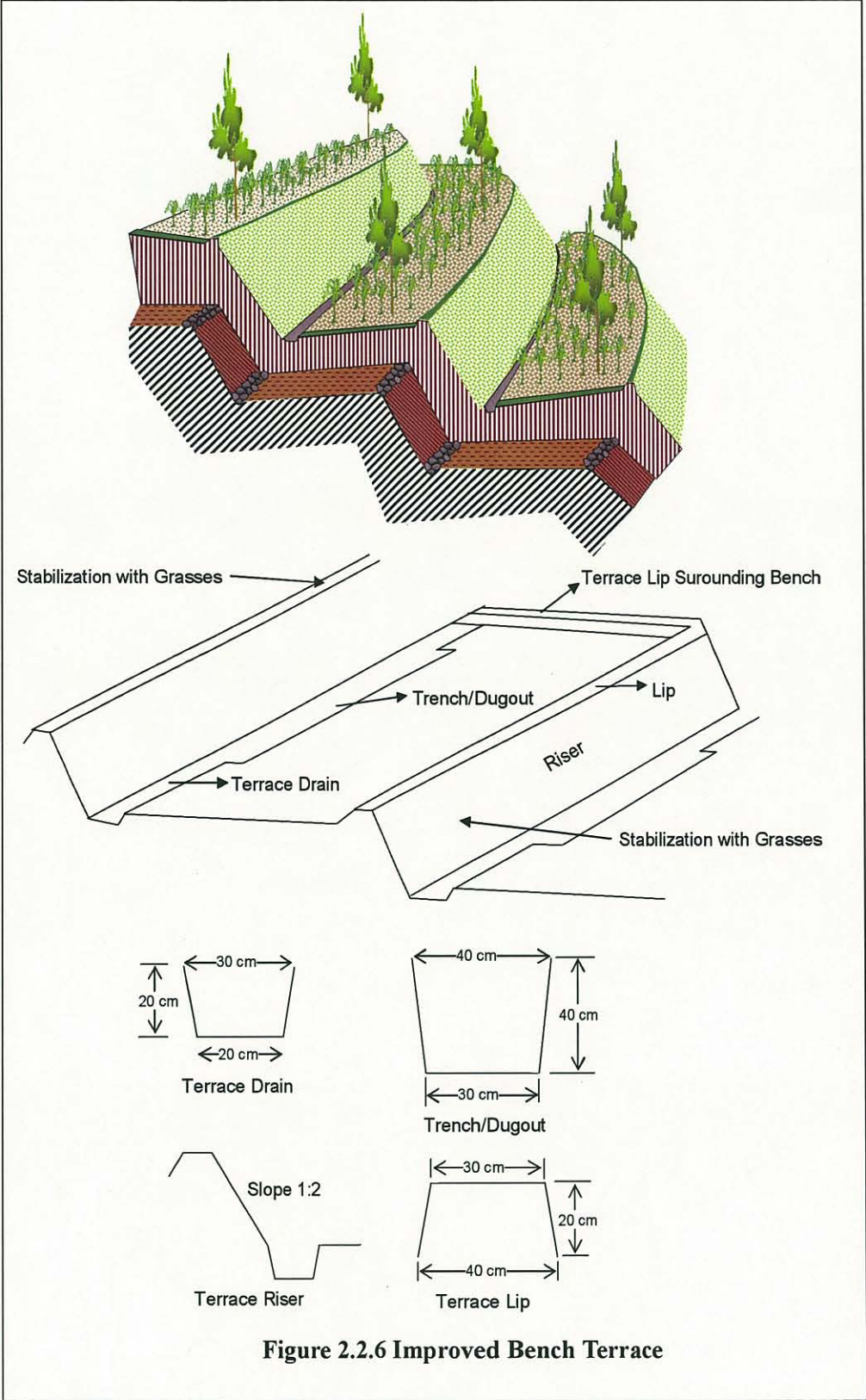


Figure 1.3.3 Organization Structure of Kabupaten Forestry Sub-service Office, Wonogiri



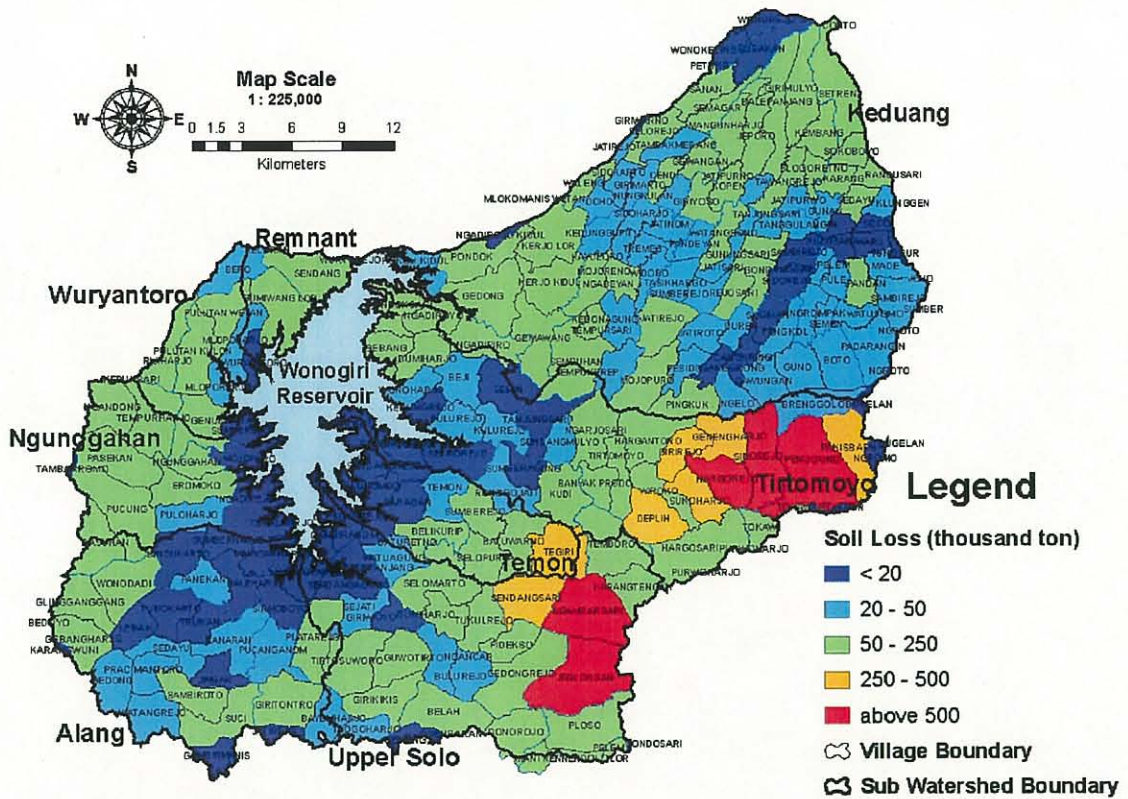


Figure 2.2.8 Present Annual Soil Loss of Village in Wonogiri Watershed

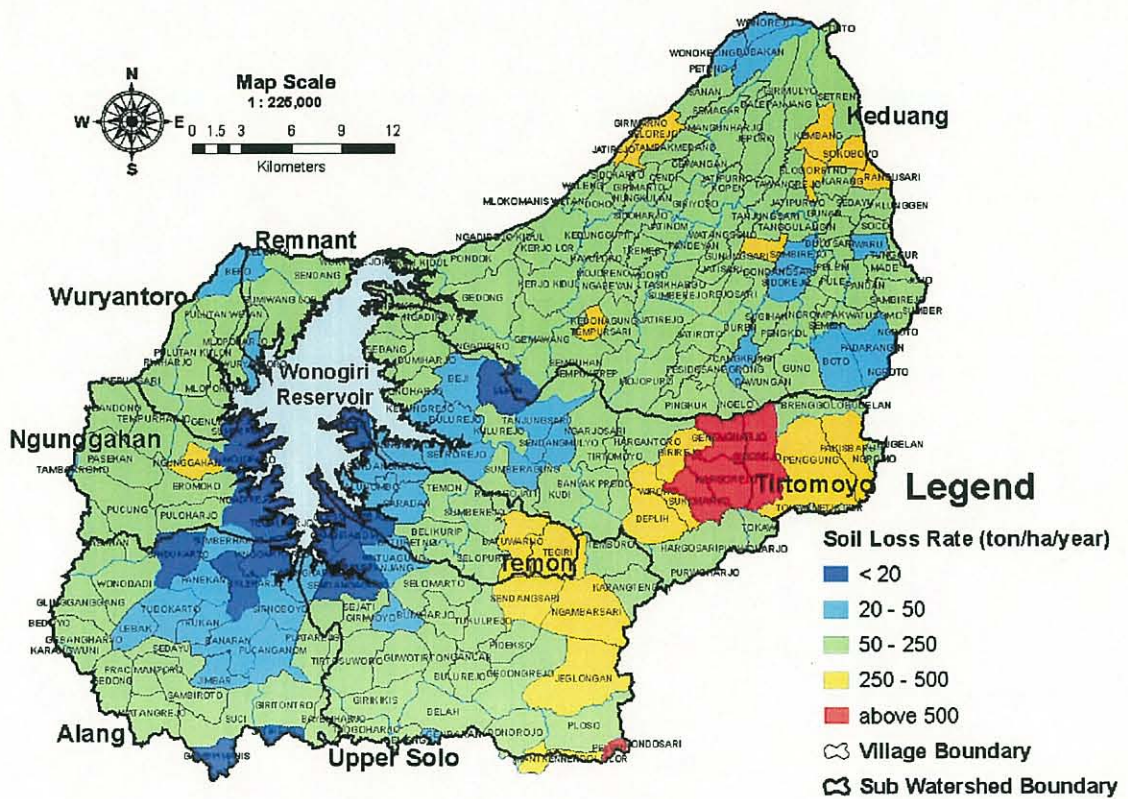


Figure 2.2.9 Present Annual Soil Loss per Hectare of Village in Wonogiri Watershed

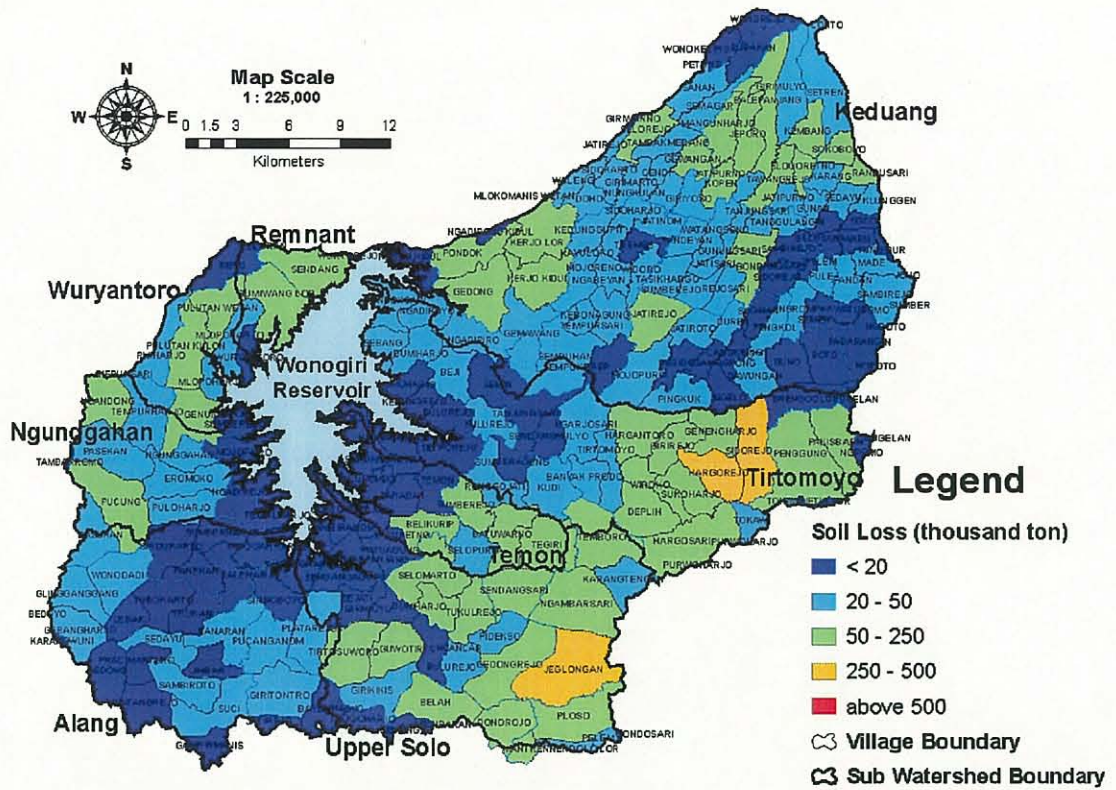


Figure 2.2.10 Future Annual Soil Loss of Village in Wonogiri Watershed

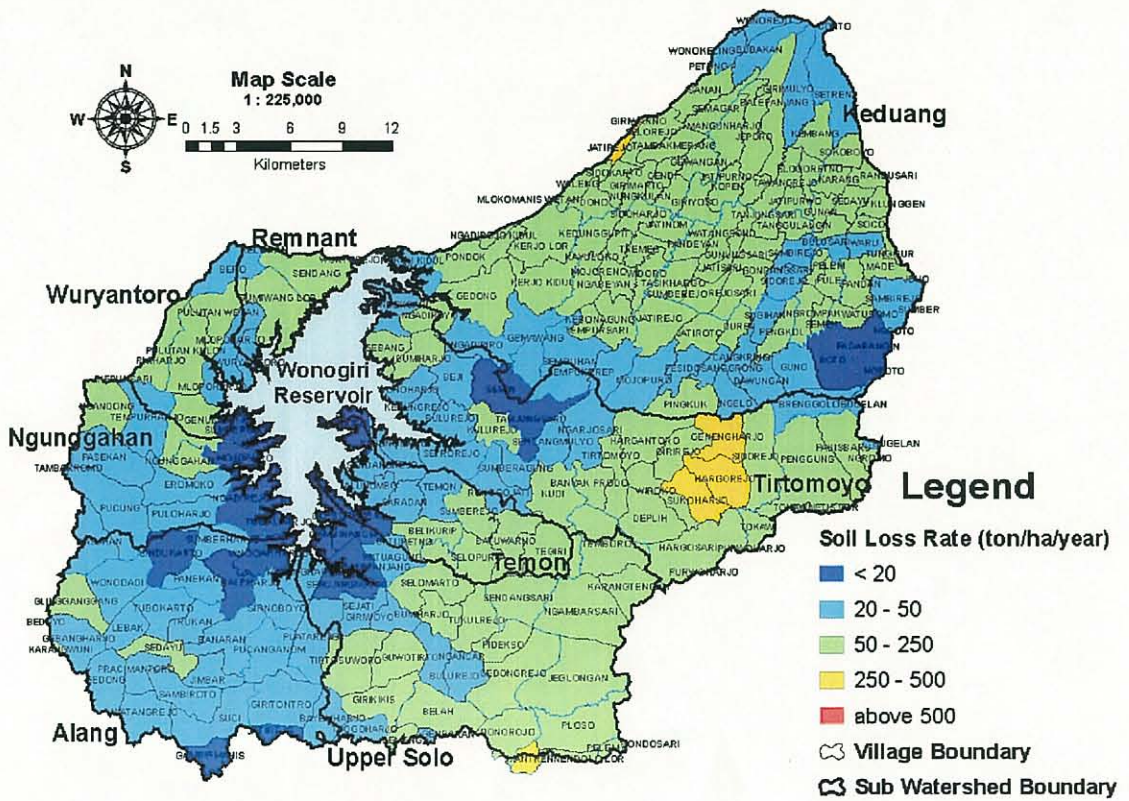


Figure 2.2.11 Future Annual Soil Loss per Hectare of Village in Wonogiri Watershed

Project Activities	1st Year	2nd Year	3rd Year	4th Year	5th	6th & on
	Preparatory Stage			Implementation Stage		
1. Implementation of VA&VAP	---					
- Village Assessment and Village Action Plan	---					
- Formulation of Implementation Committee	---					
- Support for Implementation Committee	---					
2 Farmer Group (K2TA) Formation Program	---					
- Mass Guidance/Socialization/Workshop	---					
- Support for Formation of K2TA	---					
3 Farmer Group Empowerment Program		---				
- Key Farmer Training		---				
- Demonstration Activities by Key Farmers		-----				
- Mass Guidance on Conservation Measures					
- Need Inventory on Agro-forestry etc.		---				
4 Terrace Formation Guidance Program			---			
5 Agro-forestry Development Program (for 3 years)			-----	-----		
6 Farming Support Program (for 1 cropping season)			---			
7 Field Guidance Program		
8 Agricultural Support Programs		

--- Program schedule
 Continuous activities or activities to be made during the period

Figure 2.3.3 Basic Implementation Arrangement for Watershed Conservation Measures

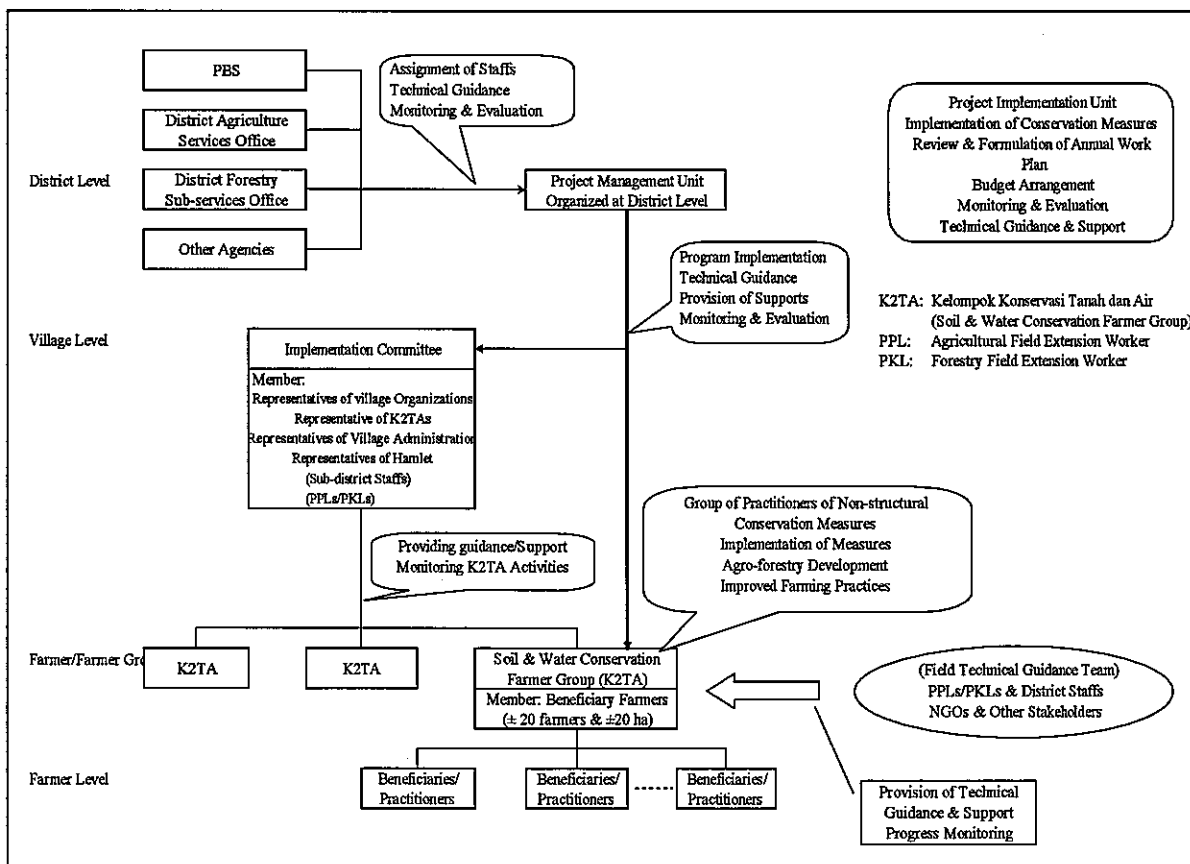


Figure 2.3.4 Tentative Proposed Organizational Set-up at Field & Village Level for Implementation of Conservation Measures

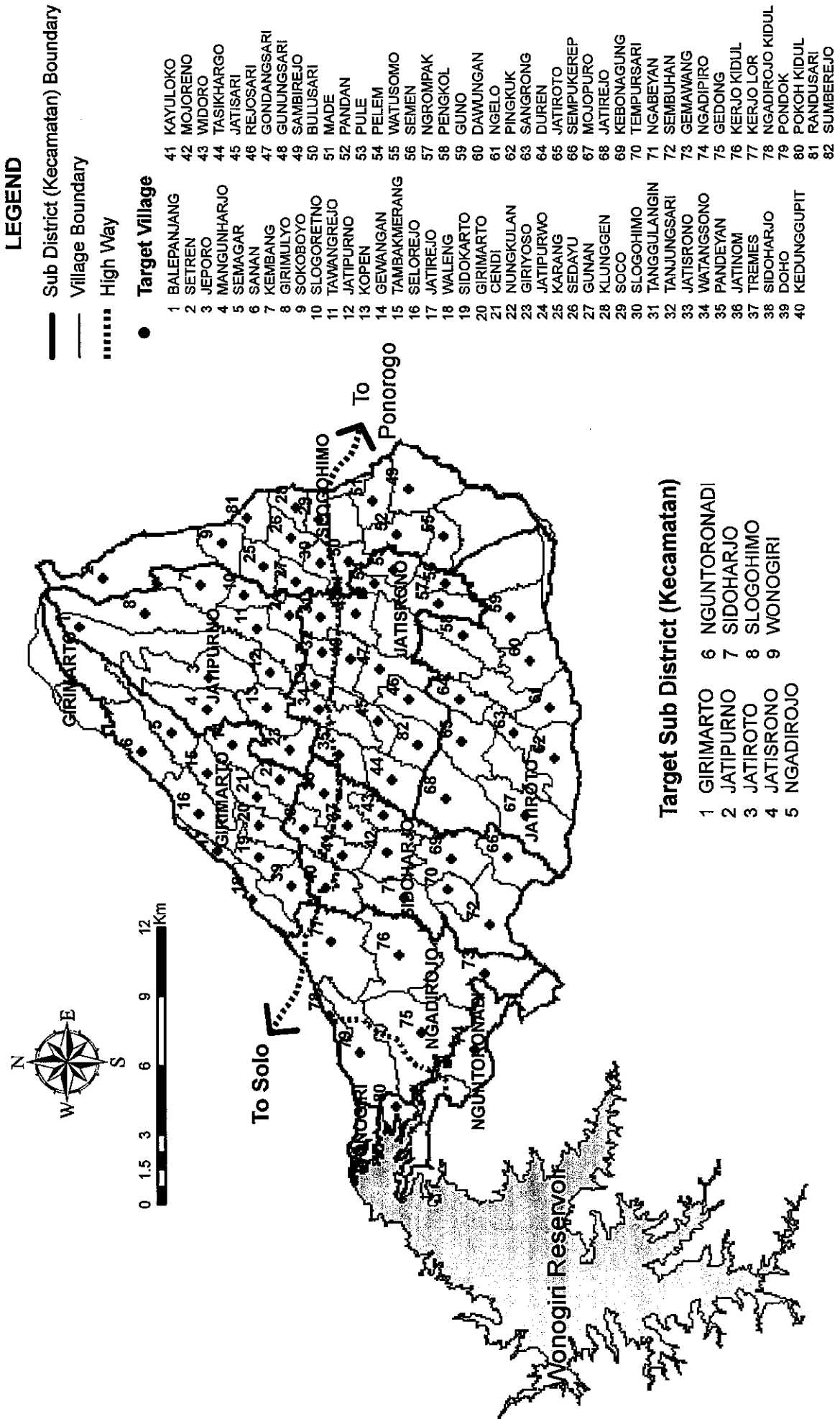


Figure 3.2.1 Administrative Boundary of Keduang Watershed

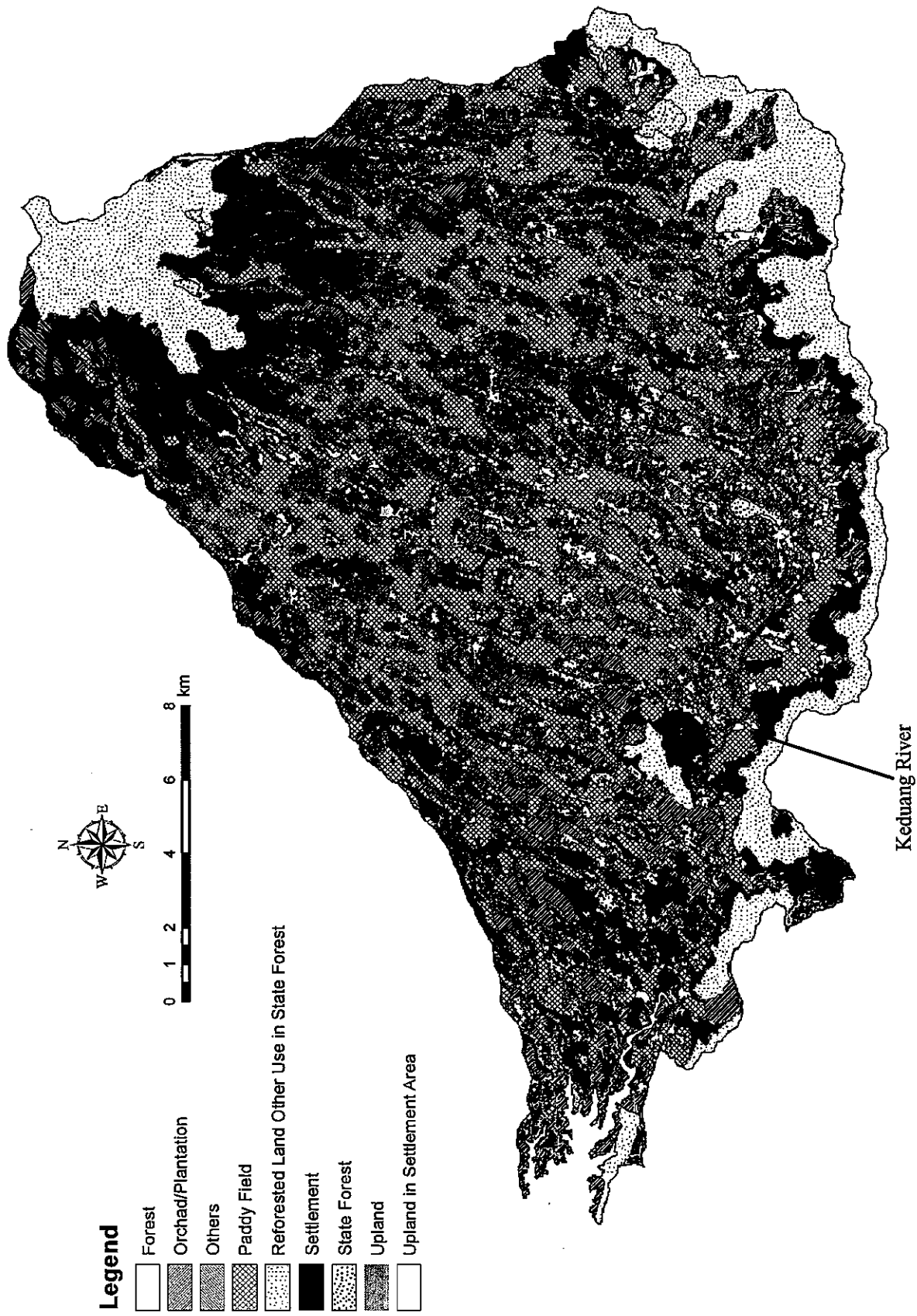


Figure 3.4.1 Present Land Use Map of Keduang Watershed

Kecamatan	Cropping Schedules & Patterns												Cropping Intensity/Other Cropping Patterns
	Month												
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sep.	
1. Ngadirojo	Irrigated Paddy Field:												Cropping Intensity (IP): 300%
	Paddy			Paddy			Paddy						Other Patterns:
	(IP: 100 %)			(IP: 100 %)			(IP: 100 %)						-
	Rainfed Paddy Field:												Cropping Intensity (IP): 200%
			Beans			Paddy						Other Patterns:	
			(IP: 100 %)			(IP: 100 %)						Palawija - Paddy	
2. Sidoharjo	Irrigated Paddy Field:												Cropping Intensity (IP): 300%
	Paddy			Paddy			Paddy						Other Patterns:
	(IP: 100 %)			(IP: 100 %)			(IP: 100 %)						Paddy - Paddy (IP: 200%)
	Rainfed Paddy Field:												Cropping Intensity (IP): 200%
			Maize			Paddy						Other Patterns:	
			(IP: 100 %)			(IP: 100 %)						-	
3. Jatiroto	Irrigated Paddy Field:												Cropping Intensity (IP): 300%
	Paddy			Paddy			Paddy						Other Patterns:
	(IP: 100 %)			(IP: 100 %)			(IP: 100 %)						Paddy - Paddy - Palawija
	Rainfed Paddy Field:												Cropping Intensity (IP): 250%
			Maize			Paddy			Soybeans			Other Patterns:	
			(IP: 100 %)			(IP: 100 %)			(IP: 50 %)			Palawija - Paddy	
4. Slogohimo	Irrigated Paddy Field:												Cropping Intensity (IP): 270%
	Paddy (80%) Maize (7%)			Paddy			Paddy (55%) Maize/Soybeans (28%)						Other Patterns:
													Paddy/Palawija - Paddy - Palawija
													Cropping Intensity (IP):
												Other Patterns:	
												-	
5. Jatisrono	Irrigated Paddy Field:												Cropping Intensity (IP): 300%
	Paddy			Paddy			Paddy						Other Patterns:
	(IP: 100 %)			(IP: 100 %)			(IP: 100 %)						-
	Rainfed Paddy Field:												Cropping Intensity (IP): 200%
			Maize			Paddy						Other Patterns:	
			(IP: 100 %)			(IP: 100 %)						Paddy - Upland Rice (IP: 200%)	
6. Jatipurno	Irrigated Paddy Field:												Cropping Intensity (IP): 300%
	Paddy			Paddy			Paddy						Other Patterns:
	(IP: 100 %)			(IP: 100 %)			(IP: 100 %)						-
	Rainfed Paddy Field:												Cropping Intensity (IP): 250%
			Maize+Groundnut			Paddy			Paddy			Other Patterns:	
			(IP: 50 %)			(IP: 100 %)			(IP: 100 %)			Palawija - Paddy - Vegetable (200%)	
7. Girimarto	Irrigated Paddy Field:												Cropping Intensity (IP): 300%
	Paddy			Paddy			Paddy						Other Patterns:
	(IP: 100 %)			(IP: 100 %)			(IP: 100 %)						Paddy - Paddy (IP: 200%)
	Rainfed Paddy Field:												Cropping Intensity (IP): 200%
			Maize			Paddy						Other Patterns:	
			(IP: 100 %)			(IP: 100 %)						Palawija - Paddy (IP: 200%)	

Source: Estimated based on findings of questionnaire survey to Extension Coordinators made by JICA Study Team

Figure 3.4.2 Prevailing Cropping Schedules & Estimated Cropping Patterns in Paddy Fields in Major Project Kecamatan

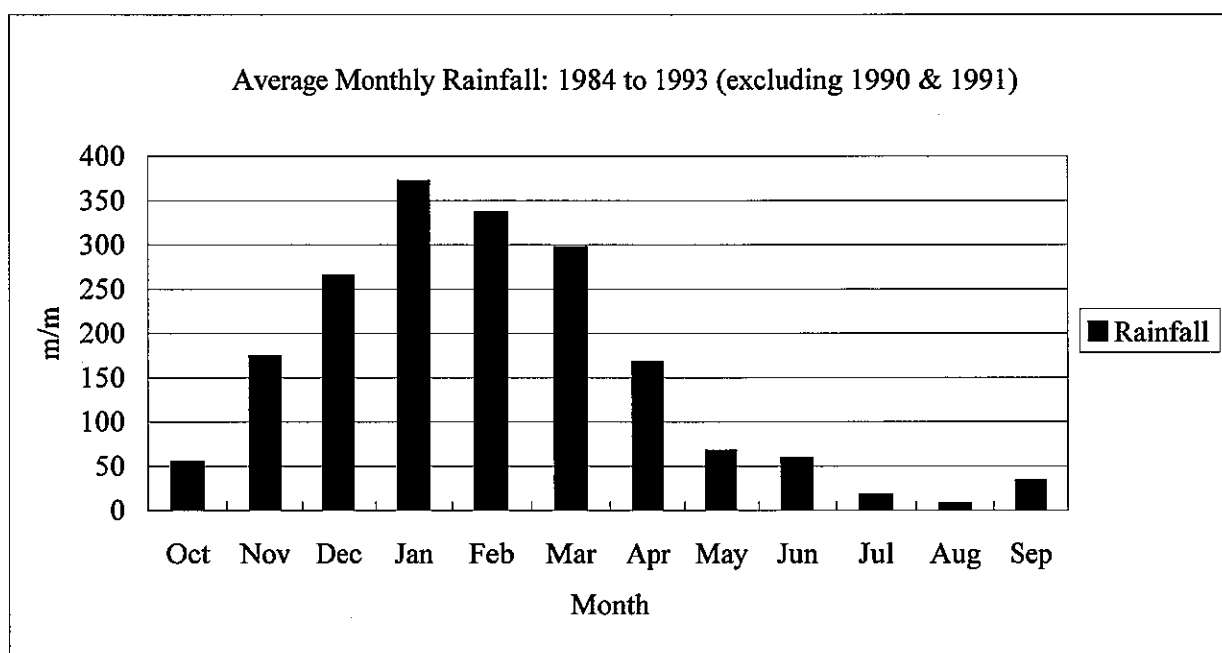
Kecamatan	Cropping Schedules & Patterns											Cropping Intensity/Other Cropping Patterns
	Month											
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	
1 Ngadirojo												Tegal Mz+Ca - Gr or Fw - Fw
												Pekarangan Planted with fruit trees
												Overall Cropping Intensity in MT I: 100%
												Overall Cropping Intensity in MT II: 71%
2 Sidoharjo												Tegal Mz+Ca+Tr - Fw or FW - Fw
												Pekarangan Mz+Ca - Fw or Gr - Fw
												Overall Cropping Intensity in MT I: 100%
												Overall Cropping Intensity in MT II: 39%
3 Jatiroto												Tegal Mz+Ca+Tr - Fw or FW - Fw
												Pekarangan Mz+Ca+Tr - Fw or FW - Fw
												Overall Cropping Intensity in MT I: 100%
												Overall Cropping Intensity in MT II: 48%
4 Slogohimo												Tegal -
												Pekarangan Mz+Ca - Fw or Mz - Fw
												Overall Cropping Intensity in MT I: 100%
												Overall Cropping Intensity in MT II: 16%
5 Jatisrono												Tegal -
												Pekarangan Mz+Ca - Fw or Gr - Fw
												Overall Cropping Intensity in MT I: 100%
												Overall Cropping Intensity in MT II: 44%
6 Jatipurno												Tegal -
												Pekarangan Mz+Be+Ca+Tr - Fw or Be - Fw
												Overall Cropping Intensity in MT I: 100%
												Overall Cropping Intensity in MT II: 9%
7 Girimarto												Tegal Gr+Ca - Fw or Gr - Fw
												Pekarangan Planted with fruit trees
												Overall Cropping Intensity in MT I: 100%
												Overall Cropping Intensity in MT II: 48%
											Overall Cropping Intensity in MT III: 0%	

Mz: maize; Ur: upland rice; Gr: groundnut; Ca: cassava; Sy: soybeans; Be: beans; Tr: tree crops; Fw: fallow

Source: Estimated based on findings of questionnaire survey to Extension Coordinators made by JICA Study Team

Figure 3.4.3 Prevailing Cropping Schedules Estimated Multiple Cropping Patterns in Dry Farmland in Major Keduang Kecamatan

Cropping Season	MT I (1st Cropping Season)				MT II (2nd Cropping Season)				MT III (3rd Cropping Season)				Remarks
	Month	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	
Typical Pattern	Maize (Intensity 100%)				Griundnut (Intensity depending)				Cassava				Palawija: - Maize - Upland Rice - Beans



Unit: mm

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1984	61	289	317	358	373	313	231	111	10	24	4	130	1,554
1985	103	139	215	245	303	511	210	55	116	6	13	0	1,459
1986	46	211	108	525	287	282	82	15	143	0	0	33	1,367
1987	0	0	517	613	298	134	98	25	0	0	0	0	1,168
1988	122	303	143	275	451	214	77	133	45	0	0	0	1,195
1989	29	104	219	142	406	217	205	109	69	97	14	3	1,290
1992	74	192	255	321	382	543	125	38	18	9	27	7	1,534
1993	0	150	346	493	189	159	308	49	66	0	3	0	1,267
Avg.	54	174	265	372	336	297	167	67	58	17	8	33	1,354

Source: Report on The Evaluation of Wonogiri Watershed Management, Research & Development Project of Solo Watershed Management, 1995

256 Wet month ($\geq 200\text{mm}$) 120 Humid Month ($\geq 100\text{mm} - < 200\text{mm}$) 38 Dry month ($< 100\text{mm}$)

Figure. 3.4.4 Generalized Cropping Schedule and Pattern in Sub-DAS Keduang

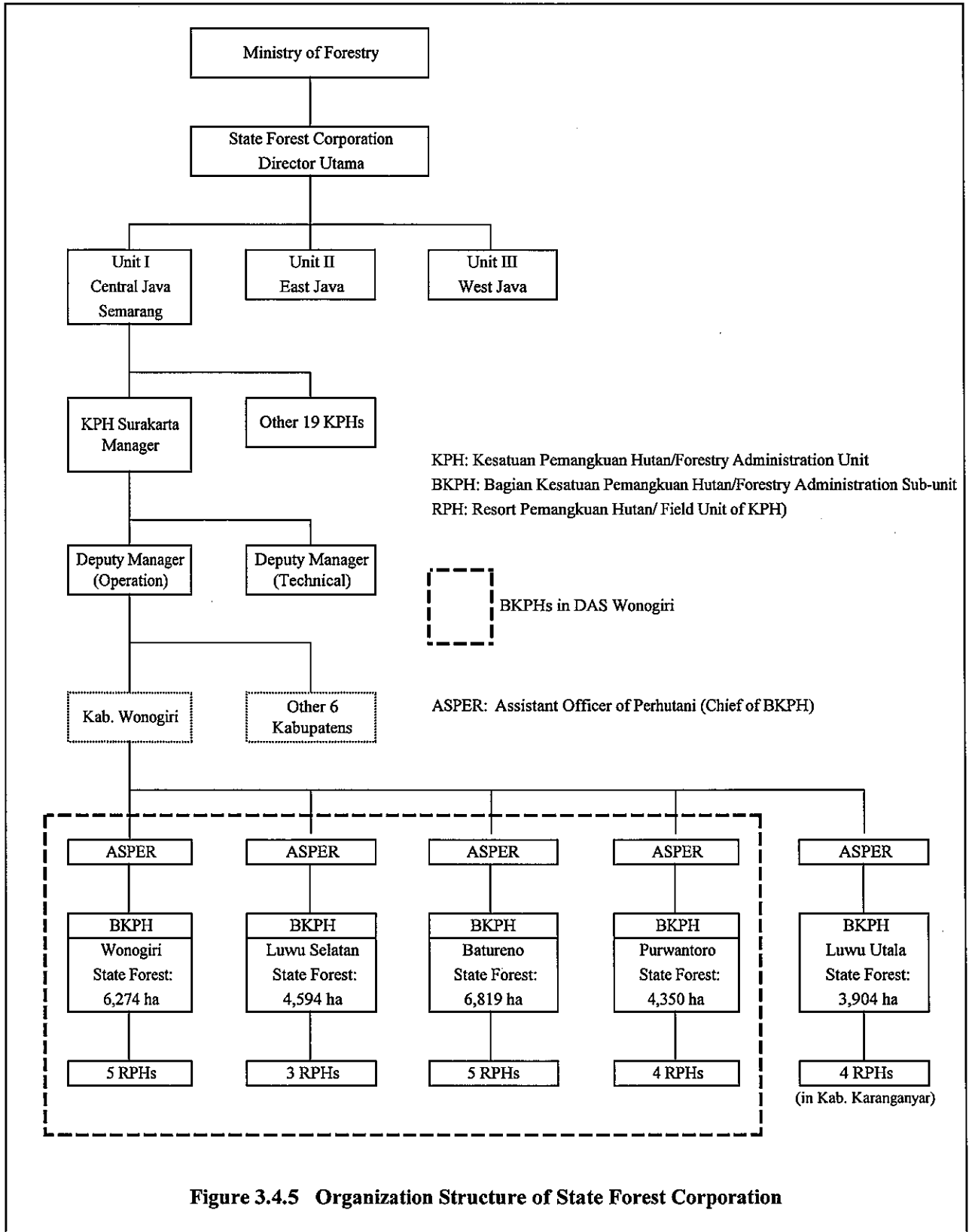


Figure 3.4.5 Organization Structure of State Forest Corporation

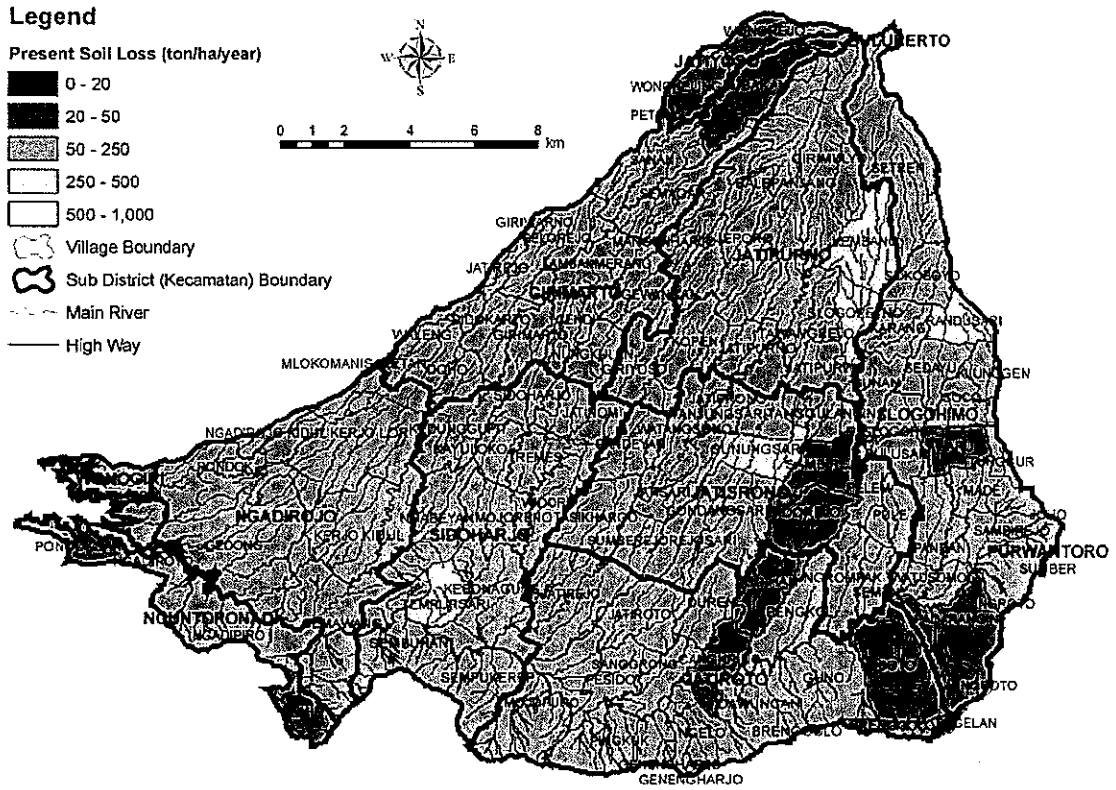


Figure 3.6.1 Present Annual Soil Loss of Village in Keduang Sub-Watershed

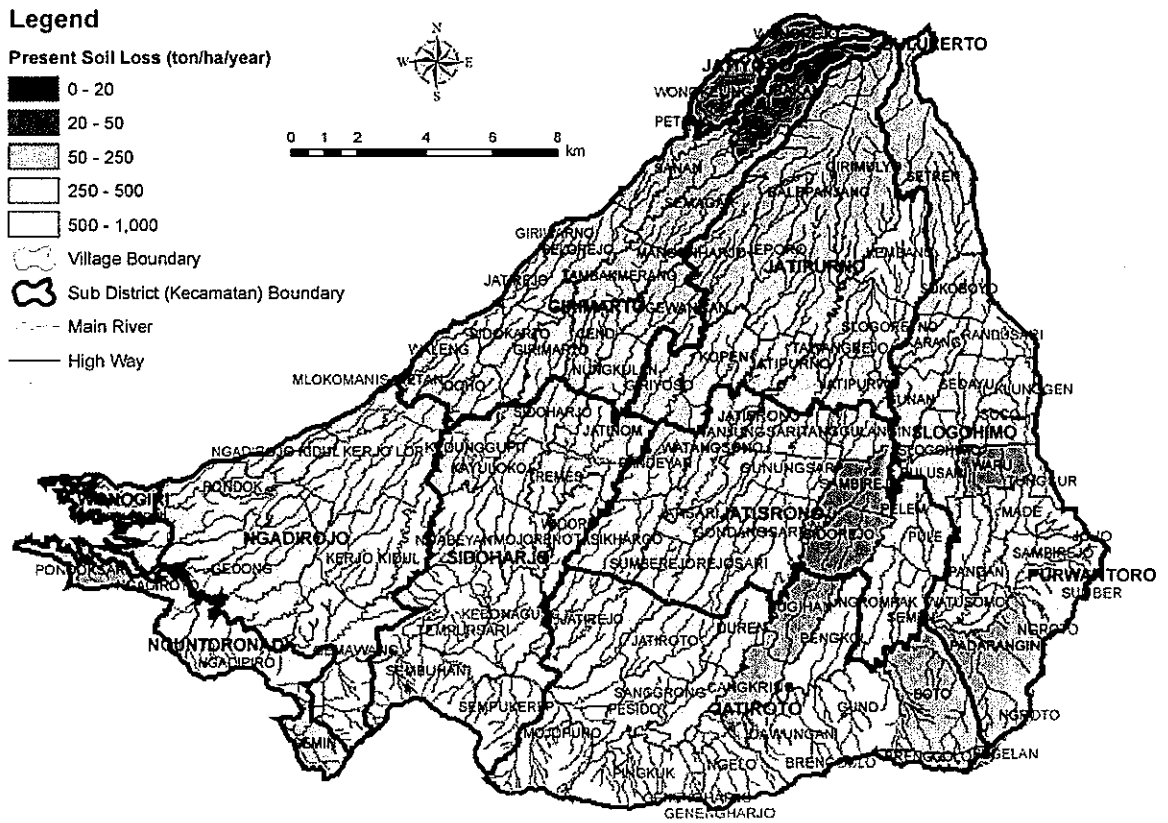


Figure 3.6.2 Present Annual Soil Loss Per Hectare of Village in Keduang SubWatershed

Legend

Future Soil Loss (thousand ton)

- 0 - 20
- 20 - 50
- 50 - 250
- 250 - 500
- 500 - 1,000

- Village Boundary
- Sub District (Kecamatan) Boundary
- Main River
- High Way

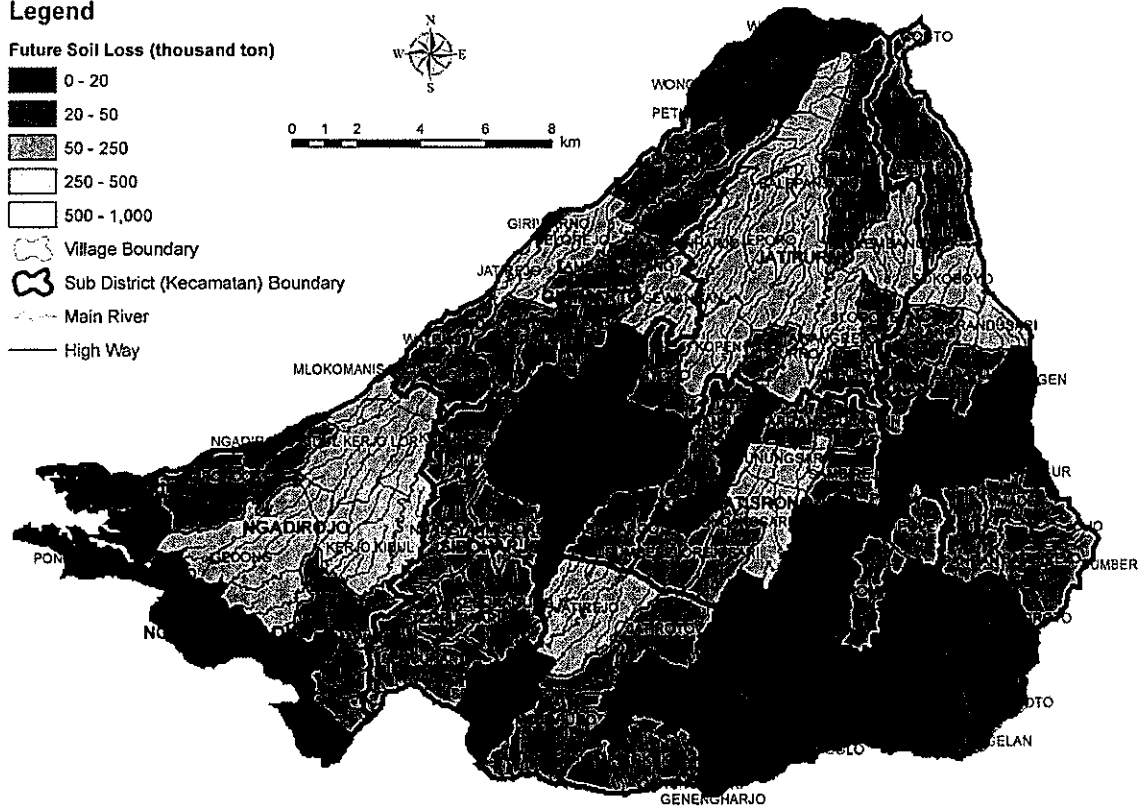


Figure 4.6.1 Future Annual Soil Loss of Village in Keduang Sub-Watershed

Legend

Future Soil Loss (ton/ha/year)

- 0 - 20
- 20 - 50
- 50 - 250
- 250 - 500
- 500 - 1,000

- Village Boundary
- Sub District (Kecamatan) Boundary
- Main River
- High Way

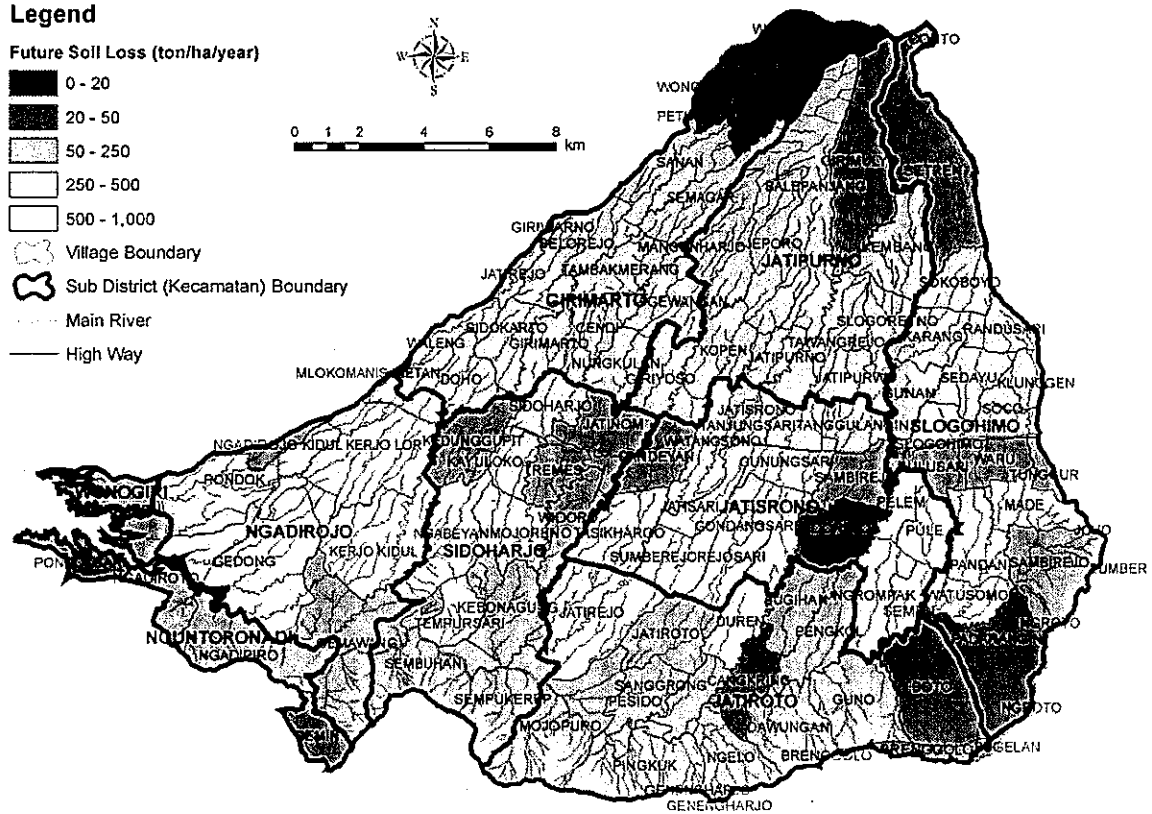


Figure 4.6.2 Future Annual Soil Loss Per Hectare of Village in Keduang Sub-Watershed