

## APPENDIX

Table A1. Correlation between Explanatory Variables in Small Farms

	$\text{LnC}_w$	$\text{LnC}_f$	$\text{LnC}_p$	$\text{LnZ}_l$	$\text{LnZ}_e$
$\text{LnC}_w$	1.0000				
$\text{LnC}_f$	0.5526	1.0000			
$\text{LnC}_p$	0.2111	0.1402	1.0000		
$\text{LnZ}_l$	0.2362	0.0084	-0.1662	1.0000	
$\text{LnZ}_e$	0.0504	-0.1068	0.0780	0.0324	1.0000

STATISTIX 3.5 CORRELATIONS (PEARSON)  
 CASES INCLUDED 93 MISSING CASES 0

Table A2. Correlation between Explanatory Variables in Large Farms

	$\text{LnC}_w$	$\text{LnC}_f$	$\text{LnC}_p$	$\text{LnZ}_l$	$\text{LnZ}_e$
$\text{LnC}_w$	1.0000				
$\text{LnC}_f$	0.5605	1.0000			
$\text{LnC}_p$	0.3386	0.1939	1.0000		
$\text{LnZ}_l$	0.1628	0.1078	0.2674	1.0000	
$\text{LnZ}_e$	-0.1494	-0.1708	0.0176	0.0152	1.0000

STATISTIX 3.5 CORRELATIONS (PEARSON)  
 CASES INCLUDED 79 MISSING CASES 0

Table A3. Estimated Costs and Benefits of Alternative Policies for Rice Production in Small Farmers

Policy	Labor		Fertilizer		Pesticide		Total cost	Output	
	$\Delta X_L$	$\Delta C_L$	$\Delta X_F$	$\Delta C_F$	$\Delta X_P$	$\Delta C_P$	$\Delta C$	$\Delta Y$	$\Delta R$
1. 10% ↓ in $P_L$	1.380	15,377	0.163	725	0.006	565	16,667	26.3	25,262
2. 10% ↓ in $P_F$	0.056	692	1.667	6,679	0.004	353	7,724	10.5	10,056
3. 10% ↓ in $P_P$	0.049	610	0.090	399	0.047	3,839	4,849	8.6	8,316
4. 10% ↑ in $P_Y$	1.373	17,003	1.594	7,097	0.057	5,184	29,283	61.5	65,026
5. (1)+(2)	1.436	17,777	1.830	8,148	0.010	918	26,843	36.7	35,319
6. (1)+(3)	1.429	17,696	0.253	1,125	0.054	4,830	23,651	34.9	33,578
7. (1)+(4)	2.753	34,088	1.757	7,822	0.064	5,748	47,658	87.7	84,388
8. (2)+(3)	0.105	1,302	1.757	7,823	0.051	4,619	13,744	19.1	18,372
9. (2)+(4)	1.429	17,694	3.261	14,519	0.061	5,537	37,751	71.9	69,182
10. (3)+(4)	1.423	17,613	1.683	7,496	0.105	9,449	34,559	70.1	67,441
11. (1)+(2)+(3)	1.485	18,387	1.920	8,548	0.057	5,184	32,119	45.4	43,635
12. (1)+(2)+(4)	2.809	34,780	3.423	15,245	0.068	6,102	56,126	98.2	94,445
13. (1)+(3)+(4)	2.803	34,699	1.846	8,222	0.111	10,014	52,934	96.4	92,704
14. (2)+(3)+(4)	1.479	18,305	3.350	14,919	0.109	9,803	43,027	80.6	77,498
15. (5)+(10)	2.859	35,390	3.513	15,644	0.115	10,367	61,402	106.8	102,760

Source: Computed

Note:

$P_L$  : Wage rate

$P_P$  : Price of pesticide

$P_F$  : Price of fertilizer

$P_Y$  : Price of rice

$\Delta X_L$  : Change in quantity of labor

$\Delta C_L$  : Change in expenditure on labor

$\Delta X_F$  : Change in quantity of fertilizer

$\Delta C_F$  : Change in expenditure on fertilizer

$\Delta X_P$  : Change in quantity of pesticide

$\Delta C_P$  : Change in expenditure on pesticide

$\Delta Y$  : Change in output

$\Delta R$  : Change in revenue

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Table A3 (continued)

Policy	Saving on pre-sub. input (A)	Gain on Pre-sub. output(B)	Total benefit TB= $\Delta R+A+B$	Net benefit TB- $\Delta C$	Government subsidy	Net impact of poli.	Cost effectiveness
1. 10% ↓ in $P_i$	11,761	-	37,023	20,357	12,654	7,703	60.88
2. 10% ↓ in $P_f$	7,743	-	17,799	10,075	8,040	2,035	25.32
3. 10% ↓ in $P_r$	4,513	-	12,829	7,979	4,617	3,362	72.82
4. 10% ↑ in $P_r$		60,654	125,680	96,397	65,239	31,157	47.76
5. (1)+(2)	19,504	-	54,823	27,980	20,694	7,286	35.21
6. (1)+(3)	16,274	-	49,852	26,201	17,271	8,930	51.71
7. (1)+(4)	11,761	60,654	156,803	109,145	77,893	31,252	40.12
8. (2)+(3)	12,256	-	30,628	16,885	12,657	4,228	33.40
9. (2)+(4)	7,743	60,654	137,579	99,828	73,279	26,549	36.23
10. (3)+(4)	4,513	60,654	132,608	98,049	69,857	28,193	40.36
11. (1)+(2)+(3)	24,017	-	67,562	35,533	25,311	10,222	40.39
12. (1)+(2)+(4)	19,504	60,654	174,603	118,477	85,933	32,544	37.87
13. (1)+(3)+(4)	16,274	60,654	169,632	116,698	82,510	34,187	41.43
14. (2)+(3)+(4)	12,256	60,654	150,408	107,381	77,896	29,485	37.85
15. (5)+(10)	24,017	60,654	187,431	126,030	90,550	35,479	39.18

Source: Computed

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Table A4. Estimated Costs and Benefits of Alternative Policies for Rice Production in Large Farmers

Policy	Labor		Fertilizer		Pesticide		Total cost	Output	
	$\Delta X_L$	$\Delta C_L$	$\Delta X_F$	$\Delta C_F$	$\Delta X_P$	$\Delta C_P$	$\Delta C$	$\Delta Y$	$\Delta R$
1. 10% ↓ in $P_L$	0.878	9,867	0.109	487	0.006	595	10,949	20.1	19,310
2. 10% ↓ in $P_F$	0.036	444	1.111	4,455	0.004	360	5,258	8.9	8,523
3. 10% ↓ in $P_P$	0.041	511	0.077	341	0.030	2,605	3,457	5.6	5,362
4. 10% ↑ in $P_r$	0.951	11,869	1.297	5,779	0.040	3,851	21,498	43.8	46,378
5. (1)+(2)	0.914	11,407	1.221	5,348	0.010	954	17,799	28.9	27,833
6. (1)+(3)	0.919	11,474	0.186	828	0.037	3,489	15,792	25.6	24,672
7. (1)+(4)	1.829	22,831	1.406	6,266	0.047	4,445	33,543	63.8	61,484
8. (2)+(3)	0.076	954	1.188	5,292	0.034	3,254	9,500	14.4	13,885
9. (2)+(4)	0.987	12,312	2.408	10,729	0.044	4,210	27,252	52.6	50,696
10. (3)+(4)	0.992	12,379	1.374	6,119	0.071	6,745	25,244	49.4	47,536
11. (1)+(2)+(3)	0.955	11,918	1.297	5,779	0.040	3,849	21,546	34.5	33,195
12. (1)+(2)+(4)	1.865	23,276	2.518	11,217	0.050	4,805	39,297	72.7	70,006
13. (1)+(3)+(4)	1.870	23,343	1.483	6,607	0.077	7,340	37,289	69.4	66,846
14. (2)+(3)+(4)	1.027	12,823	2.485	11,070	0.074	7,105	30,998	58.2	56,058
15. (5)+(10)	1.906	23,786	2.594	11,558	0.081	7,699	43,043	78.3	75,368

Source: Computed

Note:

$P_L$  : Wage rate

$P_P$  : Price of pesticide

$P_F$  : Price of fertilizer

$P_r$  : Price of rice

$\Delta X_L$  : Change in quantity of labor

$\Delta C_L$  : Change in expenditure on labor

$\Delta X_F$  : Change in quantity of fertilizer

$\Delta C_F$  : Change in expenditure on fertilizer

$\Delta X_P$  : Change in quantity of pesticide

$\Delta C_P$  : Change in expenditure on pesticide

$\Delta Y$  : Change in output

$\Delta R$  : Change in revenue

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Table A4 (continued)

Policy	Saving on pre-sub. input (A)	Gain on Pre-sub. output(B)	Total benefit TB= $\Delta R+A+B$	Net benefit TB- $\Delta C$	Govern-ment subsidy	Net impact of poli.	Cost effectiveness
1. 10% ↓ in $P_i$	9,859	-	29,169	18,220	12,030	6,190	51.45
2. 10% ↓ in $P_f$	6,853	-	15,376	10,117	7,793	2,325	29.83
3. 10% ↓ in $P_r$	3,633	-	8,995	5,537	4,459	1,079	24.18
4. 10% ↑ in $P_r$	-	57,780	104,158	82,660	63,538	19,122	30.09
5. (1)+(2)	16,712	-	44,545	26,746	19,823	6,923	34.92
6. (1)+(3)	13,492	-	38,164	22,373	16,489	5,883	35.68
7. (1)+(4)	9,859	57,780	129,123	95,579	75,569	20,011	26.48
8. (2)+(3)	10,486	-	24,370	14,870	12,251	2,618	21.37
9. (2)+(4)	6,853	57,780	115,329	88,077	71,331	16,747	23.48
10. (3)+(4)	3,633	57,780	108,948	83,704	67,998	15,707	23.10
11. (1)+(2)+(3)	20,345	-	53,540	31,994	24,282	7,712	31.76
12. (1)+(2)+(4)	16,712	57,780	144,498	105,201	83,361	21,840	26.20
13. (1)+(3)+(4)	13,492	57,780	138,118	100,828	80,028	20,800	25.99
14. (2)+(3)+(4)	10,486	57,780	124,324	93,326	75,790	17,536	23.14
15. (5)+(10)	20,345	57,780	153,493	110,450	87,820	22,629	25.77

Source: Computed

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Table A5. List of Common Pesticides Used in the Study Area\*

Trade name	% of Farmers used
<b>Pesticides</b>	
Applaud	40
Azodrin	26
Bassa (Hoppecin, Vitagro)	50
Basudin	27
Decis	10
Methyl Parathion	36
Mipcin	20
Monitor	26
Padan	24
Trebon	31
<b>Fungicides</b>	
Anvil	35
Benomyl (Fundazol, Benlate)	20
Validacin	21
<b>Herbicides</b>	
2,4 D	66
Sofit	20
Whip	25

\* Reporting pesticides used by more than 20% sample farmers only

Source: Survey

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