

Appendix 1. Labor availability per family during peak season (April-May)

Group No.	Labor availability (mandays)									
	year1	year2	year3	year4	year5	year6	year7	year8	year9	year10
2	119.6	119.6	119.6	135.2	109.2	135.2	135.2	156	145.6	145.6
3	187.2	187.2	187.2	187.2	187.2	187.2	187.2	135.2	135.2	135.2
4	145.6	145.6	145.6	145.6	187.2	187.2	187.2	187.2	187.2	187.2
5	93.6	93.6	93.6	145.6	187.2	187.2	187.2	187.2	187.2	145.6
6	140.4	140.4	156	156	156	156	145.6	145.6	145.6	145.6
7	114.4	114.4	135.2	135.2	145.6	145.6	145.6	145.6	145.6	145.6
8	93.6	145.6	145.6	145.6	145.6	145.6	166.4	166.4	166.4	166.4
9	93.6	93.6	93.6	93.6	93.6	145.6	145.6	145.6	145.6	187.2
10	93.6	93.6	93.6	93.6	93.6	93.6	93.6	93.6	93.6	93.6
11	93.6	93.6	93.6	93.6	93.6	93.6	93.6	93.6	145.6	145.6
13	119.6	119.6	161.2	161.2	166.4	166.4	166.4	166.4	166.4	166.4
14	145.6	192.4	192.4	192.4	192.4	192.4	192.4	192.4	192.4	192.4
16	197.6	197.6	197.6	145.6	145.6	145.6	145.6	145.6	145.6	145.6
17	124.8	124.8	124.8	124.8	124.8	166.4	166.4	166.4	166.4	166.4
18	239.2	239.2	239.2	249.6	249.6	249.6	197.6	197.6	145.6	145.6
19	145.6	145.6	197.6	197.6	239.2	239.2	239.2	239.2	239.2	239.2
20	187.2	187.2	187.2	187.2	187.2	187.2	187.2	187.2	187.2	187.2
22	145.6	145.6	197.6	197.6	249.6	249.6	197.6	197.6	197.6	197.6

Group No.	Labor availability (mandays)									
	year11	year12	year13	year14	year15	year16	year17	year18	year19	year20
2	145.6	166.4	166.4	166.4	166.4	156	156	156	156	156
3	135.2	135.2	135.2	135.2	187.2	187.2	187.2	187.2	187.2	187.2
4	187.2	187.2	187.2	187.2	187.2	187.2	187.2	187.2	187.2	187.2
5	145.6	145.6	187.2	187.2	187.2	187.2	187.2	187.2	187.2	187.2
6	145.6	145.6	145.6	145.6	145.6	166.4	166.4	166.4	166.4	166.4
7	145.6	145.6	156	176.8	176.8	176.8	176.8	166.4	166.4	166.4
8	166.4	187.2	187.2	166.4	166.4	166.4	166.4	166.4	182	182
9	187.2	187.2	145.6	145.6	145.6	145.6	145.6	145.6	145.6	145.6
10	93.6	93.6	145.6	145.6	145.6	145.6	145.6	145.6	145.6	145.6
11	145.6	187.2	187.2	187.2	187.2	187.2	187.2	187.2	187.2	187.2
13	166.4	166.4	166.4	166.4	166.4	166.4	166.4	166.4	166.4	166.4
14	192.4	192.4	192.4	192.4	166.4	166.4	166.4	166.4	166.4	166.4
16	187.2	187.2	187.2	187.2	187.2	187.2	187.2	187.2	187.2	187.2
17	228.8	228.8	228.8	228.8	228.8	208	208	208	208	208
18	145.6	145.6	187.2	187.2	187.2	187.2	187.2	187.2	187.2	187.2
19	197.6	197.6	145.6	145.6	187.2	187.2	187.2	187.2	187.2	187.2
20	145.6	145.6	145.6	187.2	187.2	187.2	166.4	166.4	166.4	166.4
22	197.6	145.6	145.6	145.6	145.6	187.2	187.2	187.2	187.2	187.2

Appendix 2. Labor availability per family during off-season

Group No.	Labor availability (mandays)									
	year1	year2	year3	year4	year5	year6	year7	year8	year9	year10
2	455.4	455.4	455.4	514.8	415.8	514.8	514.8	594	554.4	554.4
3	712.8	712.8	712.8	712.8	712.8	712.8	712.8	514.8	514.8	514.8
4	554.4	554.4	554.4	554.4	712.8	712.8	712.8	712.8	712.8	712.8
5	356.4	356.4	356.4	554.4	712.8	712.8	712.8	712.8	712.8	554.4
6	534.6	534.6	594	594	594	594	554.4	554.4	554.4	554.4
7	435.6	435.6	514.8	514.8	554.4	554.4	554.4	554.4	554.4	554.4
8	356.4	554.4	554.4	554.4	554.4	554.4	633.6	633.6	633.6	633.6
9	356.4	356.4	356.4	356.4	356.4	554.4	554.4	554.4	554.4	712.8
10	356.4	356.4	356.4	356.4	356.4	356.4	356.4	356.4	356.4	356.4
11	356.4	356.4	356.4	356.4	356.4	356.4	356.4	356.4	554.4	554.4
13	455.4	455.4	613.8	613.8	633.6	633.6	633.6	633.6	633.6	633.6
14	554.4	732.6	732.6	732.6	732.6	732.6	732.6	732.6	732.6	732.6
16	752.4	752.4	752.4	554.4	554.4	554.4	554.4	554.4	554.4	554.4
17	475.2	475.2	475.2	475.2	475.2	633.6	633.6	633.6	633.6	633.6
18	810.8	810.8	810.8	950.4	950.4	950.4	752.4	752.4	554.4	554.4
19	554.4	554.4	752.4	752.4	910.8	910.8	910.8	910.8	910.8	910.8
20	712.8	712.8	712.8	712.8	712.8	712.8	712.8	712.8	712.8	712.8
22	554.4	554.4	752.4	752.4	950.4	950.4	752.4	752.4	752.4	752.4

Group No.	Labor availability (mandays)									
	year11	year12	year13	year14	year15	year16	year17	year18	year19	year20
2	554.4	633.6	633.6	633.6	633.6	594	594	594	594	594
3	514.8	514.8	514.8	514.8	712.8	712.8	712.8	712.8	712.8	712.8
4	712.8	712.8	712.8	712.8	712.8	712.8	712.8	712.8	712.8	712.8
5	554.4	554.4	712.8	712.8	712.8	712.8	712.8	712.8	712.8	712.8
6	554.4	554.4	554.4	554.4	554.4	633.6	633.6	633.6	633.6	633.6
7	554.4	554.4	594	673.2	673.2	673.2	673.2	633.6	633.6	633.6
8	633.6	712.8	712.8	633.6	633.6	633.6	633.6	633.6	693	693
9	712.8	712.8	554.4	554.4	554.4	554.4	554.4	554.4	554.4	554.4
10	356.4	356.4	554.4	554.4	554.4	554.4	554.4	554.4	554.4	554.4
11	554.4	712.8	712.8	712.8	712.8	712.8	712.8	712.8	712.8	712.8
13	633.6	633.6	633.6	633.6	633.6	633.6	633.6	633.6	633.6	633.6
14	732.6	732.6	732.6	732.6	633.6	633.6	633.6	633.6	633.6	633.6
16	712.8	712.8	712.8	712.8	712.8	712.8	712.8	712.8	712.8	712.8
17	871.2	871.2	871.2	871.2	871.2	792	792	792	792	792
18	554.4	554.4	712.8	712.8	712.8	712.8	712.8	712.8	712.8	712.8
19	752.4	752.4	554.4	554.4	712.8	712.8	712.8	712.8	712.8	712.8
20	554.4	554.4	554.4	712.8	712.8	712.8	633.6	633.6	633.6	633.6
22	752.4	554.4	554.4	554.4	554.4	712.8	712.8	712.8	712.8	712.8

Appendix 3. Yield, labor use, input cost and gross income for coffee per rai

Age (year)	Labor use		Yield (kg beans)	Value (baht)	Input cost (baht)	Gross income (baht)	
	Total (mandays)	Peak season Other					
1	45.20	35.00	10.20	0	0	2383.50	-2383.50
2	27.00	3.00	24.00	0	0	197.5	-197.50
3	24.30	3.00	21.30	44.95	1887.90	161.57	1726.33
4	21.33	3.00	18.33	47.50	1995.00	136.00	1859.00
5	21.88	3.00	18.88	57.14	2399.88	127.33	2272.55
6	22.99	3.00	19.99	60.00	2520.00	195.00	2325.00
7	23.40	3.00	20.40	62.50	2625.00	178.00	2447.00
8	19.61*	3.00	16.61	59.68*	2506.56	172.42*	2334.14
9	18.89*	3.00	15.89	58.48*	2456.16	166.84*	2289.32
10	18.86	3.00	15.86	57.14	2339.88	161.26	2238.62
11	17.66	3.00	14.66	37.50	1575.00	119.33	1455.67
12	16.95	3.00	13.95	37.00	1554.00	182.00	1372.00
13	16.80*	3.00	13.80	35.78*	1502.76	163.05*	1339.71
14	16.41*	3.00	13.41	34.56*	1451.52	144.10*	1307.42
15	16.48	3.00	13.48	33.33	1399.86	125.14	1274.72
16	15.68	3.00	12.68	32.86	1380.12	118.33	1261.79
17	15.42*	3.00	12.42	31.94*	1341.48	116.71*	1224.77
18	15.14*	3.00	12.14	31.02*	1302.84	115.00*	1187.84
19	14.88*	3.00	11.88	30.10*	1264.20	113.46*	1150.74
20	14.75	3.00	11.75	29.17	1225.14	111.83	1113.31

* estimation

price : 42 baht/kg beans

Gross income= Value - Input cost

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Appendix 4. Yield, labor use, input cost and gross income for tea per rai

Age (year)	Labor use		Yield (kg fresh leaves)	Value (baht)	Input cost (baht)	Gross income (baht)
	Total	Peak season (mandays)				
1	59.00	11.00	48.00	0	0	1129.00 -1129.00
2	30.60	3.00	27.60	0	0	265.50 -265.50
3	26.60	3.00	23.60	99.38	695.66	119.58 576.08
4	17.60	3.00	14.60	156.66	1096.62	131.66 964.96
5	22.60	3.00	19.60	233.33	1633.31	141.33 1491.98
6	20.59	3.00	17.59	250.00	1750.00	159.00 1591.00
7	22.00	3.00	19.00	295.00	2065.00	191.00 1874.00
8	24.00	3.00	21.00	295.00	2065.00	190.50 1874.50
9	23.28	3.00	20.28	320.00	2240.00	188.00 2052.00
10	19.60	3.00	16.60	307.50	2152.50	182.50 1970.00
11	16.80	3.00	13.80	273.77	1916.39	180.00 1736.39
12	16.71*	3.00	13.71	263.49*	1844.43	177.96* 1666.47
13	16.62*	3.00	13.62	251.42*	1759.94	175.92* 1584.02
14	16.53*	3.00	13.53	238.53*	1669.71	173.88* 1495.83
15	16.45	3.00	13.45	218.18	1527.26	171.85 1355.41
16	14.65	3.00	11.65	195.45	1368.15	133.03 1235.12
17	13.30	3.00	10.30	200.00	1400.00	109.00 1291.00
18	12.86 *	3.00	9.86	191.84*	1342.88	107.95* 1234.93
19	12.42 *	3.00	9.42	183.20*	1282.40	106.90* 1175.50
20	11.97	3.00	8.97	185.71	1299.97	105.86 1194.11

* estimation

price : 7 baht/kg fresh leaves

Gross income = Value - Input cost

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Appendix 5. Yield, labor use, input cost and gross income for lychee per rai

Age (year)	Labor use			Yield (kg fruits)	Value (baht)	Input cost (baht)	Gross income (baht)
	Total	Peak season	Other				
	(mandays)						
1	47.20	34.20	13.00	0	0	840.00	-840.00
2	19.92	2.00	17.92	0	0	316.67	-316.67
3	15.22	2.00	13.22	0	0	283.33	-283.33
4	14.44	2.00	12.44	0	0	277.08	-277.08
5	13.73	2.00	11.73	0	0	277.08	-277.08
6	14.21	2.00	12.21	211.31	2113.10	254.46	1858.64
7	14.47	2.00	12.47	229.17	2291.70	277.08	2014.62
8	15.30	2.00	13.30	363.75	3637.50	287.50	3350.00
9	13.79	2.00	11.79	285.71	2857.10	273.21	2583.89
10	14.73	2.00	12.73	345.00	3450.00	345.00	3105.00
11	15.80	2.00	13.80	329.17	3291.70	385.16	2906.54
12	13.75	2.00	11.75	358.33	3583.30	382.92	3200.38
13	15.91	2.00	13.91	373.21	3732.10	372.32	3359.78
14	13.20	2.00	11.20	400.00	4000.00	364.77	3635.23
15	16.25	2.00	14.25	400.00	4000.00	375.00	3625.00
16	16.60*	2.00	14.60	435.24	4352.40*	385.00*	3967.40
17	16.95*	2.00	14.95	452.69	4526.90*	400.00*	4126.90
18	17.30*	2.00	15.30	469.80	4698.00*	415.00*	4283.00
19	17.65*	2.00	15.65	486.52	4865.20*	430.00*	4435.20
20	18.00*	2.00	16.00	503.00	5030.00*	445.00*	4585.00

* estimation
 price :15 baht/kg
 Gross income = Value - Input cost

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Appendix 6. Estimation of expenditure equation

Household No	EXP (baht)	FS (person)	INC (baht)	ADEQ (person)
1	12873	4	13339	2.98
2	10428	3	11514	2.08
3	10280	2	10974	1.90
4	11268	4	13015	2.15
5	10472	4	11204	2.15
6	10350	4	10858.50	2.43
7	13761	6	14320	2.95
8	12800	4	13547.50	3.28
9	11626	4	11992	3.48
10	13744	6	14083	3.42
11	16676	5	17191.50	3.96
12	14550	4	15215	3.28
13	11684	4	13272	2.65
14	17340	6	23786.50	4.66
15	16730	5	17840.50	4.24
16	11520	4	12227	2.42
17	9100	2	10143	1.90
18	9000	4	9233	2.85
19	9200	2	9446.50	1.90
20	17800	6	18889	4.31
21	9600	4	9798.50	2.47
22	8500	3	8756	2.07
23	13800	6	14041	4.56
24	15200	4	16647	2.93
25	13675	4	14920	2.42
26	14578	5	15600	3.71
27	9200	4	10550	2.25
28	9500	3	10733	2.58
29	12800	4	14661	3.18
30	15368	5	16420	3.93
31	15480	5	17150	3.68
32	15624	5	18751	3.91
33	13528	4	17024	3.48
34	10800	3	11864	2.50
35	18720	6	20295	4.88
36	13680	4	15228	3.28
37	13116	4	17187	2.43
38	15500	5	15600	4.18
39	11600	3	15736	2.33
40	10870	4	12137	2.47
41	14272	4	17169	3.28
42	19500	6	23352	4.55
43	12800	4	13231	2.43

Appendix 6. Continued

Household No	EXP (baht)	FS (person)	INC (baht)	ADEQ (person)
44	11800	4	12480	3.48
45	11750	3	12776	2.25
46	11100	4	12480	3.48
47	22767	7	28800	5.36
48	14812	5	16080	3.88
49	12900	4	14883	3.18
50	12554	3	14378	2.58
51	17500	5	23687	4.18
52	15850	5	19028	3.66
53	13450	5	15283	3.53
54	25200	6	11060	4.65
55	12604	4	13760	3.20
56	15800	5	17593	3.55
57	14558	4	15743	3.65
58	17340	3	18959	2.88
59	11434	5	12155	3.33
60	25960	6	30744	5.24
61	24675	6	28738	4.58
62	11548	3	13489	2.88
63	14364	5	18700	4.16
64	16560	5	20809	3.66
65	9084	5	10547	3.53
66	10200	5	10534	4.16

** Constrained Estimates **
R - Squared..... .76386
Adjusted R - Squared..... .76386
F-Statistic (1, 65)..... 210.25512
Significance of F-Test..... .00000

Variable	Coefficient	Std. Error	T-ratio (Sig.Lvl)	Mean of X	Std.Dev.of X
ONE	296.210	.7057E-05*****	(.00000)	1.0000	.00000
FS	39.1000	.3716E-05*****	(.00000)	4.3788	1.0921
ADEQ	3162.18	.3229E-05*****	(.00000)	3.2809	.87395
INC	.201397	.6553E-02	30.733 (.00000)	15654	5119.9

EXP = Expenditure
FS = Family size
ADEQ = Adult equivalent
INC = Cash income

Appendix 7. Basic Needs (BNS) per family for each group of farmers

Group No.	Basic Needs (baht/family)									
	year1	year2	year3	year4	year5	year6	year7	year8	year9	year10
2	8705.90	8705.90	8705.90	8737.52	8737.52	8737.52	9654.55	9654.55	9635.00	10615.28
3	13670.52	13733.77	13733.77	13733.77	13733.77	11836.46	11836.46	11797.36	12334.93	12334.93
4	10508.34	11457.00	11457.00	11457.00	11773.21	11773.21	11836.46	11836.46	11836.46	12468.89
5	11970.42	13013.94	13646.38	13709.62	13986.74	12089.43	12089.43	9875.91	9875.91	11836.46
6	11761.14	11887.63	9737.35	9559.69	9559.69	9559.69	9508.52	9508.52	9603.38	9603.38
7	10539.96	10539.96	10539.96	10077.71	9129.06	9476.89	8370.13	9900.05	9046.26	9046.26
8	10223.75	10571.59	11488.62	11488.62	11520.24	10539.96	10698.07	10698.07	10698.07	10729.70
9	8832.39	9875.91	9875.91	9875.91	9875.91	10508.34	11457.00	11457.00	10824.56	10824.56
10	8097.61	8097.61	8097.61	8097.61	8097.61	8097.61	8097.61	8097.61	8097.61	9836.81
11	8136.71	8263.19	8832.39	8832.39	9622.93	9875.91	9875.91	9875.91	10508.34	11457.00
13	10160.50	10160.50	10160.50	10666.45	10666.45	10698.07	11172.40	11172.40	11172.40	11330.51
14	12800.24	12590.79	12571.24	13361.78	14089.08	14132.78	14543.86	13626.83	13690.07	13670.52
16	16013.59	14974.49	14935.39	12682.77	9520.59	9583.83	9583.83	9583.83	9583.83	9583.83
17	7781.39	7781.39	7781.39	7781.39	7781.39	7820.49	10666.45	11204.02	11204.02	11243.12
18	17100.63	17100.63	18112.53	15859.90	15859.90	15923.15	12721.87	12785.11	12785.11	12746.01
19	12697.72	13646.38	13646.38	14595.03	14595.03	14911.25	14974.49	14974.49	15037.74	12824.21
20	15899.00	15962.25	15962.25	15329.81	15329.81	12405.65	12405.65	12405.65	12468.89	12468.89
22	13899.35	13899.35	14911.25	14911.25	15859.90	15859.90	12658.62	12721.87	12721.87	12785.11

Group No.	Basic Needs (baht/family)									
	year11	year12	year13	year14	year15	year16	year17	year18	year19	year20
2	10267.44	10318.61	10318.61	10318.61	10982.67	10982.67	12057.81	12342.41	12342.41	12342.41
3	12334.93	12334.93	12334.93	12374.03	12943.22	12943.22	12943.22	12943.22	12943.22	12943.22
4	12429.79	12468.89	13006.46	13006.46	13006.46	13006.46	13006.46	13006.46	13575.66	13575.66
5	10192.12	11140.78	11140.78	11140.78	11457.00	11457.00	11520.24	11520.24	11520.24	11520.24
6	9603.38	9603.38	9603.38	9907.53	11330.51	10698.07	10698.07	10698.07	10698.07	10698.07
7	8350.58	8350.58	9793.11	10065.64	9591.31	10097.26	10097.26	10097.26	10097.26	10097.26
8	11382.13	9622.93	9622.93	9717.80	11045.91	11026.36	11026.36	11267.27	11773.21	11773.21
9	10824.56	11773.21	11797.36	11797.36	11836.46	11836.46	12334.93	12334.93	12429.79	12429.79
10	9836.81	9836.81	9836.81	9836.81	9836.81	11101.68	11101.68	11101.68	11101.68	11101.68
11	11457.00	11457.00	11773.21	11773.21	11836.46	11836.46	11836.46	11836.46	12374.03	12374.03
13	11330.51	11836.46	12374.03	12374.03	12354.48	12690.25	12690.25	12690.25	12690.25	12753.49
14	12437.27	12670.70	12670.70	12670.70	13239.89	13239.89	13239.89	13081.78	13081.78	13081.78
16	12429.79	12429.79	12468.89	12468.89	11773.21	11773.21	11773.21	11773.21	11773.21	11773.21
17	9187.71	9187.71	10294.47	10294.47	10294.47	10294.47	10294.47	10294.47	12033.67	12033.67
18	12967.36	12967.36	12967.36	13006.46	13006.46	13006.46	13891.88	13891.88	13891.88	13891.88
19	12785.11	12785.11	12429.79	12967.36	13006.46	13006.46	13006.46	13006.46	13006.46	13480.79
20	11164.92	11164.92	11164.92	11204.02	11204.02	11204.02	12310.79	12310.79	12310.79	12310.79
22	12785.11	12967.36	12967.36	12967.36	12967.36	13006.46	13006.46	13480.79	13480.79	13480.79

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