



ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

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APPENDIX TABLES

Table A1. Area planted, total production and yield of selected rice varieties in Thailand, crop year 1990/91. (Major rice season only)

Variety	Region				All Country
	North	Northeast	Central	South	
All Varieties					
Area (rai)	13,049,873	31,639,413	10,536,161	2,979,219	58,204,666
% of all area	100.00	100.00	100.00	100.00	100.00
Production (ton)	4,030,558	7,744,744	2,400,613	726,508	14,902,423
Yield (kg/rai)	309	245	228	244	256
Local Variety					
Area (rai)	6,150,472	5,711,934	4,006,794	2,456,861	18,326,061
% of all area	47.13	18.05	38.03	82.47	31.49
Production (ton)	1,234,627	1,284,540	677,936	585,192	3,782,295
Yield (kg/rai)	201	225	169	238	206
RD 6					
Area (rai)	1,870,229	13,571,123	48,171	--	15,489,523
% of all area	14.33	42.89	0.46	--	26.61
Production (ton)	921,577	3,353,796	7,454	--	4,282,827
Yield (kg/rai)	493	247	155	--	276
Khao Dawk Mali					
Area (rai)	647,530	9,567,576	440,562	53,395	10,709,063
% of all area	4.96	30.24	4.18	1.79	18.40
Production (ton)	240,208	2,462,950	63,781	15,437	2,786,456
Yield (kg/rai)	371	257	145	289	260
RD 15					
Area (rai)	329,228	768,582	40,116	3,593	1,141,499
% of all area	2.52	2.43	0.38	0.12	1.96
Production (ton)	137,990	177,843	7,437	481	323,661
Yield (kg/rai)	419	231	183	134	284
RD 21 and RD 23					
Area (rai)	516,634	20,568	1,408,613	15,859	1,961,674
% of all area	3.96	0.07	13.37	0.53	3.37
Production (ton)	185,232	7,188	577,106	5,080	774,606
Yield (kg/rai)	359	349	410	320	395

Note: Varieties such as SP 60, Basmati, Other Non-Photosensitive and Mixed varieties are excluded. Therefore, the total do not sum to all country figures.

Source: Department of Agricultural Extension (in Thai), 1991.

Table A2. Fertilizer use in Thailand, 1967-90

Year	Agricultural use (combined nutrient content)				Use on rice			
	Total	N	P ₂ O ₅	K ₂ O	Total nutrient	Wet season	Dry Season	Total
1967	254431	45247	28056	13152	86455	171092	10050	181142
1968	294321	49285	39010	15652	103947	198928	11390	210318
1969	273686	47339	61294	10950	119583	199505	13400	212905
1970	280279	48590	53814	10300	112704	168415	14740	183155
1971	261479	47929	40625	9650	98204	164696	15500	180196
1972	407950	69541	82482	16100	168123	228038	25000	253038
1973	418396	67472	76603	17500	161575	192940	39310	232250
1974	390332	66876	57334	14910	139120	132597	61145	193742
1975	506428	83949	76670	17930	178549	172462	70310	242772
1976	664391	115961	59482	20452	195895	240802	82530	323332
1977	764113	140726	79972	30517	251215	265662	104338	370000
1978	750978	130352	105747	26390	262489	291365	128635	420000
1979	792002	124919	121355	44132	290406	300000	178500	478500
1980	746900	126670	106742	36672	270084	320000	100940	420940
1981	834000	136819	117971	31400	286190	340055	154092	494147
1982	1042503	174765	134229	57648	366642	373851	169543	543394
1983	1272041	233388	154044	83701	471133	466454	202490	668944
1984	1246688	227712	142623	67916	438251	443808	204125	647933
1985	1250000	252900	124999	55663	433562	413929	196071	610000
1986	1350000	308501	132502	70326	511329	447857	212143	660000
1987	1548765	342784	148344	96245	587373	459240	180760	640000
1988	1992633	439720	200833	137456	778009	597600	254609	852209
1989	2297733	494233	188823	117793	800849	610000	260000	870000

Source: *Food Policy Analysis (1985) and Agricultural Statistics of Thailand, C-rop Year 1987/88 and 1989/90.*

Table A3. Area planted, total production and yield of Khao Dawk Mali in major growing areas of Thailand from 1980/81 to 1990/91.

Area = '000 rai

Production = '000 ton

Yield = kg/rai

Province	Year										
	1980/81	1981/82	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91
Ubon Ratchathani											
Area	719.1	821.1	780.0	1067.6	883.1	1211.3	1521.0	1625.4	1580.5	1834.6	1442.8
Prod.	205.7	203.6	196.8	272.5	242.0	368.2	508.9	515.9	535.8	613.3	377.7
Yield	260	248	252	255	274	304	335	317	339	344	262
Yasotorn											
Area	-	588.0	737.8	544.2	506.6	593.1	585.1	515.9	563.0	590.5	475.1
Prod.	-	167.7	131.8	183.0	170.7	209.0	201.0	227.5	202.7	280.5	115.6
Yield	-	350	179	350	337	355	385	410	360	360	243
Maha Sarakam											
Area	224.2	279.0	295.0	346.5	318.9	415.4	347.9	389.9	344.7	438.5	334.3
Prod.	55.3	85.0	67.5	103.9	95.7	161.1	54.3	115.1	101.6	144.7	84.5
Yield	247	305	255	300	300	357	196	395	295	330	253
Karasin											
Area	10.1	57.8	27.7	41.7	43.4	56.9	59.4	54.3	76.7	81.2	80.9
Prod.	3.6	19.3	8.6	13.3	14.3	18.5	19.0	17.5	21.4	27.6	21.7
Yield	360	335	310	320	330	325	325	320	350	340	270
Buri Ram											
Area	738.8	748.5	689.3	777.1	787.3	1126.6	1106.2	841.6	1423.6	1391.0	1335.2
Prod.	158.1	169.9	137.9	217.6	244.9	387.7	350.6	240.5	453.8	555.9	347.0
Yield	214	217	200	280	311	344	317	286	318	399	260
Roi Et											
Area	286.7	450.2	418.1	712.3	788.4	915.8	993.4	825.5	1045.2	1080.0	1075.6
Prod.	86.9	165.2	117.1	212.3	227.0	297.0	288.1	222.9	317.8	330.5	262.7
Yield	303	367	280	298	287	312	290	270	304	306	244
Khon Khaen											
Area	117.8	125.6	137.4	149.2	157.0	164.9	176.7	196.3	215.9	223.8	128.2
Prod.	37.8	40.1	43.7	48.3	50.7	54.2	57.6	64.6	71.3	74.7	33.5
Yield	321	319	318	324	323	329	326	329	330	334	261
Chiang Mai											
Area	36.4	49.9	53.7	50.4	52.4	94.1	88.9	98.8	96.5	94.0	85.7
Prod.	13.8	19.4	24.7	25.2	26.7	55.5	48.3	56.9	58.9	58.3	56.1
Yield	380	390	460	500	510	590	47	576	610	620	655
Chiang Rai											
Area	4.1	4.5	4.3	6.0	6.8	5.9	5.2	4.6	5.2	6.9	27.4
Prod.	2.1	2.5	2.3	3.2	3.7	3.3	2.9	2.6	3.0	3.8	14.9
Yield	520	570	530	530	540	565	545	560	570	550	543
Sri Saket											
Area	256.0	323.0	772.0	757.2	1033.0	1148.0	1358.0	1401.0	1461.0	2263.0	1323.8
Prod.	82.0	106.6	247.0	265.0	351.2	348.6	448.1	476.3	511.4	769.4	400.2
Yield	320	330	320	350	340	335	330	340	350	340	302

Table A3. (Continued)

Province	Year										
	1980/81	1981/82	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91
Sakon Nakorn											
Area	15.2	27.6	31.5	78.7	109.0	152.5	204.5	271.5	339.6	472.6	289.5
Prod.	4.6	8.5	9.8	25.0	35.4	50.5	69.3	93.7	120.5	170.3	77.7
Yield	302	307	311	318	325	331	339	345	355	360	268
Surin											
Area	-	-	935.9	1071.1	1082.5	1138.5	1121.7	503.2	1259.6	1189.0	1786.9
Prod.	-	-	238.6	320.3	410.3	430.4	382.5	137.9	341.3	392.4	483.0
Yield	-	-	303	299	379	378	341	274	271	330	270

Source: Bank of Agriculture and Cooperative and Department of Domestic Trade

Table A4. Quantity and value of Khao Dawk Mali rice exported from Thailand to rest of the world.

Quantity = ton
Value = million baht

Region	1988		1989		1990		1991	
	Qty.	Value	Qty.	Value	Qty.	Value	Qty.	Value
Asia	96,314	870.83	349,449	3,779.38	386,105	3,550.33	475,591	4,686.10
Europe	6,530	326.62	190,638	1,339.46	143,335	1,387.98	155,162	1,544.61
Africa	6,185	57.88	16,434	174.63	30,303	286.28	24,728	213.66
Middle East	9,312	77.83	112,847	1,004.85	75,945	592.67	45,420	626.95
America	26,715	263.09	115,523	1,163.59	147,192	1,393.79	174,668	1,852.99
Oceania	3,487	34.62	14,808	160.74	22,747	250.34	23,739	293.42
World	148,455	1,367.81	687,606	6,623.27	701,650	7,461.39	823,109	8,261.58

Source: Private Rice Section, Department of Cereal Trade, Ministry of Agriculture and Cooperatives.

Table A5. Price of Khao Dawk Mali, RD 15 and local variety of rice in Thailand for the period 1989-1991.

Baht per ton

Province	Khao Dawk Mali			RD 15			Local variety		
	1989	1990	1991	1989	1990	1991	1989	1990	1991
Ubon Ratchathani	4,808	3,976	3,959	4,200	3,400	4,044	3,322	3,219	3,475
Surin	4,844	3,939	4,112	4,214	3,274	4,150	3,519	3,368	3,504
Buri Ram	4,888	3,932	4,055	4,211	3,397	4,100	3,213	3,182	3,486
Khon Khaen	4,837	3,951	4,034	4,100	3,500	4,077	3,300	3,375	3,425
Sri Saket	4,824	3,965	4,107	4,235	3,417	3,985	3,248	3,388	3,537
Sakon Nakorn	4,624	3,866	4,075	4,310	3,405	4,098	3,237	3,275	3,613
Chiang Rai	4,504	3,973	4,205	4,332	3,771	4,177	3,248	3,288	3,550
Chiang Mai	4,408	3,975	4,305	4,394	3,625	4,162	3,200	3,302	3,707

Source: Bank of Agriculture and Cooperative and Department of Domestic Trade

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Table A6. Estimated costs and benefits of alternative policies for rice production

Policy alternatives	Fertilizer		Labor		Tractor		Total cost ΔC	Output	
	ΔX_F (kg)	ΔC_F (baht)	ΔX_W (day)	ΔC_W (baht)	ΔX_M (day)	ΔC_M (baht)		ΔY (kg)	ΔR (baht)
1. 10% $\downarrow P_F$	1.35	6.66	0.01	0.69	0.01	0.75	8.09	0.88	3.32
2. 10% $\downarrow P_W$	0.10	0.52	0.42	27.58	0.02	3.69	31.79	6.98	31.79
3. 10% $\downarrow P_M$	0.14	0.79	0.05	3.50	0.04	7.04	11.33	4.08	11.33
4. 10% $\uparrow P_Y$	3.13	2.60	0.47	18.58	0.05	10.74	31.91	18.83	78.31
5. (1) + (2)	1.45	7.18	0.43	28.26	0.02	4.44	39.89	7.86	29.72
6. (1) + (3)	1.50	7.45	0.06	4.19	0.04	7.79	19.42	4.96	18.75
7. (1) + (4)	1.83	9.26	0.27	19.27	0.05	11.48	40.04	19.71	81.64
8. (2) + (3)	0.24	1.31	0.47	31.08	0.05	10.74	43.13	11.07	41.83
9. (2) + (4)	0.57	3.12	0.68	46.15	0.07	14.43	63.70	25.82	104.71
10. (3) + (4)	0.62	3.39	0.31	22.08	0.09	17.78	43.24	22.92	93.74
11. (5) + (3)	1.59	7.97	0.48	31.76	0.06	11.48	51.22	11.95	45.16
12. (5) + (4)	1.92	9.78	0.69	46.84	0.07	15.18	71.80	26.70	108.04
13. (6) + (4)	1.97	10.05	0.32	22.77	0.09	18.53	51.34	23.80	97.07
14. (8) + (4)	0.71	3.91	0.73	49.65	0.10	21.47	75.04	29.90	120.15
15. (5) + (10)	2.07	10.57	0.74	50.34	0.11	22.22	83.13	30.78	123.47

Table A6. (Continued)

Policy	Savings on pre-subsidy input (A) baht	Gains on pre-subsidy output (B) baht	Total benefit TB = $\Delta R + A + B$ (baht)	Net benefit TB - ΔC (baht)	Government subsidy (baht)	Net Imp act of policy	Cost effectiveness (baht)
1. 10% $\downarrow P_F$	9.18	-	12.51	4.41	9.92	-5.51	-55.52
2. 10% $\downarrow P_W$	44.69	-	71.09	39.30	44.76	-5.46	-12.20
3. 10% $\downarrow P_M$	21.44	-	36.89	25.54	21.51	4.02	+18.70
4. 10% $\uparrow P_Y$	-	227.60	305.91	274.00	234.72	39.28	+16.74
5. (1) + (2)	53.88	-	83.60	43.72	54.68	-10.97	-20.06
6. (1) + (3)	30.62	-	49.38	29.95	31.44	-1.49	-4.73
7. (1) + (4)	9.18	227.60	318.42	278.42	244.98	33.44	+13.65
8. (2) + (3)	66.13	-	107.96	64.84	66.27	-1.44	-2.17
9. (2) + (4)	44.69	227.60	377.08	313.30	282.12	31.18	+11.05
10. (3) + (4)	21.44	227.60	342.78	299.54	257.78	41.76	+16.20
11. (5) + (3)	75.31	-	120.47	69.25	76.20	-6.95	-9.12
12. (5) + (4)	53.88	227.60	389.52	317.72	292.38	25.34	+8.67
13. (6) + (4)	30.62	227.60	355.29	303.95	268.03	35.92	+13.40
14. (8) + (4)	66.13	227.60	413.88	338.84	305.18	33.66	+11.03
15. (5) + (10)	75.31	227.60	426.38	343.25	315.43	27.82	+8.82

Source: Computed

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