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APPENDICES

APPENDIX A.

TAMBON TAK OK

Equations	SEE	R^2
1. $Y = -9.62 + 14.59X_1$ $(0.96)\ (8.40)$	24.51	0.58
2. $Y = -10.90 + 1.76X_1 + 14.81X_2$ $(1.20)\ (0.45)\ (3.59)$	22.07	0.67
3. $Y = -11.17 + 1.74X_1 + 14.58X_2 + 0.55X_3$ $(1.21)\ (0.44)\ (3.40)\ (0.22)$	22.28	0.67
4. $Y = -19.08 + 2.12X_1 + 12.05X_2 + 2.53X_3 + 0.0007X_4$ $(2.17)\ (0.59)\ (3.01)\ (1.07)\ (3.25)$	20.38	0.73
5. $Y = -15.12 + 2.45X_1 + 1.94X_2 + 10.80X_3 + 0.0008X_4 + 11.89X_5$ $(1.86)\ (0.74)\ (0.40)\ (3.21)\ (4.03)\ (3.21)$	18.66	0.78
6. $Y = -16.32 + 2.27X_1 + 1.91X_2 + 10.22X_3 + 0.0006X_4 + 11.62X_5$ $(2.03)\ (0.70)\ (0.40)\ (3.70)\ (2.87)\ (3.18)$ $+ 6.14X_6$ (1.63)	18.34	0.79
7. $Y = -16.32 + 2.27X_1 + 1.91X_2 + 10.22X_3 + 0.0006X_4 + 11.62X_5$ $(2.01)\ (0.68)\ (0.40)\ (2.94)\ (2.67)\ (3.15)$ $+ 6.15X_6 - 0.03X_7$ $(1.46)\ (0.01)$	18.54	0.79
8. $Y = -7.09 + 1.95X_1 + 6.85X_2 + 6.87X_3 + 9.44X_5$ $(0.78)\ (0.52)\ (1.28)\ (1.86)\ (2.25)$	21.41	0.70
9. $Y = -8.23 + 1.92X_1 + 12.93X_2 + 3.50X_5$ $(0.89)\ (0.50)\ (2.96)\ (1.25)$	21.94	0.68
10. $Y = -18.97 + 2.17X_1 + 12.41X_2 + 0.0005X_4 + 7.76X_6 - 2.66X_7$ $(2.21)\ (0.60)\ (3.17)\ (1.97)\ (1.75)\ (0.40)$	20.18	0.74
11. $Y = -13.37 + 1.79X_1 + 11.45X_2 + 3.57X_5 + 10.83X_6$ $(1.52)\ (0.50)\ (2.79)\ (1.37)\ (2.92)$	20.43	0.73
12. $Y = -5.06 + 11.94X_1 + 6.34X_5$ $(0.51)\ (5.83)\ (2.25)$	23.59	0.62

The "t" value associated with the variables are shown in parentheses.

Equations	SEE	R^2
13. $Y = -11.22 + 10.51X_1 + 6.05X_5 + 12.11X_6$ $(1.20)\ (5.40)\ (2.32)\ (3.08)$	21.80	0.68
14. $Y = -13.08 - 14.08X_2 + 0.0006X_4 + 2.72X_5$ $(1.56)\ (7.06)\ (2.96)\ (1.05)$	20.26	0.72
15. $Y = -9.51 + 16.52X_2$ $(1.13)\ (10.07)$	21.90	0.67
16. $Y = -15.73 + 13.00X_1 + 12.44X_6$ $(1.65)\ (7.67)\ (3.04)$	22.74	0.65
17. $Y = -15.69 + 12.98X_1 + 12.72X_6 - 0.75X_7$ $(1.63)\ (7.53)\ (2.63)\ (0.11)$	22.97	0.65
18. $Y = -16.23 + 1.44X_1 + 13.69X_2 + 9.66X_6 + 2.96X_7$ $(1.86)\ (0.39)\ (3.45)\ (2.16)\ (0.47)$	20.78	0.72
19. $Y = -6.74 + 14.82X_2 + 3.45X_5$ $(0.78)\ (6.97)\ (1.25)$	21.78	0.68
20. $Y = -16.08 + 1.63X_1 + 13.37X_2 + 10.79X_6$ $(1.86)\ (0.45)\ (3.44)\ (2.88)$	20.61	0.72
21. $Y = -17.02 + 13.53X_1 + 0.0007X_4$ $(1.79)\ (8.30)\ (3.22)$	22.53	0.65
22. $Y = -18.89 + 12.80X_1 + 0.0005X_4 + 8.15X_6$ $(2.02)\ (7.79)\ (2.08)\ (1.82)$	22.02	0.67
23. $Y = -12.63 + 11.41X_1 + 0.0007X_4 + 5.28X_5$ $(1.33)\ (5.98)\ (3.02)\ (2.00)$	21.88	0.68
24. $Y = -17.23 + 2.18X_1 + 13.27X_2 + 0.0006X_4$ $(2.00)\ (0.60)\ (3.45)\ (3.07)$	20.41	0.72
25. $Y = -5.58 + 8.77X_2 + 6.86X_3 + 9.39X_5$ $(0.66)\ (2.28)\ (1.87)\ (2.25)$	21.25	0.70
26. $Y = -17.26 + 14.67X_2 + 0.0005X_4 + 7.16X_6$ $(2.17)\ (9.26)\ (2.00)\ (1.77)$	19.86	0.74
27. $Y = -18.85 + 1.97X_1 + 12.76X_2 + 0.0005X_4 + 7.09X_6$ $(2.22)\ (0.56)\ (3.37)\ (2.01)\ (1.74)$	20.00	0.74

APPENDIX B.

TAMBON MAE SALIT

Equations	SEE	R^2
1. $Y = 8.99 + 9.32X_1$ $\quad (0.91)\ (5.80)_1$	22.16	0.41
2. $Y = 11.10 + 1.13X_1 + 9.34X_2$ $\quad (1.19)\ (0.33)_1\ (2.69)_2$	20.85	0.49
3. $Y = 16.82 + 0.57X_1 + 15.85X_2 - 9.82X_3$ $\quad (1.95)\ (0.18)_1\ (4.24)_2\ (3.28)_3$	18.97	0.59
4. $Y = 5.12 + 2.67X_1 + 12.46X_2 - 7.18X_3 + 0.0011X_4$ $\quad (0.51)\ (0.85)_1\ (3.16)_2\ (2.29)_3\ (2.12)_4$	18.29	0.62
5. $Y = 1.84 + 2.17X_1 + 1.19X_2 + 5.69X_3 + 0.0012X_4 + 14.76X_5$ $\quad (0.21)\ (0.78)_1\ (0.26)_2\ (1.29)_3\ (2.49)_4\ (3.76)_5$	16.09	0.72
6. $Y = 2.58 + 2.02X_1 + 1.24X_2 + 5.49X_3 + 0.0011X_4 + 14.74X_5$ $\quad (0.29)\ (0.72)_1\ (0.27)_2\ (1.24)_3\ (2.19)_4\ (3.73)_5$ $\quad + 2.14X_6$ $\quad\ (0.55)_6$	16.22	0.72
7. $Y = 2.61 + 2.15X_1 + 1.14X_2 + 5.50X_3 + 0.0009X_4 + 14.85X_5$ $\quad (0.29)\ (0.76)_1\ (0.25)_2\ (1.23)_3\ (1.62)_4\ (3.72)_5$ $\quad + 2.06X_6 + 5.29X_7$ $\quad\ (0.52)_6\ (0.56)_7$	16.35	0.72
8. $Y = 13.95 + 0.02X_1 + 4.84X_2 + 2.80X_3 + 14.57X_5$ $\quad (1.80)\ (0.01)_1\ (1.06)_2\ (0.63)_3\ (3.52)_5$	16.99	0.68
9. $Y = 14.94 + 0.04X_1 + 7.07X_2 + 12.94X_5$ $\quad (1.98)\ (0.01)_1\ (2.48)_2\ (5.07)_5$	16.88	0.67
10. $Y = -3.15 + 3.91X_1 + 6.91X_2 + 0.0015X_4 + 1.08X_6 + 2.38X_7$ $\quad (0.32)\ (1.17)_1\ (2.06)_2\ (2.39)_4\ (0.23)_6\ (0.21)_7$	19.52	0.58
11. $Y = 14.71 + 0.03X_1 + 6.63X_2 + 12.46X_5 + 4.70X_6$ $\quad (1.96)\ (0.01)_1\ (2.32)_2\ (5.09)_5\ (1.21)_6$	16.79	0.68
12. $Y = 13.68 + 6.00X_1 + 13.45X_5$ $\quad (1.72)\ (4.18)_1\ (5.25)_5$	17.77	0.63

The "t" value associated with the variables are shown in parentheses.

Equations	SEE	R^2
13. $Y = 13.49 + 5.53X_1 + 13.34X_5 + 5.85X_6$ $\quad (1.72) \quad (3.80)_1 \quad (5.27)_5 \quad (1.45)_6$	17.57	0.65
14. $Y = 8.67 + 7.59X_2 + 0.0009X_4 + 11.09X_5$ $\quad (1.25) \quad (5.57)_2 \quad (2.11)_4 \quad (4.55)_5$	16.11	0.70
15. $Y = 12.62 + 10.37X_2$ $\quad (1.58) \quad (6.77)_2$	20.66	0.49
16. $Y = 8.83 + 8.76X_1 + 6.50X_6$ $\quad (0.90) \quad (5.30)_1 \quad (1.29)_6$	22.01	0.43
17. $Y = 4.00 + 9.43X_1 + 4.65X_6 + 19.30X_7$ $\quad (0.40) \quad (5.70)_1 \quad (0.93)_6 \quad (1.84)_7$	21.47	0.47
18. $Y = 6.71 + 2.35X_1 + 8.08X_2 + 3.52X_6 + 15.91X_7$ $\quad (0.70) \quad (0.68)_1 \quad (2.32)_2 \quad (0.73)_6 \quad (1.57)_7$	20.52	0.53
19. $Y = 10.87 + 1.12X_1 + 8.87X_2 + 4.90X_6$ $\quad (1.17) \quad (0.33)_1 \quad (2.53)_2 \quad (1.02)_6$	20.84	0.50
20. $Y = -7.13 + 10.15X_1 + 0.0018X_4$ $\quad (0.72) \quad (6.97)_1 \quad (3.60)_4$	19.82	0.54
21. $Y = -6.65 + 9.97X_1 + 0.0018X_4 + 1.79X_5$ $\quad (0.66) \quad (6.45)_1 \quad (3.30)_4 \quad (0.37)_5$	20.01	0.54
22. $Y = 2.64 + 7.07X_1 + 0.0011X_4 + 11.28X_5$ $\quad (0.31) \quad (4.98)_1 \quad (2.56)_4 \quad (4.39)_5$	16.81	0.68
23. $Y = 2.99 + 10.55X_2 + 0.0014X_4$ $\quad (0.37) \quad (7.41)_2 \quad (2.92)_4$	19.20	0.57
24. $Y = -3.41 + 3.91X_1 + 7.00X_2 + 0.0016X_4$ $\quad (0.35) \quad (1.20)_1 \quad (2.14)_2 \quad (3.15)_4$	19.11	0.58
25. $Y = 13.97 + 4.85X_2 + 2.80X_3 + 14.57X_5$ $\quad (2.08) \quad (1.27)_2 \quad (0.63)_3 \quad (3.56)_5$	16.80	0.67
26. $Y = 3.22 + 10.39X_2 + 0.0014X_4 + 1.56X_6$ $\quad (0.39) \quad (6.87)_2 \quad (2.70)_4 \quad (0.34)_6$	19.39	0.57
27. $Y = -3.13 + 3.84X_1 + 6.94X_2 + 0.0016X_4 + 1.12X_6$ $\quad (0.32) \quad (1.17)_1 \quad (2.09)_2 \quad (2.93)_4 \quad (0.24)_6$	19.31	0.58

APPENDIX C.

TAMBON SAMO KHON

Equations	SEE	R^2
1. $Y = 1.33 + 10.88X_1$ $(0.20)\ (8.73)$	19.31	0.58
2. $Y = 3.72 - 1.33X_1 + 13.60X_2$ $(0.71)\ (0.56)\ (5.73)$	15.42	0.74
3. $Y = 4.27 + 0.24X_1 + 15.13X_2 - 5.54X_3$ $(0.87)\ (0.10)\ (6.64)\ (2.96)$	14.43	0.77
4. $Y = 3.80 + 0.23X_1 + 14.96X_2 - 5.49X_3 + 0.0001X_4$ $(0.76)\ (0.10)\ (6.45)\ (2.91)\ (0.49)$	14.53	0.77
5. $Y = 6.21 + 0.02X_1 + 7.62X_2 + 1.55X_3 + 0.0001X_4 + 8.32X_5$ $(1.27)\ (0.01)\ (2.05)\ (0.46)\ (0.84)\ (2.47)$	13.88	0.80
6. $Y = 5.99 - 0.41X_1 + 7.20X_2 + 2.04X_3 + 0.0001X_4 + 8.16X_5$ $(1.23)\ (0.19)\ (1.94)\ (0.60)\ (0.90)\ (2.43)$ $+ 3.69X_6$ (1.25)	13.81	0.80
7. $Y = 6.28 - 0.41X_1 + 6.75X_2 + 2.72X_3 + 0.0001X_4 + 8.46X_5$ $(1.28)\ (0.18)\ (1.78)\ (0.77)\ (0.36)\ (2.49)$ $+ 3.73X_6 + 7.19X_7$ $(1.25)\ (0.67)$	13.88	0.80
8. $Y = 6.86 + 0.05X_1 + 8.23X_2 + 1.14X_3 + 7.93X_5$ $(1.42)\ (0.02)\ (2.27)\ (0.34)\ (2.38)$	13.84	0.79
9. $Y = 6.58 + 0.16X_1 + 9.16X_2 + 6.97X_5$ $(1.40)\ (0.08)\ (3.82)\ (3.92)$	13.73	0.79
10. $Y = 3.38 - 1.52X_1 + 12.71X_2 - 0.00001X_4 + 5.77X_6 + 11.81X_7$ $(0.65)\ (0.65)\ (5.36)\ (0.05)\ (1.84)\ (1.08)$	15.11	0.76
11. $Y = 6.31 - 0.19X_1 + 9.15X_2 + 6.45X_5 + 3.42X_6$ $(1.34)\ (0.09)\ (3.83)\ (3.53)\ (1.17)$	13.68	0.80
12. $Y = 6.65 + 7.23X_1 + 10.18X_5$ $(1.26)\ (6.17)\ (5.82)$	15.33	0.74

The "t" value associated with the variables are shown in parentheses.

Equations	SEE	R^2
13. $Y = 6.38 + 6.86X_1 + 9.65X_5 + 3.46X_6$ $(1.21)\ (5.62)_1\ (5.30)_5\ (1.06)_6$	15.31	0.74
14. $Y = 6.05 + 9.07X_2 + 0.0001X_4 + 6.98X_5$ $(1.40)\ (7.46)_2\ (0.79)_4\ (4.01)_5$	13.65	0.80
15. $Y = 2.36 + 12.39X_2$ $(0.51)\ (12.41)_2$	15.32	0.73
16. $Y = 1.35 + 9.55X_1 + 8.25X_6$ $(0.21)\ (7.04)_1\ (2.15)_6$	18.71	0.61
17. $Y = 1.00 + 9.49X_1 + 7.95X_6 + 16.43X_7$ $(0.16)\ (7.07)_1\ (2.09)_6\ (1.49)_7$	18.51	0.62
18. $Y = 3.33 - 1.52X_1 + 12.70X_2 + 5.78X_6 + 11.51X_7$ $(0.66)\ (0.66)_1\ (5.44)_2\ (1.87)_6\ (1.29)_7$	14.97	0.76
19. $Y = 3.63 - 1.75X_1 + 13.01X_2 + 5.93X_6$ $(0.71)\ (0.76)_1\ (5.56)_2\ (1.91)_6$	15.06	0.75
20. $Y = 0.02 + 10.47X_1 + 0.0003X_4$ $(0.00)\ (8.10)_1\ (1.12)_4$	19.27	0.59
21. $Y = 0.01 + 9.12X_1 + 0.0003X_4 + 8.31X_6$ $(0.00)\ (6.53)_1\ (1.19)_4\ (2.18)_6$	18.65	0.62
22. $Y = 5.52 + 6.93X_1 + 0.0002X_4 + 10.10X_5$ $(1.03)\ (5.79)_1\ (1.17)_4\ (5.78)_5$	15.28	0.74
23. $Y = 1.75 + 12.19X_2 + 0.0001X_4$ $(0.37)\ (11.56)_2\ (0.61)_4$	15.41	0.74
24. $Y = 3.11 - 1.32X_1 + 13.40X_2 + 0.0001X_4$ $(0.58)\ (0.56)_1\ (5.56)_2\ (0.61)_4$	15.51	0.74
25. $Y = 6.90 + 8.27X_2 + 1.15X_3 + 7.93X_5$ $(1.61)\ (2.59)_2\ (0.35)_3\ (2.41)_5$	13.71	0.79
26. $Y = 1.18 + 11.21X_2 + 0.0001X_4 + 5.77X_6$ $(0.25)\ (9.69)_2\ (0.69)_4\ (1.86)_6$	15.07	0.75
27. $Y = 2.95 - 1.75X_1 + 12.78X_2 + 0.0001X_4 + 6.00X_6$ $(0.57)\ (0.75)_1\ (5.38)_2\ (0.68)_4\ (1.92)_6$	15.13	0.75

APPENDIX D.

TAMBON KO TAPHAO

Equations	SEE	R^2
1. $Y = 13.02 + 9.37X_1$ $(1.89)\ (7.46)$	20.52	0.48
2. $Y = 8.11 - 3.33X_1 + 15.24X_2$ $(1.43)\ (1.34)\ (5.64)$	16.73	0.66
3. $Y = 12.68 - 3.81X_1 + 17.04X_2 - 3.37X_3$ $(1.93)\ (1.53)\ (5.68)\ (1.35)$	16.62	0.67
4. $Y = 8.78 - 4.79X_1 + 17.79X_2 - 3.76X_3 + 0.0005X_4$ $(1.37)\ (2.01)\ (6.23)\ (1.58)\ (2.77)$	15.75	0.71
5. $Y = 6.52 - 5.61X_1 + 1.37X_2 + 14.40X_3 + 0.0005X_4 + 20.05X_5$ $(1.24)\ (2.86)\ (0.36)\ (3.69)\ (3.44)\ (5.38)$	12.94	0.81
6. $Y = 6.41 - 5.60X_1 - 1.38X_2 + 14.38X_3 + 0.0005X_4 + 20.00X_5$ $(1.15)\ (2.81)\ (0.36)\ (3.65)\ (3.32)\ (5.22)$ $+ 0.17X_6$ (0.06)	13.06	0.81
7. $Y = 8.08 - 5.65X_1 + 2.25X_2 + 13.50X_3 + 0.0003X_4 + 19.22X_5$ $(1.47)\ (2.90)\ (0.59)\ (3.48)\ (1.59)\ (5.10)$ $- 0.98X_6 + 7.16X_7$ $(0.36)\ (1.89)$	12.77	0.82
8. $Y = 10.51 - 4.60X_1 + 0.75X_2 + 14.64X_3 + 19.88X_5$ $(1.88)\ (2.18)\ (0.18)\ (3.45)\ (4.89)$	14.10	0.77
9. $Y = 16.77 - 4.64X_1 + 12.64X_2 + 7.74X_5$ $(2.91)\ (2.02)\ (4.89)\ (3.51)$	15.35	0.72
10. $Y = 3.89 - 4.11X_1 + 15.72X_2 + 0.0002X_4 + 2.27X_6 + 8.91X_7$ $(0.68)\ (1.77)\ (6.23)\ (0.80)\ (0.70)\ (1.95)$	15.53	0.72
11. $Y = 14.77 - 4.48X_1 + 12.68X_2 + 7.26X_5 + 2.74X_6$ $(2.37)\ (1.94)\ (4.89)\ (3.19)\ (0.87)$	15.38	0.72
12. $Y = 23.94 + 4.52X_1 + 10.82X_5$ $(3.65)\ (2.88)\ (4.35)$	18.04	0.60

The "t" value associated with the variables are shown in parentheses.

Equations	SEE	R^2
13. $Y = 22.15 \div 4.69X_1 + 10.39X_5 + 2.48X_6$ $(3.11)\ (2.93)\ (4.03)\ (0.67)$	18.12	0.61
14. $Y = 9.16 + 7.95X_2 + 0.0005X_4 + 7.21X_5$ $(1.63)\ (5.39)\ (2.69)\ (3.39)$	14.98	0.73
15. $Y = 6.28 + 11.93X_2$ $(1.13)\ (10.59)$	16.84	0.65
16. $Y = 9.61 + 9.32X_1 + 6.22X_6$ $(1.34)\ (7.50)\ (1.54)$	20.30	0.50
17. $Y = 9.58 + 9.14X_1 + 3.81X_6 + 9.27X_7$ $(1.37)\ (7.51)\ (0.92)\ (1.99)$	19.81	0.53
18. $Y = 5.14 - 3.90X_1 + 15.61X_2 + 2.27X_6 + 11.09X_7$ $(0.93)\ (1.69)\ (6.21)\ (0.70)\ (3.04)$	15.48	0.72
19. $Y = 5.34 - 3.17X_1 + 15.00X_2 + 5.20X_6$ $(0.91)\ (1.30)\ (5.61)\ (1.58)$	16.53	0.67
20. $Y = 9.63 \div 8.99X_1 + 0.0004X_4$ $(1.37)\ (7.16)\ (1.73)$	20.20	0.50
21. $Y = 7.27 + 9.00X_1 + 0.0004X_4 + 5.14X_6$ $(1.00)\ (7.20)\ (1.48)\ (1.26)$	20.10	0.51
22. $Y = 20.39 + 3.87X_1 + 0.0005X_4 + 11.25X_5$ $(3.14)\ (2.52)\ (2.36)\ (4.68)$	17.39	0.64
23. $Y = 1.97 + 11.59X_2 + 0.0005X_4$ $(0.35)\ (10.59)\ (2.38)$	16.24	0.68
24. $Y = 3.84 - 4.22X_1 + 15.76X_2 + 0.0005X_4$ $(0.68)\ (1.77)\ (6.10)\ (2.65)$	15.95	0.69
25. $Y = 7.22 - 3.51X_2 + 14.69X_3 + 19.21X_5$ $(1.30)\ (0.92)\ (3.36)\ (4.60)$	14.54	0.75
26. $Y = 0.24 + 11.56X_2 + 0.0004X_4 + 4.14X_6$ $(0.04)\ (10.61)\ (2.13)\ (1.27)$	16.15	0.69
27. $Y = 2.18 - 4.04X_1 + 15.54X_2 + 0.0005X_4 + 3.77X_6$ $(0.38)\ (1.69)\ (6.02)\ (2.39)\ (1.17)$	15.90	0.70

APPENDIX E.

TAMBON TAK TOK

Equations	SEE	R^2
1. $Y = 0.07 + 10.89X_1$ $(0.01)\ (8.93)_1$	23.23	0.56
2. $Y = -4.80 - 1.07X_1 + 14.54X_2$ $(0.76)\ (0.34)_1\ (4.10)_2$	20.77	0.65
3. $Y = -4.27 - 0.12X_1 + 14.24X_2 - 1.63X_3$ $(0.67)\ (0.03)_1\ (3.98)_2\ (0.79)_3$	20.83	0.66
4. $Y = -10.23 + 0.55X_1 + 13.43X_2 - 1.63X_3 + 0.0003X_4$ $(1.51)\ (0.17)_1\ (3.84)_2\ (0.82)_3\ (2.16)_4$	20.23	0.68
5. $Y = -3.82 - 0.84X_1 + 7.28X_2 + 3.81X_3 + 0.0004X_4 + 10.74X_5$ $(0.60)\ (0.28)_1\ (2.02)_2\ (1.62)_3\ (2.85)_4\ (3.64)_5$	18.44	0.74
6. $Y = -2.73 - 1.11X_1 + 7.47X_2 + 3.94X_3 + 0.0004X_4 + 11.03X_5$ $(0.38)\ (0.36)_1\ (2.03)_2\ (1.64)_3\ (2.84)_4\ (3.57)_5$ $\quad - 1.37X_6$ $\quad (0.34)_6$	18.58	0.74
7. $Y = -1.83 + 0.05X_1 + 6.34X_2 + 3.24X_3 + 0.0003X_4 + 10.54X_5$ $(0.25)\ (0.02)_1\ (1.67)_2\ (1.31)_3\ (1.98)_4\ (3.39)_5$ $\quad - 1.09X_6 + 5.17X_7$ $\quad (0.27)_6\ (1.13)_7$	18.53	0.75
8. $Y = 2.60 - 1.48X_1 + 8.92X_2 + 3.21X_3 + 9.56X_5$ $(0.41)\ (0.47)_1\ (2.37)_2\ (1.30)_3\ (3.09)_5$	19.50	0.70
9. $Y = 1.40 + 0.01X_1 + 9.97X_2 + 7.02X_5$ $(0.22)\ (0.00)_1\ (2.70)_2\ (2.92)_5$	19.61	0.70
10. $Y = -11.15 + 1.02X_1 + 11.55X_2 + 0.0002X_4 + 2.75X_6 + 6.12X_7$ $(1.51)\ (0.32)_1\ (3.02)_2\ (1.36)_4\ (0.65)_6\ (1.27)_7$	20.18	0.69
11. $Y = 1.43 + 0.01X_1 + 9.98X_2 + 7.02X_5 + 0.03X_6$ $(0.20)\ (0.00)_1\ (2.62)_2\ (2.82)_5\ (0.01)_6$	19.78	0.70
12. $Y = 6.57 + 7.16X_1 + 9.77X_5$ $(1.04)\ (5.15)_1\ (4.27)_5$	20.58	0.66

The "t" value associated with the variables are shown in parentheses.

Equations	SEE	R^2

13. $Y = 4.70 + 7.23X_1 + 9.39X_5 + 2.14X_6$
$\quad (0.63)\ (5.15)_1\ (3.87)_5\ (0.49)_6$ — SEE 20.71, R^2 0.66

14. $Y = -4.66 + 9.59X_2 + 0.0003X_4 + 7.60X_5$
$\quad (0.73)\ (6.11)_2\ (2.69)_4\ (3.35)_5$ — SEE 18.55, R^2 0.73

15. $Y = -5.09 + 13.40X_2$
$\quad (0.82)\ (10.87)_2$ — SEE 20.62, R^2 0.65

16. $Y = -5.60 + 10.63X_1 + 7.48X_6$
$\quad (0.73)\ (8.76)_1\ (1.64)_6$ — SEE 22.92, R^2 0.58

17. $Y = -6.75 + 10.05X_1 + 6.46X_6 + 13.19X_7$
$\quad (0.94)\ (8.69)_1\ (1.50)_6\ (3.03)_7$ — SEE 21.55, R^2 0.63

18. $Y = -7.16 + 1.10X_1 + 11.27X_2 + 2.81X_6 + 9.08X_7$
$\quad (1.05)\ (0.34)_1\ (2.93)_2\ (0.66)_6\ (2.09)_7$ — SEE 20.32, R^2 0.68

19. $Y = 1.41 + 9.98X_2 + 7.02X_5$
$\quad (0.22)\ (6.09)_2\ (2.96)_5$ — SEE 19.45, R^2 0.70

20. $Y = -6.54 - 0.61X_1 + 13.87X_2 + 2.59X_6$
$\quad (0.94)\ (0.19)_1\ (3.71)_2\ (0.60)_6$ — SEE 20.87, R^2 0.65

21. $Y = -7.40 + 10.89X_1 + 0.0004X_4$
$\quad (1.00)\ (9.25)_1\ (2.34)_4$ — SEE 22.44, R^2 0.59

22. $Y = -12.66 - 10.64X_1 + 0.0004X_4 + 7.16X_6$
$\quad (1.58)\ (9.07)_1\ (2.32)_4\ (1.62)_6$ — SEE 22.15, R^2 0.61

23. $Y = -1.36 + 7.03X_1 + 0.0004X_4 + 10.11X_5$
$\quad (0.21)\ (5.37)_1\ (2.95)_4\ (4.68)_5$ — SEE 19.41, R^2 0.70

24. $Y = -10.76 - 0.40X_1 + 13.73X_2 + 0.0003X_4$
$\quad (1.60)\ (0.13)_1\ (3.96)_2\ (2.16)_4$ — SEE 20.18, R^2 0.68

25. $Y = 2.20 + 7.62X_2 + 2.79X_3 + 9.35X_5$
$\quad (0.35)\ (3.01)_2\ (1.22)_3\ (3.08)_5$ — SEE 19.38, R^2 0.70

26. $Y = -12.47 + 13.13X_2 + 0.0003X_4 + 2.59X_6$
$\quad (1.77)\ (10.62)_2\ (2.18)_4\ (0.63)_6$ — SEE 20.11, R^2 0.68

27. $Y = -12.51 + 0.06X_1 + 13.06X_2 + 0.0003X_4 + 2.61X_6$
$\quad (1.71)\ (0.02)_1\ (3.57)_2\ (2.15)_4\ (0.62)_6$ — SEE 20.28, R^2 0.68

APPENDIX F.

TAMBON THUNG KRACHO

Equations	SEE	R^2
1. $Y = 5.73 + 9.69X_1$ $\quad(0.89)\ (9.12)$	17.22	0.59
2. $Y = 1.34 + 3.40X_1 + 8.36X_2$ $\quad(0.22)\ (1.60)\ (3.33)$	15.89	0.66
3. $Y = 3.87 + 3.26X_1 + 11.80X_2 - 5.96X_3$ $\quad(0.68)\ (1.65)\ (4.60)\ (3.19)$	14.75	0.71
4. $Y = 0.50 + 3.29X_1 + 10.78X_2 - 4.78X_3 + 0.0003X_4$ $\quad(0.09)\ (1.72)\ (4.26)\ (2.53)\ (2.16)$	14.29	0.73
5. $Y = 4.41 + 2.53X_1 + 6.24X_2 - 0.08X_3 + 0.0003X_4 + 5.78X_5$ $\quad(0.73)\ (1.31)\ (1.75)\ (0.03)\ (1.69)\ (1.77)$	14.02	0.75
6. $Y = 4.53 + 2.34X_1 + 6.31X_2 + 0.13X_3 + 0.0003X_4 + 6.10X_5$ $\quad(0.74)\ (1.17)\ (1.75)\ (0.04)\ (1.71)\ (1.79)$ $\quad - 1.29X_6$ $\quad\ (0.36)$	14.13	0.75
7. $Y = 4.94 + 2.47X_1 + 6.12X_2 + 0.06X_3 + 0.0002X_4 + 6.00X_5$ $\quad(0.81)\ (1.23)\ (1.69)\ (0.02)\ (1.26)\ (1.76)$ $\quad - 1.21X_6 + 5.20X_7$ $\quad\ (0.34)\ (0.96)$	14.14	0.75
8. $Y = 7.84 + 2.32X_1 + 5.92X_2 + 0.16X_3 + 7.15X_5$ $\quad(1.35)\ (1.19)\ (1.63)\ (0.05)\ (2.22)$	14.25	0.73
9. $Y = 7.79 + 2.34X_1 + 6.05X_2 + 7.02X_5$ $\quad(1.38)\ (1.23)\ (2.63)\ (4.01)$	14.13	0.73
10. $Y = -1.87 + 3.63X_1 + 7.39X_2 + 0.0004X_4 + 1.06X_6 + 5.62X_7$ $\quad(0.31)\ (1.76)\ (2.90)\ (2.06)\ (0.29)\ (0.97)$	15.09	0.71
11. $Y = 7.77 + 2.36X_1 + 6.03X_2 + 7.00X_5 + 0.13X_6$ $\quad(1.35)\ (1.19)\ (2.50)\ (3.78)\ (0.04)$	14.26	0.73
12. $Y = 11.10 + 6.46X_1 + 7.68X_5 + 2.46X_6$ $\quad(1.90)\ (5.56)\ (4.01)\ (0.71)$	14.91	0.70

The "t" value associated with the variables are shown in parentheses.

Equations	SEE	R^2
13. $Y = 6.51 + 8.63X_2 + 0.0003X_4 + 6.21X_5$ $(1.14)\ (6.51)\ (1.62)\ (3.37)$	13.99	0.74
14. $Y = 3.58 + 11.91X_2$ $(0.60)\ (10.17)$	16.10	0.64
15. $Y = 4.62 + 9.14X_1 + 7.43X_6$ $(0.73)\ (8.56)\ (2.05)$	16.76	0.62
16. $Y = 4.35 + 8.96X_1 + 6.42X_6 + 11.32X_7$ $(0.71)\ (8.56)\ (1.79)\ (1.96)$	16.36	0.64
17. $Y = 1.20 + 3.97X_1 + 6.96X_2 + 3.34X_6 + 10.06X_7$ $(0.20)\ (1.87)\ (2.67)\ (0.93)\ (1.83)$	15.53	0.68
18. $Y = 9.58 + 8.36X_2 + 7.31X_5$ $(1.75)\ (6.27)\ (4.20)$	14.19	0.73
19. $Y = 1.25 + 3.84X_1 + 7.37X_2 + 4.05X_6$ $(0.21)\ (1.78)\ (2.78)\ (1.11)$	15.86	0.66
20. $Y = 1.33 + 9.32X_1 + 0.0005X_4$ $(0.21)\ (9.22)\ (2.86)$	16.24	0.64
21. $Y = 1.29 + 9.03X_1 + 0.0004X_4 + 4.67X_6$ $(0.21)\ (8.76)\ (2.32)\ (1.26)$	16.15	0.65
22. $Y = 8.70 + 6.69X_1 + 0.0003X_4 + 7.07X_5$ $(1.45)\ (5.79)\ (1.54)\ (3.72)$	14.67	0.71
23. $Y = -0.24 + 11.45X_2 + 0.0005X_4$ $(0.04)\ (10.24)\ (2.83)$	15.21	0.68
24. $Y = -2.49 + 3.40X_1 + 7.89X_2 + 0.0005X_4$ $(0.42)\ (1.70)\ (3.33)\ (2.88)$	14.96	0.70
25. $Y = 9.79 + 7.59X_2 + 0.82X_3 + 7.97X_5$ $(1.75)\ (2.26)\ (0.25)\ (2.53)$	14.31	0.73
26. $Y = -0.28 + 11.48X_2 + 0.0005X_4 - 0.22X_6$ $(0.05)\ (9.55)\ (2.68)\ (0.06)$	15.34	0.68
27. $Y = -2.39 + 3.51X_1 + 7.66X_2 + 0.0004X_4 + 1.00X_6$ $(0.40)\ (1.70)\ (3.03)\ (2.62)\ (0.27)$	15.09	0.70

TAMBON THONG FA

Equations	SEE	R^2
1. $Y = 15.36 + 7.29X_1$ $\quad\ (2.30)\ \ (6.81)$	18.03	0.49
2. $Y = 8.23 - 0.04X_1 + 10.15X_2$ $\quad\ (1.45)\ (0.02)\ \ (4.98)$	14.79	0.66
3. $Y = 12.84 - 1.44X_1 + 17.18X_2 - 8.36X_3$ $\quad\ (2.43)\ (0.90)\ \ (6.22)\ \ (3.42)$	13.38	0.73
4. $Y = 9.87 - 1.45X_1 + 16.08X_2 - 7.22X_3 + 0.0005X_4$ $\quad\ (1.79)\ (0.92)\ \ (5.75)\ \ (2.88)\ \ (1.63)$	13.15	0.74
5. $Y = 10.18 - 1.73X_1 + 13.33X_2 - 4.38X_3 + 0.0004X_4 + 4.00X_5$ $\quad\ (1.84)\ \ (1.06)\ \ (3.02)\ \ (1.01)\ \ (1.61)\ \ (0.81)$	13.20	0.75
6. $Y = 10.41 - 1.81X_1 + 13.54X_2 - 4.41X_3 + 0.0005X_4 + 3.80X_5$ $\quad\ (1.85)\ \ (1.10)\ \ (3.02)\ \ (1.01)\ \ (1.63)\ \ (0.75)$ $\qquad - 1.74X_6$ $\qquad\ (0.46)$	13.32	0.75
7. $Y = 9.76 - 1.95X_1 + 12.57X_2 - 3.31X_3 + 0.0006X_4 + 4.57X_5$ $\quad\ (1.80)\ (1.23)\ \ (2.89)\ \ (0.78)\ \ (2.19)\ \ (0.94)$ $\qquad + 0.27X_6 - 20.83X_7$ $\qquad\ (0.07)\ \ (2.07)$	12.85	0.77
8. $Y = 13.13 - 1.73X_1 + 14.29X_2 - 5.37X_3 + 4.19X_5$ $\quad\ (2.47)\ \ (1.05)\ \ (3.21)\ \ (1.23)\ \ (0.83)$	13.42	0.73
9. $Y = 12.55 - 1.80X_1 + 9.33X_2 + 9.34X_5$ $\quad\ (2.35)\ \ (1.09)\ \ (4.96)\ \ (3.26)$	13.50	0.72
10. $Y = 4.94 - 0.71X_1 + 10.24X_2 + 0.0009X_4 - 0.79X_6 - 22.98X_7$ $\quad\ (0.90)\ (0.44)\ \ (5.33)\ \ (2.96)\ \ (0.20)\ \ (2.17)$	13.66	0.73
11. $Y = 12.72 - 1.85X_1 + 9.42X_2 + 9.26X_5 - 0.96X_6$ $\quad\ (2.34)\ \ (1.10)\ \ (4.86)\ \ (3.18)\ \ (0.25)$	13.63	0.72
12. $Y = 19.87 + 4.44X_1 + 11.26X_5$ $\quad\ (3.18)\ \ (3.38)\ \ (3.25)$	16.49	0.58

The "t" value associated with the variables are shown in parentheses.

Equations	SEE	R^2
13. $Y = 19.15 + 4.38X_1 + 11.43X_5 + 2.85X_6$ $(2.99)\ (3.30)\ (3.27)\ (0.62)$	16.60	0.58
14. $Y = 7.71 + 7.74X_2 + 0.0005X_4 + 7.08X_5$ $(1.46)\ (6.46)\ (1.77)\ (2.58)$	13.23	0.73
15. $Y = 8.20 + 10.12X_2$ $(1.51)\ (9.77)$	14.64	0.66
16. $Y = 14.91 + 7.28X_1 + 1.63X_6$ $(2.17)\ (6.73)\ (0.32)$	18.19	0.49
17. $Y = 15.20 + 7.25X_1 + 3.13X_6 - 14.18X_7$ $(2.21)\ (6.70)\ (0.60)\ (1.04)$	18.18	0.50
18. $Y = 9.00 - 0.24X_1 + 10.42X_2 - 0.74X_6 - 14.97X_7$ $(1.57)\ (0.14)\ (5.02)\ (0.17)\ (1.35)$	14.77	0.68
19. $Y = 8.72 - 0.18X_1 + 10.37X_2 - 2.31X_6$ $(1.51)\ (0.10)\ (4.96)\ (0.55)$	14.90	0.66
20. $Y = 11.34 + 6.79X_1 + 0.0007X_4$ $(1.69)\ (6.39)\ (2.11)$	17.42	0.53
21. $Y = 11.15 + 6.78X_1 + 0.0007X_4 + 0.79X_6$ $(1.62)\ (6.32)\ (2.07)\ (0.16)$	17.60	0.53
22. $Y = 16.61 + 4.43X_1 + 0.0005X_4 + 9.95X_5$ $(2.53)\ (3.41)\ (1.49)\ (2.82)$	16.28	0.60
23. $Y = 4.49 + 9.60X_2 + 0.0007X_4$ $(0.83)\ (9.47)\ (2.37)$	13.99	0.70
24. $Y = 4.73 - 0.34X_1 + 9.34X_2 + 0.0007X_4$ $(0.84)\ (0.21)\ (5.09)\ (2.36)$	14.14	0.70
25. $Y = 11.46 + 12.94X_2 - 5.52X_3 + 3.07X_5$ $(2.25)\ (3.04)\ (1.26)\ (0.62)$	13.44	0.73
26. $Y = 4.88 + 9.67X_2 + 0.0007X_4 - 2.84X_6$ $(0.89)\ (9.44)\ (2.40)\ (0.72)$	14.06	0.70
27. $Y = 5.29 - 0.53X_1 + 10.21X_2 + 0.0007X_4 - 3.04X_6$ $(0.93)\ (0.32)\ (5.12)\ (2.40)\ (0.75)$	14.20	0.70

AMPHOE BAN TAK

Equations	SEE	R^2
1. $Y = 6.01 + 10.06X_1$ $(2.08)\ (20.21)$	21.43	0.51
2. $Y = 2.54 - 0.12X_1 + 12.52X_2$ $(1.00)\ (0.12)\ (11.28)$	18.67	0.63
3. $Y = 4.52 + 0.21X_1 + 14.28X_2 - 4.01X_3$ $(1.81)\ (0.22)\ (12.57)\ (4.94)$	18.15	0.65
4. $Y = 0.52 + 0.43X_1 + 13.34X_2 - 3.15X_3 + 0.0003X_4$ $(0.20)\ (0.45)\ (11.90)\ (3.89)\ (4.91)$	17.64	0.67
5. $Y = 3.90 - 0.57X_1 + 5.59X_2 + 4.64X_3 + 0.0004X_4 + 10.95X_5$ $(1.64)\ (0.64)\ (4.08)\ (3.94)\ (5.98)\ (8.56)$	16.22	0.72
6. $Y = 3.09 - 0.37X_1 + 5.28X_2 + 4.67X_3 + 0.0004X_4 + 10.70X_5$ $(1.29)\ (0.41)\ (3.85)\ (3.99)\ (5.32)\ (8.37)$ $+ 2.65X_6$ (2.13)	16.15	0.72
7. $Y = 3.45 - 0.30X_1 + 5.23X_2 + 4.67X_3 + 0.0003X_4 + 10.64X_5$ $(1.44)\ (0.34)\ (3.82)\ (4.00)\ (3.79)\ (8.35)$ $+ 2.28X_6 + 4.31X_7$ $(1.82)\ (2.09)$	16.08	0.73
8. $Y = 8.19 - 0.76X_1 + 7.06X_2 + 3.26X_3 + 10.37X_5$ $(3.45)\ (0.83)\ (5.02)\ (2.71)\ (7.79)$	16.92	0.69
9. $Y = 7.84 - 0.39X_1 + 9.58X_2 + 7.57X_5$ $(3.29)\ (0.42)\ (9.00)\ (8.95)$	17.05	0.69
10. $Y = -2.13 + 0.59X_1 + 11.15X_2 + 0.0003X_4 + 3.79X_6 + 4.90X_7$ $(0.84)\ (0.62)\ (10.37)\ (3.28)\ (2.79)\ (2.17)$	17.67	0.67
11. $Y = 6.02 - 0.03X_1 + 9.09X_2 + 7.07X_5 + 4.01X_6$ $(2.48)\ (0.04)\ (8.55)\ (8.31)\ (3.13)$	16.86	0.70
12. $Y = 11.88 + 6.59X_1 + 9.92X_5$ $(4.63)\ (12.36)\ (11.25)$	18.69	0.63

The "t" value associated with the variables are shown in parentheses.

Equations	SEE	R^2
13. $Y = 9.08 + 6.58X_1 + 9.06X_5 + 5.56X_6$ $(3.48)(12.60)_1(10.18)_5 (4.11)_6$	18.33	0.64
14. $Y = 3.91 + 9.15X_2 + 0.0003X_4 + 7.05X_5$ $(1.69)(16.70)_2 (5.24)_4 (8.55)_5$	16.49	0.71
15. $Y = 2.45 + 12.40X_2$ $(1.01) (25.83)_2$	18.65	0.63
16. $Y = 2.37 + 9.58X_1 + 8.80X_6$ $(0.84)(19.79)_1 (5.96)_6$	20.56	0.55
17. $Y = 1.87 + 9.56X_1 + 7.08X_6 + 9.57X_7$ $(0.67)(20.14)_1 (4.71)_6 (4.20)_7$	20.14	0.57
18. $Y = -0.03 + 0.56X_1 + 11.25X_2 + 4.50X_6 + 8.38X_7$ $(0.01) (0.58)_1 (10.34)_2 (3.31)_6 (4.14)_7$	17.89	0.66
19. $Y = 7.55 + 9.20X_2 + 7.56X_5$ $(3.31)(16.27)_2 (8.95)_5$	17.03	0.69
20. $Y = 0.36 + 0.38X_1 + 11.51X_2 + 5.94X_6$ $(0.14) (0.38)_1 (10.39)_2 (4.43)_6$	18.25	0.64
21. $Y = 0.74 + 9.82X_1 + 0.0005X_4$ $(0.26)(20.55)_1 (6.14)_4$	20.51	0.55
22. $Y = -0.98 + 9.50X_1 + 0.0004X_4 + 6.81X_6$ $(0.34) (20.14)_1 (4.79)_4 (4.55)_6$	20.02	0.57
23. $Y = 7.43 + 6.64X_1 + 0.0004X_4 + 9.24X_5$ $(2.83)(12.87)_1 (5.30)_4 (10.71)_5$	18.08	0.65
24. $Y = -1.48 + 12.07X_2 + 0.0004X_4$ $(0.61) (25.98)_2 (5.80)_4$	17.93	0.66
25. $Y = -1.65 + 0.22X_1 + 11.85X_2 + 0.0004X_4$ $(0.65) (0.23)_1 (11.05)_2 (5.80)_4$	17.95	0.66
26. $Y = -2.17 + 11.76X_2 + 0.0003X_4 + 4.15X_6$ $(0.90) (24.99)_2 (4.82)_4 (3.09)_6$	17.74	0.66
27. $Y = -2.59 + 0.52X_1 + 11.23X_2 + 0.0003X_4 + 4.22X_6$ $(1.02) (0.55)_1 (10.40)_2 (4.83)_4 (3.13)_6$	17.76	0.66

APPENDIX I.

HOME-INTERVIEW FORM

Interviewer.........................Date..................

1. Head of household, male or female, age.........occupation............
   level of education................
   Address...

2. Number of persons in household

Person number	Sex	Age	Occupation	Level of education

3. Cultivation

Kind of crops	Time for cultivation (month)	Time for Harvesting (month)	Cultivation area (rai)	Frequency of cultivation

4. Land ownership.

Cultivation area owned (rai)	Cultivation area hired (rai)

5. Production cost

Kind of crops	Labour baht/rai	Animal baht/rai	Equipment baht/rai	Total baht/rai

6. Yields.

Kind of crops	Yield per rai

7. Animal ownership.

Kind of animal	Number of animals	Expense baht/head	Selling price baht/head	Income baht/year

8. Yield price.

Kind of crops	Unit price	Unit transport cost	Income baht/year

9. Non-agricultural work of household.

Person number	Kind of job	Time taken month/year	Wage baht/day	Salary baht/month	Income baht/year

10. Vehicle ownership.

Type of vehicles	Number of vehicle owned
Cart	
Bicycle	
Motorcycle	
Passenger car	
Pick-up car	
Jeep/Land Rover	
Micro bus	
Mini bus	
Medium size bus	
Truck, 4-wheels	
Truck, 6-wheels	
Truck, 10-wheel	

11. Household's trip characteristics.

Person number	Trip purpose	Destination	Mode of travel	Trip length (km.)	Trip frequency per month

VITA

Name   Saroj Nuchumpunth

Degree Awarded   B.Eng in Civil Engineering from Kasetsart University
                    in academic year 1972.